

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

JAMES H. TROGDON, III  
SECRETARY

July 19, 2019

MEMORANDUM TO: Mr. Jerry Jennings, P.E.  
Division 1 Engineer

FROM: Philip S. Harris, III, P.E., C.P.M.  
Environmental Analysis Unit Head

SUBJECT: Northampton County; US 158 from I-95/NC46 in Roanoke Rapids to SR  
1312 (St. John Church Road), Northampton County, WBS 34472.2.S1,  
**TIP Project R-2582A**

Attached are the U.S. Army Corps of Engineers Individual Permit and N.C. Division of Water Resources (NCDWR) Water Quality Certification. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:  
<https://connect.ncdot.gov/resources/Environmental/Pages/Permits-and-Mitigation.aspx>  
**Quick Links>Permit Documents> Issued Permits.**

cc: w/o attachment (see website for attachments)

Mr. Ron Davenport, P.E. Contracts Management  
Mr. Paul Williams, Division 8 Environmental Officer  
Dr. Majed Al-Ghandour, P.E., Programming and TIP  
Mr. Carl Barclay, P.E., Utilities  
Mr. Stephen Morgan, P.E., Hydraulics  
Mr. Brian Hanks, P.E., Structures Management  
Mr. Mark Staley, Roadside Environmental  
Mr. Lamar Sylvester, P.E., State Roadway Construction Engineer

# PROJECT COMMITMENTS

T.I.P Project No. R-2582A  
US 158 Improvements  
From the 1-95/NC 46 in Roanoke Rapids to SR 1312 (St. John Church Road)  
Northampton County  
WBS Element 34472.1.1

Current status, changes, or additions to the project commitments as shown in the environmental document for the project are printed in *italics*.

## COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

### **Roadway Design:**

Roadway Design Unit will coordinate with the NCDOT Rail Division in order to preserve space for a future connector track west of Garysburg.

*Coordination is currently underway with the NCDOT Rail Division and Structure Design to allow additional space at each railroad crossing for future connector tracks west of Garysburg.*

### **Project Development & Environmental Analysis Unit (PDEA)**

Prior to the initiation of construction, NCDOT will record the existing conditions of the Henry Stephenson House and the J. R. Martin Farm in accordance with the "Historic Structures and Landscape Recordation Plan". The recordation results will be provided to the SHPO, who will comment within fifteen ( 15) days of his receipt of the materials. NCDOT will deposit copies of the documentation with the SHPO, NCDOT Historic Architecture Group, Mrs. Linda Morgan, Mr. Melvin King Futrell, and Mrs. Katherine F. Allen.

*The Henry Stephenson House is located on the R-2582A project. A "Historic Structures and Landscape Recordation Plan" will be completed and distributed prior to the initiation of any construction activity. The photodocumentation required for the Henry Stephenson House has been completed.*

NCDOT, in consultation with the SHPO, will develop a Data Recovery Plan (DRP) for site 31NP317. NCDOT will ensure that the DRP is implemented after Right-of-Way is acquired or once Right-of-Entry is secured from the property owners and prior to construction activities within the site location as shown in the DRP. NCDOT will prepare



and forward a Management Summary to the SHPO detailing the results of the Data Recovery field investigations. The Management Summary will contain sufficient information to demonstrate that the field investigation portion of the DRP has been implemented. NCDOT or their consultants will complete the analysis and report preparation detailing site 31NP317 within twelve (12) months after completion of the fieldwork.

*Site 31NP317 is not located on the R-2582A project.*

To mitigate impacts to site 31NP290/290\*\*, NCDOT will fund and contract with an individual or firm to assist NCDOT and the Office of State Archaeology (OSA) with the development of an archaeological research context to better understand the Confederate strategic defensive plan in North Carolina (in particular, the events surrounding the 1863 Battle of Boone's Mill) and to aid in future NRHP evaluation of Civil War-era fortifications in North Carolina. NCDOT will ensure that any field investigations associated with the research plan will be implemented after Right-of-Way is acquired or once Right-of-Entry is secured from the property owners and prior to any construction activities within the site location for 31NP290/290\*\*. NCDOT or their consultant will complete the research report and context within eighteen (18) months of the date of execution of the MOA. These documents will be subject to review and acceptance by OSA.

*Site 31NP290/290\*\* is not located on the R-2582A project.*

### **Roadway Design/PDEA**

A roadside picnic area, which overlooks a former millpond (that served Boone's Mill), is accessed by a dead-end section of roadway that parallels US 158. The picnic area is within the existing US 158 right of way. Impacts to the site will be minimized as much as possible.

*The roadside picnic area is not located on the R-2582A project.*

For all impacted historic properties the controlled access fencing required by the Undertaking will be of wooden post-and-board construction instead of the standard woven wire. Fencing will accommodate existing access points and extend along the entire US 158 frontage of the Henry Stephenson House property and the southern side of new location crossing the J.R. Martin Farm. Fencing placement and composition will be incorporated into the final project design plan.

*Three historic properties are located on the R-2582A project. Required control of access fencing for Oak Grove Baptist Church, Henry Stephenson House, and Longview properties will be of wooden post-and-board construction instead of the standard woven wire.*

During construction NCDOT will employ temporary barrier and erosion control fencing as needed to protect the historic resources. NCDOT's Right-of-Way Unit will work with the property owners to fairly reimburse them for costs incurred in repairing, relocating, or replacing any existing fencing directly affected by the Undertaking.

*Historic resources will be protected by temporary barrier and erosion control fencing as needed during construction. There is no existing fencing at any of the three historic sites located on the R-2582A project.*

### **Roadside Environmental/PMU/Roadway Design**

For all impacted historic properties the NCDOT, in consultation with the property owners, will develop and implement landscape plans for those parts of the properties directly impacted by the Undertaking, specifically the US 158 frontage of the Henry Stephenson House and the southern side of new location crossing the J.R. Martin Farm. The plans will utilize materials from native plant communities to reestablish a natural appearance, as well as help screen the properties from the proposed new and widened roadways. The NCDOT Historic Architecture Group, SHPO, and property owner will review and comment on the resulting plans. NCDOT will guarantee all new plantings for two (2) years and provide replacements within that time period. All plantings will comply with NCDOT standards as outlined in "Guidelines for Planting within Highway Right-of-Way." The landscape plans will be incorporated into the final project design plan.

*NCDOT will develop and implement landscape plans with each of the three historic properties located on the R-2582A project. The landscape plans have been developed and incorporated into the final project design. Prior to the installation of landscaping following construction, consultation with the property owners will occur.*

## **COMMITMENTS FROM PERMITTING**

### **Division Construction**

**In-water Work Moratorium:** An in-stream construction moratorium, to limit the effects on fishery resources, such as the striped bass, has been requested from February 15 through June 30 (as per National Marine Fisheries Service, USFWS, and North Carolina Wildlife Resources Commission) on the three perennial streams impacted by the project (Sites 2, 4 and 8). These streams are perennial tributaries of the Roanoke River, which is listed as a primary nursery area by the NMFS. This commitment is specified on p. 95 of the FEIS, and

Special Condition 10 of the 404 Permit.

**Division Construction**

Cultural Resources: NCDOT shall abide by all stipulations pertaining to Cultural Resources located within the project area of R-2582A listed in the Memorandum of Agreement between the U.S. Army Corps of Engineers and the North Carolina State Historic Preservation Officer, executed on April 5, 2013, copy attached and identified as Exhibit A. These resources include, but may not be limited to the Henry Stephenson House.

In addition, NCDOT shall comply with all prior commitments on those cultural resources identified within the R-2582A project area but not included within the 2013 MOA. Such resources include, but may not be limited to the Oak Grove Baptist Church (NP0431), and Longview (NP0233). For example, findings of “no adverse effect” established for the Oak Grove Baptist Church and for Longview are contingent upon the use of temporary barrier and erosion control fencing during construction and the eventual installation of post-and-board, control-of-access fencing on both properties, as well as the development and implementation of landscape plans for those parts of the properties directly impacted by the project. These commitments are listed as Special Condition 16 of the 404 Permit.



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

19 July 2019

Regulatory Division

Action ID: SAW-2019-00428

North Carolina Department of Transportation  
Mr. Philip S. Harris III, P.E., C.P.M.  
1598 Mail Service Center  
Raleigh, North Carolina 27699

Dear Mr. Harris:

In accordance with the written request of February 21, 2019 and modified on March 15, 2019 the ensuing administrative record, enclosed are two copies of a permit to construct a 8.2 mile four-lane median-divided freeway, along with associated bridges, interchange ramps, and service roads along US 158 near the town of Garysburg in Northampton County, North Carolina.

Any deviation in the authorized work will likely require modification of this permit. If any 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 notified 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, 2024.
- 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. Kyle Barnes at the Washington Regulatory Field Office, telephone number (910) 251-4548.



Thank you in advance for completing our Customer Survey Form. This can be accomplished by visiting our web-site at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=136:4:0](http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0) and completing the survey on-line. We value your comments and appreciate your taking the time to complete a survey each time you interact with our office.

FOR THE COMMANDER

  
for/ Robert J. Clark  
Colonel, U.S. Army  
District Commander

Enclosures

Copy Furnished (with enclosures):

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

Copies Furnished with special conditions and plans:

Mr. Kenneth Riley, Ph.D.  
Habitat Conservation Division  
National Marine Fisheries Service Southeast Region  
101 Pivers Island Road  
Beaufort, North Carolina 28516

Mr. Pete Benjamin  
U.S. Fish and Wildlife Service  
Raleigh Ecological Service Field Office  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

Mr. Todd Bowers  
Wetlands and Streams Regulatory Section  
U.S. Environmental Protection Agency – Region 4  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, Georgia 30303-8931

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

Dr. Pace Wilber  
Habitat Conservation Division – Atlantic Branch  
NOAA Fisheries Service  
219 Fort Johnston Road  
Charleston, South Carolina 29412

## DEPARTMENT OF THE ARMY PERMIT

Permittee: **North Carolina Department of Transportation (NCDOT)**  
**Attn: Mr. Phillip S. Harris III, P.E., C.P.M**

Permit No.: **SAW-2019-00428**

Issuing Office: **CESAW-RG-Washington**

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: NCDOT proposes to construct a four-lane median-divided freeway, along with associated bridges, interchange ramps, and service roads along US 158 in Northampton County, North Carolina. The proposed facility would have 12-foot lanes, paved shoulders, and a 46-foot grass median. Widened portions, on existing alignment, would have partial control of access, while new location segments would have full control of access. The length of the project is approximately 8.2 miles.

Project Location: The improvement occurs primarily along the existing alignment of US 158 beginning east of I-95 for 8.2 miles except for a bypass south of the town of Garysburg which is partly on new location and terminates at SR 1312 (St. John Church Road) in Northampton County, North Carolina.

### Permit Conditions:

#### General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2024**. 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).
  - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
  - ( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
  - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
  - b. This permit does not grant any property rights or exclusive privileges.
  - c. This permit does not authorize any injury to the property or rights of others.
  - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
  - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
  - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
  - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
  - d. Design or construction deficiencies associated with the permitted work.
  - e. Damage claims associated with any future modification, suspension, or revocation of this permit.



4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was 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) **NO DEPARTMENT OF TRANSPORTATION**  
**ATTN: MR. PHILIP S. HARRIS III, P.E., C.P.M.**

07/19/2019  
(DATE)

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

  
(DISTRICT COMMANDER) **ROBERT J. CLARK, COLONEL**

07-19-2019  
(DATE)

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

\_\_\_\_\_  
(TRANSFeree)

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

**SPECIAL CONDITIONS**  
**ACTION ID. SAW-2019-00428**  
**NC DEPARTMENT OF TRANSPORTATION**  
**US 158 IMPROVEMENTS FROM I-95/NC 46 IN ROANOKE RAPIDS**  
**TO SR 1312 (ST. JOHN CHURCH RD), NORTHAMPTON COUNTY**  
**TIP NO. R-2582A**

- 1. Work Limits:** All work authorized by this permit shall be performed in strict compliance with the attached permit plans dated March 13, 2019 and amended additional plans dated June 6, 2019, which are a part of this permit. The Permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Any modification to the attached permit plans must be approved by the US Army Corps of Engineers prior to any active construction in waters or wetlands.

Except as authorized by this permit or any U.S. Army Corps of Engineers approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, or shall any activities take place that cause the degradation of waters or wetlands. There shall be no excavation from, waste disposal into, or degradation of, jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and waste activities connected with this project. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

- 2. Permit Distribution:** 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, drawings and attachments shall be available at the project site during the construction and maintenance of this project.
- 3. Pre-Construction Meeting:** The Permittee shall schedule and attend a preconstruction meeting between its representatives, the contractors representatives, and the U.S. Army Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all the terms and conditions contained with this Department of Army Permit.



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The Permittee shall provide the Corps, Washington Regulatory Field Office, NCDOT Project Manager, with a copy of the final permit plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The Permittee shall schedule the preconstruction meeting for a time frame when the Corps, NCDCM, and NCDWR Project Managers can attend. The Permittee shall invite the Corps, NCDCM, and NCDWR Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting. The thirty (30) day requirement can be waived with the concurrence of the Corps.

- 4. Notification of Construction Commencement and Completion:** The Permittee shall notify the U.S. Army Corps of Engineers in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.
- 5. Reporting Address:** All reports, documentation, and correspondence required by the conditions of this permit shall be submitted to the following: U.S. Army Corps of Engineers, Wilmington District Washington Regulatory Field Office, Attn: Mr. Kyle Barnes, 2407 West 5<sup>th</sup> St., Washington, NC 27889. The Permittee shall reference the following permit number, SAW-2019-00428, on all submittals.
- 6. Permit Revocation:** 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.
- 7. Reporting Violations:** Violation of these permit conditions or violation of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act shall be reported to the Corps in writing and by telephone at: 910-251-4584 within 24 hours of the Permittee's discovery of the violation.

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8. **Clean Fill:** The Permittee shall use only clean fill material for this project. The fill material shall be free from items such as trash, construction debris, metal and plastic products, and concrete block with exposed reinforcement bars. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act. Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source.
9. **Endangered Species Act:** The Permittee shall implement all necessary measures to ensure the authorized activity does not kill, injure, capture, harass, or otherwise harm any federally-listed threatened or endangered species. While accomplishing the authorized work, if the Permittee discovers or observes an injured or dead threatened or endangered species, the U.S. Army Corps of Engineers, Wilmington District, Washington Regulatory Field Office, Attn: Kyle Barnes at 910-251-4584, or [kyle.w.barnes@usace.army.mil](mailto:kyle.w.barnes@usace.army.mil) will be immediately notified to initiate the required Federal coordination.

The U.S. Fish and Wildlife Service's (USFWS's) Programmatic Biological Opinion (BO) titled "Northern Long-eared Bat (NLEB) Programmatic Biological Opinion for North Carolina Department of Transportation (NCDOT) Activities in Eastern North Carolina (Divisions 1-8)," dated March 25, 2015, and adopted on April 10, 2015, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that are specified in the BO. Your authorization under this Department of the Army permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Department of the Army permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.

10. **In-water Work Moratorium:** An in-stream construction moratorium, to limit the effects on fishery resources, such as the striped bass, has been requested from February 15 through June 30 (as per National Marine Fisheries Service, USFWS, and North Carolina Wildlife Resources Commission) on the three perennial



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streams impacted by the project (Sites 2, 4 and 8). These streams are perennial tributaries of the Roanoke River, which is listed as a primary nursery area by the NMFS. This commitment is specified on p. 95 of the FEIS.

**11. Culverts:**

- 1) Unless otherwise requested in the application and depicted on the approved permit plans, culverts greater than 48 inches in diameter shall 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 shall be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Culverts shall be designed and constructed in a Manner that minimizes destabilization and head cutting.
- 2) Measures shall 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 shall 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 shall 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.
- 3) The Permittee shall implement all reasonable and practicable measures to ensure that equipment, structures, fill pads, work, and operations associated with this project do not adversely affect upstream and/or downstream reaches. Adverse effects include, but are not limited to, channel instability, flooding, and/or stream bank erosion. The Permittee shall routinely monitor for these effects, cease all work when detected, take initial corrective measures to correct actively eroding areas, and notify this office immediately. Permanent corrective measures may require additional authorization by the U.S. Army Corps of Engineers.

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- 4) Culverts placed within wetlands must be installed in a manner that does not restrict the flows and circulation patterns of waters of the United States. Culverts placed across wetland fills purely for the purposes of equalizing surface water shall not be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

**12. Sediment and Erosion Control:**

- 1) During the clearing phase of the project, heavy equipment shall 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.
- 2) 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 includes, but is not limited to, sediment control fences and other barriers intended to catch sediment losses.
- 3) The Permittee shall remove all sediment and erosion control measures placed in waters and/or wetlands, and shall restore natural grades on those areas, prior to project completion.
- 4) 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 ensure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to ensure compliance with the appropriate turbidity water quality



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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 shall 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 shall be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures shall be inspected and maintained regularly, especially following rainfall events. All fill material shall be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters and wetlands.

- 13. Temporary Fills:** Within thirty (30) days of the date of completing the authorized work, the Permittee shall remove all temporary fills in waters of the United States and restore the affected areas to pre-construction contours and elevations. The affected areas shall be re-vegetated with native, non-invasive vegetation as necessary to minimize erosion and ensure site stability.
- 14. Borrow and Waste:** To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent waters and wetlands, except as authorized by this permit, the Permittee shall require its contractors and/or agents to identify all areas to be used as borrow and/or waste sites associated with this project. The Permittee shall provide the U.S. Army Corps of Engineers with appropriate maps indicating the locations of proposed borrow and/or waste sites as soon as such information is available. The Permittee shall submit to the Corps site-specific information needed to ensure that borrow and/or waste sites comply with all applicable Federal requirements, to include compliance with the Endangered Species Act and the National Historic Preservation Act, such as surveys or correspondence with agencies (e.g., the USFWS, the NC-HPO, etc.). The required information shall also include the location of all aquatic features, if any, out to a distance of 400 feet beyond the nearest boundary of the site. The Permittee shall not approve any borrow and/or waste sites before receiving written confirmation from the Corps that the

**SPECIAL CONDITIONS**  
**ACTION ID. SAW-2019-00428**  
**NC DEPARTMENT OF TRANSPORTATION**  
**US 158 IMPROVEMENTS FROM I-95/NC 46 IN ROANOKE RAPIDS**  
**TO SR 1312 (ST. JOHN CHURCH RD), NORTHAMPTON COUNTY**  
**TIP NO. R-2582A**

proposed site meets all Federal requirements, whether or not waters of the U.S., including wetlands, are located in the proposed borrow and/or waste site. All delineations of aquatic sites on borrow and/or waste sites shall be verified by the U.S. Army Corps of Engineers and shown on the approved reclamation plans. The Permittee shall ensure that all borrow and/or waste sites comply with Special Condition 1, second paragraph of this permit. Additionally, the Permittee shall produce and maintain documentation of all borrow and waste sites associated with this project. This documentation will include data regarding soils, vegetation, hydrology, any delineation(s) of aquatic sites, and any jurisdictional determinations made by the Corps to clearly demonstrate compliance with Special Condition 1, second paragraph. All information will be available to the U.S. Army Corps of Engineers upon request. The Permittee shall require its contractors to complete and execute reclamation plans for each borrow and/or waste site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the U.S. Army Corps of Engineers within 30 days of the completion of the reclamation work.

- 15. Mitigation:** 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.
- 16. Cultural Resources:** NCDOT shall abide by all stipulations pertaining to Cultural Resources located within the project area of R-2582A listed in the Memorandum of Agreement between the U.S. Army Corps of Engineers and the North Carolina State Historic Preservation Officer, executed on April 5, 2013, copy attached and identified as Exhibit A. These resources include, but may not be limited to the Henry Stephenson House.

In addition, NCDOT shall comply with all prior commitments on those cultural resources identified within the R-2582A project area but not included within the 2013 MOA. Such resources include, but may not be limited to the Oak Grove Baptist Church (NP0431), and Longview (NP0233). For example, findings of “no



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adverse effect” established for the Oak Grove Baptist Church and for Longview are contingent upon the use of temporary barrier and erosion control fencing during construction and the eventual installation of post-and-board, control-of-access fencing on both properties, as well as the development and implementation of landscape plans for those parts of the properties directly impacted by the project.

**17. Utility Impacts:** Project construction will entail the relocation of various utilities which have not been finalized. As a result, proposed utility impacts are preliminary and will require approval via a permit modification once plans are complete.

**18. Utilities and Temporary Impacts Restoration Measures:** Within thirty (30) days of the date of completing the authorized work, the Permittee shall remove all temporary fills in waters of the United States and restore the affected areas to pre-construction contours and elevations. The affected areas shall be re-vegetated with native, non-invasive vegetation as necessary to minimize erosion and ensure site stability. In wetland areas where pipeline installation via trenching is authorized, wetland topsoil shall be segregated from the underlying subsoil, and the top 6 to 12 inches of the trench shall be backfilled with topsoil from the trench.

Cleared wetland areas shall be re-vegetated with a wetland seed mix or a mix of native woody species. Fescue grass or any invasive species such as *Lespedeza* spp., shall not be used within the wetland areas.

Exhibit A

copy w/ signatures as sent by  
USACE to ACHP 5-24-13  
rec'd. NCDOT 6-5-13

**MEMORANDUM OF AGREEMENT  
AMONG THE  
UNITED STATES ARMY CORPS OF ENGINEERS,  
THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,  
AND THE  
NORTH CAROLINA STATE  
HISTORIC PRESERVATION OFFICER  
FOR  
IMPROVEMENTS TO US 158  
FROM THE I-95/NC46 INTERCHANGE  
WEST OF GARYSBURG TO THE  
MURPHREESBORO BYPASS  
NORTHAMPTON COUNTY, NORTH CAROLINA  
T.I.P. PROJECT Nos. R-2582 and R-2584  
WBS No. 34472.1.1**

**RECEIVED**  
APR 8 4 2013  
U.S. ARMY CORPS ENG  
Washington Regulatory File Ofc

**WHEREAS**, the United States Army Corps of Engineers (USACE) has determined that the improvements to US 158 from the I-95/NC46 Interchange west of Garysburg to the Murphreesboro Bypass in Northampton County (the Undertaking) will have an adverse effect upon the Henry Stephenson House (NP 230, also known as the Col. Abraham Joyner House), the J. R. Martin Farm (NP 526), Site 31NP290/290\*\*, and Site 31NP 317, all properties determined eligible for listing in the National Register of Historic Places (NRHP); and

**WHEREAS**, the Undertaking will compromise the historic integrity of the Henry Stephenson House and J. R. Martin Farm properties by 1) intruding into the properties and their viewsheds and introducing materials that do not harmonize with the rural landscape, 2) necessitating the removal of trees and other landscape features, and 3) generating physical obstacles to the active and historical use of the properties; and largely or completely destroy archaeological sites 31NP290/290\*\* and 31NP317; and

**WHEREAS**, the USACE has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

**WHEREAS**, the North Carolina Department of Transportation (NCDOT) has participated in the consultation and been invited by the USACE and the North Carolina SHPO to be a signatory to this Memorandum of Agreement (MOA); and



**WHEREAS**, Mrs. Linda Morgan, Mr. Melvin King Futrell, Mrs. Katherine F. Allen, Lemuel and Shelby Ricks, and Mr. Matt W. Ransom IV have participated in the consultation and have been invited to concur with the MOA; and

**WHEREAS**, the USACE has notified the Advisory Council on Historic Preservation (Council) of the adverse effect and the Council has declined to comment or participate in the consultation;

**NOW, THEREFORE**, the USACE, the NCDOT, and the North Carolina SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on the historic and prehistoric properties.

## **STIPULATIONS**

The USACE and NCDOT will ensure that the following measures are carried out:

### **I. Photodocumentation of the Henry Stephenson House and the J. R. Martin Farm**

- A.** Prior to the initiation of construction, NCDOT will record the existing conditions of the Henry Stephenson House and the J. R. Martin Farm in accordance with the attached "Historic Structures and Landscape Recordation Plan" (Appendix A).
- B.** The recordation results will be provided to the SHPO, who will comment within fifteen (15) days of his receipt of the materials.
- C.** NCDOT will deposit copies of the documentation with the SHPO, NCDOT Historic Architecture Group, Mrs. Linda Morgan, Mr. Melvin King Futrell, and Mrs. Katherine F. Allen.

### **II. Fencing for the Henry Stephenson House and the J. R. Martin Farm**

- A.** The controlled access fencing required by the Undertaking will be of wooden post-and-board construction instead of the standard woven wire. Fencing will accommodate existing access points and extend along the entire US 158 frontage of the Henry Stephenson House property and the southern side of new location crossing the J. R. Martin Farm. Fencing placement and composition will be incorporated into the final project design plan.
- B.** During construction NCDOT will employ temporary barrier and erosion control fencing as needed to protect the historic resources. NCDOT's Right-of-Way Branch will work with the property owners to fairly reimburse them for costs incurred in repairing, relocating,

or replacing any existing fencing directly affected by the Undertaking.

**III. Landscaping for the Henry Stephenson House and the J. R. Martin Farm**

- A.** The NCDOT Roadside Environmental Unit, in consultation with the property owners, will develop and implement landscape plans for those parts of the properties directly impacted by the Undertaking, specifically the US 158 frontage of the Henry Stephenson House and the southern side of new location crossing the J. R. Martin Farm. The plans will utilize materials from native plant communities to reestablish a natural appearance, as well as help screen the properties from the proposed new and widened roadways.
- B.** The NCDOT Historic Architecture Group, SHPO, and property owners will review and comment on the resultant plans.
- C.** NCDOT will guarantee all new plantings for two (2) years and provide replacements within that time period. All plantings will comply with NCDOT standards as outlined in "Guidelines for Planting within Highway Right-of-Way." The landscape plans will be incorporated into the final project design plan.

**IV. Data Recovery for Archaeological Site 31NP317**

- A.** NCDOT, in consultation with the SHPO, will develop a Data Recovery Plan (DRP) for site 31NP317, which will be affected by the subject project.
- B.** NCDOT will ensure that the DRP is implemented after Right-of-Way is acquired or once Right-of-Entry is secured from the property owners and prior to construction activities within the site location as shown in the DRP.
- C.** Upon completion of the Data Recovery efforts, NCDOT will prepare and forward a Management Summary to the SHPO detailing the results of the Data Recovery field investigations. The Management Summary will contain sufficient information to demonstrate that the field investigation portion of the DRP has been implemented.
- D.** Upon receipt of the Management Summary, the SHPO will respond within fifteen (15) days to the recommendations contained within the document.
- E.** Upon acceptance of the recommendations contained in the Management Summary, the SHPO will issue NCDOT documentation that the Data Recovery field investigations have been completed.



- F. NCDOT or their consultants will complete the analysis and report preparation detailing site 31NP317 within twelve (12) months after completion of the fieldwork.

**V. Archaeological Site 31NP290/290\*\*, Boone's Mill Earthworks**

- A. To mitigate impacts to site 31NP290/290\*\*, NCDOT will fund and contract with an individual or firm (equivalent to an Archaeologist II position) to assist NCDOT and the Office of State Archaeology (OSA) with the development of an archaeological research context to better understand the Confederate strategic defensive plan in North Carolina (in particular, the events surrounding the 1863 Battle of Boone's Mill) and to aid in future NRHP evaluation of Civil War-era fortifications in North Carolina.
- B. NCDOT will ensure that any field investigations associated with the research plan will be implemented after Right-of-Way is acquired or once Right-of-Entry is secured from the property owners and prior to any construction activities within the site location for 31NP290/290\*\*.
- C. NCDOT or their consultants will complete the research report and context within eighteen (18) months of the date of execution of this Agreement. These documents will be subject to review and acceptance by OSA.

**VI. Unanticipated Discovery**

In accordance with 36 CFR 800.11(a), if NCDOT identifies any additional cultural resource(s) during construction and determines it (them) to be eligible for listing in the NRHP, all work will be halted within the limits of the NRHP-eligible resource(s) and the USACE and SHPO contacted. If after consultation with the Signatory and Concurring Parties additional mitigation is determined necessary, the NCDOT, in consultation with the Signatory and Concurring Parties, will develop and implement appropriate protection/mitigation measures for the resource(s). Inadvertent or accidental discovery of human remains will be handled in accordance with North Carolina General Statutes 65 and 70.

**VII. Dispute Resolution**

Should any of the Signatory or Concurring Parties object within thirty (30) days to any plans or documentation provided for review pursuant to this MOA, the USACE will consult with the objecting parties(y) to resolve the objection. If the objecting parties(y) or the USACE determine(s) that the objection cannot be resolved, the USACE will forward all documentation relevant to the dispute to the Council.

Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

- 1) Provide the USACE with recommendations which the USACE will take into account in reaching a final decision regarding the dispute, or
- 2) Notify the USACE that it will comment pursuant to 36 CFR Section 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by the USACE, in accordance with 36 CFR Section 800.7(c)(4) with reference to the subject of the dispute.

Any recommendations or comment provided by the Council will be understood to pertain only to the subject of the dispute. The USACE's and NCDOT's responsibility to carry out all of the actions under this agreement that are not the subject of the dispute will remain unchanged.

#### **VIII. Amendments**

Should any of the Signatory or Concurring Parties to this MOA believe that its terms cannot be carried out or that an amendment to the terms must be made, that (those) party(ies) will immediately consult with the other party(ies) to develop amendments in accordance with 36 CFR 800.6(c)(7). If an amendment cannot be agreed upon, the dispute resolution process set forth in Stipulation VII will be followed.

#### **IX. Termination**

Any of the Signatory Parties may terminate this MOA by providing notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. Termination of this MOA will require compliance with 36 CFR 800. This MOA may be terminated by the execution of a subsequent MOA that explicitly terminates or supersedes its terms.

#### **X. Duration**

Unless terminated pursuant to Stipulation IX above, this MOA will be in effect until the USACE, in consultation with the other Signatory and Concurring Parties, determines that all of its terms have satisfactorily been fulfilled or if NCDOT is unable or decides not to construct the Undertaking.



Execution of this Memorandum of Agreement by the USACE, NCDOT, and the North Carolina SHPO, its subsequent filing with the Council, and implementation of its terms evidence that the USACE has afforded the Council an opportunity to comment on the Undertaking and that the USACE has taken into account the effects of the Undertaking on the historic and prehistoric properties.

**AGREE:**

**United States Army Corps of Engineers**

*For* Henry Weber 4/5/2013  
Scott C. McLendon, Chief Date  
Regulatory Division, Wilmington District

**North Carolina State Historic Preservation Office**

Kevin Cherry 3/5/2013  
Kevin Cherry, Ph.D. Date  
North Carolina State Historic Preservation Officer

**North Carolina Department of Transportation**

Robert Andrew Joyner 3/4/13  
Robert Andrew Joyner, P. E. Date  
Head, Human Environment Unit, PDEA Branch, NCDOT

FILED:

By: \_\_\_\_\_ Date  
Advisory Council on Historic Preservation

## **APPENDIX A**

### **Historic Structures and Landscape Recordation Plan Improvements to US 158 From the I-95/NC46 Interchange West of Garysburg to the Murphreesboro Bypass Northampton County, North Carolina TIP Project Nos. R-2582 and R-2584 WBS No. 34472.1.1**

#### **Photographic Requirements**

- Overall view of the Henry Stephenson House and the J. R. Martin Farm and their immediate surroundings;
- Overall views of the properties and related fields and woodland;
- Elevations and oblique views of all component buildings, structures, and landscape elements and details of representative structural and ornamental features.

#### **Photographic Format**

- All images will be captured, labeled, and stored according to the North Carolina State Historic Preservation Office's "Policy and Guidelines for Digital Photography for Historic Property Surveys, National Register Nominations, and NRAC PowerPoint Presentations, Revised November 2008."

#### **Copies and Curation**

- One (1) set of all photographic documentation will be deposited with the North Carolina Division of Archives and History/State Historic Preservation Office, to be made a permanent part of the statewide survey and iconographic collection;
- One (1) set of all photographic documentation will be deposited in the files of the Historic Architecture Group of NCDOT;
- One (1) set of all photographic documentation will be deposited with the property owners.

**MEMORANDUM OF AGREEMENT  
AMONG THE  
UNITED STATES ARMY CORPS OF ENGINEERS,  
THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,  
AND THE  
NORTH CAROLINA STATE  
HISTORIC PRESERVATION OFFICER  
FOR  
IMPROVEMENTS TO US 158  
FROM THE I-95/NC46 INTERCHANGE  
WEST OF GARYSBURG TO THE  
MURPHREESBORO BYPASS  
NORTHAMPTON COUNTY, NORTH CAROLINA  
T.I.P. PROJECT NOs. R-2582 and R-2584  
WBS No. 34472.1.1**

Execution of this Memorandum of Agreement by the USACE, NCDOT, and the North Carolina SHPO, its subsequent filing with the Council, and implementation of its terms evidence that the USACE has afforded the Council an opportunity to comment on the Undertaking, defined above, and that the USACE has taken into account the effects of the Undertaking on the historic and prehistoric properties.

**CONCUR:**

---

Mrs. Linda Morgan  
Henry Stephenson House

Date



**MEMORANDUM OF AGREEMENT  
AMONG THE  
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THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,  
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NORTH CAROLINA STATE  
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FOR  
IMPROVEMENTS TO US 158  
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**CONCUR:**

MR. Melvin King Futrell 4-10-2013  
Mr. Melvin King Futrell Date  
J. R. Martin Farm

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Washington Regulatory Fld Ofc

*R-2582 and R-2584, Northampton County  
Memorandum of Agreement*

**MEMORANDUM OF AGREEMENT  
AMONG THE  
UNITED STATES ARMY CORPS OF ENGINEERS,  
THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,  
AND THE  
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**CONCUR:**

Katherine F. Allen      4/10/13  
Mrs. Katherine F. Allen      Date  
J. R. Martin Farm

*R-2582 and R-2584, Northampton County  
Memorandum of Agreement*

**RECEIVED**

APR 11 2013

U.S. ARMY CORPS ENG  
Washington Regulatory Fld Ofc

**MEMORANDUM OF AGREEMENT  
AMONG THE  
UNITED STATES ARMY CORPS OF ENGINEERS,  
THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,  
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**CONCUR:**

---

Lemuel and Shelby Ricks  
Site 31NP317

Date



**MEMORANDUM OF AGREEMENT  
AMONG THE  
UNITED STATES ARMY CORPS OF ENGINEERS,  
THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,  
AND THE  
NORTH CAROLINA STATE  
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**CONCUR:**

---

Mr. Matt W. Ransom IV  
Boone's Mill Earthworks  
Site 31NP290/290\*

Date

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

**Permittee:** NCDOT

**Project Name:** R-2582A US 158 Improvements Northampton

**Action ID:** SAW-2019-00428

**County:** Northampton

**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 Division of Mitigation Services (NCDMS), 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 must verify that the mitigation requirements (credits) shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the bank ledger and provide a copy of the signed form and the updated bank ledger to the Permittee, the USACE Project Manager, and the Wilmington District Mitigation Office (see contact information on page 2). 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:** 03010107, Roanoke River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
810			7.56	4.63		

\*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:** 03010107, Roanoke River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
1620			15.12	9.26		

**Mitigation Site Debited:** \_\_\_\_\_

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCDMS, list NCDMS. If the NCDMS acceptance letter identifies a specific site, also list the specific site to be debited).

**Section to be completed by the Mitigation Sponsor**

**Statement of Mitigation Liability Acceptance:** I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCDMS), as approved by the USACE, are currently available at the mitigation site identified above. 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 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 Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- 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:**

This form is not valid unless signed below by the USACE Project Manager and by the Mitigation Sponsor on Page 1. ***Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the USACE Project Manager at the address below, and 3) the Wilmington District Mitigation Office, Attn: Todd Tugwell, 3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587 (email: todd.tugwell@usace.army.mil).*** Questions regarding this form or any of the permit conditions may be directed to the USACE Project Manager below.

**USACE Project Manager:** Kyle Barnes  
**USACE Field Office:** Washington Regulatory Field Office  
US Army Corps of Engineers  
2407 West Fifth Street  
Washington, NC 27889  
**Email:** kyle.w.barnes@usace.army.mil

**BARNES.KYLE.WILLIAM.** Digitally signed by  
BARNES.KYLE.WILLIAM.1388035397  
**1388035397** Date: 2019.07.24 10:27:50 -04'00'

**USACE Project Manager Signature**

**July 3, 2019**

**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>.





ROY COOPER  
*Governor*

MICHAEL S. REGAN  
*Secretary*

LINDA CULPEPPER  
*Director*

June 24, 2019

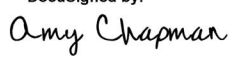
Mr. Philip S. Harris, III, P.E., CPM  
Natural Environment Section Head  
Project Development and Environmental Analysis  
North Carolina Department of Transportation  
1598 Mail Service Center  
Raleigh, North Carolina, 27699-1598

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with  
ADDITIONAL CONDITIONS for US 158 Improvements from I-95/NC 46 in Roanoke Rapids to SR  
1312 (St. John Church Rd) in Northampton County, TIP R-2582A.  
NCDWR Project No. 20190230

Dear Mr. Harris:

Attached hereto is a copy of Certification No. 004189 issued to The North Carolina Department of Transportation (NCDOT) dated June 24, 2019.

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

Sincerely,  
DocuSigned by:  
  
9C9886312DCD474...  
Linda Culpepper, Interim Director  
Division of Water Resources

#### Attachments

#### Electronic copy only distribution:

Kyle Barnes, US Army Corps of Engineers, Washington Field Office  
Paul Williams, Division 2 Environmental Officer  
Chris Rivenbark, NC Department of Transportation  
Amanetta Somerville, US Environmental Protection Agency  
Gary Jordan, US Fish and Wildlife Service  
Travis Wilson, NC Wildlife Resources Commission  
Beth Harmon, Division of Mitigation Services  
Garcy Ward, NC Division of Water Resources, Washington Regional Office  
File Copy

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

**THIS CERTIFICATION** is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact 12.87 acres of jurisdictional wetlands and 2,613 linear feet of stream in Northampton County. The project shall be constructed pursuant to the application dated received February 21, 2019, the revised application dated March 15, 2019 and additional information received June 24, 2019. The authorized impacts are as described below:

**Wetland Impacts in the Roanoke River Basin**

Site	Wetland Type	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
1	riparian	0.38	--	--	--	--	0.38
2	riparian	0.03	--	<0.01*	0.03	--	0.07
2- utility	riparian	--	--	--	--	0.01	0.01
3	non-riparian	0.17	--	<0.01	0.04	--	0.21
3- utility	non-riparian	<0.01	<0.01	--	--	0.15	0.15
4	riparian	2.10	--	--	0.28	--	2.38
5	non-riparian	3.33	--	--	0.25	--	3.58
6	riparian	3.37	--	0.08	0.12	--	3.57
7	riparian	1.26	--	0.02	0.07	--	1.35
8	riparian	0.18	--	--	0.10	--	0.28
8- utility	riparian	--	--	--	--	0.04	0.04
9	non-riparian	0.64	--	--	0.19	--	0.83
10	non-riparian	--	--	--	<0.01	--	<0.01
10- utility	non-riparian	--	--	--	--	0.02	0.02
11	non-riparian	--	--	<0.01	<0.01	--	<0.01
12	non-riparian	--	--	--	--	--	--
<b>Total</b>		11.45	<0.01	0.11	1.09	0.22	12.87

\* includes 0.004 ac non-riparian

**Total Wetland Impact for Project: 12.87 ac**

**Stream Impacts in the Roanoke River Basin**

Site	Type	Permanent (linear ft)	Temporary (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1	I	101	10	111	na
2	P	226	35	261	na
4	P	252	21	273	na
6	I	826	9	835	na
7	I	480	63	543	na
8	P	332	29	361	332
12	I	209	20	229	na
<b>Total</b>		<b>2,426</b>	<b>187</b>	<b>2,613</b>	<b>332</b>

**Total stream impact = 2,613 linear feet**

na= intermittent stream or < 300 lf of impact, no mitigation required.

The application provides adequate assurance that the discharge of fill material into wetlands and waters of the Roanoke 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 February 21, 2019, the revised application received March 15, 2019 and additional information received June 24, 2019. Should your project change, you are required to notify the NCDWR 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. Compensatory mitigation for **332** 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 Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated February 20, 2019 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.
2. Compensatory mitigation for impacts to **12.19** acres of wetlands (7.56 ac riparian, 4.63 ac non-riparian) is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated February 20, 2019 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed July 28, 2010.
3. The permittee will need to adhere to all appropriate in-water work moratoria (including the use of pile driving or vibration techniques) prescribed by the NC Wildlife Resources Commission for the perennial streams at Sites 2, 4, and 8. No in-water work is permitted at these sites between February 15 and June 30 of any year, without prior approval from the NC Division of Water Resources and the NC Wildlife Resources Commission. In addition, the permittee shall conform to the NCDOT policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997) at all times.

#### **General Conditions**

4. 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.
5. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
6. 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 downstream of the above



structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]

7. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]
8. 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. [15A NCAC 02H.0506(b)(3) and (c)(3)]
9. 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. [15A NCAC 02B.0200]
10. 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. [15A NCAC 02H.0501 and .0502]
11. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
12. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
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. [15A NCAC 02H.0506(b)(2)]
14. Channel relocations shall be completed and stabilized, and approved on site by NCDWR 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. [15A NCAC 02H .0506(b)(3)]
15. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506{b)(3) and (c)(3) and 15A NCAC 02B .0200]
16. Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*.
17. All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

18. For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.
19. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-1, WS-11, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watershed*. [15A NCAC 02H.0506(b)(3) and (c)(3); GC 4135]
20. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. [15A NCAC 02H.0506(b)(3) and (c)(3)]
21. Erosion control matting in riparian areas shall not contain a nylon mesh grid which can impinge and entrap small animals. Matting should be secured in place by staples, stakes, or wherever possible live stakes of native trees. Riparian areas are defined as a distance 25 feet from top of stream bank. [15A NCAC 02B.0224, .0225]
22. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, then design and placement of temporary erosion control measures shall not be conducted in a manner that may result in disequilibrium of wetlands, stream beds, or banks, adjacent to or upstream and downstream of the above structures. All sediment and erosion control devices shall be removed from wetlands and waters and the natural grade restored within two (2) months of the date that the Division of Energy, Mining and Land Resources (DEMLR) or locally delegated program has released the specific area within the project. [15A NCAC 02H.0506(b)(3) and (c)(3)]
23. As a condition of this 401 Water Quality Certification, the bridge demolition and construction must be accomplished in strict compliance with the most recent version of NCDOT's Best Management Practices for Construction and Maintenance Activities. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]
24. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from the NCDWR first. [15A NCAC 02H.0506(b)(2)]
25. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water. [15A NCAC 02H .0506(b)(3)]
26. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)]
27. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. To meet the requirements of NCDOT's NPDES permit NCS0000250, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]
28. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species including woody species. [15A NCAC 02H .0506(b)(2)]
29. Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted by the temporary on-site detour at Sites 3 and 9. This update shall be conducted two growing seasons after completion of the work and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to the NCDWR, the permittee shall schedule an agency field meeting with the NCDWR to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas

temporarily impacted by this project have not re-attained jurisdictional wetland status, the NCDWR shall determine if compensatory wetland mitigation is to be required. [15A NCAC 02H.0506(b)(2) and (b)(3)]

30. 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. [15A NCAC 02H.0506(b)(2)]
31. Any rip-rap required for proper culvert placement, stream stabilization or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original stream elevation, and streambank contours are restored and maintained. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or in a manner that precludes aquatic life passage. [15A NCAC 02H.0506(b)(2)]
32. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. [15A NCAC 02H.0506(b)(2)]
33. 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. [15A NCAC 02H.0506(b)(2)]
34. 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. [15A NCAC 02H.0506(b)(3)]
35. 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. [15A NCAC 02H.0506(b)(3)]
36. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]
37. 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. [15A NCAC 02H.0506(b)(2)]
38. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
39. 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. [15A NCAC 02H.0506(b)(3) and (c)(3)]
40. 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 the NCDWR 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, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
41. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
42. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]
43. 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. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2)]



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 DEQ as follows:

Mr. Bill F. Lane, General Counsel  
Department of Environmental Quality  
1601 Mail Service Center

This the 24<sup>st</sup> day of June 2019

DIVISION OF WATER RESOURCES

DocuSigned by:  
  
9C9886312DCD474...

Linda Culpepper, Director

WQC No. 004189



ROY COOPER  
*Governor*

MICHAEL S. REGAN  
*Secretary*

LINDA CULPEPPER  
*Director*

NCDWR Project No.: \_\_\_\_\_ County: \_\_\_\_\_

Applicant: \_\_\_\_\_

Project Name: \_\_\_\_\_

Date of Issuance of 401 Water Quality Certification: \_\_\_\_\_

### **Certificate of Completion**

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, **or** the project engineer. It is not necessary to send certificates from all of these.

### ***Applicant's Certification***

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### ***Agent's Certification***

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### ***Engineer's Certification***

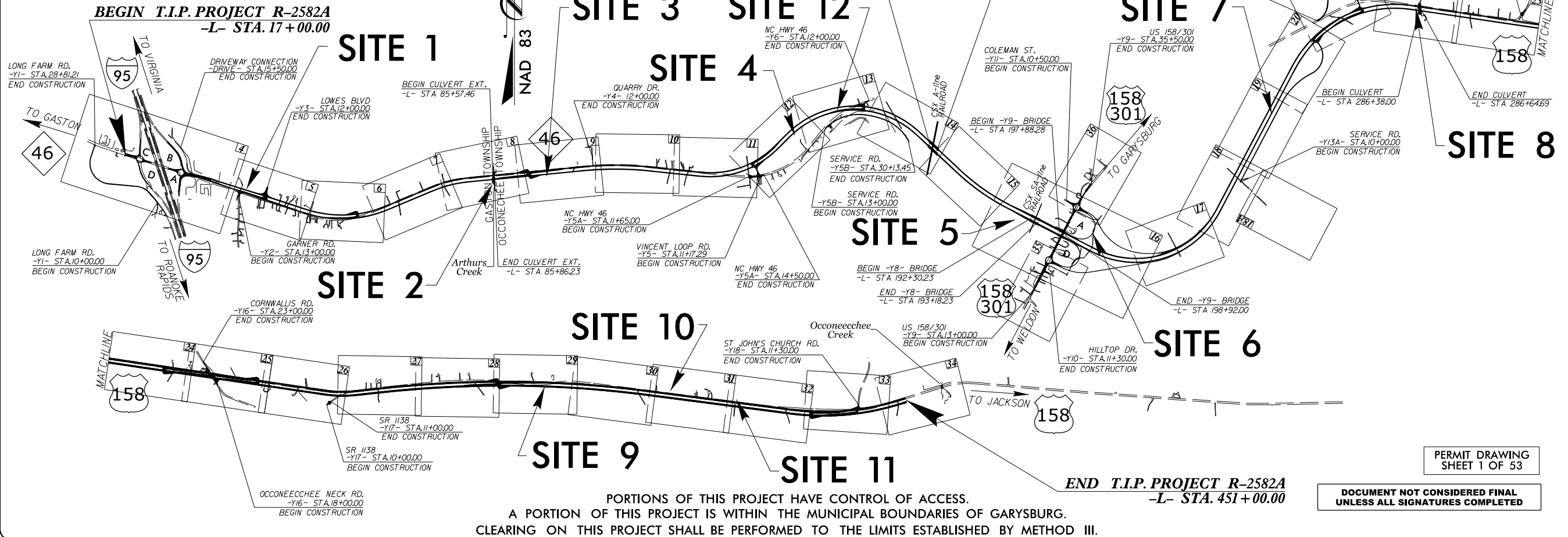
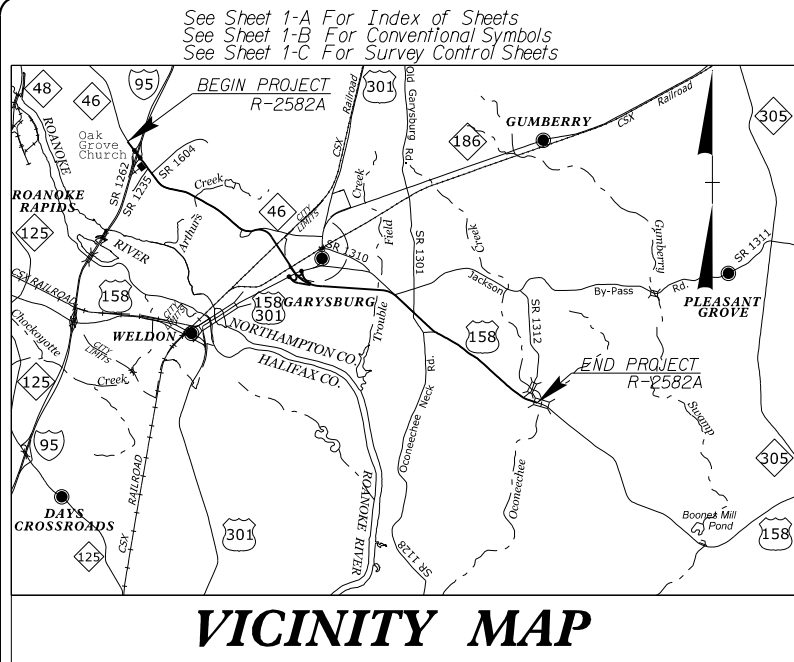
\_\_\_\_\_ Partial \_\_\_\_\_ Final

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

Signature \_\_\_\_\_ Registration No. \_\_\_\_\_ Date \_\_\_\_\_

TIP PROJECT: R-2582A

CONTRACT:



PORTIONS OF THIS PROJECT HAVE CONTROL OF ACCESS.  
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF GARYSBURG.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

NORTHAMPTON COUNTY

LOCATION: US 158 FROM I-95/NC 46 IN ROANOKE RAPIDS  
TO SR 1312 (ST. JOHN CHURCH RD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, RESURFACING,  
GUARDRAIL, SIGNALS AND STRUCTURES.

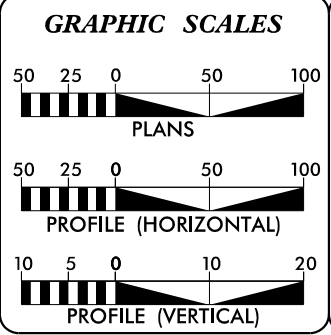
WETLAND AND SURFACE WATER IMPACTS PERMIT  
FEBRUARY 2019

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2582A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34472.1.4		PE	
34472.2.4		RW, UTIL.	



PERMIT DRAWING  
SHEET 1 OF 53

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

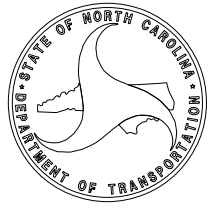


DESIGN DATA	
ADT 2017 =	6200
ADT 2037 =	8200
DHV =	11 %
D =	60 %
T =	21 % *
V =	70 MPH
* TTST = 14	DUAL = 7
FUNC CLASS =	
EXPRESSWAY / FREEWAY	
STATEWIDE TIER	

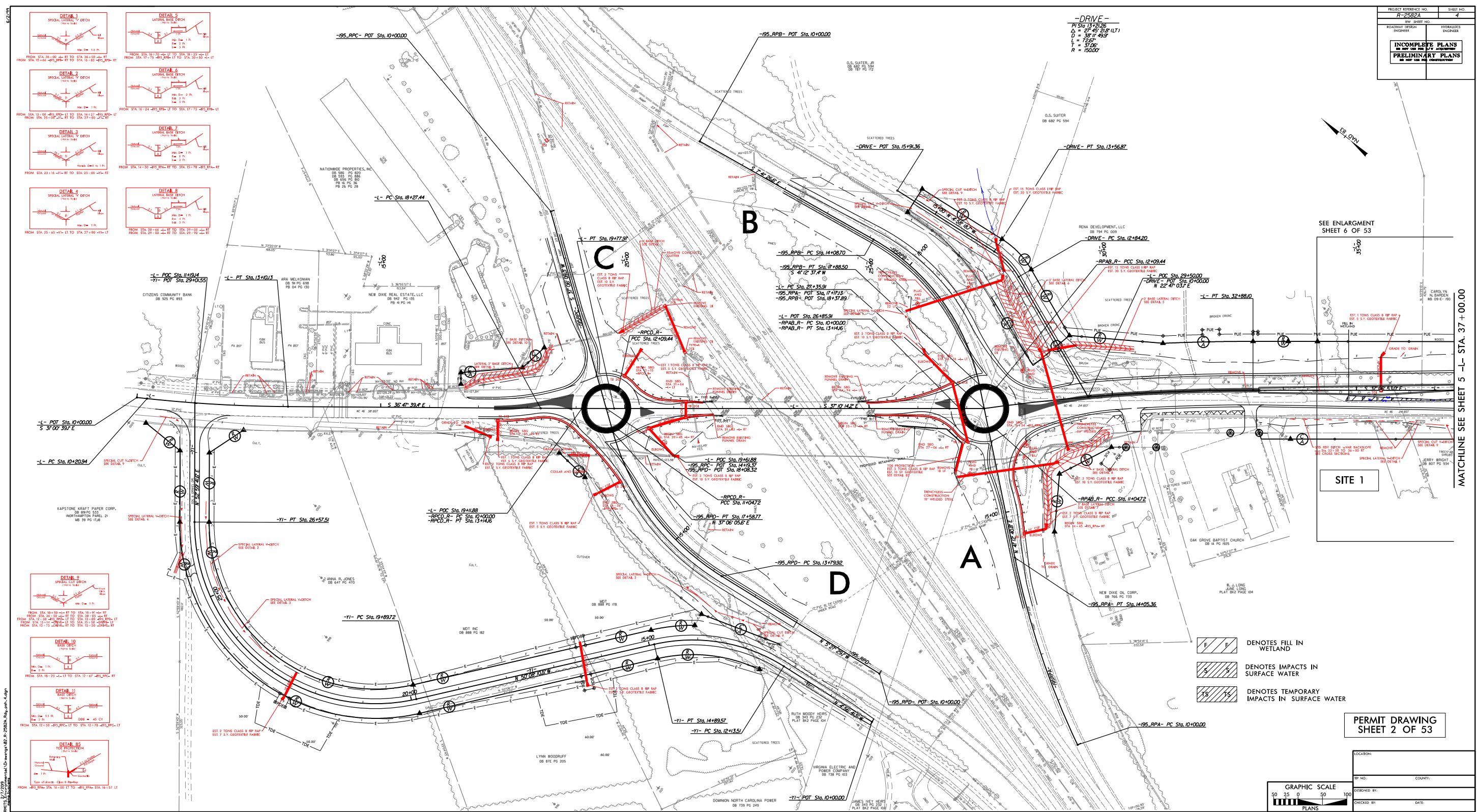
PROJECT LENGTH	
LENGTH ROADWAY T.I.P. PROJECT R-2582A =	8.149 MILES
LENGTH STRUCTURE T.I.P. PROJECT R-2582A =	0.071 MILES
TOTAL LENGTH OF T.I.P. PROJECT R-2582A =	8.220 MILES

Prepared in the Office of: <b>DIVISION OF HIGHWAYS</b> 1000 Birch Ridge Dr., Raleigh NC, 27610	
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: June 30, 2017	GARY R. LOVERING, PE PROJECT ENGINEER
LETTING DATE: December 18, 2019	BRYAN C. KEY, PE PROJECT DESIGN ENGINEER

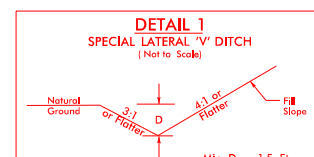
HYDRAULICS ENGINEER	
SIGNATURE: _____	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE: _____	P.E.



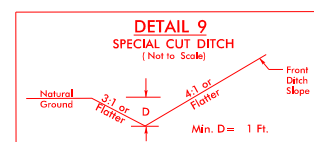




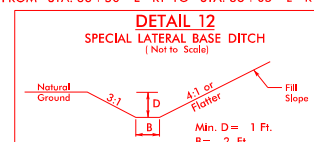
**MATCHLINE SEE SHEET 5 -L- STA. 37 + 00.00**



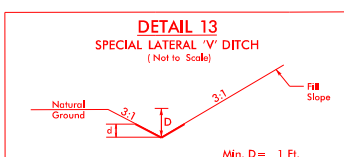
FROM STA. 38+65 -L- LT TO STA. 42+40 -L- LT  
FROM STA. 38+90 -L- RT TO STA. 47+30 -L- RT  
FROM STA. 43+50 -L- LT TO STA. 47+00 -L- LT  
FROM STA. 49+50 -L- LT TO STA. 58+00 -L- LT



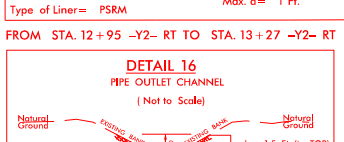
FROM STA. 36+50 -L- RT TO STA. 38+05 -L- RT



FROM STA. 13+00 -Y2- LT TO STA. 13+75 -Y2- LT

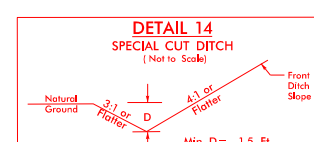


Type of Liner= PSRM Max. d= 1 Ft.

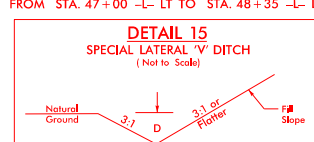


Length= 10 Ft. CHANNEL BED  
D= 1.5 Ft. (Variable)

STA. 38+59 -1- 1T

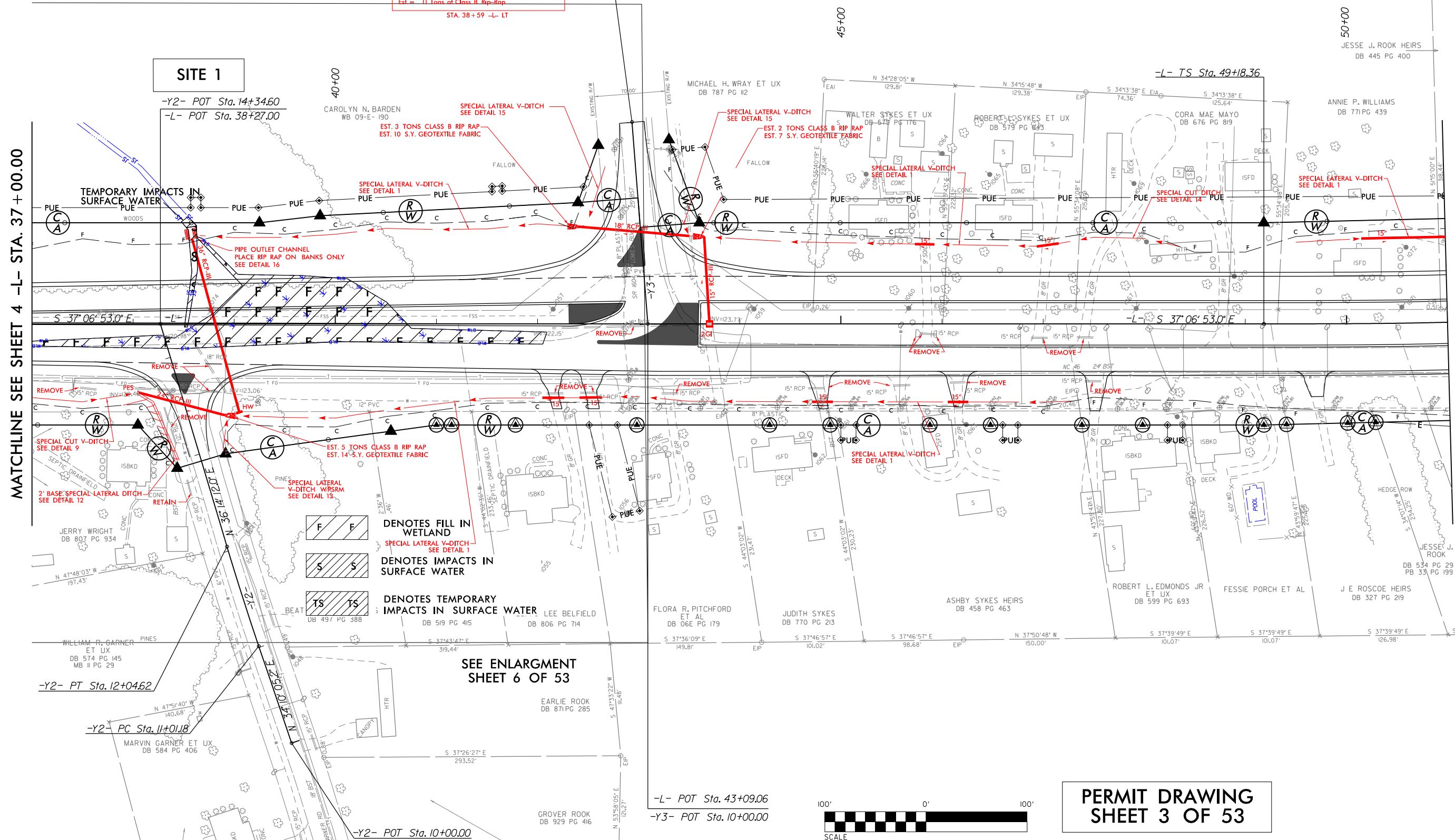


FROM STA 17+00 L HT TO STA 18+35 L HT



FROM STA. 10+84 -Y3- RT TO STA. 11+00 -Y3- RT  
FROM STA. 10+99 -Y3- LT TO STA. 11+60 -Y3- LT

FROM STA 10+99 -Y3- IT TO STA 11+60 -Y3- IT

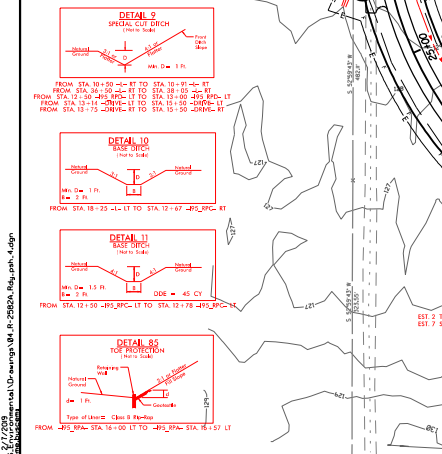
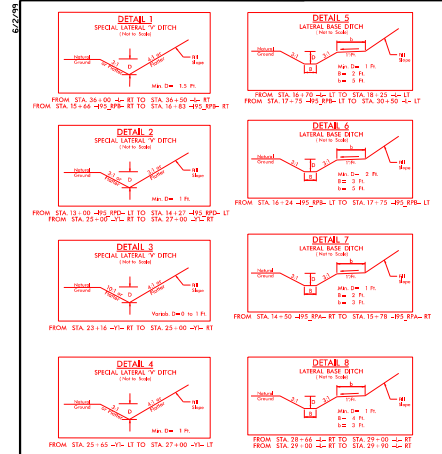
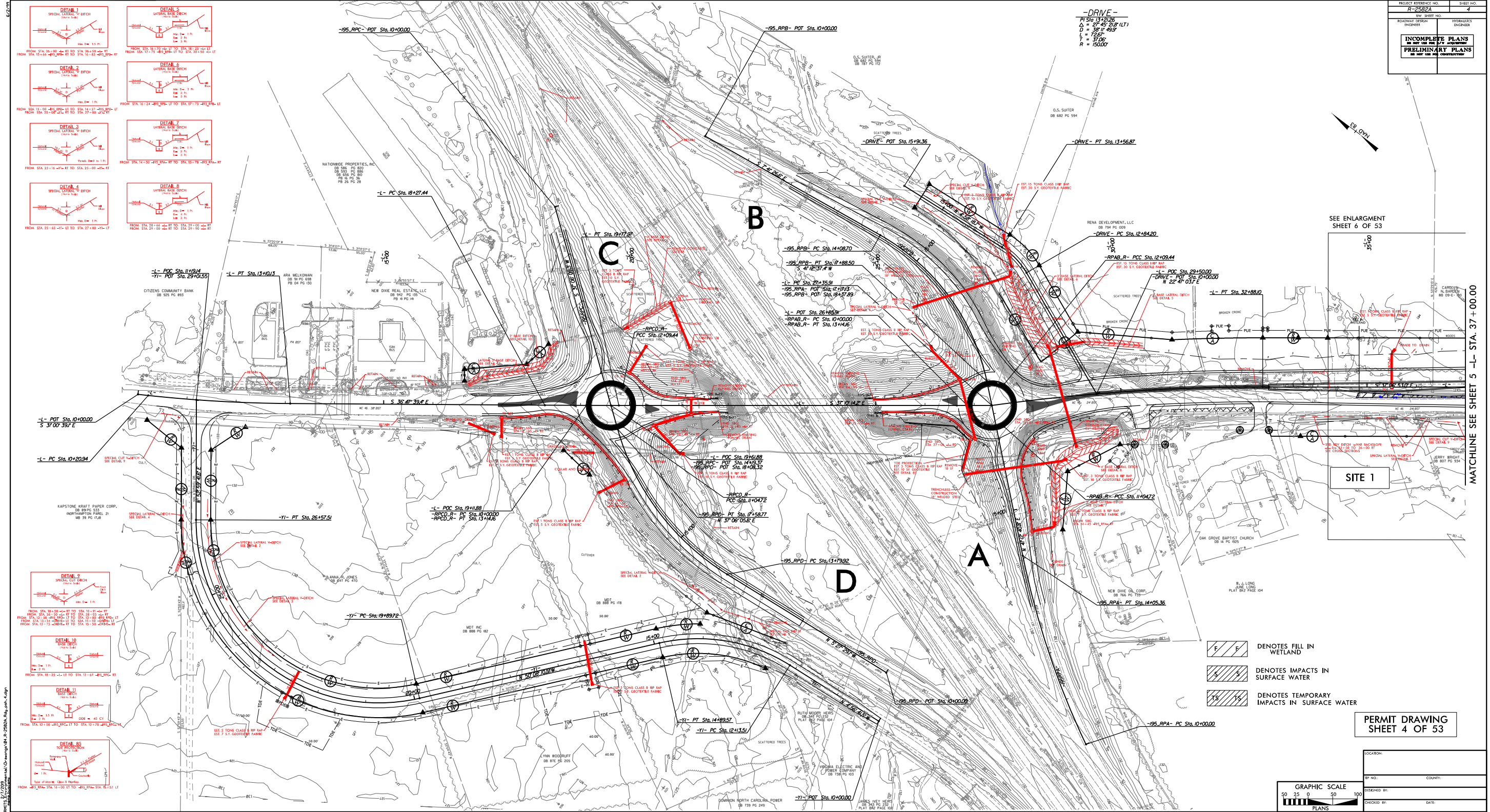


WATCHLINE SEE SHEET 4 -L- STA. 37 + 00.00

MATCHLINE SEE SHEET 6 -L- STA. 51+00.00

PERMIT DRAWING  
SHEET 3 OF 53





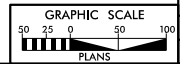
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	4
REV. SHEET NO.	
ROADWAY DESIGN	HYDRAULICS
INCHES	FOOTING
INCOMPLETE PLANS DO NOT USE FOR CONSTRUCTION	

SEE ENLARGMENT  
SHEET 6 OF 53

SITE 1

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

PERMIT DRAWING  
SHEET 4 OF 53



LOCATION:	COUNTY:
DESIGNED BY:	CHECKED BY:
DATE:	

MATCHLINE SEE SHEET 5 - L- STA. 37+00.00





## SITE 1

-Y2- POT Sta. 14+34.60  
-L- POT Sta. 38+27.00

CAROLYN N. BARDEN  
WB 09-E-190

**SPECIAL LATERAL V-DITCH**  
**SEE DETAIL 15**

EST. 3 TONS CLASS B RIP RAP  
EST. 10 S.Y. GEOTEXTILE FABRIC

EST. 1 TONS CLASS B RIP RAP  
EST. 5 S.Y. GEOTEXTILE FABRIC

FILL IN  
WETLAND

GRADE TO DRAIN

## TEMPORARY IMPACTS IN SURFACE WATER

PIPE OUTLET CHANNEL  
PLACE RIP RAP ON BANKS ONLY  
SEE DETAIL 16

SPECIAL LATERAL V-DITCH  
SEE DETAIL 1

RDY DITCH w/VAR BACKSLOPE  
Sta. 33+50 TO 36+00 RT  
E CROSS SECTIONS

SPECIAL LATERAL V-DITCH  
SEE DETAIL 1

SPECIAL CUT V-DITCH  
SEE DETAIL 9

**SPECIAL CUT V-DITC**  
**SFE DETAIL 9**

2' BASE SPECIAL LAT  
SEE DETAIL 12

EST. 5 TONS CLASS B RIP RAP  
EST. 14' S Y GEOTEXTILE FABRIC

SPECIAL LATERAL  
V-DITCH W/PSRM  
SEE DETAIL 13

DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

**DENOTES FILL IN WETLAND**

 SPECIAL LATERAL V-DITCH-  
SEE DETAIL 1

DENOTES IMPACTS IN  
SURFACE WATER

60' 0' 60'

SCALE

PERMIT DRAWING  
SHEET 6 OF 53WILLIAM R. GARNER  
ET AL.

UB 497 PG 388

DB 519 PG 415

8/17/99

35+00  
-L-

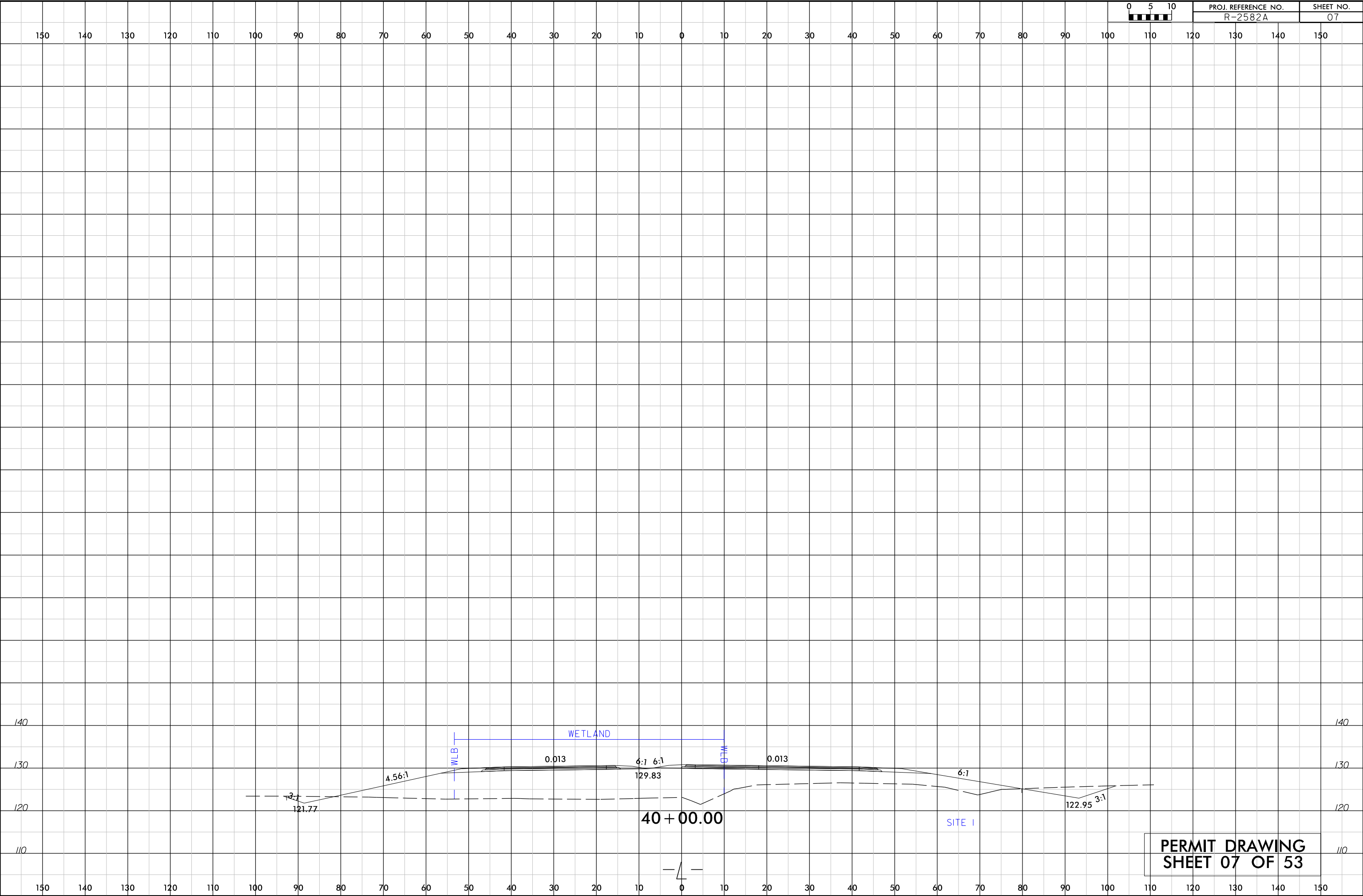
40+00

2/7/2019  
C:\Users\user\Documents\Hydraulics\PERMITS\_Environmental\Drawings\06\_R-2582A-SITE1.dgn

8/23/99

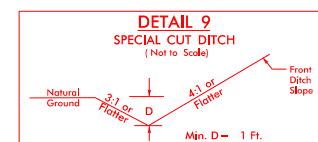
2/7/2019  
R:\Hydro\auties\PERMITS\Environmental\Drawings\07\_R2582A.XS SITE1.dgn  
memebuscem

0510	PROJ. REFERENCE NO.	SHEET NO.
	R-2582A	07

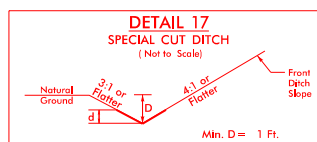


PERMIT DRAWING  
SHEET 07 OF 53

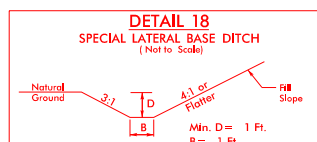




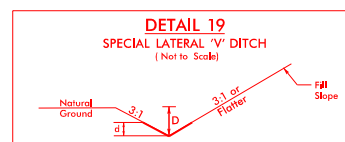
FROM -L- STA. 73+00 LT TO -L- STA. 79+50 LT  
FROM -L- STA. 75+00 RT TO -L- STA. 80+50 RT  
FROM -L- STA. 88+50 RT TO -L- STA. 91+00 RT  
FROM -L- STA. 89+50 LT TO -L- STA. 90+50 LT



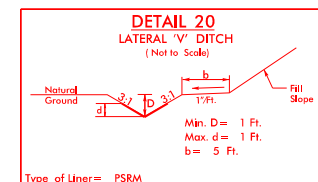
Type of Liner= PSRM Max. d= 1 Ft.



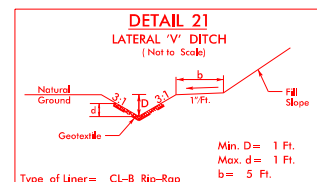
5-111



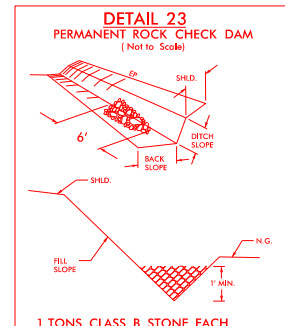
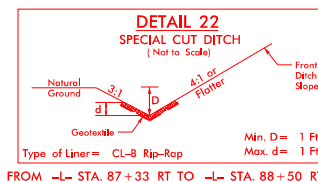
Min. D = 1 Ft.



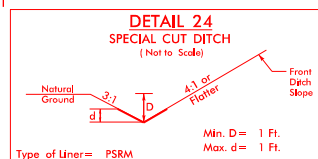
FROM -I- STA. 84+00 RT TO -I- STA. 85+50 R



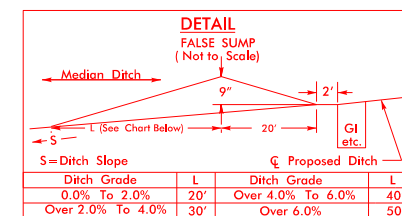
FROM -1- STA 86+03 IT TO -1- STA 89+50.1



FROM 1- STA 85+00 RT TO 1- STA 85+00



FROM -1- STA 87+33 RT TO -1- STA 91+00 R

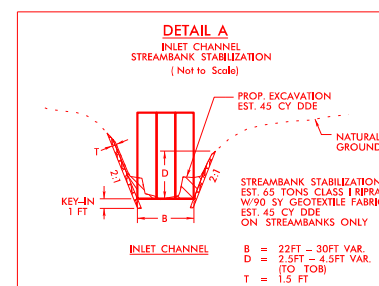
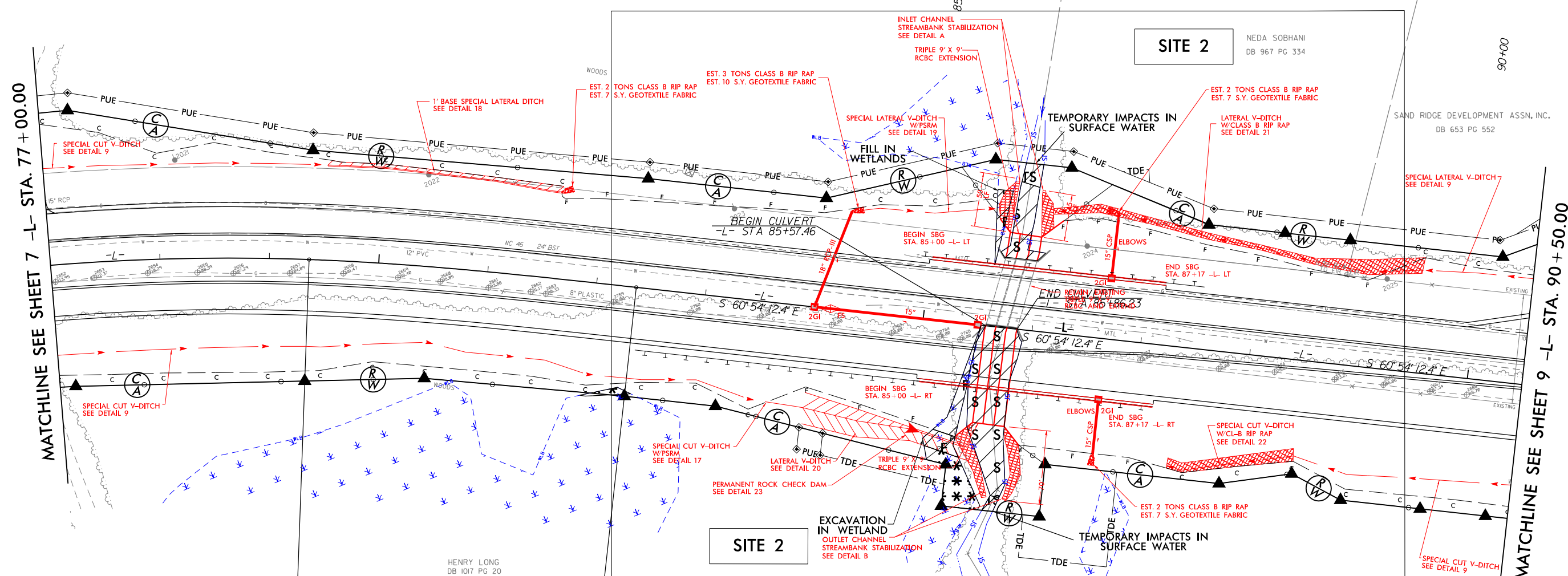
NOTES FILL IN  
WETLAND

DENOTES FILL IN  
WETLAND

DENOTES MECHANIZED  
CLEARING

A rectangular box with diagonal hatching (lines from top-left to bottom-right). Inside the box, there are two 'S' labels, one on the left and one on the right.

DENOTES IMPACTS IN  
SURFACE WATER

DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

**DETAIL B**

OUTLET CHANNEL  
STREAMBANK STABILIZATION  
(Not to Scale)

1.5H:1V  
D  
T  
B  
KEY-IN  
1 FT  
PROP. STREAM BED  
NATURAL GROUND  
OUTLET CHANNEL

B = 15FT - 30FT VAR.  
D = 2.5FT - 4.5FT VAR.  
(TO TOB)  
T = 1.5 FT

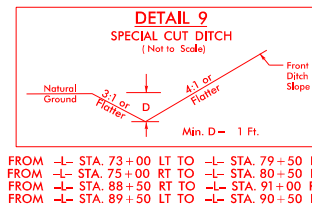
STREAMBANK STABILIZATION  
EST 90 TONS CLASS I RIPRAP  
W/720 ST GEOTEXTILE FABRIC  
ON STREAMBANKS ONLY

O S SUITER JR  
DB 571PG 333

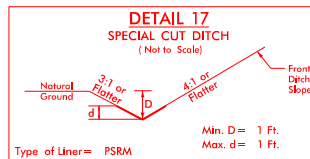
SEE ENLARGMENT  
SHEET 10 OF 53

PERMIT DRAWING  
SHEET 8 OF 53

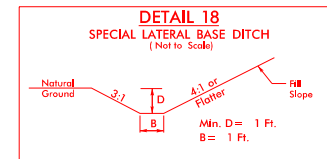
8/17/99  
R:\HGP\Drawings\PERMITS\Environmental\Drawings\09\_R-2582A\_Rdy\_psh\_B.dgn  
8/17/2019  
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8/17/2019  
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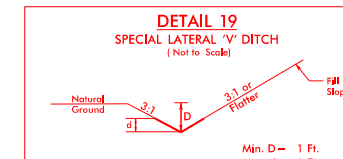
FROM -L- STA. 73+00 LT TO -L- STA. 79+50 LT  
FROM -L- STA. 75+00 RT TO -L- STA. 80+50 RT  
FROM -L- STA. 88+50 RT TO -L- STA. 91+00 RT  
FROM -L- STA. 89+50 LT TO -L- STA. 90+50 LT



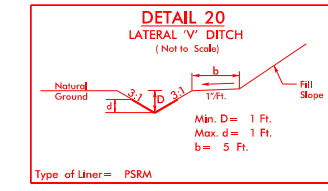
FROM -L- STA. 83+00 RT TO -L- STA. 84+00 RT



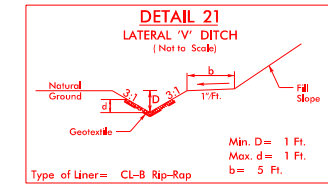
FROM -L- STA. 79+50 LT TO -L- STA. 81+60 LT



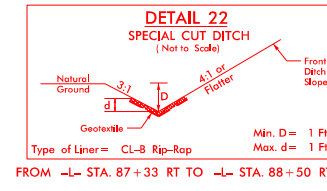
FROM -L- STA. 84+24 LT TO -L- STA. 85+60 LT



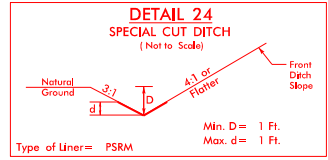
FROM -L- STA. 84+00 RT TO -L- STA. 85+50 RT



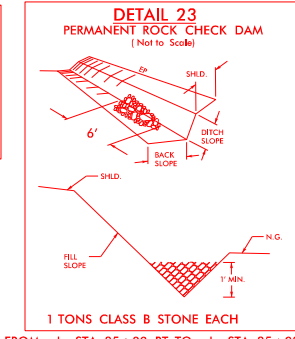
FROM -L- STA. 86+03 LT TO -L- STA. 89+50 LT



FROM -L- STA. 87+33 RT TO -L- STA. 88+50 RT



FROM -L- STA. 87+33 RT TO -L- STA. 91+00 RT

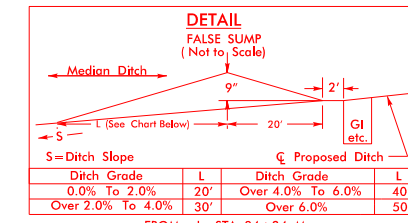


FROM -L- STA. 85+00 RT TO -L- STA. 85+08 RT

**Pls Sta 75+24.24**  
 $\Delta s = 4' 12' 46.5''$   
 $Ls = 300.00'$   
 $LT = 200.06'$   
 $ST = 100.05'$

**Pl Sta 77+80.56**  
 $\Delta = 8' 46' 00.3''$  (RT)  
 $D = 2' 48' 31.0''$   
 $L = 312.14'$   
 $T = 156.37'$   
 $R = 2,040.00'$   
 $SE = .06$   
 $V_d = 70$

**Pls Sta 80+36.38**  
 $\Delta s = 4' 12' 46.5''$   
 $Ls = 300.00'$   
 $LT = 200.06'$   
 $ST = 100.05'$



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

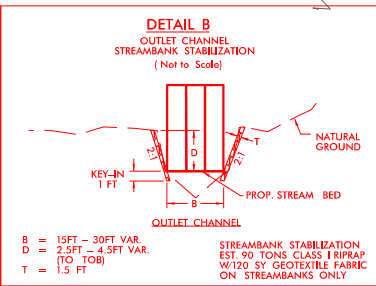
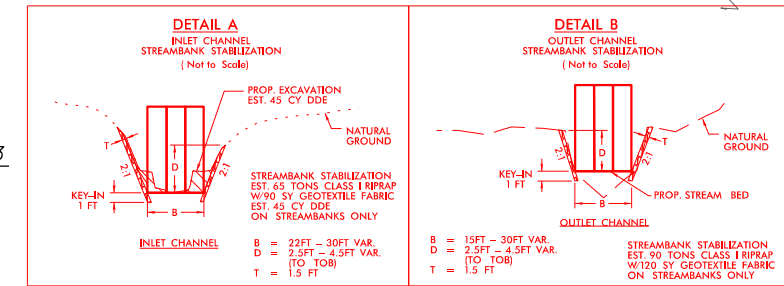
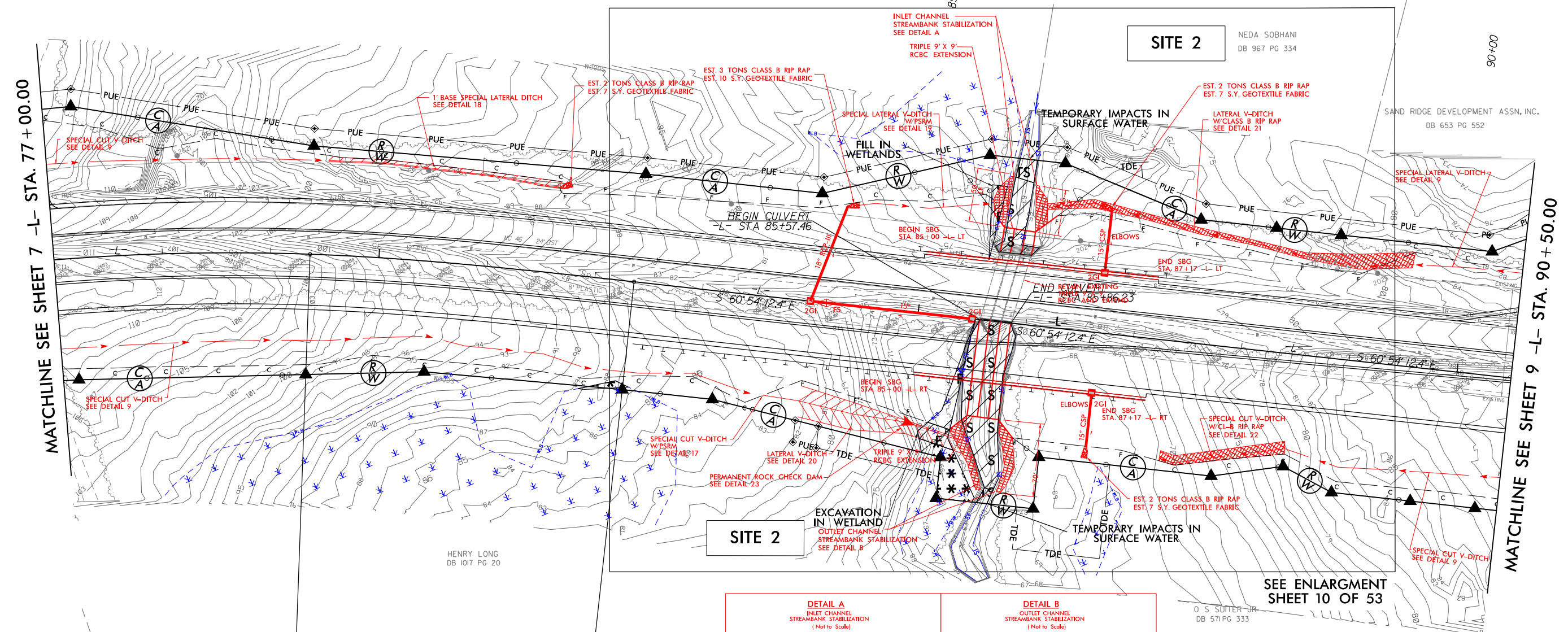
**LEGEND**

**F F** DENOTES FILL IN WETLAND

**S S** DENOTES IMPACTS IN SURFACE WATER

**\* \* \*** DENOTES MECHANIZED CLEARING

**TS TS** DENOTES TEMPORARY IMPACTS IN SURFACE WATER



**PERMIT DRAWING**  
**SHEET 9 OF 53**



8/17/99



DENOTES FILL IN  
WETLAND



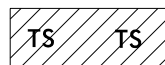
DENOTES MECHANIZED  
CLEARING

TONS CLASS B RIP RAP  
S.Y. GEOTEXTILE FABRIC

EST. 3 TONS CLASS B RIP RAP  
EST. 10 S.Y. GEOTEXTILE FABRIC



DENOTES IMPACTS IN  
SURFACE WATER



DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

INLET CHANNEL  
STREAMBANK STABILIZATION  
SEE DETAIL A

TRIPLE 9' X 9'  
RCBC EXTENSION

SPECIAL LATERAL V-DITCH  
W/PSRM  
SEE DETAIL 19

FILL IN  
WETLANDS

TEMPORARY IMPACTS IN  
SURFACE WATER

EST. 2 TONS CLASS B RIP I  
EST. 7 S.Y. GEOTEXTILE FABRIC

LATERAL V-DITCH  
W/CLASS B RIP RAP  
SEE DETAIL 21

BEGIN CULVERT  
-L- STA 85+57.46

BEGIN SBG  
STA. 85+00 -L- LT

END SBG  
STA. 87+17 -L- LT

END RETAIN EXISTING  
TRIPLE 9' X 9'  
RCBC AND EXTEND

BEGIN SBG  
STA. 85+00 -L- RT

ELBOWS 2GI  
END SBG  
STA. 87+17 -L- RT

SPECIAL CUT V-DITCH  
W/PSRM  
SEE DETAIL 17

LATERAL V-DITCH  
SEE DETAIL 20

PERMANENT ROCK CHECK DAM  
SEE DETAIL 23

TRIPLE 9' X 9'  
RCBC EXTENSION

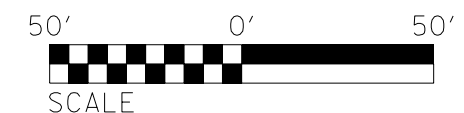
SPECIAL CUT V-DITCH  
W/CL-B RIP RAP  
SEE DETAIL 22

EST. 2 TONS CLASS B RIP RAP  
EST. 7 S.Y. GEOTEXTILE FABRIC

EXCAVATION IN WETLAND  
OUTLET CHANNEL  
STREAMBANK STABILIZATION  
SEE DETAIL B

TEMPORARY IMPACTS IN  
SURFACE WATER

PERMIT DRAWING  
SHEET 10 OF 53



PROJECT REFERENCE NO. R-2582A		SHEET NO. 8	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

NEDA SOBHANI  
DB 967 PG 334

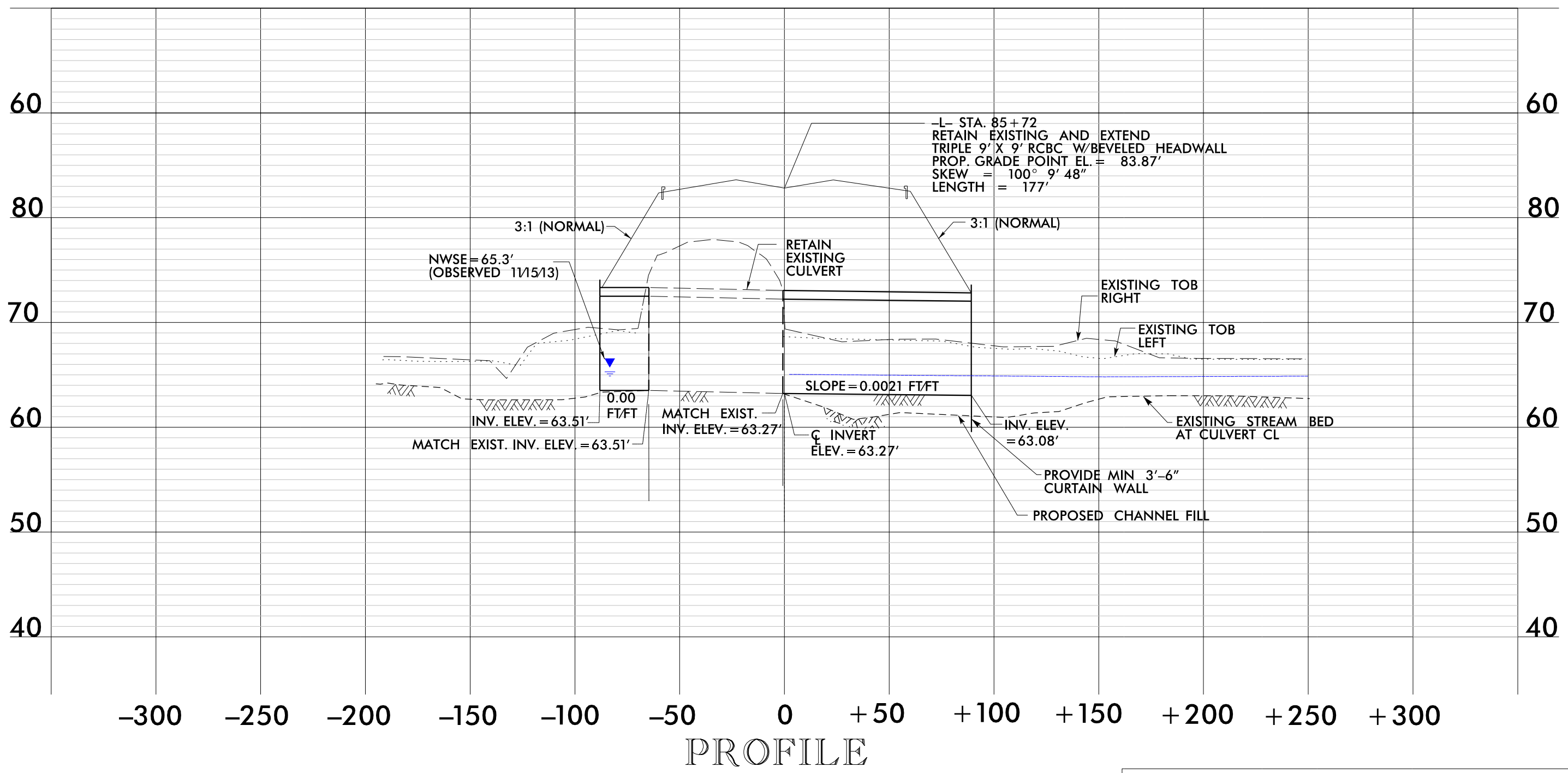
SITE 2

SITE 2

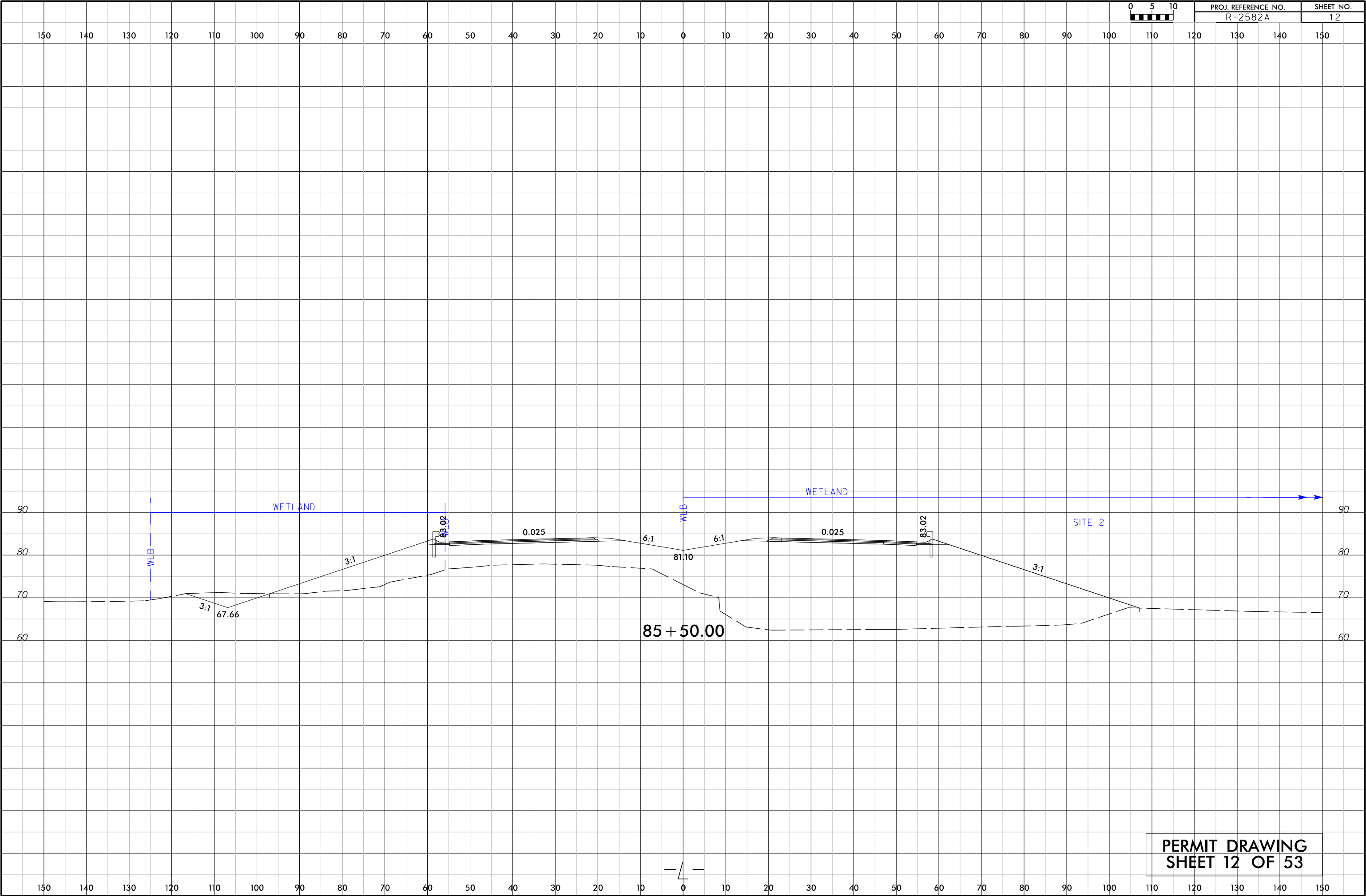
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8/17/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\10 R-2582A SITE2.dgn  
nema.busecm



# SITE 2 – PROFILE VIEW ALONG STRUCTURE

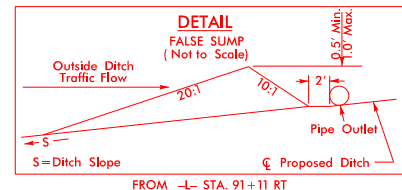
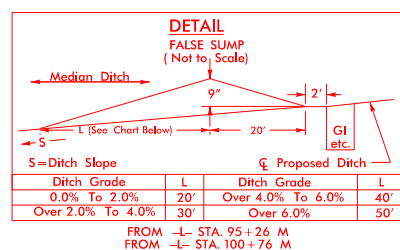
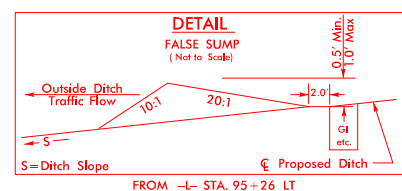


NCDOT  
DIVISION OF HIGHWAYS  
NORTHAMPTON COUNTY  
PROJECT: 34472.1.4 (R-2582A)  
US 158 FROM 1-95 / NC  
TO SR 1312 (ST. JOHN CHURCH RD)  
PERMIT DRAWING SITE 2  
SHEET 11 OF 53



PERMIT DRAWING  
SHEET 12 OF 53

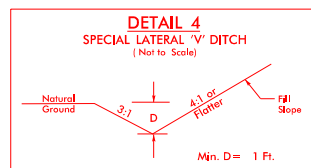
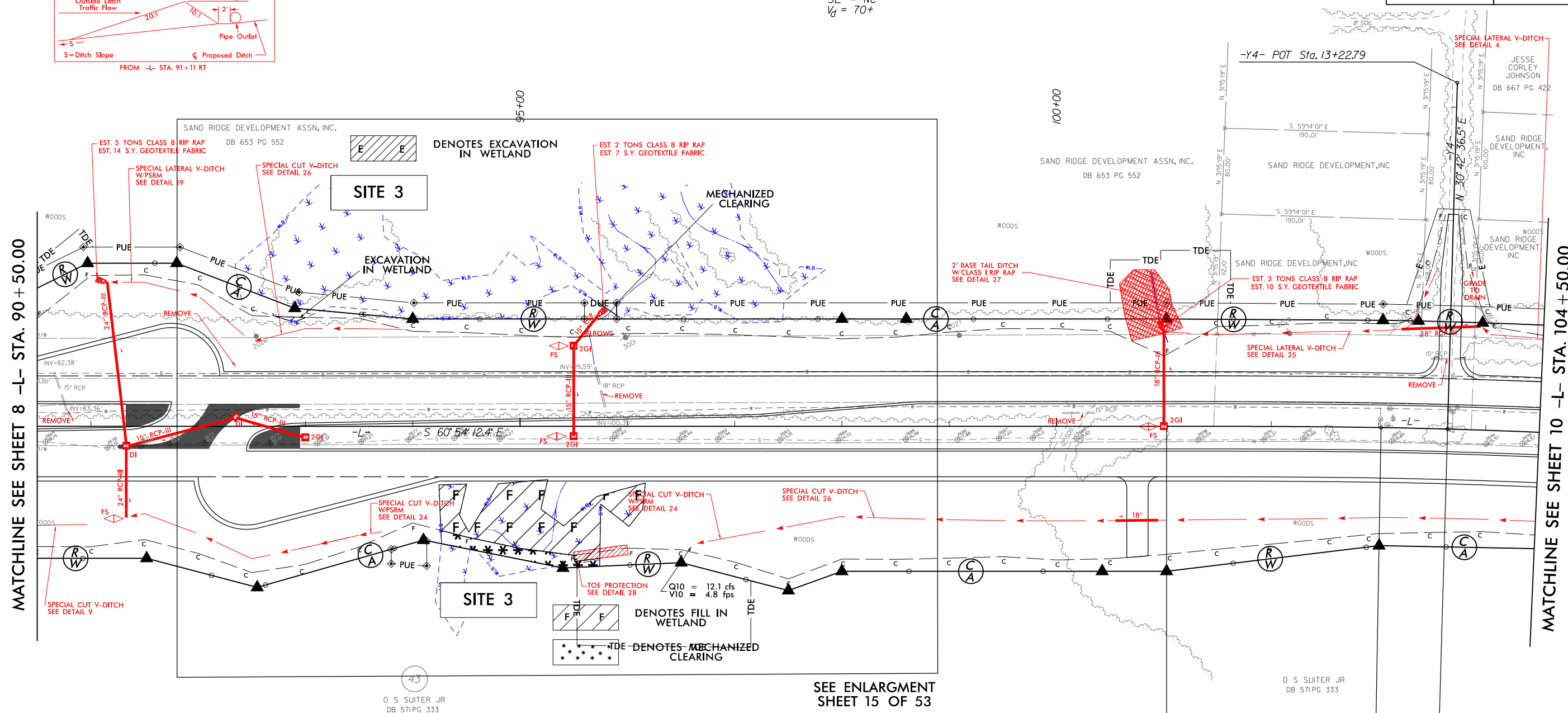
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



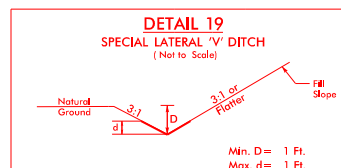
Pls Sta 102+35.83  
 $\theta_s = 0^\circ 59' 47.2''$   
 $L_s = 200.00'$   
 $LT = 133.34'$   
 $ST = 66.67'$

PI Sta 107+85.54  
 $\Delta = 9^\circ 36' 14.6''$  (RT)  
 $D = 0^\circ 59' 47.2''$   
 $L = 963.83'$   
 $T = 483.05'$   
 $R = 5,750.00'$   
 $SE = NC$   
 $V_d = 70+$

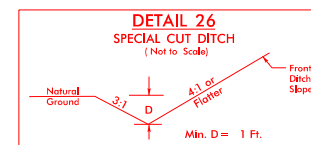
Pls Sta 113+33.00  
 $\theta_s = 0^\circ 59' 47.2''$   
 $L_s = 200.00'$   
 $LT = 133.34'$   
 $ST = 66.67'$



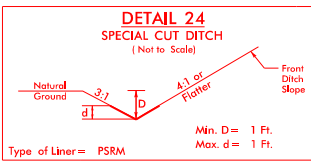
FROM -Y4- STA. 11+50 RT TO -L- STA. 106+50 LT



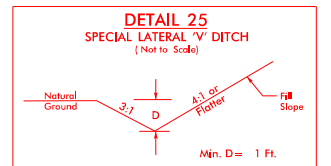
FROM -L- STA. 91+15 LT TO -L- STA. 92+50 LT



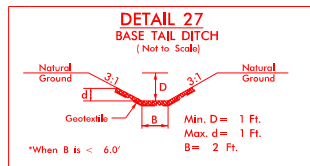
FROM -L- STA. 92+50 LT TO -L- STA. 94+00 LT  
FROM -L- STA. 98+00 RT TO -L- STA. 114+00 RT



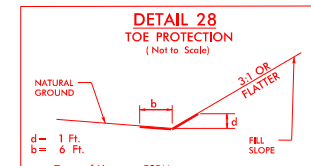
FROM -L- STA. 91+33 RT TO -L- STA. 94+00 RT  
FROM -L- STA. 96+00 RT TO -L- STA. 98+00 RT



FROM -L- STA. 101+00 LT TO -Y4- STA. 11+50 LT  
FROM Y4- STA. 11+50 RT TO -L- STA. 106+50 LT



Type of Liner = CL-I Rip-Rap DDE - 400 CY  
FROM -L- STA. 100+88 LT TO -L- STA. 101+00 LT



FROM -L- STA. 95+50 RT TO -L- STA. 96+00 RT

SEE ENLARGMENT  
SHEET 15 OF 53

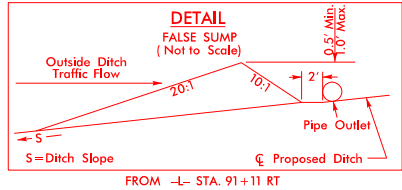
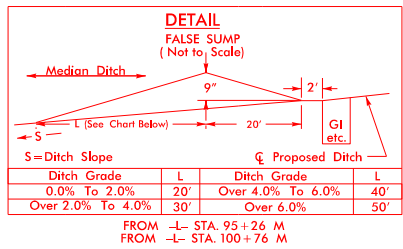
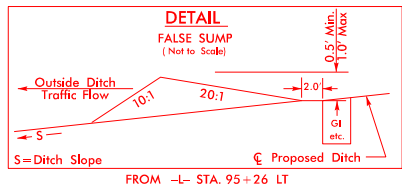
PERMIT DRAWING  
SHEET 13 OF 53



-Y4- POT Sta. 10+00.00  
-L- POC Sta. 103+64.46



8/17/99  
R:\Hydraulics\PERMITS\Environmental\Drawings\14\_R-2582A\_Rd.psh\_9.dgn  
8/17/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\14\_R-2582A\_Rd.psh\_9.dgn  
8/17/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\14\_R-2582A\_Rd.psh\_9.dgn

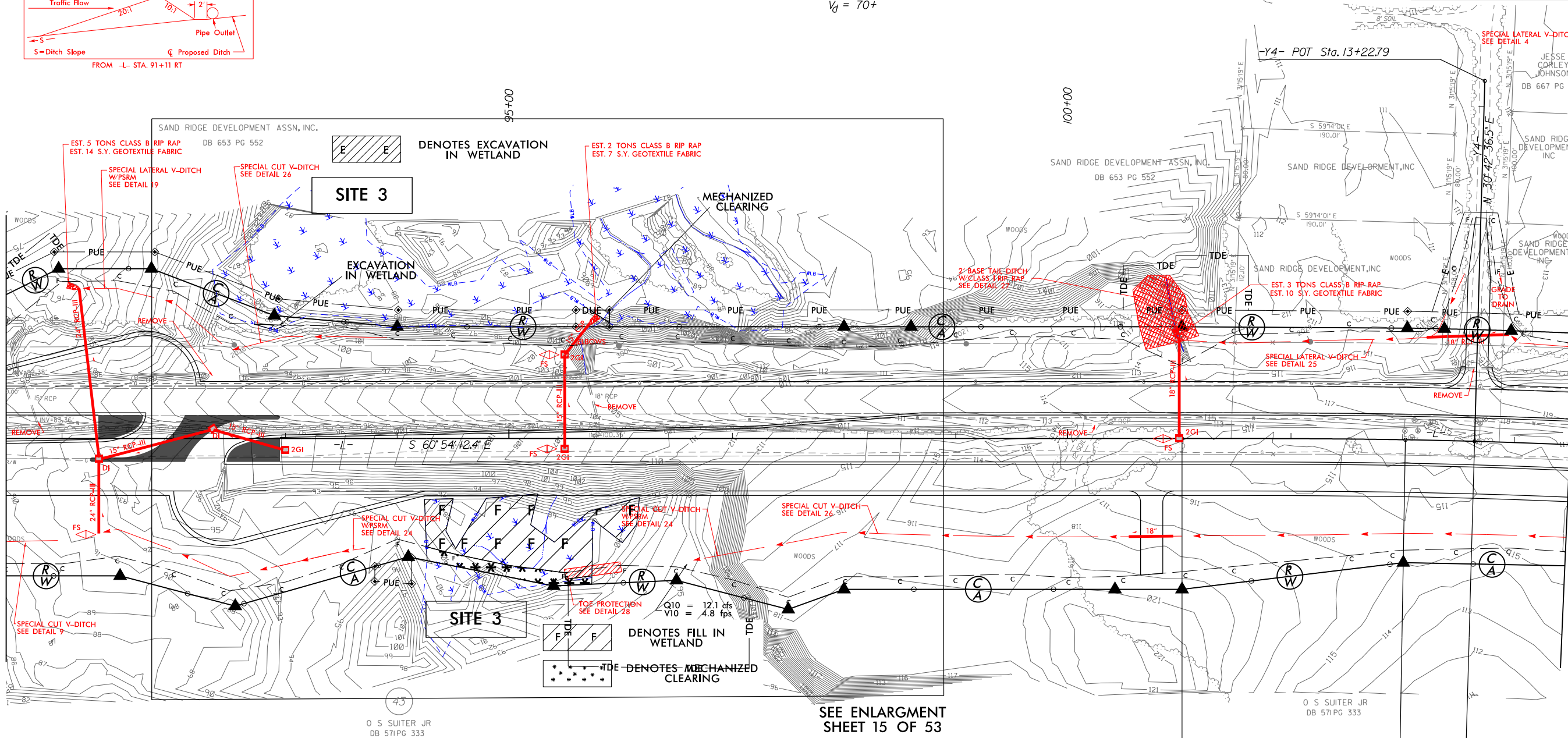


Pls Sta 102+35.83  
 $\Delta s = 0' 59' 47.2''$   
 $L s = 200.00'$   
 $L T = 133.34'$   
 $S T = 66.67'$

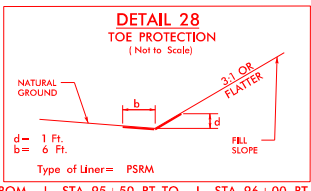
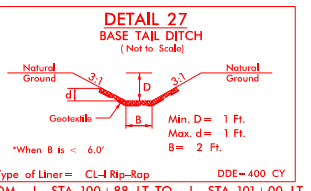
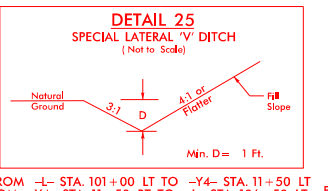
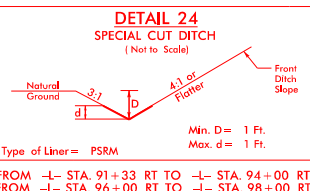
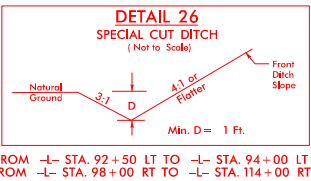
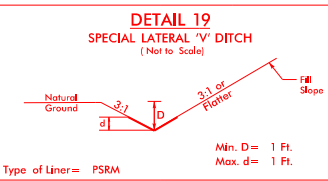
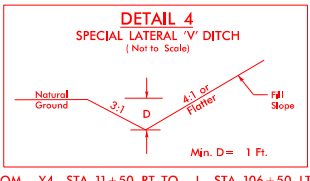
Pls Sta 107+85.54  
 $\Delta = 9' 36' 14.6'' (RT)$   
 $D = 0' 59' 47.2''$   
 $L = 963.83'$   
 $T = 483.05'$   
 $R = 5,750.00'$   
 $S E = NC$   
 $V_d = 70+$

Pls Sta 113+33.00  
 $\Delta s = 0' 59' 47.2''$   
 $L s = 200.00'$   
 $L T = 133.34'$   
 $S T = 66.67'$

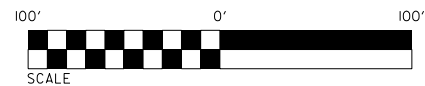
MATCHLINE SEE SHEET 8 -L- STA. 90+50.00



MATCHLINE SEE SHEET 10 -L- STA. 104+50.00



PERMIT DRAWING  
SHEET 14 OF 53



8/17/99

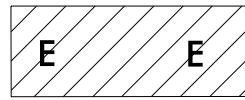
SAND RIDGE DEVELOPMENT ASSN, INC.

RIP RAP  
FABRIC

DB 653 PG 552

ERAL V-DITCH  
19

SPECIAL CUT V-DITCH  
SEE DETAIL 26

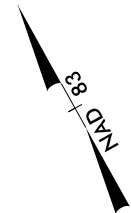


DENOTES EXCAVATION  
IN WETLAND

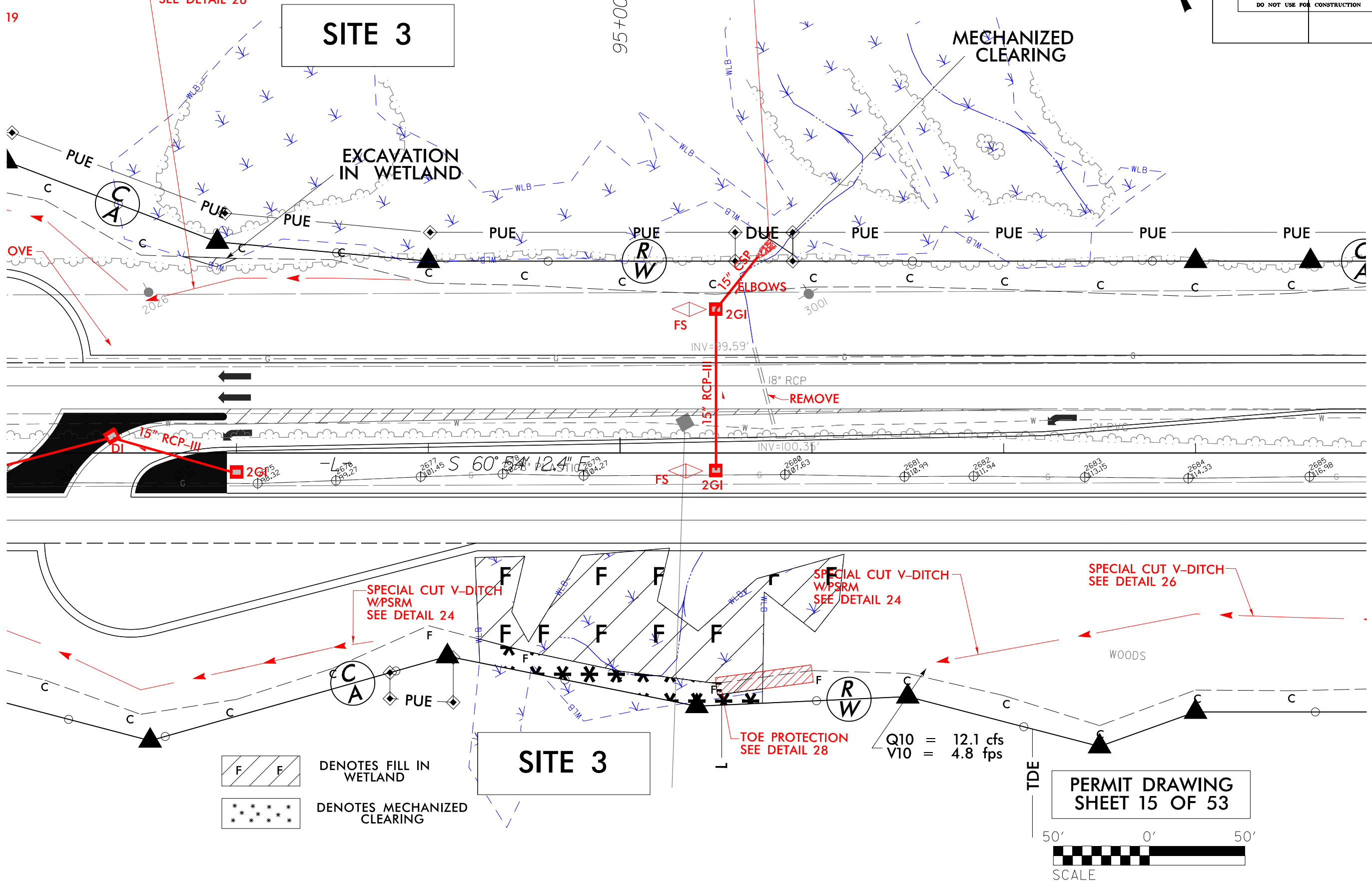
95+00

EST. 2 TONS CLASS B RIP RAP  
EST. 7 S.Y. GEOTEXTILE FABRIC

MECHANIZED  
CLEARING



PROJECT REFERENCE NO.	SHEET NO.
R-2582A	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



DENOTES FILL IN  
WETLAND

DENOTES MECHANIZED  
CLEARING

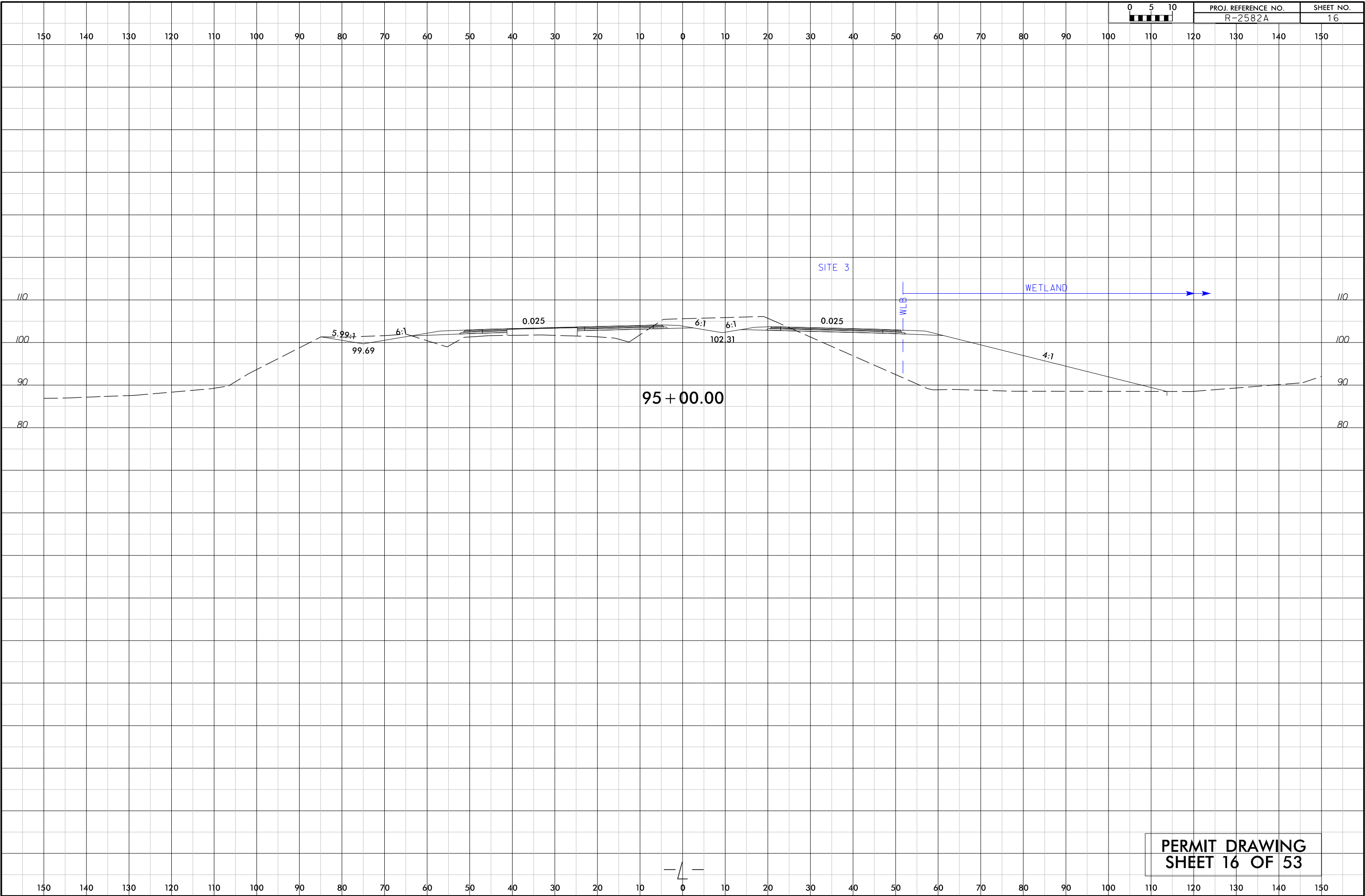
SITE 3

Q10 = 12.1 cfs  
V10 = 4.8 fps

PERMIT DRAWING  
SHEET 15 OF 53

50' 0' 50'  
SCALE

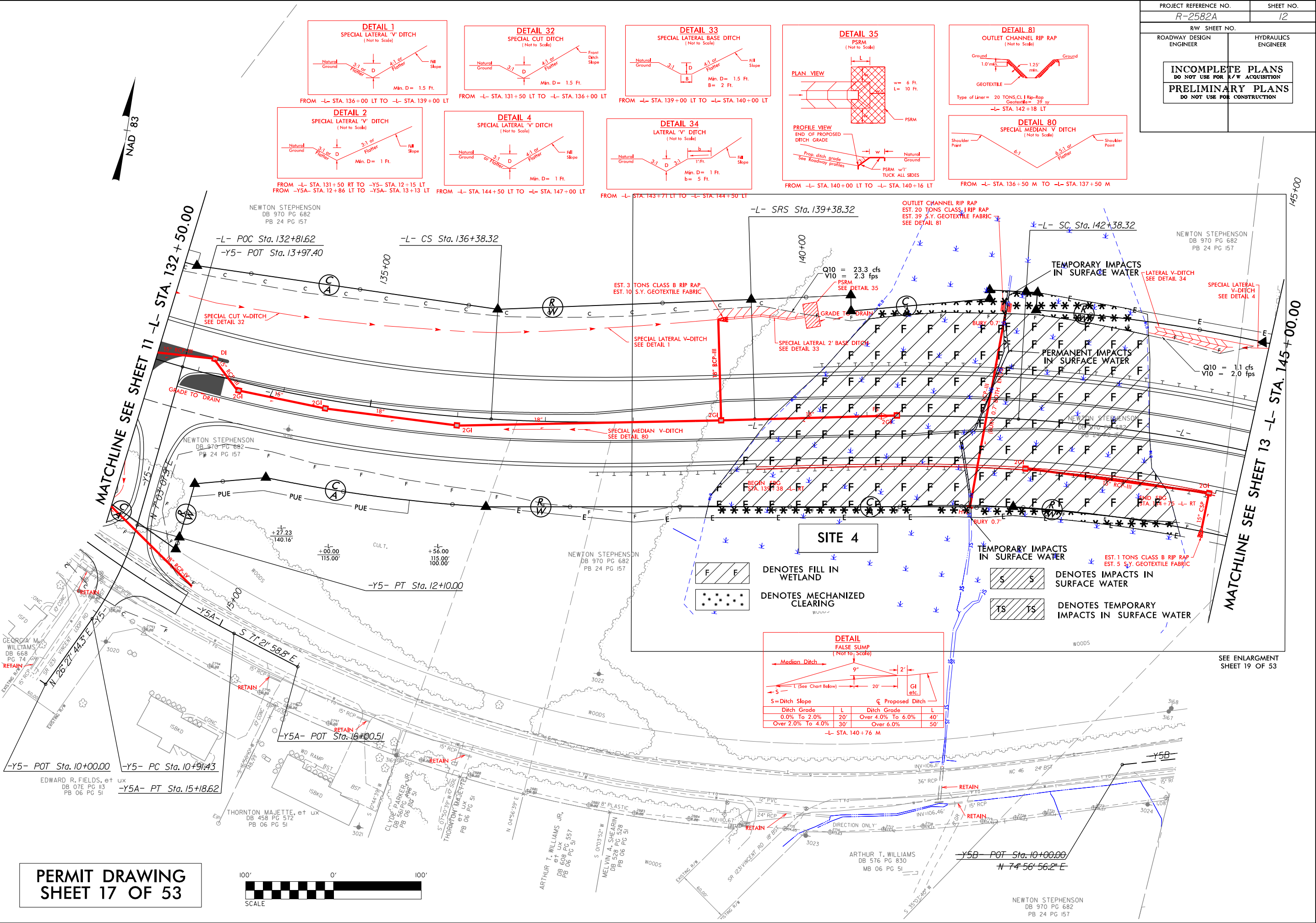
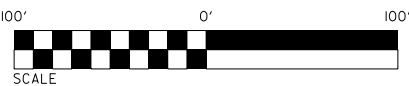
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8/17/2019 2:14:15 PM  
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8/17/2019 2:14:15 PM





8/17/99  
R:\Hydraulics\PERMITS\Environmental\Drawings\17\_R-2582A\_Rdy\_psh.12.dgn  
8/17/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\17\_R-2582A\_Rdy\_psh.12.dgn  
8/17/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\17\_R-2582A\_Rdy\_psh.12.dgn

PERMIT DRAWING  
SHEET 17 OF 53



PROJECT REFERENCE NO. R-2582A		SHEET NO. 12	
RW SHEET NO. ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

8/17/99

R:\Hydraulics\PERMITS\Environmental\Drawings\18.R-2582A.Rdy.psh.12.dgn  
8/17/2019  
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8/17/2019

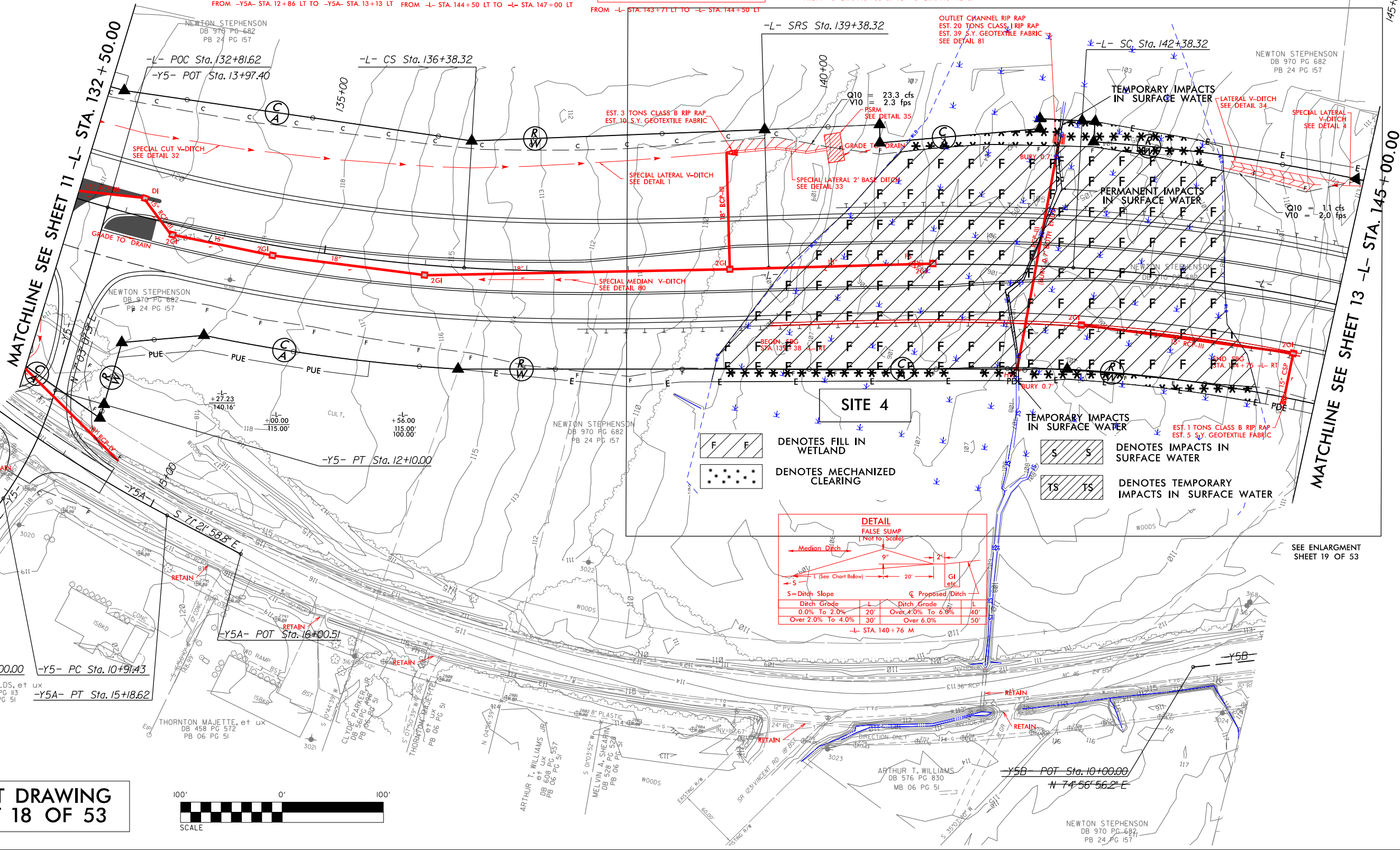
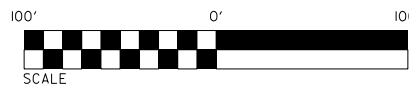
PERMIT DRAWING  
SHEET 18 OF 53

EDWARD R. FIELDS, e+ ux  
DB 07E PG 113  
PB 06 PG 51

-Y5A- PT Sta. 15+18.62

-Y5- POT Sta. 10+00.00

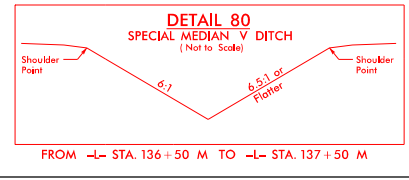
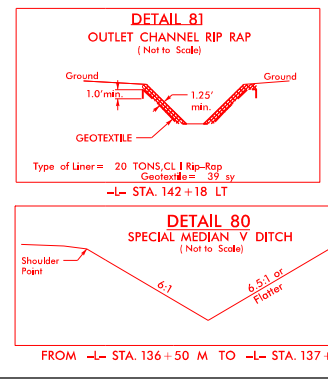
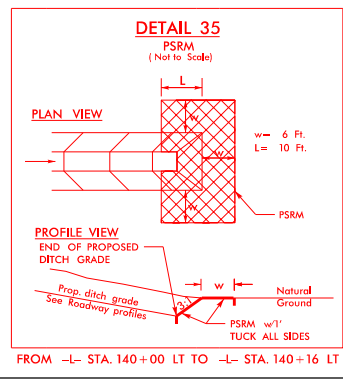
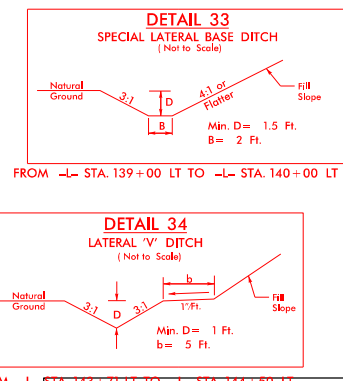
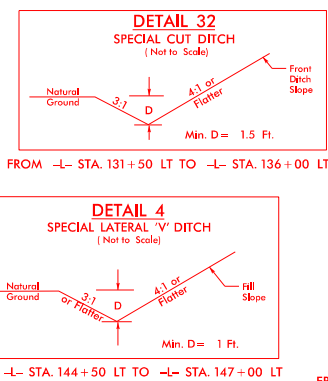
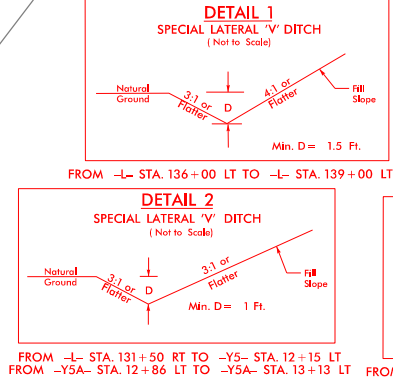
-Y5- PC Sta. 10+91.43



MATCHLINE SEE SHEET 11 -L- STA. 132+50.00

MATCHLINE SEE SHEET 13 -L- STA. 145+00.00

NAD 83



PROJECT REFERENCE NO. <i>R-2582A</i>		SHEET NO. <i>12</i>	
R/W SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			
<div>INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION</div> <div>PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION</div>			



8/17/99

SIA. 143+71 LI TO -L- SIA. 144+50 LI

-L- SRS Sta. 139+38.32

OUTLET CHANNEL RIP RAP  
EST. 20 TONS CLASS I RIP RAP  
EST. 39 S.Y. GEOTEXTILE FABRIC  
SEE DETAIL 81

-L- SC Sta. 142+38.32

NEWTO  
DB  
PE

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

TONS CLASS B RIP RAP  
S.Y. GEOTEXTILE FABRIC

SPECIAL LATERAL V-DITCH  
SEE DETAIL 1

MEDIAN V-DITCH  
AIL 80

18" RCP-III

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

SPECIAL LATERAL 2' BASE DITCH  
SEE DETAIL 33

BEGIN SBG  
STA. 139+38 -L- RT

WLB

WLB

WLB

WLB

WLB

WLB

WLB

WLB

SITE 4

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

BURY 0.7'

TEMPORARY IMPACTS  
IN SURFACE WATER

PERMANENT IMPACTS  
IN SURFACE WATER

LATERAL V-DITCH  
SEE DETAIL 34

SPECIAL LATERAL  
V-DITCH  
SEE DETAIL 4

Q10 = 1.1 cfs  
V10 = 2.0 fps

NEWTON STEPHENSON  
DB 970 PG 682  
PB 24 PG 157

15" RCP-III

15" RCP-III

15" RCP-III

15" RCP-III

15" RCP-III

15" RCP-III

15" RCP-III

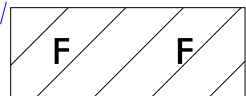
15" RCP-III

15" RCP-III

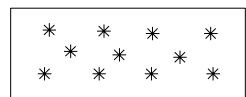
15" RCP-III

15" RCP-III

EST. 1 TONS CLASS B RIP RAP  
EST. 5 S.Y. GEOTEXTILE FABRIC



DENOTES FILL IN  
WETLAND



DENOTES MECHANIZED  
CLEARING

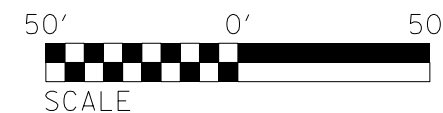


DENOTES IMPACTS IN  
SURFACE WATER



DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

PERMIT DRAWING  
SHEET 19 OF 53



WOODS

GEORGE  
DB 12

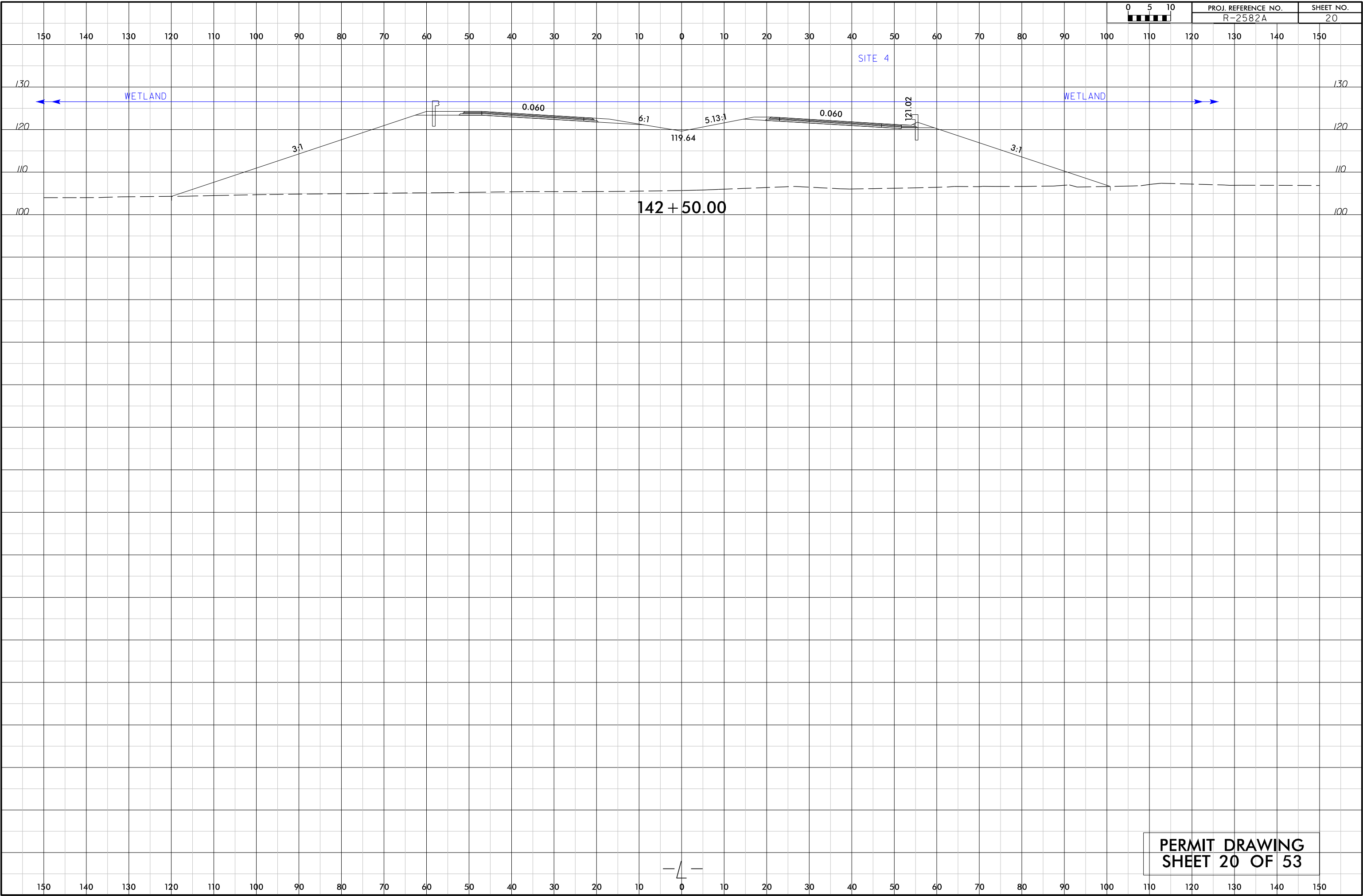
2/7/2019  
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name:buscum



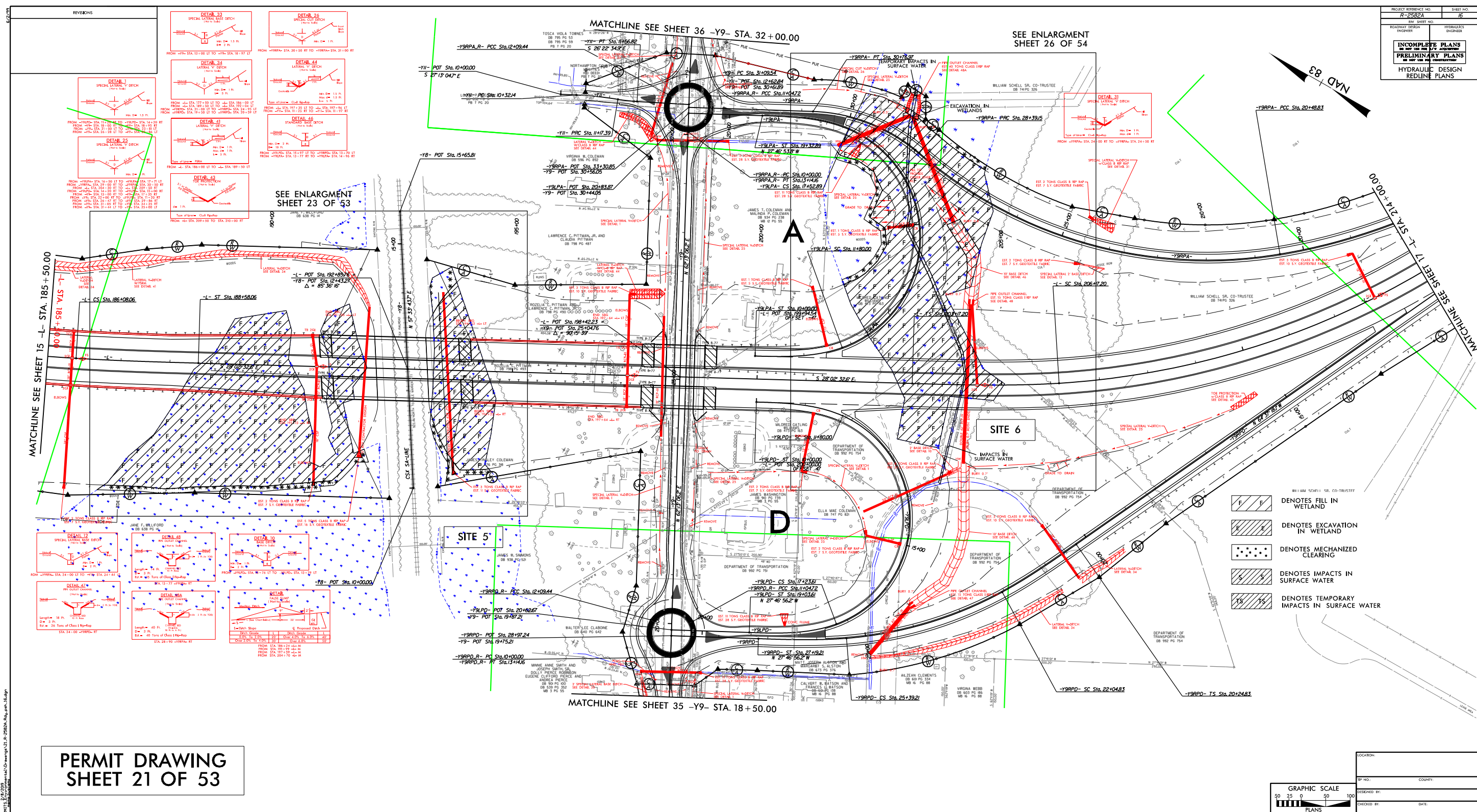
8/23/99

2/7/2019  
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memebuscem

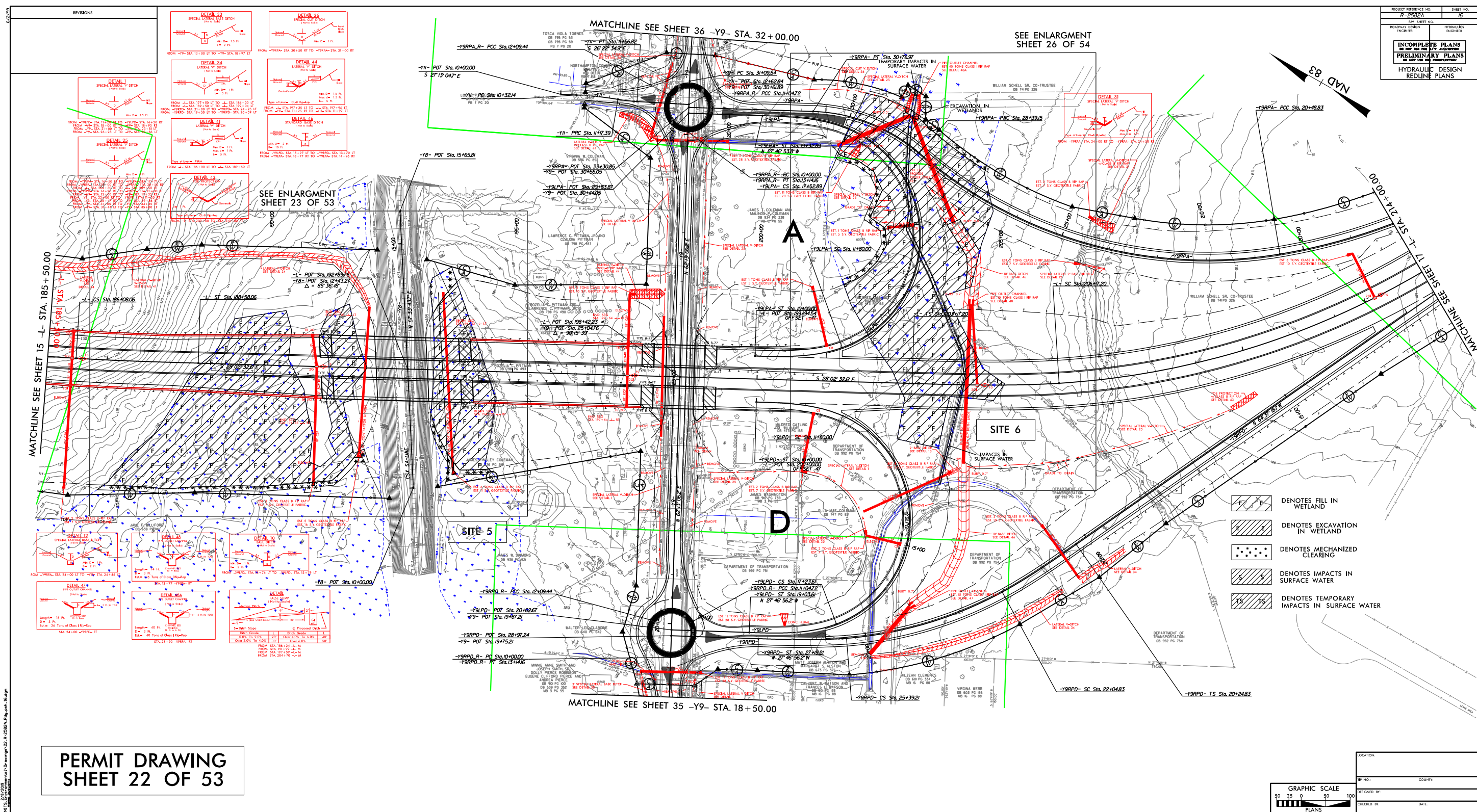
0510	PROJ. REFERENCE NO.	SHEET NO.
	R-2582A	20



PERMIT DRAWING  
SHEET 20 OF 53

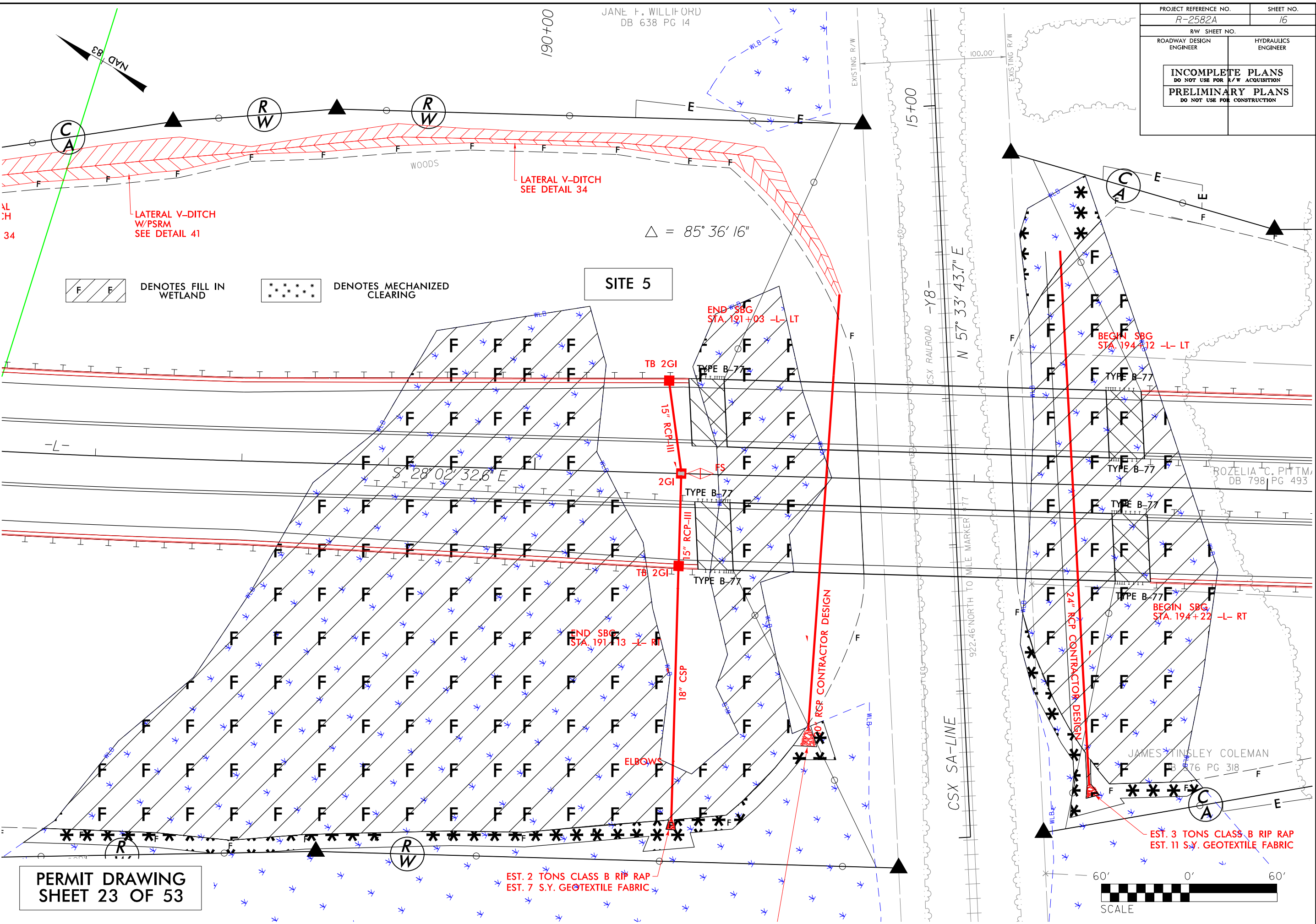






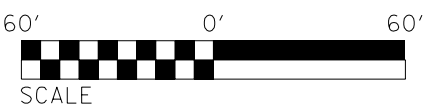


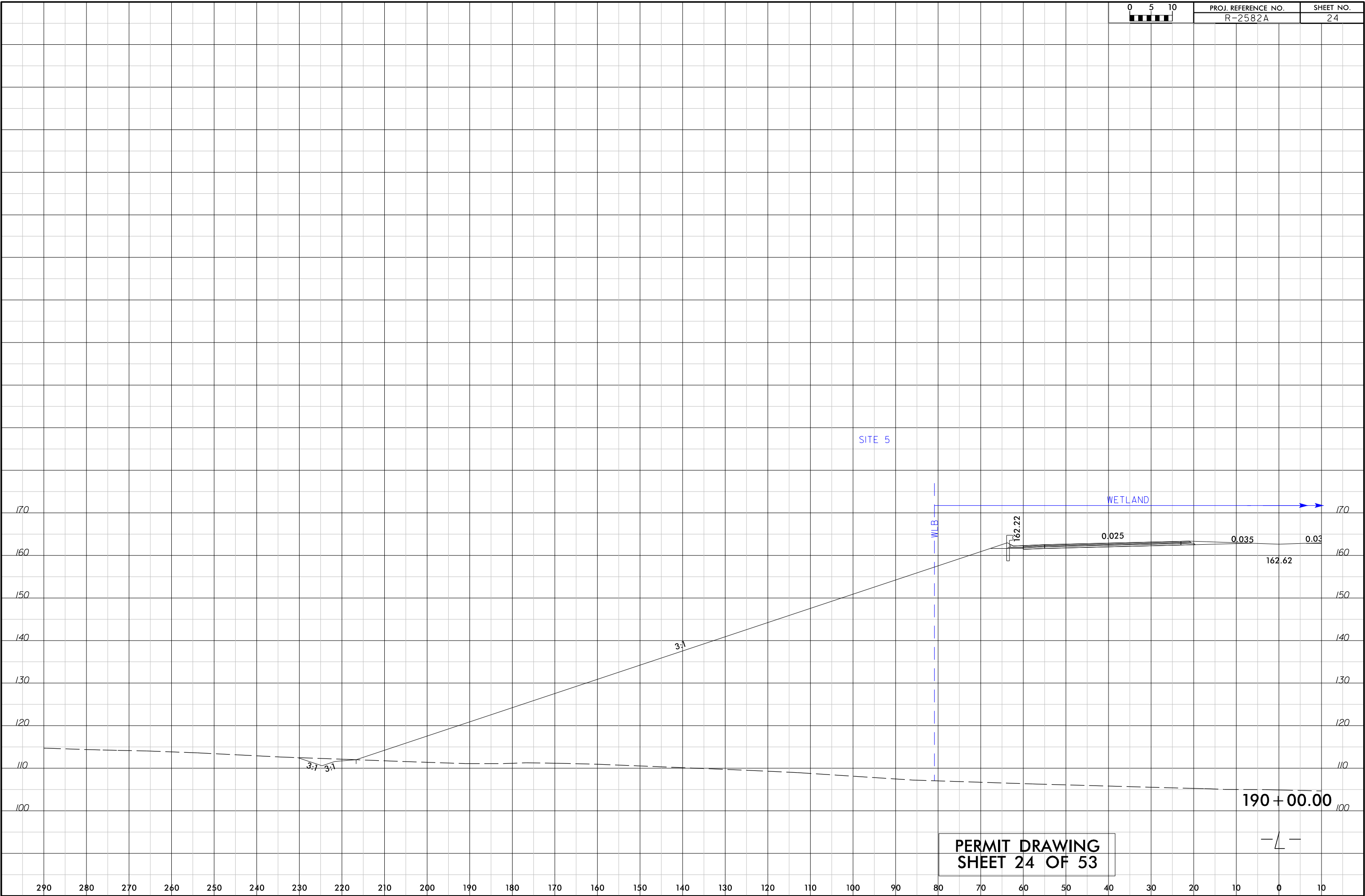
8/17/99  
2/8/2019  
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name.busem

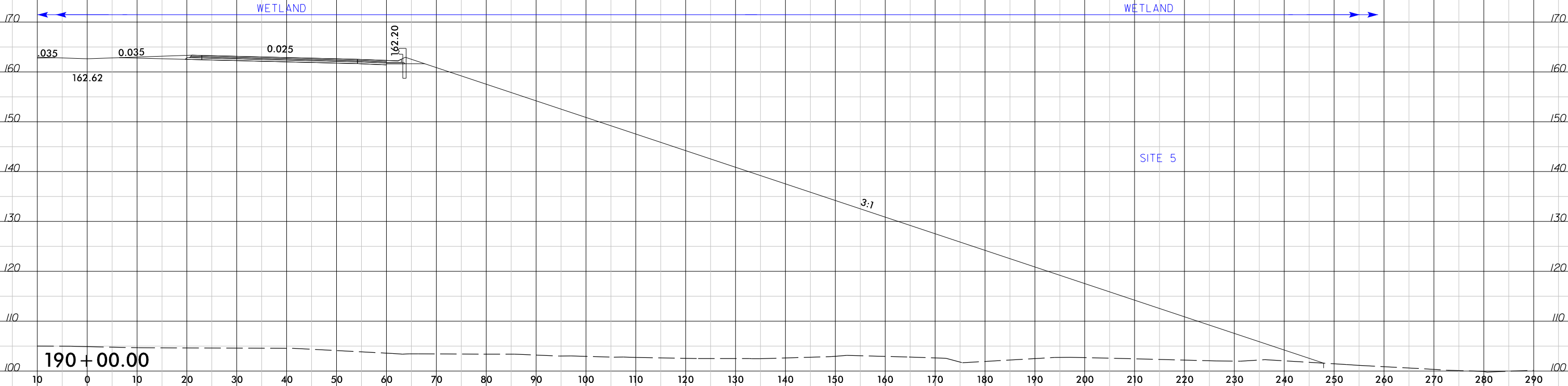


PERMIT DRAWING  
SHEET 23 OF 53

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

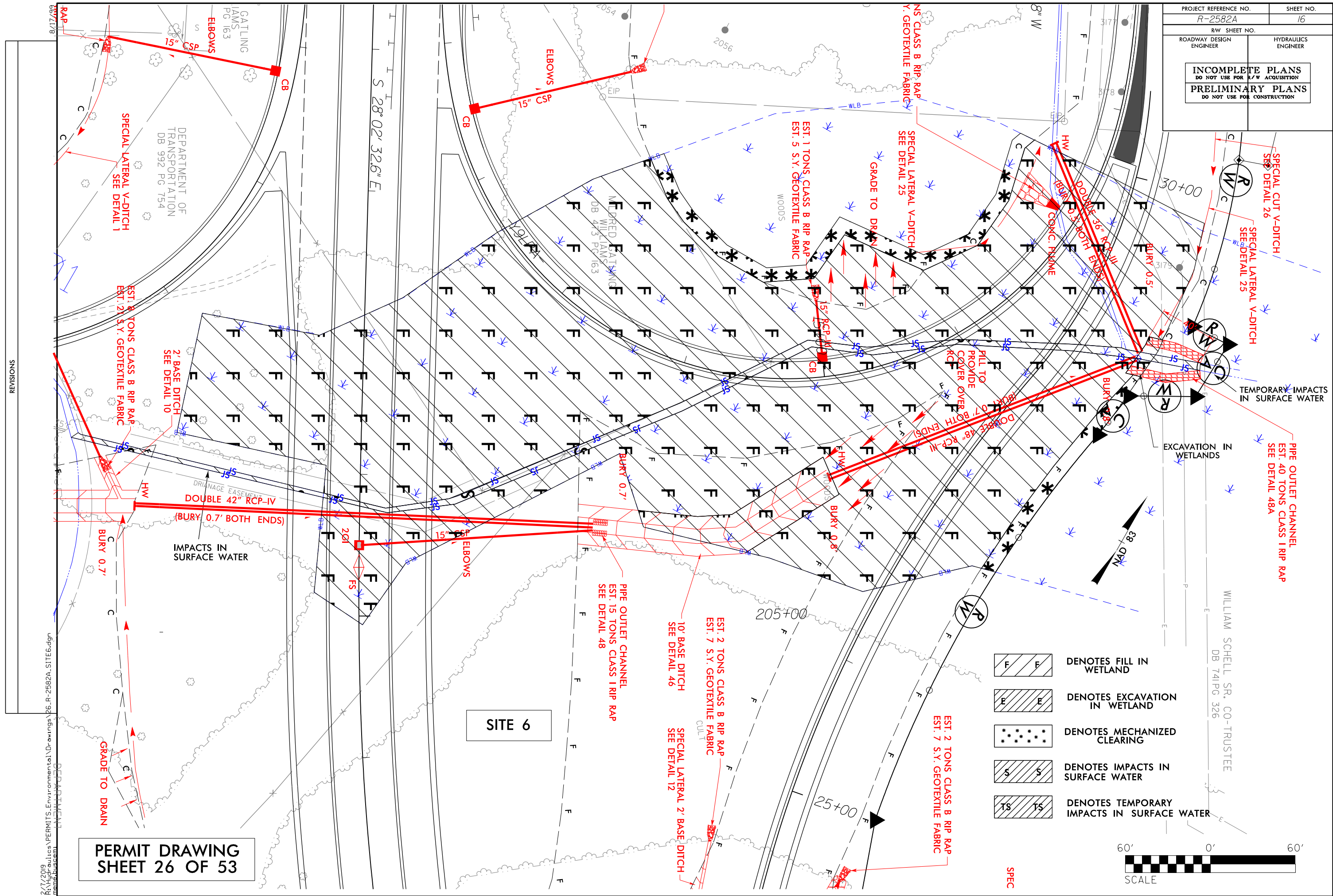


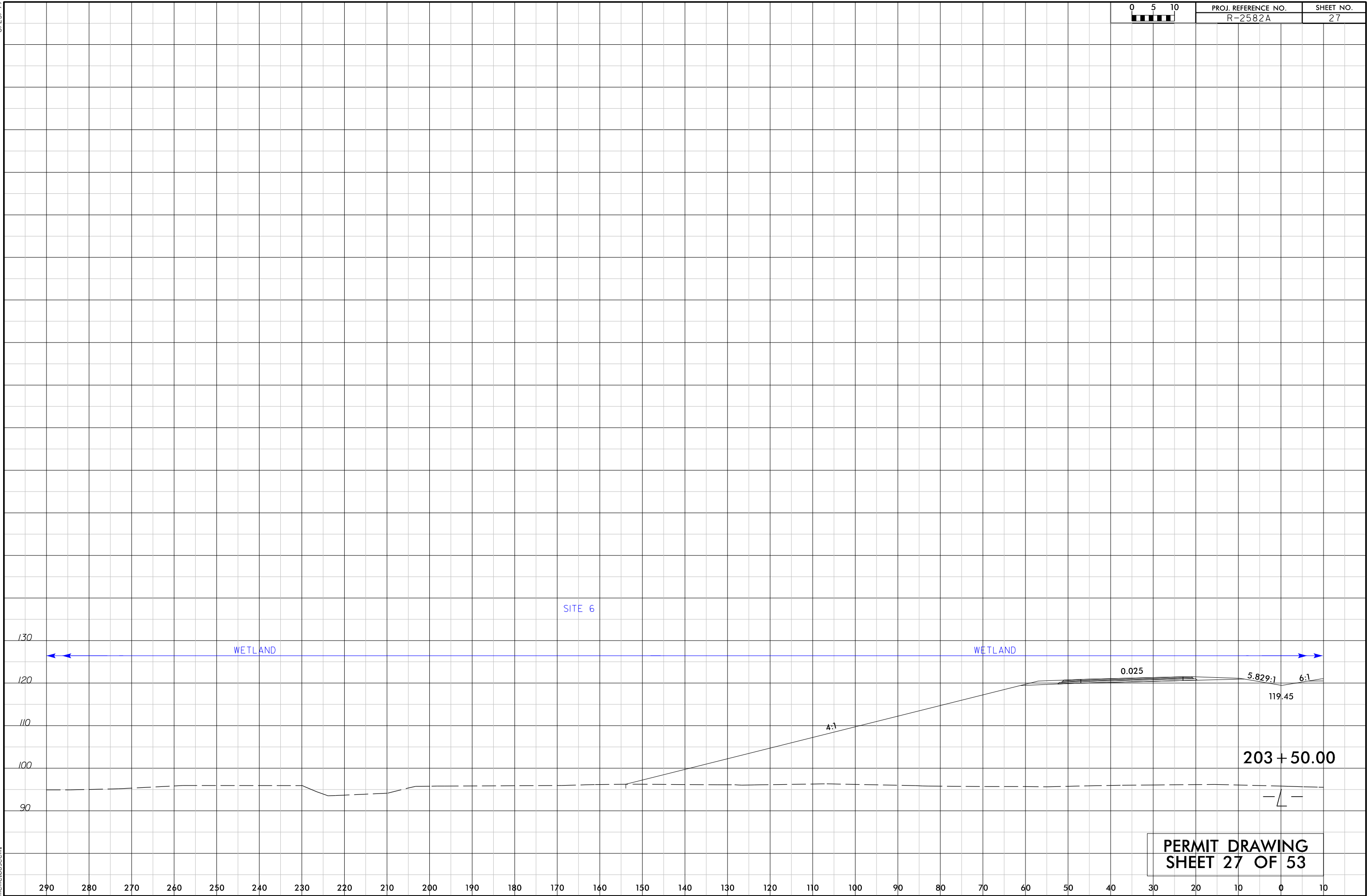


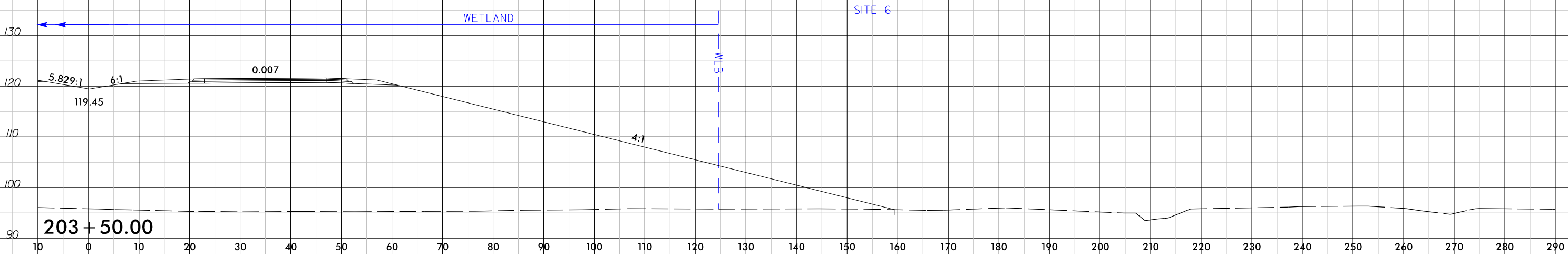


PERMIT DRAWING  
SHEET 25 OF 53







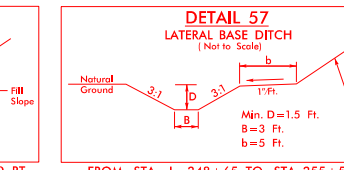
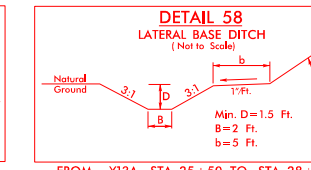
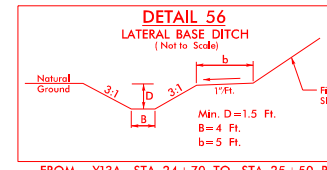
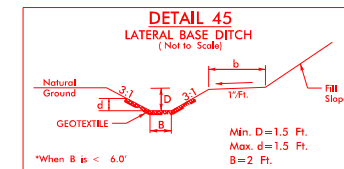
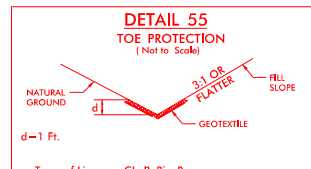
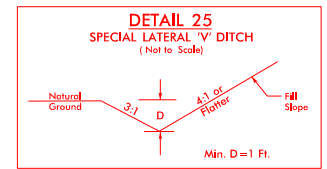
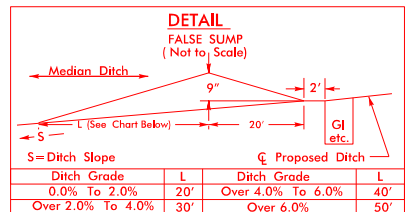
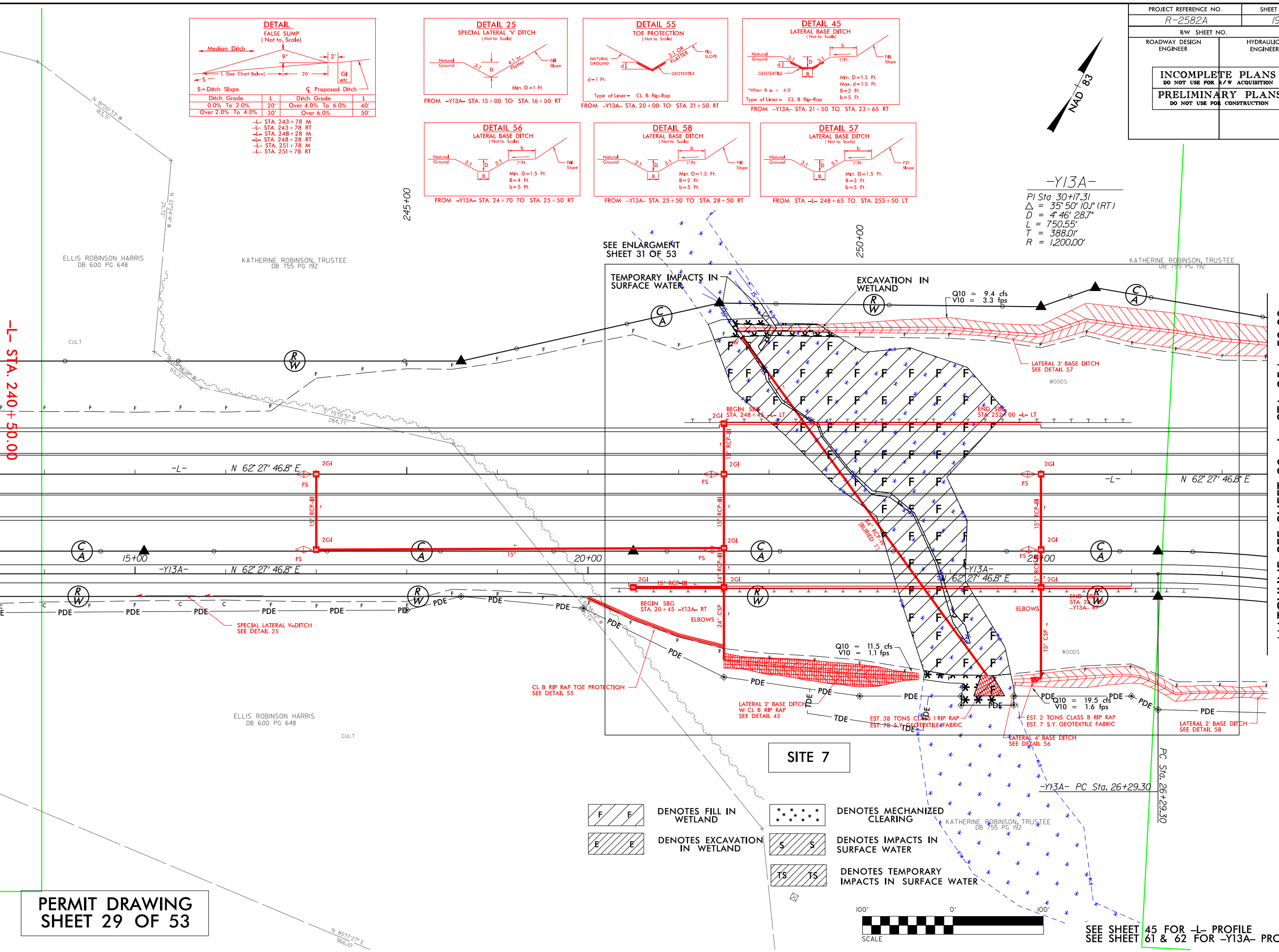




8/17/99  
R:\Hydraulics\PERMITS\Environmental\Drawings\29\_R-2582A\_Rdy\_psh\_19.dgn  
name:buscom

PROJECT REFERENCE NO. <b>R-2582A</b>		SHEET NO. <b>19</b>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION			
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION			

MATCHLINE SEE SHEET 18 -L- STA. 240 + 50.00



-Y13A-  
PI Sta. 30+17.31  
Δ = 35° 50' 10.1" (RT)  
D = 4' 46" 28.7"  
L = 750.55'  
T = 388.01'  
R = 1,200.00'

SEE ENLARGMENT  
SHEET 31 OF 53

TEMPORARY IMPACTS IN  
SURFACE WATER

EXCAVATION IN  
WETLAND

Q10 = 9.4 cfs  
V10 = 3.3 fps

LATERAL 3' BASE DITCH  
SEE DETAIL 57

BEGIN STA. 248+45 -L- LT

END STA. 252+00 -L- LT

BEGIN SBC  
STA. 20+45 -Y13A- RT

END STA. 25+00 -Y13A- RT

Q10 = 11.5 cfs  
V10 = 1.1 fps

Q10 = 19.5 cfs  
V10 = 1.6 fps

EST. 38 TONS CLASS B RIP RAP  
EST. 78 S.Y. GEOTEXTILE FABRIC

EST. 2 TONS CLASS B RIP RAP  
EST. 7 S.Y. GEOTEXTILE FABRIC

LATERAL 4' BASE DITCH  
SEE DETAIL 56

LATERAL 2' BASE DITCH  
SEE DETAIL 58

F F

DENOTES FILL IN  
WETLAND

E E

DENOTES EXCAVATION  
IN WETLAND

S S

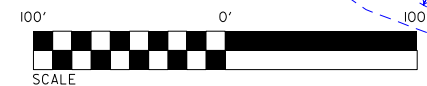
DENOTES MECHANIZED  
CLEARING

TS TS

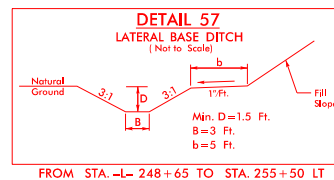
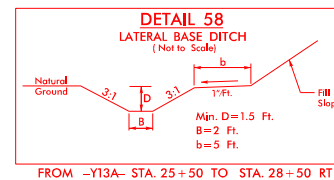
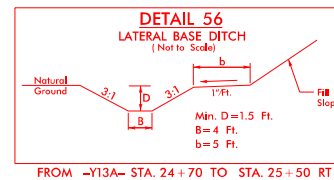
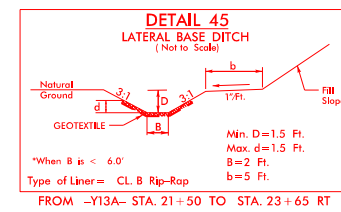
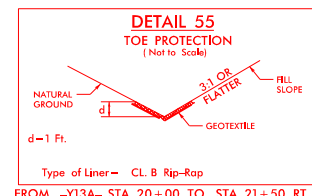
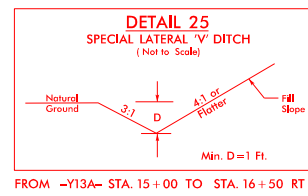
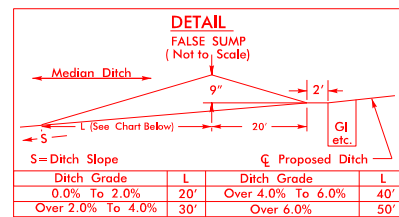
DENOTES IMPACTS IN  
SURFACE WATER

TS TS

DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER



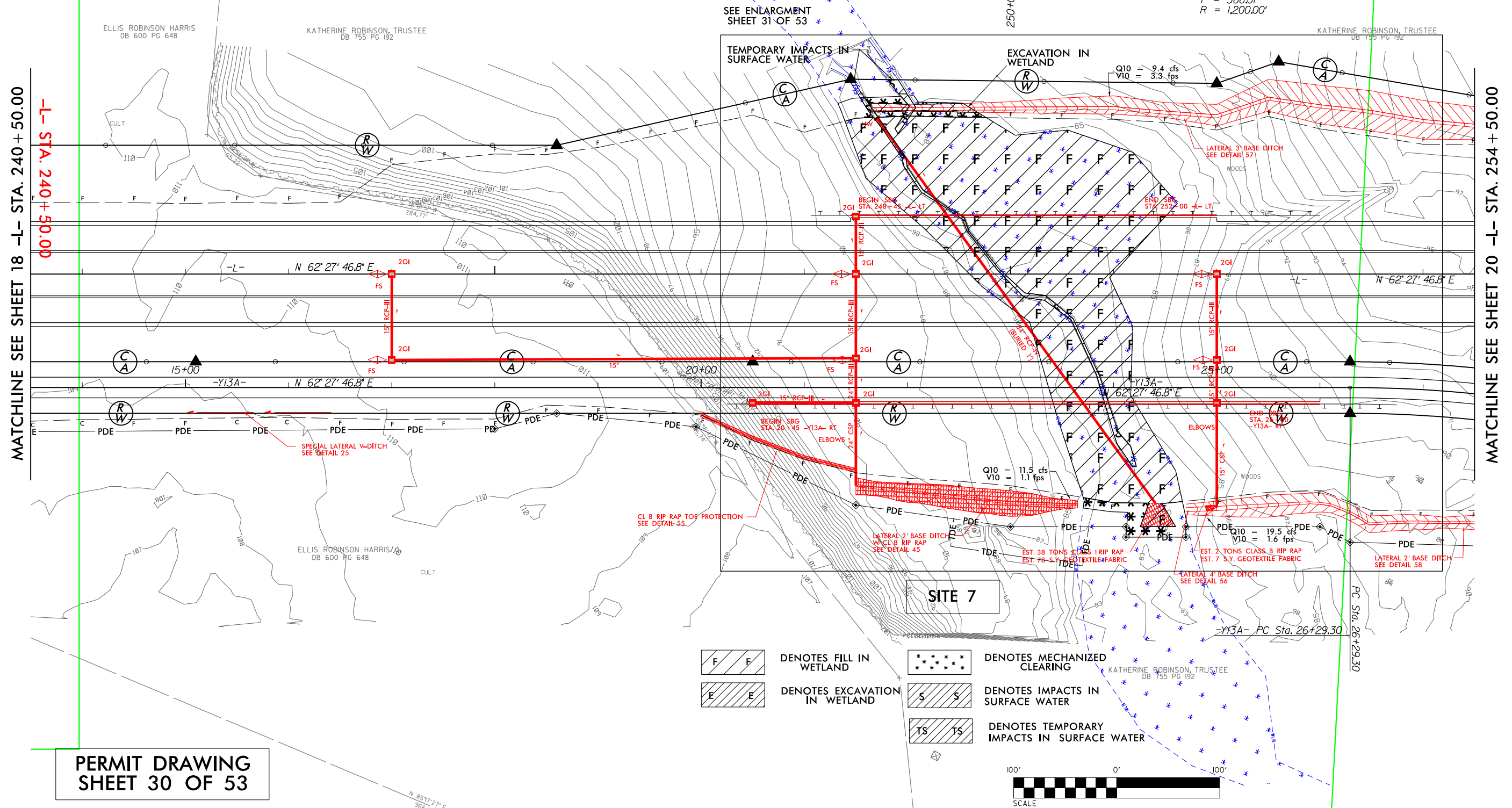
SEE SHEET 45 FOR -L- PROFILE  
SEE SHEET 61 & 62 FOR -Y13A- PROFILE



-Y13A-

---

PI Sta 30+17.31  
 $\Delta = 35^{\circ} 50' 10.1''$  (RT)  
 $D = 4^{\circ} 46' 28.7''$   
 $L = 750.55'$   
 $T = 388.01'$   
 $R = 1,200.00'$



8/17/99

DB

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

TEMPORARY IMPACTS IN  
SURFACE WATER

EXCAVATION IN  
WETLAND

Q10 = 9.4 cfs  
V10 = 3.3 fps



DENOTES FILL IN  
WETLAND



DENOTES EXCAVATION  
IN WETLAND



DENOTES MECHANIZED  
CLEARING



DENOTES IMPACTS IN  
SURFACE WATER

LATERAL 3' BASE DITCH  
SEE DETAIL 57

WOODS



DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER



BEGIN SBC  
STA. 248+45 -L- LT

END SBC  
STA. 252+00 -L- LT

2GI

2GI

FS

2GI

FS

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

FS

2GI

FS

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

FS

2GI

FS

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

2GI

-L-

N 62° 27' 46.8"

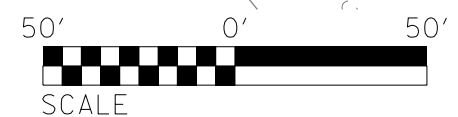
SITE 7

Q10 = 11.5 cfs  
V10 = 1.1 fps

PERMIT DRAWING  
SHEET 31 OF 53

WOODS

Q10 = 19.5 cfs  
V10 = 1.6 fps



LATERAL 2' BASE DITCH  
W/ CL B RIP RAP  
SEE DETAIL 45

EST. 38 TONS CLASS I RIP RAP  
EST. 78 S.Y. GEOTEXTILE FABRIC

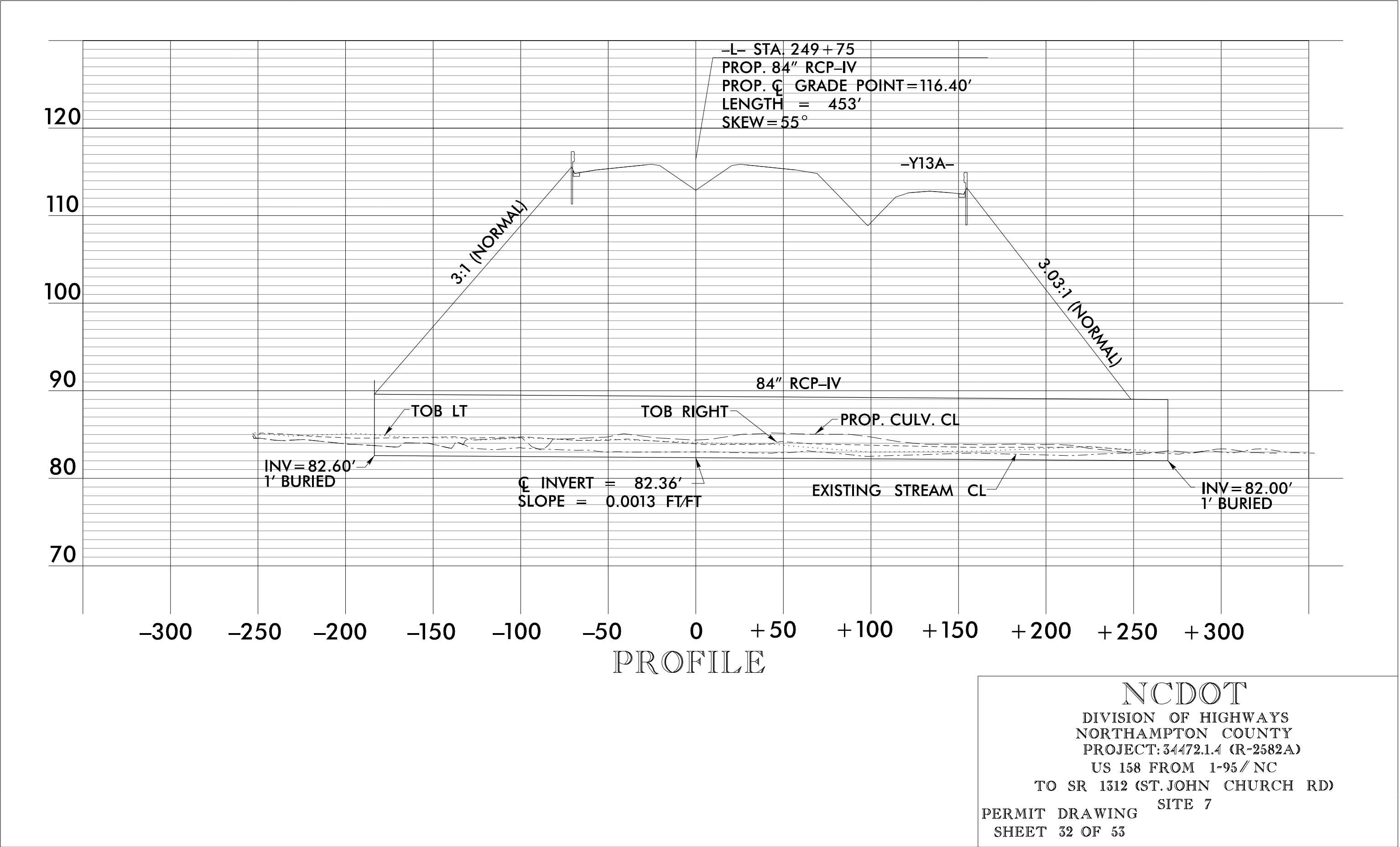
EST. 2 TONS CLASS B RIP RAP  
EST. 7 S.Y. GEOTEXTILE FABRIC

LATERAL 2' BASE DITCH  
SEE DETAIL 58

2/8/2019 R:\Hydraulics\PERMITS\Environmental\Drawings\31.R-2582A\_SIT7.dgn

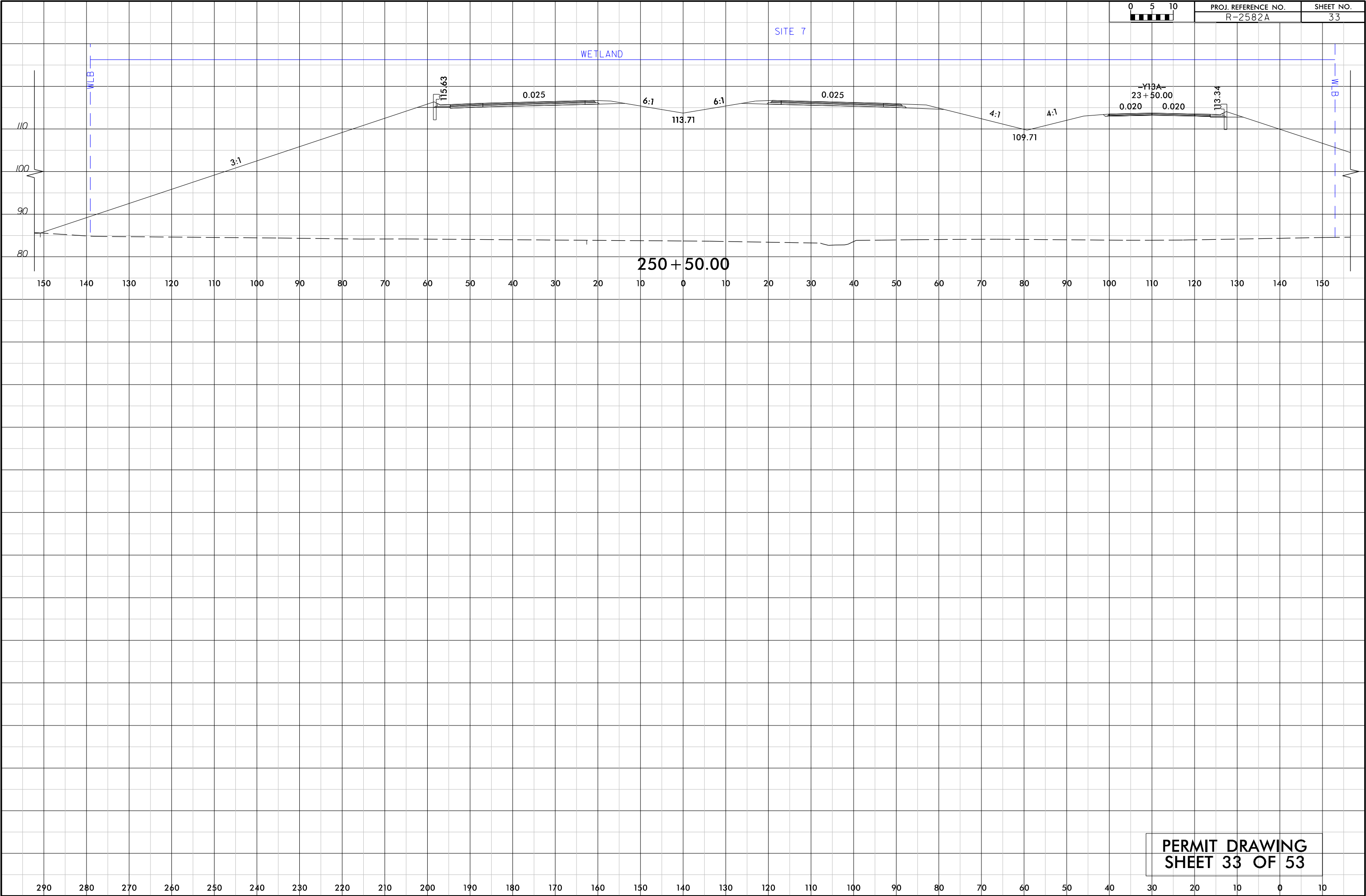


# SITE 7 – PROFILE VIEW ALONG STRUCTURE

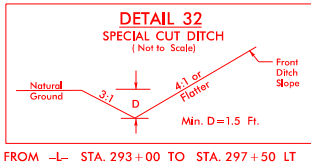
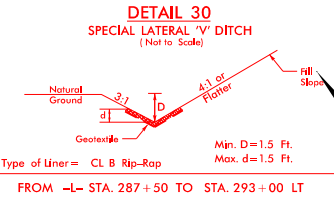
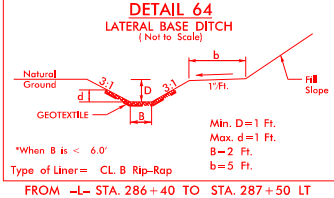
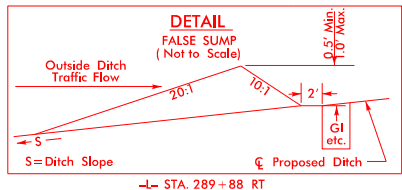
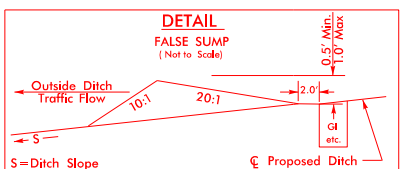
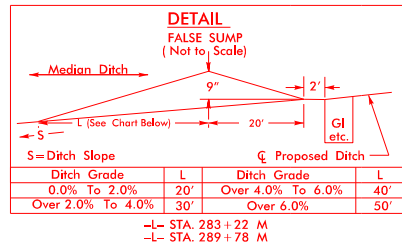


8/23/99

2/7/2019 R:\Hydro-autes\PERMITS\Environmental\Drawings\33\_R2582A.XS SITE7.dgn

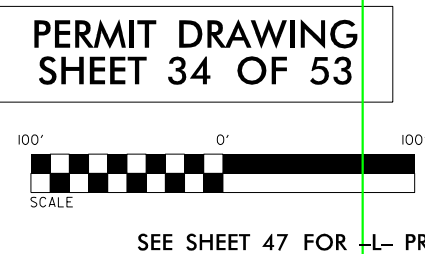
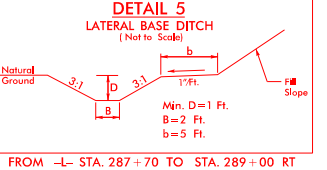
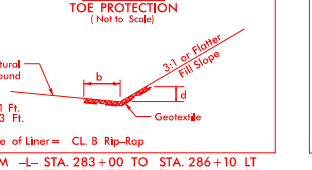
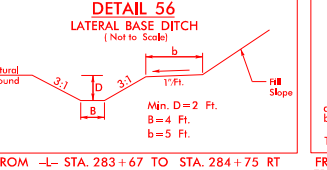
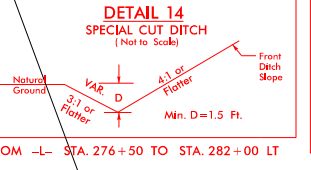
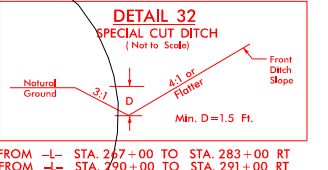
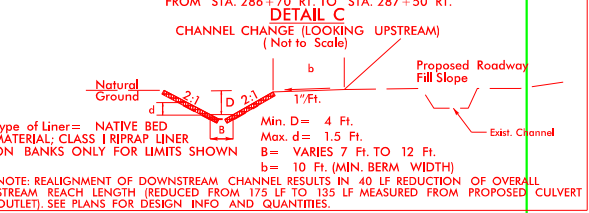
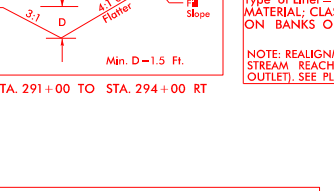
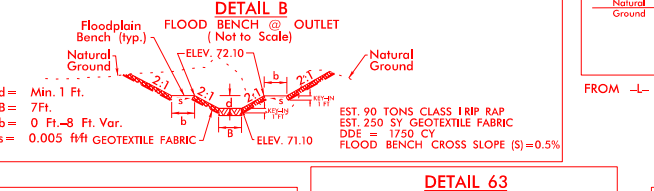
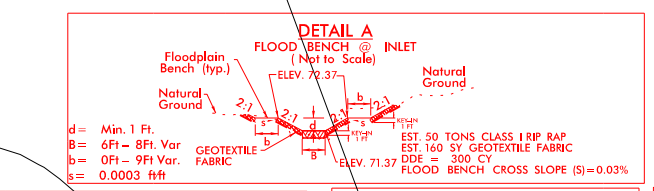
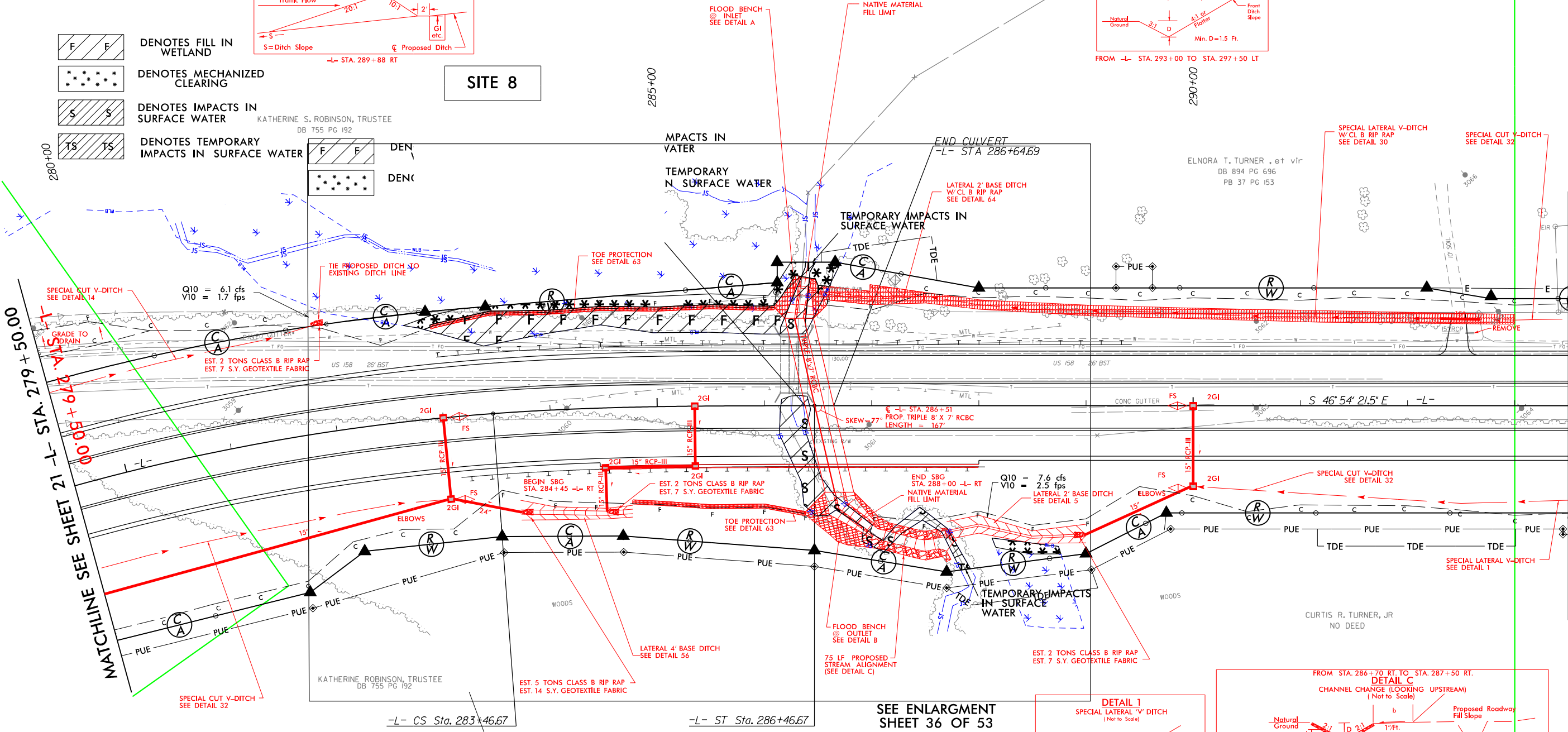


8/17/99  
R:\Hydraulics\PERMITS\Environmental\Drawings\34.R-2582A\_Rdy.psh.22.dgn  
8/18/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\34.R-2582A\_Rdy.psh.22.dgn  
name:buscam



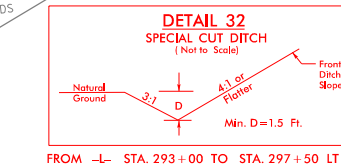
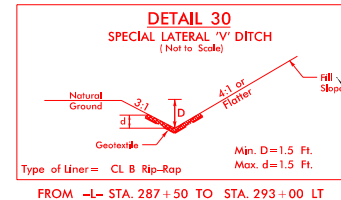
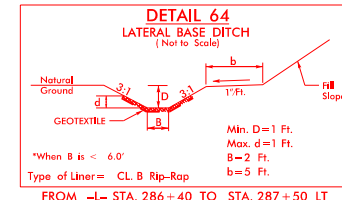
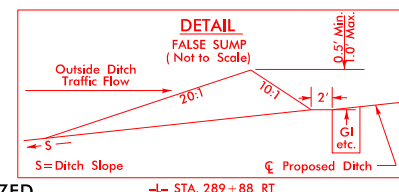
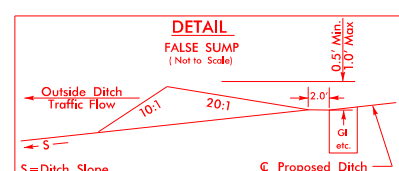
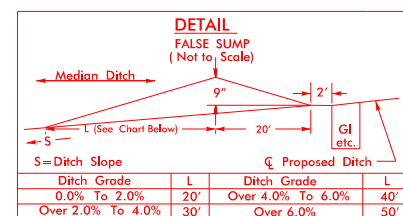
- LEGEND**
- DENOTES FILL IN WETLAND
  - DENOTES MECHANIZED CLEARING
  - DENOTES IMPACTS IN SURFACE WATER
  - DENOTES TEMPORARY IMPACTS IN SURFACE WATER


**SITE 8**





MATCHLINE SEE SHEET 23 —L— STA. 293 + 50.00






 DENOTES FILL IN WETLAND

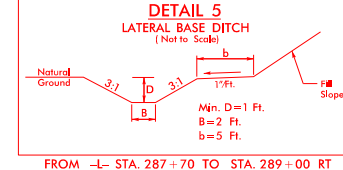
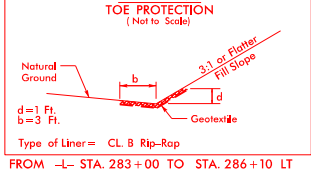
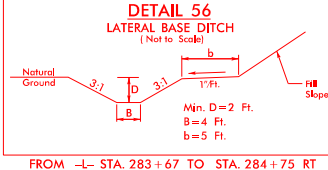
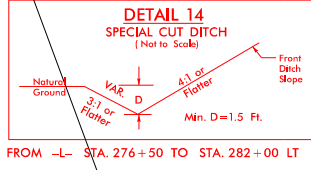
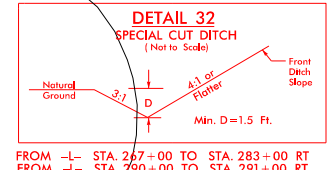
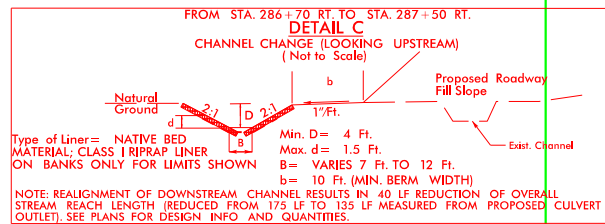
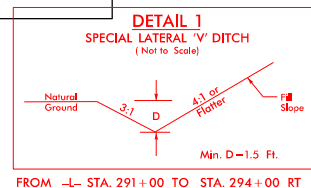
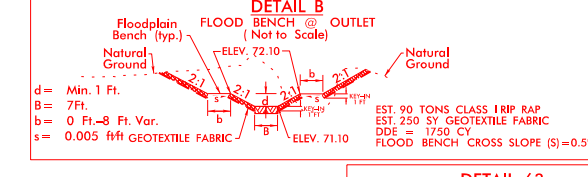
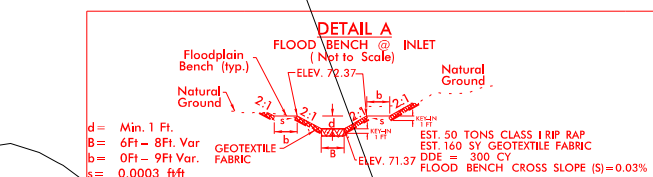
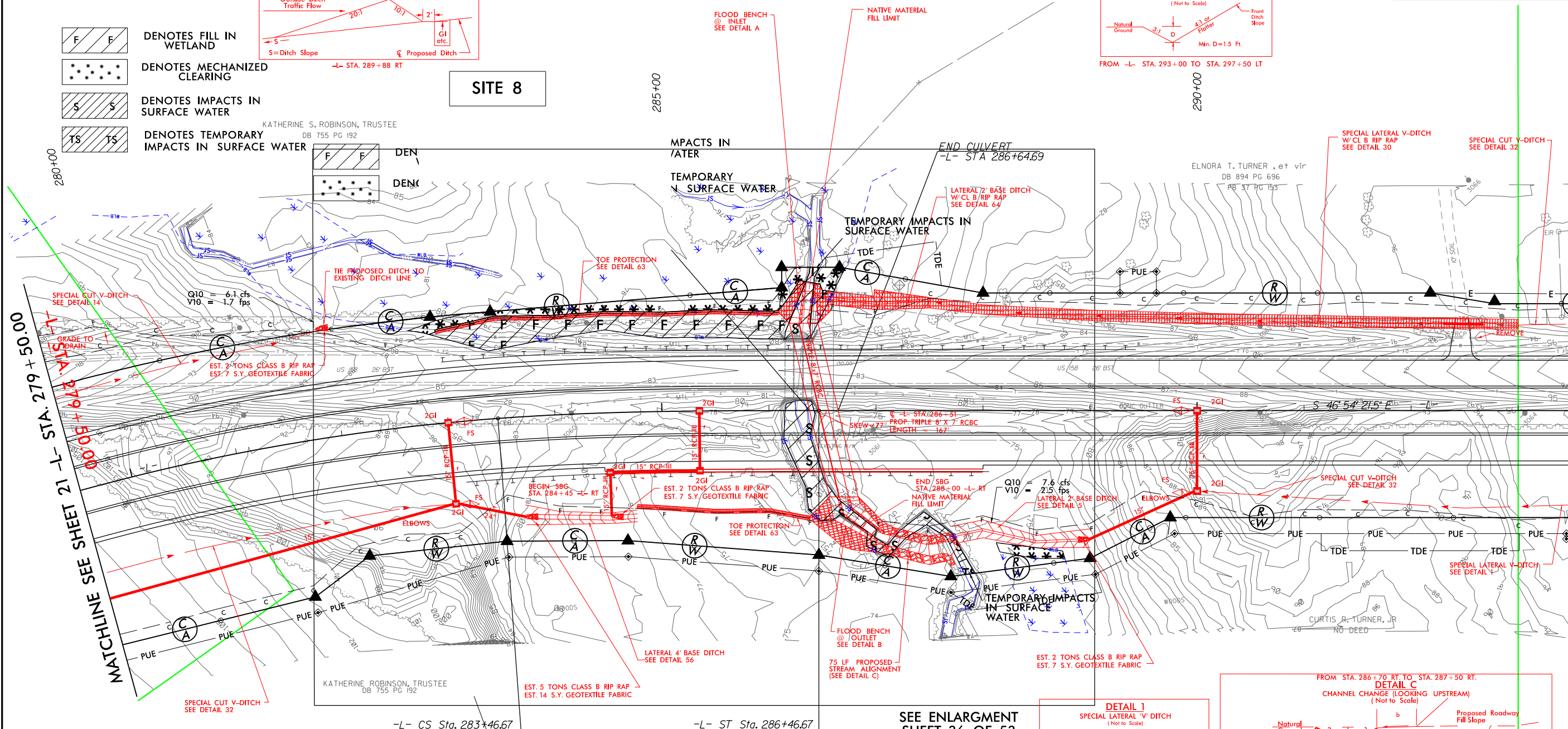
 DENOTES MECHANIZED CLEARING

 DENOTES IMPACTS IN SURFACE WATER

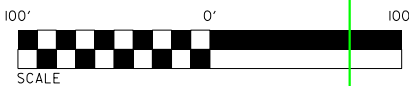
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

KATHERINE D

## SITE 8

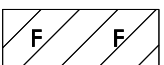

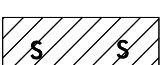
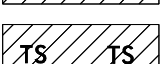


PERMIT DRAWING  
SHEET 35 OF 53



SEE SHEET 47 FOR -L- PROFILE

8/17/99  
2/8/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\36.R-2582A-SITE8.dgn  
name:buscm

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

SITE 8

BEGIN CULVERT  
-L- STA 286+38.00

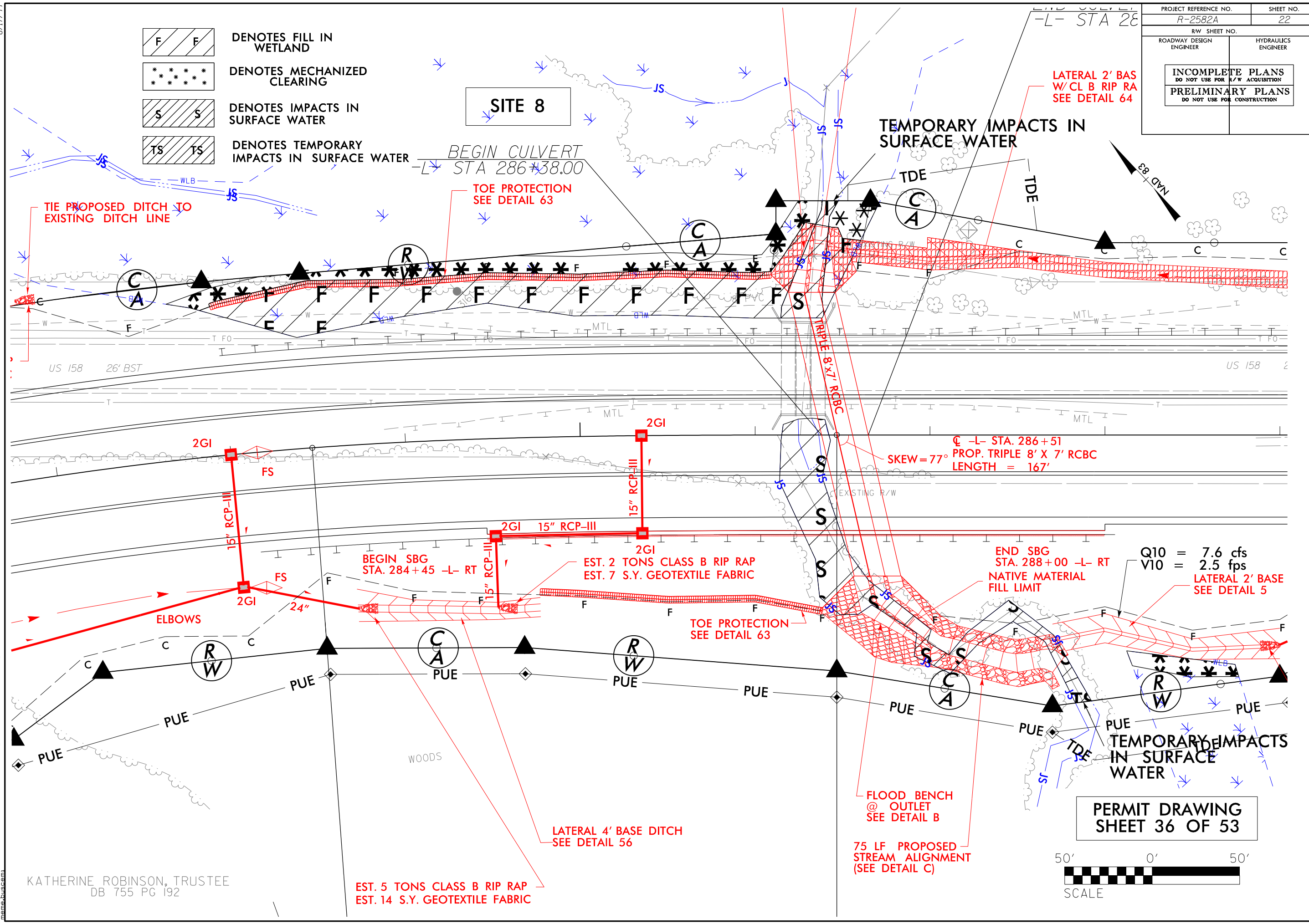
TOE PROTECTION  
SEE DETAIL 63

TIE PROPOSED DITCH TO  
EXISTING DITCH LINE

TEMPORARY IMPACTS IN  
SURFACE WATER

LATERAL 2' BAS  
W/CL B RIP RA  
SEE DETAIL 64

PROJECT REFERENCE NO. R-2582A	SHEET NO. 22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Q -L- STA. 286+51  
SKEW=77°  
PROP. TRIPLE 8' X 7' RCBC  
LENGTH = 167'

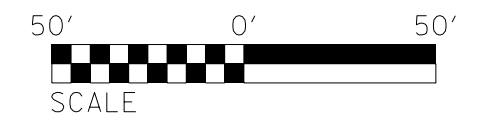
BEGIN SBG  
STA. 284+45 -L- RT

EST. 2 TONS CLASS B RIP RAP  
EST. 7 S.Y. GEOTEXTILE FABRIC

END SBG  
STA. 288+00 -L- RT  
NATIVE MATERIAL  
FILL LIMIT

Q10 = 7.6 cfs  
V10 = 2.5 fps  
LATERAL 2' BASE  
SEE DETAIL 5

PERMIT DRAWING  
SHEET 36 OF 53



KATHERINE ROBINSON, TRUSTEE  
DB 755 PG 192

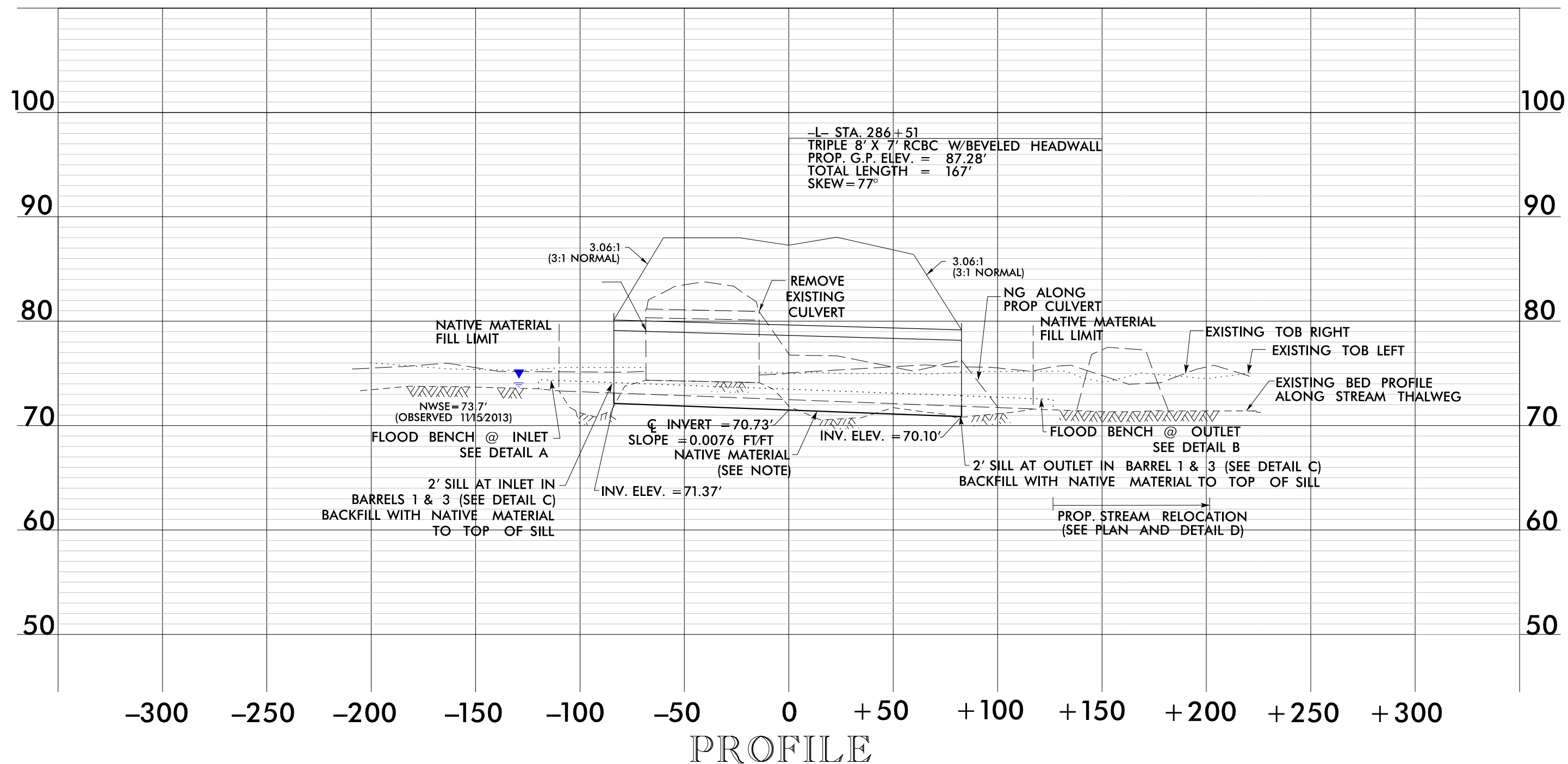
EST. 5 TONS CLASS B RIP RAP  
EST. 14 S.Y. GEOTEXTILE FABRIC

LATERAL 4' BASE DITCH  
SEE DETAIL 56

FLOOD BENCH  
@ OUTLET  
SEE DETAIL B

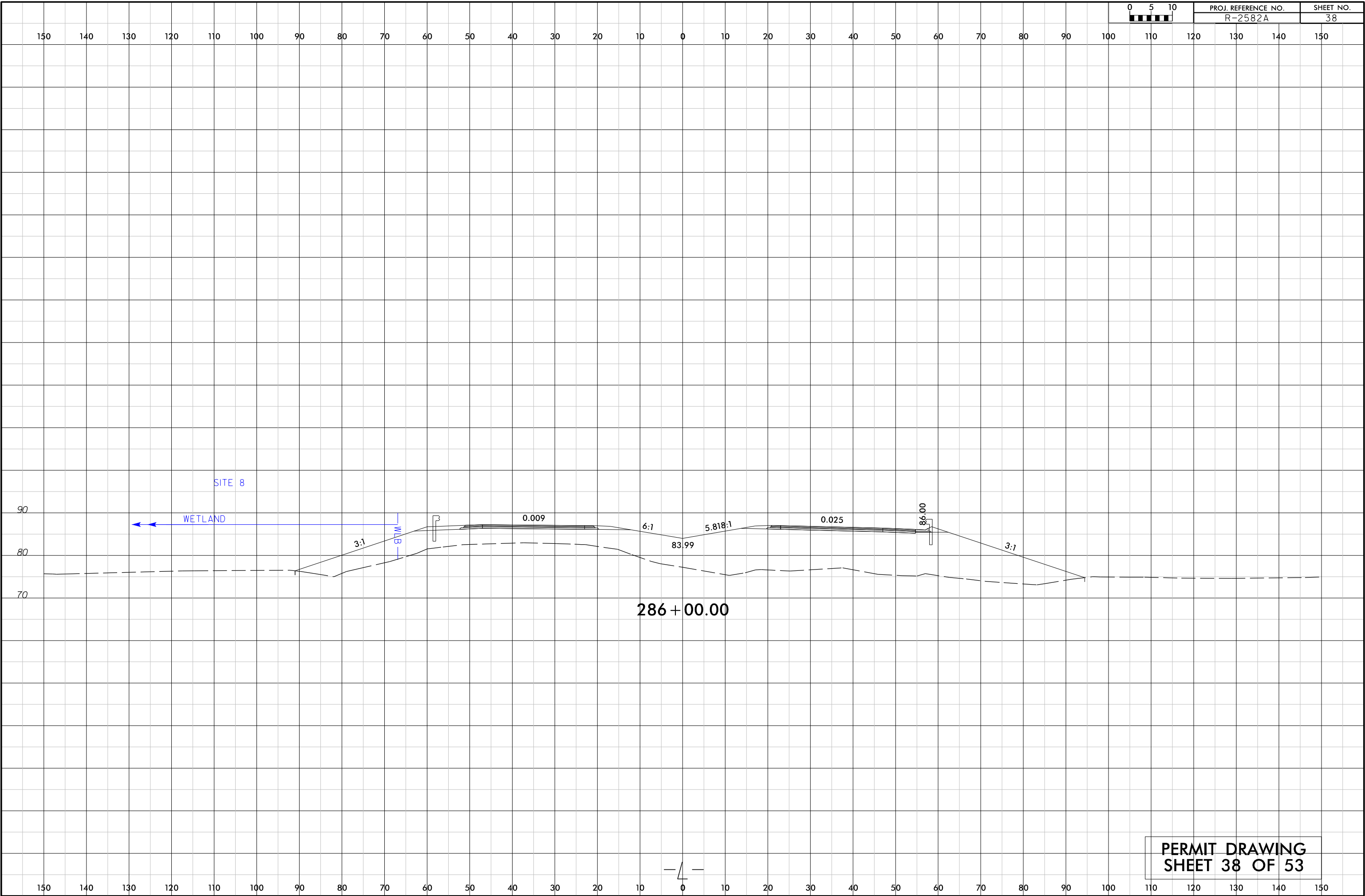
75 LF PROPOSED  
STREAM ALIGNMENT  
(SEE DETAIL C)

# SITE 8 – PROFILE VIEW ALONG STRUCTURE



NCDOT  
 DIVISION OF HIGHWAYS  
 NORTHAMPTON COUNTY  
 PROJECT: 34472.1.4 (R-2582A)  
 US 158 FROM 1-95 / NC  
 TO SR 1312 (ST. JOHN CHURCH RD)  
 SITE 8  
 PERMIT DRAWING  
 SHEET 37 OF 53



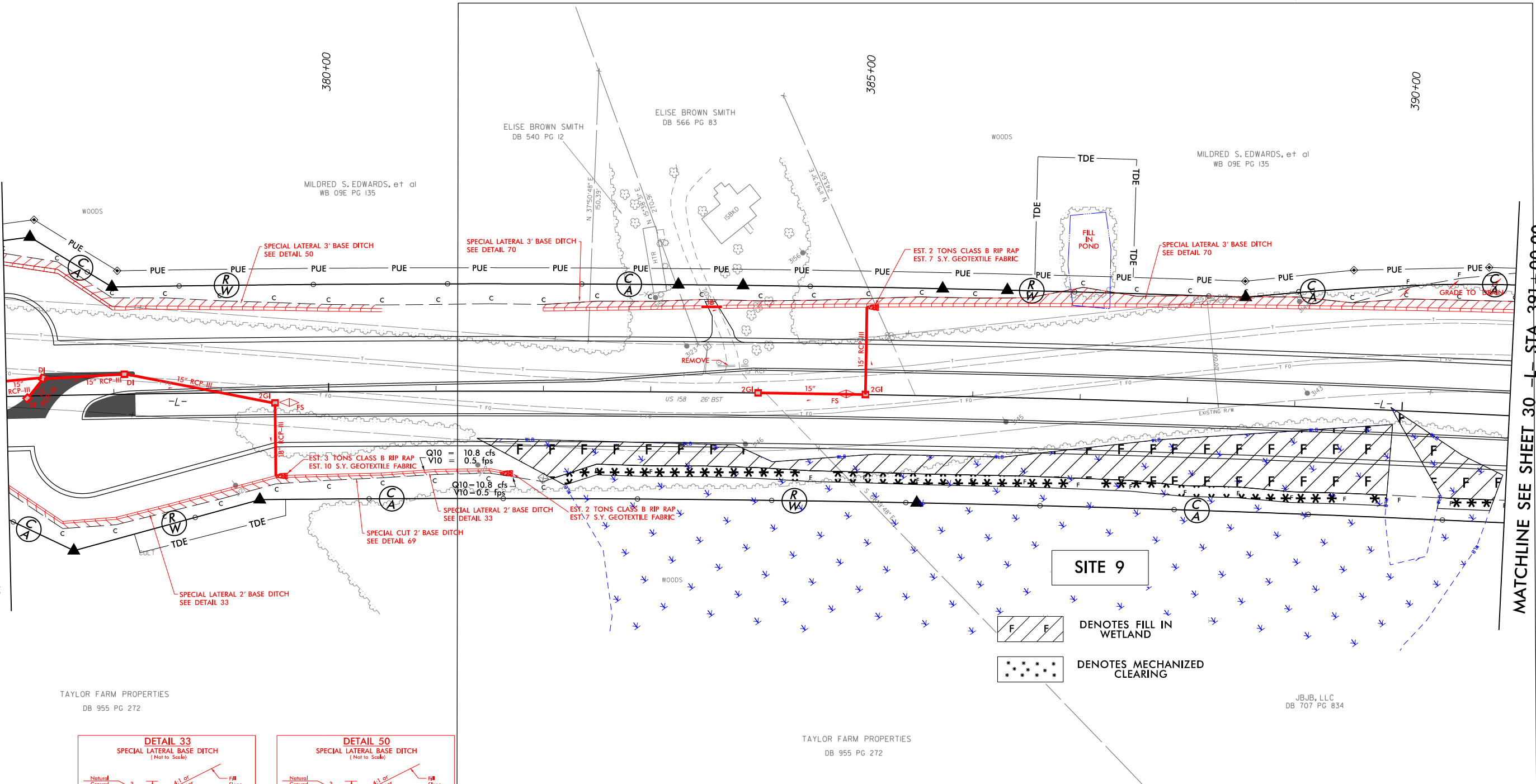


PERMIT DRAWING  
SHEET 38 OF 53

8/17/99  
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8/17/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\39\_R-2582A\_Rdy\_psh\_29.dgn  
8/17/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\39\_R-2582A\_Rdy\_psh\_29.dgn

PROJECT REFERENCE NO.		SHEET NO.
R-2582A		29
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

MATCHLINE SEE SHEET 28 -L- STA. 377 + 00.00

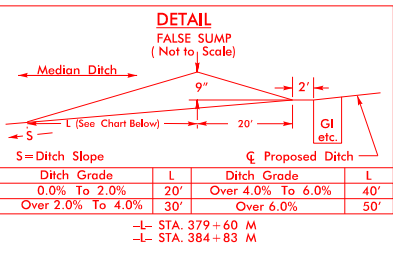
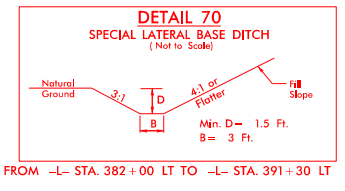
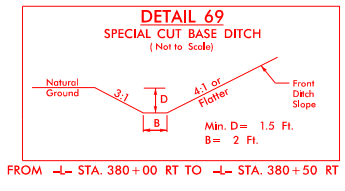
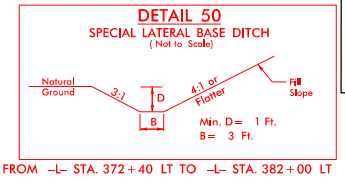
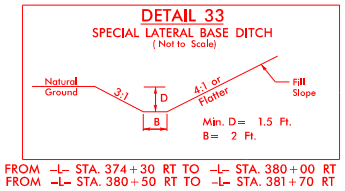


MATCHLINE SEE SHEET 30 -L- STA. 391 + 00.00

TAYLOR FARM PROPERTIES  
DB 955 PG 272

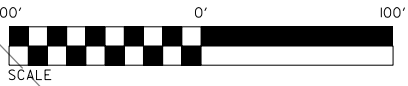
TAYLOR FARM PROPERTIES  
DB 955 PG 272

JB, LLC  
DB 707 PG 834



PERMIT DRAWING  
SHEET 39 OF 53

SEE ENLARGMENT  
SHEET 41 OF 53

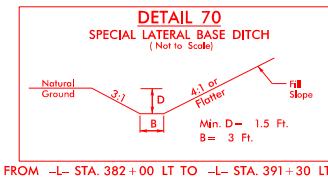
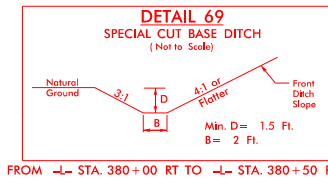
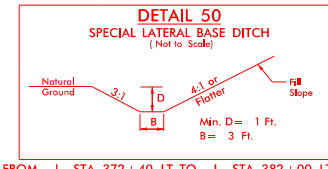
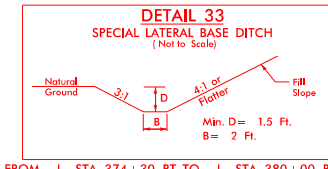
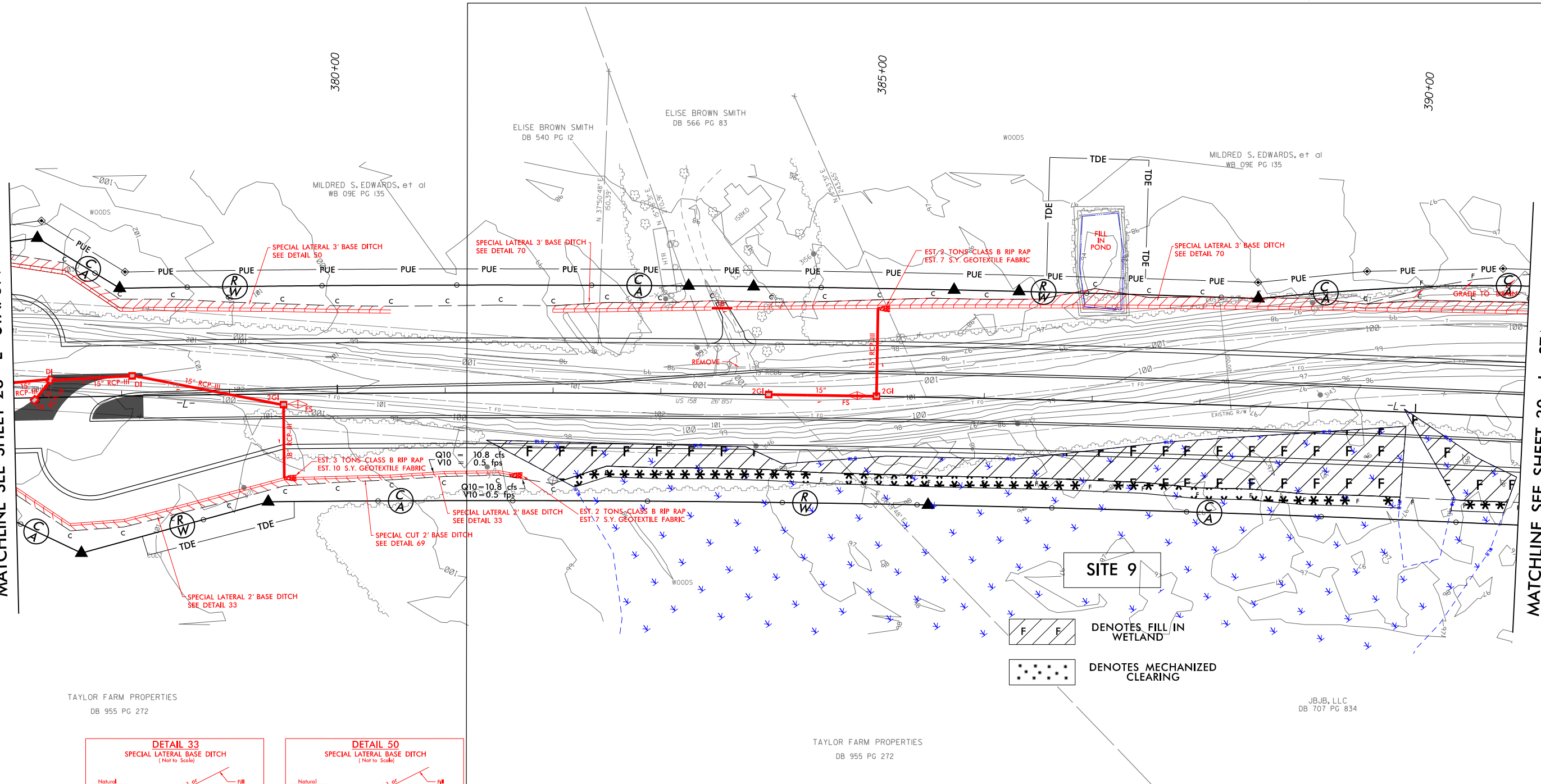


8/17/99  
R:\Hydraulics\PERMITS\Environmental\Drawings\40\_R-2582A\_Rdy\_psh\_29.dgn  
8/17/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\40\_R-2582A\_Rdy\_psh\_29.dgn  
name:busceni

PROJECT REFERENCE NO. <b>R-2582A</b>		SHEET NO. <b>29</b>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION			
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION			

MATCHLINE SEE SHEET 28 -L- STA. 377+00.00

MATCHLINE SEE SHEET 30 -L- STA. 391+00.00

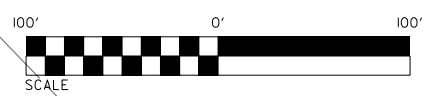


**DETAIL FALSE SUMP**  
(Not to Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-L- STA. 379+60 M  
-L- STA. 384+83 M

**PERMIT DRAWING**  
**SHEET 40 OF 53**

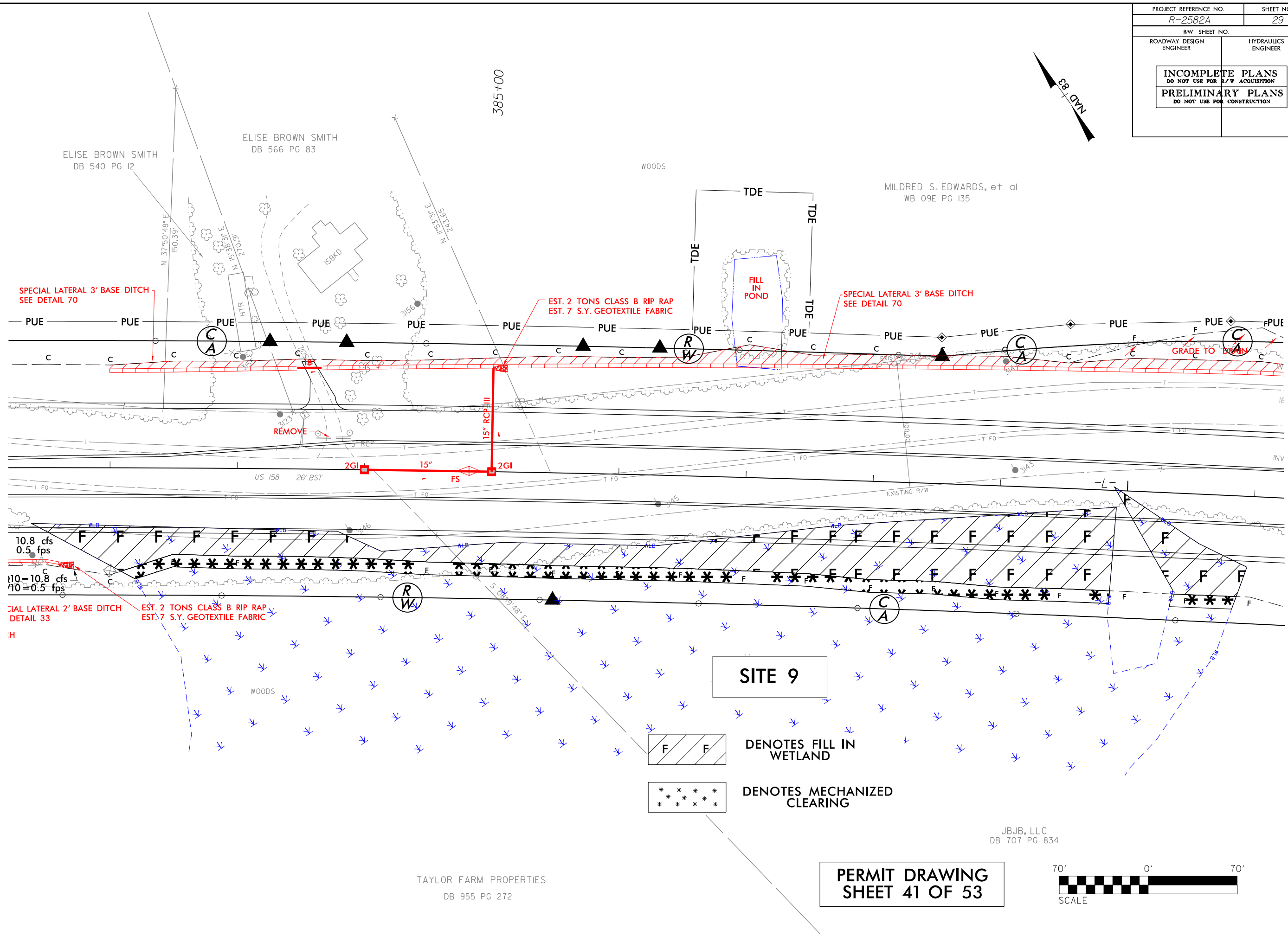


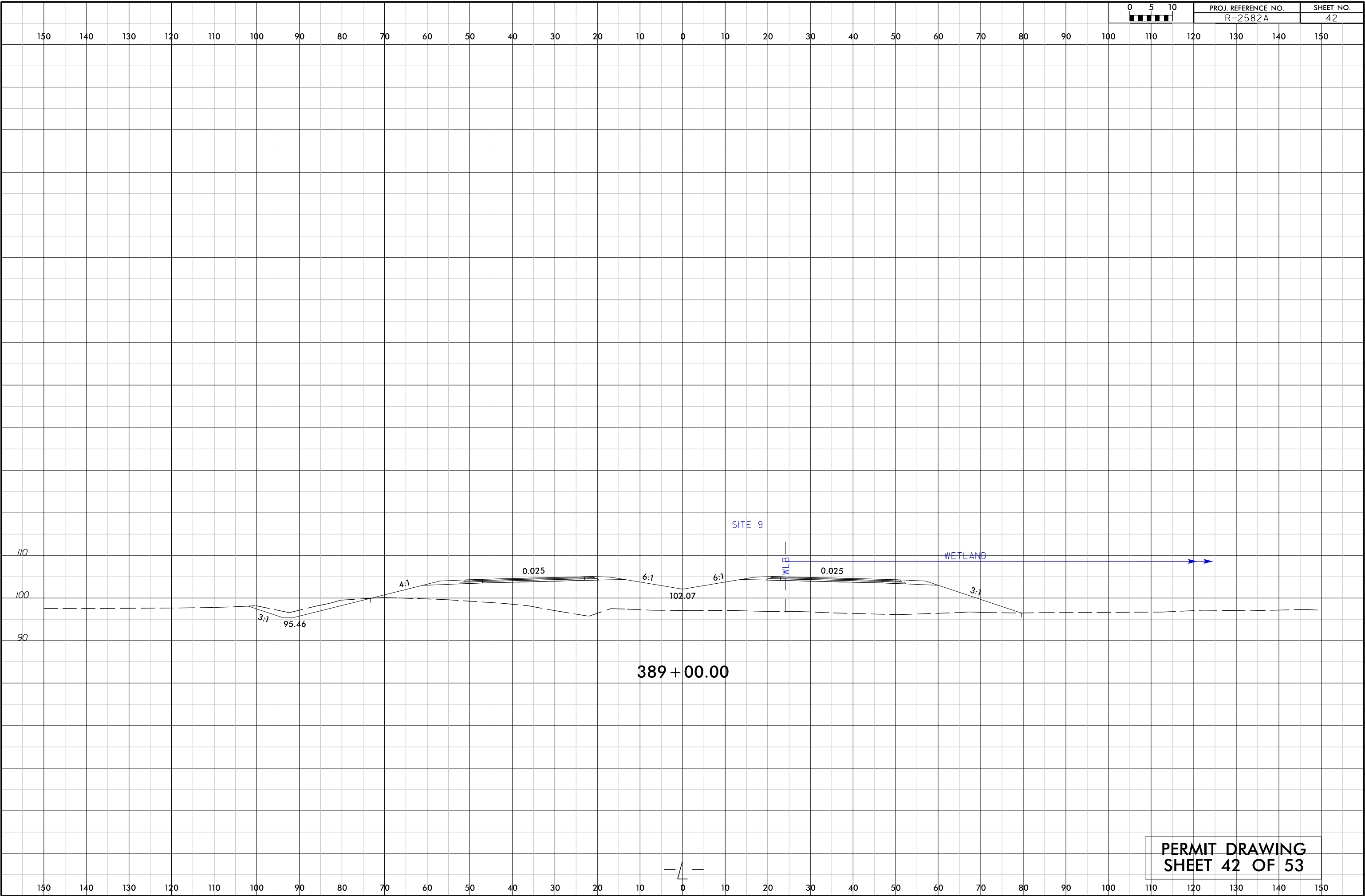
SEE ENLARGMENT  
SHEET 41 OF 53



8/17/99  
R:\Hydraulics\PERMITS\Environmental\Drawings\41\_R-2582A\_SITES.dgn  
JB, LLC  
JB, LLC  
JB, LLC

PROJECT REFERENCE NO.	SHEET NO.
R-2582A	29
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

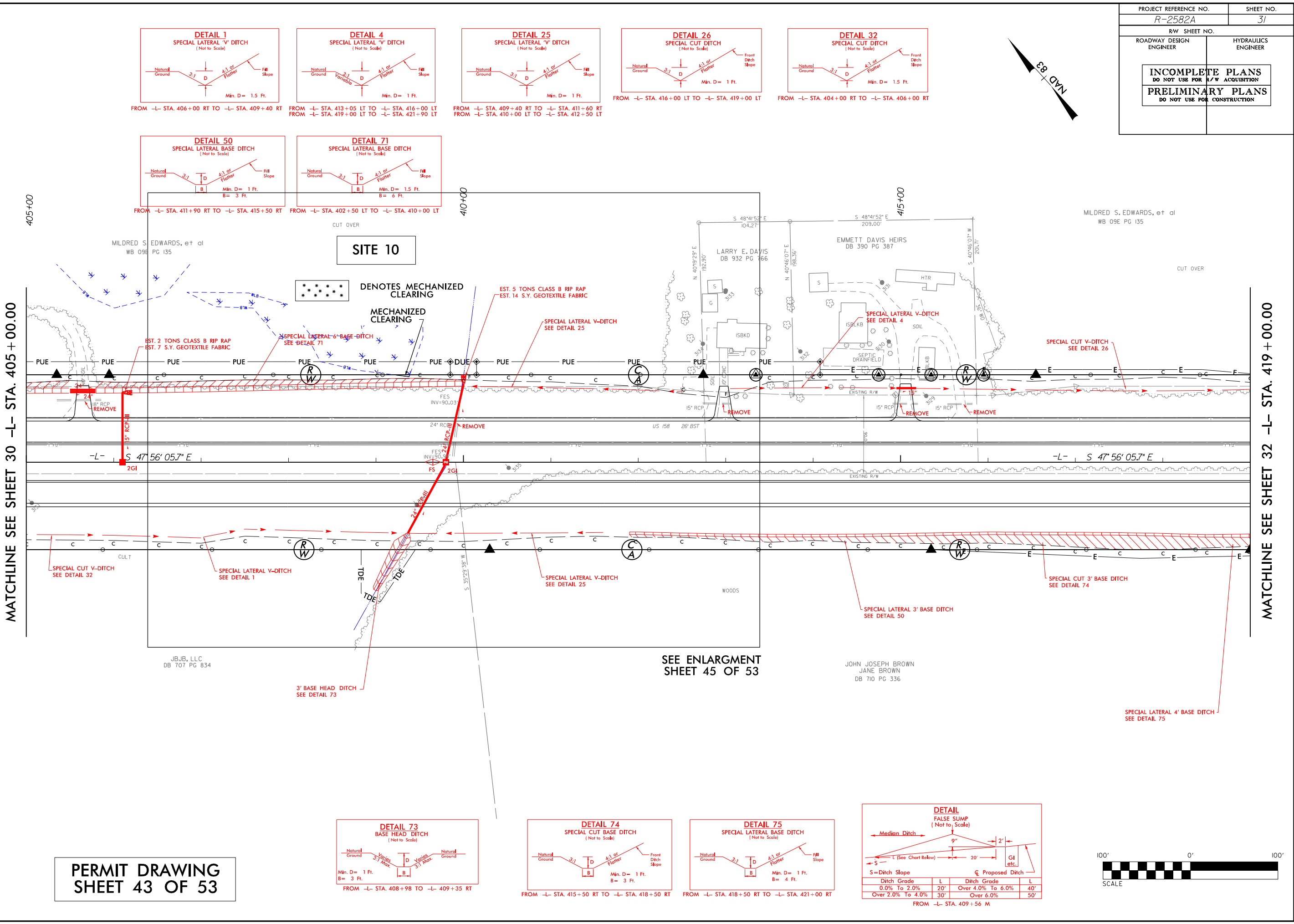




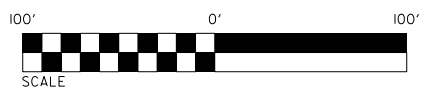
8/17/99  
R:\H\Hydraulics\PERMITS\Environmental\Drawings\43.R-2582A\_Rd.psh\_31.dgn  
2/7/2019  
R:\H\Hydraulics\PERMITS\Environmental\Drawings\43.R-2582A\_Rd.psh\_31.dgn  
8/17/99

MATCHLINE SEE SHEET 30 -L- STA. 405+00.00

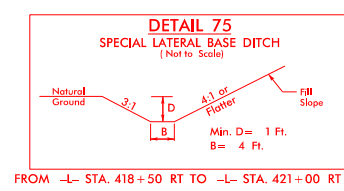
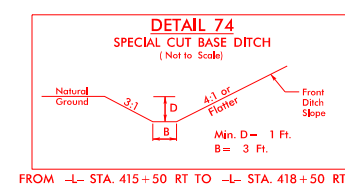
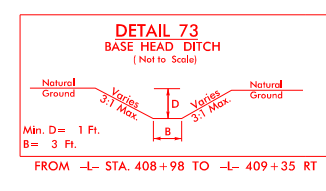
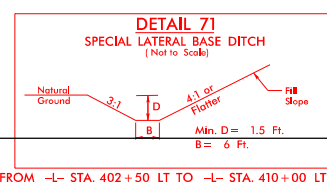
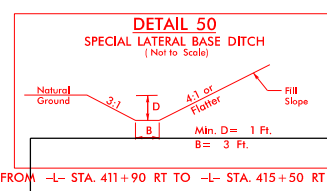
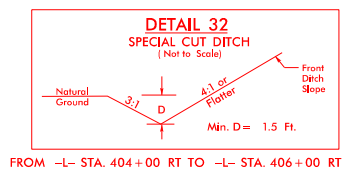
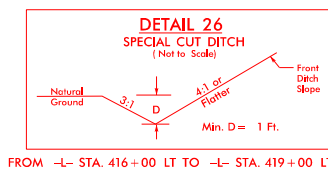
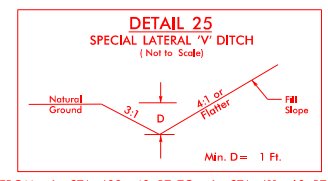
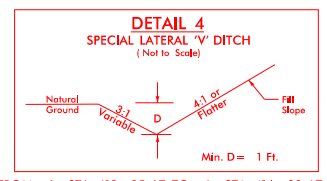
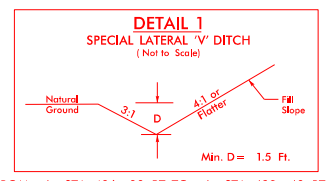
MATCHLINE SEE SHEET 32 -L- STA. 419+00.00



PERMIT DRAWING  
SHEET 43 OF 53



PROJECT REFERENCE NO.		SHEET NO.	
R-2582A		31	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



DETAIL  
FALSE SUMP  
(Not to Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

FROM -L- STA. 409+56 M



8/17/99  
R:\Hydraulics\PERMITS\Environmental\Drawings\44\_R-2582A\_Rdy\_psh\_31.dgn  
2/7/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\44\_R-2582A\_Rdy\_psh\_31.dgn  
8/17/99

PROJECT REFERENCE NO.  
R-2582A

SHEET NO.  
31

RW SHEET NO.

ROADWAY DESIGN ENGINEER

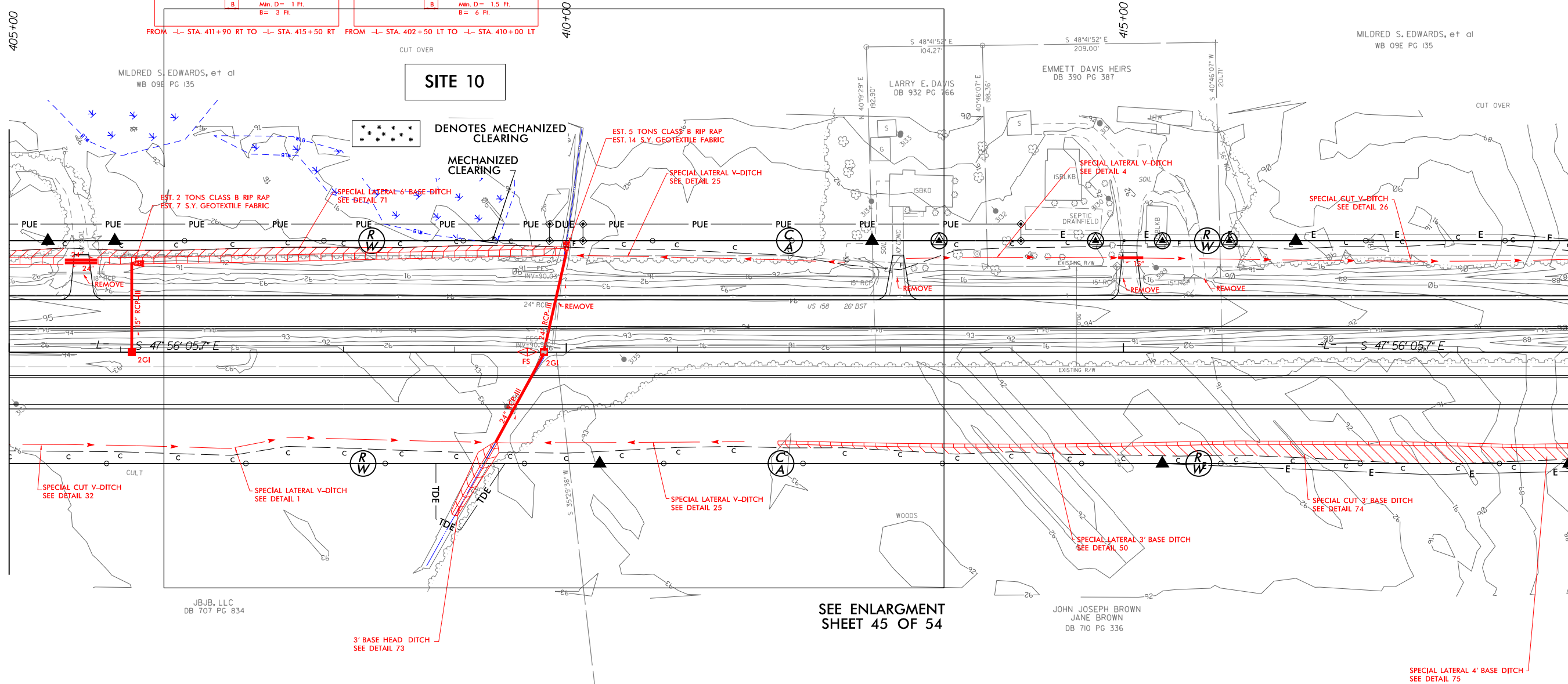
HYDRAULICS ENGINEER

INCOMPLETE PLANS  
DO NOT USE FOR A/W ACQUISITION

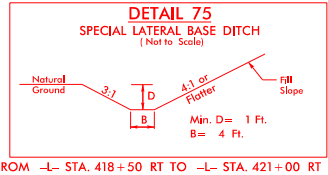
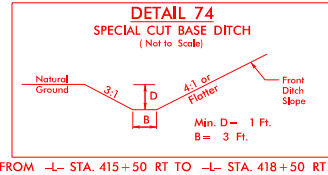
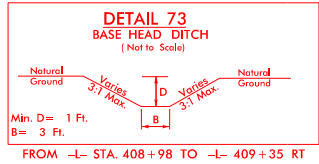
PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

MATCHLINE SEE SHEET 30 -L- STA. 405+00.00

MATCHLINE SEE SHEET 32 -L- STA. 419+00.00



PERMIT DRAWING  
SHEET 44 OF 53



**DETAIL**  
FALSE SUMP  
(Not to Scale)

S = Ditch Slope  
L = Length of Sump  
G.I. = Ground Intersection

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

FROM -L- STA. 409+56 M

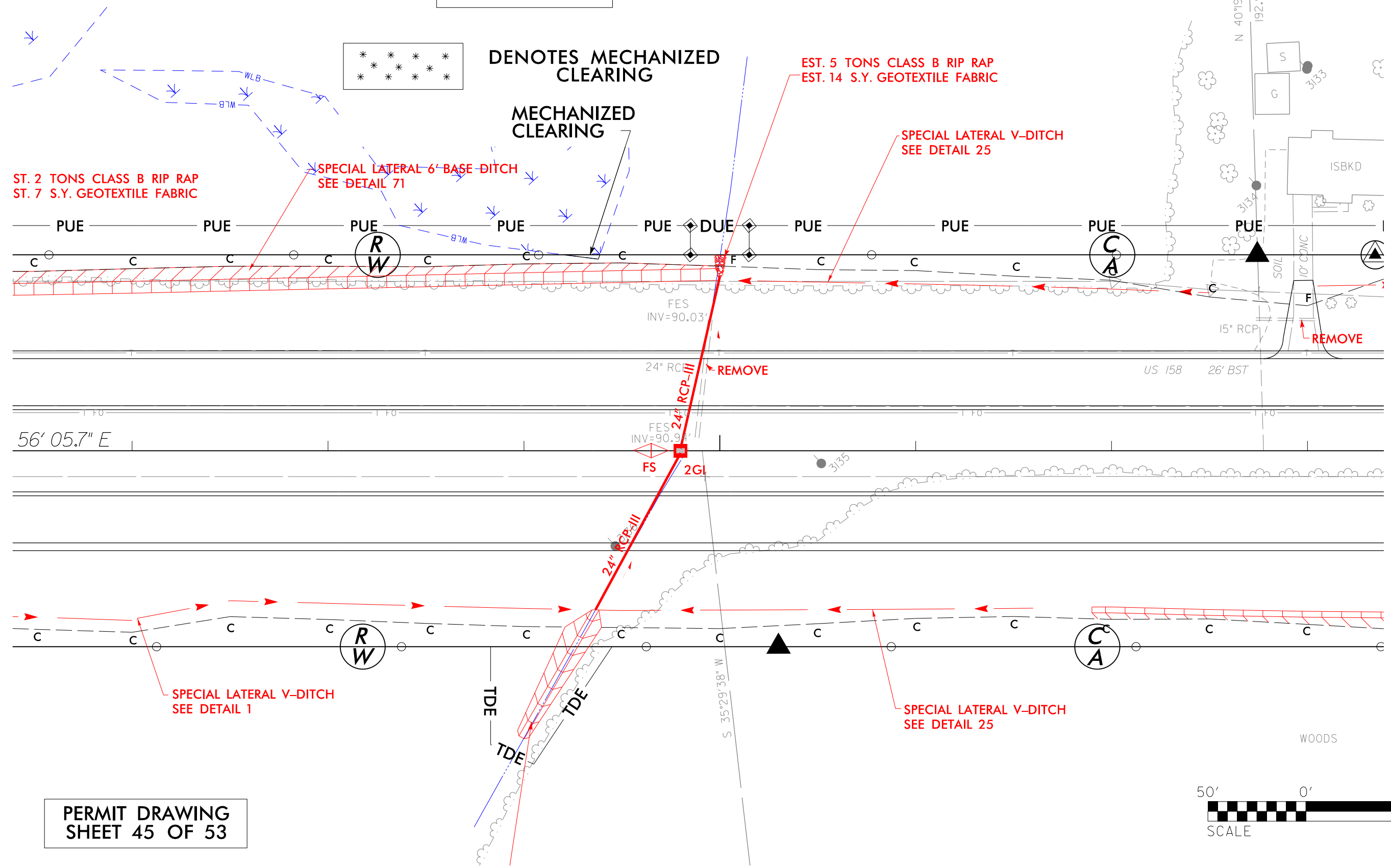
8/17/99  
R:\Hydraulics\PERMITS\Environmental\Drawings\45\_R-2582A\_SITE10.dgn  
meme.busecm

J. EDWARDS, et al  
PG 135

CUT OVER

# SITE 10

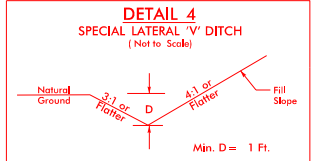
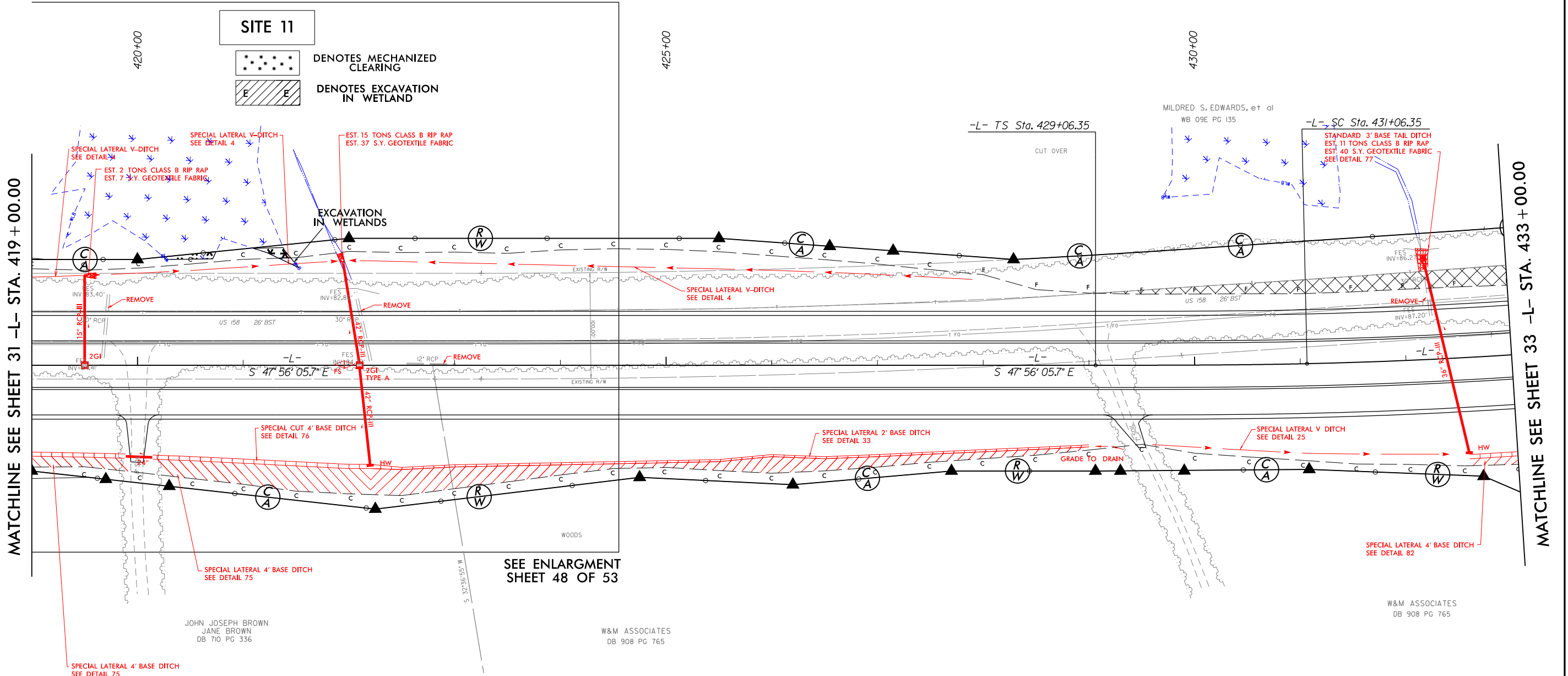
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	31
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



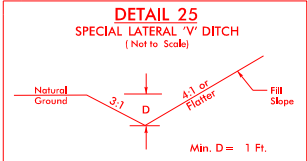
PERMIT DRAWING  
SHEET 45 OF 53

8/17/99  
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8/17/2019  
R:\Hydraulics\PERMITS\Environmental\Drawings\46.R-2582A\_Rdy.psh\_32.dgn  
8/17/2019  
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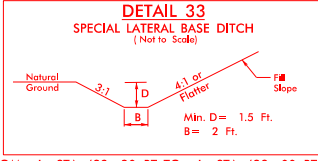
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	32
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



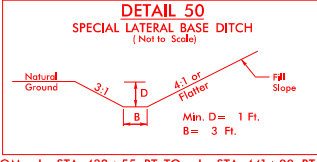
FROM -L- STA. 419+00 LT TO -L- STA. 421+90 LT  
FROM -L- STA. 422+00 LT TO -L- STA. 428+00 LT



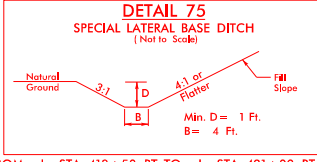
FROM -L- STA. 429+60 RT TO -L- STA. 432+55 RT



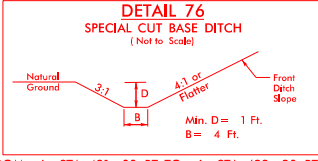
FROM -L- STA. 422+20 RT TO -L- STA. 429+00 RT



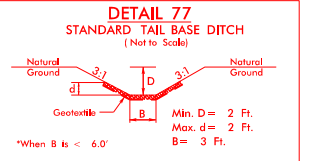
FROM -L- STA. 432+55 RT TO -L- STA. 441+00 RT



FROM -L- STA. 418+50 RT TO -L- STA. 421+00 RT



FROM -L- STA. 421+00 RT TO -L- STA. 422+20 RT

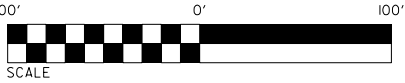


FROM -L- STA. 432+20 LT TO -L- STA. 432+22 LT

**DETAIL FALSE SUMP**  
(Not to Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-L- STA. 421+86 M



**PERMIT DRAWING**  
**SHEET 46 OF 53**





8/17/99

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name.busem

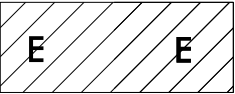
W.RDS, et al  
35

420+00

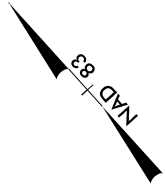
# SITE 11



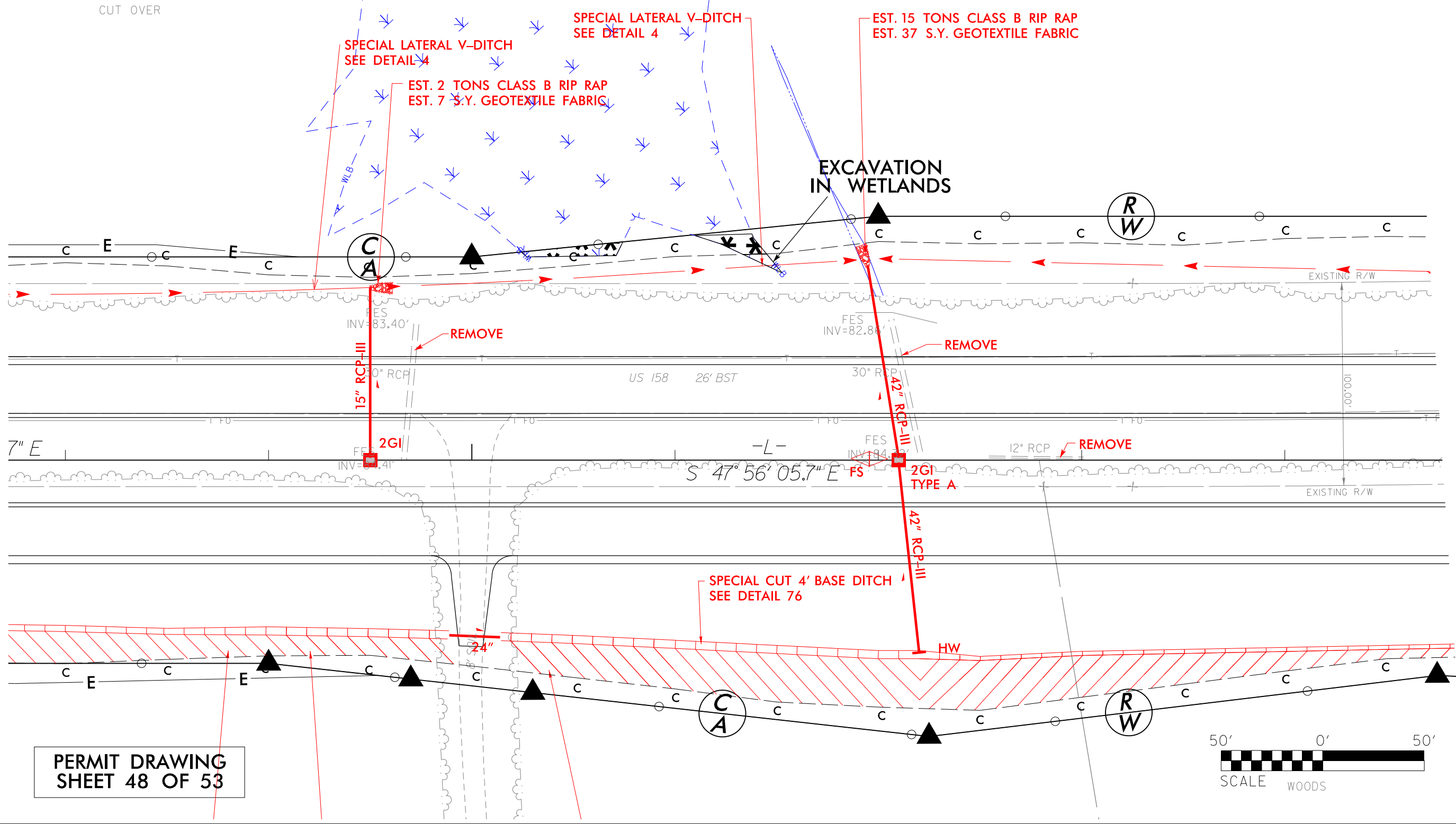
DENOTES MECHANIZED  
CLEARING



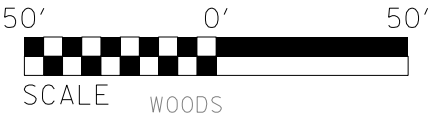
DENOTES EXCAVATION  
IN WETLAND



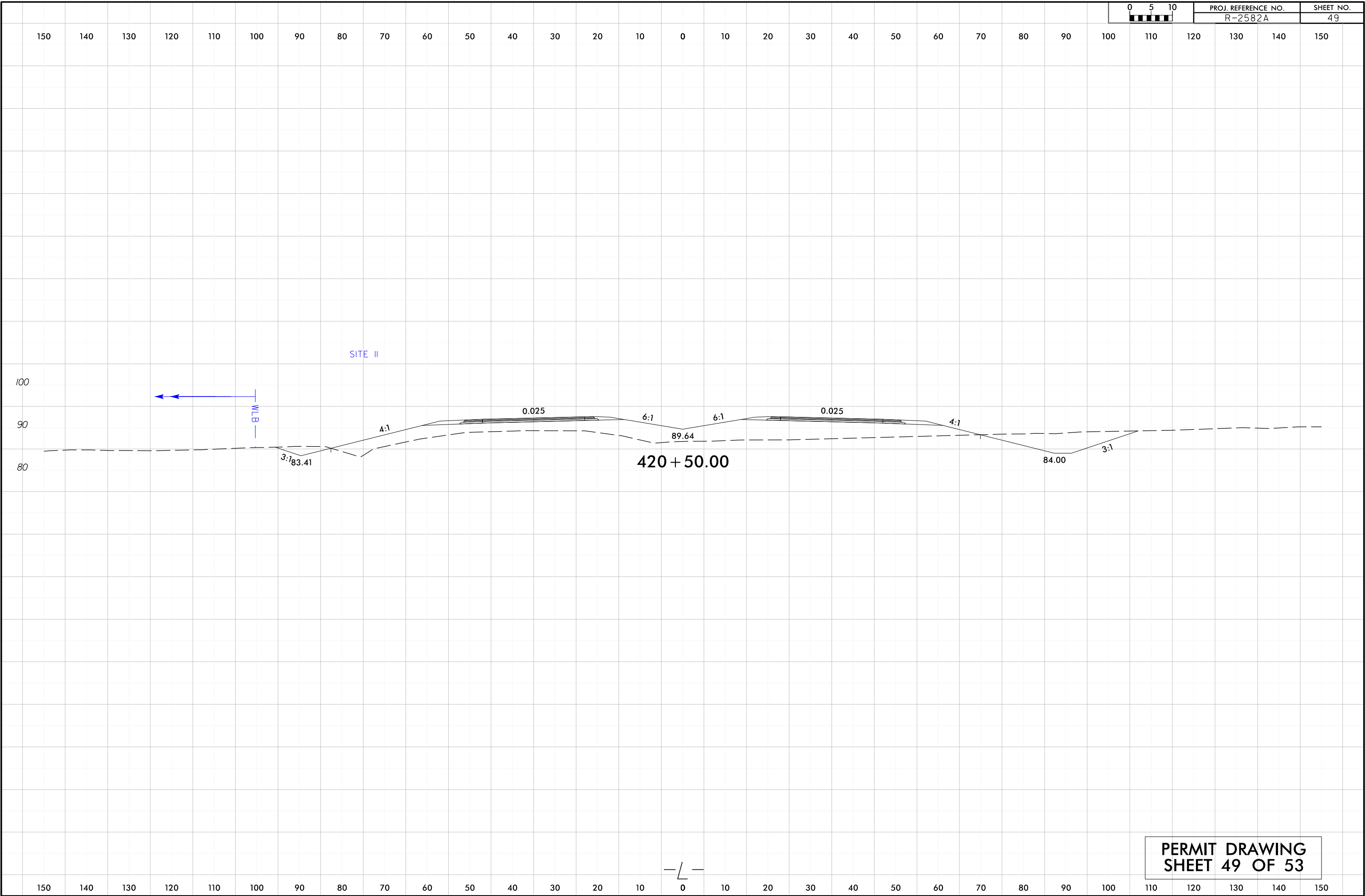
PROJECT REFERENCE NO.	SHEET NO.
R-2582A	32
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



PERMIT DRAWING  
SHEET 48 OF 53

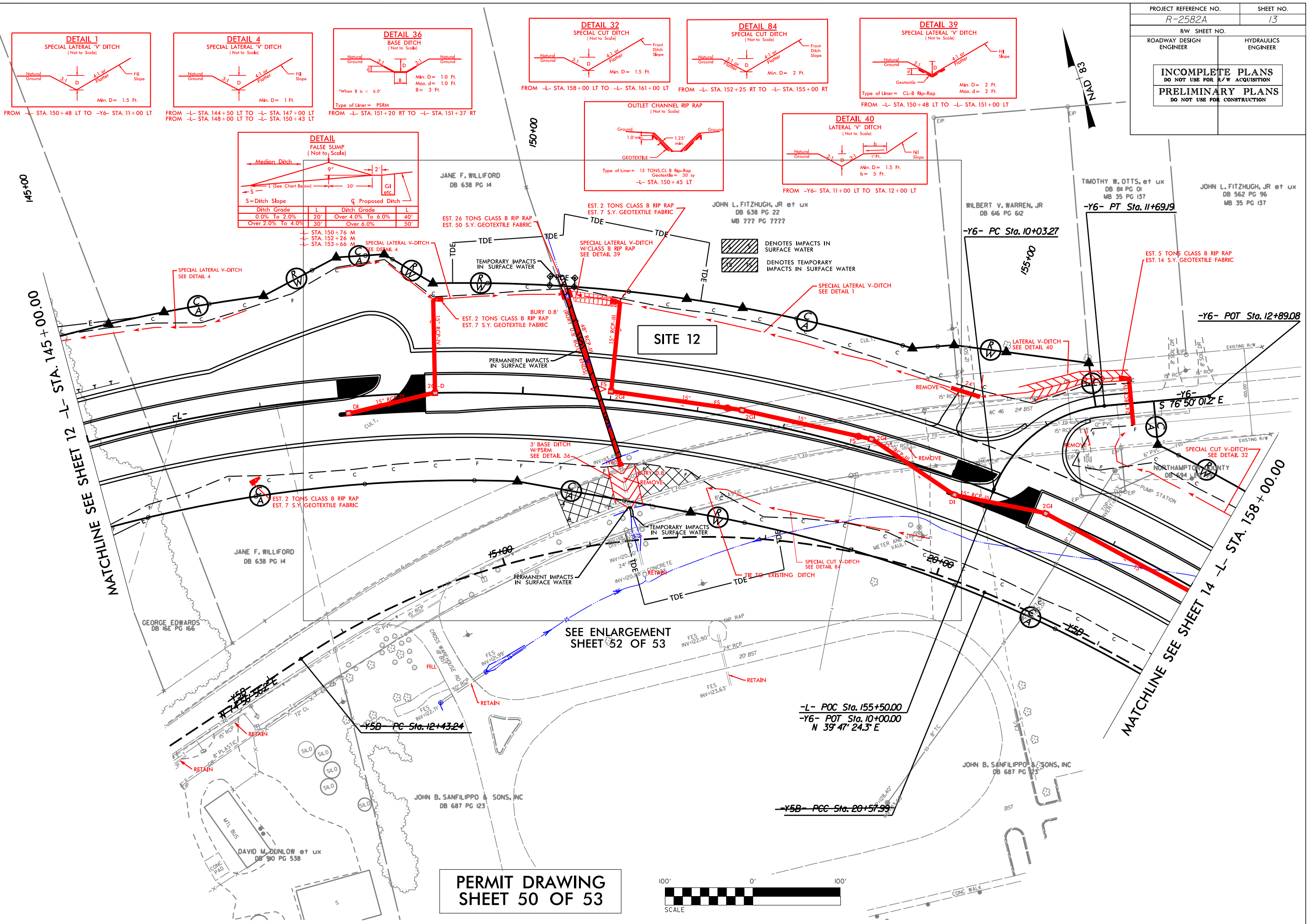


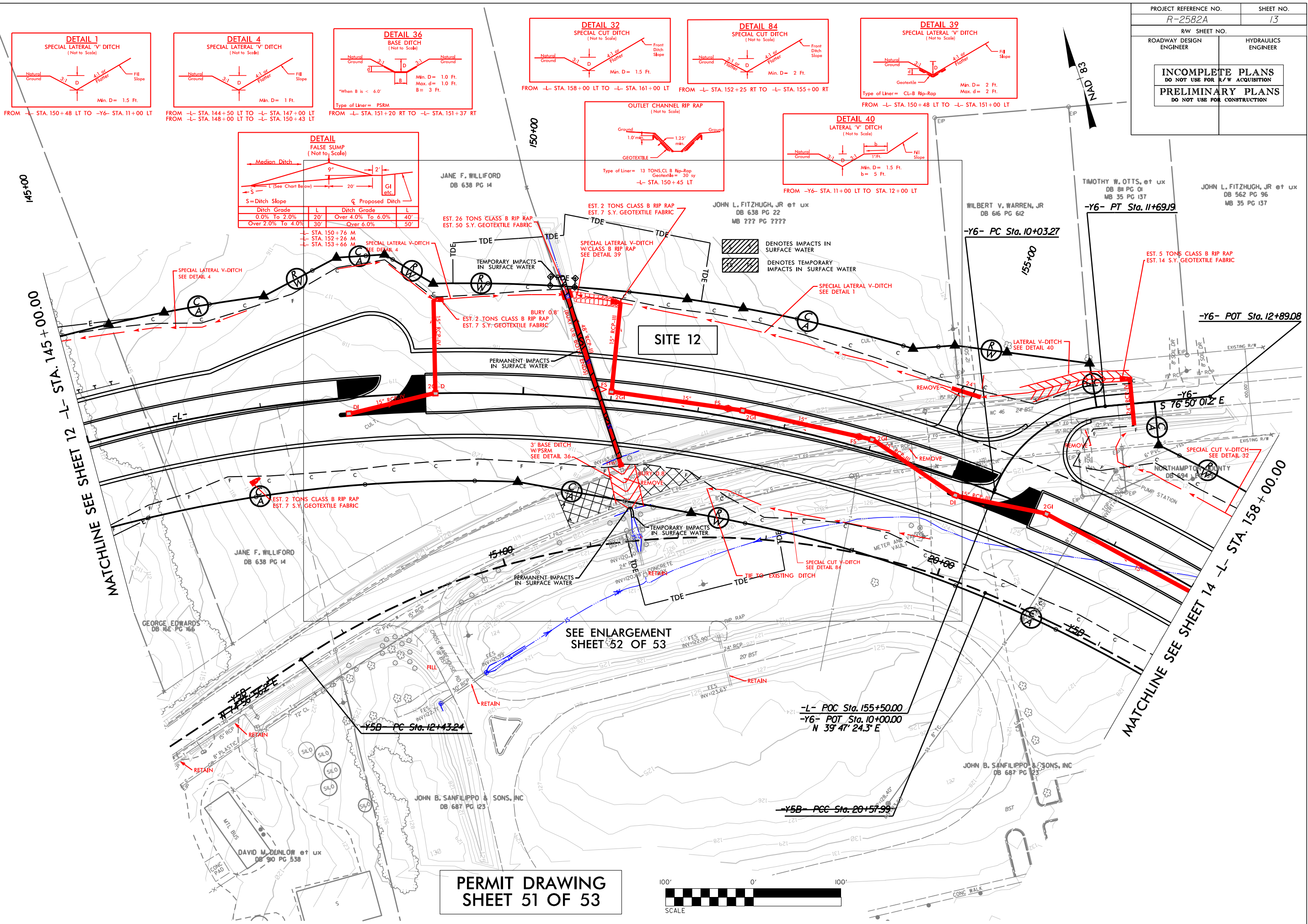
0510	PROJ. REFERENCE NO.	SHEET NO.
	R-2582A	49



PERMIT DRAWING  
SHEET 49 OF 53

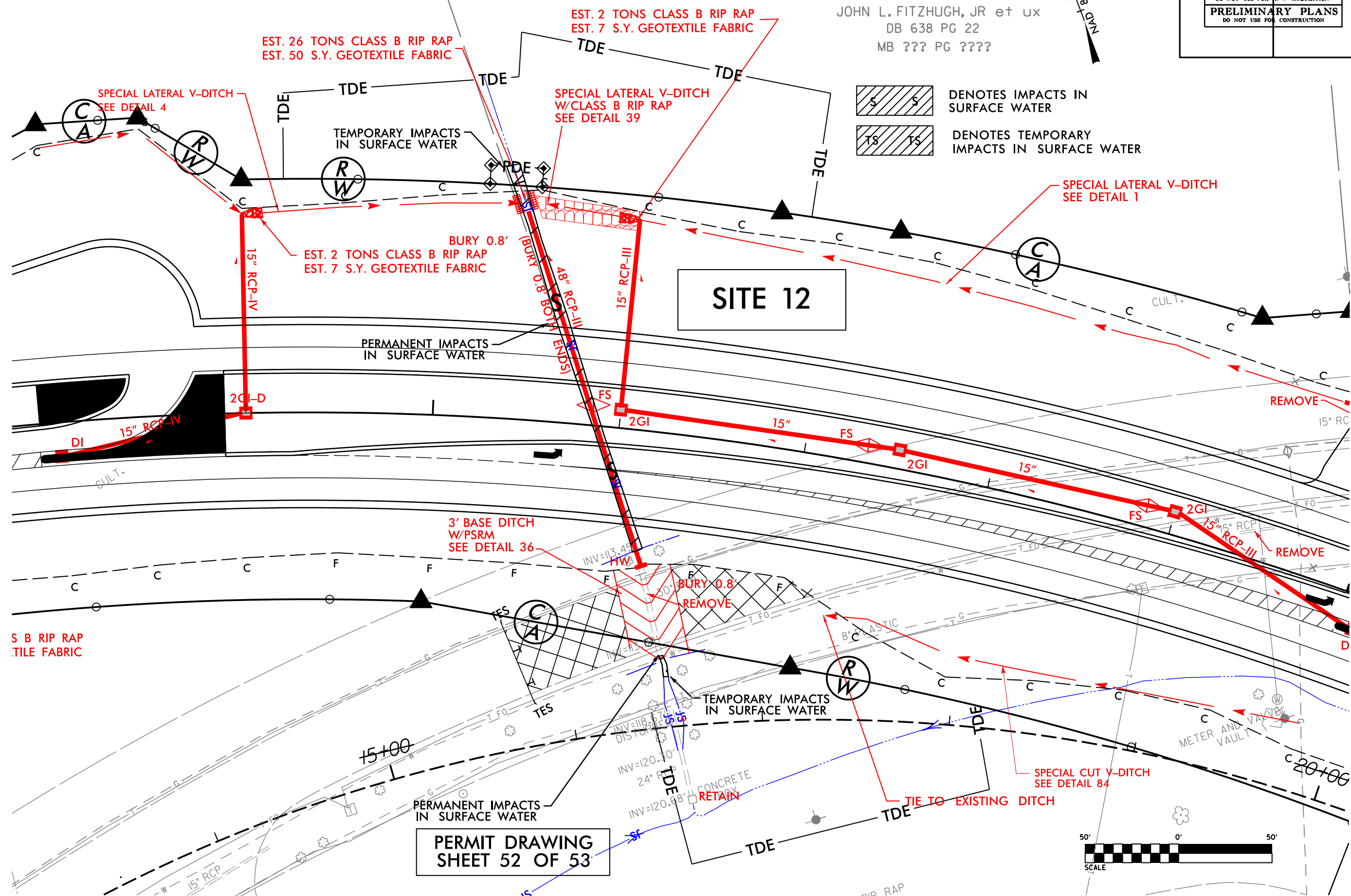








PROJECT REFERENCE NO.	SHEET NO.
R-2582A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



C:\Users\jmemebuscemi\Desktop\R2582A\Hydraulics\PERMITS\Environmental\Drawings\52\_R-2582A\_SITE12.dgn  
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jmemebuscemi

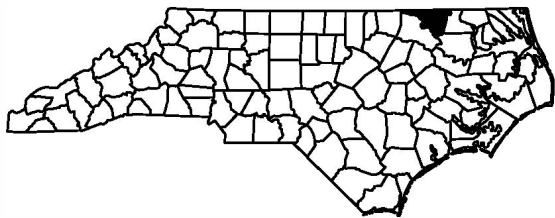


WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (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- 34+78 to 42+09	36" RCP-III / Roadway Fill	0.38					0.01	< 0.01	101	10	
2	-L- 81+96 to 85+94	Triple 9 X 9 RCBC / Roadway Fill	0.03		0.01	0.03		0.14	0.01	226	35	
3	-L- 92+72 to 96+17	Roadway Fill	0.17		< 0.01	0.04						
4	-L- 138+79 to 144+44	42" RCP-III / Roadway Fill	2.10			0.28		0.01	< 0.01	252	21	
5	-L- 186+64 to 194+68	Roadway Fill	3.33			0.25						
6	-L- 201+68 to 205+06	Double 48" RCP-III / Roadway Fill	3.37		0.08	0.12		0.09	< 0.01	826	9	
7	-L- 248+36 to 251+62	84" RCP-IV / Roadway Fill	1.26		0.02	0.07		0.04	< 0.01	480	63	
8	-L- 282+72 to 287+92	Triple 8 X 7 RCBC / Roadway Fill	0.18			0.10		0.11	< 0.01	332	29	
9	-L- 381+38 to 390+97	Roadway Fill	0.64			0.19						
10	-L- 409+20 to 409+39	Roadway Fill				< 0.01						
11	-L- 420+24 to 421+45	Roadway Fill			< 0.01	< 0.01						
12	-L- 150+32 to 151+20	42" RCP-III / Roadway Fill						0.02	< 0.01	209	20	
TOTALS*:			11.45		0.11	1.09		0.43	0.03	2426	187	0

NOTES:  
Site 6 includes 0.465 acres of fill impact due to the total take of wetland within the proposed roadway loop.

SHEET 53 OF 53

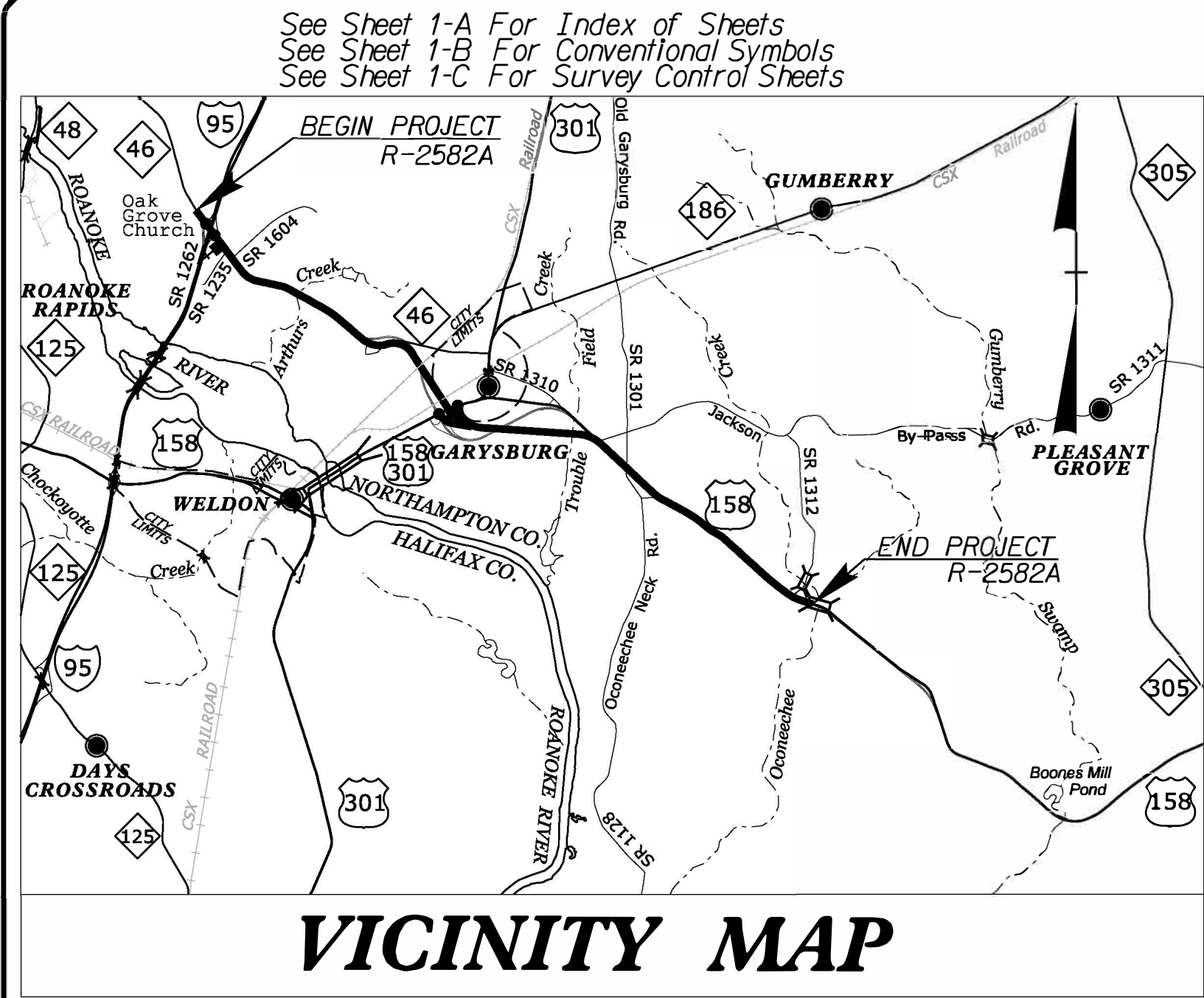
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2582A	NE-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34472.1.4		PE	
34472.2.4		RW, UTIL.	
34472.3.2		CONSTRUCTION	



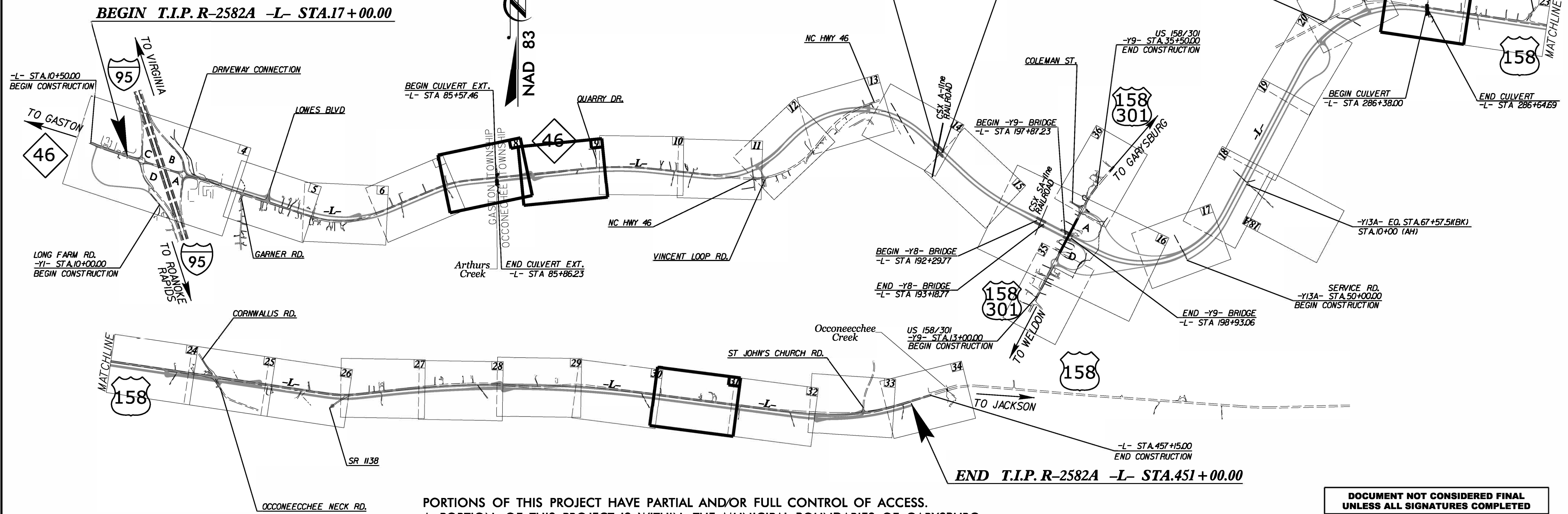
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**NORTHAMPTON COUNTY**

**NEU UTILITY RELOCATION PERMIT PLANS**

LOCATION: US 158 FROM I-95/NC 46 IN ROANOKE RAPIDS  
TO SR 1312 (ST. JOHN CHURCH RD)

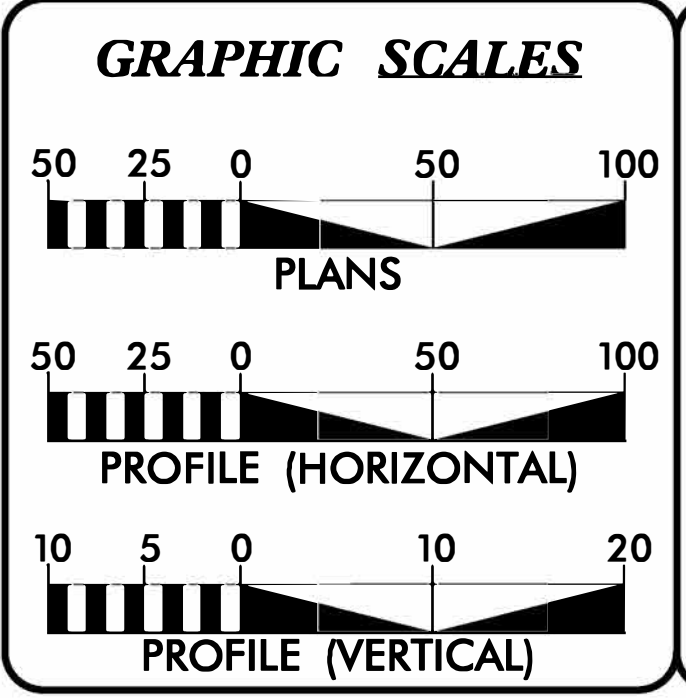


**VICINITY MAP**



PORTIONS OF THIS PROJECT HAVE PARTIAL AND/OR FULL CONTROL OF ACCESS.  
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF GARYSBURG.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA	
ADT 2019	= 6400
ADT 2039	= 8418
K	= 11 %
D	= 60 %
T	= 21 % *
V	= 70 MPH
* TTST	= 14 DUAL=7
FUNC CLASS	=
EXPRESSWAY	
STATEWIDE TIER	

PROJECT LENGTH	
LENGTH ROADWAY T.I.P. PROJECT R-2582A	= 8.149 MILES
LENGTH STRUCTURE T.I.P. PROJECT R-2582A	= 0.071 MILES
TOTAL LENGTH OF T.I.P. PROJECT R-2582A	= 8.220 MILES
GARY LOVERING, PE NCDOT CONTACT	

Prepared In the Office of: <b>SUMMIT</b> DESIGN AND ENGINEERING SERVICES FIRM NO. P-4358	
RIGHT OF WAY DATE: June 30, 2017	TRACY N. PARROTT, PE PROJECT ENGINEER
LETTING DATE: April 16, 2019	REKHA V. PATEL, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER	
SIGNATURE: _____	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE: _____	P.E.




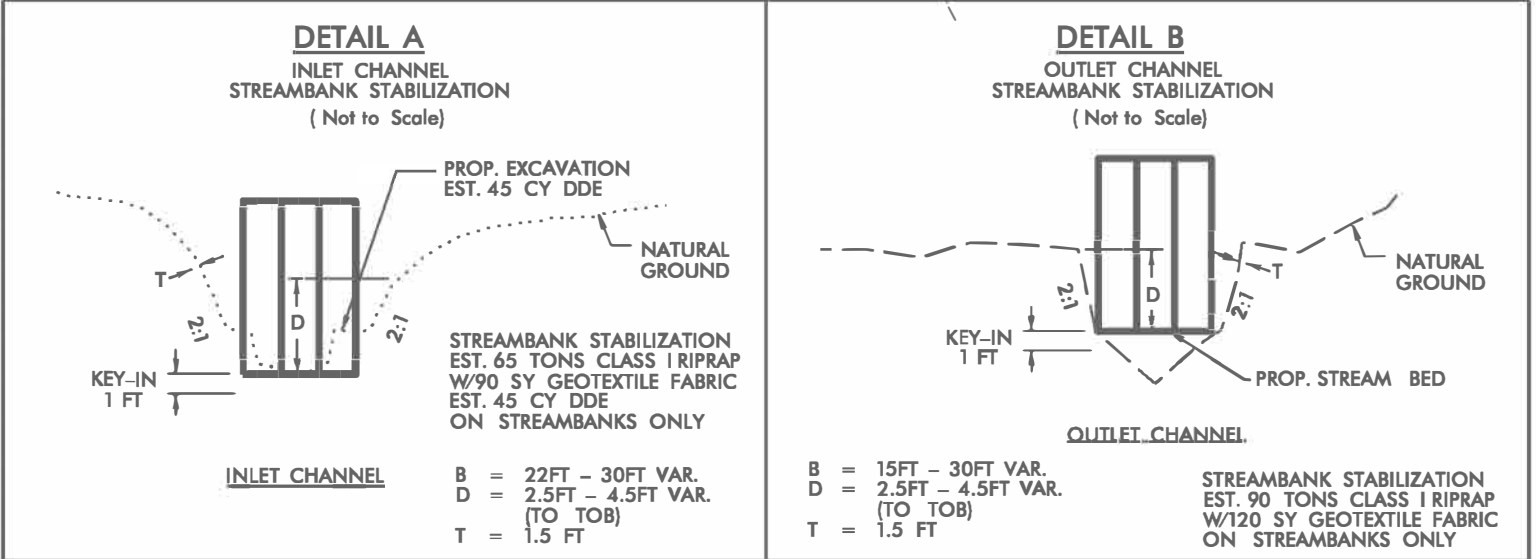
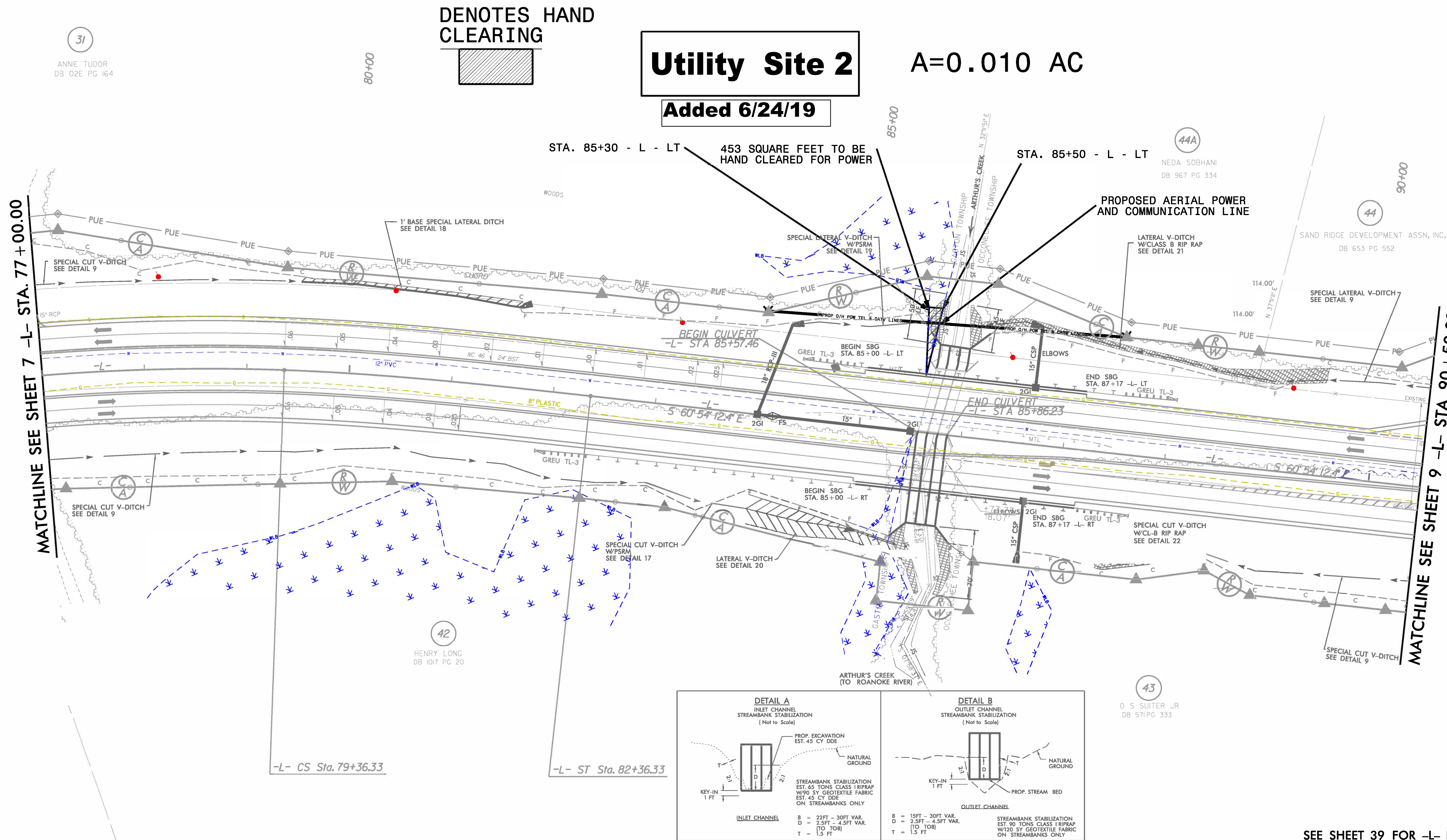
TIP PROJECT: R-2582A

CONTRACT: C204210




8/17/99  
2/6/2019  
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8:16:13 AM

PROJECT REFERENCE NO.		SHEET NO.	
R-2582A		NE-02	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			
Prepared in the Office of:		NC FIRM LICENSE No. P-0539 504 Macdonald Drive Hillsborough, NC 27278 (919) 732-3863 (919) 732-6676 (FAX)	
		<b>SUMMIT</b> DESIGN AND CONSTRUCTION SERVICES	



SEE SHEET 39 FOR -L- PROFILE





**A=0.150 AC**

NAD 83

**6,730 SQUARE FEET TO BE  
HAND CLEARED BY POWER**

## PROPOSED AERIAL POWER AND COMMUNICATION LINE

/STA. 97+50 - L - LT

-Y4- POT Sta. 13+22.79

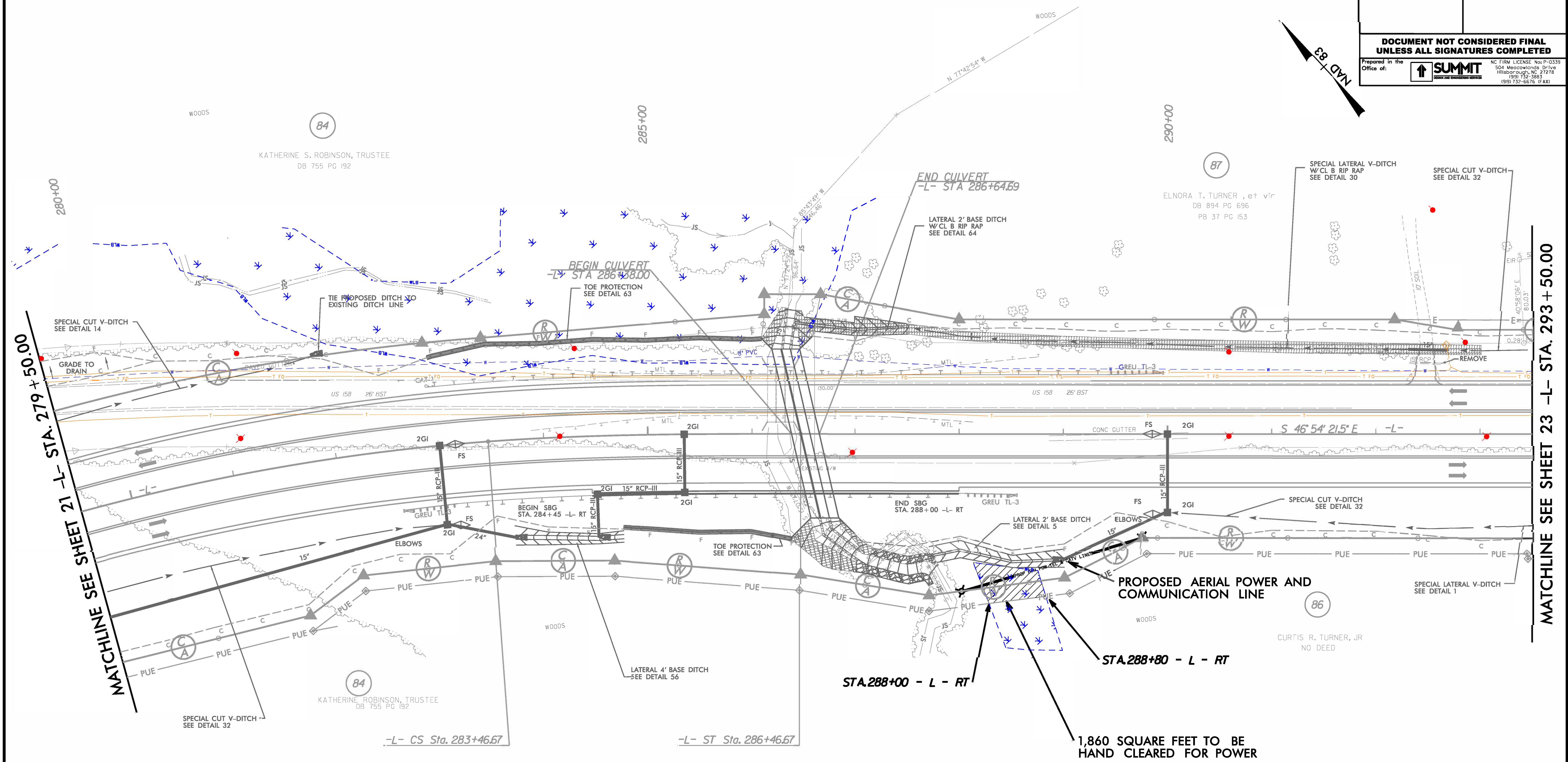
**MATCHLINE SEE SHEET 8 -L- STA. 90+50.00**

**MATCHLINE SEE SHEET 10 -L- STA. 104 + 50.00**

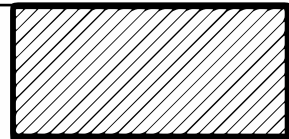
SEE SHEET 40 FOR -L- PROFILE  
SEE SHEET 55 FOR -Y4- PROFILE  
SEE SHEET 2B-9 FOR INTERSECTION DETAIL



PROJECT REFERENCE NO.		SHEET NO.
R-2582A		NE-04
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	



DENOTES HAND  
CLEARING



**Utility Site 8**

Added 6/24/19

A=0.040 AC

SEE SHEET 47 FOR -L- PROFILE

8/17/99  
2/6/2019  
P:\055\0659\097\10000\Coordination\R-2582A\_RdJ22\_NE05\_psh.dgn  
8/20/18 AN

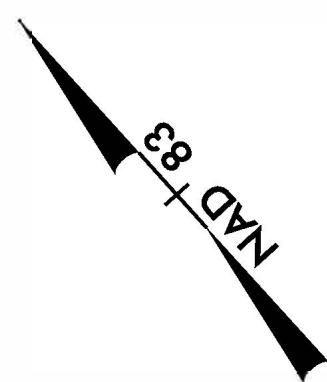


8/17/19  
2/6/2019  
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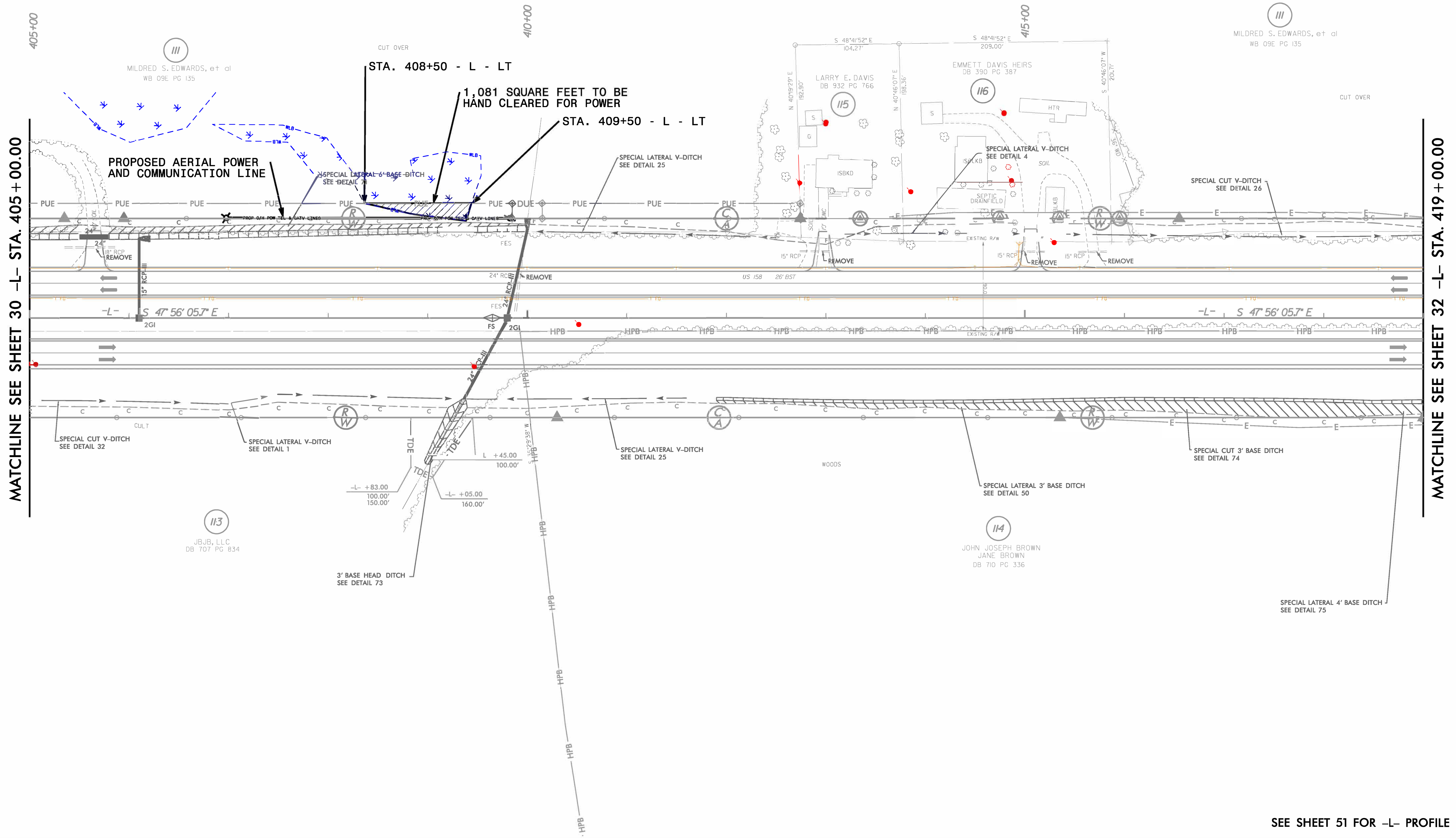
DENOTES HAND  
CLEARING

Utility Site 10  
Added 6/24/19

A=0.020 AC



PROJECT REFERENCE NO. <b>R-2582A</b>		SHEET NO. <b>NE-05</b>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



SEE SHEET 51 FOR -L- PROFILE



