



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

January 21, 2020

MEMORANDUM TO: Mr. Mark Stafford, P.E.
Division 12 Engineer

FROM: *mat* for Philip S. Harris, III, P.E., Manager
Environmental Analysis Unit

SUBJECT: Individual 404 Permit and 401 Water Quality Certification for the
I-40/I-77 Interchange, Iredell County, Division 12; WBS No 34192.1.4,
TIP: I-3819 B.

Enclosed is the US Army Corps of Engineers Permit, NC Division of Water Resources Water Quality Certification, and Project Commitments ("greensheet") for the above-referenced project. All environmental permits have been received for the construction of this project.

The permit package has been posted on the NCDOT website at:
<https://xfer.services.ncdot.gov/pdea/PermlIssued/>

ec:

Mr. Ron Davenport, P.E. Contracts Management
Ms. Trish Beam, Division Environmental Officer
Dr. Majed Al-Ghandour, P.E., Programming and TIP
Mr. Stephen Morgan, P.E., Hydraulics
Mr. Brian Hanks, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Lamar Sylvester, P.E., State Roadway Construction Engineer

PROJECT COMMITMENTS

T.I.P Project No. I-3819B
Proposed I-40/I-77 Interchange Area Improvements
Iredell County
WBS Element 34192.1.2

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

In addition to the Section 404 Conditions, Regional Conditions, State Consistency, North Carolina Department of Transportation's (NCDOT) Guidance for Best Management Practices for the Protection of Surface Waters, General Certification Conditions, and Section 401 Conditions for Certification, State Stormwater Permit, NCDOT has agreed to the following special commitments:

Roadway Design Unit

Wetlands: Additional area of wetlands in the southwest quadrant of the I-40/I-77 interchange will be bridged to minimize impacts. Fill slopes will not encroach into the jurisdictional wetland boundaries any more than practicable as shown in the preliminary design.

Structures over Fourth Creek will accommodate the existing Museum Greenway path: The new and widened structures at SR 1934 (Hillside Lane) extension, I-40 and I-77, and their associated ramps shall be designed to span the existing greenway that follows Fourth Creek.

Retaining walls at Pressly Elementary School and Northview Elementary School: In order to minimize the impact to the grounds of these schools, a retaining wall along the proposed shoulder of I-40 and I-77 shall be constructed in accordance with NCDOT construction standards.

The retaining wall for Northview Elementary School was constructed as part of the I-3819A project.

Noise Mitigation:

A final design noise report will be performed based on the results of the planning noise study. Noise mitigation will be provided as required in accordance with the NCDOT Noise Abatement Policy.

COMMITMENTS FROM PERMITTING

See 404 Permit and 401 Certification for special conditions developed during permitting.



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

January 21, 2020

Regulatory Division

Action ID. SAW-2018-01504

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

Dear Mr. Harris:

In accordance with the written requests of July 23, 2019 and September 25, 2019, and the ensuing administrative record, enclosed is a Department of the Army (DA) Permit to permanently fill 2,175 linear feet of stream channels, emplace 1,019 linear feet of bank stabilization, temporarily fill 0.07 acres (394 linear feet) of stream channels, and permanently fill 1.39 acres of wetlands, hand-clear 2.56 acres of wetlands. Utility relocation activities will require 0.02 acre of permanent wetland fill, 0.27 acres of temporary wetland fill (construction access), and <0.01 acres of hand-clearing in wetlands. These impacts are associated with the construction of TIP I-3819B, I-40 & I-70 Interchange improvements, in Statesville, Iredell 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 notifies you that your permit has been modified.

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

- a. You must complete construction before December 31, 2025.
- 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 Ms. Nicholle Braspenickx at the Charlotte Regulatory Field Office, telephone 704-510-0162.

Thank you in advance for completing our Customer Survey Form. This can be accomplished by visiting our web-site at <http://corps.mapu.usace.army.mil> 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



Monte Matthews
Lead Project Manager
Wilmington District

Enclosures:

Electronic Copies Furnished without Special Conditions and Plans:

Ms. Donna Hood
North Carolina Department of Environmental Quality
Division of Water Resources
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

Ms. Amanetta Somerville
U.S. Environmental Protection Agency Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

Ms. Marla Chambers
North Carolina Wildlife Resources Commission
c/o North Carolina Department of Transportation
206 Charter Street
Albemarle, North Carolina 28001

Ms. Claire Ellwanger
U.S. Fish and Wildlife Service
160 Zillicoa Street, # B
Asheville, North Carolina 28801

Ms. Renee Gledhill-Earley
North Carolina State Historic Preservation Office
4617 Mail Service Center
Raleigh, North Carolina 27699

DEPARTMENT OF THE ARMY PERMIT

Permittee: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, ATTN: MR. PHIL HARRIS, III

Permit No.: SAW-2018-01504

Issuing Office: USAED, WILMINGTON

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: TIP I-3819B, I-40 & I-77 Interchange improvements requiring the permanent fill of 2,175 linear feet of stream channels, 1,019 linear feet of bank stabilization, the temporary fill of 0.07 acres (394 linear feet) of stream channels, the permanent fill of 1.39 acres of wetlands, and the hand-clearing of 2.56 acres of wetlands. Utility relocation will require 0.02 acre of permanent wetland fill, 0.27 acres of temporary wetland fill (construction access), and <0.01 acres of hand-clearing in wetlands.

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 Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.

Project Location: I-40 and I-77 Interchange in Statesville, Iredell County, North Carolina.
Latitude: 35.806613, Longitude: -80.804480

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2025. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

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

Special Conditions:

*SEE ATTACHED SPECIAL CONDITIONS

Further Information:

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

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

2. Limits of this authorization.

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

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

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

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

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

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

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

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

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


(PERMITTEE) North Carolina Department of Transportation
for V ATTN: PHIL HARRIS, III

1-21-2020
(DATE)

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

 
(DISTRICT ENGINEER) ROBERT J. CLARK, COLONEL

21 Jan 2020
(DATE)

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

(TRANSFEEE)

(DATE)

SPECIAL CONDITIONS
ACTION ID: SAW-2018-01504
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION I-3819B

1. **Work Limits:** All work authorized by this permit shall be performed in strict compliance with the attached permit plans, Pages 1-67 dated July 12, 2018 and Utility Plans, Pages 1-8 dated September 23, 2019, which are 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 U.S. Army Corps of Engineers prior to any active construction in waters or wetlands.

2. **Unauthorized Dredge or Fill:** 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.

3. **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.

4. **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, Charlotte Field Office, NC DOT Project Manager, prior to any work within waters and wetlands to ensure there is a mutual understanding of the terms and conditions contained with this DA Permit. The Permittee shall provide the Corps Charlotte Field Office, and NC DOT 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 and NCDWR Project Managers can attend. The Permittee

SPECIAL CONDITIONS
ACTION ID: SAW-2018-01504
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION I-3819B

shall invite the Corps 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.

5. 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.

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 shall be reported to the Corps in writing and by telephone at 704-510-0162 within 24 hours of the Permittee's discovery of the violation.

8. Clean Fill: The Permittee shall use only clean fill material for this project. The fill material shall be free from such items 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, Charlotte Field Office, Attn: Ms. Nicholle Braspennickx at 704-510-0162, or email at Nicholle.M.Braspennickx@usace.army.mil will be immediately notified to initiate the required Federal coordination.

10. Culverts:

- a) Unless otherwise requested in the application and depicted on the approved permit plans, culverts greater than 48" in diameter shall be buried at least one foot below the bed of the stream. Culverts 48" 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.

SPECIAL CONDITIONS
ACTION ID: SAW-2018-01504
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION I-3819B

Culverts shall be designed and constructed in a manner that minimizes destabilization and head cutting.

- b) 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 historic 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.
- c) The Permittee shall implement all reasonable and practicable measures to ensure the 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.

11. Sediment and Erosion Control:

- a) 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 material. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.
- b) No fill or excavation impacts for the purposes of sedimentation and erosion control shall occur within waters of the U.S., 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.
- c) 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.

SPECIAL CONDITIONS
ACTION ID: SAW-2018-01504
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION I-3819B

- d) The Permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to ensure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices shall be in full compliance with all specifications governing proper design, installation and operation and maintenance of such Best Management Practices in order to ensure compliance with the appropriate turbidity water quality standards. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project 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/or wetlands.
12. **Temporary Fills:** Within 30 days of the date of completing the authorized work, the Permittee shall remove all temporary fills in water of the U.S. 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.
13. **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 the 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 compliance with the Endangered Species Act and the National Historic Preservation Act, such as surveys or correspondence with agencies (e.g. U.S. Fish and Wildlife Service, North Carolina State Historic Preservation Office, 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 U.S. Army Corps of Engineers that the 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

SPECIAL CONDITIONS
ACTION ID: SAW-2018-01504
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION I-3819B

and/or waste sites shall be verified by the U.S. Army Corps of Engineers and shown on the approved reclamation plans. 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.

14. **Compensatory 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.

Compensatory Mitigation Responsibility Transfer Form

Permittee: North Carolina Department of Transportation, Philip S. Harris, III, P.E. CPM
Project Name: NC DOT/I 3819B, I 40 and I 77 Interchange

Action ID: SAW No. 2018-01504
County: Iredell

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: 03040102, Yadkin River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
2,175			1.41			

*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: 03040102, Yadkin River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
4,350			2.82			

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: NCDMS

Name of Sponsor's Authorized Representative: Beth Harmon

Signature of Sponsor's Authorized Representative

Date of Signature

01/28/2020

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: A letter from North Carolina Department of Environmental Quality, Division of Mitigation Services, confirming they are willing and able to accept the applicant's compensatory mitigation responsibility, dated 7/12/2019 was included with the preconstruction notification.

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, 11405 Falls of Neuse Road, 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: Nicholle Braspenickx
USACE Field Office: Charlotte Regulatory Office
US Army Corps of Engineers
8430 University Executive Park Drive, Suite 615
Charlotte, North Carolina 28262
Email: Nicholle.M.Braspenickx.usace.army.mil

Nicholle Braspenickx

USACE Project Manager Signature

1/21/2020

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



January 30, 2020

Mr. Philip S. Harris, III, P.E., CPM
Environment Analysis Unit Head
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: **CORRECTION AND ADDENDUM TO** 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with **ADDITIONAL CONDITIONS** for Proposed improvements to the I-77 and I-40 interchange in Iredell County, including Broad Street improvements, TIP I-3819B, U-6039, WBS 34192.3.2.
NCDWR Project No. 20191006

Dear Mr. Harris:

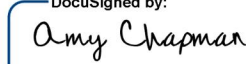
Attached hereto is a copy of Certification No. WQC004203 originally issued to The North Carolina Department of Transportation (NCDOT) dated November 19, 2019. The individual permit is being amended to correct stream sites 13-16, which were listed under a perennial stream and not intermittent and impacts for sites 2 and 5 in the wetland table, which were totaled incorrectly.

In addition to corrections to the impact tables, the permit is also being amended to allow sediment and erosion control measures (S&EC) in some jurisdictional features. In the **Project Specific Conditions** below, please find all areas, as provided, that are allowed to have S&EC measures installed in them. No other areas are allowed to have S&EC measures installed. All S&EC measures shall be removed as soon as possible to minimize impacts.

All other permit conditions from the original issuance remain in effect, except where superseded by this addendum and correction.

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

Sincerely,

DocuSigned by:

9C9886312DCD474...
Linda Culpepper, Director
Division of Water Resources

Attachments

Electronic copy only distribution:

Nicholle Braspennickx, US Army Corps of Engineers, Charlotte Field Office
Trish Beam, Division 12 Environmental Officer
Michael Turchy, NC Department of Transportation



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000

Amanetta Somerville, US Environmental Protection Agency
Claire Ellwanger, US Fish and Wildlife Service
Marla Chambers, NC Wildlife Resources Commission
Beth Harmon, Division of Mitigation Services
Donna Hood, NC Division of Water Resources Mooresville 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 1.41 acres of jurisdictional wetlands and 2175 linear feet of jurisdictional streams in Iredell County. The project shall be constructed pursuant to the application dated received July 23, 2019 with additional information requested on September 20, 2019 and received on September 25, 2019. The authorized impacts are as described below:

Stream Impacts in the Yadkin-PeeDee River Basin



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000

Site	Bank Stabilization (linear feet)	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
<u>2</u> 16+70-21+50YRP CA	42				20	62	
<u>3</u> 15+75-YRPC				206	10	216	
<u>5</u> 70+00-73+85 YRPAC					40	40	
<u>6</u> 121+50-Y-LT	12				20	32	
<u>7</u> 120+90-Y-RT	12				20	32	
<u>9</u> 28+50-34+00-YRPAC				747	10	757	747
<u>10</u> 28+00-YRPAC	25				20	45	
<u>12</u> 149+00-150+00 L				10	54	64	
<u>13</u> 167+00 RT	44			17	10	71	17
<u>14</u> 28+50-Y		17	10			27	
<u>15</u> 33+75-Y	11		20			31	
<u>16</u> 35+90-37+20-Y		112	10			122	
<u>17</u> 37+70-38+50-Y				115	14	129	
<u>18</u> 47+50-Y				72	10	82	
<u>19</u> 46+00-Y				34		34	
<u>20</u> 68+50-Y				61	10	71	
<u>21</u> 69+20-70+20-Y				176	21	197	176
<u>22</u> 71+30-84+00-Y	873			467	10	1350	467



<u>23</u> 87+70-Y					33	33	
<u>24</u> 93+75-Y				49	10	59	
<u>25</u> 94+50				44	32	76	
<u>27</u> 210+00-Y				48	10	58	
Total	1019	129	40	2046	354	3588	1407

Total Stream Impact for Project: 3588 linear feet
DWR Required Mitigation: 1407 linear feet
ACOE Mitigation: 2175

Wetland Impacts in the Yadkin-PeeDee River Basin

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Area under Bridge (ac)	Total Wetland Impact (ac)
<u>2</u> 14+00-21+50 YRPCA	0.32			0.09			0.41
<u>2</u> 16+70-21+50YRPC A	0.02			0.02	0.62		0.67
<u>3</u> 15+75-YRPC	<0.01			0.01			0.02
<u>4</u> 24+00-YRPC				0.02			0.02
<u>5</u> 70+00-76+25 YRPAC	0.03			0.05	1.94		2.03
<u>8</u> 19+00-YRPDB	<0.01			<0.01			0.01
<u>9</u> 28+50-34+00-YRPAC	0.40			0.08			0.47
<u>11</u> 26+50-26+50-YRPAC	0.19			0.02			0.21
<u>26</u> 116+70-	0.09			0.04			0.13



120+10-Y							
U-1 31+50-YRPD		0.02					0.02
U-2 75+00-YRPAC	<0.01	0.25		0.02			0.27
U-3 18+92 YRPDB					<0.01		0.01
Total	1.08	0.27	0	0.37	2.57		1.41

Total Wetland Impact for Project: 1.41 acres.

The application provides adequate assurance that the discharge of fill material into the waters of the Yadkin-PeeDee 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 July 23, 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:

- Where placement of sediment and erosion control devices in wetlands and/or waters is unavoidable at the stations listed below, they shall be removed and the natural grade restored upon completion of the project. [15A NCAC 02H.0506(b)(3) and (c)(3)]
 Site 2: -L- STA. 109+00 through STA. 112+00 (right)
 Site 3: -YRPC- STA. 16+00 (right)
 Site 4: -YRPC- STA. 23+00 through 25+00 (right)
 Site 8: -Y- STA. 125+50 (right)
 Site 9: -YRPA- STA. 11+00 through STA 13+00 (right)
 Site 11: -YRPAC- STA. 26+00 through STA 27+50 (right)
 Site 16: -Y- STA. 36+00 through 37+50 (right)
 Site 18: -Y- STA. 47+50 (left)
 Site 20: -Y- STA. 70+50 (left)
 Site 21: -Y- STA. 68+50 (left)
 Site 22: -Y- STA. 71+50 (right)
 Site 26: -YRPDB- STA. 11+00 through STA 14+00(right)
 Site 26: -Y- STA. 120+50 (right)



I-3819A Mitigation Buffer: -YRPA- STA. 17+50 to 28+50 (right)

2. 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. [15A NCAC 02H .0506(b)(2)]
3. 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)]
4. 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 NCS000250, 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)]
5. 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)]
6. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. This includes the groundwater and/or surface water removed from the casements as bents are poured [15A NCAC 02H .0506(b)(3)]
7. 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)]
8. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams, shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the 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)]
9. 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)]
10. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]



11. For the 394 linear feet of streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriate native species. [15A NCAC 02H.0506(b)(2)]
12. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]
13. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation.
14. 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 at all partially impacted sites. This update shall be conducted two growing seasons after completion of the work at those sites 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 required.
15. All portions of the proposed project draining to 303(d) listed watersheds that are impaired due to turbidity shall be designed, constructed, and operated with sediment and erosion control measures that meet Design Standards in Sensitive Watersheds (15A NCAC 4B .0124). However, due to the size of the project, NC DOT shall not be required to meet 15A NCAC 4B .0124(a) regarding the maximum amount of uncovered acres.
16. All portions of the proposed project draining to 303(d) listed watersheds that are impaired due to biological criteria exceedances shall not discharge stormwater directly to surface waters. Stormwater shall be treated using appropriate best management practices (e.g., vegetated conveyances, constructed wetlands, detention ponds, etc.) prior to discharging to surface waters
17. Compensatory mitigation for impacts to 1.41 acres of Yadkin-PeeDee riverine wetlands 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 July 12, 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.
18. Compensatory mitigation for 1407 linear feet of impact to streams is required (2175 linear feet for the ACOE). 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 July 12, 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.
19. 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)]

20. The NCDOT Division Environmental Officer or Environmental Assistant will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. During the preconstruction meeting, representative Roadside Environmental people shall also be invited and the exact placement of sediment and erosion control devices in jurisdictional areas shall be reviewed and agreed upon by all parties [15A NCAC 02H.0506(b)(2) and (b)(3)].

General Conditions

1. 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)]
2. 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]
3. 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)]
4. 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)]
5. 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)]
6. 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)]
7. 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)]
8. 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)]



9. 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)]
10. 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)]
11. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
12. 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]
13. 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*.
14. 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.
15. 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.
16. 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]
17. 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]
18. 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)]
19. 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) and (c)(2)]
20. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, 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]



21. 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.
22. 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)]
23. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]
24. Native riparian vegetation (**ex. Salix nigra, Juncus (spp), Carex (spp), et al.**) 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 02B.0231(b)(6)]
25. 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)]
26. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3):
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
 - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
27. Sediment and erosion control measures shall not be placed in wetlands or surface waters, or within 5 feet of the top of bank, without prior approval from DWR. [15A NCAC 02H.0506(b)(3) and (c)(3)]
28. With the issuance of this 401 certification, the DWR approves the stormwater drainage and treatment designs as shown in the roadway plans and permit drawings submitted as part of the 401 application, which are incorporated by reference and are enforceable by the DWR. Significant modifications to the way stormwater is managed and conveyed, any outfalls, or stormwater control measures represented in the roadway plans or permit drawings after issuance of this 401 certification are prohibited without prior approval from the DWR.
29. In the event that discharges of sediment or other pollutants from the drainage system outfalls are found by DWR to cause or contribute to a violation of surface water quality standards, DWR may take enforcement action, or NCDOT and DWR shall conduct an assessment and implement the appropriate best management



practices necessary to adequately address NCDOT's contribution to the water quality standards violation. Implementation of such best management practices shall be made within a reasonable timeframe as agreed upon by NCDOT and DWR; and may require NCDOT to obtain a 404 Permit from the Corps and a 401 Certification from the DWR.

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 30th day of January 2020

DIVISION OF WATER RESOURCES

DocuSigned by:

9C9886312DCD474...

Linda Culpepper, Director

WQC No. 004203



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000



NORTH CAROLINA
Environmental Quality

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 _____



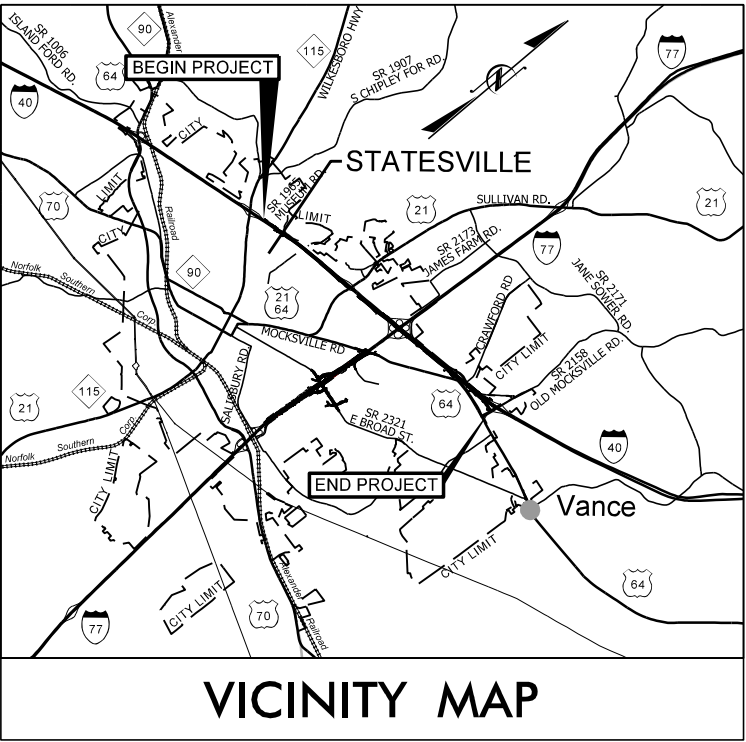
North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-3819BU-6039	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34192.1.2	IMS-40-2(124)	P.E.	
34192.3.2	N/A	DESIGN BUILD	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

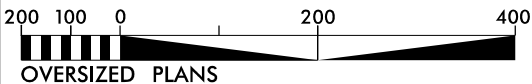
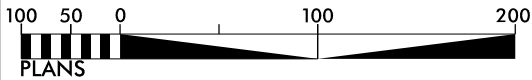
IREDELL COUNTY

LOCATION: I-40/I-77 INTERCHANGE INCLUDING I-40 FROM WEST OF SR 2003 (RADIO RD.) TO SR 2158 (OLD MOCKSVILLE RD.) & I-77 FROM SOUTH OF SR 2321 (EAST BROAD ST.) TO SOUTH OF SR 2171 (JANE SOWERS RD.)
TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, RETAINING WALLS, NOISE WALLS, AND TRAFFIC CONTROL



VICINITY MAP

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF STATESVILLE AND THE TOWNSHIP OF BETHANY



BEGIN TIP PROJECT I-3819B
-L- STA. 7+83.00

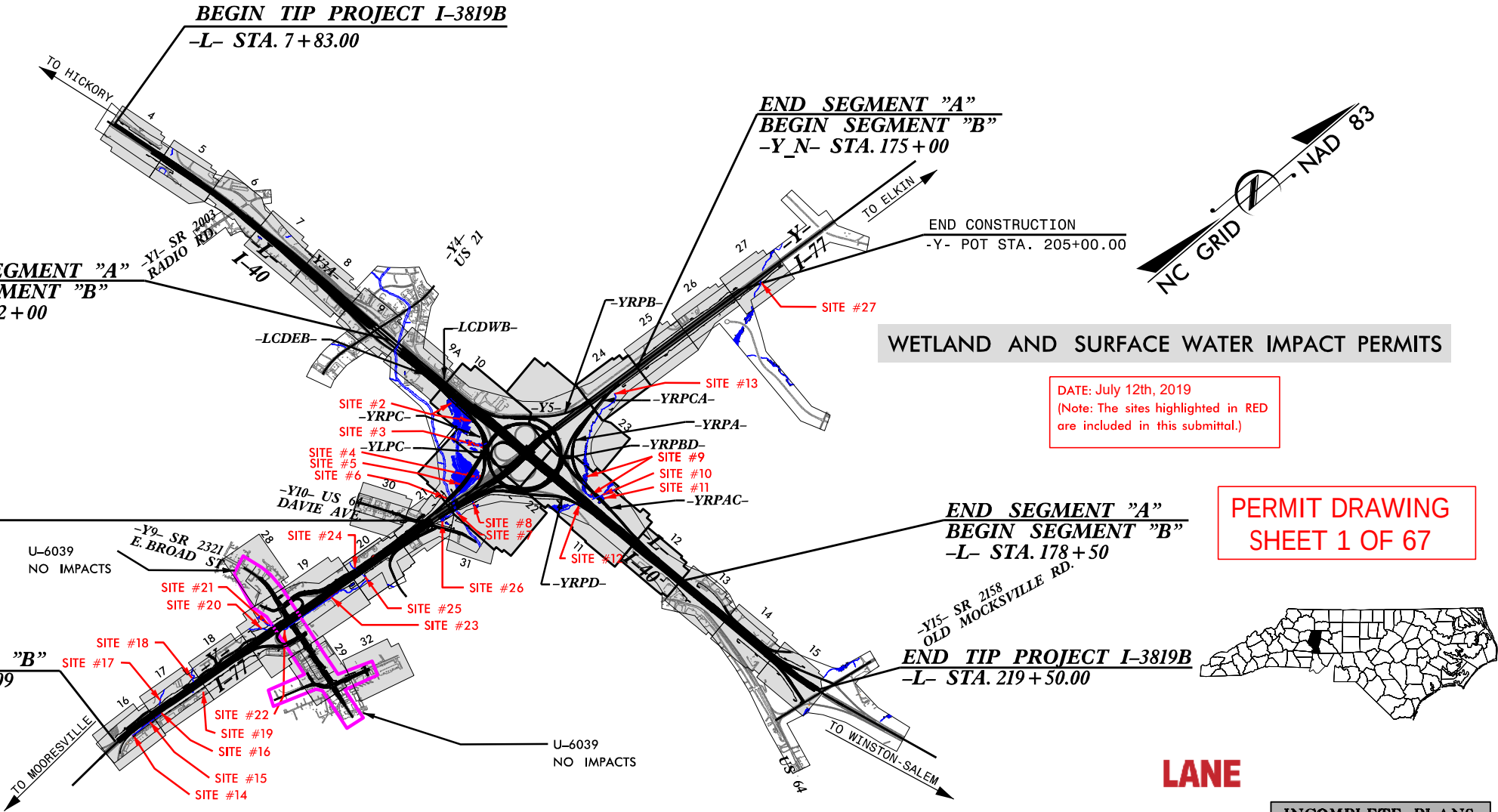
BEGIN SEGMENT "A"
END SEGMENT "B"
-L- STA. 92+00

BEGIN SEGMENT "A"
END SEGMENT "B"
-Y_S- STA. 111+00

BEGIN SEGMENT "B"
-Y_S- STA. 25+00.09

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES



WETLAND AND SURFACE WATER IMPACT PERMITS

DATE: July 12th, 2019
(Note: The sites highlighted in RED are included in this submittal.)

PERMIT DRAWING
SHEET 1 OF 67

LANE

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

GRAPHIC SCALES

SEE ABOVE

DESIGN DATA

	I-40	I-77
ADT 2018	57,300	62,900
ADT 2040	72,500	77,500
DHV	5,800	6,200
D	55 %	55 %
T	16 % *	19 % **
V	60 MPH	60 MPH
* TTST 13 + DUAL 3 (I-40)		
** TTST 16 + DUAL 3 (I-77)		
CLASSIFICATION: INTERSTATE		

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-3819B	=	3.885
LENGTH STRUCTURES TIP PROJECT I-3819B	=	0.124
TOTAL LENGTH OF TIP PROJECT I-3819B	=	4.009

Prepared In the Office of:

WSP

1001 Morehead Square Dr., Suite 610, Charlotte, NC 28203
NC LIC NO. F-0165

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 30, 2018

LETTING DATE:
OCTOBER 30, 2018

CHRISTOPHER D. DAVIS, P.E.
PROJECT ENGINEER

ERIC W. SECKINGER, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN
ENGINEER

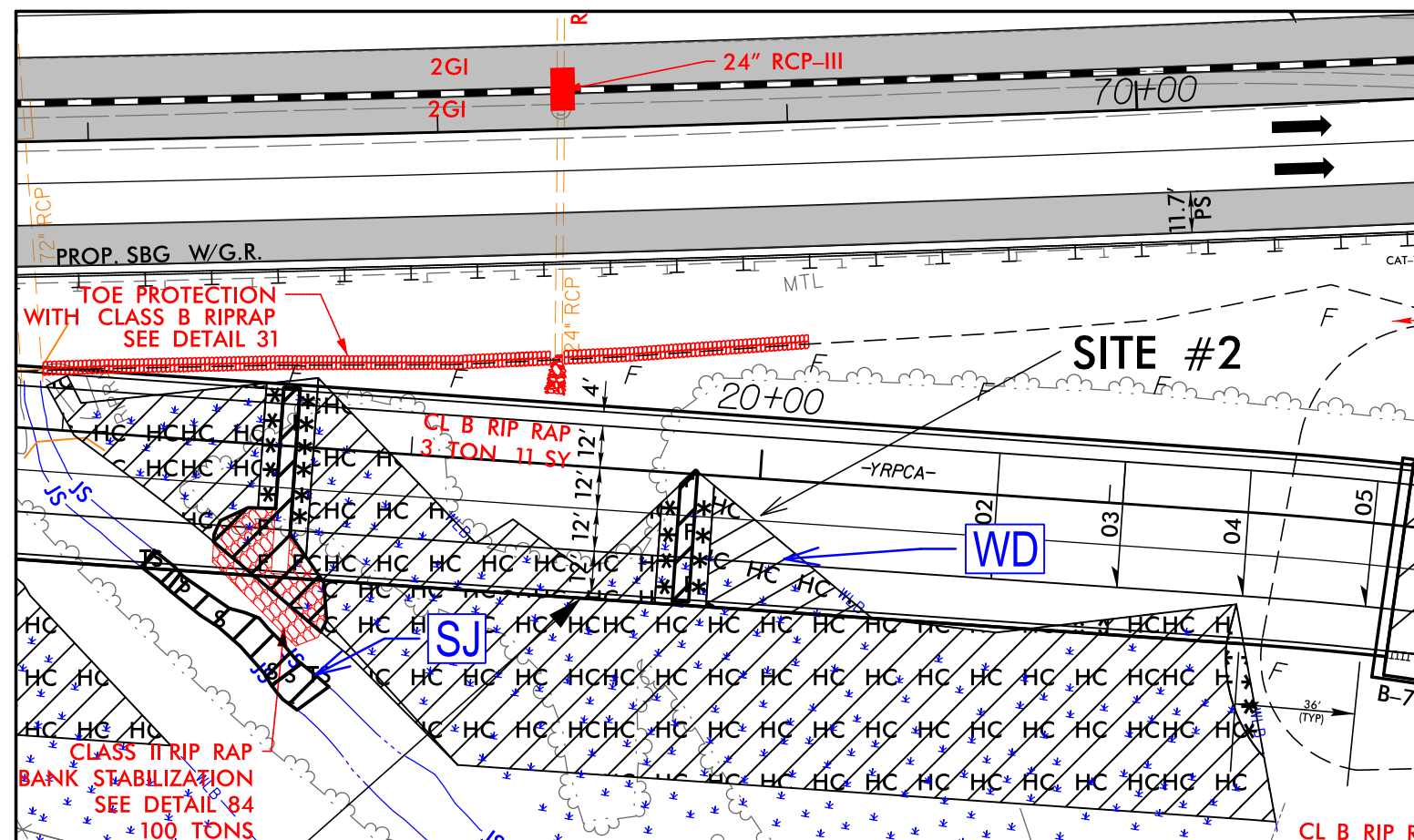
SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



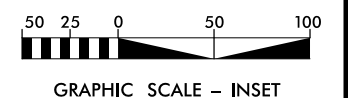
STATE HIGHWAY DESIGN ENGINEER

LANE wsp

[illegible]

	DENOTES FILL IN WETLAND
	DENOTES MECHANIZED CLEARING
	DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 4 OF 67



7/12/2019
\\prodwisc01\ics-workingdir\18236\282468.127067\13819_hyd-prm-psh10A_L10650-13550.dgn
PRIPWIC01\$

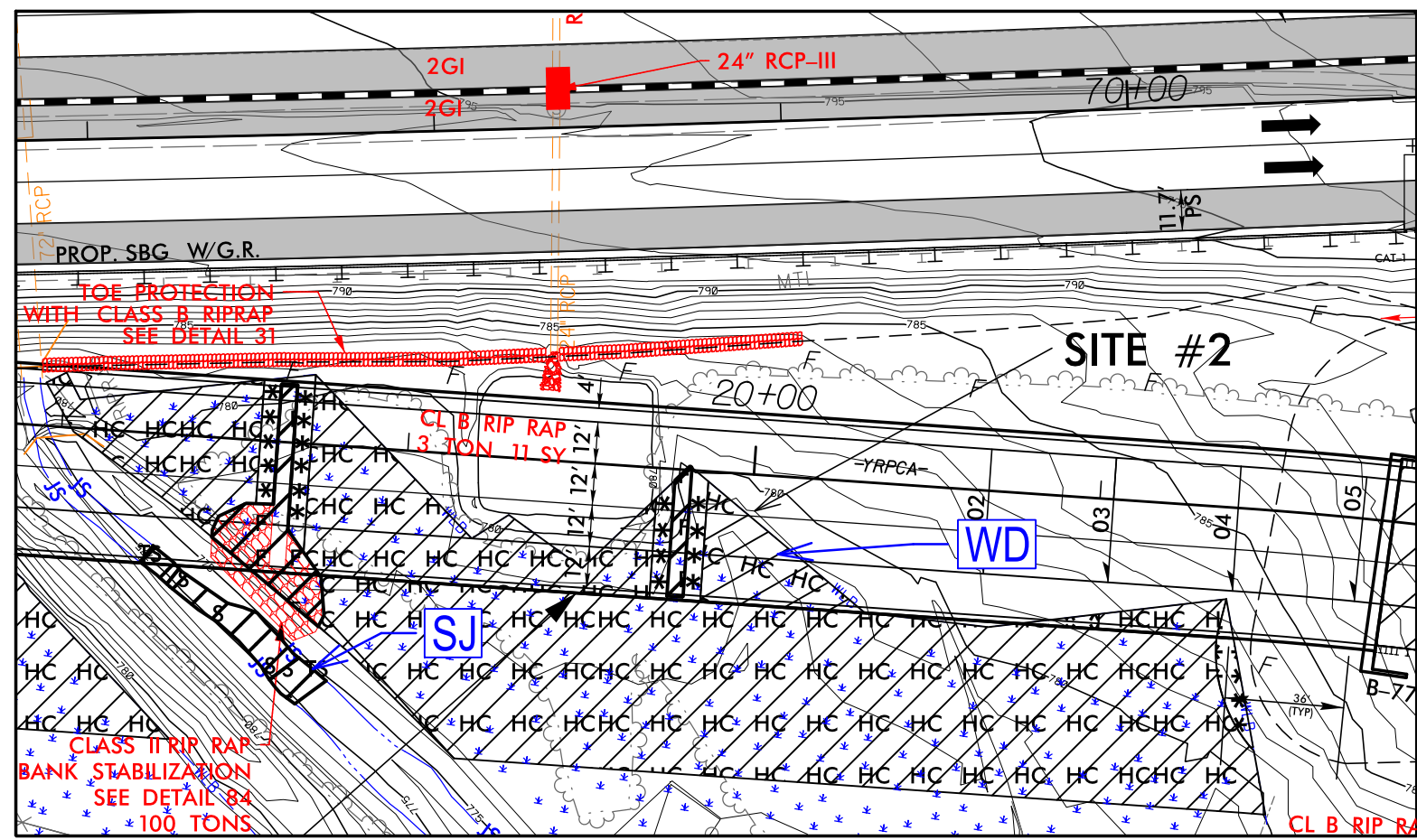
LANE | WSP

DETAIL 84
RIP RAP BANK STABILIZATION
 (Not to Scale)

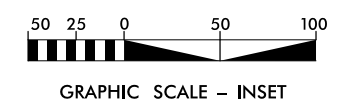
See plan
 Ex. or Pr. Grade
 1.0' min.
 d*
 Do not disturb bed or opposite bank

Type of Liner = CL 1 or CL 2 Rip Rap (see plan)
 *d=18" for CL 1 and 30" for CL 2 (No Geotextile)

—YRPCA— STA. 18 + 65 RT
 —YRPCA— STA. 77 + 00 RT



PERMIT DRAWING
SHEET 5 OF 67



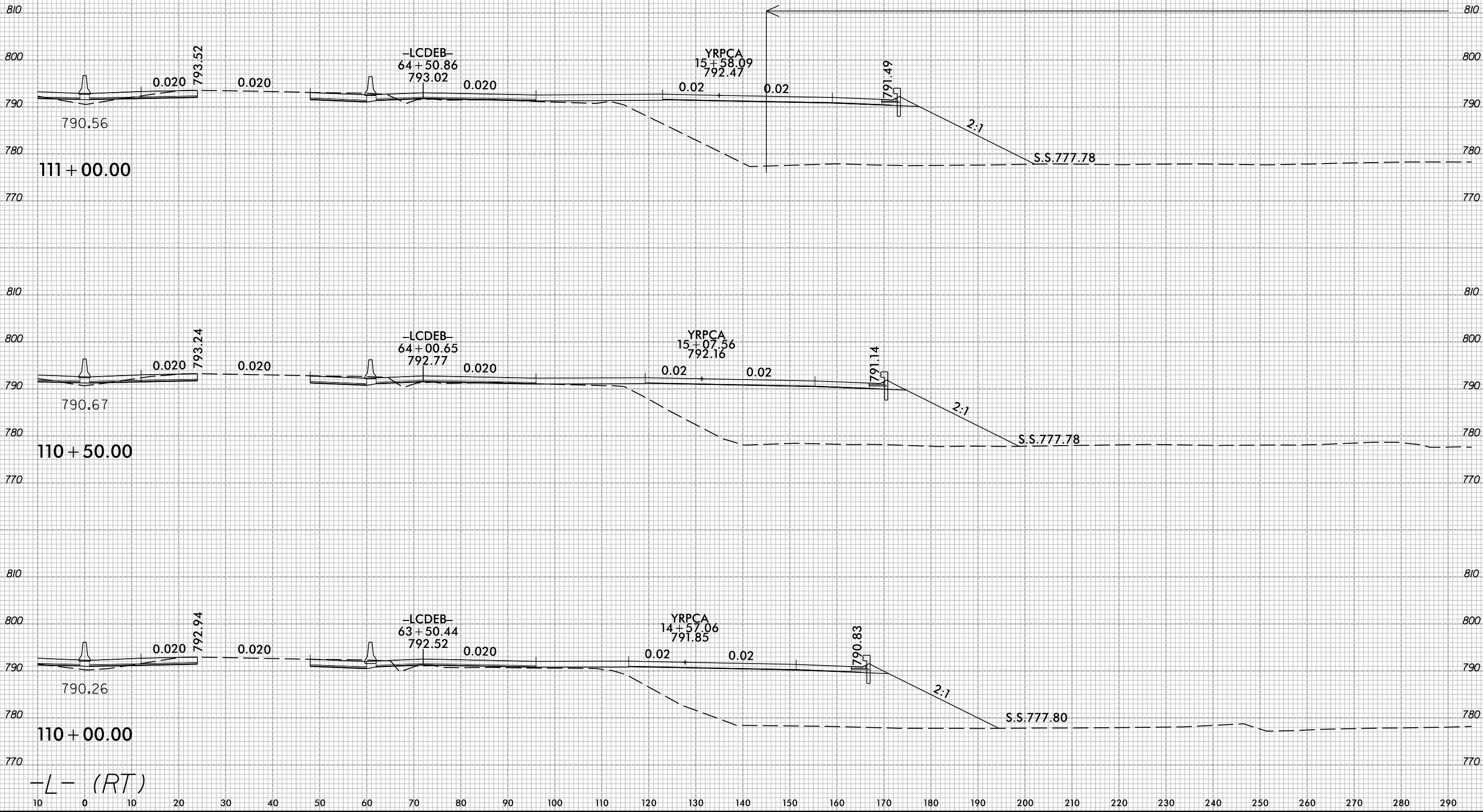
7/12/2019
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PRDP-WIC-501\$

8/23/99

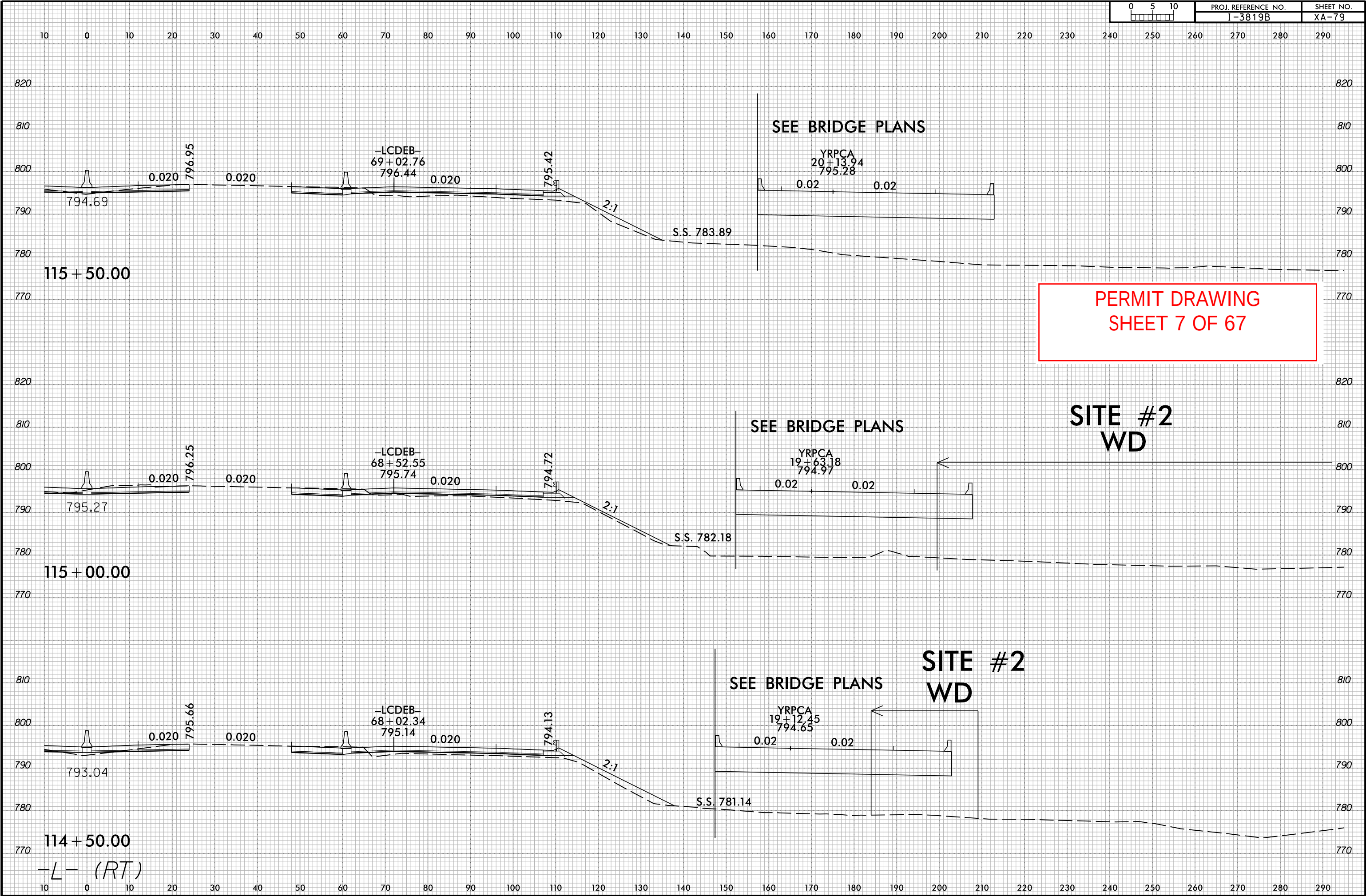
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PERMIT DRAWING
SHEET 6 OF 67

SITE #2
WC

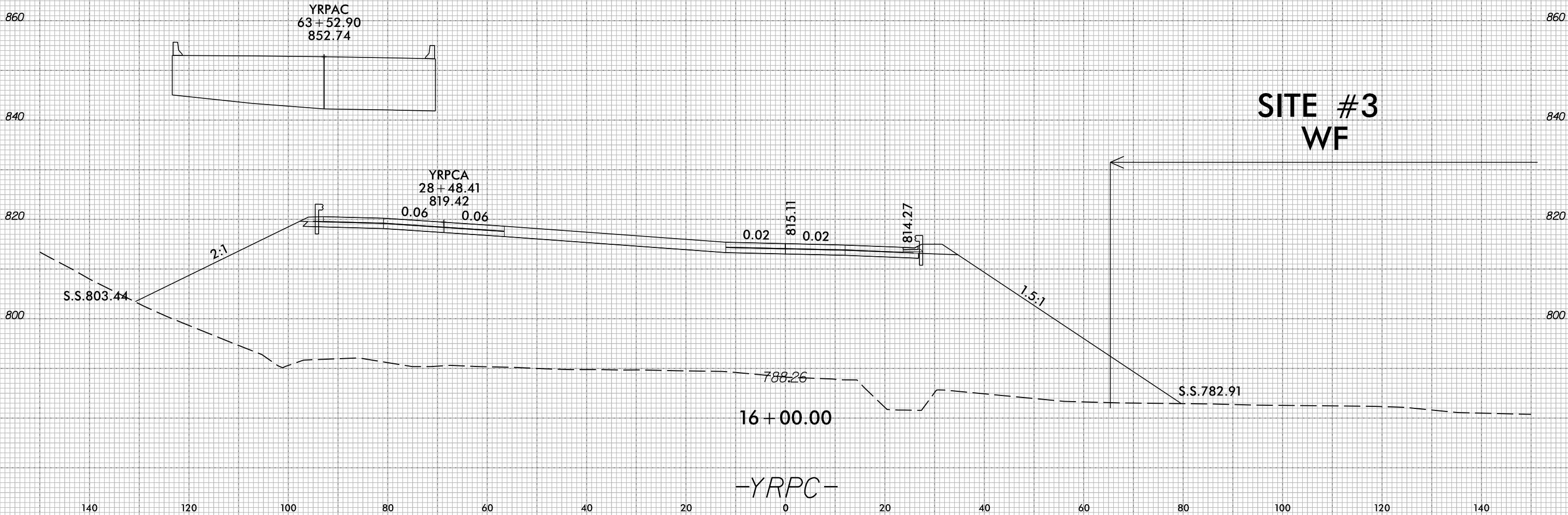


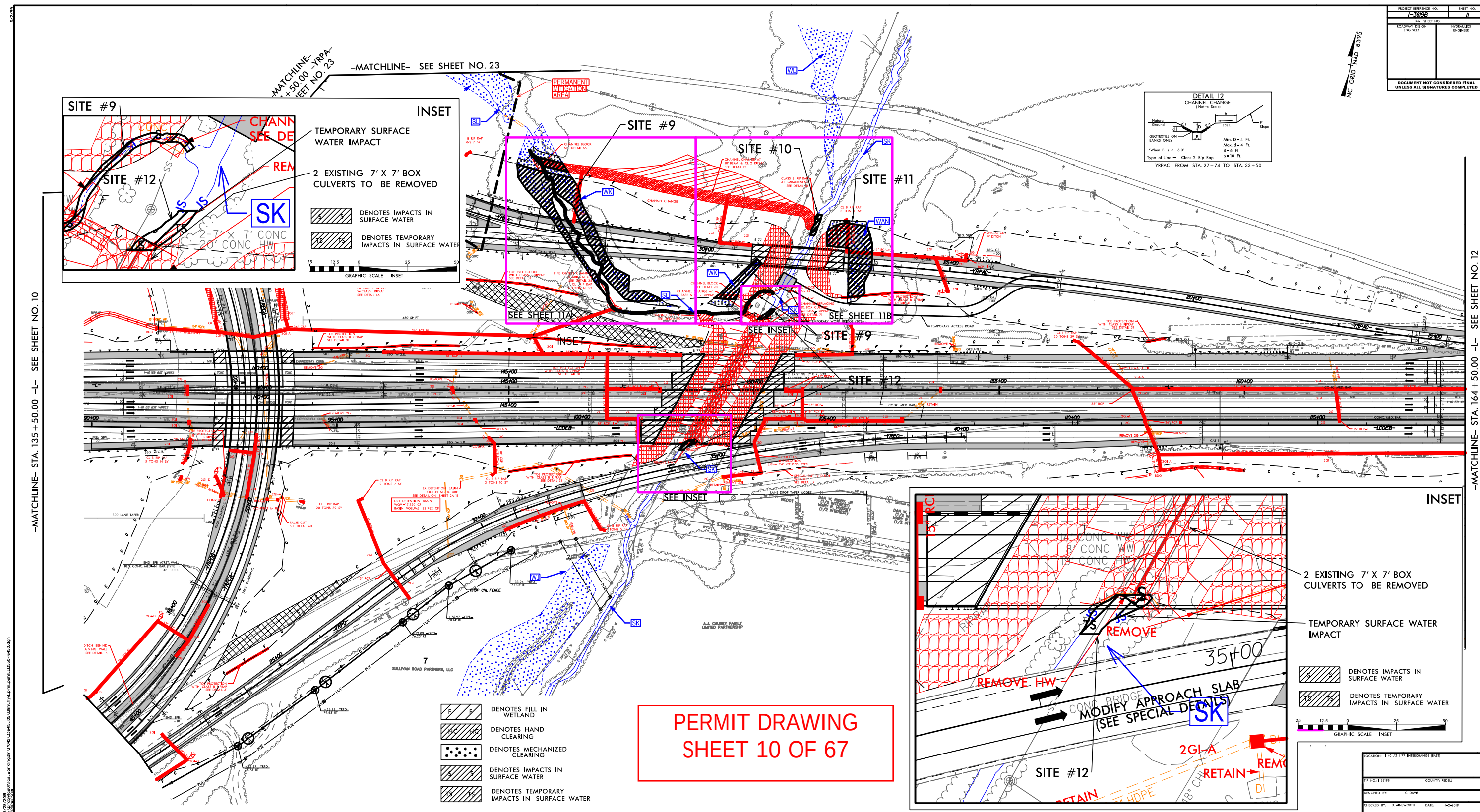
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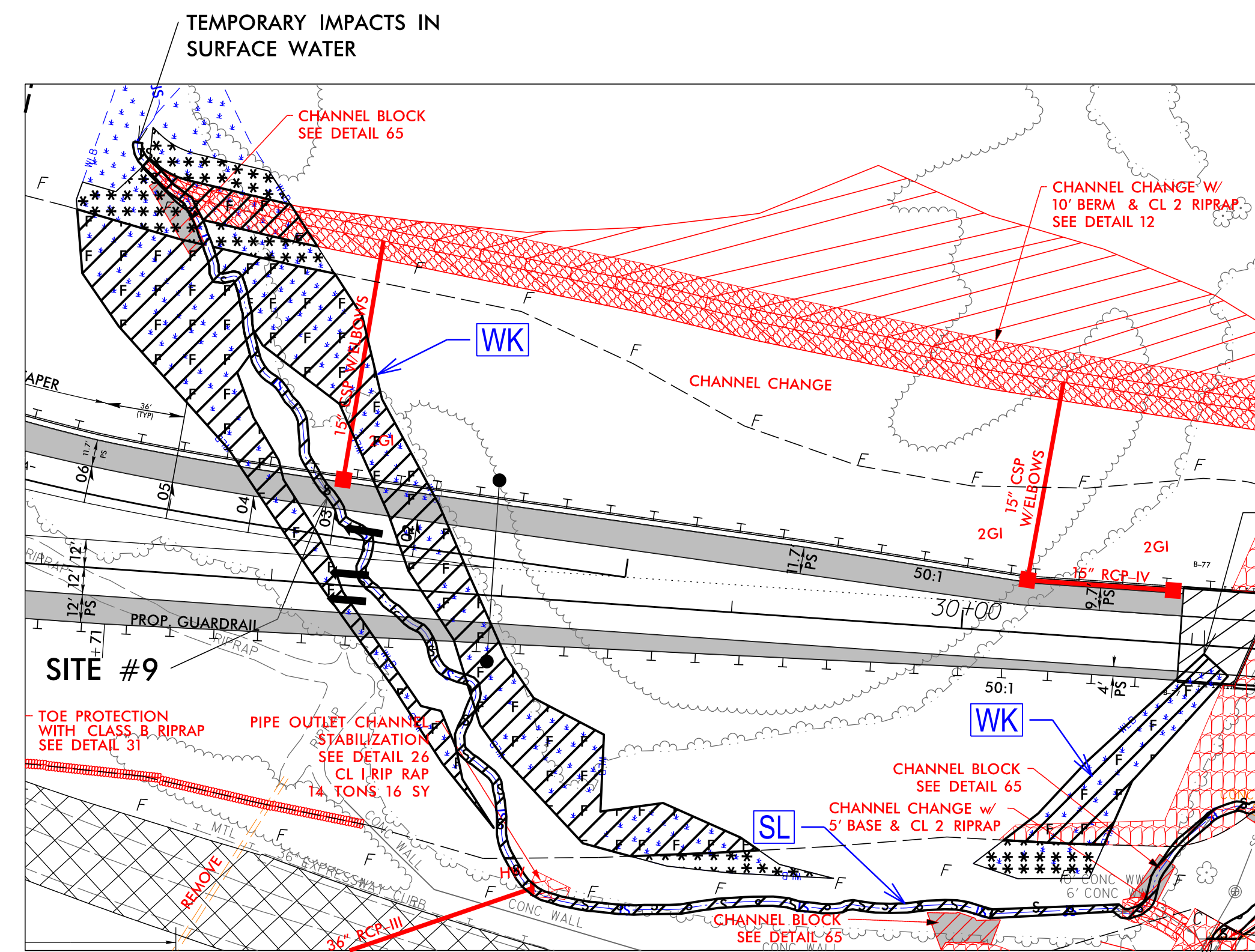
6/23/16

PERMIT DRAWING
SHEET 9 OF 67





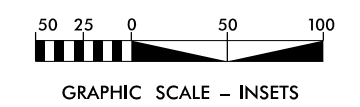
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1-3819B	11A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SITE #9

NC GRID NAD 8395

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

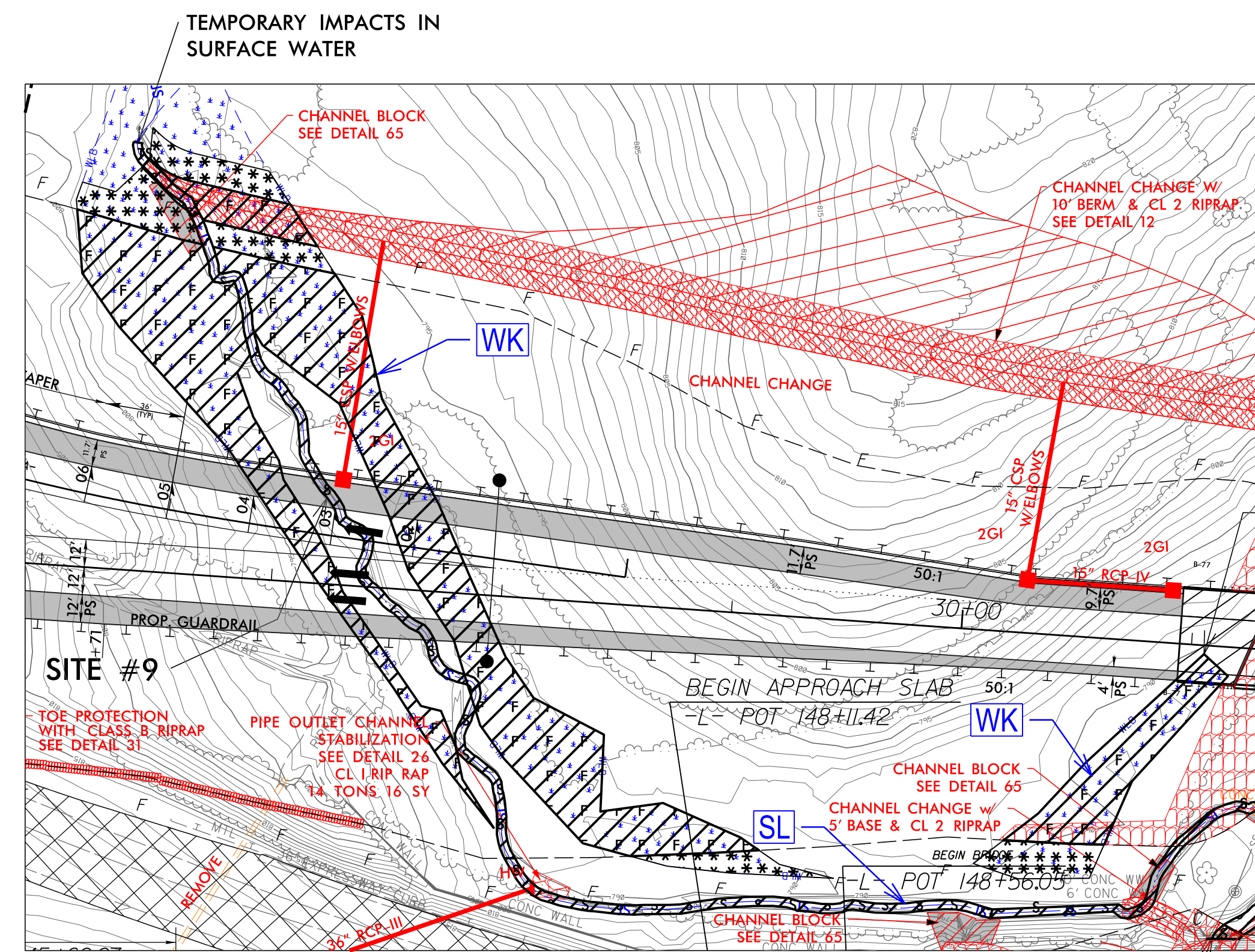


**PERMIT DRAWING
SHEET 12 OF 67**

SITE #12

07/02/19 c:\projectwise\pb\projectwise\becker_j\40339329\13819_hyd_prm_pah11A_L13550-16450.dgn

PROJECT REFERENCE NO.	SHEET NO.
1-3819B	11A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



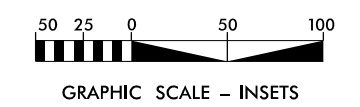
SITE #9

NC GRID NAD 8395

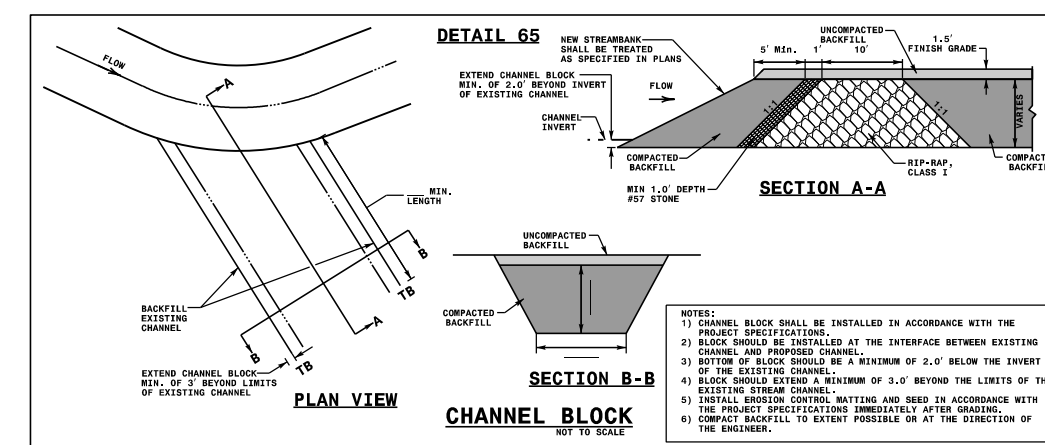
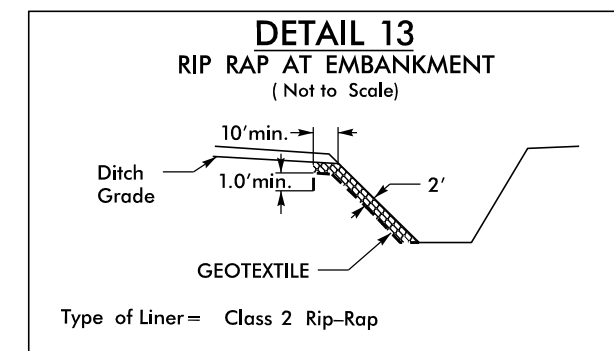
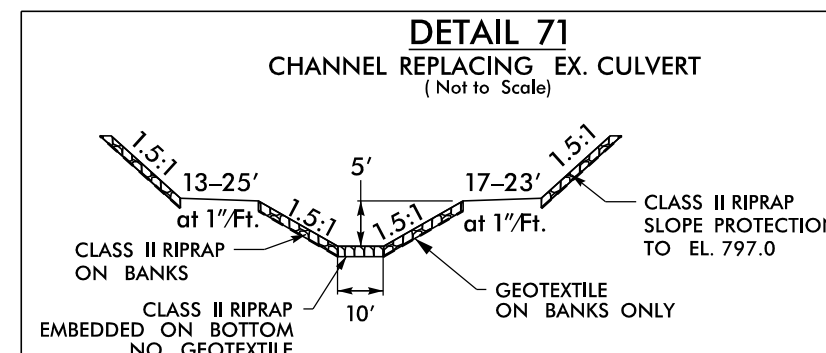
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 13 OF 67

SITE #12

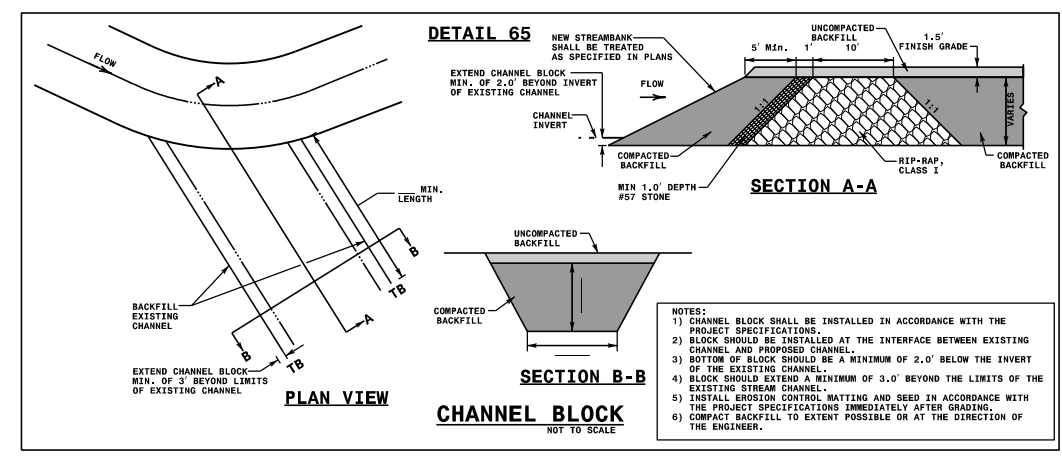
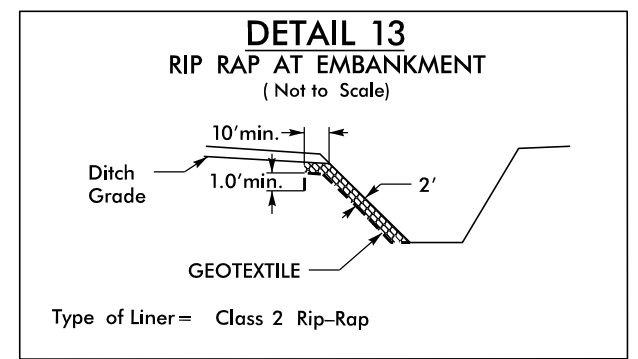
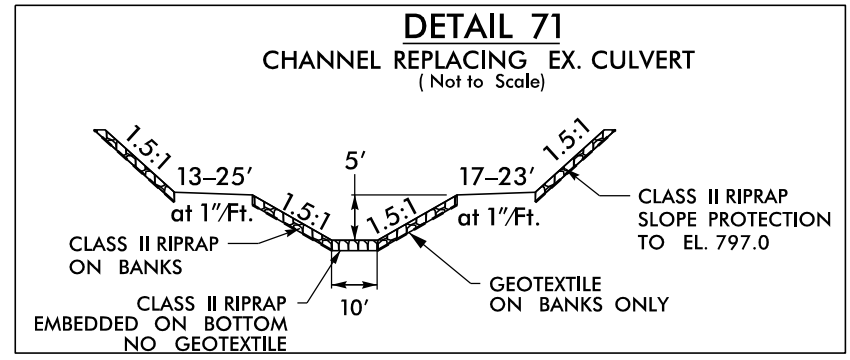
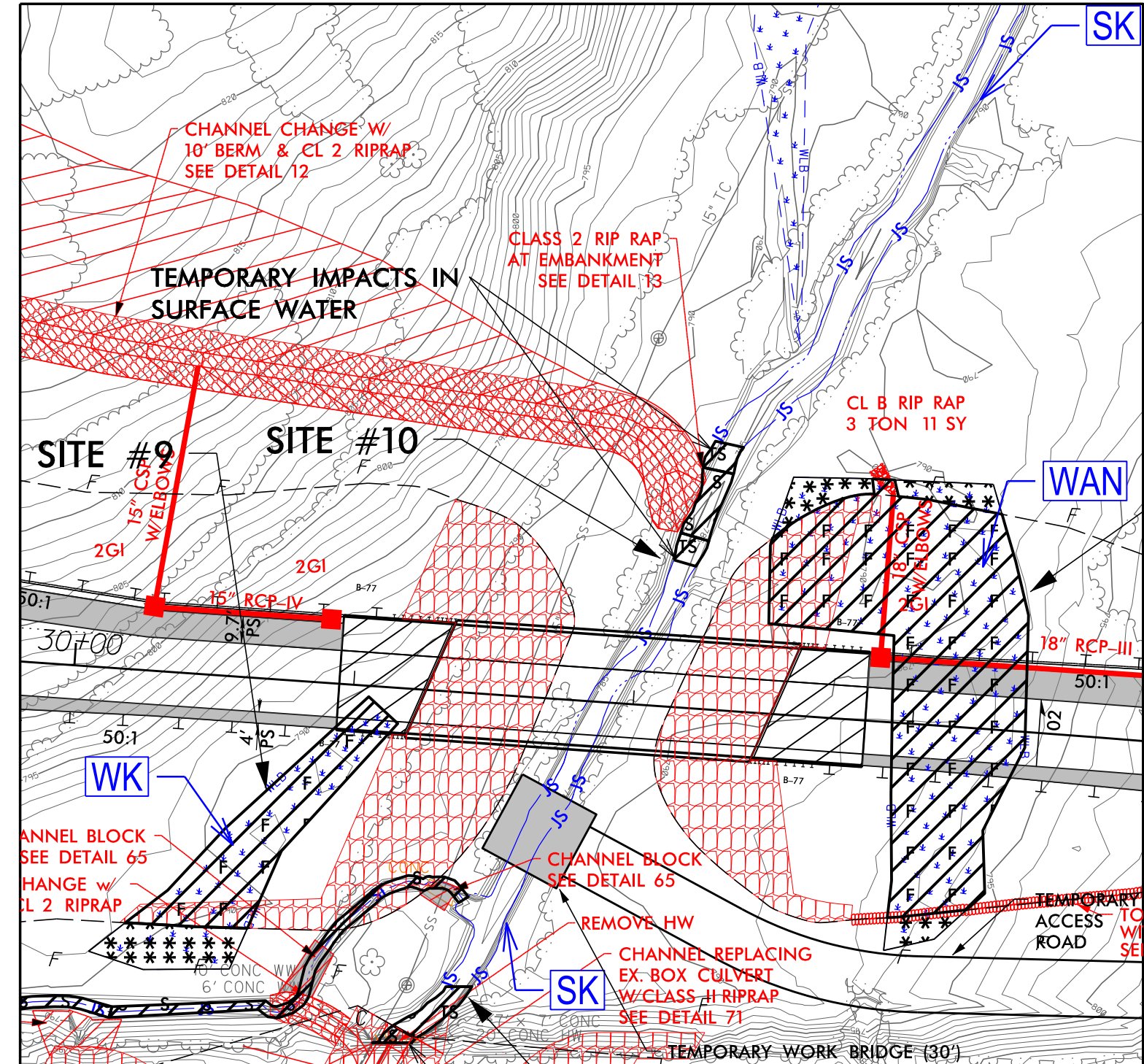


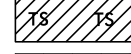
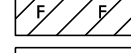
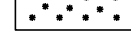
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07/02/19
becker_j

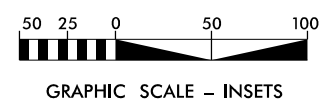


- | | |
|---|---|
|  | DENOTES IMPACTS IN
SURFACE WATER |
|  | DENOTES TEMPORARY
IMPACTS IN SURFACE WATER |
|  | DENOTES FILL IN
WETLAND |
|  | DENOTES MECHANIZED
CLEARING |





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



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07/02/19
becker_jw

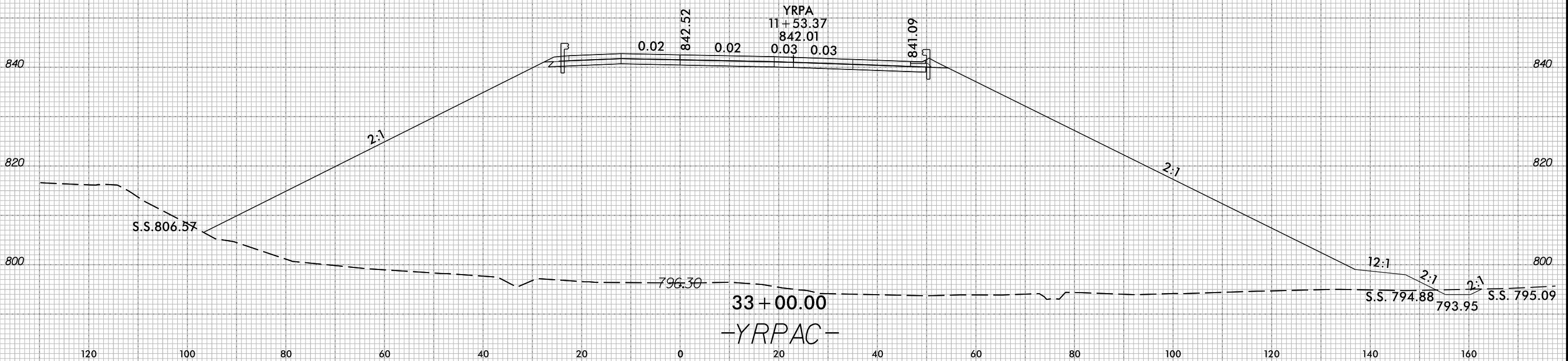
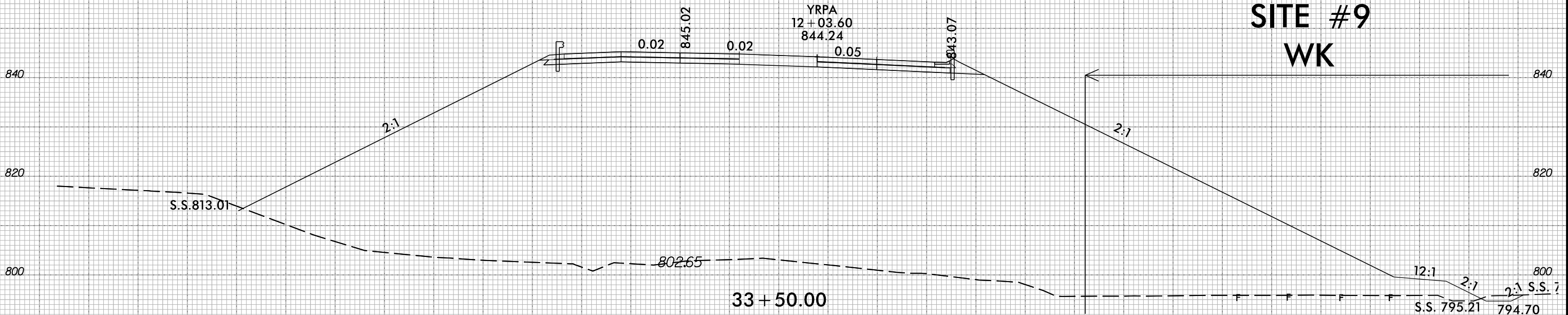
6/23/16

0 5 10 □ □ □ □ □	PROJ. REFERENCE NO. II-3819B	SHEET NO. XA-225
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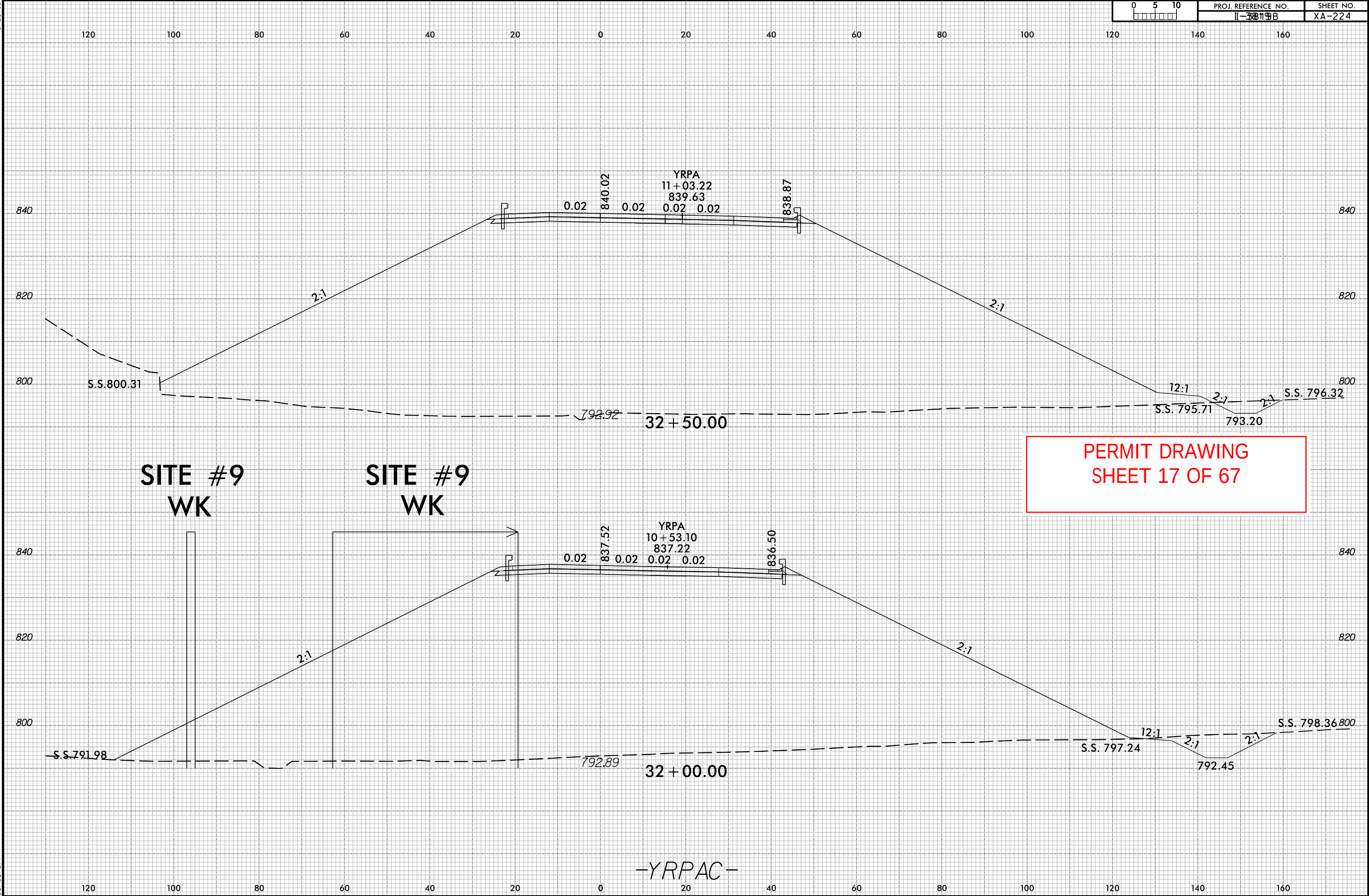
PERMIT DRAWING
SHEET 16 OF 67

SITE #9
WK



5/31/2019
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USN66574

6/23/16

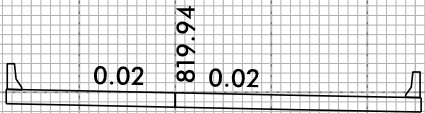


6/23/16

0 5 10 □□□□□	PROJ. REFERENCE NO. II-3819B	SHEET NO. XA-220
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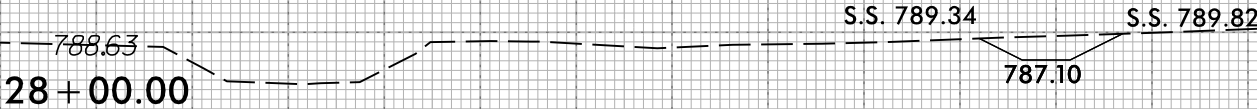
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SEE BRIDGE PLANS

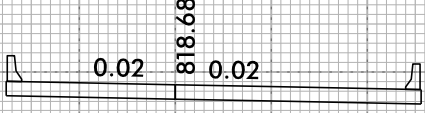


820 820

800 800



SEE BRIDGE PLANS



820 820

800 800

789.88

27 + 50.00

SITE #11
WAN

BEGIN BRIDGE 27 + 50.00

820 820

800 800

S.S. 792.46

2:1

27 + 00.00

817.64

0.02 0.02

816.92

2:1

S.S. 790.18

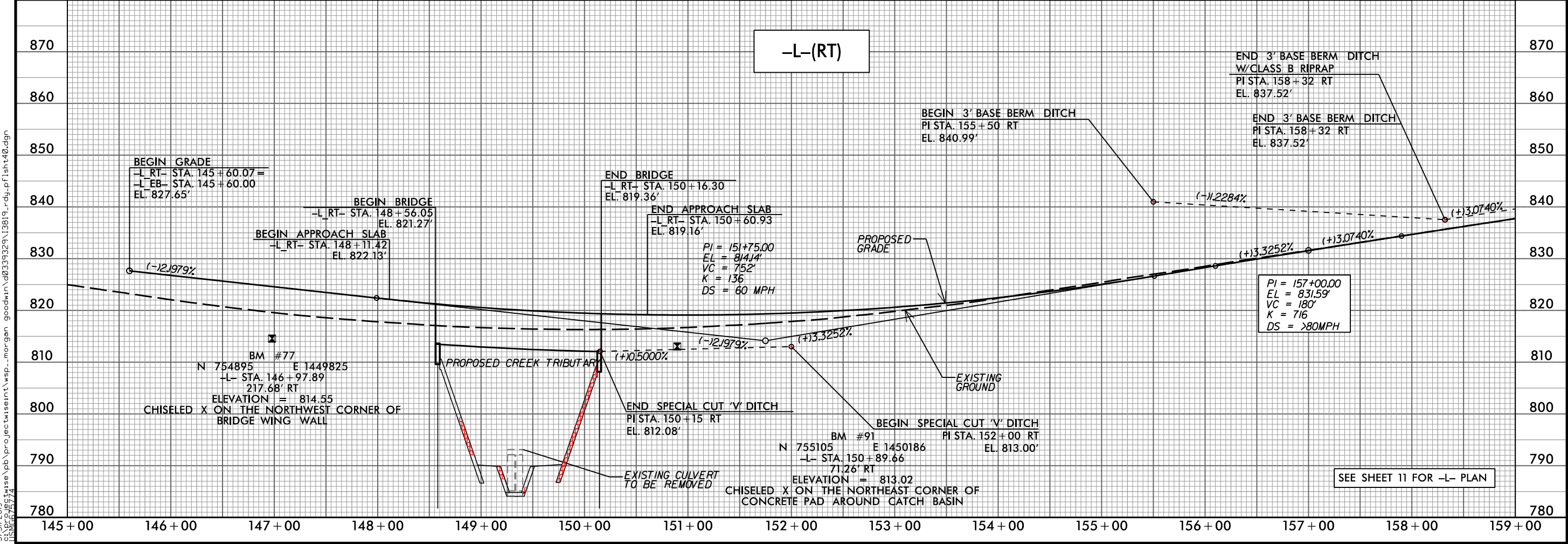
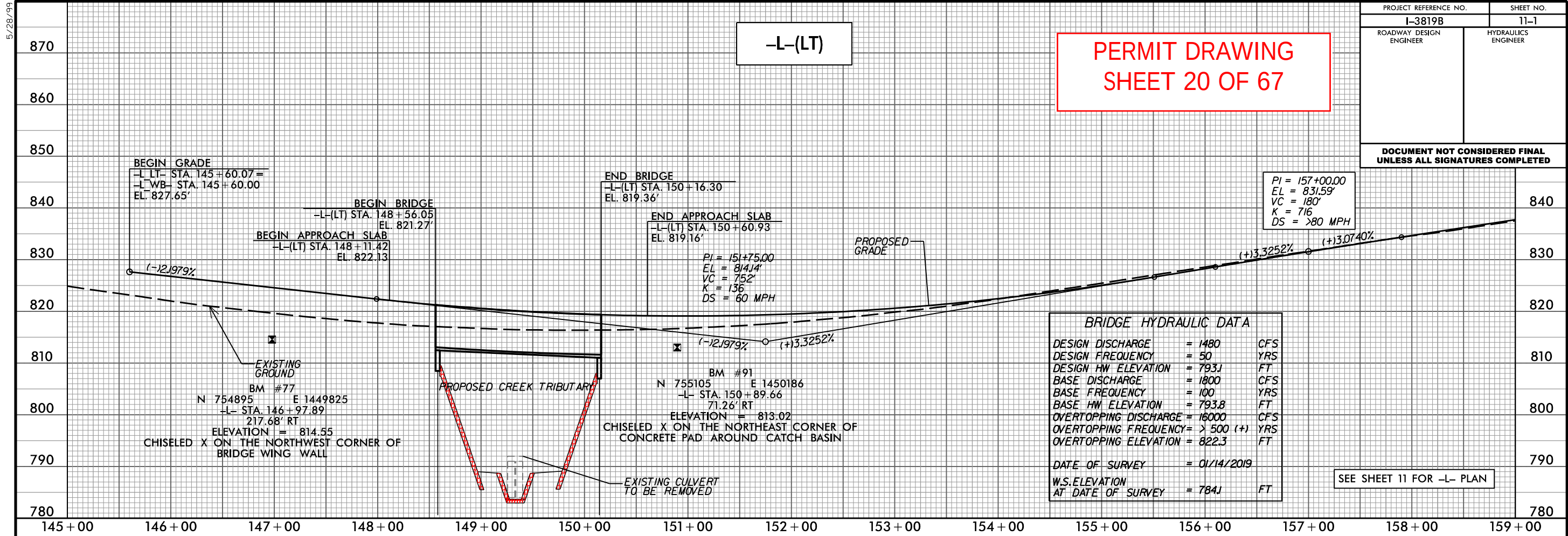
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5/31/2019
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5/28/99

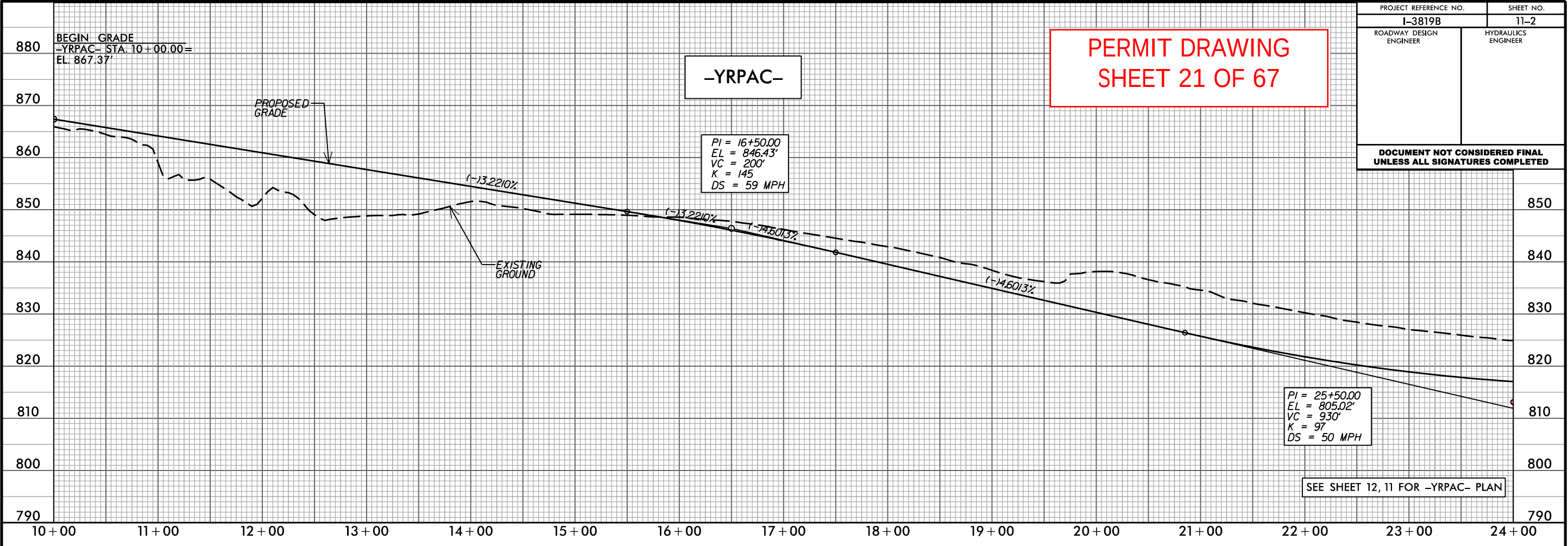
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I-3819B		11-1
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER



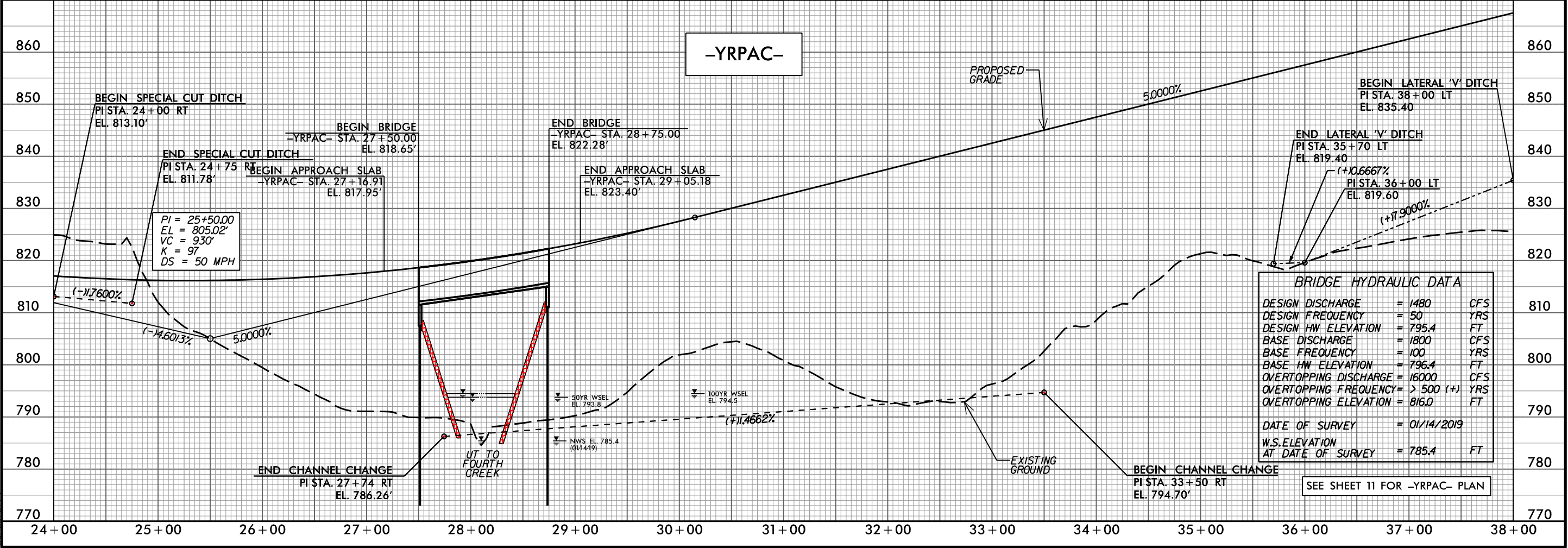
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PROJECT REFERENCE NO.		SHEET NO.
I-3819B		11-2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



PERMIT DRAWING
SHEET 22 OF 67

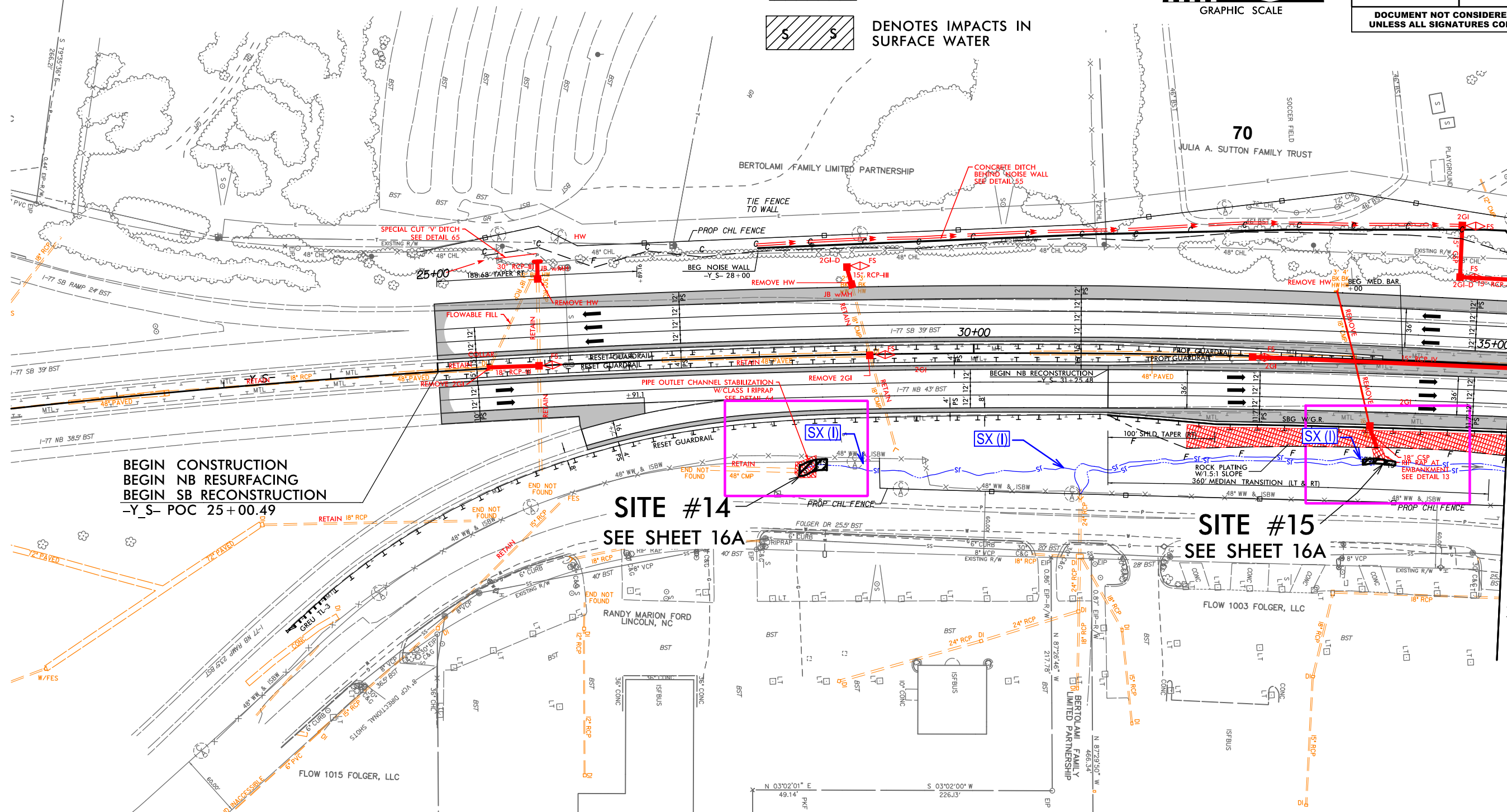
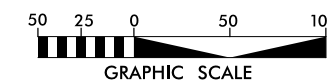
TS TS

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

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

DENOTES IMPACTS IN
SURFACE WATER

NC GRID + NAD 83/95



BEGIN CONSTRUCTION
 BEGIN NB RESURFACING
 BEGIN SB RECONSTRUCTION
 -Y S- POC 25+00.49

SITE #14
SEE SHEET 16A

SITE #15
SEE SHEET 16A

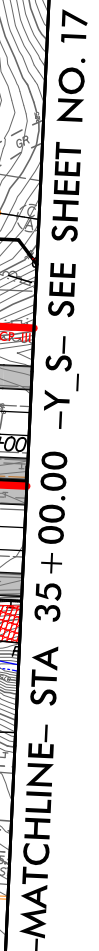
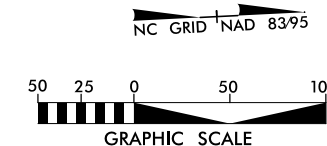
-MATCHLINE- STA 35 + 00.00 -Y_S- SEE SHEET NO. 17

-Y-S-

<i>Pls Sta</i> 20+35.76	<i>Pl Sta</i> 27+24.08	<i>Pls Sta</i> 34+10.24
$\theta_s = 0^\circ 39' 58.4''$	$\Delta = 8^\circ 16' 07.9''$ (RT)	$\theta_s = 0^\circ 39' 58.4''$
$L_s = 200.00'$	$D = 0^\circ 39' 58.4''$	$L_s = 200.00'$
$LT = 133.33'$	$L = 1,241.4'$	$LT = 133.33'$
$ST = 66.67'$	$T = 621.65'$	$ST = 66.67'$
	$R = 8,600.00'$	
	$SE = RC$	
	$DS = 60 \text{ MPH}$	

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

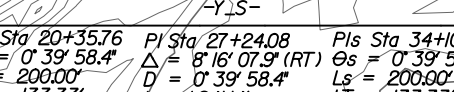
 DENOTES IMPACTS IN SURFACE WATER



BEGIN CONSTRUCTION
BEGIN NB RESURFACING
BEGIN SB RECONSTRUCTION
-Y S- POC 25+00.49

SITE #14
SEE SHEET 16A

SITE #15
SEE SHEET 16A



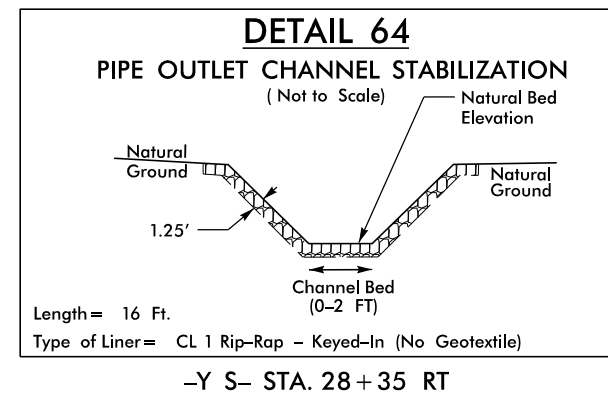
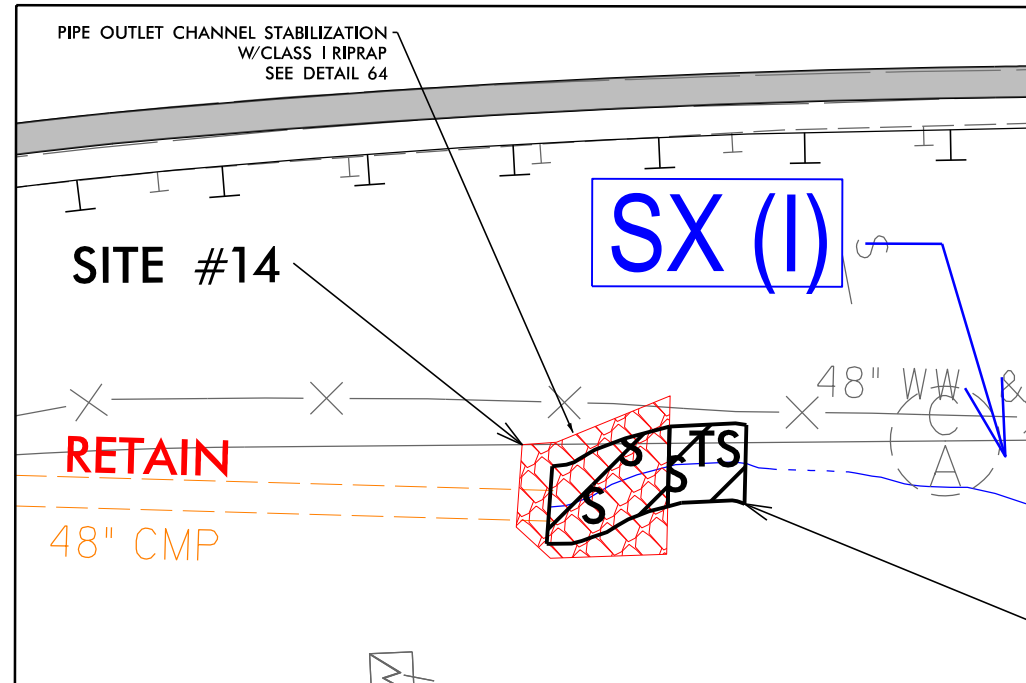
Pls Sta 20+35.76
 $\phi_s = 0^\circ 39' 58.4''$
 $L_s = 200.00'$
 $LT = 133.33'$
 $ST = 66.67'$

Pls Sta 27+24.08
 $\Delta = 8^\circ 16' 07.9''$ (RT)
 $D = 0^\circ 39' 58.4''$
 $L = 124.14'$
 $T = 62.165'$
 $R = 8,600.00'$
 $SE = RC$
 $DS = 60$ MPH

Pls Sta 34+10.24
 $\phi_s = 0^\circ 39' 58.4''$
 $L_s = 200.00'$
 $LT = 133.33'$
 $ST = 66.67'$

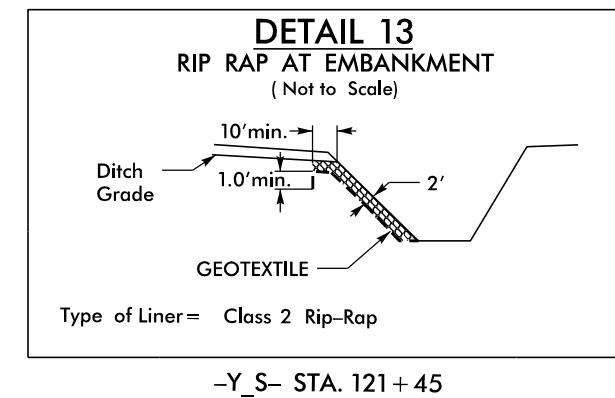
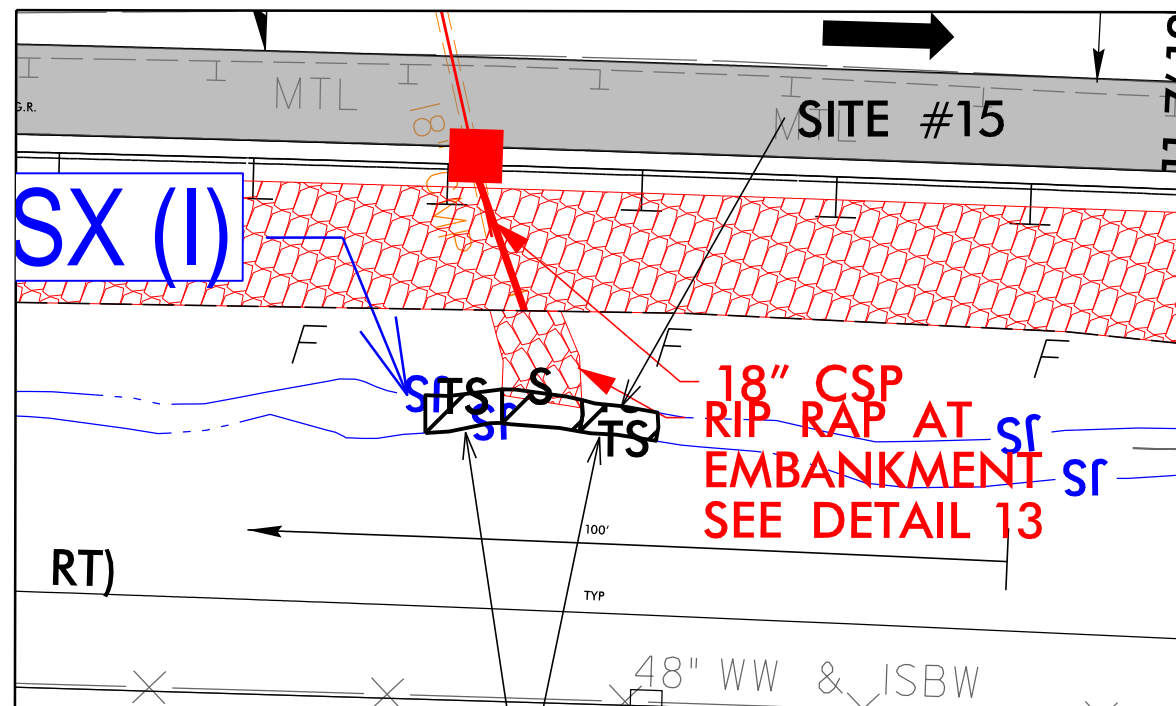
PROJECT REFERENCE NO.	SHEET NO.
1-3819B	16A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

INSET



TEMPORARY IMPACTS IN
SURFACE WATER

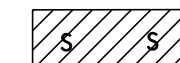
INSET



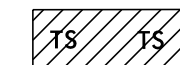
TEMPORARY IMPACTS IN
SURFACE WATER

PERMIT DRAWING
SHEET 24 OF 67

NC GRID NAD 83/95



DENOTES IMPACTS IN
SURFACE WATER

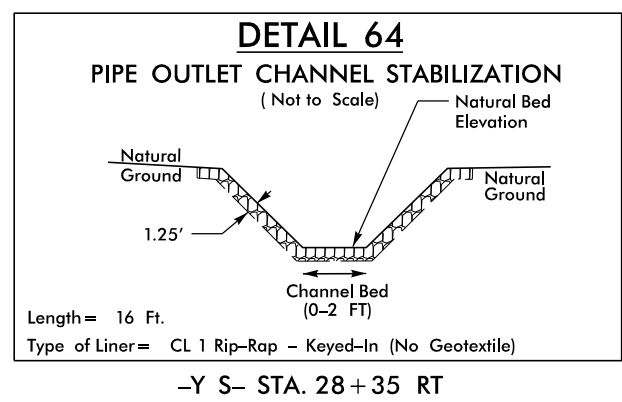
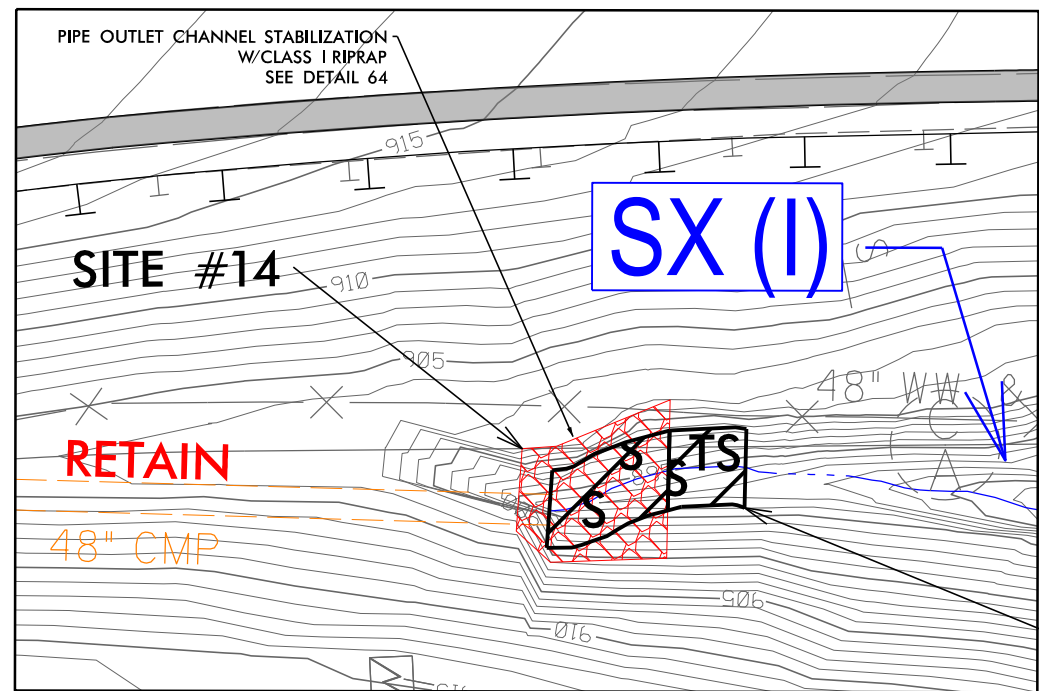


DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



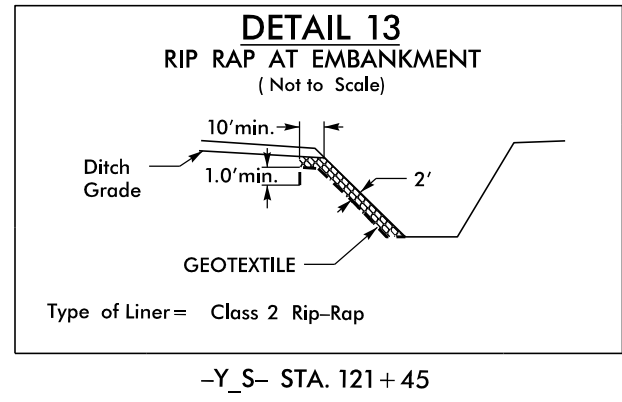
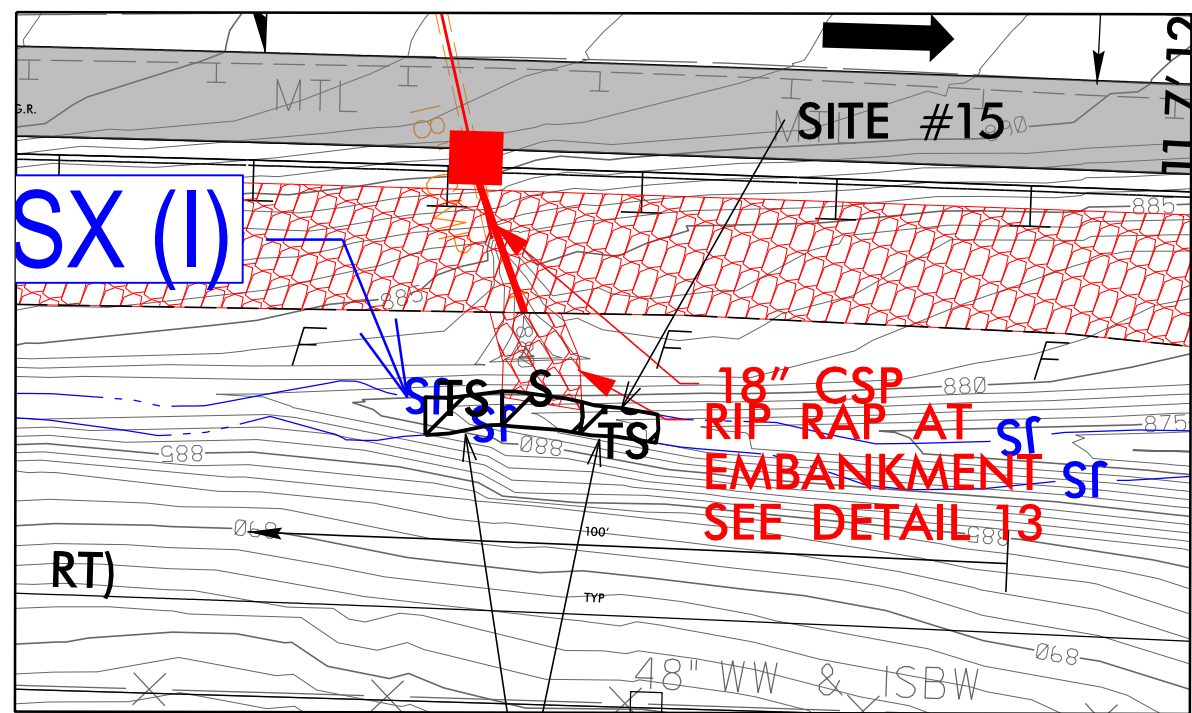
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1-3819B	16A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

INSET



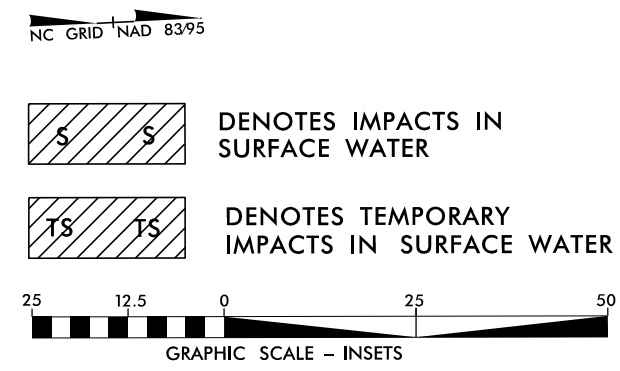
TEMPORARY IMPACTS IN
SURFACE WATER

INSET



PERMIT DRAWING
SHEET 25 OF 67

TEMPORARY IMPACTS IN
SURFACE WATER



07/12/19
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becker_jw

NC GRID + NAD 83/95

50 25 0 50 10

GRAPHIC SCALE

SW

SITE #19

25 12.5 0 25 50

GRAPHIC SCALE - INSET

REMOVE HW

w/MH

OTCB

-MATCHLINE- STA 35 + 00.00 -Y S- SEE SHEET NO

SITE #17

SEE SHEET 17A

SITE #16

SEE INSET

SITE #18

SEE SHEET 17A

SITE #19

SEE INSET

-MATCHLINE- STA 49 + 00.00 -Y S- SEE SHEET NO. 18

SBG W/G.R.

COLLAR

SX (I)

SX (I)

54" RCP-III

SITE #16

ROCK PLATING
W/1.5:1 SLOPE

ROCK PLATING
W/1.5:1 SLOPE

TEMPORARY IMPACTS IN
SURFACE WATER

INLET CHANNEL STABILIZATION

HW

INSET

A rectangular area with diagonal hatching (lines from top-left to bottom-right) containing two 'S' symbols.

TS TS

DENOTES IMPACTS IN
SURFACE WATERDENOTES TEMPORARY
IMPACTS IN SURFACE WATER

25 12.5 0 25 50

GRAPHIC SCALE - INSET

7/2/2019
 \\prodovices01\ics-workingqdir\18236\282468.127054\13819_hyd-prm-psh17_y3500-4900.dgn

SW

SITE #19

25 12.5 0 25 50

GRAPHIC SCALE - INSET

-MATCHLINE- STA 35 + 00.00 -Y S- SEE SHEET NO

SITE #17
E SHEET 17A

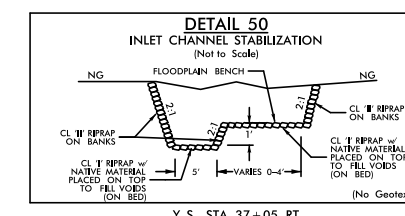
SITE #16
SEE INSET

SITE #18
SEE SHEET 17A

SITE #19
SEE INSET

-MATCHLINE- STA 49 + 00.00 -Y S- SEE SHEET NO. 18

INSET



A rectangular block with diagonal hatching from the top-left to the bottom-right. Two capital letters 'S' are placed within the block, one on the left and one on the right.

DENOTES IMPACTS IN
SURFACE WATER

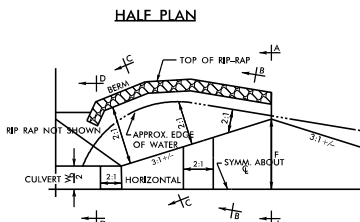
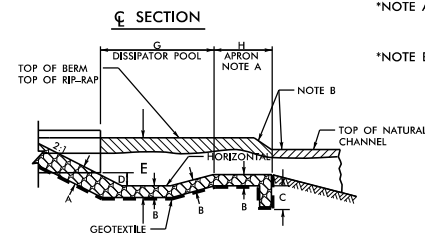
TS TS

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

25 12.5 0 25

GRAPHIC SCALE - INSET

RIP-RAPPED ENERGY DISSIPATOR BASIN



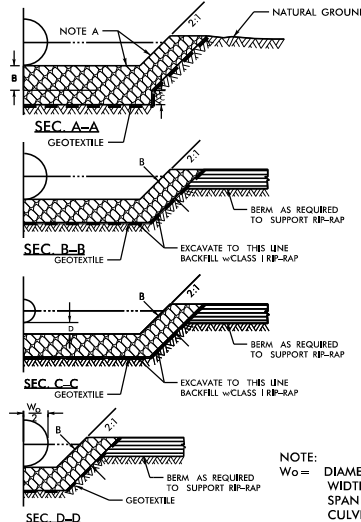
DIM.	RIP RAP BASIN #							
	1	2	3	4	5	6	7	8
A	30"	30"						
B	20"	20"						
C	16"	16"						
D	1'	1.25'						
E	3.5'	4'						
F	6.3'	10'						
G	10'	17'						
H	5'	6'						

BASIN #	LOCATION (AT OUTLET)
1	-YRPCA- 22+95, 162 RT
2	-Y S- 47+61, 142 LT
3	
4	
5	
6	
7	
8	

*NOTE A: IF EXIT VELOCITY OF BASIN IS SPECIFIED, EXTEND BASIN AS REQUIRED TO OBTAIN SUFFICIENT CROSS SECTIONAL AREA AT SECTION A-A SUCH THAT $Q_{des}/(\text{CROSS SECTION AREA AT SEC. A-A}) = \text{SPECIFIED VELOCITY}$.

*NOTE B: WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL TOP OF RIP-RAP IN FLOOR OF BASIN SHOULD BE AT SAME ELEVATION OR LOWER THAN NATURAL CHANNEL BOTTOM AT SEC. A-A. PROVIDE SMOOTH TRANSITION FROM END OF APRON TO NATURAL CHANNEL WIDTH.

*NOTE B: WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL. TOP OF RIP-RAP IN FLOOR OF BASIN SHOULD BE AT SAME ELEVATION OR LOWER THAN NATURAL CHANNEL BOTTOM AT SEC. A-A. PROVIDE SMOOTH TRANSITION FROM END OF APRON TO NATURAL CHANNEL WIDTH.

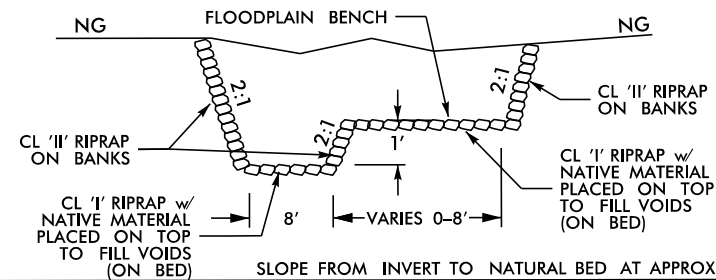


NOTE:
W₀ = DIAMETER OF PIPE,
WIDTH OF BOX OR
SPAN OF PIPE-ARCH
CULVERTS

5/05

OUTLET CHANNEL STABILIZATION

(Not to Scale)



SLOPE FROM INVERT TO NATURAL BED AT APPROX. 5%

—Y_S— STA. 37+95 LT

PLACEMENT DEPTH:
CL 1 - 24"
CL 2 - 30"
(No Geotextile)

PERMIT DRAWING
SHEET 28 OF 67

NC GRID + NAD 83/95

DENOTES IMPACTS IN
SURFACE WATER

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



SX (P)

JTLET CHANNEL
 STABILIZATION
 SEE DETAIL 48
 CL I RIP RAP
 136 TONS
 CL II RIP RAP
 238 TONS

SITE #17

TEMPORARY IMPACTS IN SURFACE WATER

INSET SITE #18

TEMPORARY IMPACTS IN SURFACE WATER

SW

CL B RIP RAP
1 TONS 5 SY

MOVE HW

RIP RAP ENERGY
DISSIPATOR BASIN #1
CL 1 RIP RAP
SEE DETAIL 32

~~JB w/MH~~
~~(DROP BOX)~~

TB 2G

SFB W/NOISE WALL

COL

SFB W/NOISE WALL

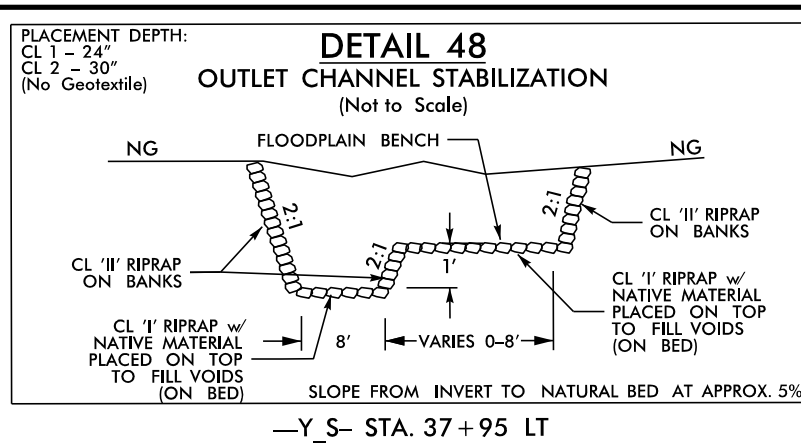
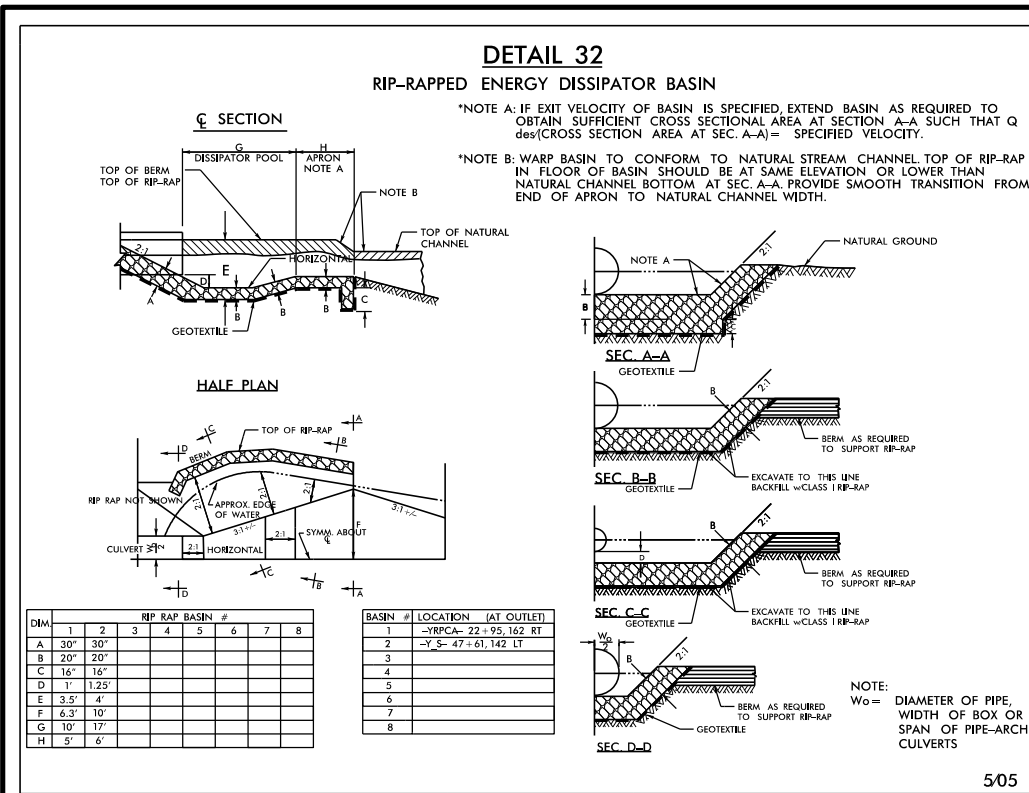
LESS INSTALLED STEEL

REMOVE

TB

151

07/12/19
C:\projectwise\projectwiseint\becker\jw\d0339329\13819_hyd.prm.psh17A_Y3500-4900.dgn



LANE

WSP

PERMIT DRAWING
SHEET 29 OF 67

PROJECT REFERENCE NO.
1-3819B

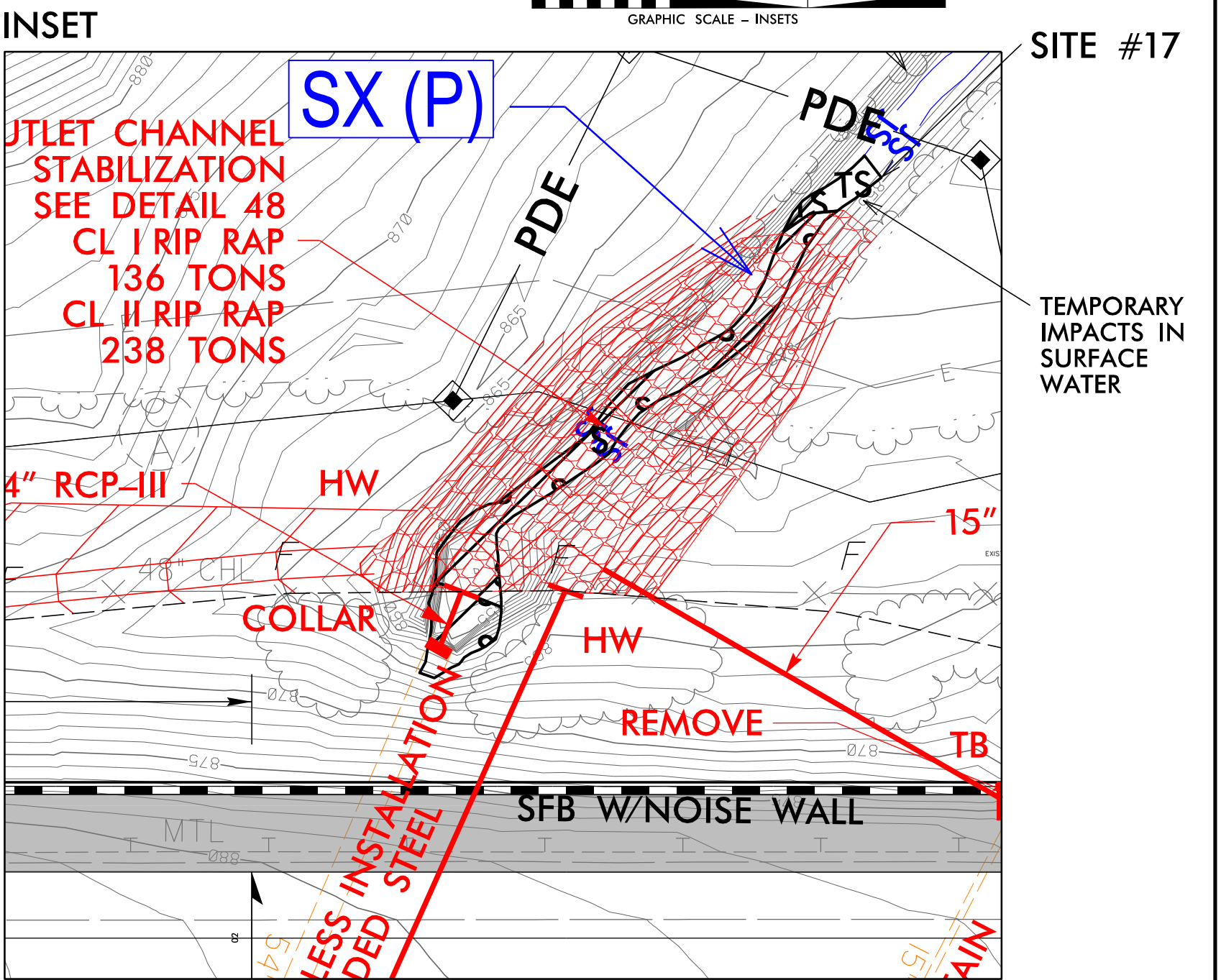
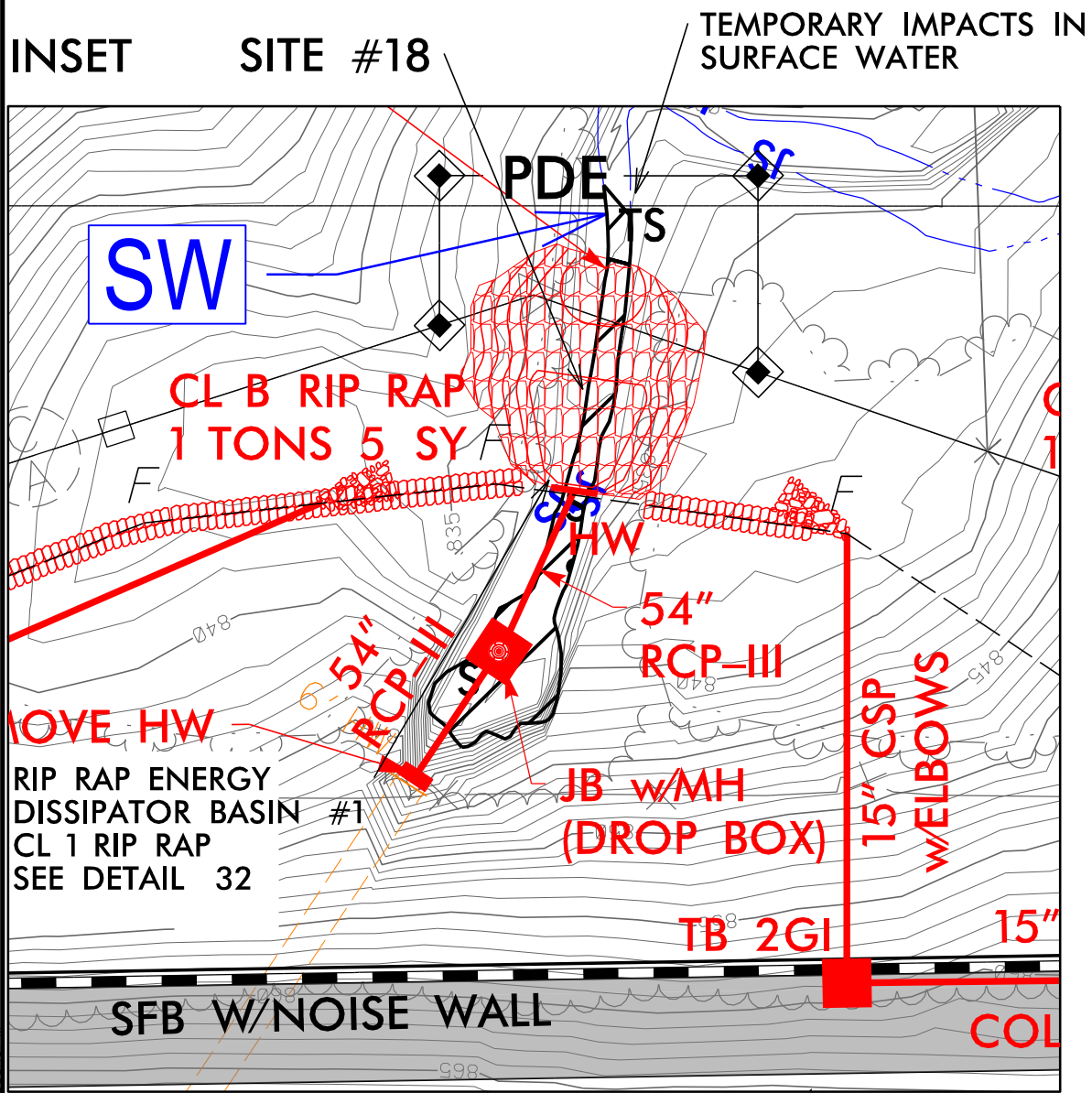
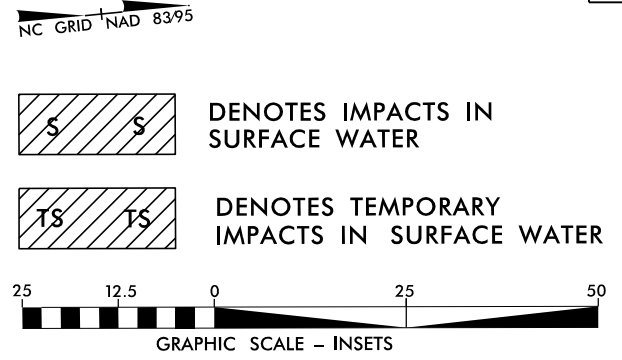
SHEET NO.
17A

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



07/12/19
c:\projects\wise\p\project\wise\becker\w\03339329\13819_hyd_prm-ph17A_Y3500-4900.dgn
becker

PERMIT DRAWING
SHEET 30 OF 67

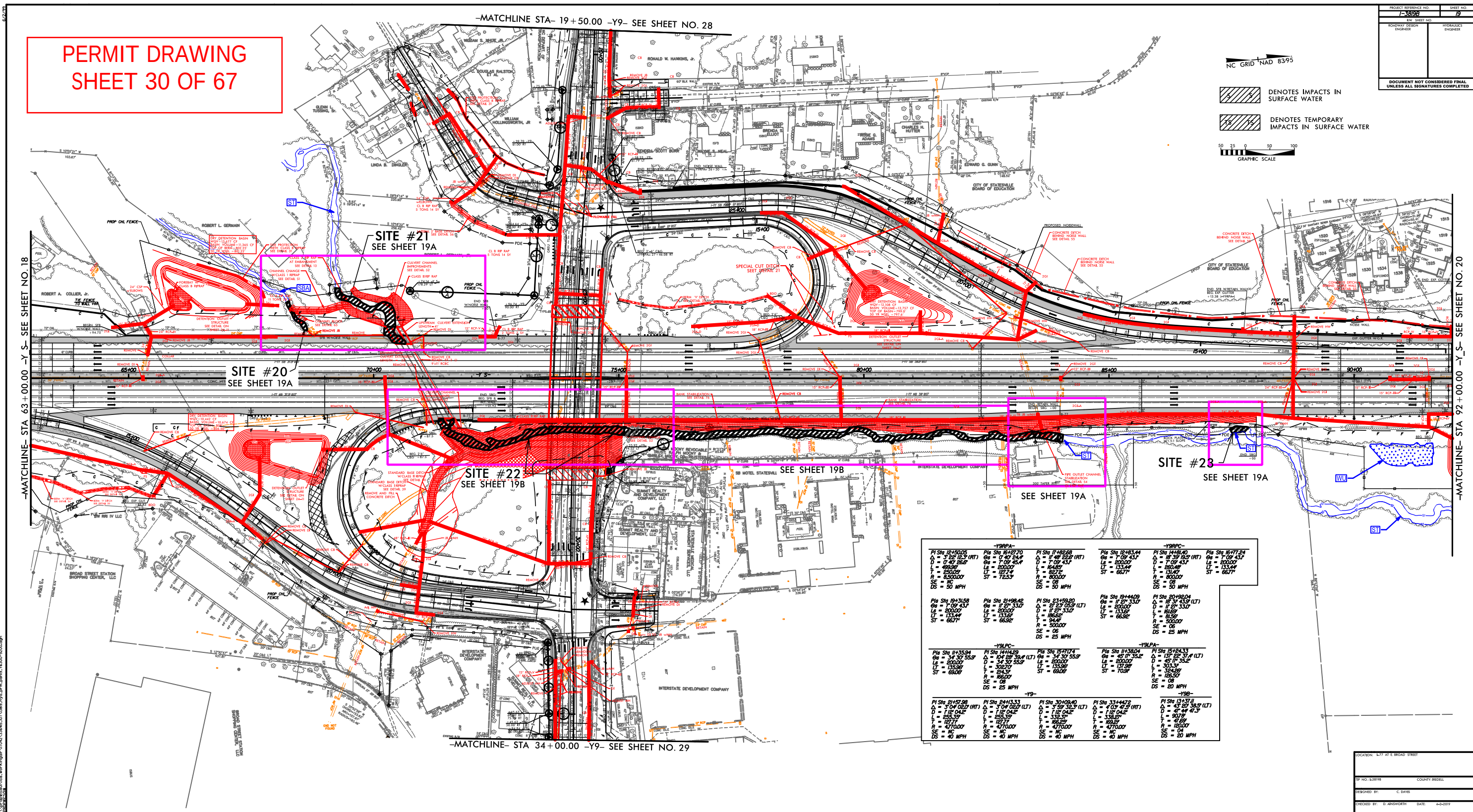
PROJECT REFERENCE NO.	7-3858	SHEET NO.	30
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

NC GRID NAD 8395

50 25 0 25 50 100
GRAPHIC SCALE

5/5 DENOTES IMPACTS IN
SURFACE WATER

15/15 DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



-Y9RPA-		-Y9RPA-		-Y9RPA-	
PI Sta 16+50.00	PI Sta 16+52.70	PI Sta 17+48.68	PI Sta 18+83.44	PI Sta 19+44.09	PI Sta 20+92.04
Δ = 7' 09" 43.1"	Δ = 7' 09" 43.1"	Δ = 7' 09" 43.1" (RT)	Δ = 7' 09" 43.1"	Δ = 7' 09" 43.1" (LT)	Δ = 7' 09" 43.1" (RT)
D = 7' 09" 43.1"	D = 7' 09" 43.1"	D = 7' 09" 43.1"	D = 7' 09" 43.1"	D = 7' 09" 43.1"	D = 7' 09" 43.1"
L = 250.00'	L = 250.00'	L = 250.00'	L = 250.00'	L = 250.00'	L = 250.00'
T = 85.00'	T = 85.00'	T = 85.00'	T = 85.00'	T = 85.00'	T = 85.00'
R = 850.00'	R = 850.00'	R = 850.00'	R = 850.00'	R = 850.00'	R = 850.00'
SE = 0°	SE = 0°	SE = 0°	SE = 0°	SE = 0°	SE = 0°
DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH
-Y9LPC-		-Y9LPC-		-Y9LPC-	
PI Sta 14+35.94	PI Sta 14+42.99	PI Sta 15+17.74	PI Sta 16+38.01	PI Sta 17+48.68	PI Sta 18+83.44
Δ = 3' 07" 55.5"	Δ = 3' 07" 55.5" (LT)	Δ = 3' 07" 55.5" (LT)	Δ = 3' 07" 55.5" (LT)	Δ = 3' 07" 55.5" (LT)	Δ = 3' 07" 55.5" (LT)
D = 3' 07" 55.5"	D = 3' 07" 55.5"	D = 3' 07" 55.5"	D = 3' 07" 55.5"	D = 3' 07" 55.5"	D = 3' 07" 55.5"
L = 200.00'	L = 200.00'	L = 200.00'	L = 200.00'	L = 200.00'	L = 200.00'
T = 133.94'	T = 133.94'	T = 133.94'	T = 133.94'	T = 133.94'	T = 133.94'
R = 660.00'	R = 660.00'	R = 660.00'	R = 660.00'	R = 660.00'	R = 660.00'
SE = 0°	SE = 0°	SE = 0°	SE = 0°	SE = 0°	SE = 0°
DS = 25 MPH	DS = 25 MPH	DS = 25 MPH	DS = 25 MPH	DS = 25 MPH	DS = 25 MPH
-Y9-		-Y9-		-Y9-	
PI Sta 14+35.94	PI Sta 14+35.94	PI Sta 14+35.94	PI Sta 14+35.94	PI Sta 14+35.94	PI Sta 14+35.94
Δ = 3' 07" 55.5"	Δ = 3' 07" 55.5"	Δ = 3' 07" 55.5"	Δ = 3' 07" 55.5"	Δ = 3' 07" 55.5"	Δ = 3' 07" 55.5"
D = 3' 07" 55.5"	D = 3' 07" 55.5"	D = 3' 07" 55.5"	D = 3' 07" 55.5"	D = 3' 07" 55.5"	D = 3' 07" 55.5"
L = 200.00'	L = 200.00'	L = 200.00'	L = 200.00'	L = 200.00'	L = 200.00'
T = 133.94'	T = 133.94'	T = 133.94'	T = 133.94'	T = 133.94'	T = 133.94'
R = 660.00'	R = 660.00'	R = 660.00'	R = 660.00'	R = 660.00'	R = 660.00'
SE = 0°	SE = 0°	SE = 0°	SE = 0°	SE = 0°	SE = 0°
DS = 40 MPH	DS = 40 MPH	DS = 40 MPH	DS = 40 MPH	DS = 40 MPH	DS = 40 MPH

LOCATION: 1-77 AT E BROAD STREET

TIP NO. 1-3818 COUNTY: REBEL

DRAWN BY: C. DAVIS

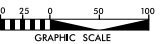
CHECKED BY: D. ARNSWORTH DATE: 4-2-2019

PERMIT DRAWING
SHEET 31 OF 67

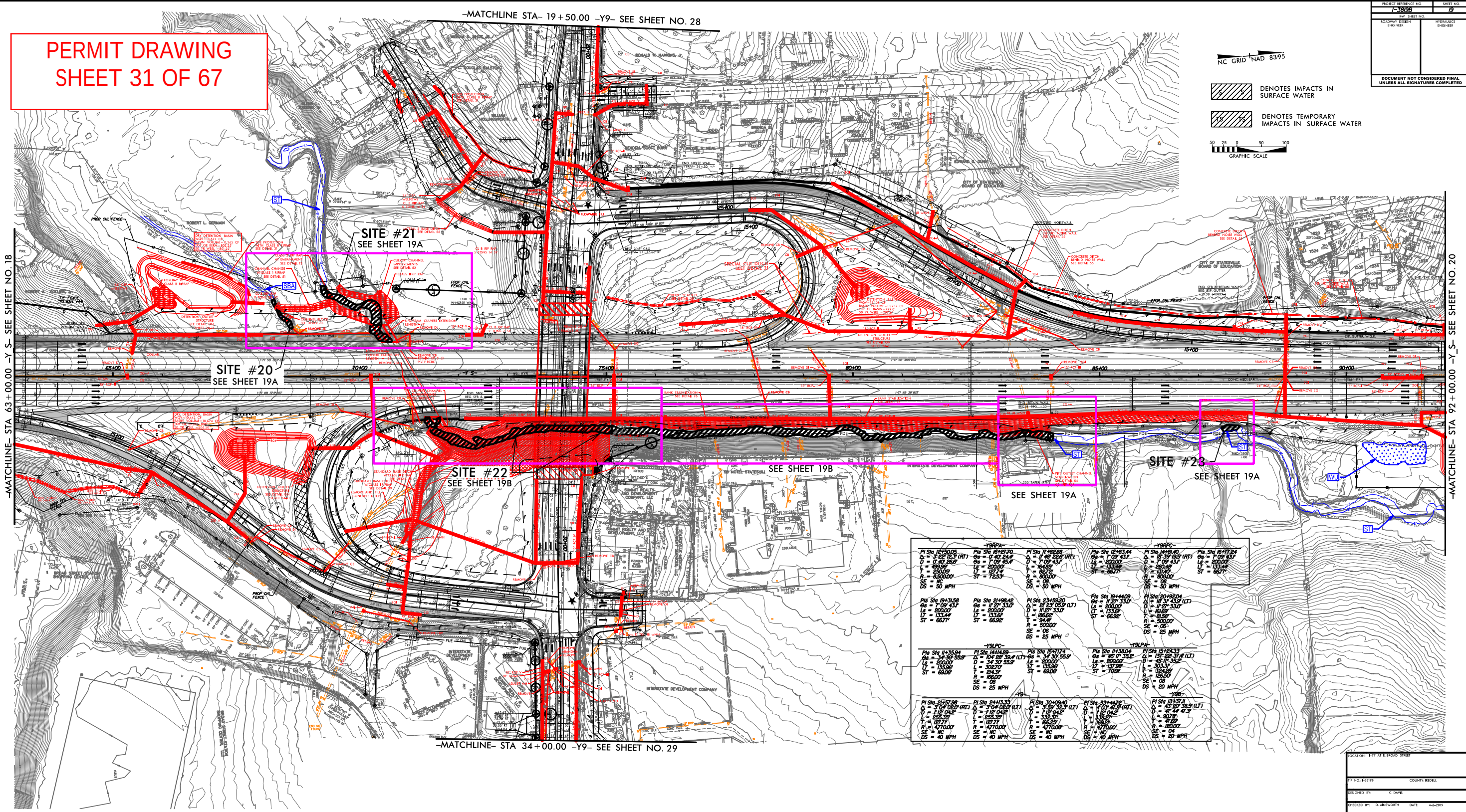
-MATCHLINE STA- 19+50.00 -Y9- SEE SHEET NO. 28

NC GRID NAD 8395

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



PROJECT REFERENCE NO.	SHEET NO.
7-5858	79
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-MATCHLINE- STA 63+00.00 -Y- SEE SHEET NO. 18

-MATCHLINE- STA 92+00.00 -Y- SEE SHEET NO. 20

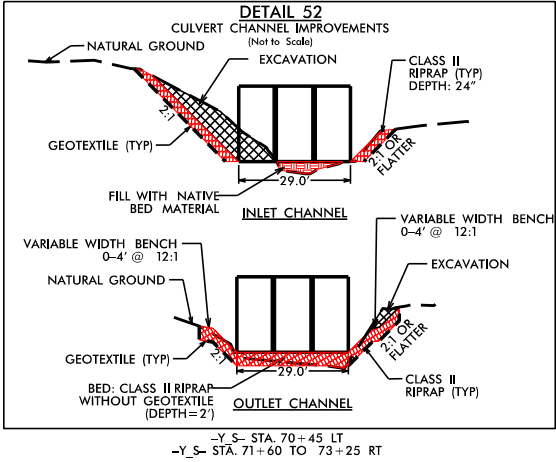
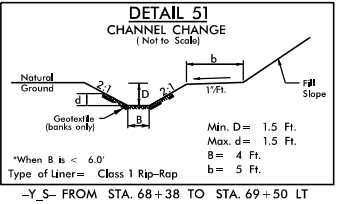
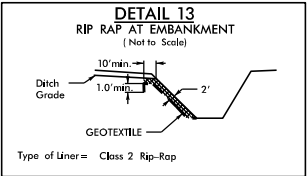
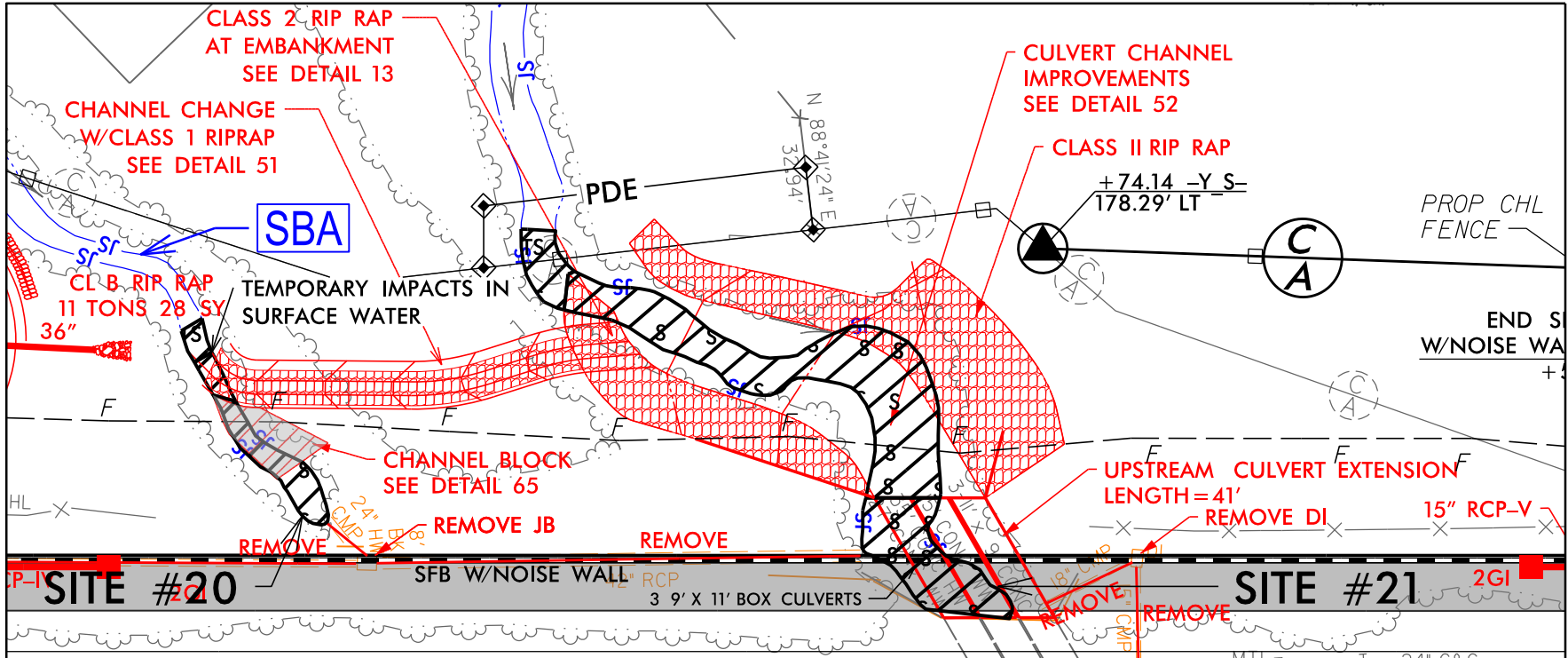
-MATCHLINE- STA 34+00.00 -Y9- SEE SHEET NO. 29

-Y9PA-		-Y9PC-		-Y9LP-		-Y9LA-	
PI Sta 16500.00	PI Sta 16510.00	PI Sta 16520.00	PI Sta 16530.00	PI Sta 16540.00	PI Sta 16550.00	PI Sta 16560.00	PI Sta 16570.00
Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'
LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00
ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'
DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH
-Y9LP-		-Y9LP-		-Y9LP-		-Y9LP-	
PI Sta 16580.00	PI Sta 16590.00	PI Sta 16600.00	PI Sta 16610.00	PI Sta 16620.00	PI Sta 16630.00	PI Sta 16640.00	PI Sta 16650.00
Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'
LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00
ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'
DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH
-Y9LP-		-Y9LP-		-Y9LP-		-Y9LP-	
PI Sta 16680.00	PI Sta 16690.00	PI Sta 16700.00	PI Sta 16710.00	PI Sta 16720.00	PI Sta 16730.00	PI Sta 16740.00	PI Sta 16750.00
Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'	Δ = 0.47 25.6'
LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00	LS = 250.00
ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'	ST = 667.7'
DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH	DS = 50 MPH

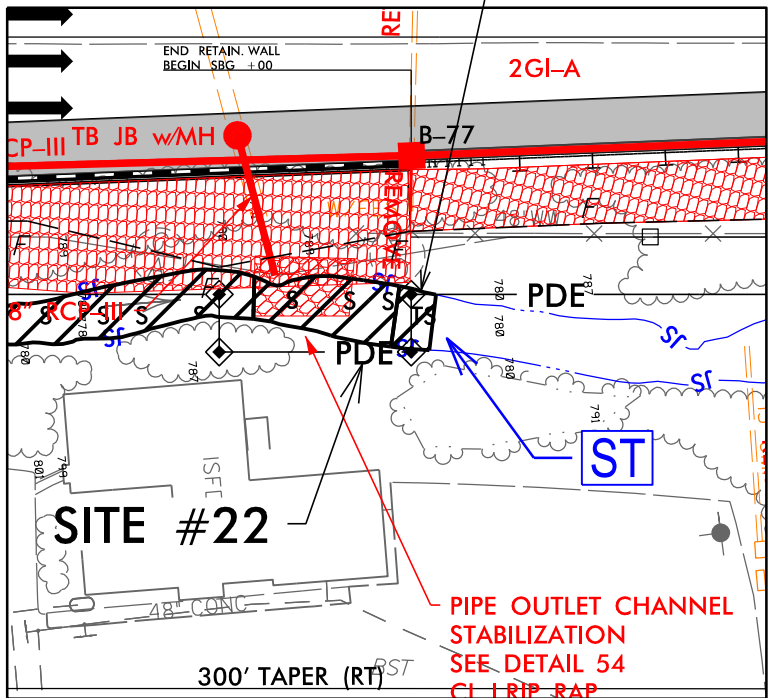
LOCATION: I-77 AT E BROAD STREET	
TIP NO. L3818	COUNTY: REBEL
DESIGNED BY: C. DAVIS	
CHECKED BY: D. ARNSWORTHY	DATE: 4-2-2019

PERMIT DRAWING
SHEET 32 OF 67

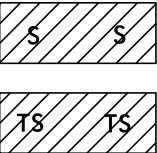
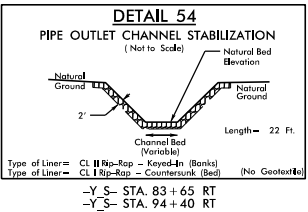
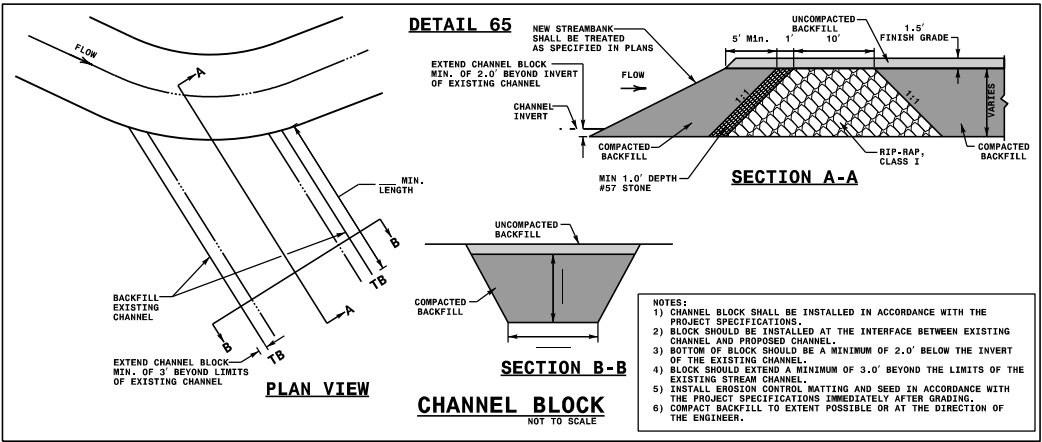
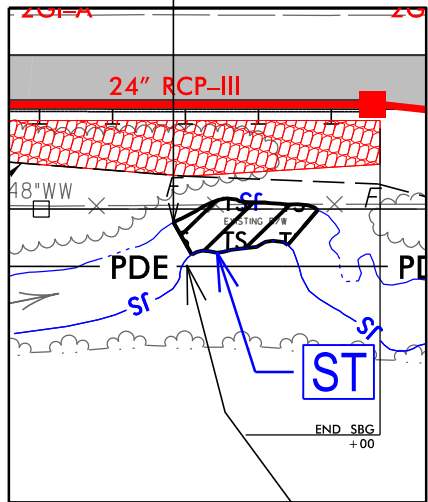
INSET



INSET



INSET



DENOTES IMPACTS IN
SURFACE WATER

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

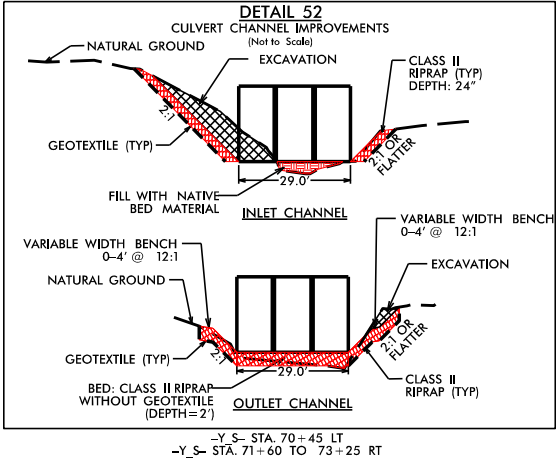
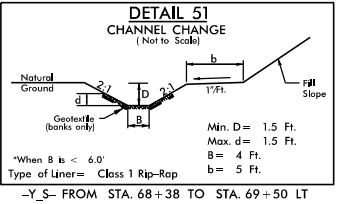
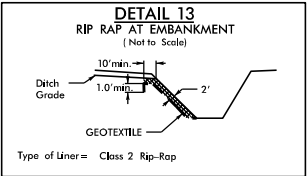
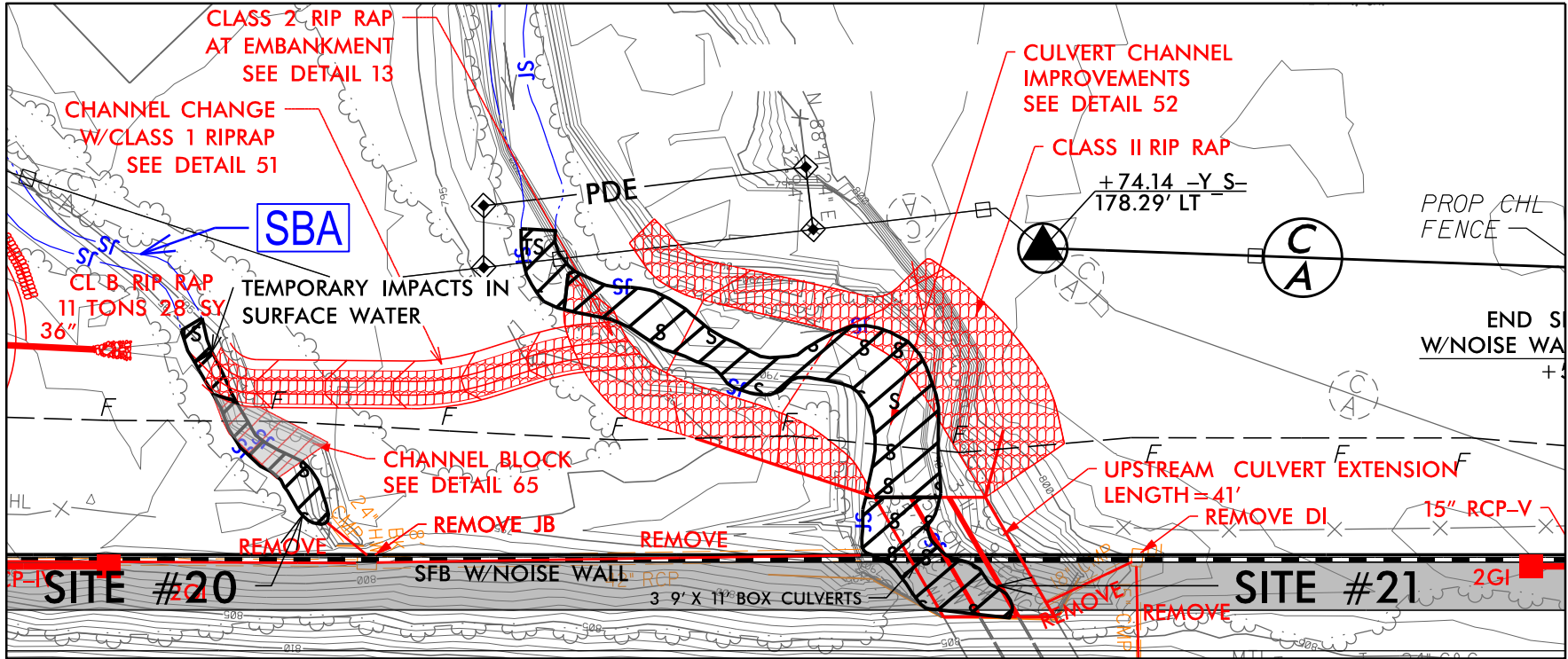
NC GRID NAD 8395



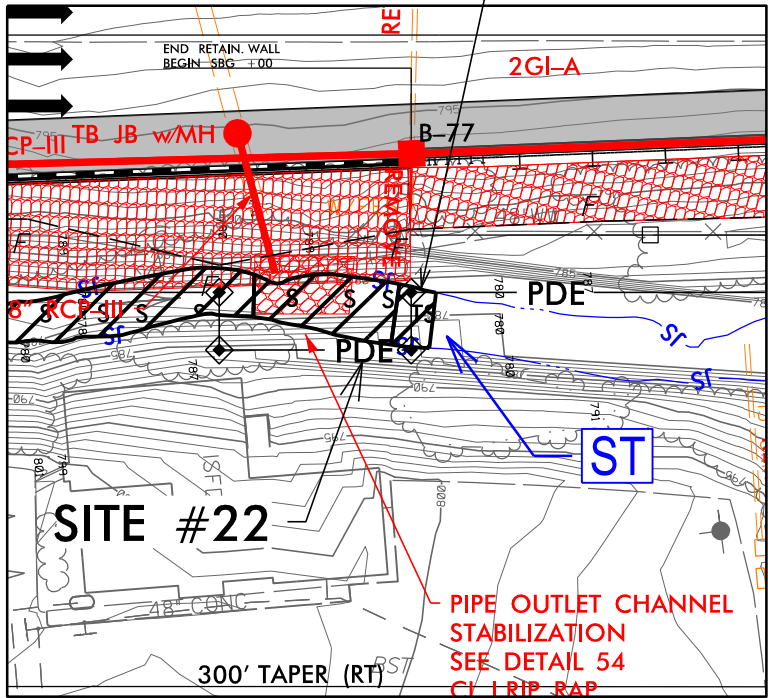
GRAPHIC SCALE - INSETS

PERMIT DRAWING
SHEET 33 OF 67

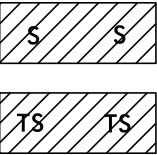
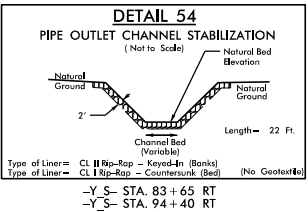
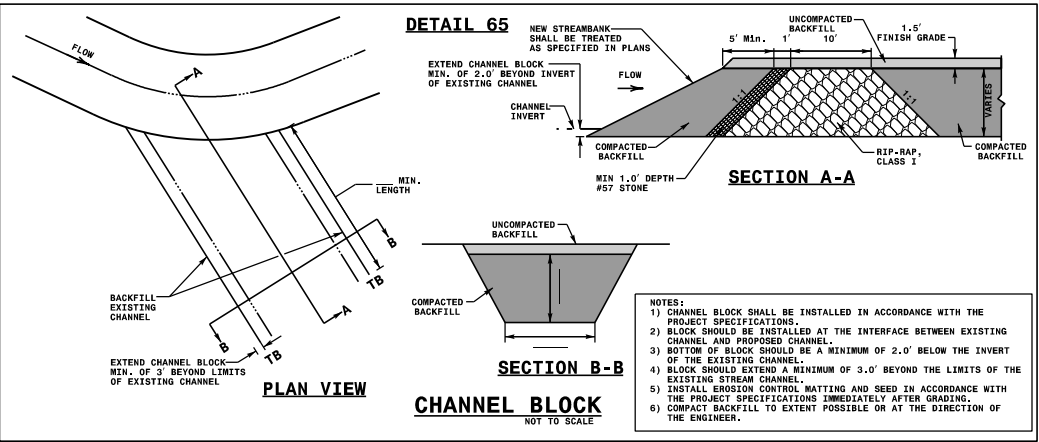
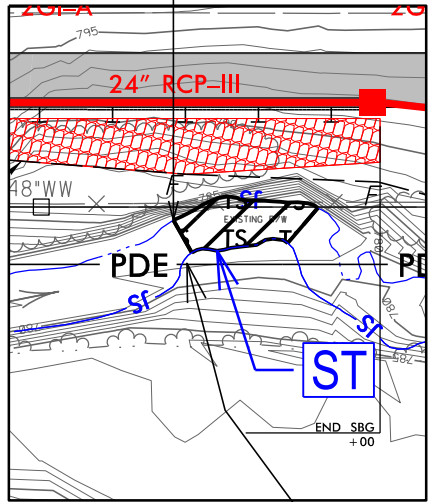
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INSET



INSET



DENOTES IMPACTS IN
SURFACE WATER

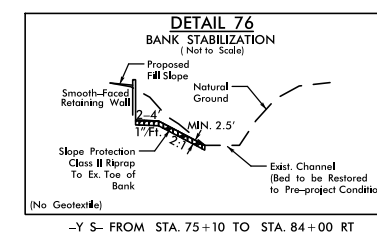
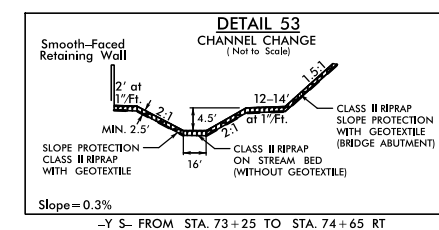
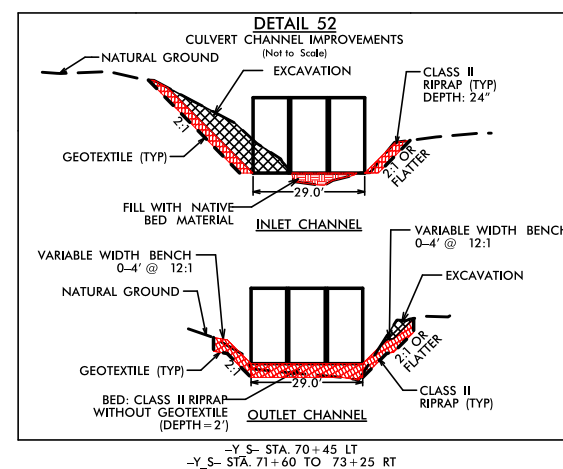
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

NC GRID NAD 8395



BANK STABILIZATION
SEE DETAIL 76

SITE #22



NC GRID + NAD 83/95

DENOTES IMPACTS IN
SURFACE WATER

Diagram of a rectangular block with diagonal hatching and the letters 'TS' repeated twice.

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

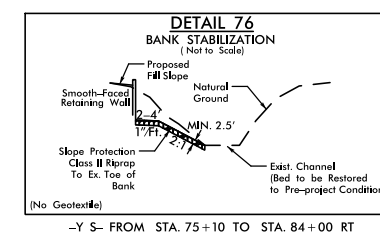
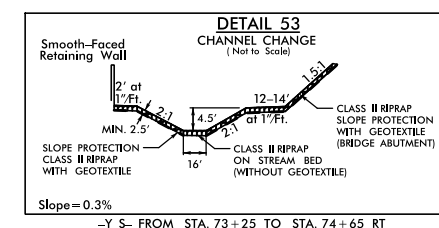
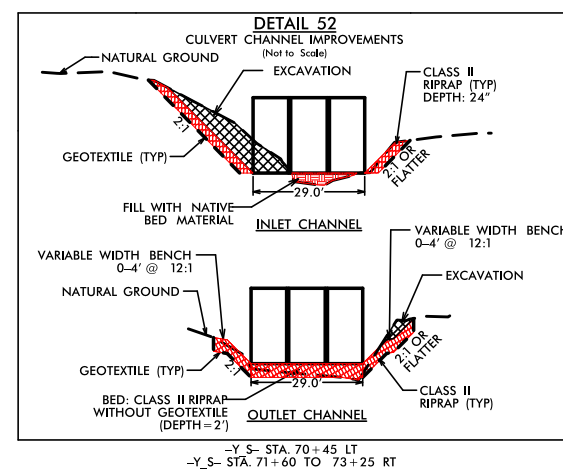
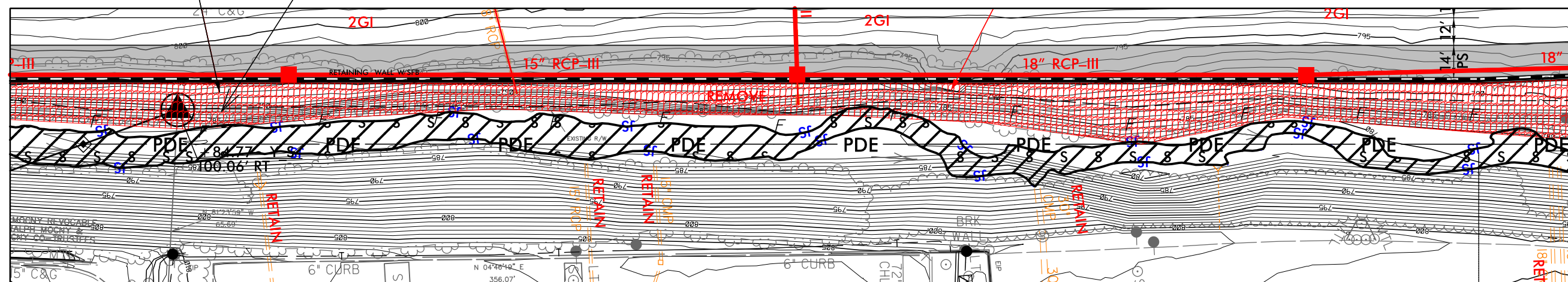
PERMIT DRAWING
SHEET 34 OF 67



**BANK STABILIZATION
SEE DETAIL 76**

SITE #22

SITE #22



PERMIT DRAWING
SHEET 35 OF 67

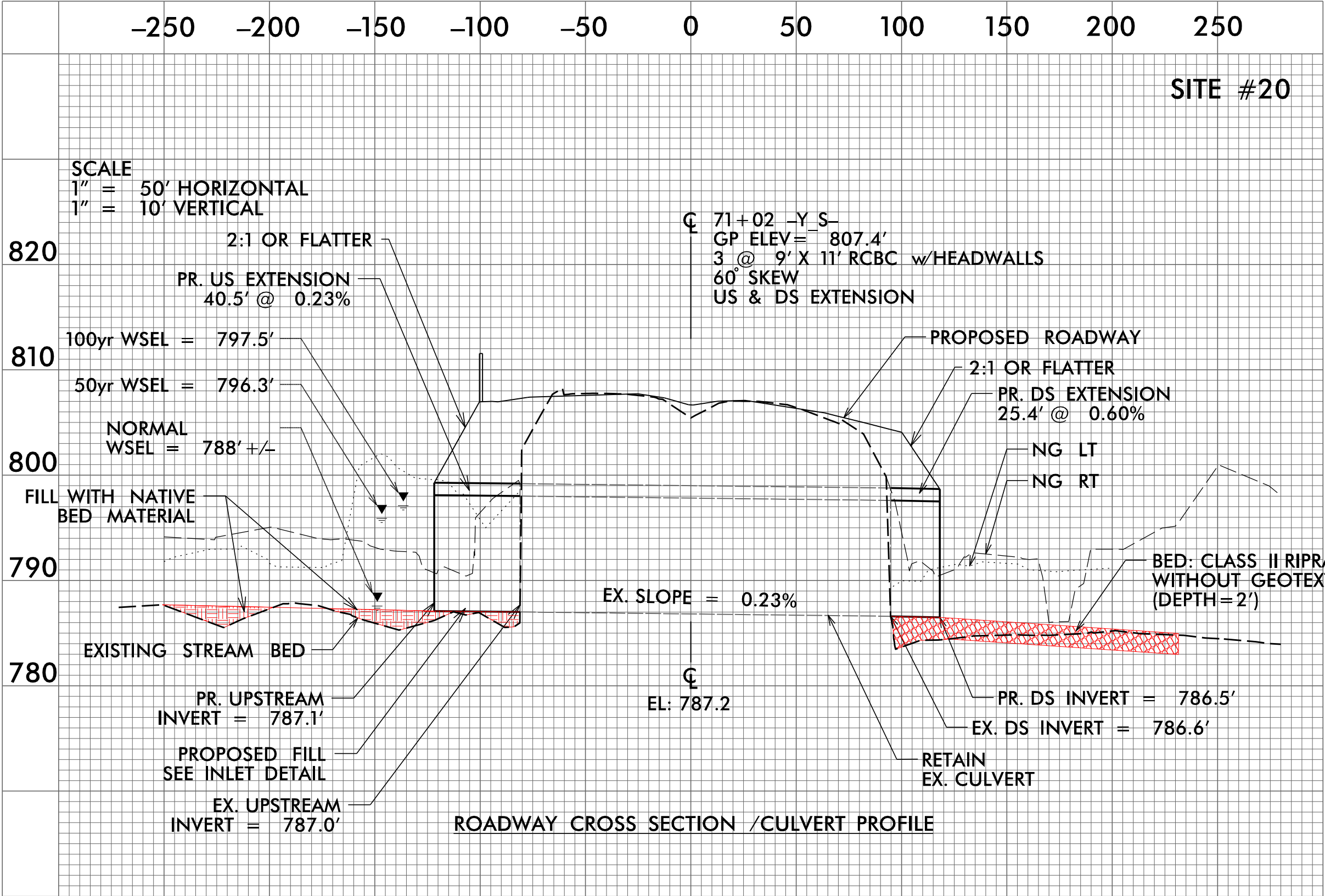
NC GRID + NAD 83/95

DENOTES IMPACTS IN
SURFACE WATERDENOTES TEMPORARY
IMPACTS IN SURFACE WATER

5/28/99

PERMIT DRAWING
SHEET 36 OF 67

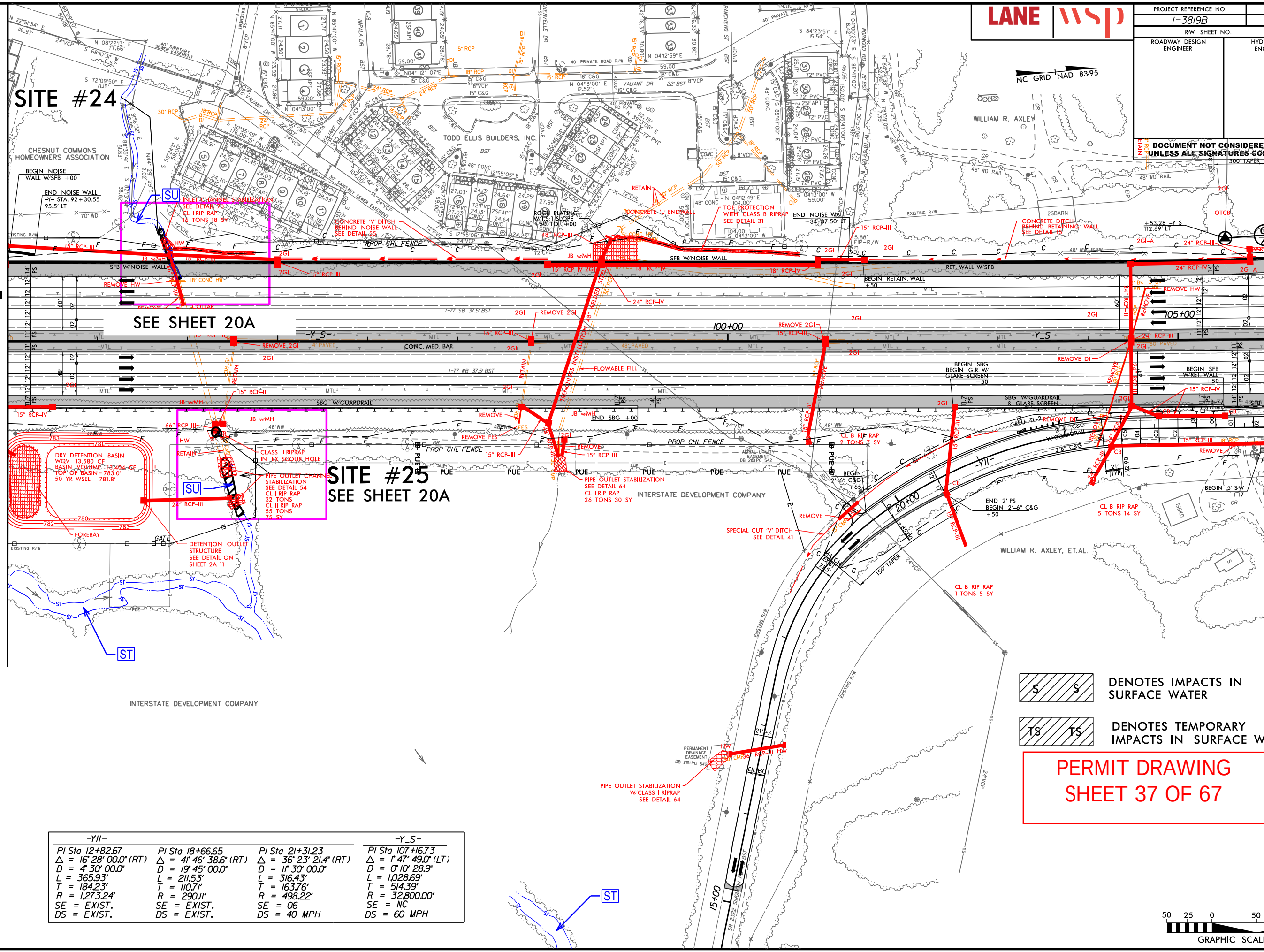
PROJECT REFERENCE NO.		SHEET NO.	
I-3819B		19-X	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



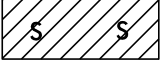
6/6/2019
C:\Users\jg\Documents\Projects\I-3819B\19-X\19-X.dgn
US16/574

-MATCHLINE- STA 92 + 00.00 -Y_S- SEE SHEET NO.19

-MATCHLINE- STA. 106 + 00 -Y_S- SEE SHEET NO.21

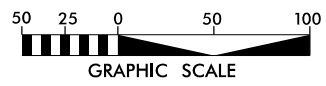


-YII-	-Y_S-	-Y_S-	-Y_S-
PI Sta 12+82.67	PI Sta 18+66.65	PI Sta 21+31.23	PI Sta 107+16.73
Δ = 16° 28' 00.0" (RT)	Δ = 4° 46' 38.6" (RT)	Δ = 36° 23' 21.4" (RT)	Δ = 1° 47' 49.0" (LT)
D = 4° 30' 00.0"	D = 19° 45' 00.0"	D = 11° 30' 00.0"	D = 0° 10' 28.9"
L = 365.93'	L = 211.53'	L = 316.43'	L = 1,028.69'
T = 184.23'	T = 110.71'	T = 163.76'	T = 514.39'
R = 1,273.24'	R = 290.11'	R = 498.22'	R = 32,800.00'
SE = EXIST.	SE = EXIST.	SE = NC	SE = NC
DS = EXIST.	DS = EXIST.	DS = 40 MPH	DS = 60 MPH

 DENOTES IMPACTS IN SURFACE WATER

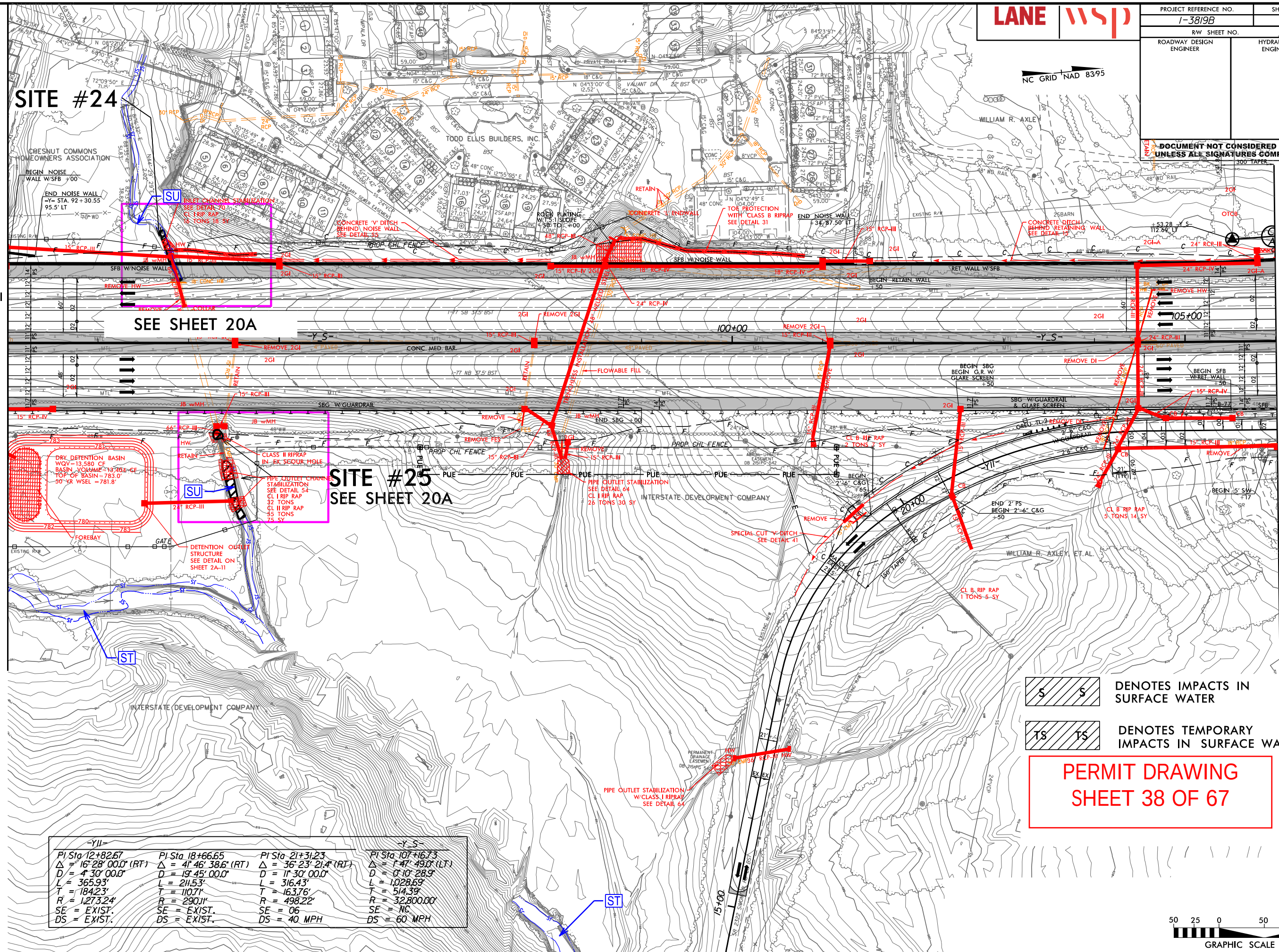
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 37 OF 67

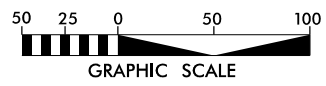


-MATCHLINE- STA 92 + 00.00 -Y_S- SEE SHEET NO.19

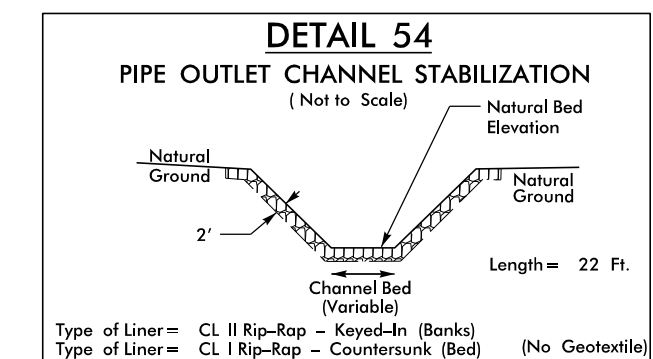
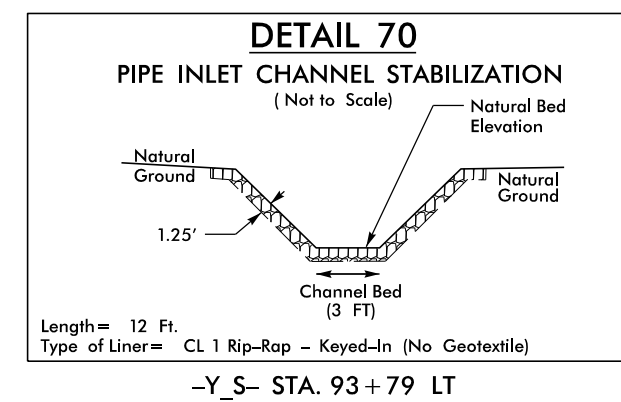
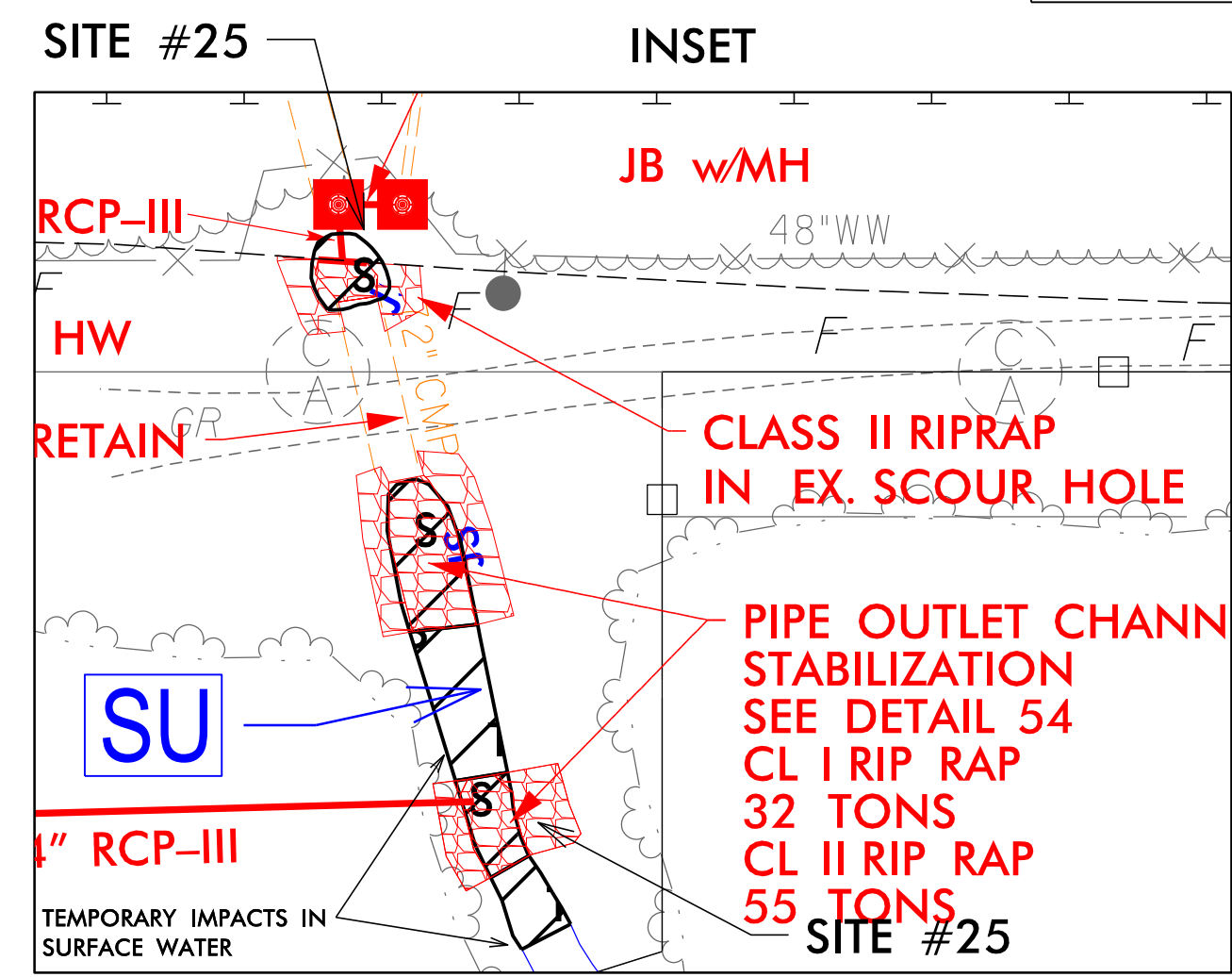
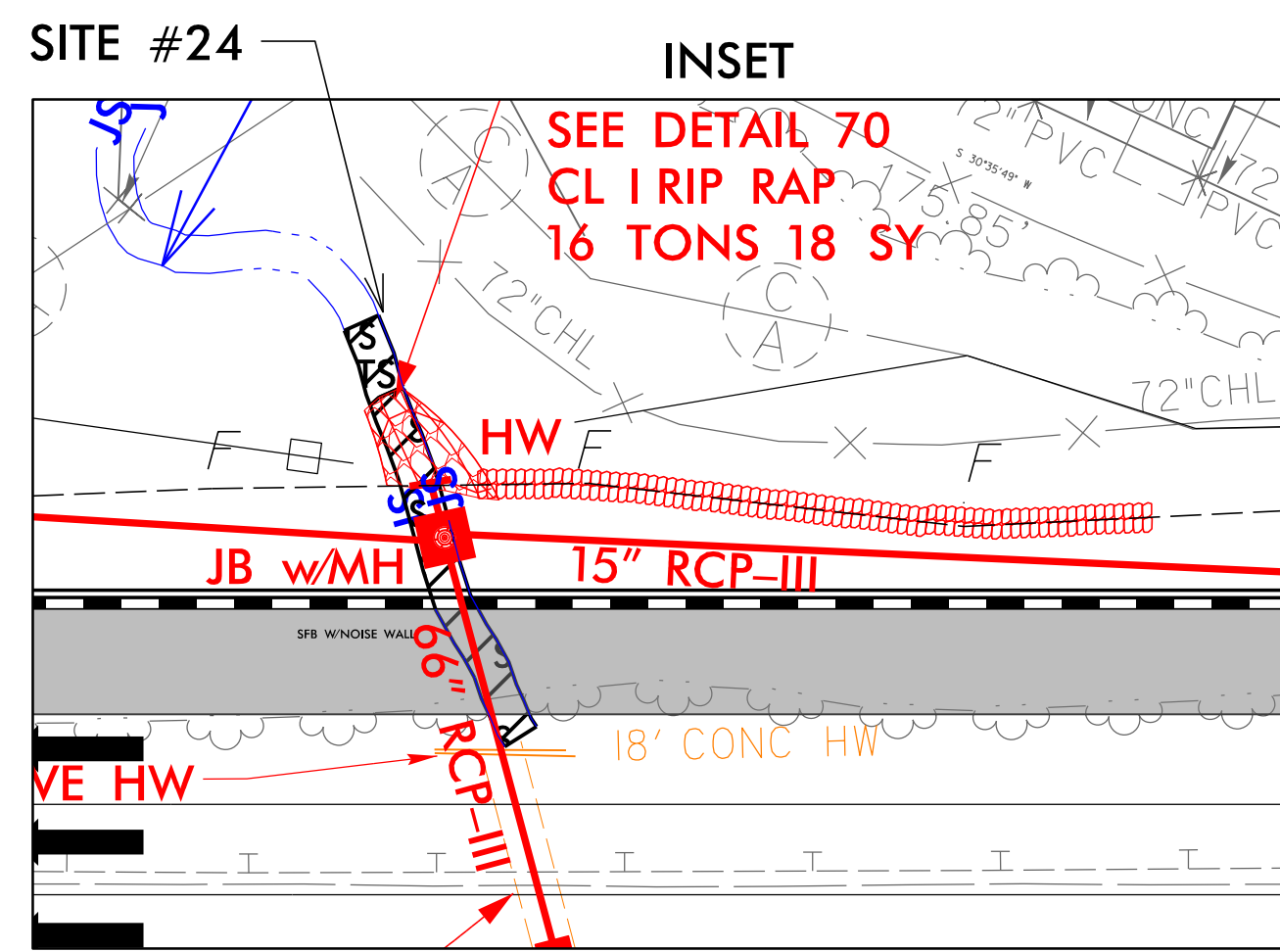
-MATCHLINE- STA. 106 + 00 -Y_S- SEE SHEET NO.21



$\Delta = 16^{\circ}28'00.0''$ (RT) $D = 4^{\circ}30'00.0''$ $L = 365.93'$ $T = 184.23'$ $R = 1,273.24'$ $SE = EXIST.$ $DS = EXIST.$	$\Delta = 4^{\circ}46'38.6''$ (RT) $D = 19^{\circ}45'00.0''$ $L = 211.53'$ $T = 110.71'$ $R = 290.11'$ $SE = EXIST.$ $DS = EXIST.$	$\Delta = 36^{\circ}23'21.4''$ (RT) $D = 11^{\circ}30'00.0''$ $L = 316.43'$ $T = 163.76'$ $R = 498.22'$ $SE = 06$ $DS = 40$ MPH	$\Delta = 1^{\circ}47'49.0''$ (LT) $D = 0^{\circ}10'28.9''$ $L = 1,028.69'$ $T = 514.39'$ $R = 32,800.00'$ $SE = NC$ $DS = 60$ MPH
--	--	---	--



07/02/19
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becker_j



NC GRID +NAD 8395

S DENOTES IMPACTS IN
SURFACE WATER

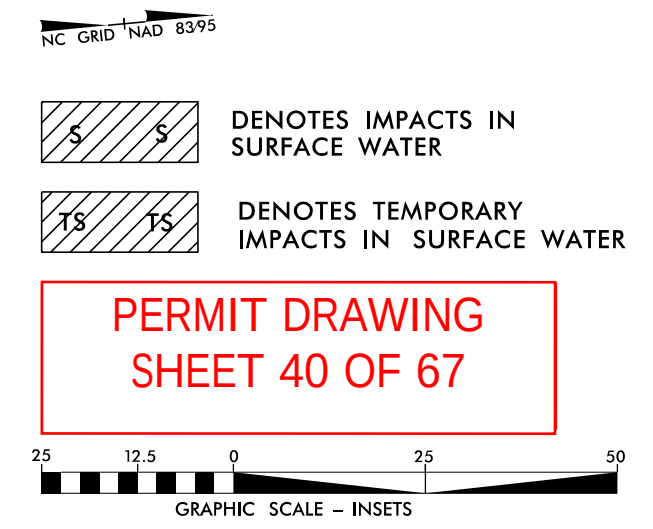
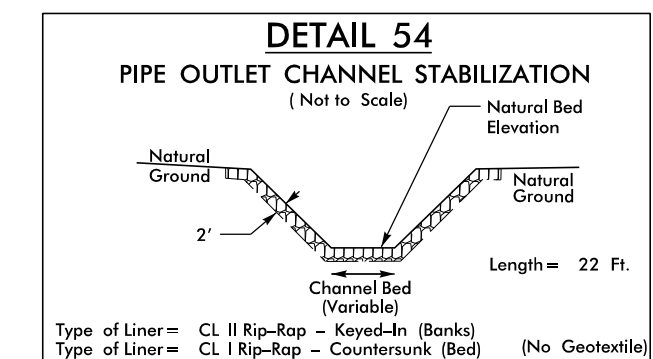
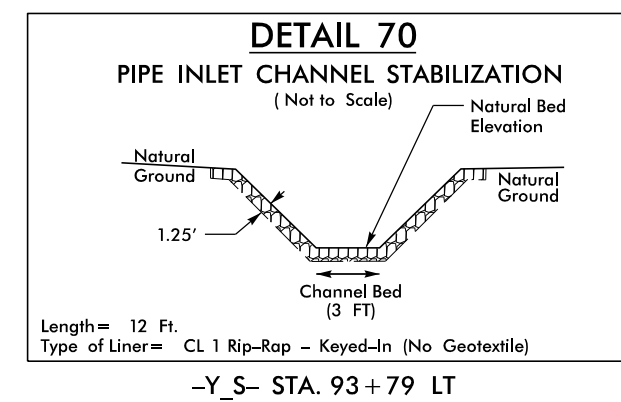
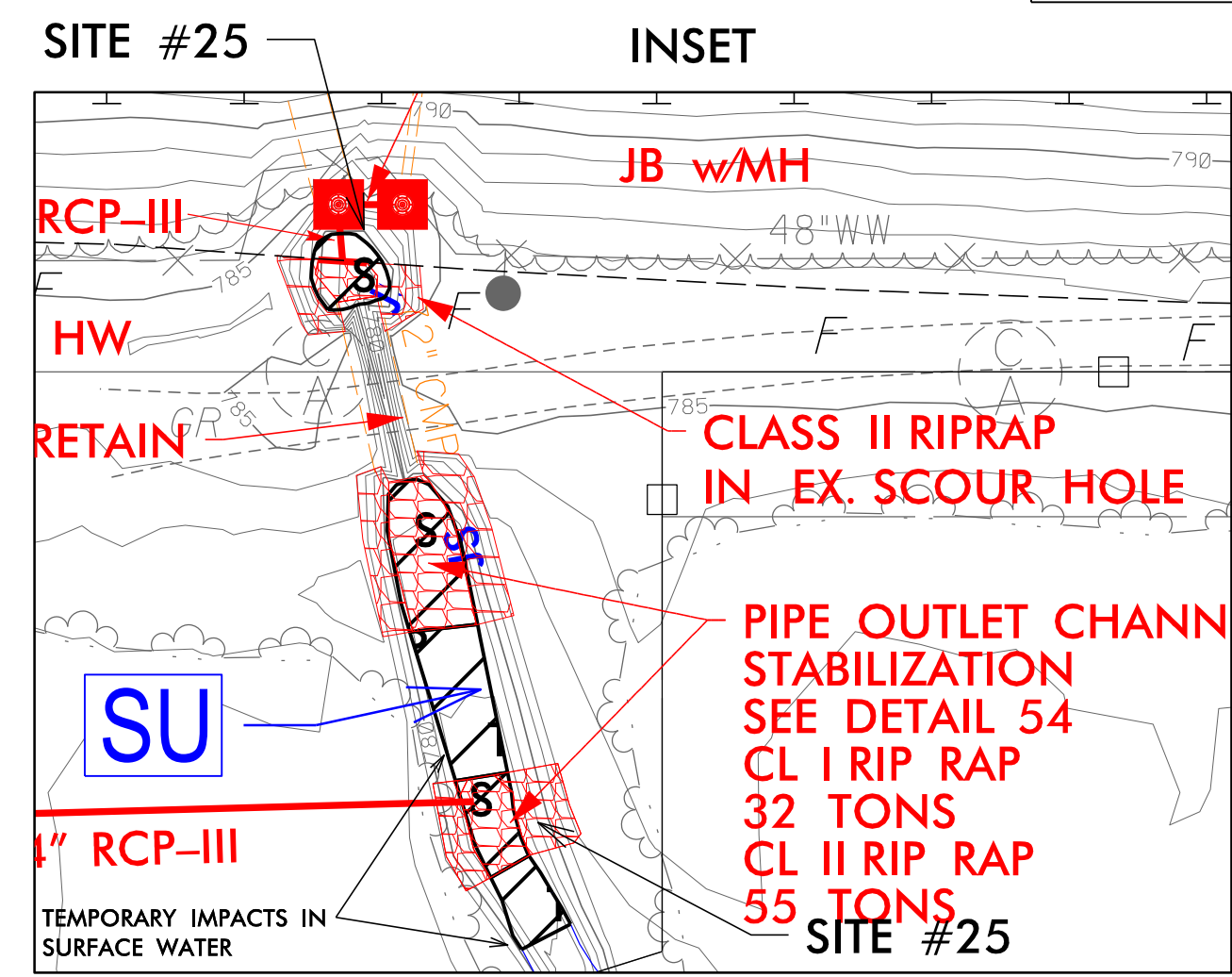
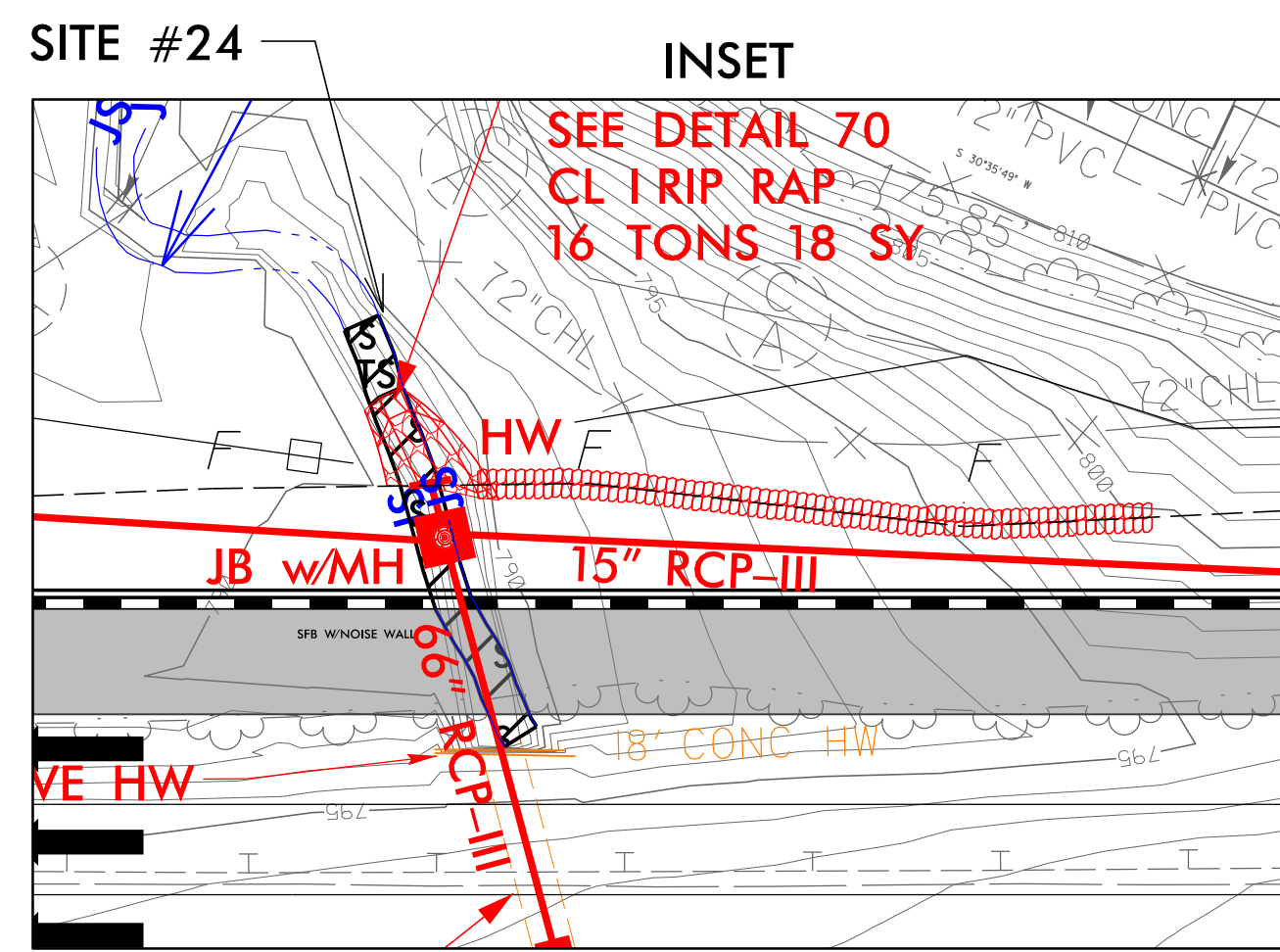
TS DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 39 OF 67

25 12.5 0 25 50

GRAPHIC SCALE - INSETS

07/12/19
c:\projectwise\pb\projectwise\becker_j\40339329\13819_hyd_prm_pah20A_Y10600-12000.dgn
becker_j



07/12/19
c:\projectwise\pb\projectwise\becker_j\40339329\13819_hyd_prm_pah20A_Y10600-12000.dgn
becker_j

PERMIT DRAWING
SHEET 41 OF 67

LANE 

PROJECT REFERENCE NO.	SHEET NO.
1-3819B	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

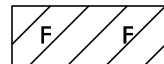
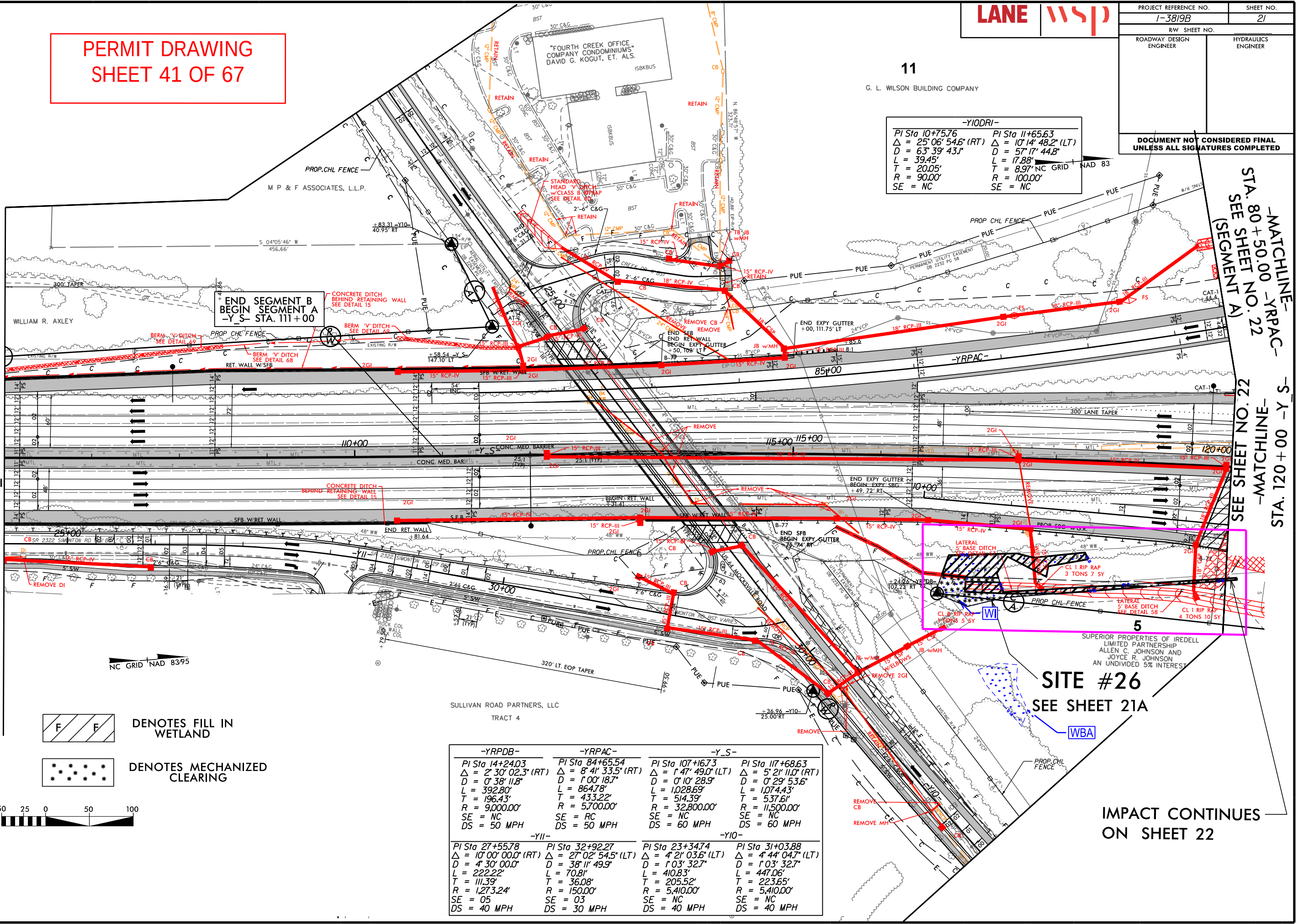
11

G. L. WILSON BUILDING COMPANY

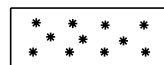
-YIODRI-	
PI Sta 10+75.76	PI Sta 11+65.63
$\Delta = 25^{\circ}06'54.6"$ (RT)	$\Delta = 10^{\circ}14'48.2"$ (LT)
$D = 63^{\circ}39'43.1"$	$D = 57^{\circ}17'44.8"$
$L = 39.45'$	$L = 17.88'$
$T = 20.05'$	$T = 8.97'$ NC GRID
$R = 90.00'$	$R = 100.00'$
SE = NC	SE = NC

-MATCHLINE-
STA. 80 + 50.00 -YRPAC-
SEE SHEET NO. 22
(SEGMENT A)
-S- Y- 00 + 021.1 VS
-ENTHCLAW-
22 ON SHEETS SEE

-MATCHLINE- STA. 106 + 00 -Y-S- SEE SHEET NO. 20



DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING



-YRPDB-	-YRPAC-	-Y-S-	-YII-
PI Sta 14+24.03	PI Sta 84+65.54	PI Sta 107+16.73	PI Sta 27+55.78
$\Delta = 2^{\circ}30'02.3"$ (RT)	$\Delta = 8^{\circ}41'33.5"$ (RT)	$\Delta = 1^{\circ}47'49.0"$ (LT)	$\Delta = 10^{\circ}00'00.0"$ (RT)
$D = 0^{\circ}38'11.8"$	$D = 1^{\circ}00'18.7"$	$D = 0^{\circ}10'28.9"$	$D = 4^{\circ}30'00.0"$
$L = 392.80'$	$L = 864.78'$	$L = 1,028.69'$	$L = 222.22'$
$T = 196.43'$	$T = 433.22'$	$T = 514.39'$	$T = 111.39'$
$R = 9,000.00'$	$R = 5,700.00'$	$R = 32,800.00'$	$R = 1,273.24'$
SE = NC	SE = NC	SE = NC	SE = 05
DS = 50 MPH	DS = 50 MPH	DS = 60 MPH	DS = 40 MPH
-YII-	-YIO-		
PI Sta 27+55.78	PI Sta 32+92.27	PI Sta 23+34.74	PI Sta 31+03.88
$\Delta = 10^{\circ}00'00.0"$ (RT)	$\Delta = 27^{\circ}02'54.5"$ (LT)	$\Delta = 4^{\circ}21'03.6"$ (LT)	$\Delta = 4^{\circ}44'04.7"$ (LT)
$D = 4^{\circ}30'00.0"$	$D = 38^{\circ}11'49.9"$	$D = 1^{\circ}03'32.7"$	$D = 1^{\circ}03'32.7"$
$L = 222.22'$	$L = 70.81'$	$L = 410.83'$	$L = 447.06'$
$T = 111.39'$	$T = 36.08'$	$T = 205.52'$	$T = 223.65'$
$R = 1,273.24'$	$R = 150.00'$	$R = 5,410.00'$	$R = 5,410.00'$
SE = 05	SE = 03	SE = NC	SE = NC
DS = 40 MPH	DS = 30 MPH	DS = 40 MPH	DS = 40 MPH

SITE #26
SEE SHEET 21A

IMPACT CONTINUES
ON SHEET 22

PERMIT DRAWING
SHEET 42 OF 67

LANE | WSP

PROJECT REFERENCE NO.	SHEET NO.
1-3819B	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

-MATCHLINE-
 -YRPAC-
 STA. 80 + 50.00
 SEE SHEET NO. 22
 (SEGMENT A)
 -S Y- 00 + 021 VLS
 -ENITHTW-
 22 ON TEEHS SEES
 7+00
 7+33

—MATCHLINE— STA. 106+00 —Y S— SEE SHEET NO. 20

07/02/19
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becker.jw

DENOTES FILL IN
WETLAND

DENOTES MECHANIZED
CLEARING

-YRPDB-

PI Sta 14+240.3
$\Delta = 2'30'' 02.3' (RT)$
$D = 0' 38'' 11.8''$
$L = 392.80'$
$T = 196.43'$
$R = 9,000.00'$
SE = NC
DS = 50 MPH

-YRPAC-

PI Sta 84+65.54
$\Delta = 8'41'' 33.5' (RT)$
$D = 1'00'' 18.7''$
$L = 864.78'$
$T = 433.22'$
$R = 5,700.00'$
SE = RC
DS = 50 MPH

-Y S-

PI Sta 107+167.3
$\Delta = 1'47'' 49.0' (LT)$
$D = 0' 10'' 28.9''$
$L = 1,028.69'$
$T = 514.39'$
$R = 32,800.00'$
SE = NC
DS = 60 MPH

PI Sta 117+68.63

$\Delta = 5'21'' 11.0' (RT)$
$D = 0' 29'' 53.6''$
$L = 1,074.43'$
$T = 537.6K'$
$R = 11,500.00'$
SE = NC
DS = 60 MPH

-YII-

PI Sta 27+55.78
$\Delta = 10'00'' 00.0' (RT)$
$D = 4' 30'' 00.0''$
$L = 222.22'$
$T = 111.39'$
$R = 1,273.24'$
SE = 05
DS = 40 MPH

PI Sta 32+92.27

$\Delta = 27'02'' 54.5' (LT)$
$D = 38'11'' 49.9''$
$L = 70.81'$
$T = 36.08'$
$R = 150.00'$
SE = 03
DS = 30 MPH

-YIO-

PI Sta 23+34.74
$\Delta = 1'21'' 03.6' (LT)$
$D = 0' 13'' 32.7''$
$L = 410.83'$
$T = 205.52'$
$R = 5,410.00'$
SE = NC
DS = 40 MPH

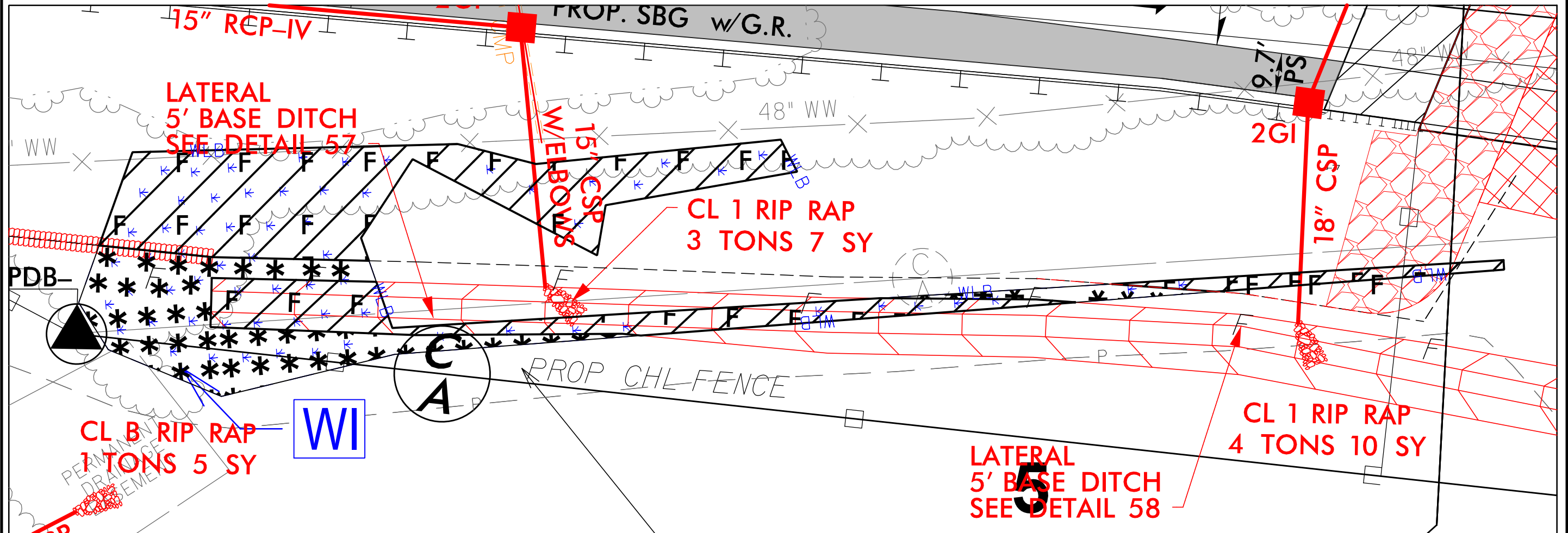
PI Sta 31+03.88

$\Delta = 4' 44'' 04.7' (LT)$
$D = 1'03'' 32.7''$
$L = 447.06'$
$T = 223.65'$
$R = 5,410.00'$
SE = NC
DS = 40 MPH

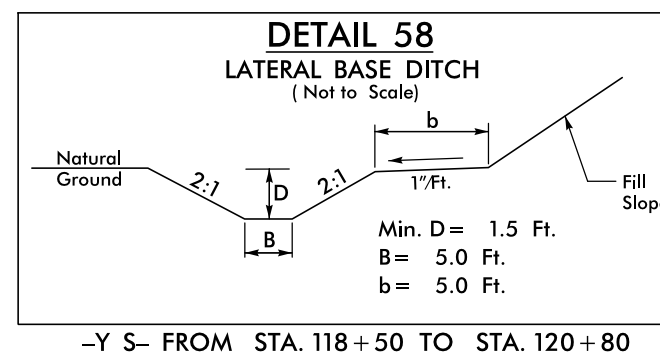
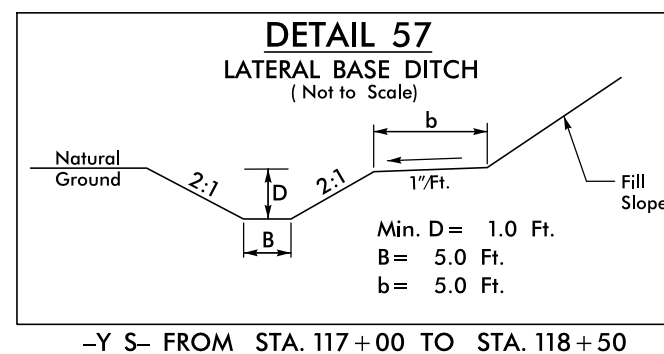
SITE #26
SEE SHEET 21A

**IMPACT CONTINUES
ON SHEET 22**

SUPERIOR PROPERTIES OF IREDE
LIMITED PARTNERSHIP
ALLEN C. JOHNSON AND
JOYCE R. JOHNSON
AN UNDIVIDED 5% INTEREST

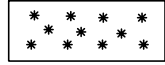


SITE #26



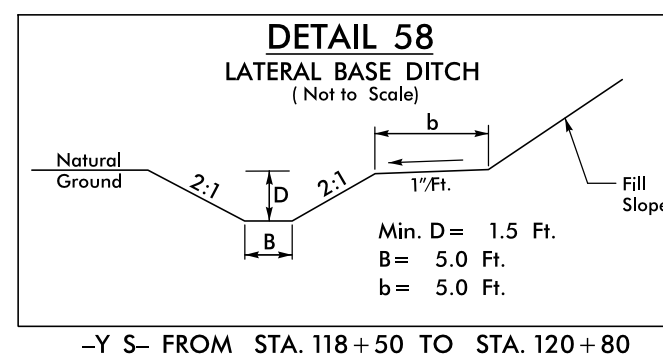
NC GRID | NAD 83/95

 DENOTES FILL IN WETLAND

 DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 43 OF 67





NC GRID | NAD 83/95

 DENOTES FILL IN WETLAND
 DENOTES MECHANIZED CLEARING

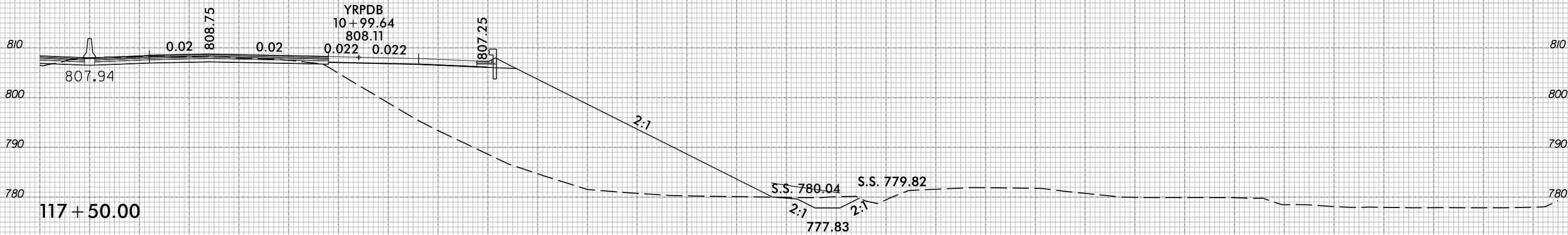
PERMIT DRAWING
SHEET 44 OF 67



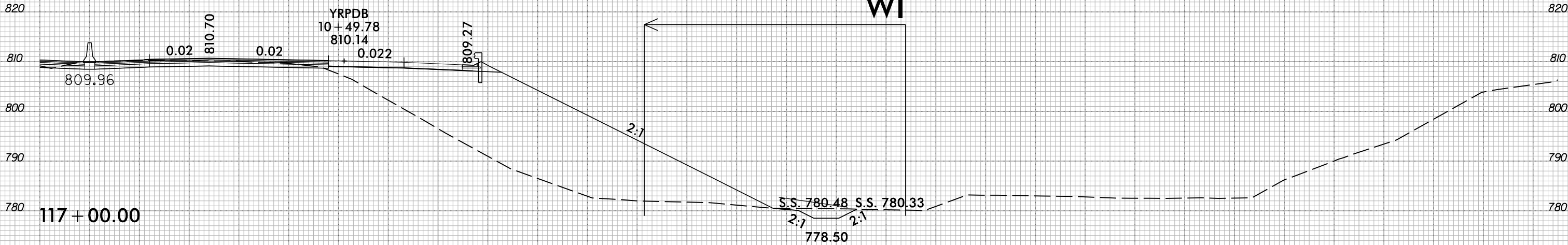
6/23/16

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

PERMIT DRAWING
SHEET 45 OF 67



SITE #26
WI

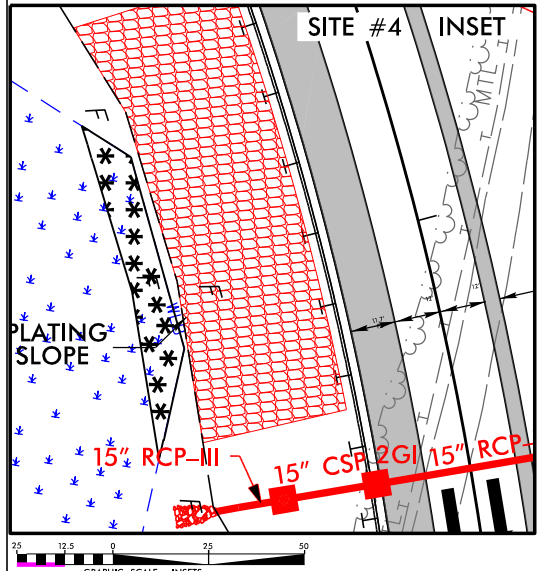
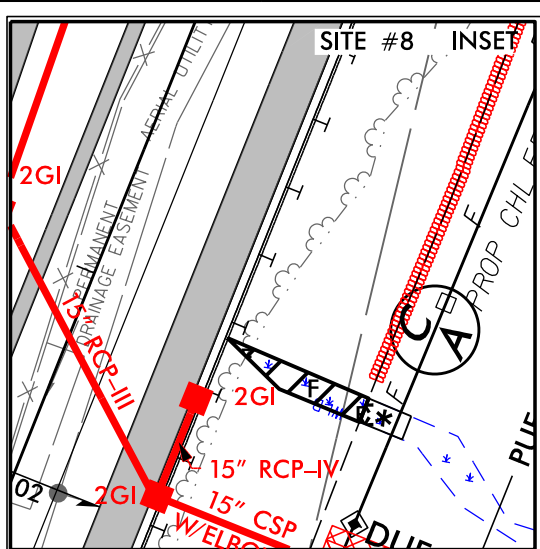


-Y_S- (RT)

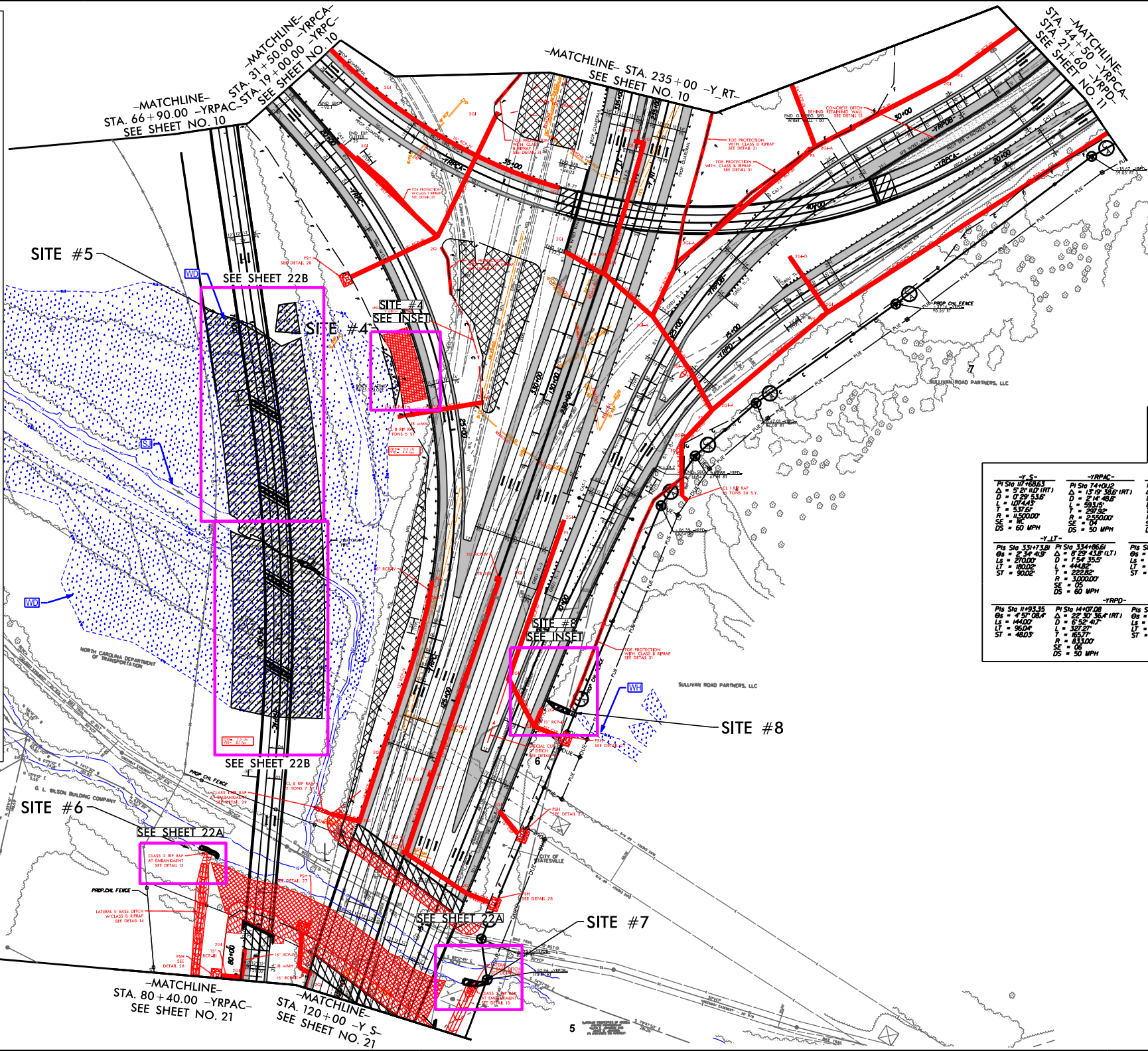
NC GRID NAD 8395

-YRPA-			
PI Sta 14+24.03 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH	PI Sta 21+74.30 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH	PI Sta 26+14.59 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH	PI Sta 30+15.94 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH
-YRPA-			
PI Sta 14+24.03 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH	PI Sta 21+74.30 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH	PI Sta 26+14.59 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH	PI Sta 30+15.94 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH
-YRPA-			
PI Sta 14+24.03 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH	PI Sta 21+74.30 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH	PI Sta 26+14.59 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH	PI Sta 30+15.94 Δ = 2° 30' 02.3" (RT) L = 392.87 T = 96.43 R = 3000.00 SE = 0 DS = 50 MPH

- Denotes Fill in Wetland
- Denotes Mechanized Clearing
- Denotes Hand Clearing
- Denotes Impacts in Surface Water
- Denotes Temporary Impacts in Surface Water



PERMIT DRAWING
SHEET 46 OF 67



INSET

Ditch Grade

10' min.

1.0' min.

2'

GEOTEXTILE

Type of Liner = Class 2 Rip-Rap

SITE# 7

INSET

**LATERAL
5' BASE DITCH
SEE DETAIL 58**

**CLASS 2 RIP RAP
AT EMBANKMENT
SEE DETAIL 13**

Diagram illustrating the cross-section of a ditch with the following dimensions and slopes:

- Slopes:** 2:1 on both sides.
- Bottom Width:** B
- Depth:** D
- Bottom Width (b):** 5.0 Ft.
- Minimum Depth (Min. D):** 1.5 Ft.
- Bottom Width (B):** 5.0 Ft.
- Top Width:** 17 Ft.
- Ground Level:** Natural Ground
- Fill Slope:** Indicated on the right side.

PERMIT DRAWING
SHEET 48 OF 67

NC GRID | NAD 83/95

 DENOTES IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

TEMPORARY IMPACTS IN SURFACE WATER

50 25 0 25 50



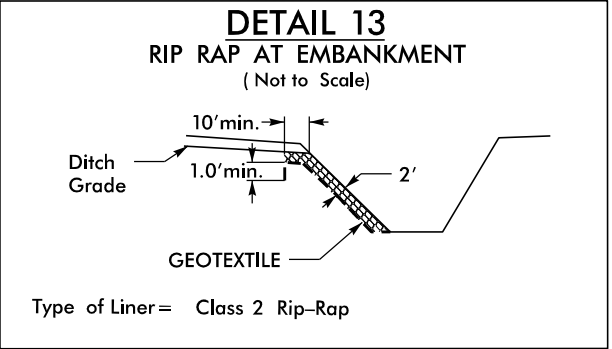
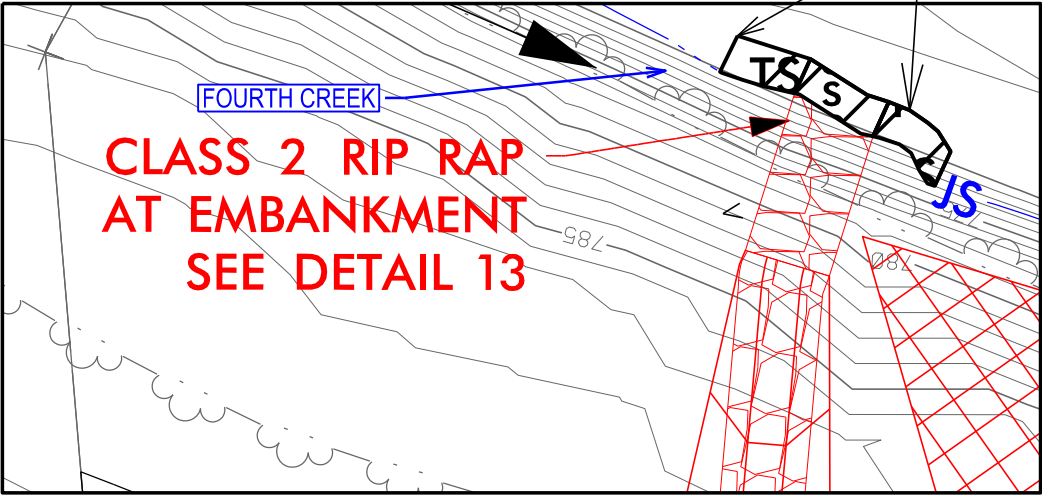
GRAPHIC SCALE – INSETS

07/02/19
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becker.jw

SITE# 6

INSET

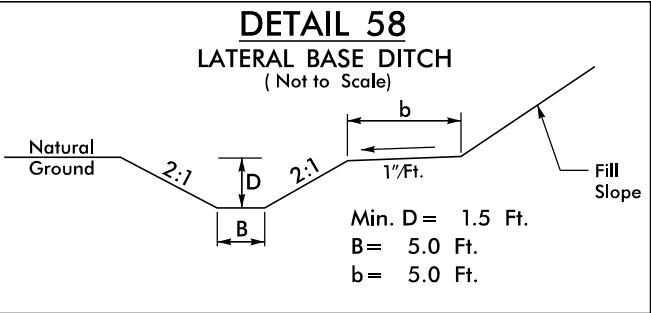
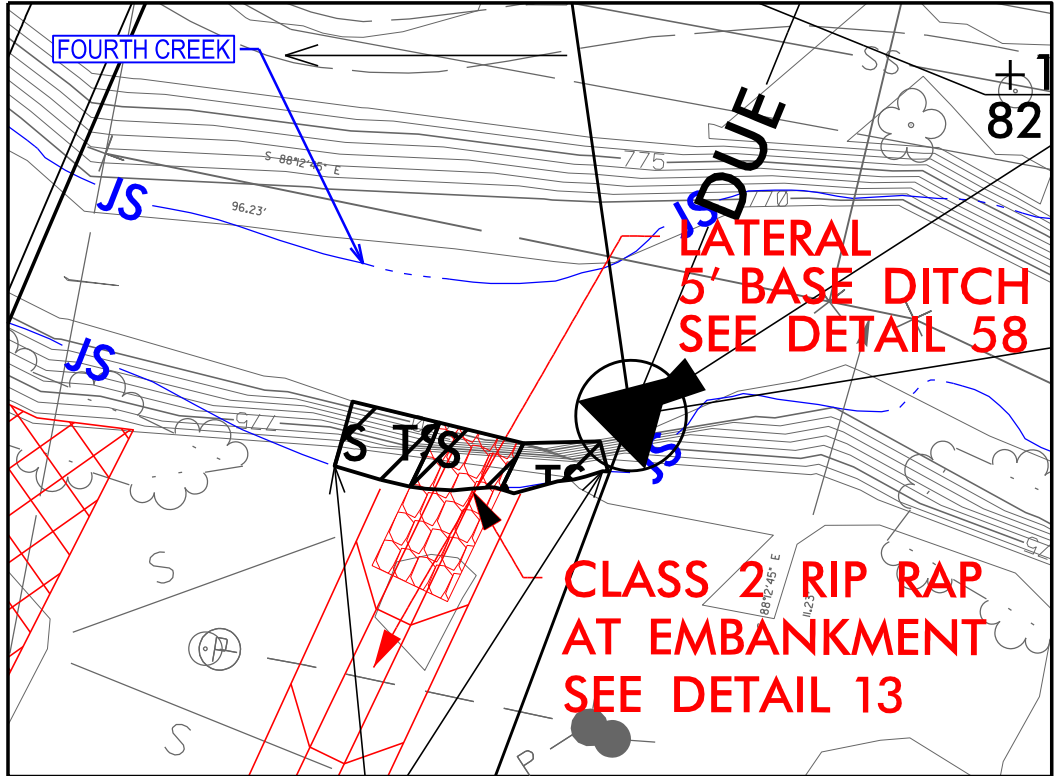
TEMPORARY IMPACTS IN
SURFACE WATER



-Y_S- STA. 121+45
-YRPAC- 27+86 RT

SITE# 7

INSET



-Y_S- FROM STA. 118+50 TO STA. 120+80

PERMIT DRAWING
SHEET 49 OF 67

NC GRID NAD 8395

5 5 DENOTES IMPACTS IN
SURFACE WATER

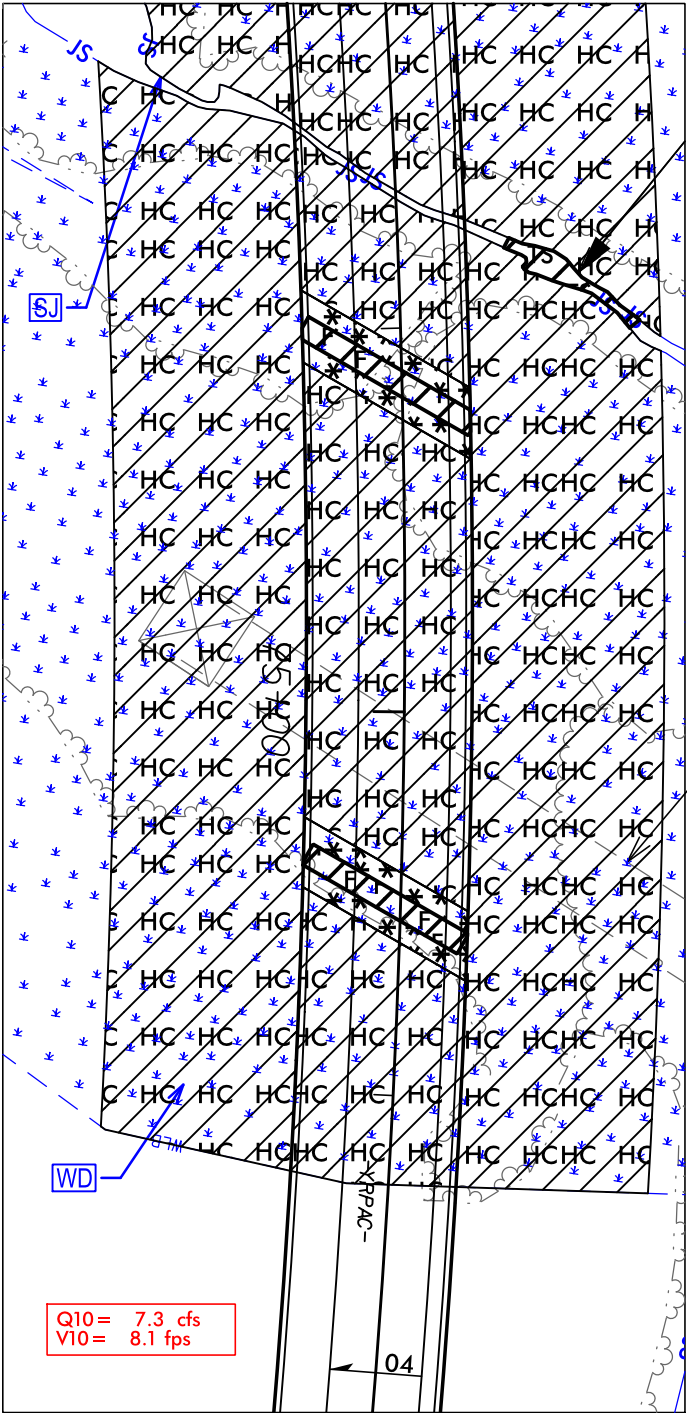
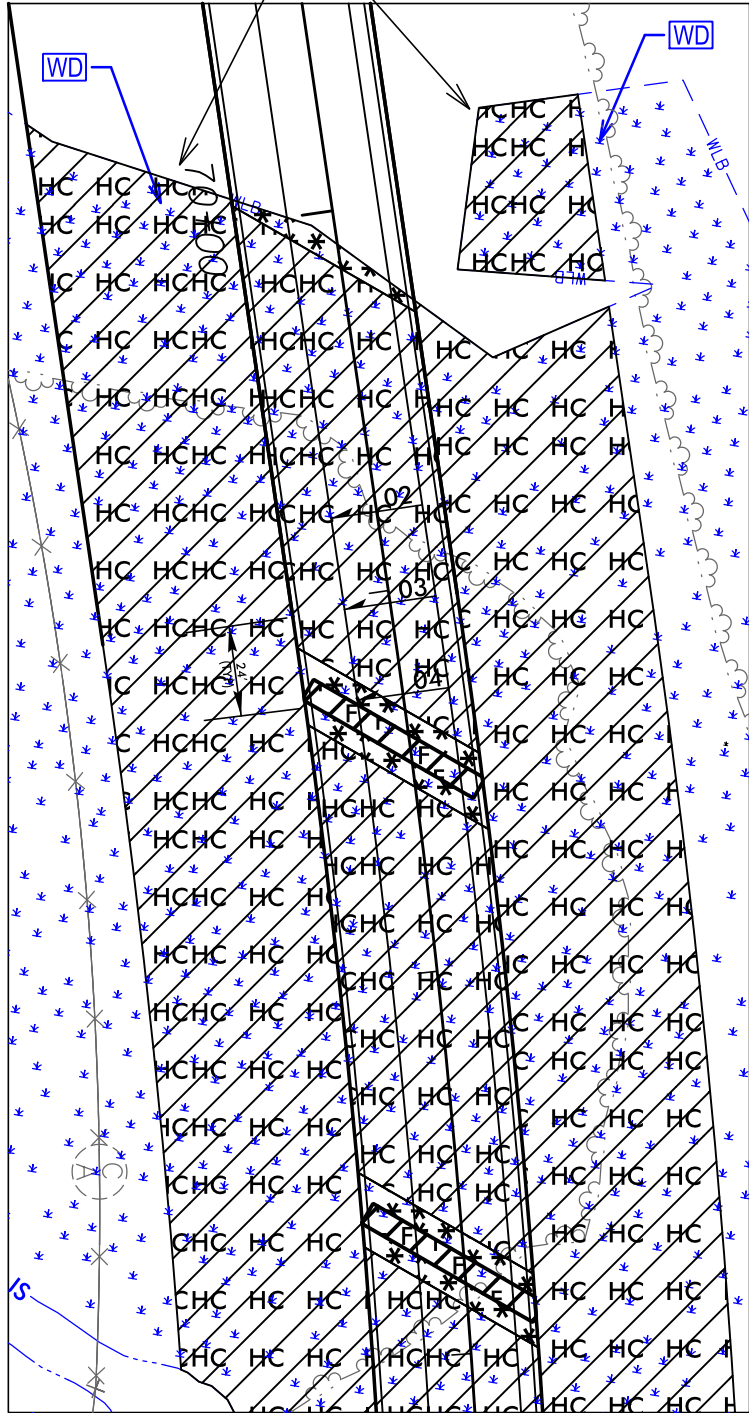
15 15 DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



GRAPHIC SCALE - INSETS

INSET

SITE #5



TEMPORARY PIPE

SITE #5

Q10= 7.3 cfs
V10= 8.1 fps

NC GRID NAD 8395

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

PERMIT DRAWING
SHEET 50 OF 67



GRAPHIC SCALE - INSETS

LANE



PROJECT REFERENCE NO.

1-3819B

SHEET NO.

22B

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

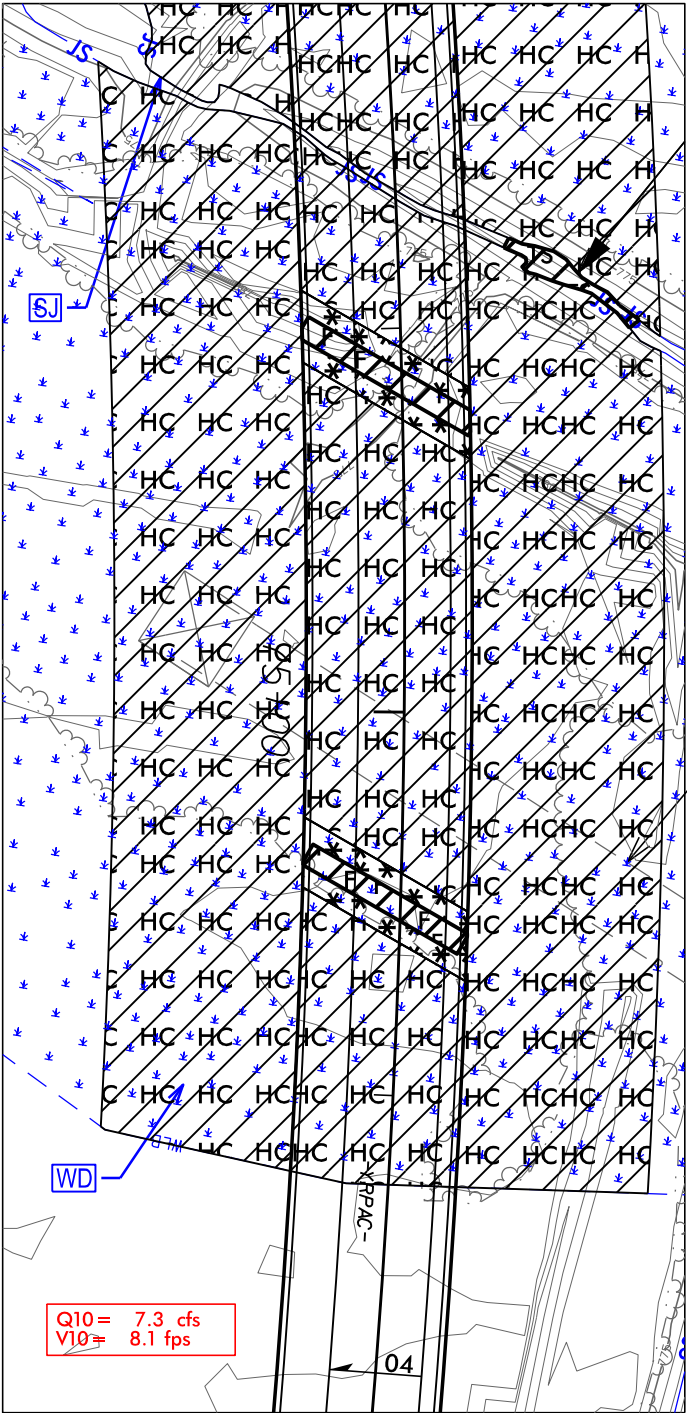
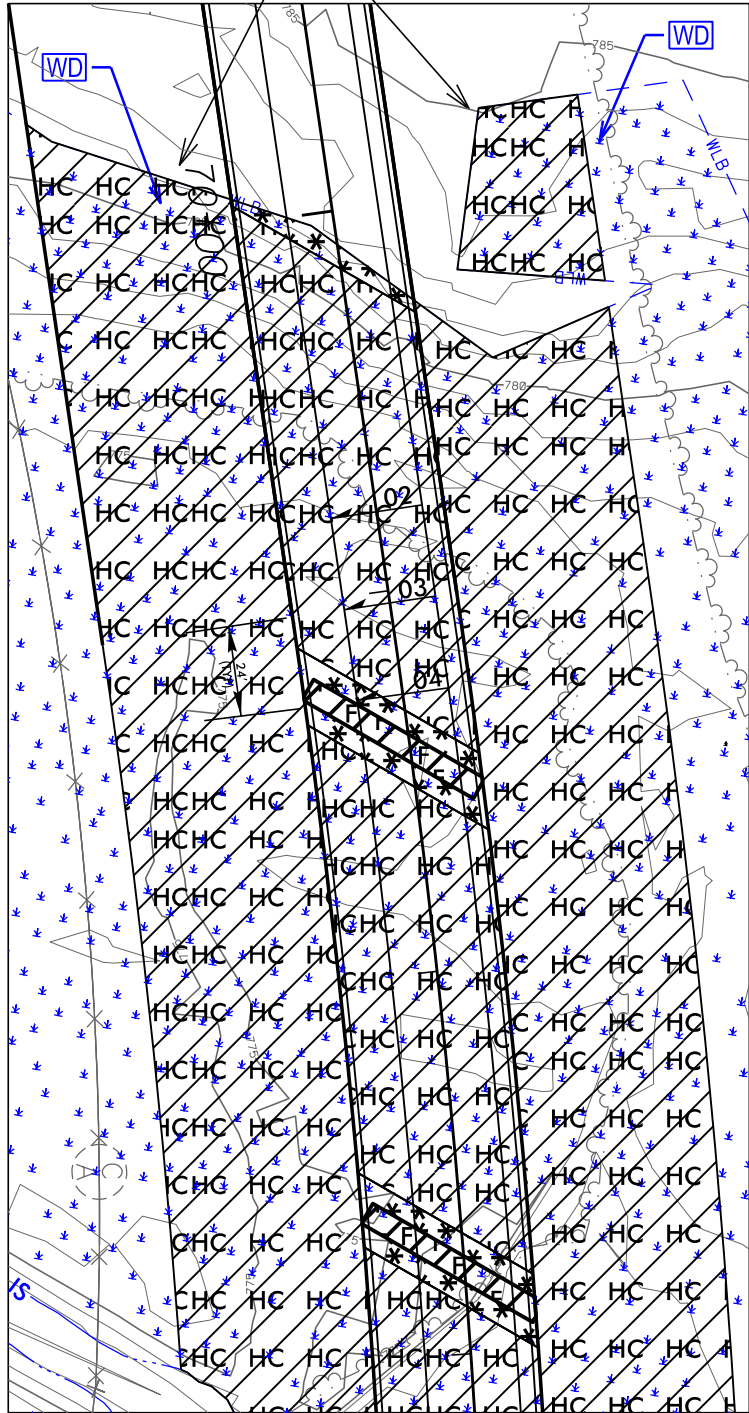
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

INSET

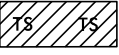
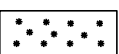
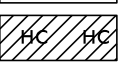
SITE #5



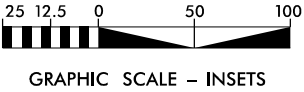
TEMPORARY PIPE

SITE #5

NC GRID NAD 8395

-  TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  F DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING
-  HC DENOTES HAND CLEARING

PERMIT DRAWING
SHEET 51 OF 67



LANE

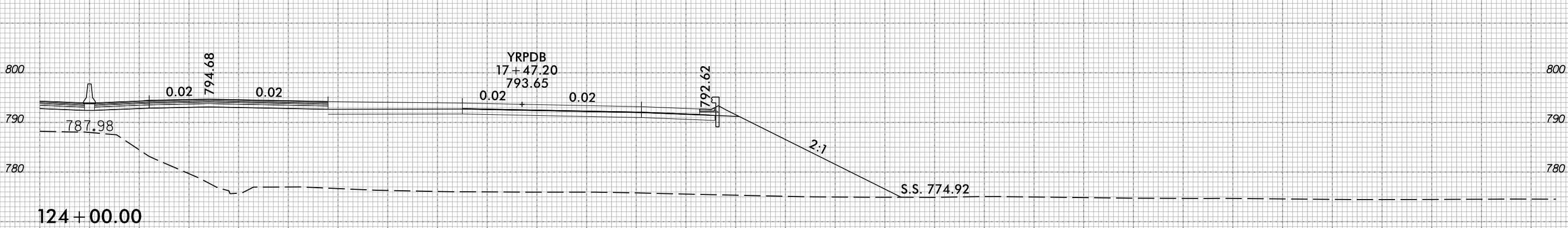
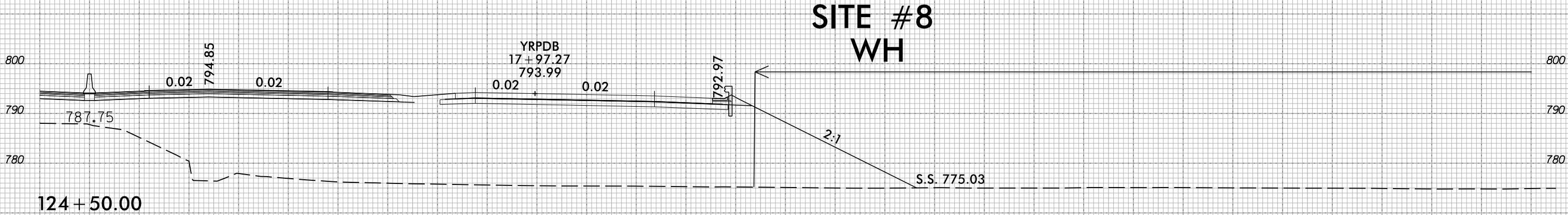
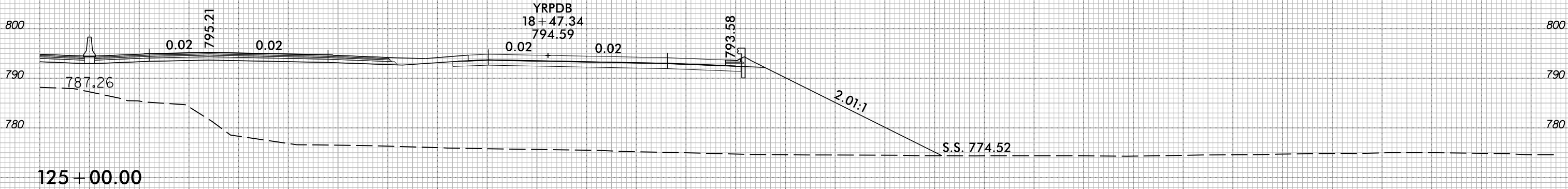


PROJECT REFERENCE NO.	SHEET NO.
1-3819B	22B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

6/23/16

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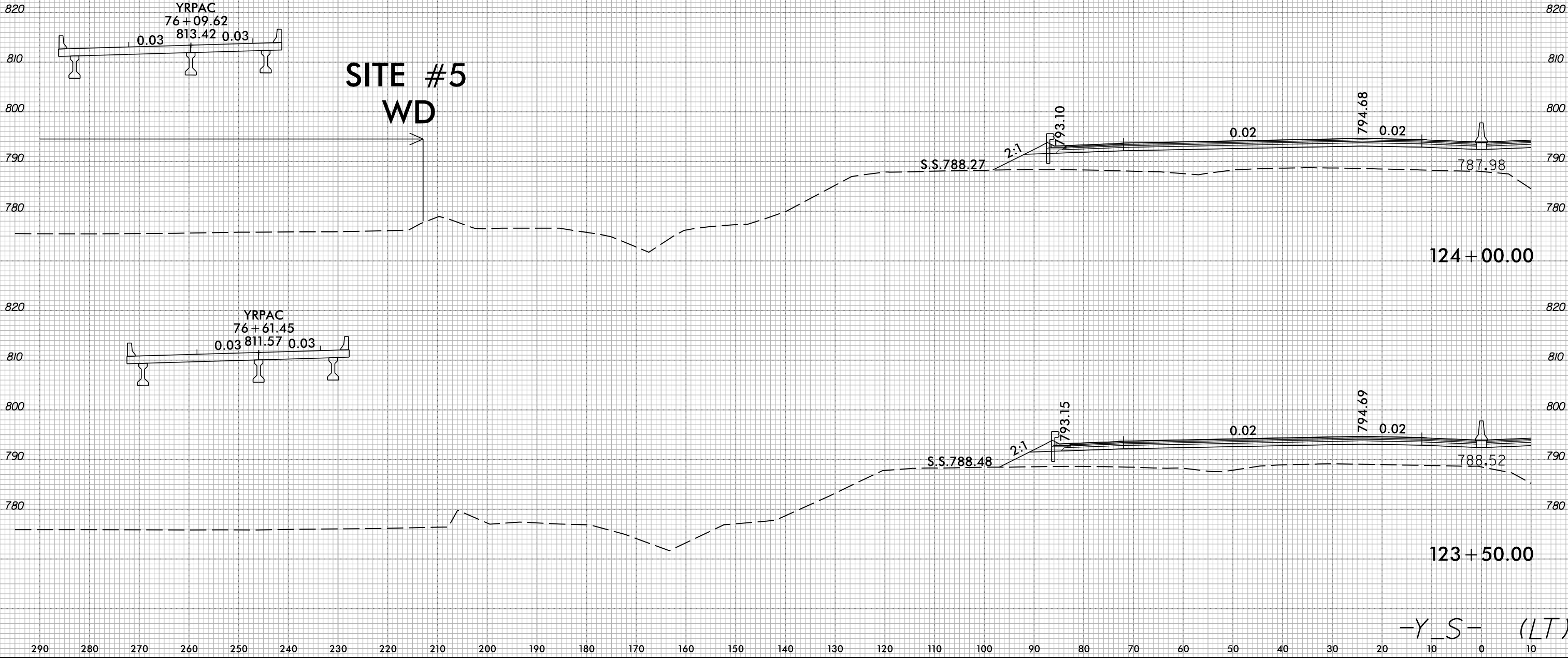
PERMIT DRAWING
SHEET 53 OF 67



-Y_S- (RT)

290	280	270	260	250	240	230	220	210	200	190	180	170	160	150	140	130	120	110	100	90	80	70	60	50
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SITE #5
WD

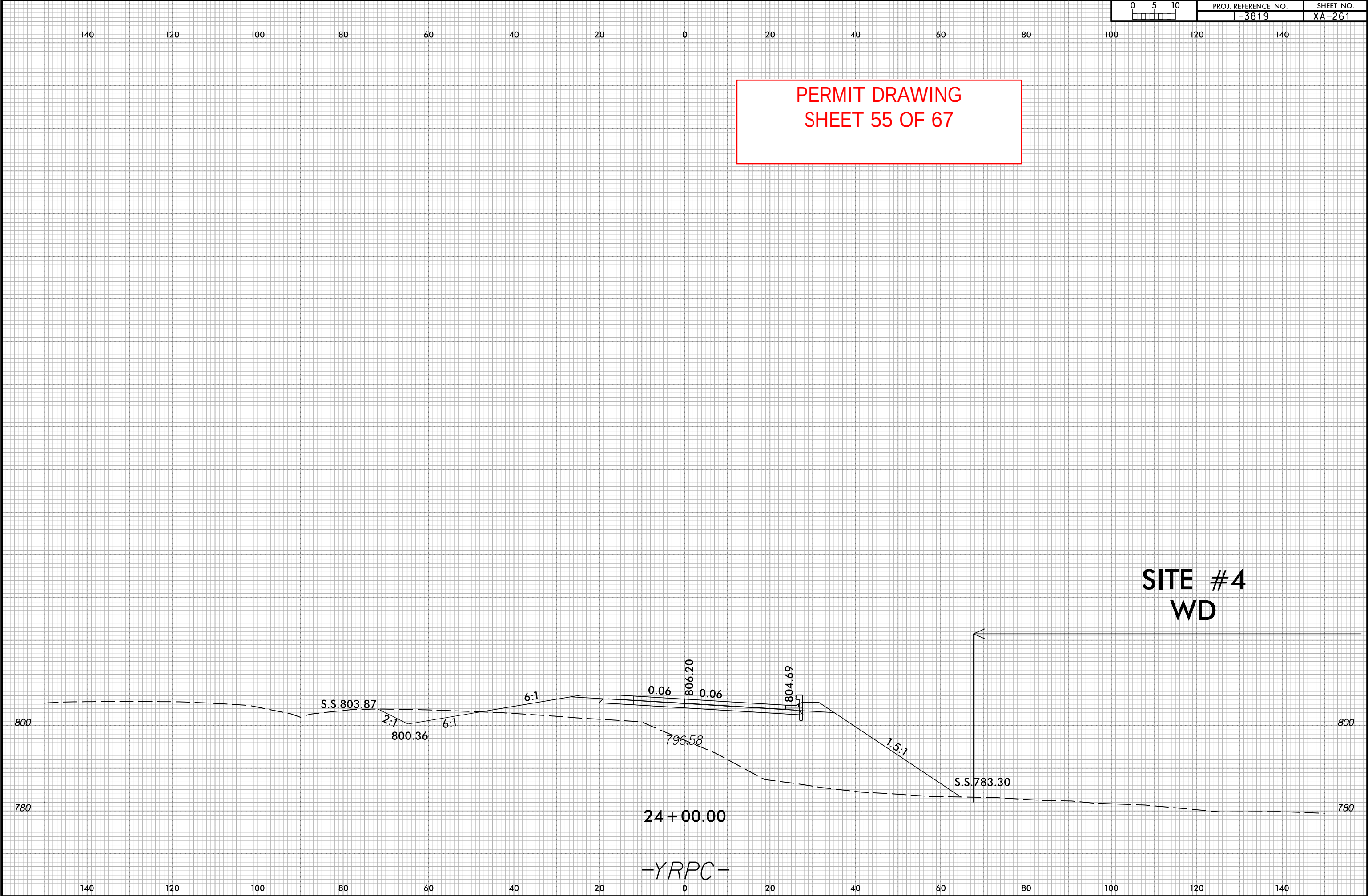


6/23/16

0 5 10 □ □ □ □ □	PROJ. REFERENCE NO. I-3819	SHEET NO. XA-261
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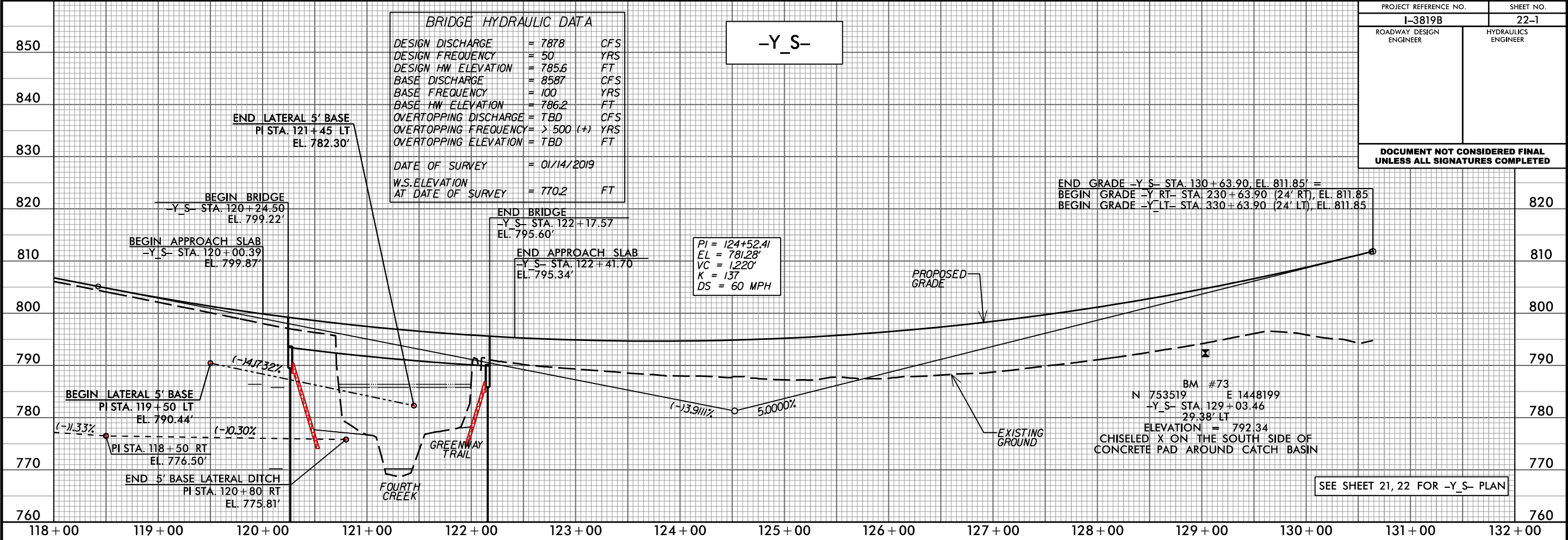
PERMIT DRAWING
SHEET 55 OF 67

5/31/2019
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USN66574



5/28/99

6/3/2019
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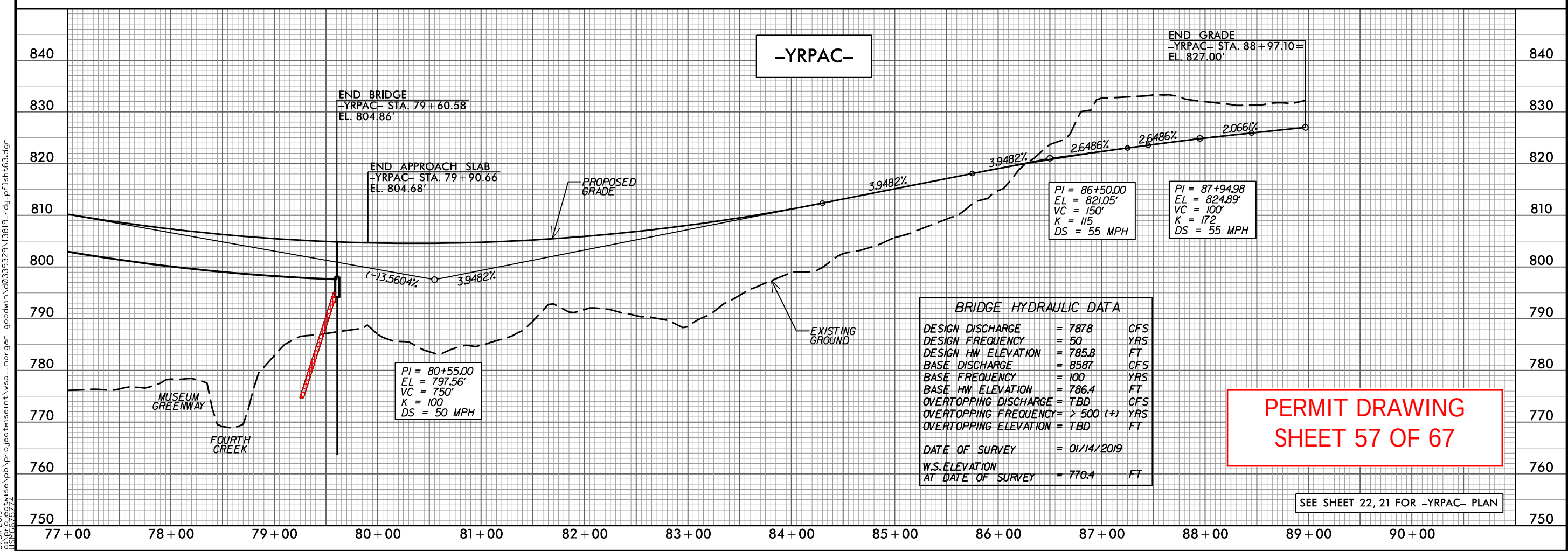
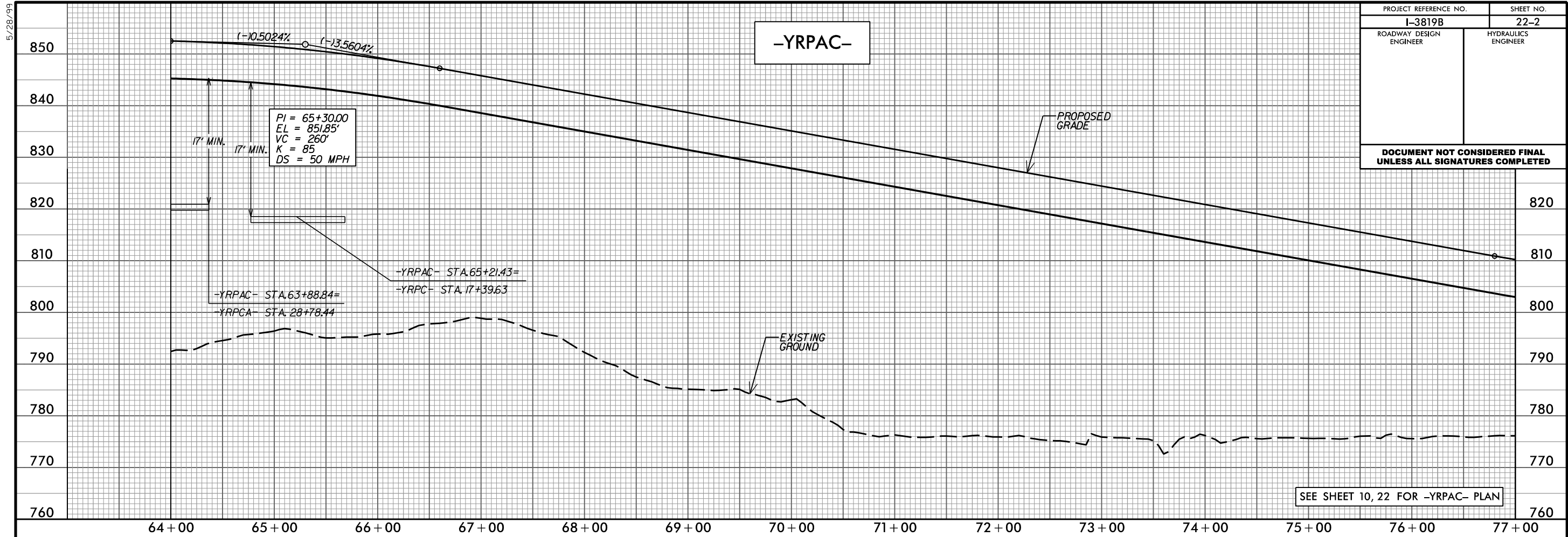


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PERMIT DRAWING
SHEET 56 OF 67

5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
I-3819B		22-2	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



5/31/2019
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PROJECT REFERENCE NO.	SHEET NO.
1-3819B	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NC GRID NAD 8395

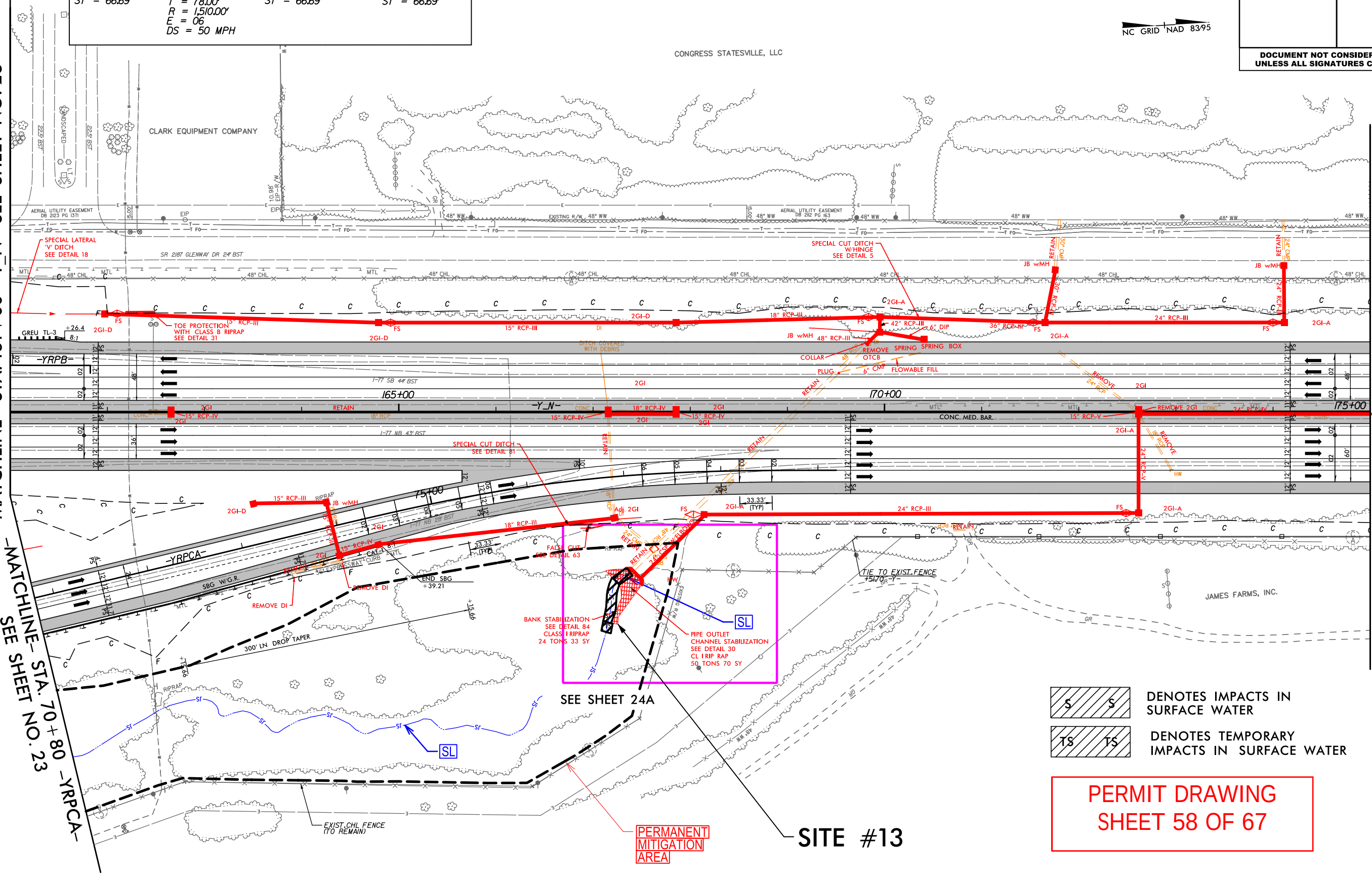
-YRPA-		-YRPB-	
Pls Sta 74+96.43	Pls Sta 76+41.07	Pls Sta 77+85.63	Pls Sta 11+33.36
$\Delta s = 3' 47' 39.9"$	$\Delta = 5' 54' 51.8" (RT)$	$\Delta s = 3' 47' 39.9"$	$\Delta s = 3' 22' 13.2"$
$Ls = 200.00'$	$D = 3' 47' 39.9"$	$Ls = 200.00'$	$Ls = 200.00'$
$LT = 133.36'$	$L = 155.87'$	$LT = 133.36'$	$LT = 133.36'$
$ST = 66.69'$	$T = 78.00'$	$ST = 66.69'$	$ST = 66.69'$
	$R = 1510.00'$		
	$E = 06$		
	$DS = 50 MPH$		

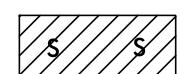
CONGRESS STATESVILLE, LLC

-MATCHLINE- STA. 161+00 -Y_N- SEE SHEET NO. 23

-MATCHLINE- STA. 70+80 -YRPA- SEE SHEET NO. 23

-MATCHLINE- STA. 175+00 -Y_N- SEE SHEET NO. 25



 DENOTES IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

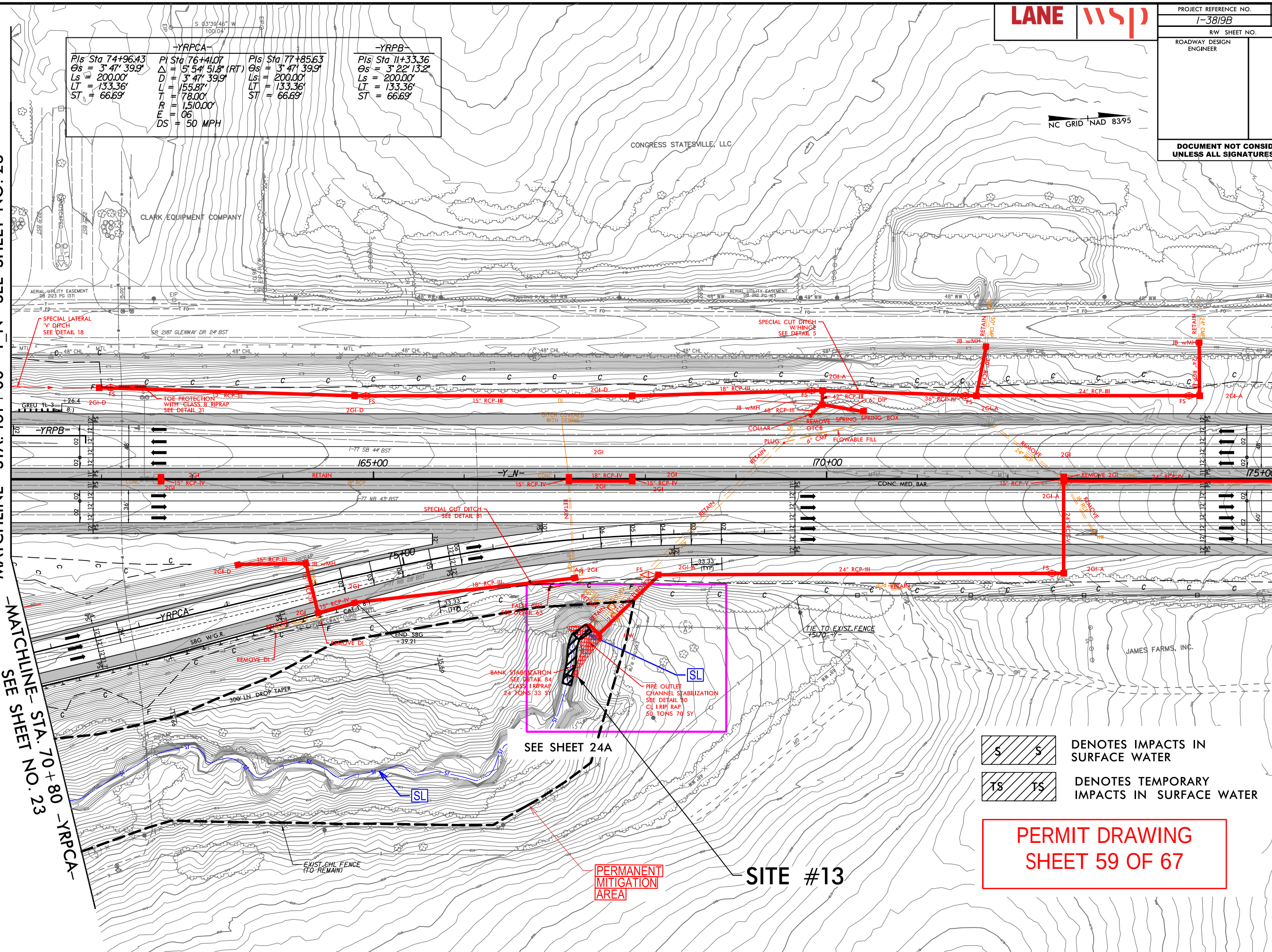
PERMIT DRAWING
SHEET 58 OF 67

PERMANENT
MITIGATION
AREA

SITE #13

STA. 10+00
-MATCHLINE-
SEE SHEET NO. 23

-MATCHLINE- STA. 175 + 00 -Y N- SEE SHEET NO. 25



PERMIT DRAWING
SHEET 59 OF 67

SITE #13

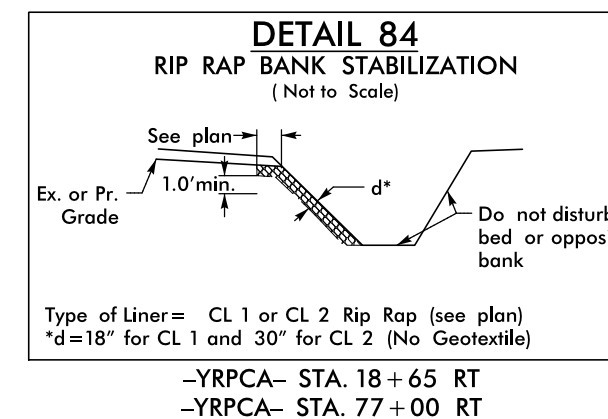
PERMANENT
MITIGATION
AREA

6/28/2019
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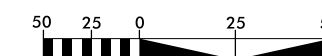
**BANK STABILIZATION
SEE DETAIL 84
CLASS I RIPRAP
24 TONS 33 SY**

PERMANENT
MITIGATION
AREA



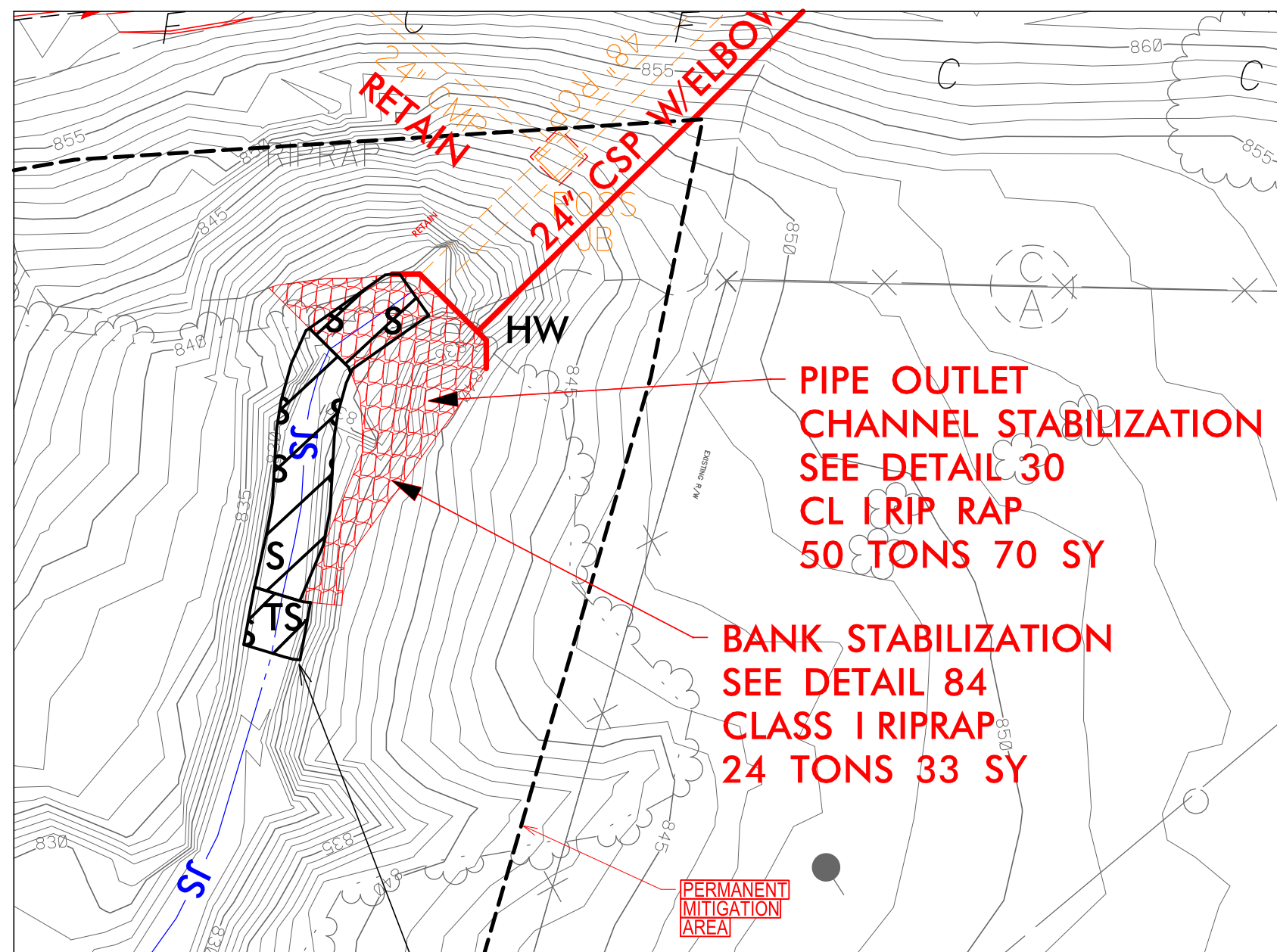
 DENOTES IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



GRAPHIC SCALE – INSETS

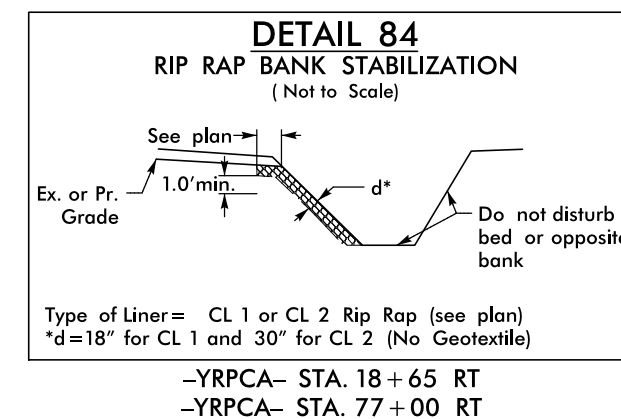
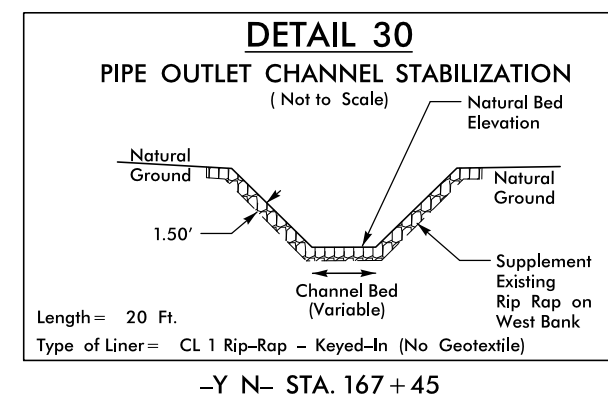
PERMIT DRAWING
SHEET 60 OF 67



SITE #13

TEMPORARY IMPACTS IN SURFACE WATER

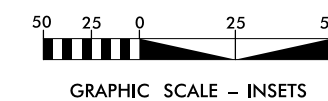
PERMIT DRAWING
SHEET 61 OF 67

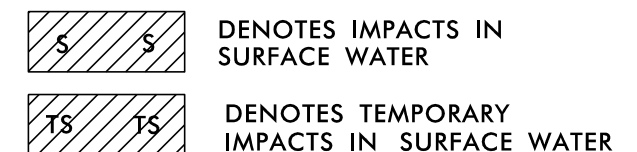


NC GRID + NAD 83/95

 DENOTES IMPACTS IN SURFACE WATER

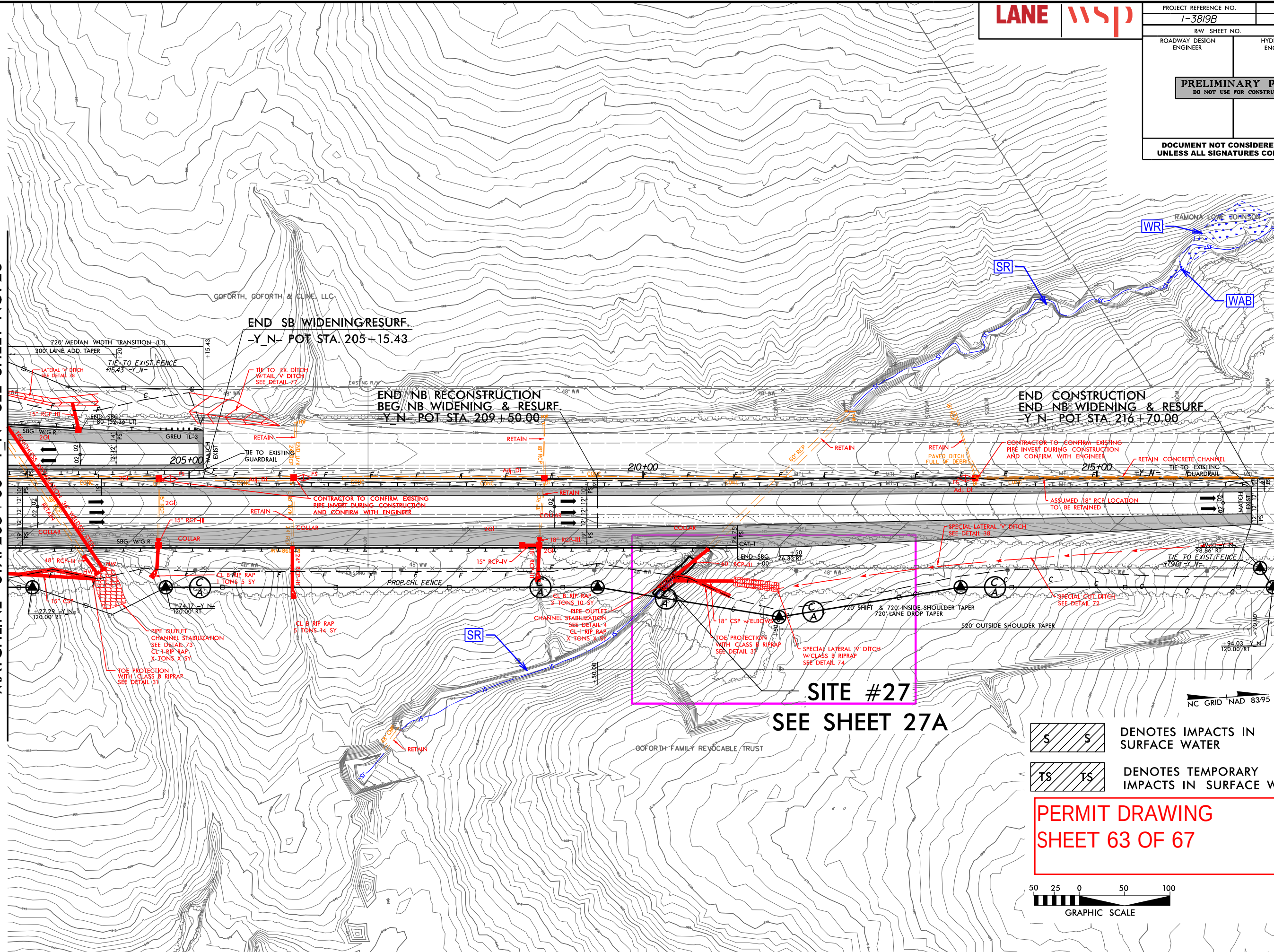
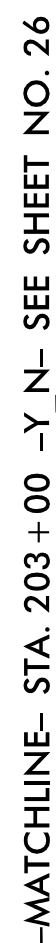
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER





50 25 0 50 100

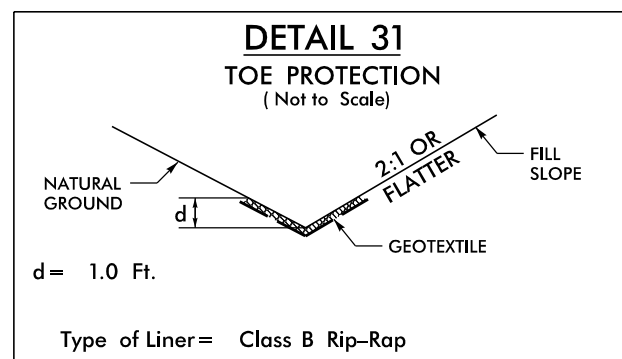
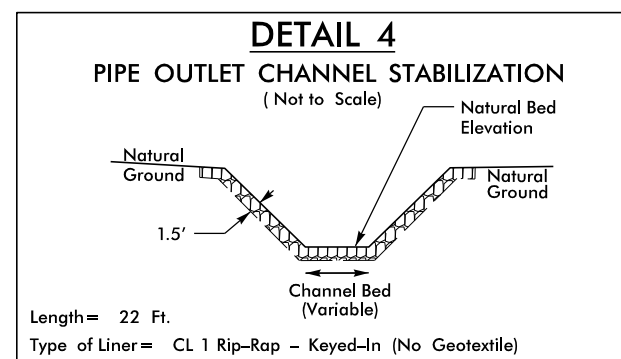
GRAPHIC SCALE



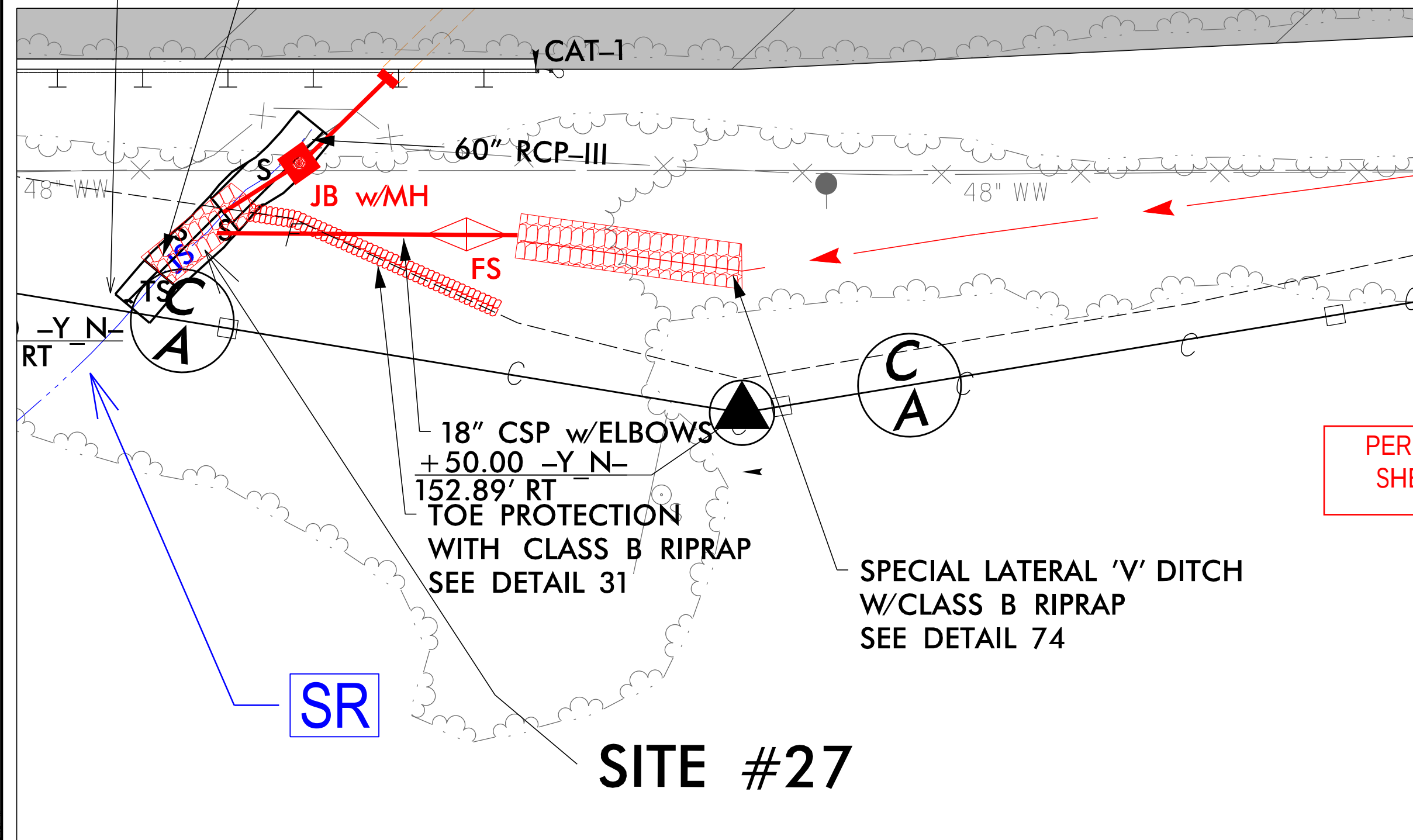
PERMIT DRAWING
SHEET 63 OF 67



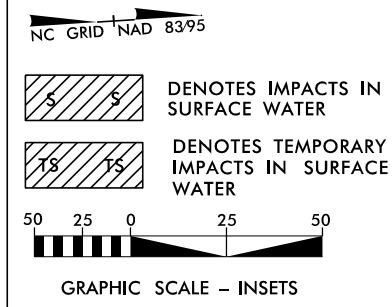
PROJECT REFERENCE NO.	SHEET NO.
1-3819B	27A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



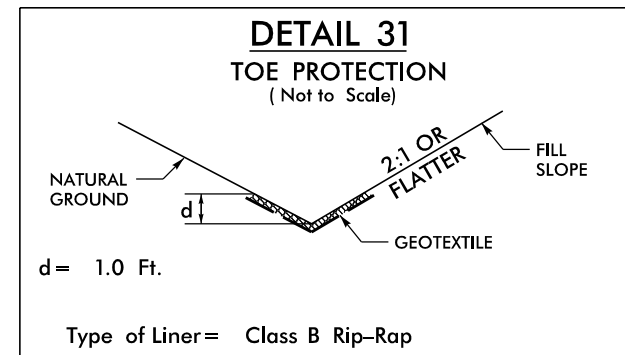
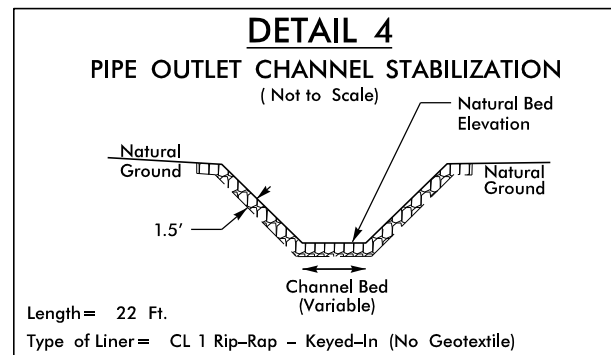
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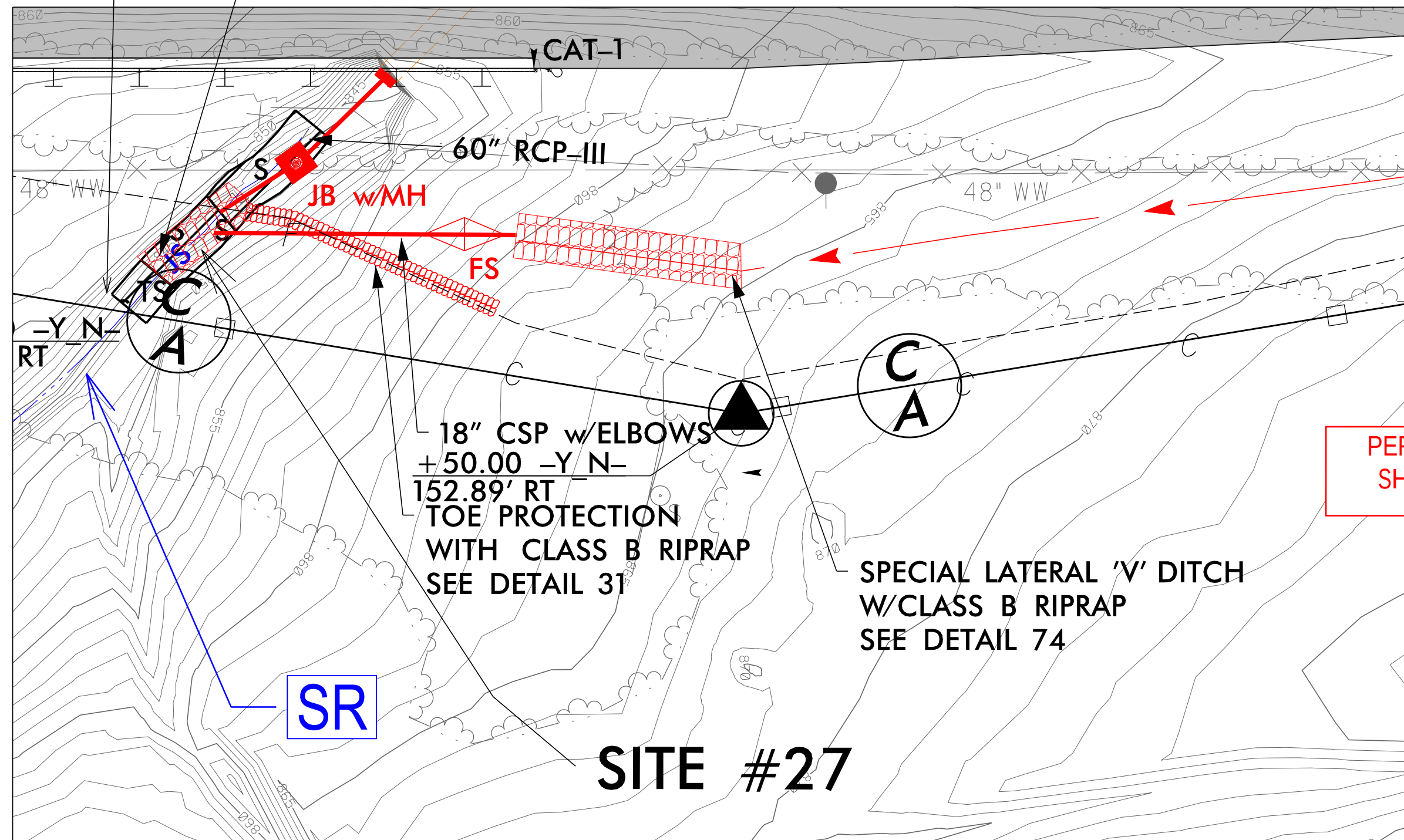
PERMIT DRAWING
SHEET 64 OF 67



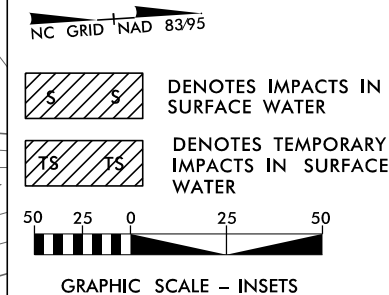
07/12/19
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becker_j



INSET



PERMIT DRAWING
SHEET 65 OF 67



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	Site 1 Eliminated											
2	14+00 -21+50-YRPCA-	Roadway Fill	0.32			0.09						
2	16+70 - 21+50-YRPCA-	Bridge/Stream Bank Stabilization	0.02			0.02	0.62	< 0.01	< 0.01	42	20	
3	15+75-YRPC-	Roadway Fill	< 0.01			0.01		0.02	< 0.01	206	10	
4	24+00-YRPC-	Roadway Fill				0.02						
5	70+00 - 76+25 -YRPAC-	Bridge	0.03			0.05	1.94					
5	70+00 - 73+85 -YRPAC-	Temporary Pipe							< 0.01		40	
6	121+50-Y_LT-	Stream Bank Stabilization						< 0.01	< 0.01	12	20	
7	120+90-Y_RT-	Stream Bank Stabilization						< 0.01	< 0.01	12	20	
8	19+00-YRPDB-	Roadway Fill	< 0.01			< 0.01						
9	28+50 - 34+00-YRPAC-	Roadway Fill	0.40			0.08		0.07	< 0.01	747	10	
10	28+00-YRPAC-	Stream Bank Stabilization						< 0.01	< 0.01	25	20	
11	27+50 - 26+50-YRPAC	Roadway Fill	0.19			0.02						
12	149+00-150+00-L-	Bridge						< 0.01	0.01	10	54	
13	167+00-Y_RT-	Stream Bed Stabilization						< 0.01		17		
13	167+00-Y_RT-	Stream Bank Stabilization						< 0.01	< 0.01	44	10	
14	28+50-Y-	Stream Bed Stabilization						< 0.01	< 0.01	17	10	
15	33+75-Y-	Stream Bank Stabilization						< 0.01	< 0.01	11	20	
16	37+10-37+20-Y-	54" RCP Extension						< 0.01		13		
16	35+90-37+10-Y-	Stream Bed Stabilization						< 0.01	< 0.01	99	10	
17	37+70-37+80-Y-	54" RCP Extension						< 0.01		17		
17	37+80-38+50-Y-	Stream Bed Stabilization						0.01	< 0.01	98	14	
18	47+50-Y-	54" RCP Extension						< 0.01		39		
18	47+50-Y-	Stream Bed Stabilization						< 0.01	< 0.01	33	10	
SHEET 66 SUBTOTALS*:			0.97			0.29	2.56	0.16	0.04	1442	268	

*Rounded totals are sum of actual impacts for sites listed on Sheet 66. See Sheet 67 for project total.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
06/05/2019
IREDELL
TIP NO. I-3819B
WBS NO.

SHEET
66
OF
67

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)
19	46+00-Y-	54" RCP Extension						< 0.01		34		
20	68+50-Y-	New Channel						< 0.01	< 0.01	13	10	
20	68+50-Y-	Roadway Fill						< 0.01		48		
21	70+20-Y-	3@9'X11" RCBC Extension						0.02		39		
21	69+20-70+20-Y-	Stream Bed Stabilization						0.05	< 0.01	137	21	
22	71+30-71+90-Y-	3@9'X11" RCBC Extension						< 0.01		45		
22	71+90-72+89-Y-	Stream Bed Stabilization						0.05		160		
22	72+89-75+10-Y-	New Channel						0.07		225		
22	75+10-83+59-Y-	Stream Bank Stabilization						0.23		873		
22	83+59-84+00-Y-	Stream Bed Stabilization						0.01	< 0.01	37	10	
23	87+70-Y-	Roadway Fill							< 0.01		33	
24	93+75-Y-	66" RCP Extension						< 0.01	< 0.01	49	10	
25	94+50-Y-	66" RCP Extension						< 0.01		10		
25	94+50-Y-	Stream Bed Stabilization						< 0.01	< 0.01	34	32	
26	116+70-120+10-Y-	Roadway Fill	0.09			0.04						
27	210+00-Y-	60" RCP Extension						< 0.01		29		
27	210+00-Y-	Stream Bed Stabilization						< 0.01	< 0.01	19	10	
SHEET 66 SUBTOTAL			0.97	0.00	0.00	0.29	2.56	0.16	0.04	1442	268	0
SHEET 67 SUBTOTAL			0.09	0.00	0.00	0.04	0.00	0.47	0.03	1752	126	0
PROJECT TOTALS*:			1.06	0.00	0.00	0.33	2.56	0.63	0.07	3194	394	0.00

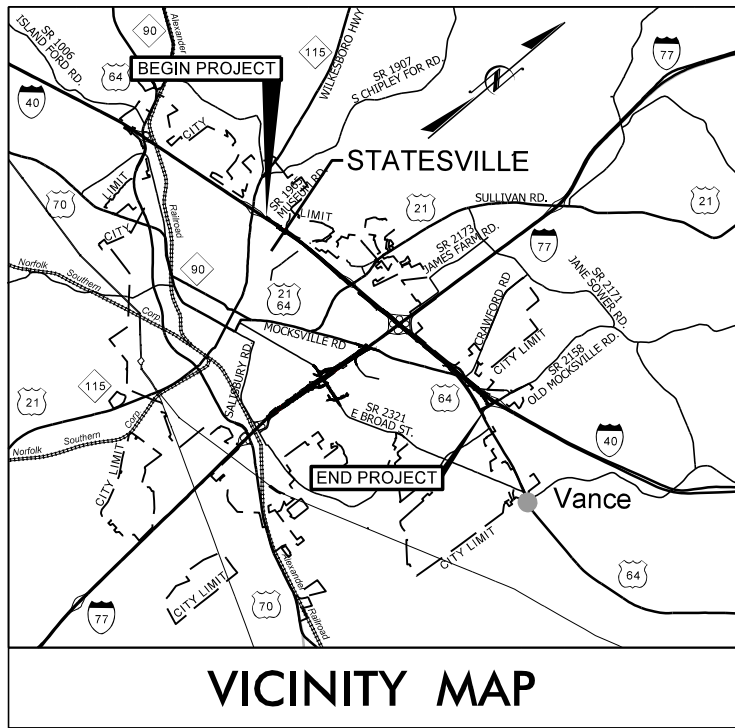
*Rounded totals are sum of actual impacts for entire project area

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
06/05/2019
IREDELL
TIP NO. I-3819B
WBS NO.

SHEET67OF67

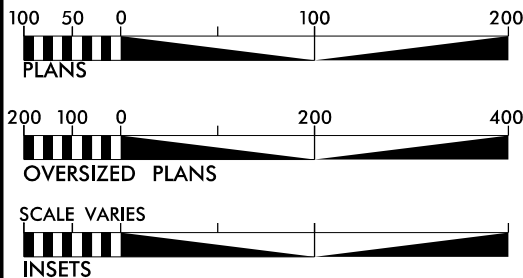
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Gupton

TIP PROJECT: I-3819B/U-6039
PROJECT: 34192.1.2



VICINITY MAP

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF STATESVILLE AND THE TOWNSHIP OF BETHANY



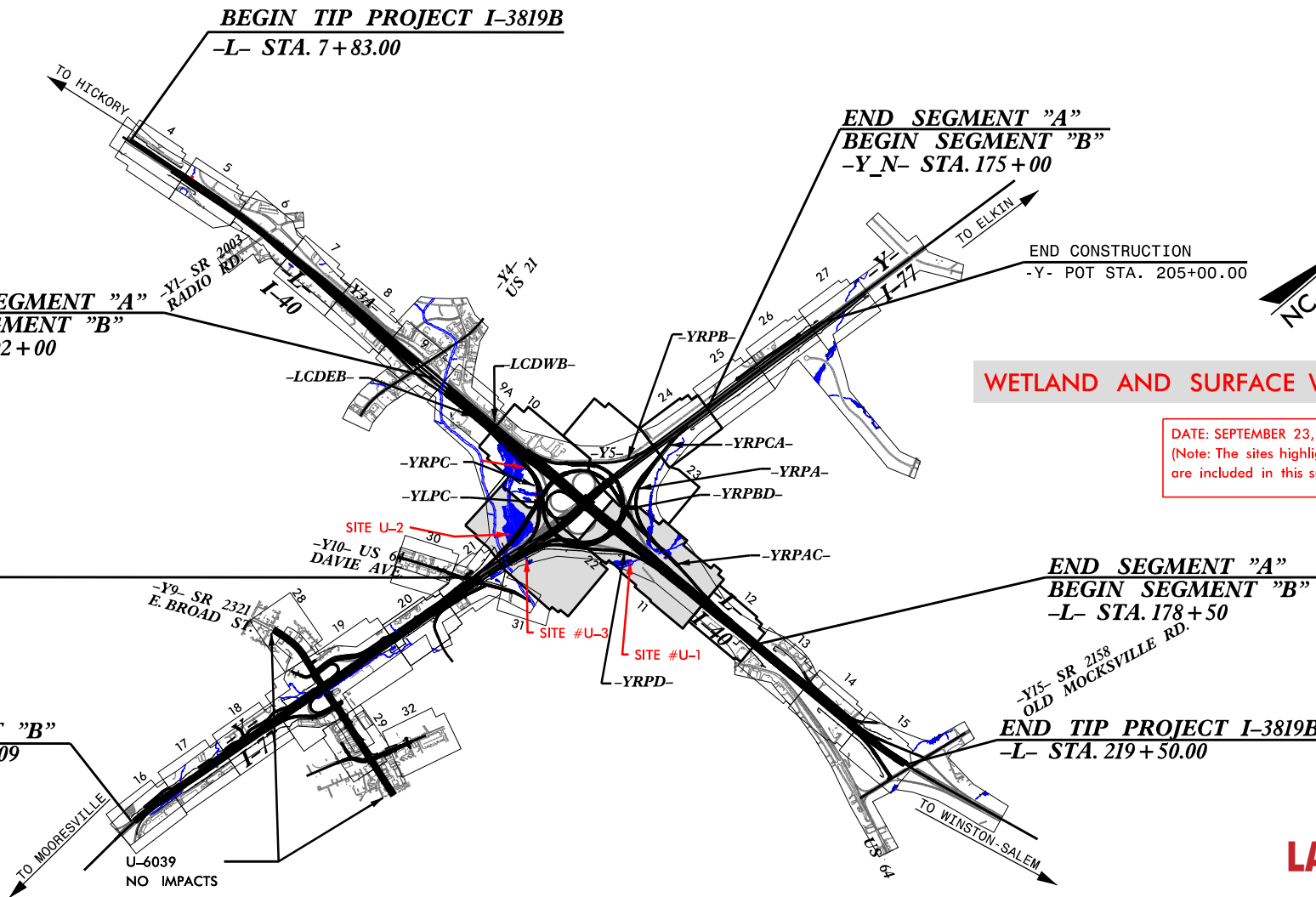
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END SEGMENT "B"
-L- STA. 92+00

BEGIN SEGMENT "A"
END SEGMENT "B"
-Y_S- STA. 111+00

BEGIN SEGMENT "B"
-Y_S- STA. 25+00.09

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES



WETLAND AND SURFACE WATER IMPACT PERMITS

DATE: SEPTEMBER 23, 2019
(Note: The sites highlighted in RED are included in this submittal.)

UTILITY PERMIT
DRAWING
SHEET 1 OF 8

LANE

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

GRAPHIC SCALES

SEE ABOVE

DESIGN DATA

	I-40	I-77
ADT 2018	= 57,300	62,900
ADT 2040	= 72,500	77,500
DHV	= 5,800	6,200
D	= 55 %	55 %
T	= 16 % *	19 % **
V	= 60 MPH	60 MPH
* TTST 13 + DUAL 3 (I-40)		
** TTST 16 + DUAL 3 (I-77)		
CLASSIFICATION: INTERSTATE		

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-3819B	=	3.885
LENGTH STRUCTURES TIP PROJECT I-3819B	=	0.124
TOTAL LENGTH OF TIP PROJECT I-3819B	=	4.009

Prepared in the Office of:

WSP

1001 Morehead Square Dr., Suite 610, Charlotte, NC 28203
NC LIC NO. F-0165

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 30, 2018

LETTING DATE:
OCTOBER 30, 2018

CHRISTOPHER D. DAVIS, P.E.
PROJECT ENGINEER

ERIC W. SECKINGER, P.E.
PROJECT DESIGN ENGINEER

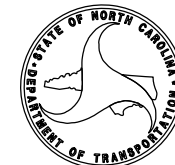
HYDRAULICS ENGINEER

SIGNATURE: P.E.

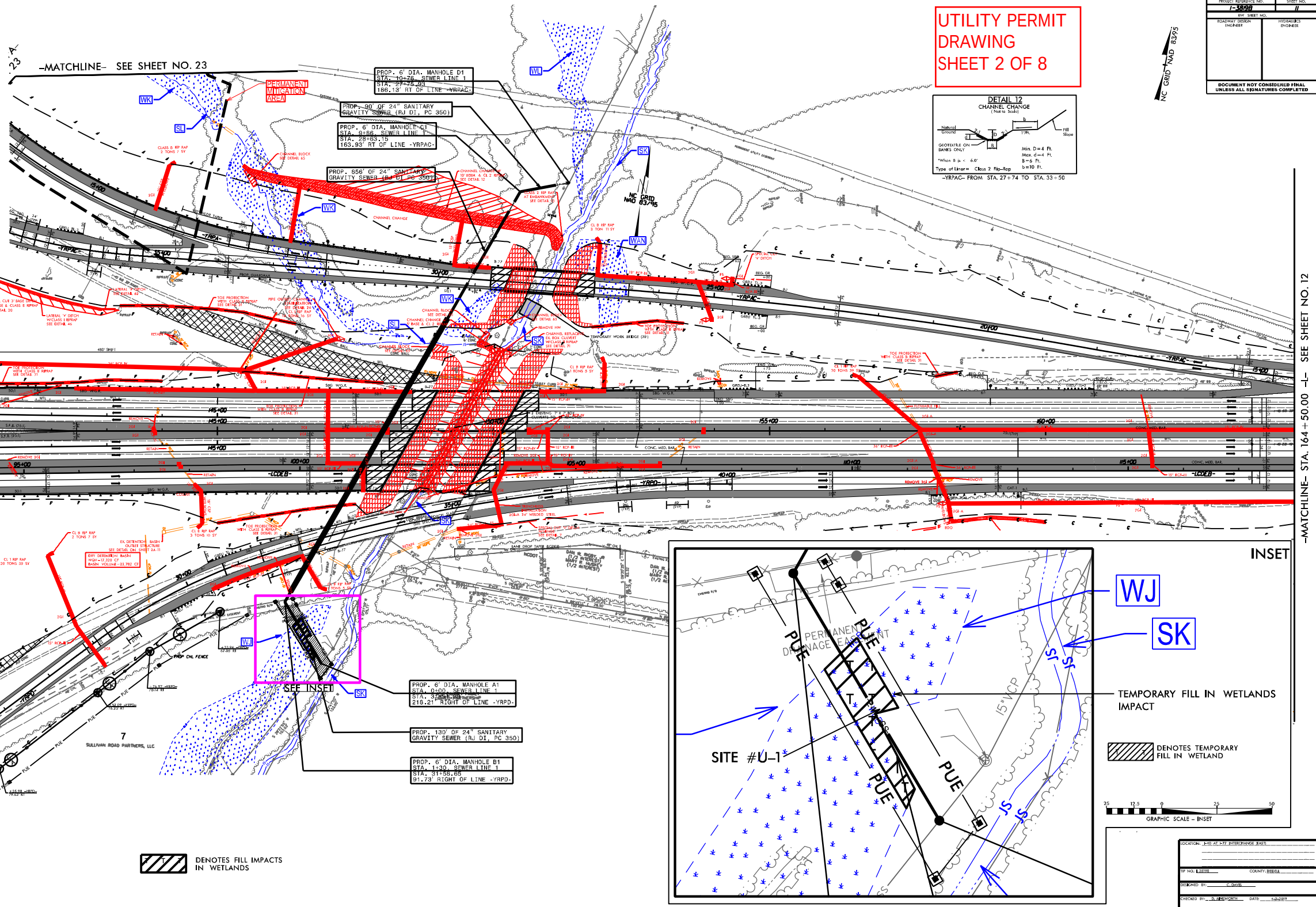
ROADWAY DESIGN
ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

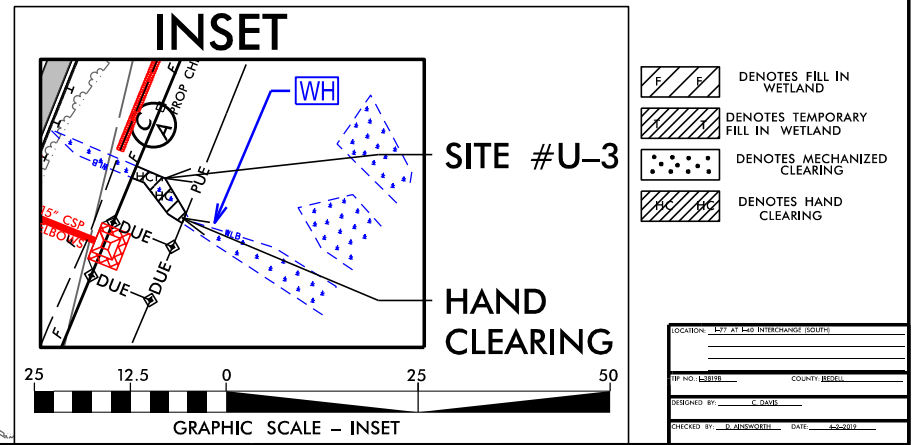
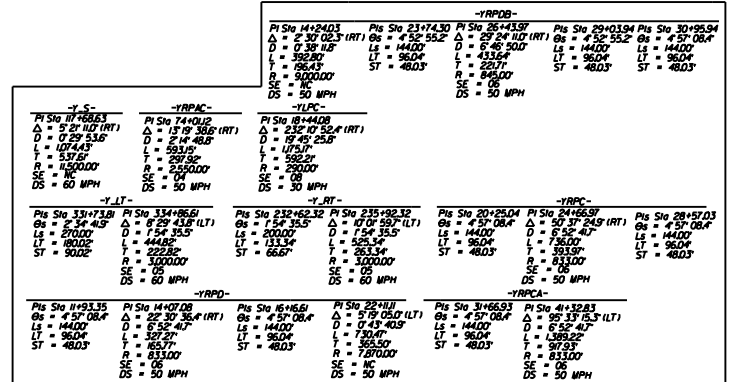


STATE HIGHWAY DESIGN ENGINEER



LOCATION: I-40 AT I-77 INTERCHANGE EAST

FILE NO. E-18198 COUNTY: BREIDLE
DESIGNED BY: C. DAVIS
CHECKED BY: D. JANSWORTH DATE: 1-2-2019



UTILITY PERMIT
DRAWING
SHEET 5 OF 8

Revised 9/24/19

-YRPA-		-YRPA-		-YRPA-		-YRPA-		-YRPA-	
Sta 14+24.03	Sta 21+74.30	Sta 26+44.19	Sta 29+01.04	Sta 30+95.94	Sta 31+74.30	Sta 36+44.19	Sta 39+01.04	Sta 40+95.94	Sta 41+74.30
Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)
L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00
ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03
DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH

-YRPA-		-YRPA-		-YRPA-		-YRPA-		-YRPA-	
Sta 14+24.03	Sta 21+74.30	Sta 26+44.19	Sta 29+01.04	Sta 30+95.94	Sta 31+74.30	Sta 36+44.19	Sta 39+01.04	Sta 40+95.94	Sta 41+74.30
Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)
L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00
ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03
DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH

-YRPA-		-YRPA-		-YRPA-		-YRPA-		-YRPA-	
Sta 14+24.03	Sta 21+74.30	Sta 26+44.19	Sta 29+01.04	Sta 30+95.94	Sta 31+74.30	Sta 36+44.19	Sta 39+01.04	Sta 40+95.94	Sta 41+74.30
Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)
L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00
ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03
DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH

-YRPA-		-YRPA-		-YRPA-		-YRPA-		-YRPA-	
Sta 14+24.03	Sta 21+74.30	Sta 26+44.19	Sta 29+01.04	Sta 30+95.94	Sta 31+74.30	Sta 36+44.19	Sta 39+01.04	Sta 40+95.94	Sta 41+74.30
Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)	Δ = 2° 30' 00" (RT)	Δ = 4° 52' 55" (RT)
L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00	L = 302.87	L = 440.00
ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03	ST = 40.03
DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH	DS = 25 MPH	DS = 30 MPH

INSET

SITE #U-3

HAND CLEARING

LEGEND:

- Denotes Fill in Wetland
- Denotes Temporary Fill in Wetland
- Denotes Mechanized Clearing
- Denotes Hand Clearing

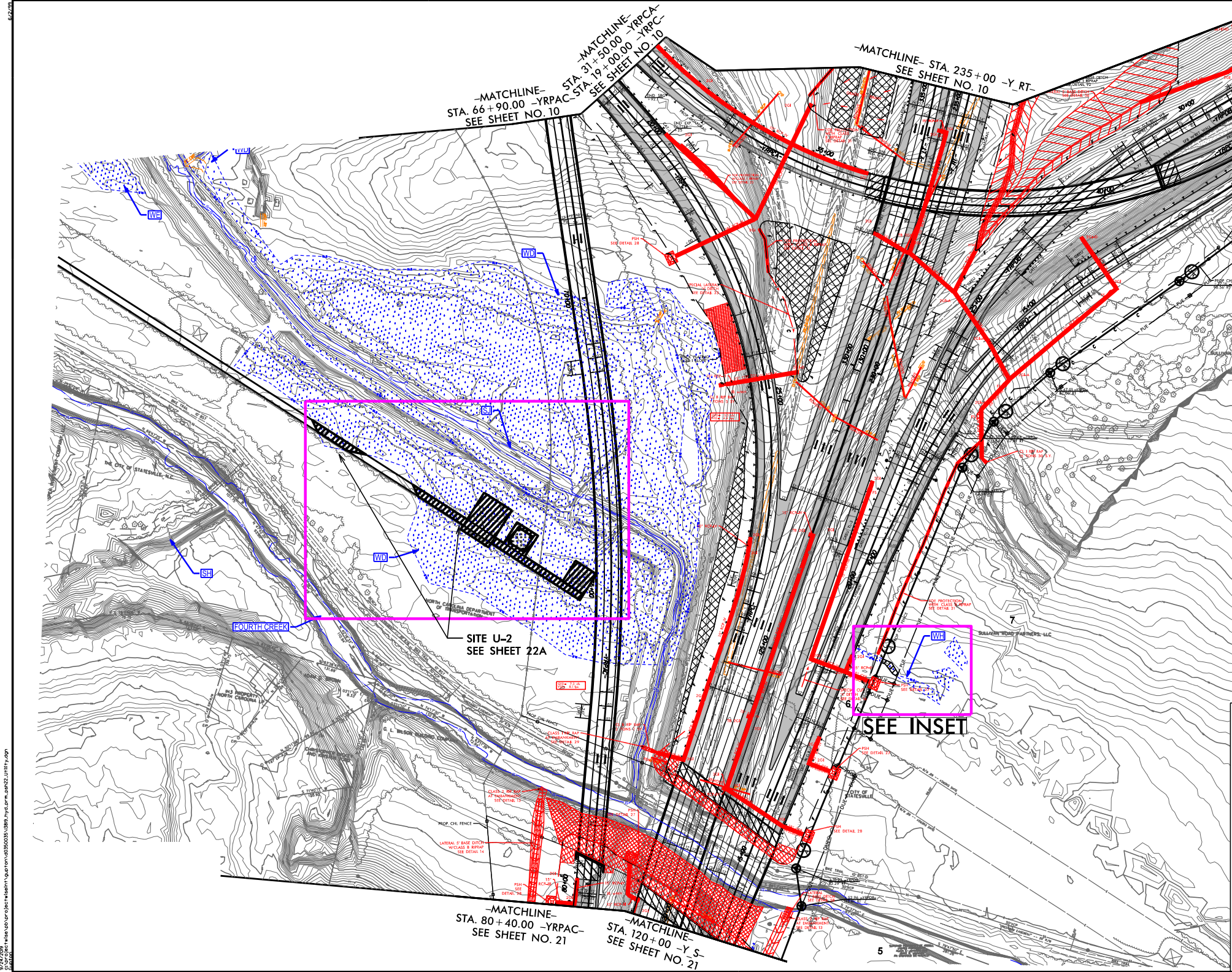
GRAPHIC SCALE - INSET

25 12.5 0 25 50

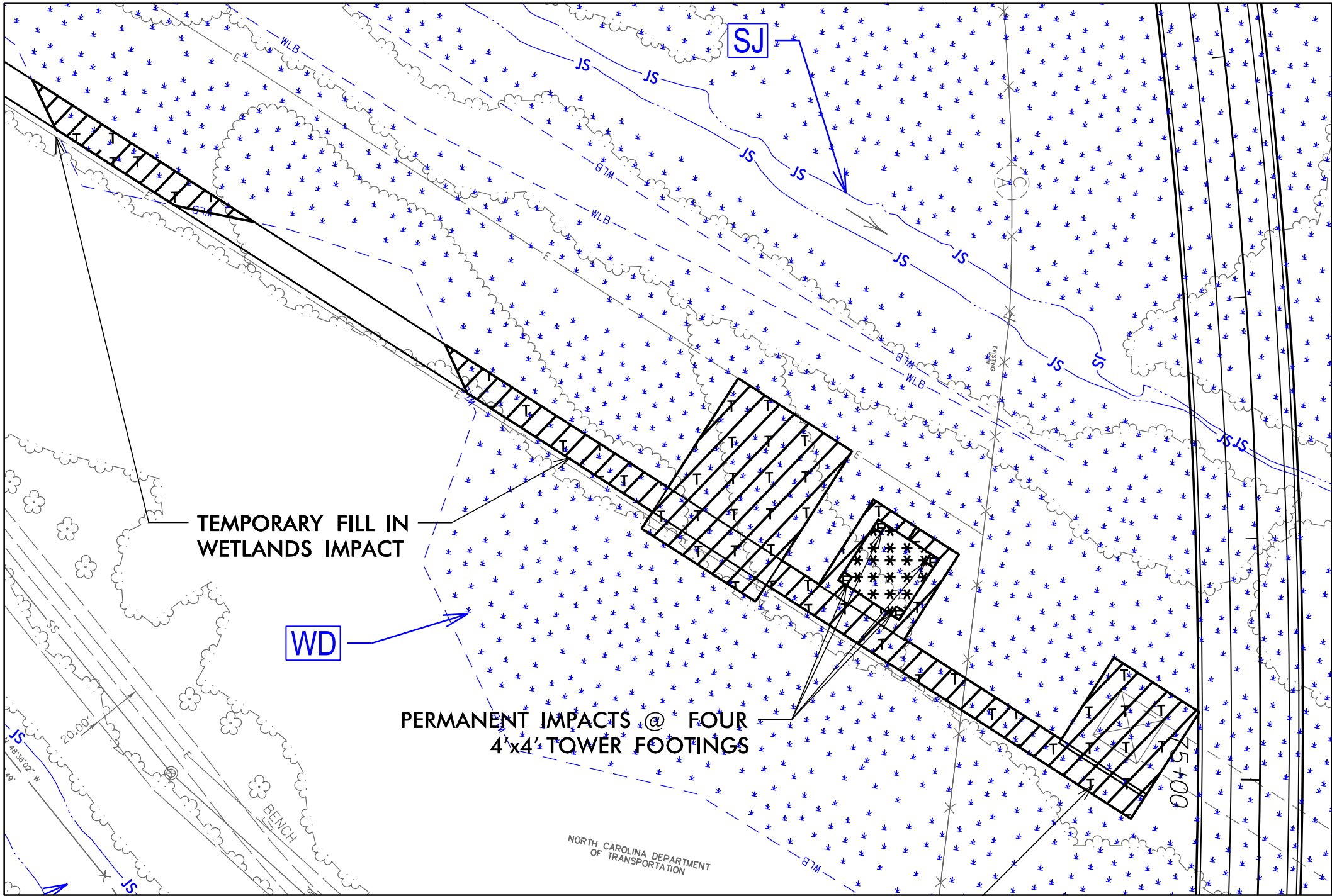
LOCATION: 1ST AT 4th INTERCHANGE SOUTH

DESIGNED BY: C. DATE: _____

CHECKED BY: R. APPROVED: DATE: 6-3-2019



SITE U-2 INSET



UTILITY PERMIT
DRAWING
SHEET 6 OF 8

NC GRID NAD 8395

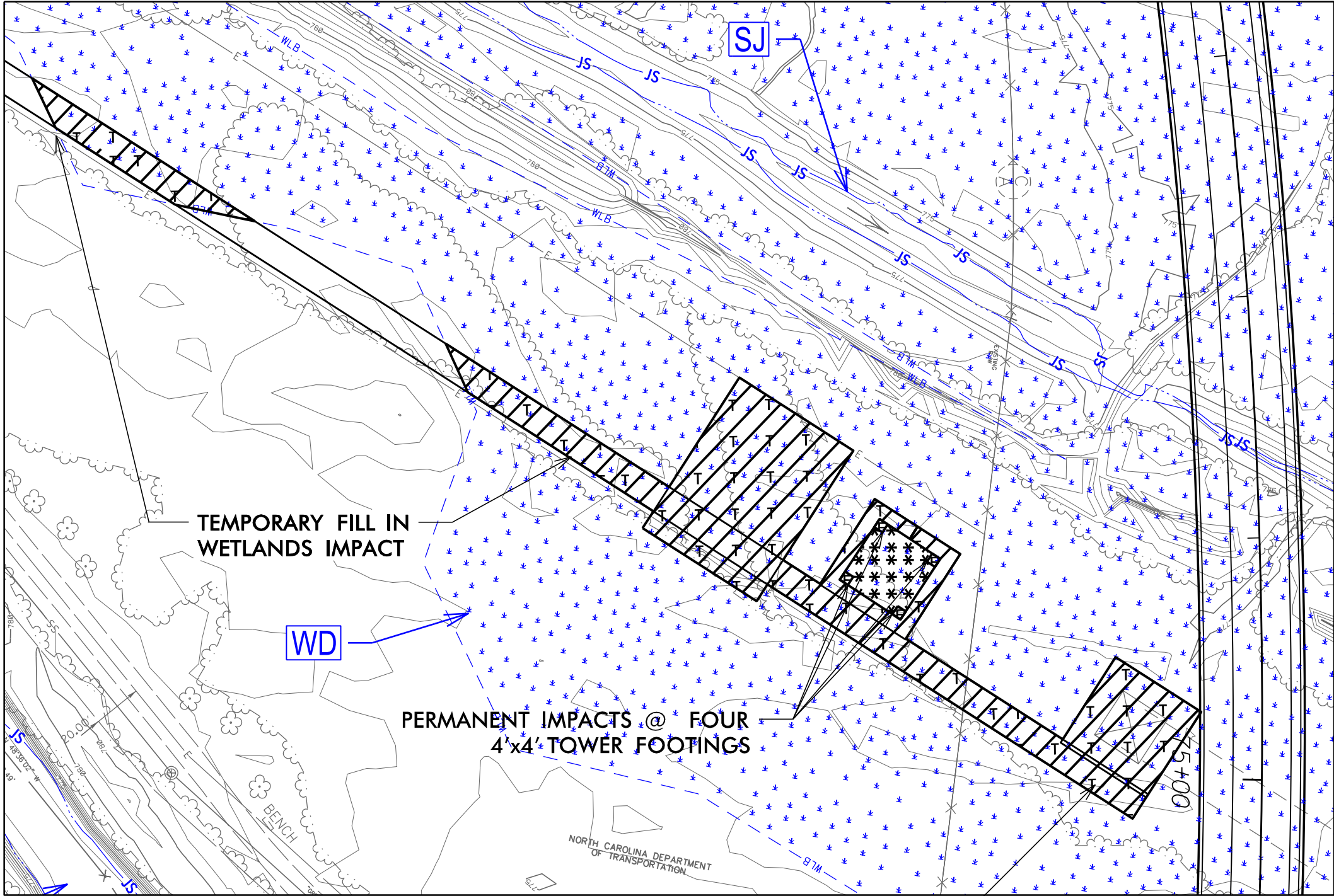
- DENOTES FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES MECHANIZED CLEARING



GRAPHIC SCALE - INSETS

SITE U-2

INSET



UTILITY PERMIT
DRAWING
SHEET 7 OF 8

NC GRID NAD 8395



DENOTES FILL IN
WETLAND



DENOTES TEMPORARY
FILL IN WETLAND



DENOTES MECHANIZED
CLEARING

AREA WITHIN 50' OF BRIDGE
ALSO COUNTED AS HAND-CLEARING
IMPACT IN ROADWAY & DRAINAGE
PERMIT PLANS



GRAPHIC SCALE – INSETS

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)
U-1	31+50-YRPD-	Utility		0.02								
U-2	75+00-YRPAC-**	Utility	< 0.01	0.25		0.02						
U-3	18+92-YRPDB-	Utility					< 0.01					
TOTALS*:			< 0.01	0.27		0.02	< 0.01					

*Rounded totals are sum of actual impacts for entire project area

**Permanent Impacts from four (4) 4-ft x 4-ft concrete foundations for new transmission tower locations.

NC DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

06/05/2019

IREDELL

TIP NO. I-3819B

Revised 9/24/19WBS NO.

SHEET8OF8