



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

July 20, 2015

MEMORANDUM TO: Mr. Louis Mitchell, P.E.
Division 10 Engineer

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

SUBJECT: Cabarrus and Rowan Counties; I-85 Widening and Interchange
Improvements from north of NC 73 to north of SR 1280;
FANHIMF-085-2(61)55; WBS 36780.1.2; **TIP I-3802A.**

Attached are the US Army Corps of Engineers Section 404 GP31 Permit and N.C. Division of Water Resources (NCDWR) Water Quality Certification. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:

<https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>

Quick Links>Permit Documents> Issued Permits.

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

Mr. Larry Thompson, Division Environmental Officer
Dr. Majed Al-Ghandour, P.E., Programming and TIP
Mr. Khaled Al-Akhdar, Design Build
Mr. Clarence Coleman, P.E., FHWA
Ms. Brenda Moore, P.E., Roadway Design
Mr. Robert Memory, Utilities Unit
Mr. Andrew Nottingham, P.E., Hydraulics
Mr. Tom Koch, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Eric Midkiff, P.E., PDEA Western Section
Ms. Beth Harmon, NCDMS
Mr. Philip Ayscue, Office of Inspector General
Ms. Linda Fitzpatrick, Natural Environment Section

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

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

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610-4328

PROJECT COMMITMENTS

T.I.P. Project No. I-3802A
Interstate 85 (I-85) Widening and Interchange Improvements from north of NC 73
(Davidson Highway/Exit 55) to north of SR 2180 (Lane Street/Exit 63)
Cabarrus and Rowan Counties
Federal Aid Project No. FANHIMF-085-2(61)55
W.B.S. No. 36780.1.2

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Roadway Design Unit, Hydraulics Unit, Structure Design Unit, Division 10 – Provisions for Greenway

The proposed new I-85 bridges over Irish Buffalo Creek will be designed with adequate vertical and horizontal clearance to accommodate the future Irish Buffalo Creek greenway crossing under I-85. Coordination with the local municipality will be performed during design of those bridges to ensure they are compatible with the future greenway crossing.

Project Development and Environmental Analysis Unit (PDEA) – NEPA/Section 404 Merger Process

NEPA/Section 404 Merger Concurrence Points 3 (Least Environmentally Damaging Practicable Alternative) and 4 (Avoidance and Minimization) will be completed for the project.

PDEA, Division 10, Roadway Design

Blake House, Goodman Farm, Caldwell House, and Barrier House

Blake House, Goodman Farm, Caldwell House, and Barrier House are National Register-eligible properties. These properties are located within the project's Area of Potential Effects. Currently, the proposed project will have No Effect on the Blake House and Goodman Farm and No Adverse Effect on Caldwell House and Barrier House. If design plans change near any of the properties, impacts will be re-evaluated and appropriate coordination with the Department of Cultural Resources will be undertaken.

North Cabarrus Park

North Cabarrus Park, owned and managed by Cabarrus County, is located on the west side of I-85 near Irish Buffalo Creek. No additional right-of-way or easements are proposed along I-85 on park property; thus, the project will not impact North Cabarrus Park. If design plans change and result in impacts to North Cabarrus Park, a Section 4(f) evaluation will be prepared.

Hydraulics Unit – Floodplain Mapping Program Coordination

The NCDOT Hydraulics Unit will coordinate with the North Carolina Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to the applicability of NCDOT's Memorandum of Agreement with the FMP or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Divisions 9 and 10 – As-Built Construction Plans

The Divisions shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

Division 10 and Roadside Environmental Unit – Landscaping

NCDOT will provide vegetative screening along the Dale Earnhardt Boulevard southbound off-ramp, which utilizes Jaycee Road.

Congestion Management Unit – Interchange Modification Report

Due to the proposed improvements at the I-85 interchanges in the study area, an interchange modification report is being prepared and will be submitted to the Federal Highway Administration for approval following completion of the final environmental document.

Design-Build Unit

During Final Design, NCDOT will investigate the feasibility of a roundabout at Vinehaven Drive and Copperfield Boulevard.

NCDOT will provide a leftover from northbound US 29-601 (Cannon Boulevard) to S. Ridge Avenue, and will provide access from Ridge Avenue to the Rider Transit Center. The proposed roundabout on S. Main Street will be removed from the design.

NCDOT will connect S. Ridge Avenue to US 29-601 with right-in/right-out access.

NCDOT will provide full access at the intersection of Old Earnhardt Road and Dale Earnhardt Boulevard.

NCDOT will coordinate with representatives of F&M Bank to minimize impacts.

NCDOT will modify the proposed service road at the Dale Earnhardt Boulevard interchange to provide improved access to F&M Bank, the Chamber of Commerce Building, and Lowe's Home Improvement store.

NCDOT will provide a leftover into the Pilot Truck Stop on Lane Street.

NCDOT will provide right-in/right-out access to Motel 6, Waffle House, and Brantley property on Lane Street. The proposed service road will be removed.

NCDOT will coordinate, on a case-by-case basis, the location of bus stops, sidewalks, and pedestrian controls with the City of Concord, City of Kannapolis, and Rider Transit.

NCDOT will coordinate with local officials regarding emergency access in the NC 152/US 29 interchange area.

COMMITMENTS FROM PERMITTING

PDEA – Natural Environment Section, Division 10

By letter dated July 8, 2015 from the Fish and Wildlife Service (FWS), NCDOT has committed to the following measures to avoid and minimize any potential impacts to the northern long-eared bat (NLEB) which are hereby incorporated into the USACE Section 404 permit as special conditions:

1. Tree clearing associated with the areas listed below will occur only from August 15th to May 15th of any given year. Locations are referenced to project plan sheets.
 - Hazardous spill basin near station 450
 - Hazardous spill basin at station 479
 - Y-line Y3 from station 57+00 to 68+00;
2. The area of the Moose Road structure will be highlighted as an Environmentally Sensitive Area and marked on the final construction plans;
3. Construction work that takes place under the Moose Road structure will occur only at night from April 15th to October 15th;
4. Clearing will not occur within 50 feet of the Moose Road structure and any other clearing in the vicinity of the structure will be conducted from August 15th to May 15th;
5. The Moose Road structure will be inspected weekly from April 15th to October 15th during construction to check for the presence of bats. If bats are found roosting, every effort will be made to identify the bat species present and photographs will be taken. At a minimum, the date, time, location, and number of bats observed will be recorded and forwarded to the USFWS after the inspection is completed.

At the Moose Road structure, if after two consecutive months bats have not been seen or, if bats continue to use the structure and species can be identified and are determined to not be federally

listed bats, then the applicant can discuss with FWS the discontinuation of the inspections of the Moose Road structure. If a federally listed species is identified, further consultation with FWS would be necessary.

Division 10

The NCDOT shall design, construct, and operate and maintain hazardous spill catch basins (HSCBs) at stream crossings within the Critical Area (CA) watershed. The HSCBs shall be located at Station numbers:

- HSB-1 from Station 388+15 to 390+35 -L- LT
- HSB-2 from Station 409+50 to 411+35 -L- LT
- HSB-3 from Station 412+80 to 417+15 -L- LT
- HSB-4 from Station 425+60 to 432+75 -L- LT
- HSB-5 from Station 440+25 to 442+30 -L- LT
- HSB-6 from Station 447+65 to 448+55 -L- LT
- HSB-7 from Station 478+00 to 478+80 -L- LT

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

Action Id. SAW-2008-03229 County: Rowan U.S.G.S. Quad: NC-CONCORD

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: North Carolina Department of Transportation

Address: Mr. Gregory Thorpe, Ph.D.

1548 Mail Service Center

Raleigh, NC, 27699-1548

Telephone Number: 919-707-6100

Size 7.6 mile corridor

Nearest Waterway Cold Water Creek

USGS HUC 03040105

Nearest Town Kannapolis

River Basin Rocky

Coordinates Latitude: 35.4681124465766

Longitude: -80.5901896486423

Location description: The proposed project is located along an approximately 7.6 mile corridor of existing I-85 from north of NC 73 (Davidson Highway/Exit 55) to north of SR 2180 (Lane Street/Exit 63), in Cabarrus and Rowan Counties, North Carolina.

Description of projects area and activity: This permit authorizes the permanent impact to 4,273 linear feet (lf) of stream channel (of which 956 lf of impact is for stream stabilization), the temporary impact to 631 lf of stream channel and the impact to 0.41 acres of wetlands (0.3 acres of permanent fill, 0.04 acres of excavation, and 0.07 acres of hand clearing), associated with proposed Interstate 85 (I-85) Widening and Interchange Improvements Project (TIP Project No. I-3802A).

Applicable Law: Section 404 (Clean Water Act, 33 USC 1344)
 Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Number or Nationwide Permit Number: GP 198200031 North Carolina Department of Transportation

SEE ATTACHED RGP or NWP GENERAL, REGIONAL AND SPECIAL CONDITIONS

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted application and information dated 04/16/2015 and the attached plans. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Quality (telephone 919-807-6300) to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management in Morehead City, NC, at (252) 808-2808.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact Crystal Amschler at 828-271-7980 x231 or Crvstal.C.Amschler@usace.army.mil.

Corps Regulatory Official: AMSCHLER.CRYSTAL.CAMI
LE.1238614178

Digitally signed by AMSCHLER.CRYSTAL.CAMI.1238614178
DN: cn=LE.1238614178, o=Government, ou=USACE, email=AMSCHLER.CRYSTAL.CAMI.1238614178
Date: 2015.07.16 11:52:57 -0400

Date: 7/16/2015

Expiration Date of Verification: 04/30/2020

Determination of Jurisdiction:

- A. Based on preliminary information, there appear to be waters of the US including wetlands within the above described project area. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).
- B. There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- C. There are waters of the US and/or wetlands within the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- D. The jurisdictional areas within the above described project area have been identified under a previous action. Please reference jurisdictional determination issued 6/6/2014. Action ID: **SAW-2008-03229**.

Basis For Determination: There are stream channels within the project site which are tributaries of Town Creek, Cold Water Creek and Irish Buffalo Creek which flows into the Yadkin River, a Section 10 water.

E. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

F. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B and C above).

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers
South Atlantic Division
Attn: Jason Steele, Review Officer
60 Forsyth Street SW, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by

****It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.****

Corps Regulatory Official: AMSCHLER.CRYSTAL.CAMILLE.1238614178

Crystal Amschler

Digitally signed by AMSCHLER.CRYSTAL.CAMILLE.1238614178
DN: c=US, o=U.S. Government, ou=DoD, ou=PKL, ou=USA,
cn=AMSCHLER.CRYSTAL.CAMILLE.1238614178
Date: 2015.07.16 11:53:09 -0400

Date of JD: 6/6/2014

Expiration Date of JD: 4/30/2020

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our customer Satisfaction Survey online at <http://regulatory.usacesurvey.com/>.

SPECIAL CONDITIONS

1) Endangered Species

By letter dated July 8, 2015 from the Fish and Wildlife Service (FWS), NCDOT has committed to the following measures to avoid and minimize any potential impacts to NLEB which are hereby incorporated into this permit as special conditions:

1. Tree clearing associated with the areas listed below will occur only from August 15th – May 15th of any given year. Locations are referenced to project plan sheets.
 - Hazardous spill basin near station 450
 - Hazardous spill basin at station 479
 - Y-line Y3 from station 57+00 to 68+00
2. The area of the Moose Road structure will be highlighted as an Environmentally Sensitive Area and marked on the final construction plans;
3. Construction work that takes place under the Moose Road structure will occur only at night from April 15th to October 15th;
4. Clearing will not occur within 50 feet of the Moose Road structure and any other clearing in the vicinity of the structure will be conducted from August 15th to May 15th;
5. The Moose Road structure will be inspected weekly from April 15th to October 15th during construction to check for the presence of bats. If bats are found roosting, every effort will be made to identify the bat species present and photographs will be taken. At a minimum, the date, time, location and number of bats observed will be recorded and forwarded to the USFWS after the inspection is completed.

At the Moose Road structure, if after two consecutive months bats have not been seen or, if bats continue to use the structure and species can be identified and are determined to not be federally listed bats, then the applicant can discuss with FWS the discontinuation of the inspections of the Moose Road structure. If a federally listed species is identified, further consultation with FWS would be necessary.

2) 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 authorization.

- 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, shall be available at the project site during construction and maintenance of this project.
- 4.) **Notification of construction commencement and completion:** The permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

- 5.) **Pre Construction Meetings:** The permittee shall schedule and attend a preconstruction meeting between its representatives, the contractors representatives, and the Corps of Engineers, Asheville Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all the terms and conditions contained with this Department of Army Permit. The permittee shall schedule the preconstruction meeting for a time frame when the USACE, NCDCM, and NCDWQ Project Managers can attend. The permittee shall invite the Corps, NCDCM, and NCDWQ Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedules and participate in the required meeting.
- 6.) **Water Contamination:** All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-3300 or (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.
- 7.) **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 to borrow material or to dispose of dredged, fill or waste material. The permittee shall provide the Corps of Engineers with appropriate maps indicating the locations of proposed borrow or waste sites as soon as such information is available. The permittee will coordinate with the Corps of Engineers before approving any borrow or waste sites that are within 400 feet of any stream or wetland. All jurisdictional wetland delineations on borrow and waste areas shall be verified by the Corps of Engineers and shown on the approved reclamation plans. The permittee shall ensure that all such areas comply with the Special Condition (b) of this permit and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This documentation will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with Special Condition (b). All information will be available to the Corps of Engineers upon request. The permittee shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.
- 8.) **Sediment sluicing:** The permittee shall take measures to control any bottom sediment that may be sluiced by draining the pond(s) on the project site. Sediment sluicing from ponds is not authorized by this permit.
- 9.) Violations of these conditions or violations of Section 404 of the Clean Water must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.

Action ID Number: SAW-2008-03229

County: Rowan and Cabarrus

Permittee: North Carolina Department of Transportation, Attn: Mr. Gregory Thorpe, Ph.D.

Project Name: NCDOT I-85 widening Rowan and Cabarrus Counties (TIP I-3802)

Date Verification Issued: 7/16/2015

Project Manager: Crystal Amschler

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS

WILMINGTON DISTRICT

Attn: Crystal Amschler, Project Manager

Asheville Regulatory Field Office

151 Patton Avenue, Room 208

Asheville, North Carolina 28801

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

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

Permittee: Permittee: NCDOT, Mr. Gregory Thorpe, Ph.D.

Action ID: SAW-2008-03229

Project Name: I-85 Widening and Interchange Improvements Project (TIP Project No. I-3802A).

County: Cabarrus and Rowan

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

Instructions to Sponsor: The Sponsor must verify that the mitigation requirements 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 appropriate ledger and provide a copy of the signed form to the Permittee and to the USACE Bank/In-Lieu Fee Program Manager. The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements:

Permitted Impacts Requiring Mitigation*

8-digit HUC and Basin: 03040105, Yadkin River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
3,130			0.34			

*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: 03040105, Yadkin River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
4953			0.68			

Mitigation Site Debited: NC DMS

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCEEP, list NCEEP. If the NCEEP 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 NCEEP), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: _____

Name of Sponsor's Authorized Representative: _____

Signature of Sponsor's Authorized Representative

Date of Signature

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

Conditions for Transfer of Compensatory Mitigation Credit:

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

Comments/Additional Conditions:

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

USACE Project Manager: Crystal Amschler
USACE Field Office: Asheville Regulatory Field Office
US Army Corps of Engineers
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006

Email:

AMSCHLER.CRYSTAL.CAMILLE.1238614178

Digitally signed by AMSCHLER.CRYSTAL.CAMILLE.1238614178
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA,
cn=AMSCHLER.CRYSTAL.CAMILLE.1238614178
Date: 2015.07.16 11:53:35 -04'00' [Click here to enter a date.](#)

USACE Project Manager Signature

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>.

DEPARTMENT OF THE ARMY
Wilmington District, Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403-1343
April 30, 2015

Regional General Permit No. 198200031

Name of Permittee: North Carolina Department of Transportation

Effective Date: April 30, 2015

Expiration Date: April 30, 2020

**DEPARTMENT OF THE ARMY
REGIONAL GENERAL PERMIT**

A regional general permit (RGP) to perform work in or affecting navigable waters of the United States and waters of the United States, upon recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344), is hereby modified and re-issued by authority of the Secretary of the Army by the

District Commander
U.S. Army Engineer District, Wilmington
Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403-1343

TO AUTHORIZE THE DISCHARGE OF DREDGED OR FILL MATERIAL IN WATERS OF THE UNITED STATES (U.S.), INCLUDING WETLANDS, ASSOCIATED WITH MAINTENANCE, REPAIR, AND CONSTRUCTION PROJECTS CONDUCTED BY THE VARIOUS DIVISIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) INCLUDING THE NCDOT DIVISION OF HIGHWAYS, RAIL, BICYCLE/PEDESTRIAN, ECT.

Activities authorized are:

a. Construction, maintenance, and repair of bridges, to include work on the approaches, where permanent impacts resulting in a loss of waters of the U.S. will be less than or equal to 500 linear feet (lf) of stream and/or one (1) acre of wetland/non-tidal open water for each single and complete linear project*.

b. Best-fit widening projects that have undergone interagency review and completed the current interagency Merger Process, which merges the requirements of the National Environmental Policy Act (NEPA) with those found within Section 404 of the Clean Water Act (CWA).

While there is no impact threshold for these widening projects, the Corps has the discretion to require an individual permit if it determines that the proposed impacts will have more than a minimal impact on the aquatic environment or on other environmental factors, or if the project would normally require an Environmental Impact Statement (EIS) under current Federal Highway Administration (FHWA) guidelines. Best-fit projects may include a small amount of new location roadway for components such as interchanges or intersections, provided the new location portion has been concurred upon by the merger team.

c. Minor widening projects, such as paving and/or widening secondary roads, or interchange improvements, when permanent impacts which result in a loss of waters of the U.S. from installation and/or extension of culverts and/or pipes will be less than or equal to 500 lf of stream and/or one (1) acre of wetland/non-tidal open water for each single and complete linear project*.

d. Stream relocation(s) associated with projects identified in a-c above. Stream relocation lengths are to be evaluated independently and are not included within each respective maximum limit threshold for the authorized actions stated above.

***Single and complete linear project:** A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the U.S. (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of this RGP. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Generally, off-site detours are preferred to avoid and minimize impacts to the human and natural environment. However, if an off-site detour is considered impracticable, then an on-site detour may be considered as a necessary component of the actions described above. Impacts from the detour may be considered temporary and may not require compensatory mitigation if the impacted area is restored to its pre-project condition after construction is complete. If the construction of a detour (on-site or off-site) includes standard undercutting methods, removal of all material and backfilling with suitable material is required.

1. Special Conditions.

a. The applicant must submit a pre-construction notification (PCN) with specified attachments to the District Engineer and receive written verification from the Corps that the proposed work complies with this RGP prior to commencing any activity authorized by this RGP.

b. If the project will not impact a designated “Area of Environmental Concern” (AEC) in the twenty (20) counties of North Carolina covered by the North Carolina Coastal Area Management Act (CAMA), then a consistency submission is not required. If the project will impact a designated AEC and meets the definition of “development”, then the applicant must

obtain the required CAMA permit. Development activities may not commence until a copy of the approved CAMA permit is furnished to the appropriate Wilmington District Regulatory Field Office (Wilmington Field Office – 69 Darlington Avenue, Wilmington, NC 28403 or Washington Field Office – 2407 West 5th Street, Washington, NC 27889).

The twenty (20) CAMA counties in North Carolina include Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell, and Washington.

c. Discharges into Waters of the U.S. designated by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are prohibited during the period between February 1 and June 30, without prior written approval from NCDMF, NCWRC, National Marine Fisheries Service (NMFS), and the Corps. Discharges into waters of the U.S. designated by NCDMF as primary nursery areas and discharges into waters of the U.S. designated by NCWRC as primary nursery areas in inland waters shall be coordinated with NCDMF (per existing agreement with NCDMF) and NCWRC prior to being authorized by this RGP. Coordination with NCDMF and NCWRC may result in a required construction moratorium during periods of significant biological productivity or critical life stages.

The applicant should contact:

NC Division of Marine Fisheries
3441 Arendell Street
Morehead City, NC 28557
Telephone 252-726-7021
or 800-682-2632

North Carolina Wildlife Resources Commission
Habitat Conservation Program Manager
1721 Mail Service Center
Raleigh, NC 27699-1721
Telephone (919) 733-7638

d. This permit does not authorize the use of culverts in areas designated as anadromous fish spawning areas by the NCDMF or the NCWRC.

e. Waters of the U.S. designated as sturgeon spawning areas are excluded during the period between February 1 and June 30, without prior written approval from NMFS.

f. If the project is located within the twenty (20) counties of North Carolina designated as coastal counties by CAMA, then all pipe and culvert inverts will be buried at least one foot below normal bed elevation when they are placed within the Public Trust AEC and/or the Estuarine Waters AEC as designated by CAMA. If the project is not located within the twenty (20) counties of North Carolina designated as coastal counties by CAMA, then culvert inverts will be buried at least one foot below the bed of the stream for culverts greater than 48 inches in diameter. Culverts 48 inches in diameter or 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 the existing channel slope. The potential for destabilization of the channel and head cutting upstream should be considered in the placement of the culvert. A waiver from the depth specifications in this condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this condition would result in more adverse impacts to the aquatic environment. Culverts placed in wetlands do not have to be buried.

g. No work shall be authorized by this RGP within the twenty coastal counties, as defined by the NCDRCM, without prior consultation with NOAA Fisheries. For each activity reviewed by the Corps where it is determined that the activity may affect Essential Fish Habitat (EFH) for federally managed species, an EFH Assessment shall be prepared by the applicant and forwarded to the Corps and NOAA Fisheries for review and comment prior to authorization of work.

h. Discharges of dredged or fill material into waters of the U.S., including wetlands, must be minimized or avoided to the maximum extent practicable.

i. No activity may result in substantial permanent disruption of the movement of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. It is acceptable to use rock vanes at culvert outlets to ensure, enhance, or maintain aquatic passage. Pre-formed scour holes are acceptable when designed for velocity reduction. The width, height, and gradient of a proposed opening should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level. Where adjacent floodplain is available, flows exceeding bank-full should be accommodated by installing culverts at the floodplain elevation, if practicable. If multiple culverts are used, the construction of floodplain benches and/or sills to maintain base flow is required, if practicable.

j. Upon completion of any work authorized by this RGP, all temporary fills (to include culverts, etc.) will be completely removed from waters of the U.S. and the areas will be restored to preconstruction conditions, to include pre-project elevations and contours, restoring natural hydrology and stream corridors, and reestablishing native vegetation/riparian corridors. This work will be completed within 60 days of completion of project construction. If this timeframe occurs while a required moratorium of this permit is in effect, the temporary fill shall be removed in its entirety within 60 days of the moratorium end date. If vegetation cannot be planted due to the time of the year, all disturbed areas will be seeded with a native mix appropriate for the impacted area, and vegetation will be planted in the fall. A native seed mix may contain non-invasive small grain annuals (e.g. millet and rye grain) to ensure adequate cover while native vegetation becomes established. The PCN must include a restoration plan showing how all temporary fills and structures will be removed and how the area will be restored to pre-project conditions.

k. All activities authorized by this RGP shall, to the extent practicable, be conducted "in the dry", with barriers installed between work areas and aquatic habitat to protect that habitat from sediment, concrete, and other pollutants. Where concrete is utilized, measures will be taken to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with waters of the U.S. until the concrete has cured/hardened. All water in the work area that has been in contact with concrete shall only be returned to waters of the U.S. when it no longer poses a threat to aquatic organisms (concrete is set and cured).

l. In cases where new alignment approaches are to be constructed and the existing approach fill in waters of the U.S. is to be abandoned and no longer maintained as a roadway, the

abandoned fill shall be removed and the area will be restored to preexisting wetland/stream conditions and elevations, to include restoring natural hydrology and stream corridors, and reestablishing native vegetation/riparian corridors, to the extent practicable. This activity may qualify as compensatory mitigation credit for the project and will be assessed on a case-by-case basis in accordance with Special Conditions “q” and “r” below. A restoration plan detailing this activity will be required with the submittal of the PCN.

m. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

n. The project must be implemented and/or conducted so that all reasonable and practicable measures to ensure that equipment, structures, fill pads, and work associated with the project do not adversely affect upstream and/or downstream reaches. Adverse effects include, but are not limited to, channel instability, flooding, and/or shoreline/streambank erosion. During construction, the permittee shall routinely monitor for these effects, cease all work if/when detected, take initial corrective measures to correct actively eroding areas, and notify the Corps immediately. Permanent corrective measures may require additional authorization from the Corps.

o. All PCNs will describe sedimentation and erosion control structures and measures proposed for placement in waters of the U.S. To the extent practicable, structures and measures should be depicted on maps, surveys or drawings showing location and impacts to jurisdictional wetlands and streams. In addition, appropriate soil and erosion control measures must be established and maintained during construction. All fills, temporary and permanent, must be adequately stabilized at the earliest practicable date to prevent erosion of fill material into adjacent waters or wetlands.

p. Before discharging dredged or fill material into waters of the U.S. in the twenty-five (25) mountain counties of North Carolina, the applicant will submit a PCN to the NCWRC and the Corps concurrently. The PCN shall summarize alternatives to conducting work in mountain trout waters considered during the planning process, detail why alternatives were or were not selected, and contain a compensatory mitigation plan for all unavoidable adverse impacts to mountain trout waters. For proposals where a bridge is replaced with a culvert, the PCN must also include details of any on-site evaluations that were conducted to determine that installation of a culvert will not adversely affect passage of fish or other aquatic biota at the project site. This information must include factors such as the proposed slope of the culvert and determinations of how the slope will be expected to allow or impede passage, the necessity of baffles and/or sills to ensure passage, design considerations to ensure that expected baseflow will be maintained for passage and that post-construction velocities will not prevent passage, site conditions that will or will not allow proper burial of the culvert, existing structures (e.g., perched culverts, waterfalls, etc.) and/or stream patterns up and downstream of the culvert site that could affect passage and bank stability, and any other considerations regarding passage. The level of detail for this information should be based on site conditions (i.e., culverts on a slope over 3% will most likely

require more information than culverts on a slope that is less than 1%, etc.). Also, in order to evaluate potential impacts, describe bedforms that will be impacted by the proposed culvert – e.g., pools, glides, riffles, etc. The NCWRC will respond both to the proponent and directly to the Corps.

The twenty-five (25) designated trout counties of North Carolina include Alleghany, Caldwell, Watauga, Ashe, Mitchell, Wilkes, Avery, Burke, Stokes, Surry, Buncombe, Henderson, Polk, Cherokee, Jackson, Rutherford, Clay, Macon, Swain, Graham, Madison, Transylvania, Haywood, McDowell, and Yancey.

The applicant may contact NCWRC at:

North Carolina Wildlife Resources
Commission
Ms. Marla Chambers
Western NCDOT Permit Coordinator
206 Charter Street
Albemarle, NC 28001
Office: 704-982-9181

q. Compensatory mitigation will be required for permanent impacts resulting in a loss of waters of the U.S., including wetlands, from culverts/pipes and associated fill. Mitigation will also be required for stream relocation projects. The applicant will attach a proposed mitigation plan to the PCN. Mitigation proposals will be in accordance with currently approved Wilmington District and/or Corps-wide mitigation regulations and guidance. The Corps Project Manager will make the final determination concerning the appropriate amount and type of mitigation.

r. Stream relocation(s) associated with projects may be authorized under this RGP. As stated above, mitigation will be required for all relocation projects. If the stream relocation is conducted in accordance with the requirements stated below in 1-5, the relocated segment of stream may* be considered toward reducing the amount of compensatory mitigation required. A relocation plan must be submitted with the PCN that addresses all factors required within the current Wilmington District, Corps of Engineers Stream Mitigation Guidelines, which can include, but may not be limited to:

(1) The relocated stream has pattern, profile, and dimension based on natural channel design. If natural channel design construction is not possible due to site constraints, the relocated stream must have pattern, profile, and dimension similar to, or better than, the existing stream. Note that site constraints do not include those situations where NCDOT chooses not to acquire additional adjacent property that is available for purchase.

(2) The new stream meets the current buffer requirements as stated in current District stream mitigation guidance. If the required buffer widths cannot be obtained, a project-by-project decision will be completed to determine if additional compensatory mitigation is required.

(3) The new location allows the relocated stream to remain stable (e.g., in a

valley vs. on a slope, no bends that will impact stability, etc.).

(4) There is no loss of channel for any reason (e.g., old channel is 200' and new channel is 150' = 50' channel loss; part of the new channel is put in a culvert; the new channel (sides and bottom) is hardened with concrete, rip rap, etc.).

(5) The Corps will determine if monitoring and reporting will be required for a specific project and the parameters of any required monitoring and reporting. If monitoring is required, a monitoring plan must be included with the PCN and meet current requirements.

All relocation plans must clearly depict both the existing channel and the proposed (relocated) channel.

* Conducting stream relocation(s) in accordance with 1-5 above may not fully compensate for the impact and may require additional compensatory mitigation. The Corps Project Manager will determine if the proposed amount of mitigation is adequate on a project-by-project basis.

If stream relocation cannot be conducted in accordance with 1-5 above, mitigation at a 2:1 ratio will typically be required unless: (1) the applicant provides a Stream Quality Assessment Worksheet or NCSAM documentation (when available) that supports a different mitigation ratio; (2) the Corps Project Manager determines that the relocated stream, while not in full compliance with 1-5 above, warrants partial mitigation, or; (3) the Corps determines that the existing stream is an excellent quality stream, in which case a 3:1 mitigation ratio may be required. The Corps Project Manager will make the final determination concerning the appropriate amount and type of mitigation.

If the Corps determines that the proposed stream relocation is of such a magnitude that it cannot be authorized by this RGP, an Individual Permit will be required.

s. The applicant shall sign and return the compliance certificate that is attached to the RGP verification letter.

t. In the event that any Federal agency maintains an objection or any required State authorization is outstanding, no notice to proceed will be given until objections are resolved and State authorizations are issued.

u. The Corps may place additional special conditions, limitations, or restrictions on any verification of the use of RGP 31 on a project-by-project basis.

2. General Conditions.

a. Except as authorized by this RGP or any Corps approved modification to this RGP, no excavation, fill or mechanized land-clearing activities shall take place within waters or wetlands, at any time in the construction or maintenance of this project. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.

b. Authorization under this RGP does not obviate the need to obtain other federal, state, or local authorizations.

c. All work authorized by this RGP must comply with the terms and conditions of the applicable CWA Section 401 Water Quality Certification for this RGP issued by the NCDWR.

d. The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

e. The activities authorized by this RGP must not interfere with the public's right to free navigation on all navigable waters of the U.S. No attempt will be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work for a reason other than safety.

f. The permittee understands and agrees that, if future operations by the U.S. require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

g. 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 U.S. and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the affected water of the U.S. to its former conditions.

h. The permittee will allow the Wilmington District Engineer or his representative to inspect the authorized activity at any time deemed necessary to assure that the activity is being performed or maintained in strict accordance with the Special and General Conditions of this permit.

i. This RGP does not grant any property rights or exclusive privileges.

j. This permit does not authorize any injury to the property or rights of others.

k. This RGP does not authorize the interference with any existing or proposed federal project.

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

(1) Damages to the permitted project or uses thereof as a result of other permitted

or unpermitted activities or from natural causes.

(2) Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest.

(3) Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

(4) Design or construction deficiencies associated with the permitted work.

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

m. Authorization provided by this RGP may be modified, suspended or revoked in whole or in part if the Wilmington District Engineer, acting for the Secretary of the Army, determines that such action is in the best public interest. The term of this RGP shall be five (5) years unless subject to modification, suspension or revocation. Any modification, suspension or revocation of this authorization will not be the basis for any claim for damages against the U.S. Government.

n. This RGP does not authorize any activity, which the District Engineer determines, after any necessary investigations, will adversely affect:

(1) Rivers named in Section 3 of the Wild and Scenic Rivers Act (15 U.S.C. 1273), those proposed for inclusion as provided by Sections 4 and 5 of the Act, and wild, scenic and recreational rivers established by state and local entities.

(2) Sites included in or determined eligible for listing in the National Registry of Natural Landmarks.

(3) NOAA designated marine sanctuaries, National Estuarine Research Reserves, and coral reefs.

(4) Submerged Aquatic Vegetation (SAV) as defined by the N.C. Division of Marine Fisheries at 15A NCAC 03I .0101(4)(i)).

o. Endangered Species.

(1) No activity is authorized under this RGP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under this RGP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(2) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees (and when FHWA is the lead federal agency) must provide the district engineer with the appropriate documentation to demonstrate compliance with

those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the RGP activity, or whether additional ESA consultation is necessary.

(3) Non-federal permittees must submit a PCN to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect federally-listed endangered or threatened species or designated critical habitat, the PCN must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-federal applicant of the Corps’ determination within 45 days of receipt of a complete PCN notification. In cases where the non-federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activities will have “no effect” on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(4) As a result of formal or informal consultation with the U.S. Fish and Wildlife Service (USFWS) or NMFS, the district engineer may add species-specific endangered species conditions to the RGP.

(5) Authorization of an activity by a RGP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the USFWS or the NMFS, the ESA prohibits any person subject to the jurisdiction of the U.S. to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(6) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

p. The permittee is responsible for obtaining any “take” permits required under the USFWS’s regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the USFWS to determine if such “take” permits are required for a particular activity.

q. For proposed activities the sixteen counties listed below, applicants must provide a

copy of the PCN to the USFWS, 160 Zillicoa Street, Asheville, North Carolina 28801. This PCN must be sent concurrently to the USFWS and the Corps Project Manager for that specific county.

Counties with tributaries that drain to designated critical habitat that require notification to the Asheville USFWS: Avery, Cherokee, Forsyth, Graham, Haywood, Henderson, Jackson, Macon, Mecklenburg, Mitchell, Stokes, Surry, Swain, Transylvania, Union and Yancey.

Applicants may contact the appropriate USFWS office listed below or the US Army Corps of Engineers:

US Fish and Wildlife Service
Asheville Field Office
160 Zillicoa Street
Asheville, NC 28801
Telephone: (828) 258-3939

Asheville USFWS Office counties: All counties west of and including Anson, Stanly, Davidson, Forsyth and Stokes Counties.

US Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Telephone: (919) 856-4520

Raleigh USFWS Office counties: all counties east of and including Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

r. Permittees are advised that development activities in or near a floodway may be subject to the National Flood Insurance Program that prohibits any development, including fill, within a floodway that results in any increase in base flood elevations. This RGP does not authorize any activity prohibited by the National Flood Insurance Program.

s. The permittee must make every reasonable effort to perform the work authorized herein in a manner so as to minimize any adverse impact on fish, wildlife and natural environmental values.

t. All activities authorized by this RGP that involve the use of riprap material for bank stabilization, the following measures shall be applied:

(1) Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters.

(2) The placement of riprap shall be limited to the areas depicted on submitted work plan drawings and not be placed in a manner that prevents or impedes fish passage.

(3) The riprap material shall be clean and free from loose dirt or any pollutant

except in trace quantities that will not have an adverse environmental effect.

(4) It shall be of a size sufficient to prevent its movement from the authorized alignment by natural forces under normal conditions.

(5) The riprap material shall consist of clean rock or masonry material such as, but not limited to, granite, marl, or broken concrete.

(6) A waiver from the specifications in this general condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this condition will result in greater adverse impacts to the aquatic environment.

u. The permittee must install and maintain, at his expense, any signal lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on authorized facilities. For further information, the permittee should contact the U.S. Coast Guard Marine Safety Office at (910) 772-2191.

v. The permittee must maintain any structure or work authorized by this permit in good condition and in conformance with the terms and conditions of this permit. The Permittee is not relieved of this requirement if the Permittee abandons the structure or work. Transfer in fee simple of the work authorized by this permit will automatically transfer this permit to the property's new owner, with all of the rights and responsibilities enumerated herein. The permittee must inform any subsequent owner of all activities undertaken under the authority of this permit and provide the subsequent owner with a copy of the terms and conditions of this permit.

w. At his sole discretion, any time during the processing cycle, the Wilmington District Engineer may determine that this RGP will not be applicable to a specific proposal. In such case, the procedures for processing an individual permit in accordance with 33 CFR 325 will be available.

x. The activity must comply with applicable FEMA approved state or local floodplain management requirements.

y. All fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used.

z. All excavated material will be disposed of in approved upland disposal areas.

aa. Historic Properties.

(1) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places (NRHP), the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(2) Federal permittees (or when FHWA is the lead federal agency) should follow their own procedures for complying with the requirements of Section 106 of the NHPA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address Section 106 compliance for this RGP activity, or whether additional Section 106 consultation is necessary.

(3) Non-federal permittees must submit a PCN to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the NRHP, including previously unidentified properties. For such activities, the PCN must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), as appropriate, and the NRHP (see 33 CFR 330.4(g)). When reviewing PCNs, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the NHPA. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(4) The district engineer will notify the prospective permittee within 45 days of receipt of a complete PCN whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA Section 106 consultation is required and will occur, the district engineer will notify the non-federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(5) Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit will relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the

undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

bb. 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 NRHP.

cc. There will be no unreasonable interference with navigation or the right of the public to riparian access by the existence or use of activities authorized by this RGP.

dd. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

ee. This RGP will not be applicable to proposed construction when the Wilmington District Engineer determines that the proposed activity will significantly affect the quality of the human environment and determines that an EIS must be prepared.

ff. Activities which have commenced (i.e. are under construction) or are under contract to commence in reliance upon this general permit will remain authorized provided the activity is completed within twelve months of the date of the general permit's expiration, modification, or revocation. Activities completed under the authorization of this general permit which were in effect at the time the activity was completed continue to be authorized by the general permit.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

A handwritten signature in black ink, appearing to read 'K.P. Landers Sr.', written in a cursive style.

Kevin P. Landers Sr.
Colonel, U. S. Army
District Commander



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

June 29, 2015
Cabarrus and Rowan Counties
NCDWR Project No. 20150362v.2
Improvements to I-85 from NC 73 to SR 2180
TIP I-3802A

APPROVAL of 401 WATER QUALITY CERTIFICATION with ADDITIONAL CONDITIONS

Mr. Richard W. Hancock, P.E., Manager
Project Development and Environmental Analysis
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Dear Hancock:

This Certification is a RE-ISSUANCE of 20150362 version 1 issued June 2, 2015 and is being issued due to a change in the type of permit issued by the USACE. This Certification replaces the previous version.

You have our approval, in accordance with the conditions listed below, for the following impacts for the purposes of widening Interstate 85 (I-85) and improving interchanges from north of NC 73 (Davidson Highway/Exit 55) to north of SR 2180 (Lane Street/Exit 63) in Cabarrus and Rowan Counties:

Wetland Impacts in the Yadkin River Basin

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation (ac)
13	0.08	--	--	--	0.01	0.09	0.08
14	<0.01	--	--	--	<0.01	0.01	0.00
16	<0.01	--	--	--	<0.01	<0.01	0.00
19	--	--	<0.01	--	--	0.00	0.01
23	0.10	--	--	--	<0.01	0.10	0.10
24	<0.01	--	--	--	<0.01	0.00	0.00
26	--	--	--	--	0.02	0.02	0.00
33	0.11	--	0.04	--	0.02	0.17	0.15
Total	0.30	0.00	0.04	0.00	0.07	0.41	0.34

Total Wetland Impact for Project is 0.41 acres (0.34 acres of which require mitigation)

Stream Impacts in the Yadkin River Basin

Site	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear feet)	Stream Impacts Requiring Mitigation (linear ft)
1	15	10	--	--	25	0
2	--	--	137	30	167	0
3	--	--	15	20	35	0
4	21	20	--	--	41	0
6	95	--	--	--	95	0
7	140	10	--	--	150	140*
7A	120	--	--	--	120	120*
8	--	15	--	--	15	0
9	9	5	--	--	14	0
9A	5	5	--	--	10	0
10	666	30	--	--	696	666
10A	7	12	--	--	19	7
12	--	--	47	30	77	0
12A	--	--	21	20	41	0
14	109	16	--	--	125	0
15	103	4	--	--	107	0
17	--	--	28	16	44	0
17A	8	10	--	--	18	0
17B	--	--	6	5	11	0
18	--	--	185	35	220	185
19	356	15	--	--	371	356
20	--	--	34	20	54	0
21	--	--	225	20	245	225
22	--	--	145	10	155	0
23	146	75	--	--	221	0
24	80	10	--	--	90	0
25	--	--	98	10	108	0
27	--	--	101	19	120	0
28	--	--	192	29	221	192
29	128	8	--	--	136	0
30	115	21	--	--	136	0
31	37	11	--	--	48	0
32	--	--	106	23	129	0
34	674	--	--	--	674	674
35	--	--	99	30	129	0
UC-1	--	--	--	37	37	0
TOTAL:	2,834	277	1,439	354	4,904	2,565

* The combined impacts for the stream exceed 150 linear feet and therefore require mitigation.

Total Stream Impact for Project is 4,904 linear feet (2,565 of which require mitigation)

The project shall be constructed in accordance with your original application dated received April 15, 2015. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Number 3886. This certification corresponds to the General Permit 31 issued by the Corps of Engineers. In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit.

This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must 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 total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you must adhere to the conditions listed in the attached certification(s) and any additional conditions listed below.

Conditions of Certification:

Project Specific Conditions

1. The NCDOT Division Environmental Officer or Environmental Assistant will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. [15A NCAC 02H.0506(b)(2) and (b)(3)]
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. Please refer to the most current version of *Stormwater Best Management Practices*. [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. 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)]
7. 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. [15A NCAC 02H .0506(b)(3)]
8. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)]
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. The NCDOT shall design, construct, and operate and maintain hazardous spill catch basins (HSCBs) at stream crossings within the Critical Area (CA) watershed. The HSCBs shall be located at Station numbers:
 - HSB-1 from Station 388+15 to 390+35 -L- LT
 - HSB-2 from Station 409+50 to 411+35 -L- LT
 - HSB-3 from Station 412+80 to 417+15 -L- LT
 - HSB-4 from Station 425+60 to 432+75 -L- LT
 - HSB-5 from Station 440+25 to 442+30 -L- LT
 - HSB-6 from Station 447+65 to 448+55 -L- LT
 - HSB-7 from Station 478+00 to 478+80 -L- LT
11. 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)]

12. For projects impacting waters classified by the NC Environmental Management Commission as High Quality Waters (HQW) or Water Supply II (WSII) stormwater shall be directed to vegetated buffer areas, grass-lined ditches or other means appropriate to the site for the purpose of pre-treating storm water runoff prior to discharging directly into streams. Mowing of existing vegetated buffers is strongly discouraged. [15A NCAC 02B.0224 and 0225]
13. Tall fescue shall not be used in the establishment of temporary or permanent groundcover within riparian areas. For the establishment of permanent herbaceous cover, erosion control matting shall be used in conjunction with an appropriate native seed mix on disturbed soils within the riparian area and on disturbed steep slopes with the following exception. Erosion control matting is not necessary if the area is contained by perimeter erosion control devices such as silt fence, temporary sediment ditches, basins, etc. Matting should be secured in place with staples, stakes, or wherever possible, live stakes of native trees. For the establishment of temporary groundcover within riparian areas, hydroseeding along with wood or cellulose based hydro mulch applied from a fertilizer- and limestone-free tank is allowable at the appropriate rate in conjunction with the erosion control measures. Discharging hydroseed mixtures and wood or cellulose mulch into surface waters is prohibited. Riparian areas are defined as a distance 25 feet landward from top of stream bank. [15A NCAC 02H.0506(b)(2)]
14. Erosion control matting placed in riparian areas shall not contain a nylon mesh grid, which can impinge and entrap small animals. [15A NCAC 02H.0506(b)(2)]
15. 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)]
16. The permittee shall employ Design Standards in Sensitive Watersheds (15A NCAC 4B.0124[a]-[e]) in areas draining to WS-II or HQW waters. However, due to the size of the project, the NCDOT shall not be required to meet 15A NCAC 4B .0124(a) regarding the maximum amount of uncovered acres. Temporary cover (wheat, millet, or similar annual grain) or permanent herbaceous cover shall be planted on all bare soil within 15 business days of ground disturbing activities to provide erosion control.
17. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, need not be buried. These pipes can be installed at natural ground elevation. [15A NCAC 02H.0506(b)(2) and (b)(3)]
18. NCDOT shall be in compliance with the NCS00250 issued to the NCDOT, including the applicable requirements of the NCG01000. Please note the extra protections for the sensitive watersheds.
19. Mitigation
 - a. Compensatory mitigation for 2,565 linear feet of impact to streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated April 13, 2015 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. [15A NCAC 2H.0506(h)]
 - b. Compensatory mitigation for impacts to 0.34 acres of 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), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated April 13, 2015 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. [15A NCAC 2H.0506(h)]
20. When final design plans are completed for I-3802, Section B, a modification to the 401 Water Quality Certification shall be submitted with appropriate fees to the NC Division of Water Resources. Final

designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters, and buffers. No construction activities that impact any wetlands, streams, surface waters, or buffers located in I-3802 Section B shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality Certification and the from the NC Division of Water Resources. [15A NCAC 02H. 0506(b)]

General Conditions

21. 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 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)]
22. 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]
23. 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)]
24. 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)]
25. 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)]
26. 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)]
27. 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)]
28. 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)]
29. 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)]
30. 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)]
31. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
32. 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]

33. 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)]
34. 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.
35. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
36. 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.
37. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. [15A NCAC 02H.0506(b)(3) and (c)(3)]
38. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0506(b)(2)]
39. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.[15A NCAC 02H.0506(b)(3) and (c)(3)]
40. 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)]
41. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
42. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the 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)]

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of

Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

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

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

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

Mr. Sam M.Hayes, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center

This letter completes the review of the Division of Water Resources under Section 401 of the Clean Water Act. If you have any questions, please contact David Wainwright at (919)707-8787 or David.Wainwright@ncdenr.gov.

Sincerely,



S. Jay Zimmerman, P.G.
Director, Division of Water Resources

Electronic copy only distribution:

Crystal Amschler, US Army Corps of Engineers, Asheville Field Office
Larry Thompson, Division 10 Environmental Officer
Colin Mellor, NC Department of Transportation
Carla Dagnino, NC Department of Transportation
Dr. Cynthia Van Der Wiele, US Environmental Protection Agency
Marella Buncick, US Fish and Wildlife Service
Marla Chambers, NC Wildlife Resources Commission
File Copy



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

NCDWR Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

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

Applicant's Certification

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

Signature: _____ Date: _____

Agent's Certification

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

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

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

Signature _____ Registration No. _____

Date _____

TIP PROJECT: I-3802A

CONTRACT: C203328

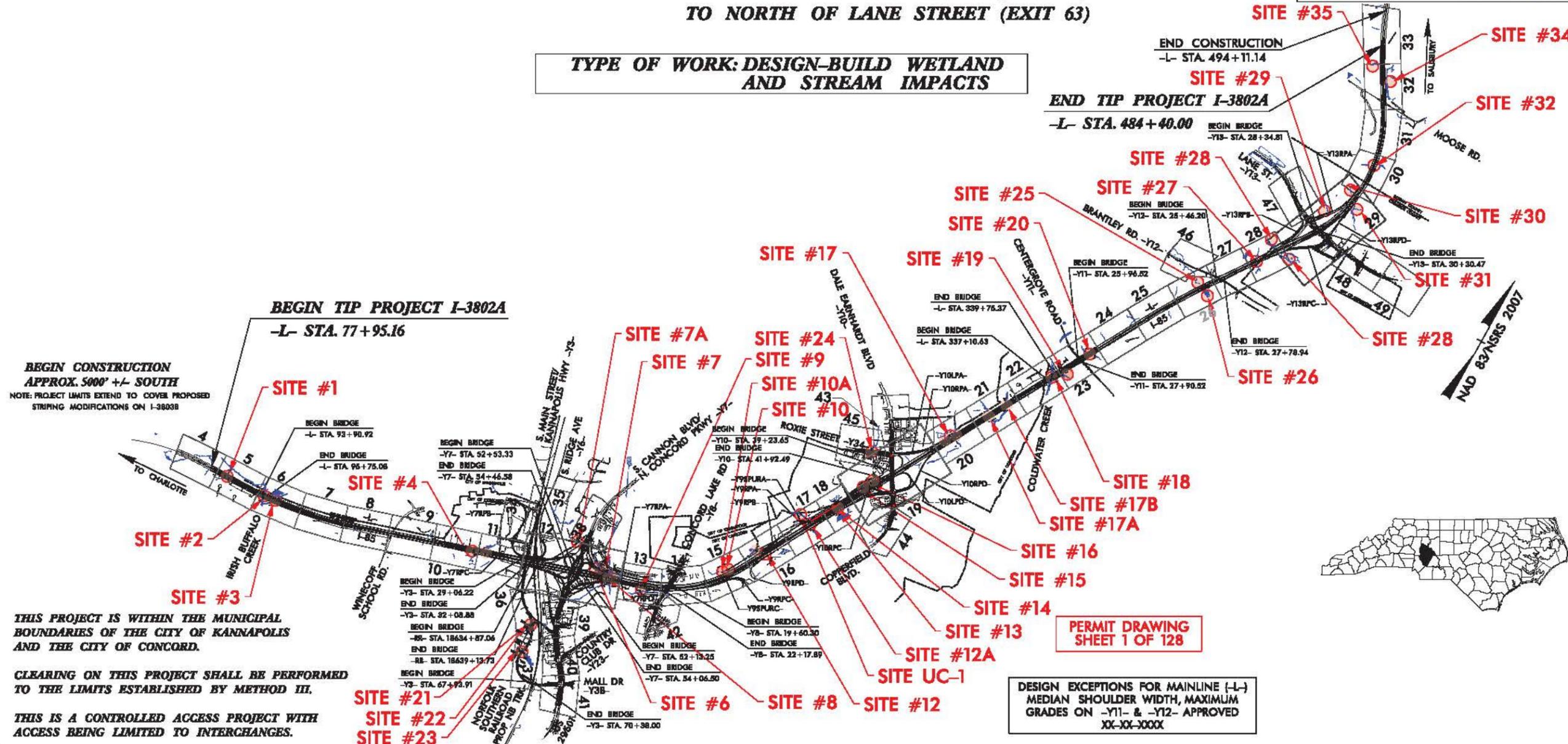
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CABARRUS & ROWAN COUNTIES

LOCATION: I-85 FROM NORTH OF NC 73 (EXIT 55)
TO NORTH OF LANE STREET (EXIT 63)

TYPE OF WORK: DESIGN-BUILD WETLAND
AND STREAM IMPACTS

STATE	STATE PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
N.C.	I-3802A	1	
STATE FUND NO.	F.A. PROJECT NO.	DESCRIPTION	
36780.3.P51	NHMF-85-2(77)55	Design-Build	



BEGIN CONSTRUCTION
APPROX. 5000' +/- SOUTH
NOTE: PROJECT LIMITS EXTEND TO COVER PROPOSED
STRIPING MODIFICATIONS ON I-3803B

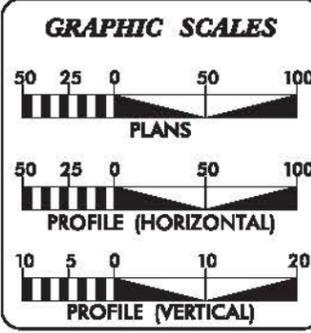
THIS PROJECT IS WITHIN THE MUNICIPAL
BOUNDARIES OF THE CITY OF KANNAPOLIS
AND THE CITY OF CONCORD.

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.

PERMIT DRAWING
SHEET 1 OF 128

DESIGN EXCEPTIONS FOR MAINLINE (-L-)
MEDIAN SHOULDER WIDTH, MAXIMUM
GRADES ON -Y11- & -Y12- APPROVED
XX-XX-XXXX



DESIGN DATA

ADT 2008 =	89,000
ADT 2035 =	193,000
DHV =	8 %
D =	55 %
T =	19 % *
V =	70 MPH
*(TTST 14 + DUAL 5)	

FUNCTIONAL CLASSIFICATION:
INTERSTATE
STATEWIDE TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT I-3802A =	7.613 mi
LENGTH OF STRUCTURES TIP PROJECT I-3802A =	0.085 mi
(BRIDGES MEASURED FROM PROJECTED CENTERLINE STATION)	
TOTAL LENGTH OF TIP PROJECT I-3802A =	7.698 mi

NC DOT CONTACT: **K. ZAK HAMIDI, PE**
DESIGN BUILD PROJECT ENGINEER -
TRANSPORTATION PROGRAM MANAGEMENT UNIT

Prepared in the Office of:
PARSONS BRINCKERHOFF
121 WEST TRADE STREET
SUITE 1950
CHARLOTTE, NC 28202
NC LIC. NO. F-0195

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2012 STANDARD SPECIFICATIONS

RIGHT OF WAY:
APRIL 3, 2014

LETTING DATE:
APRIL 3, 2014

DANIEL H. BRIDGES, PE
DESIGN PROJECT MANAGER

DAVID B. GOURLEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

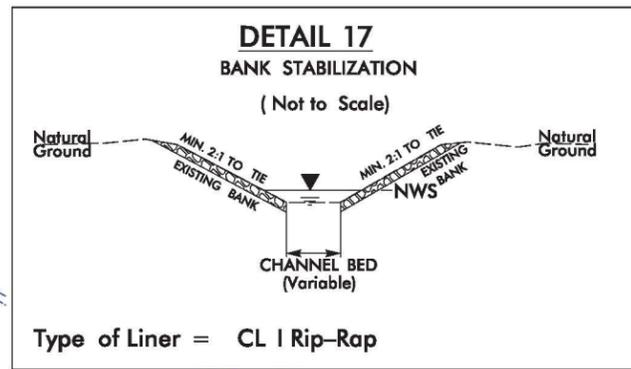
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

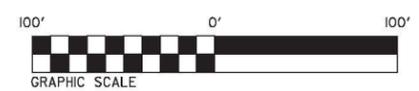
**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

\$\$\$\$\$SYTIME\$\$\$\$\$DCN\$\$\$\$\$USERSNAME\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

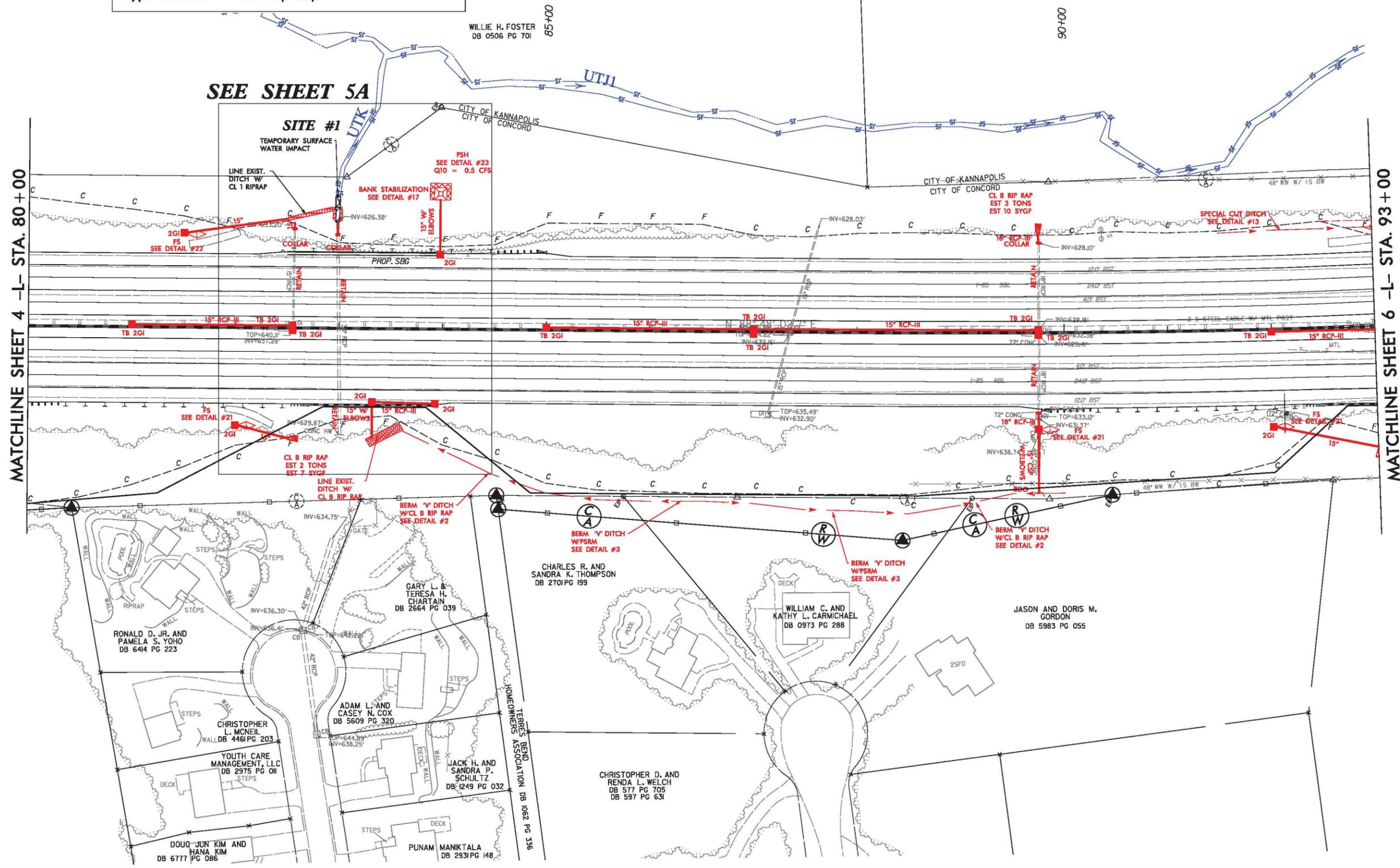


DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER



**PERMIT DRAWING
SHEET 2 OF 128**

NAD 83/NSRS 2007

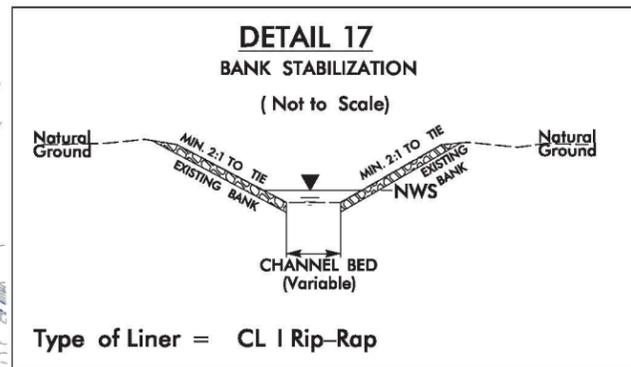


MATCHLINE SHEET 4 -L- STA. 80+00

MATCHLINE SHEET 6 -L- STA. 93+00

3/19/2016 I:\3802A\Hydraulics\Permits\Drawings\psh_w\contours\13802a_rdy_psh05.dgn
 1:1 PSH
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

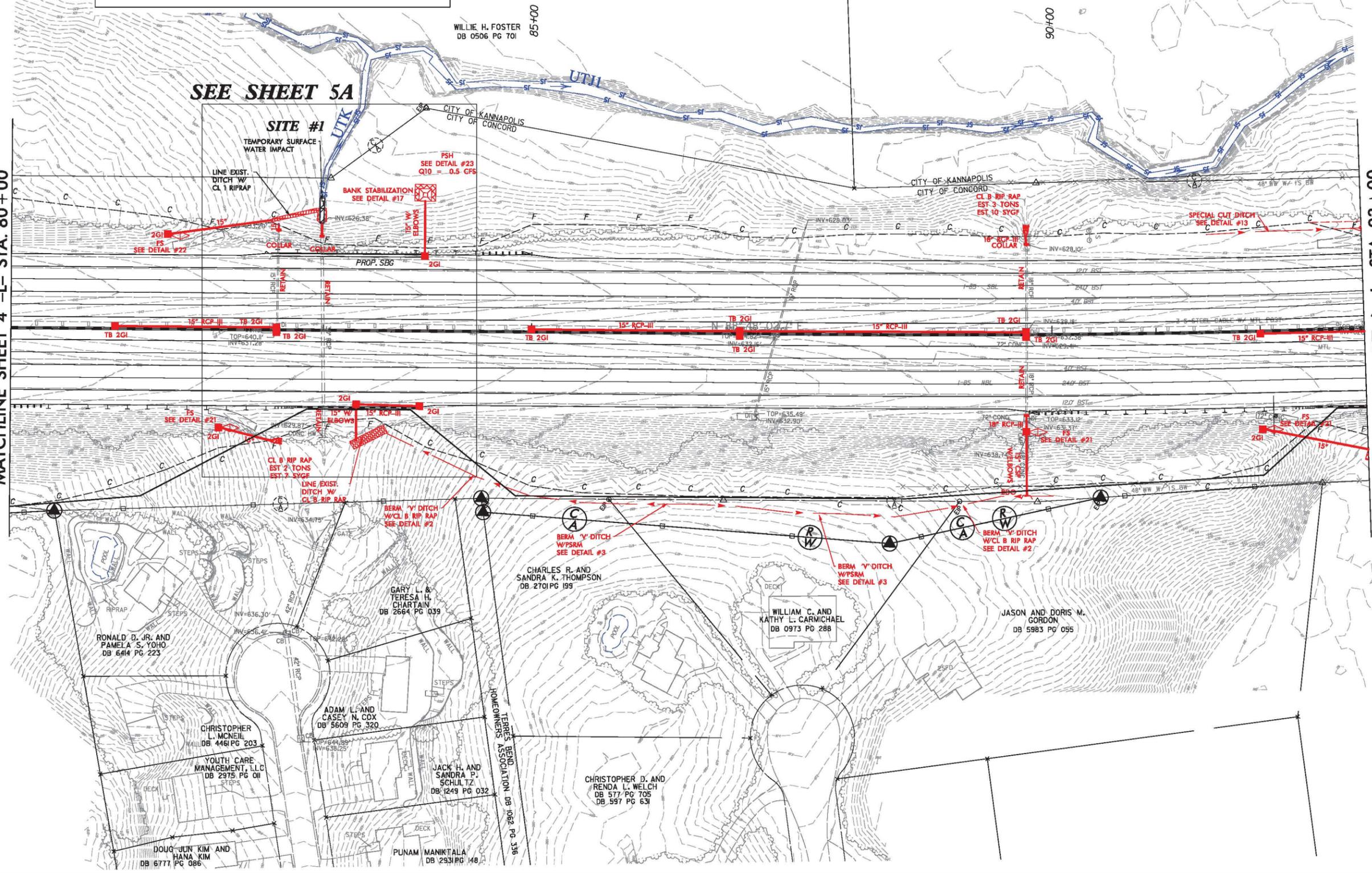


**PERMIT DRAWING
SHEET 3 OF 128**

NAD 83/NSRS 2007

MATCHLINE SHEET 4 -L- STA. 80+00

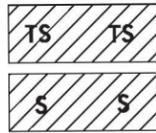
MATCHLINE SHEET 6 -L- STA. 93+00



3/19/2016 I:\3802A\Hydraulics\PERMITS_Environmental\Drawings\psh_cmtours\13802a_rdy_psh05.dgn
 1:19/2016 I:\3802A\Hydraulics\PERMITS_Environmental\Drawings\psh_cmtours\13802a_rdy_psh05.dgn
 PARSONS BRINCKERHOFF

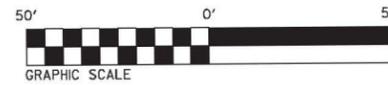
8/17/99

PERMIT DRAWING SHEET 5 OF 128



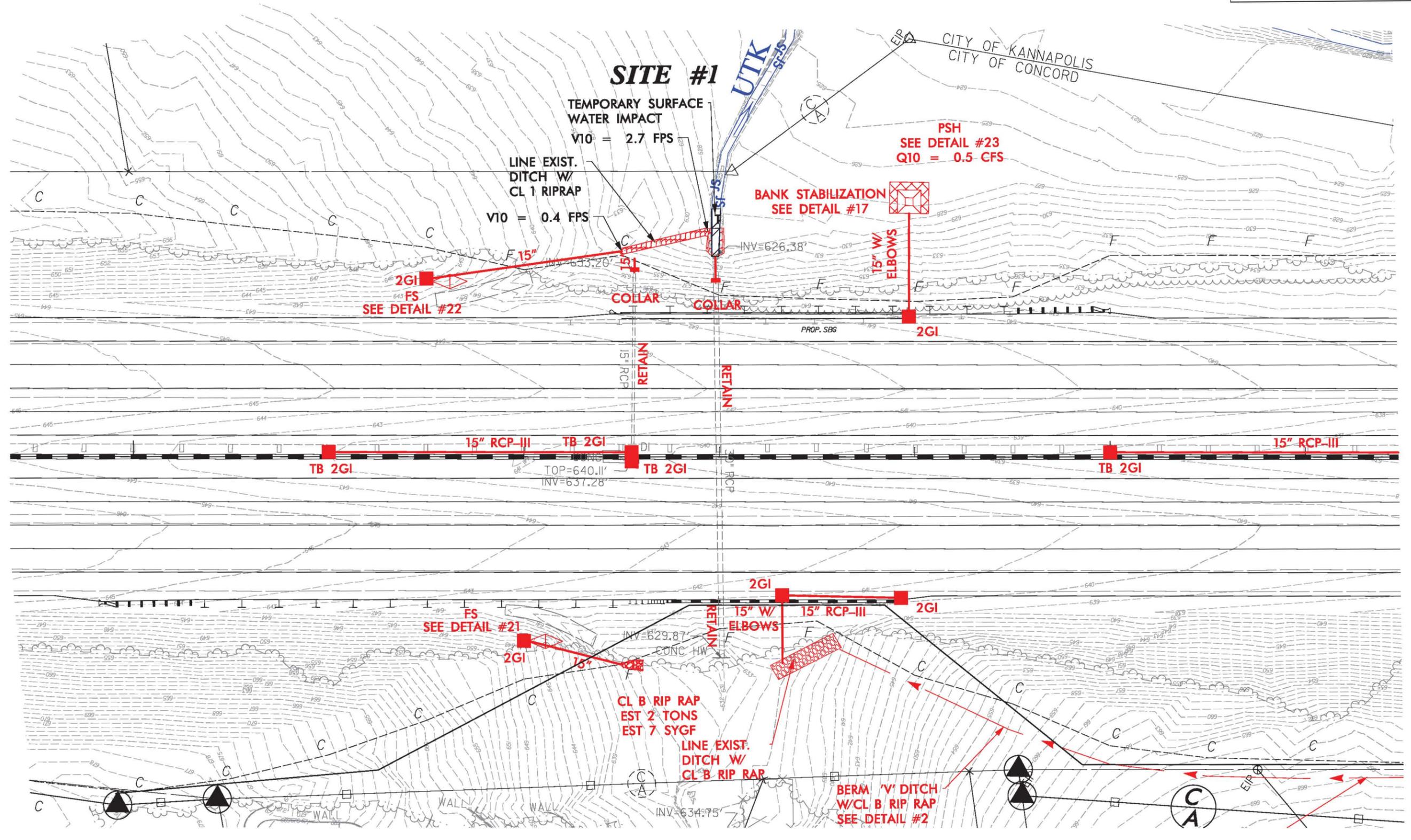
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER



NAD 83/NSRS 2007

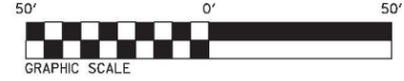
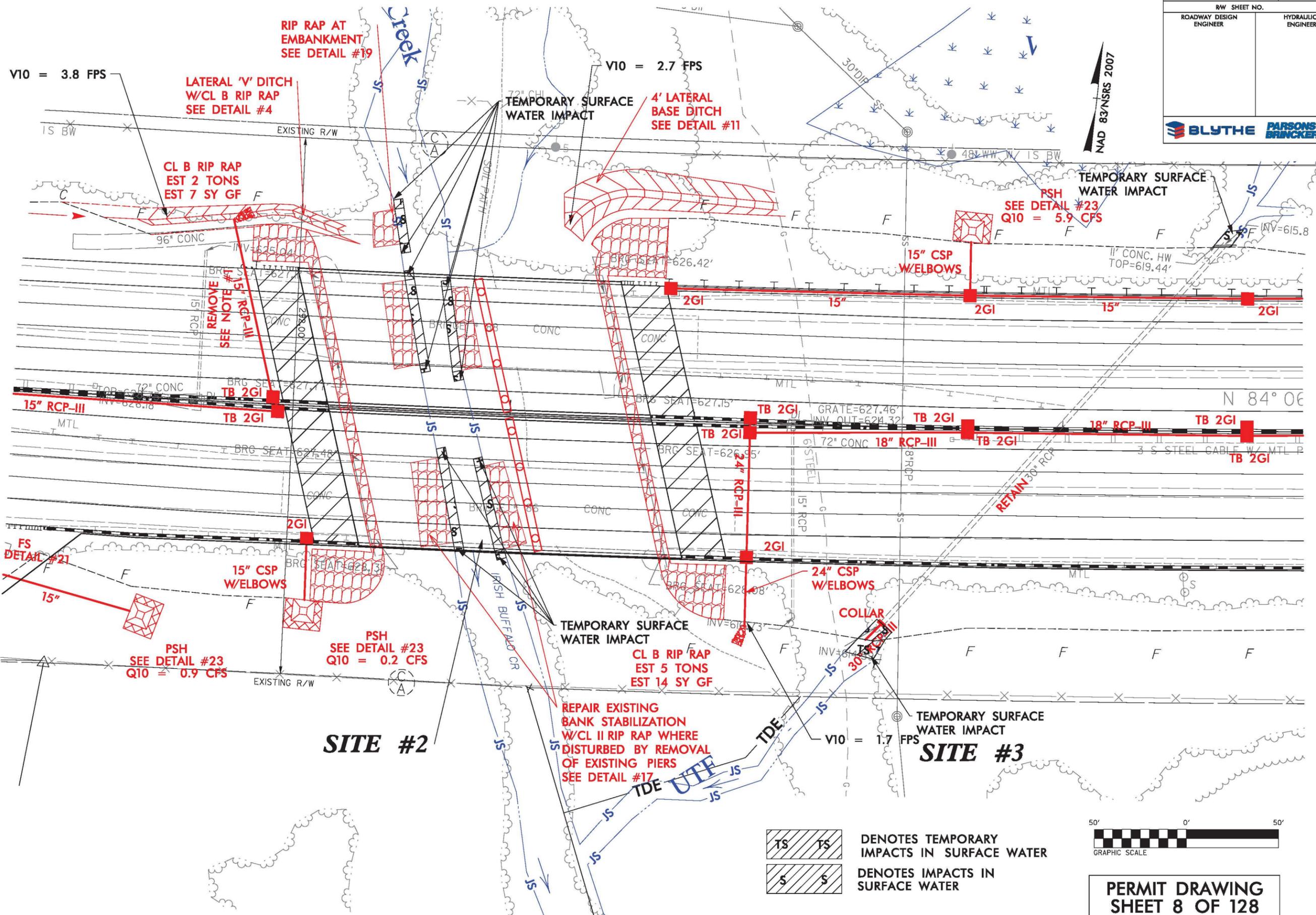
PROJECT REFERENCE NO. I-3802A	SHEET NO. 5A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



3/19/2015 1:39:02 PM I:\3802A\Hydraulics\PERMITS_Environment\Drawings\psh_con\ours\3802a_rdy_psh05A.dgn
DESIGNER: BRINCKERHOFF

PROJECT REFERENCE NO. I-3802A	SHEET NO. 6A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

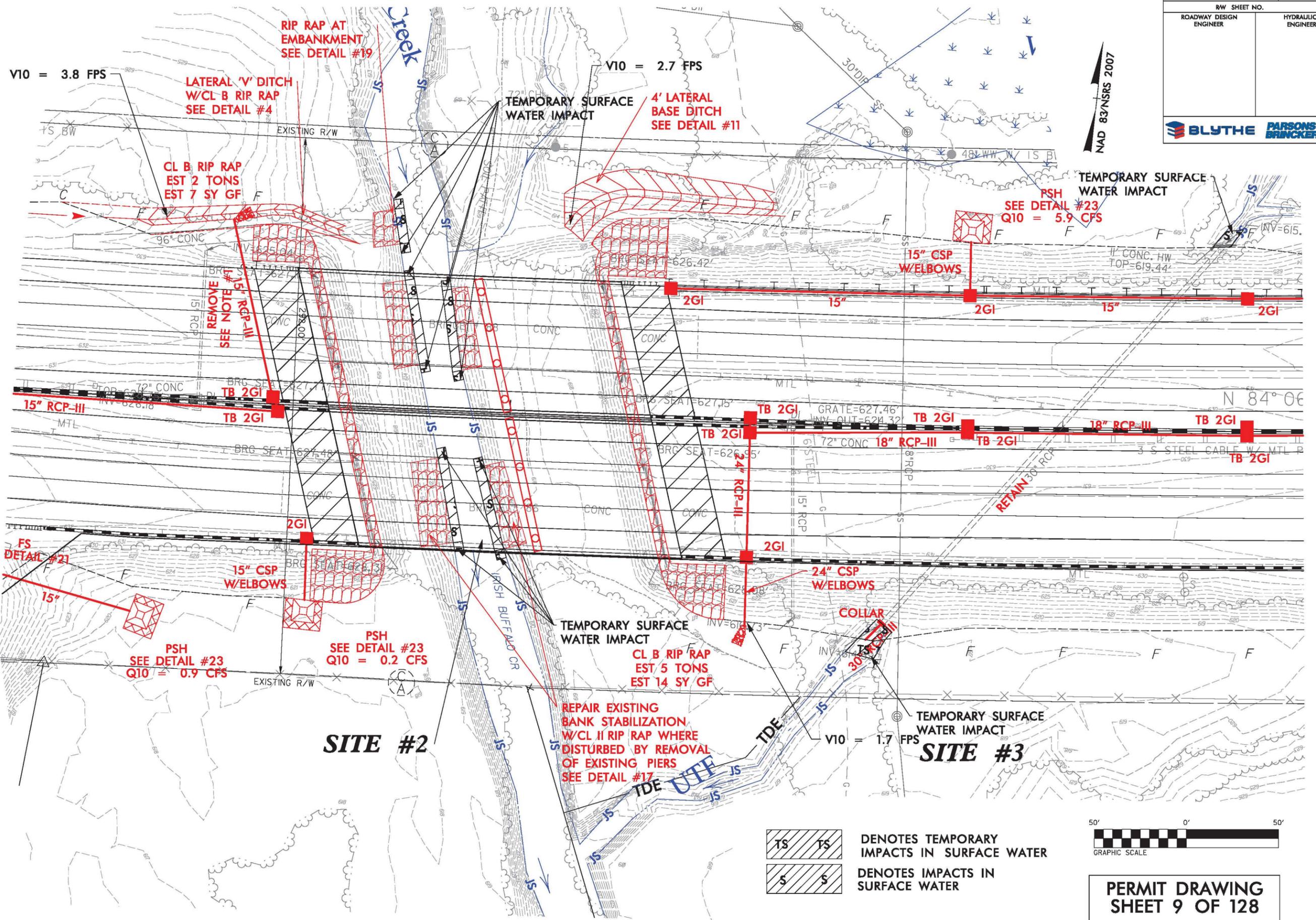
BLYTHE PARSONS BRINCKERHOFF



DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

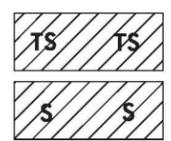
**PERMIT DRAWING
SHEET 8 OF 128**

3/19/2016 1:38:02AM I:\3802A\Hydraulic\PERMITS\Environmental\Drawings\psh_w\contours\13802a_rdy_psh\06A.dgn
 8/17/99
 PARSONS BRINCKERHOFF

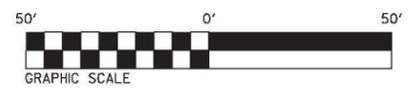


SITE #2

SITE #3



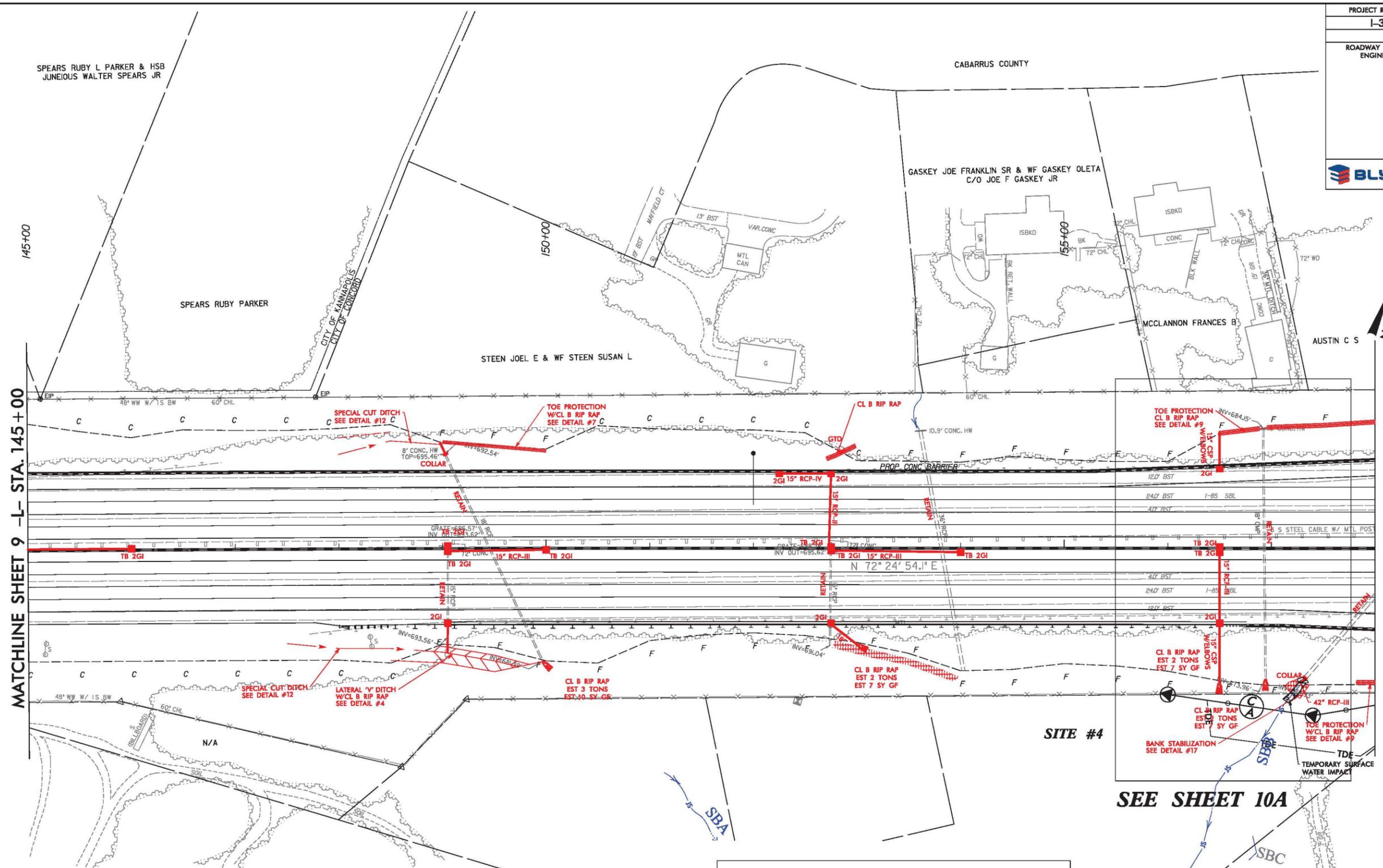
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER



**PERMIT DRAWING
 SHEET 9 OF 128**

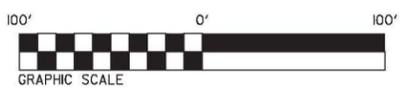
3/19/2010 1:38:02AM I:\Drawings\psh\contours\13802a_rdy_psh06A.dgn
 1:38:02AM I:\Drawings\psh\contours\13802a_rdy_psh06A.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE SHEET 9 -L- STA. 145+00

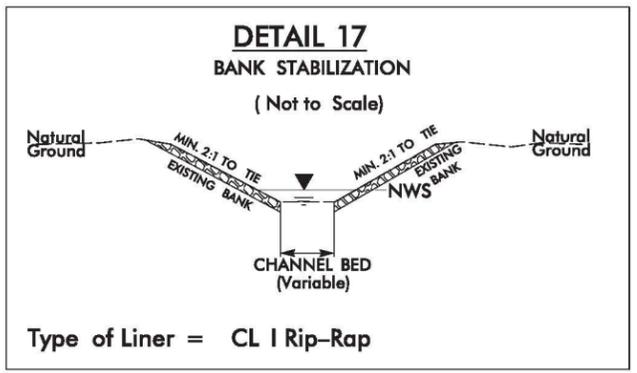
MATCHLINE SHEET 11 -L- STA. 158+00



**PERMIT DRAWING
SHEET 11 OF 128**

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER



SEE SHEET 10A

8/17/99
 3/19/2016
 I:\3802A\Hydraulics\Drawings\psh_wo_contours\3802a_rdy_psh10.dgn
 1:1
 PARSONS BRINCKERHOFF

American South Management, LLC
DB 9455 Pg 184

SITE #4

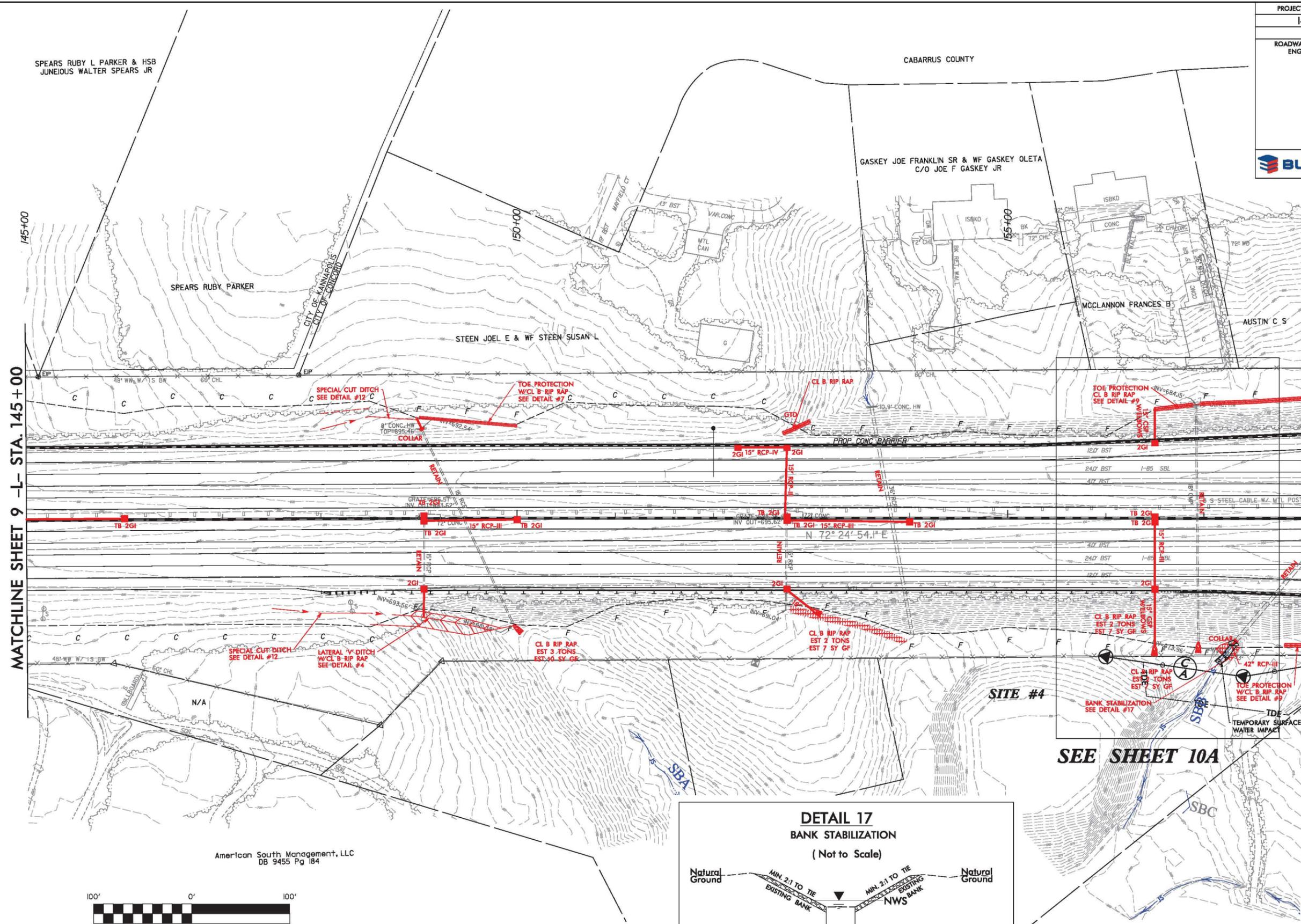
LOUKOS CHRISTOPHER A

NAD 83 NRS 2007

PROJECT REFERENCE NO. I-3802A	SHEET NO. 10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE **PARSONS BRINCKERHOFF**

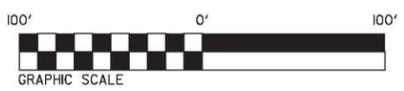
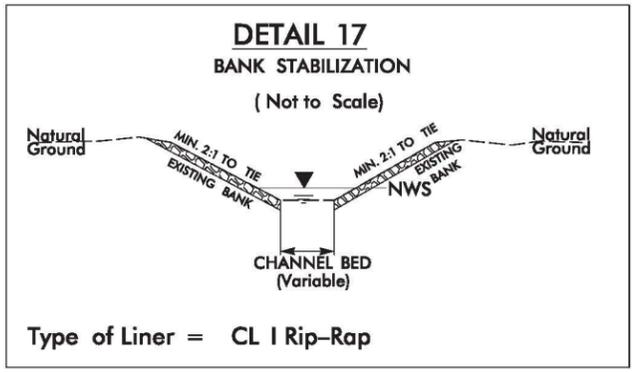
NAD 83/NSRS 2007



MATCHLINE SHEET 9 -L- STA. 145+00

MATCHLINE SHEET 11 -L- STA. 158+00

SEE SHEET 10A



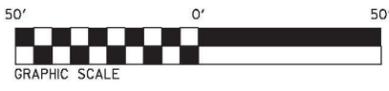
PERMIT DRAWING
SHEET 12 OF 128

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S S DENOTES IMPACTS IN SURFACE WATER

American South Management, LLC
DB 9455 Pg 184

8/17/99
 3/19/2016
 I:\3802A\Hydraulic\PERMITS\Environmental\Drawings\psh contours\13802a_rdy_psh10.dgn
 PARSONS BRINCKERHOFF

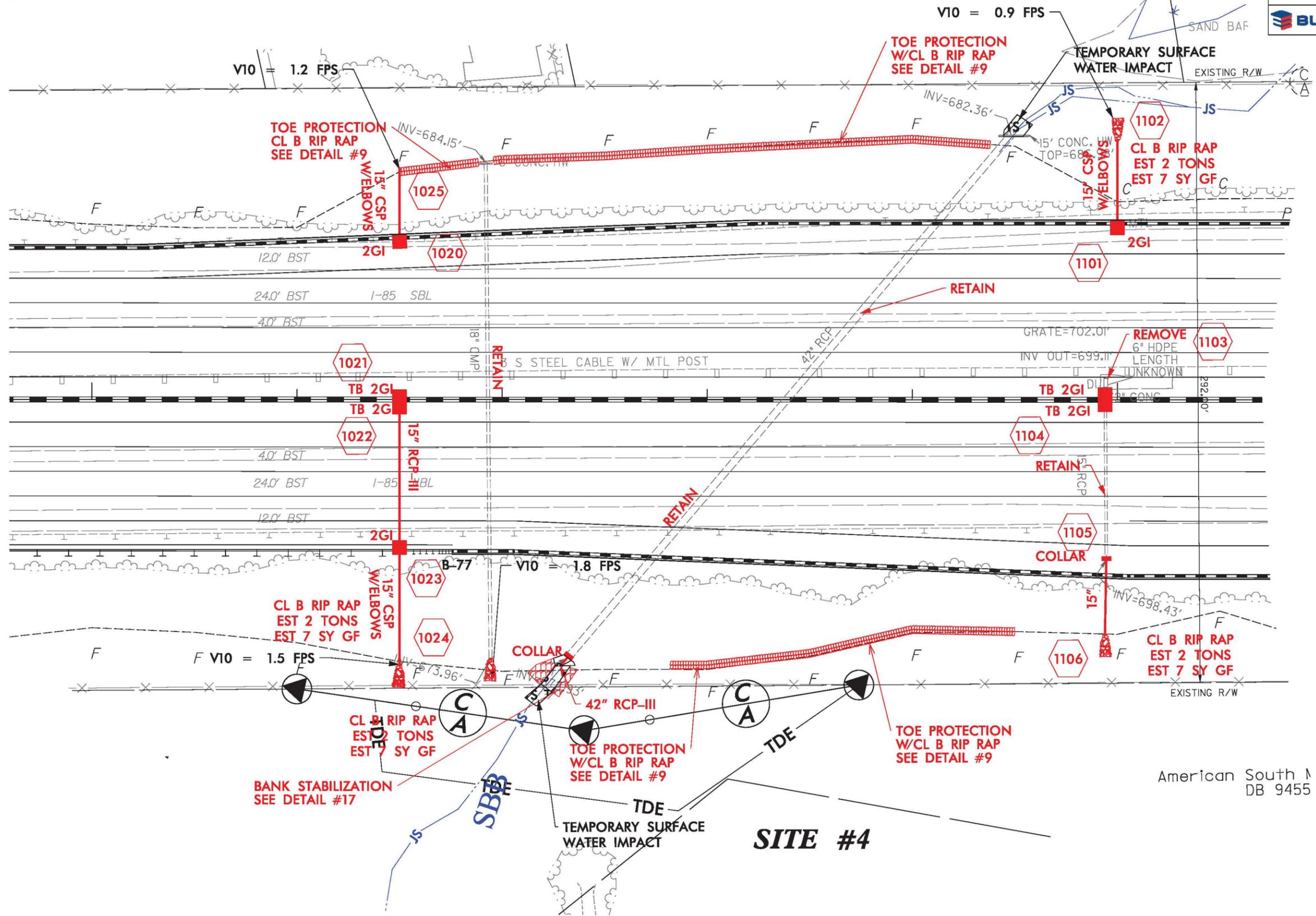
8/17/99
3/19/2016
I:\3802A\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_w\contours\3802a_rdy_psh10a.dgn
PARSONS BRINCKERHOFF



PERMIT DRAWING
SHEET 13 OF 128

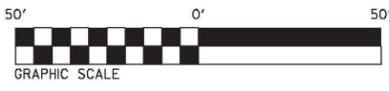
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO. I-3802A	SHEET NO. 10A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
BLYTHE PARSONS BRINCKERHOFF	



American South M
DB 9455

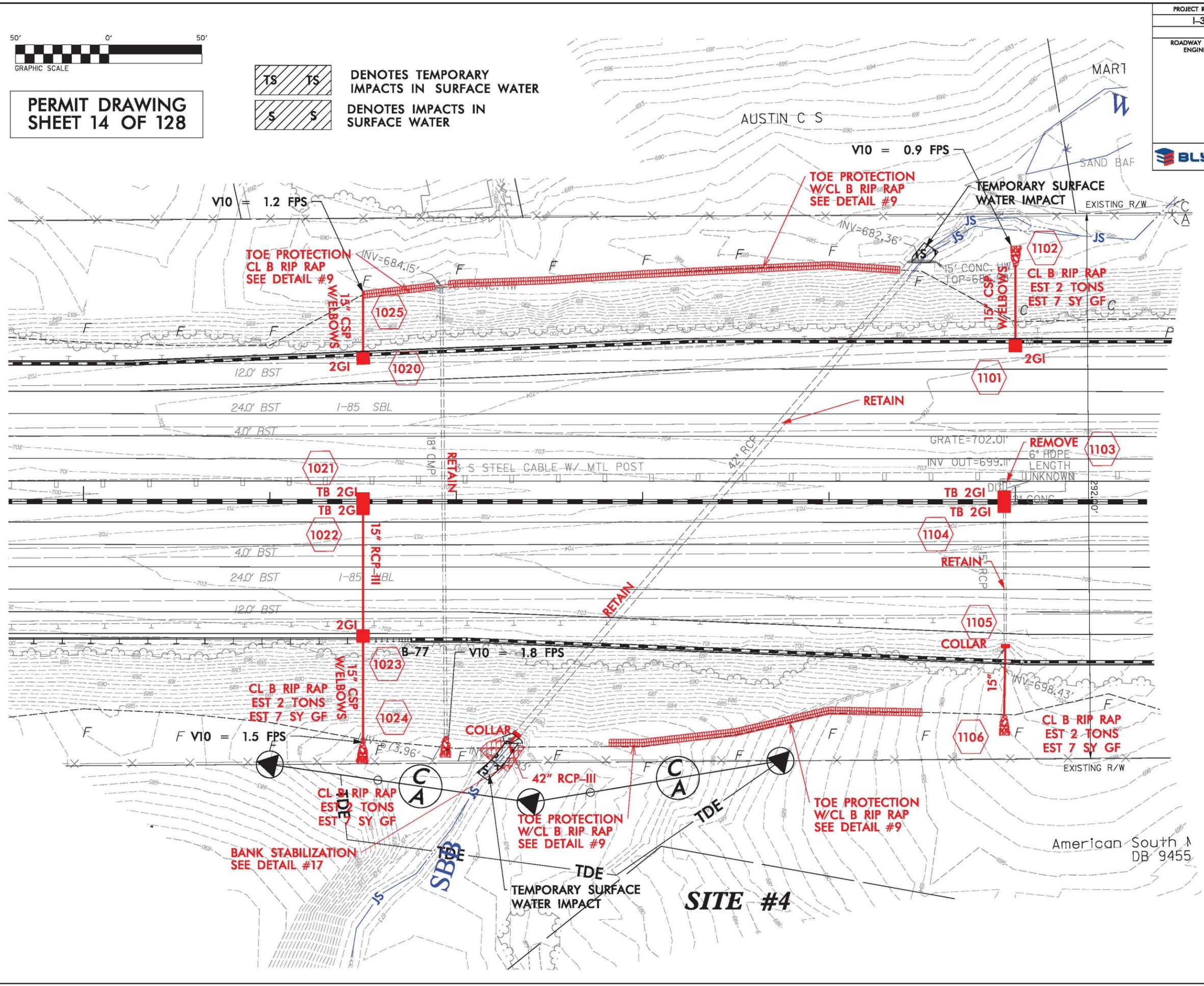
PROJECT REFERENCE NO.	SHEET NO.
I-3802A	10A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**PERMIT DRAWING
SHEET 14 OF 128**

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER



3/19/2015 1:19:25 PM I:\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_coutours\13802a_rdw_psh10A.dgn
 PARSONS BRINCKERHOFF

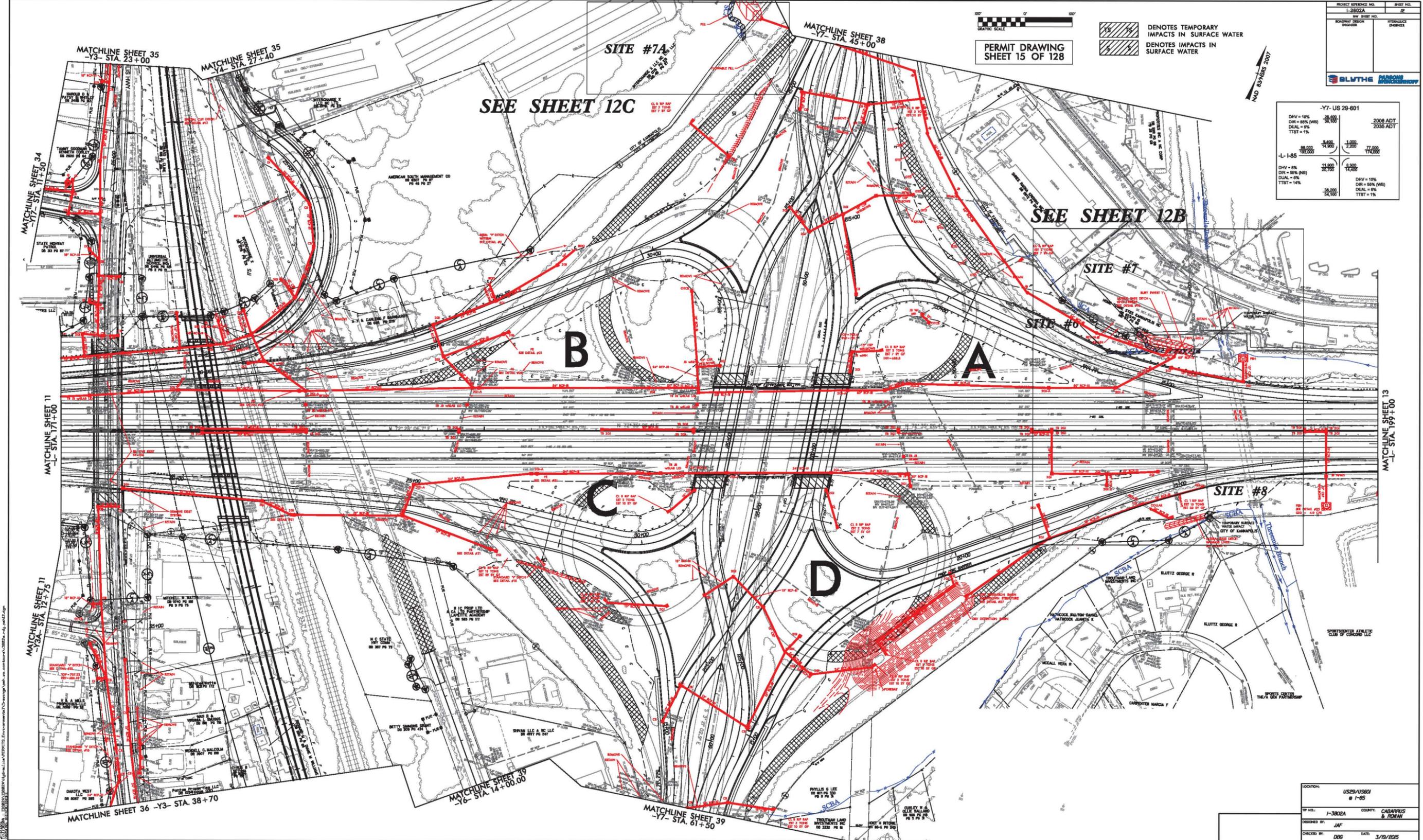
PROJECT REFERENCE NO.	SHEET NO.
I-3802A	15
ROADWAY DESIGN DIVISION	HYDRAULICS DIVISION
BLITHE BROWN CONSULTANTS	

PERMIT DRAWING
SHEET 15 OF 128

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER



-Y7- US 28-801		2008 ADT 2036 ADT	
DIV = 10%	DR = 50% (WB)	11,000	17,000
DUAL = 5%	TTBT = 1%	14,000	17,000
-L- I-85		11,000	14,000
DIV = 8%	DR = 50% (WB)	11,000	14,000
DUAL = 5%	TTBT = 1%	14,000	14,000

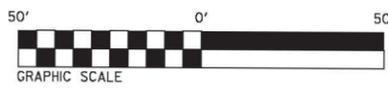
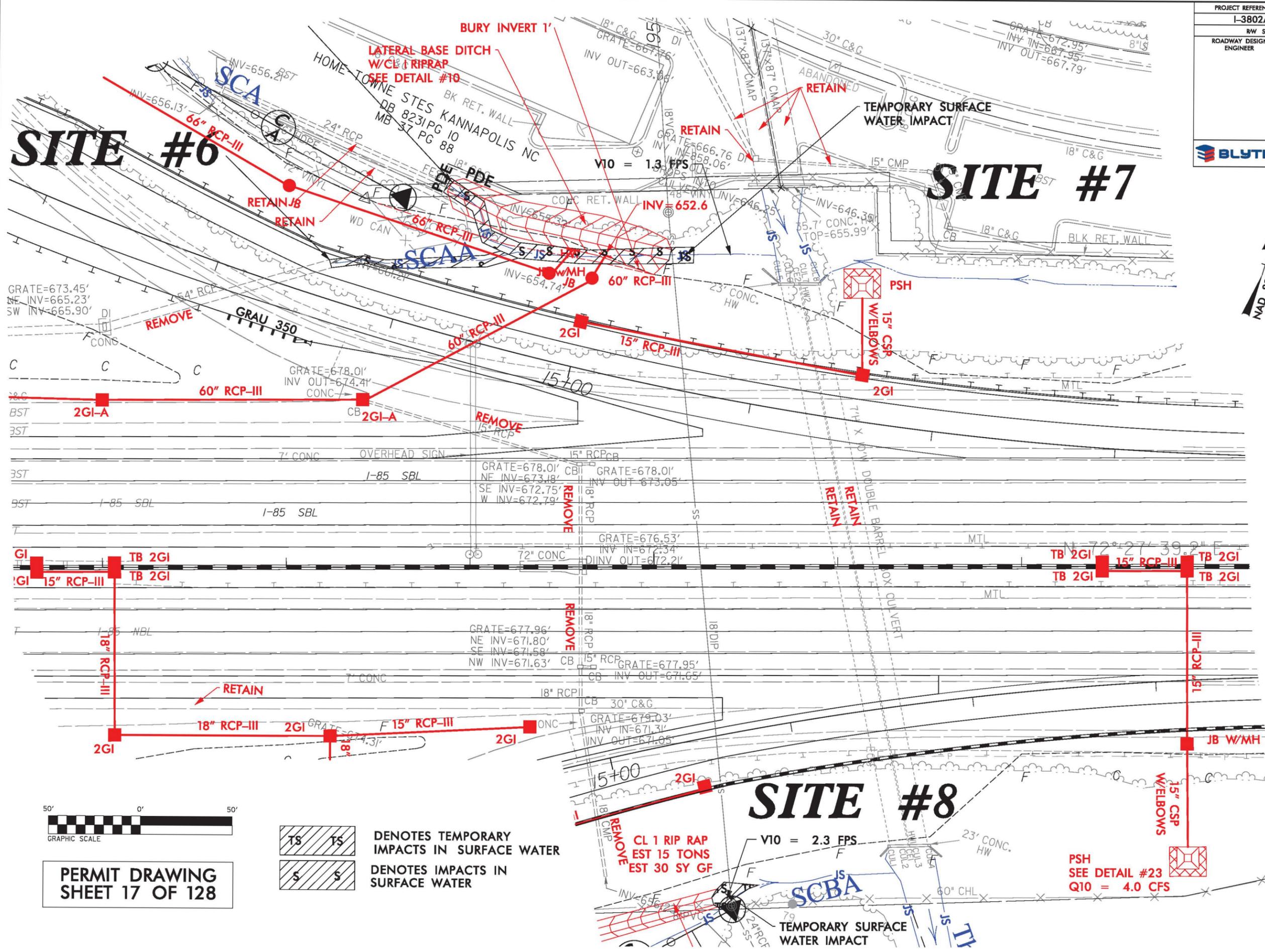


LOCATION:	US28/US89 # I-85		
PROJECT NO.:	I-3802A	COUNTY:	CABARRIUS & ROWAN
DESIGNED BY:	JAF	CHECKED BY:	DGG
DATE:	3/19/2015		

PROJECT REFERENCE NO. I-3802A	SHEET NO. 12B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE **PARSONS BRINCKERHOFF**

NAD 83/NSRS 2007



PERMIT DRAWING SHEET 17 OF 128

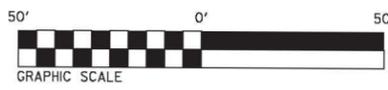
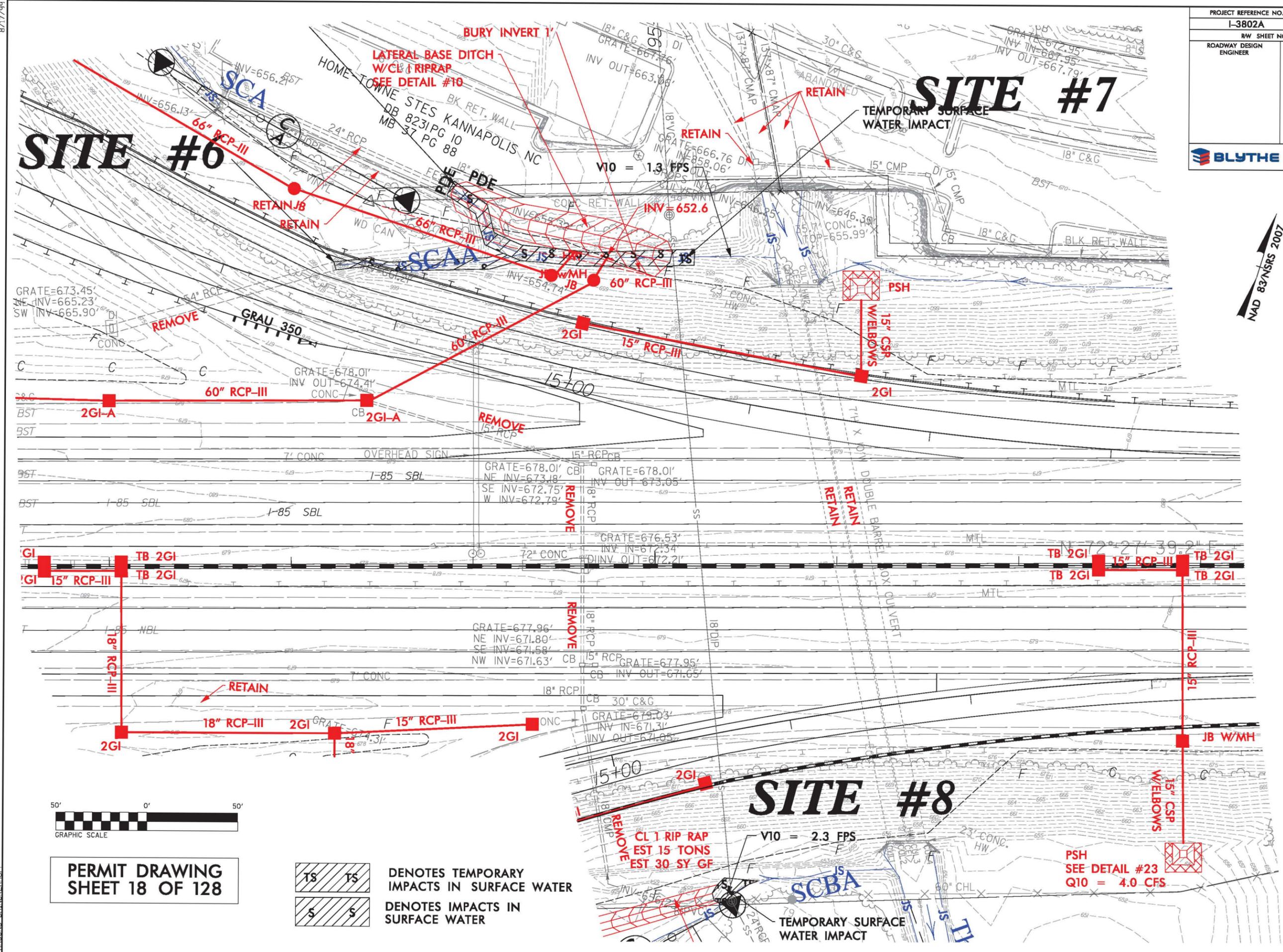
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

3/19/2015 1:38:02A I-3802A_Hydraulic\PERMITS_Environment\Drawings\psh_w\contours\13802a_r.dwg_psh12B.dgn
 15:26:10A
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO. I-3802A	SHEET NO. 12B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE **PARSONS BRINCKERHOFF**

NAD 83/NSRS 2007



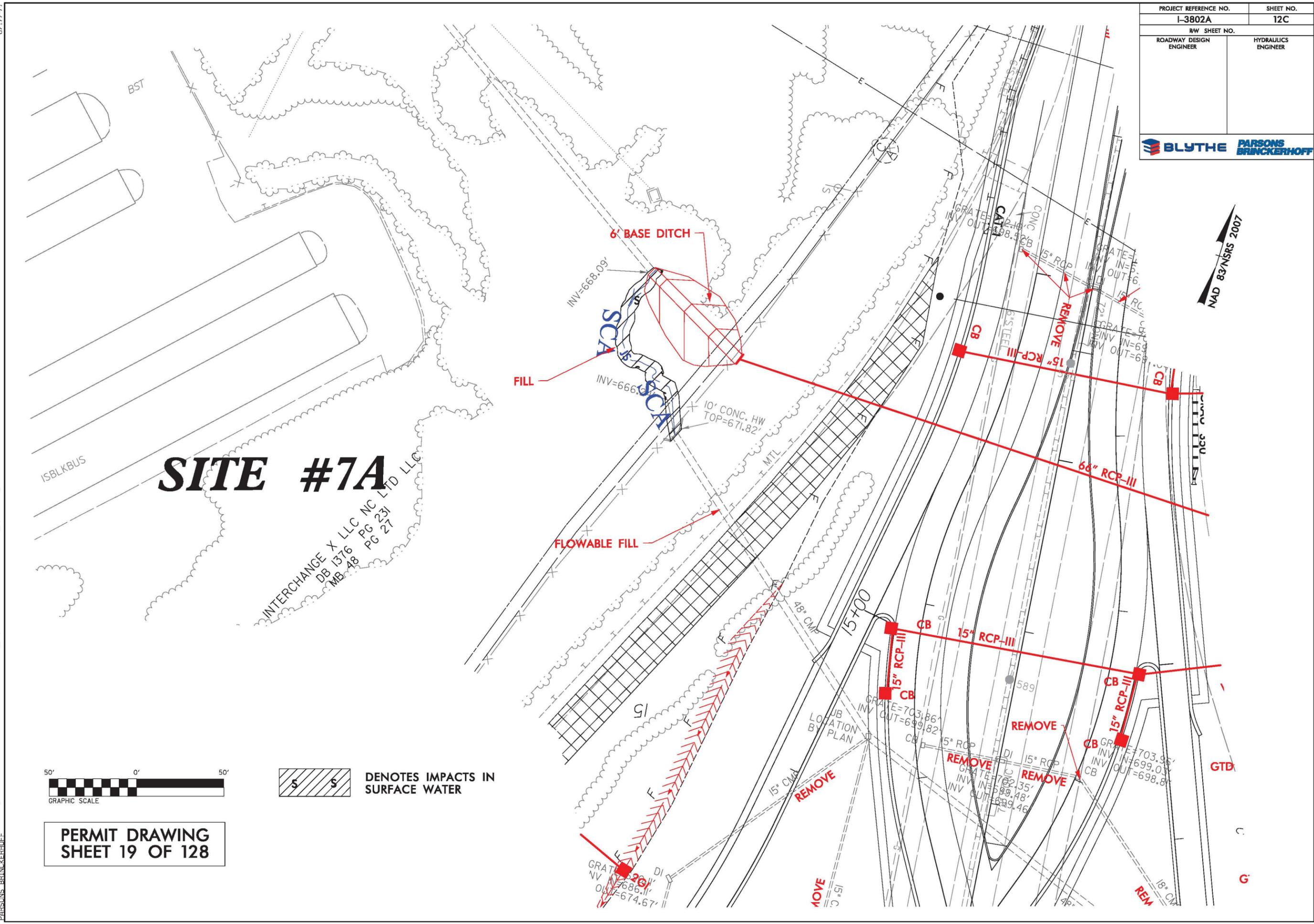
**PERMIT DRAWING
SHEET 18 OF 128**

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

3/19/2015 1:38:02A I:\3802A_Hydra\1\Drawings\psh\contours\3802a_rcdj_psh12B.dgn
 15:26:04
 PARSONS BRINCKERHOFF

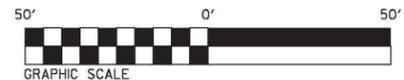
PROJECT REFERENCE NO. I-3802A	SHEET NO. 12C
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

BLYTE PARSONS BRINCKERHOFF



SITE #7A

INTERCHANGE X LLC NC
DB 1376 PG 27
MB 48 PG 27
LTD LLC



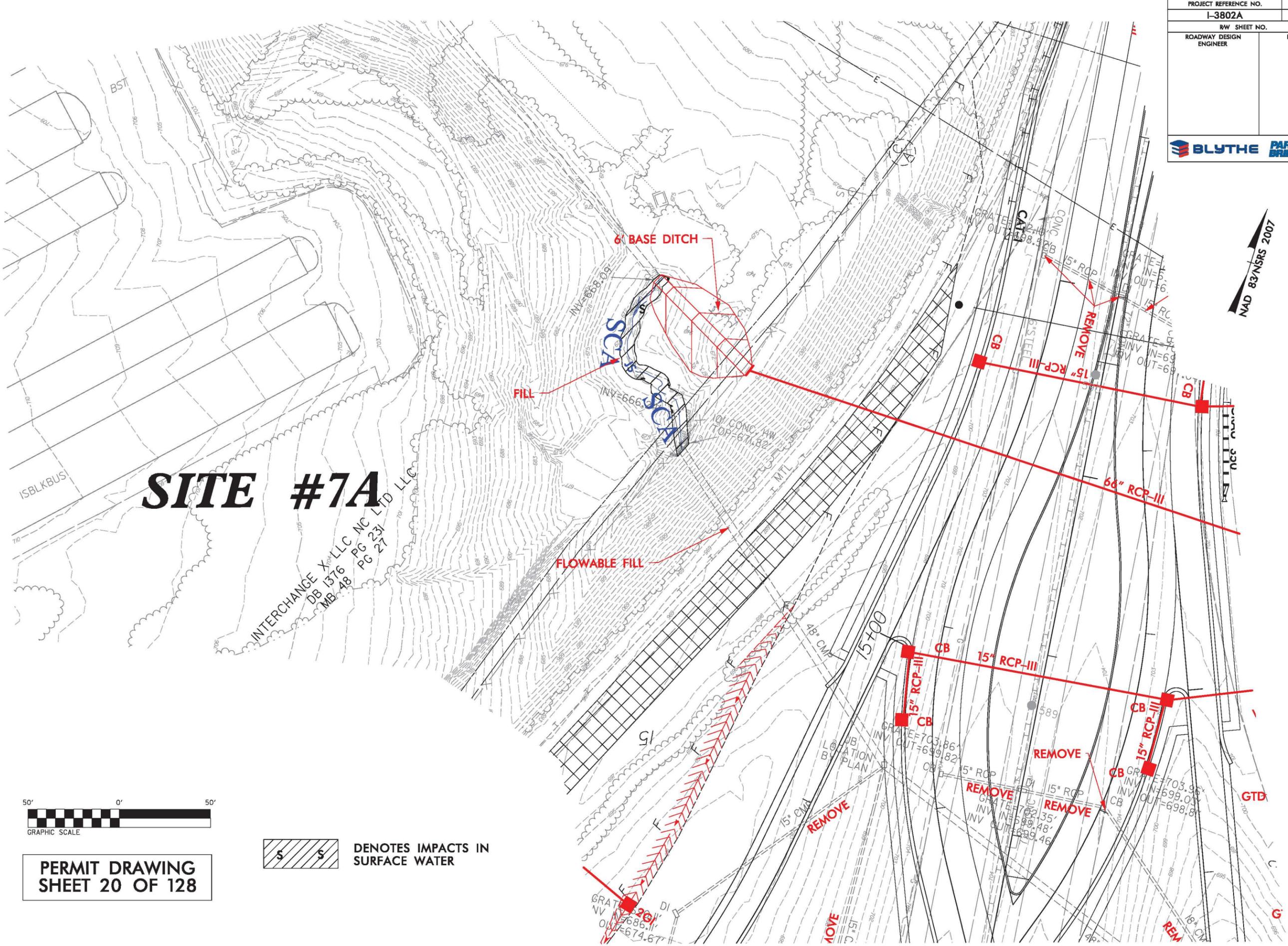
 DENOTES IMPACTS IN SURFACE WATER

**PERMIT DRAWING
SHEET 19 OF 128**

8/17/99
 3/19/2016
 I:\3802A\Hydraulics\PERMITS.Environmental\Drawings\psh_w\contours\3802a_rdy_psh12c.dgn
 PARSONS BRINCKERHOFF

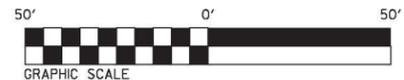
PROJECT REFERENCE NO.	SHEET NO.
I-3802A	12C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



SITE #7A

INTERCHANGE X LLC MC LTD
 DB 1376 PG 231
 MB 48 PG 27

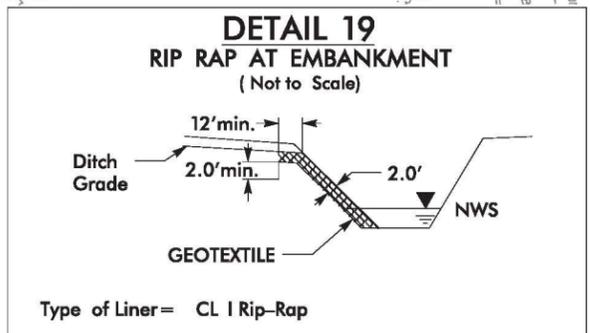
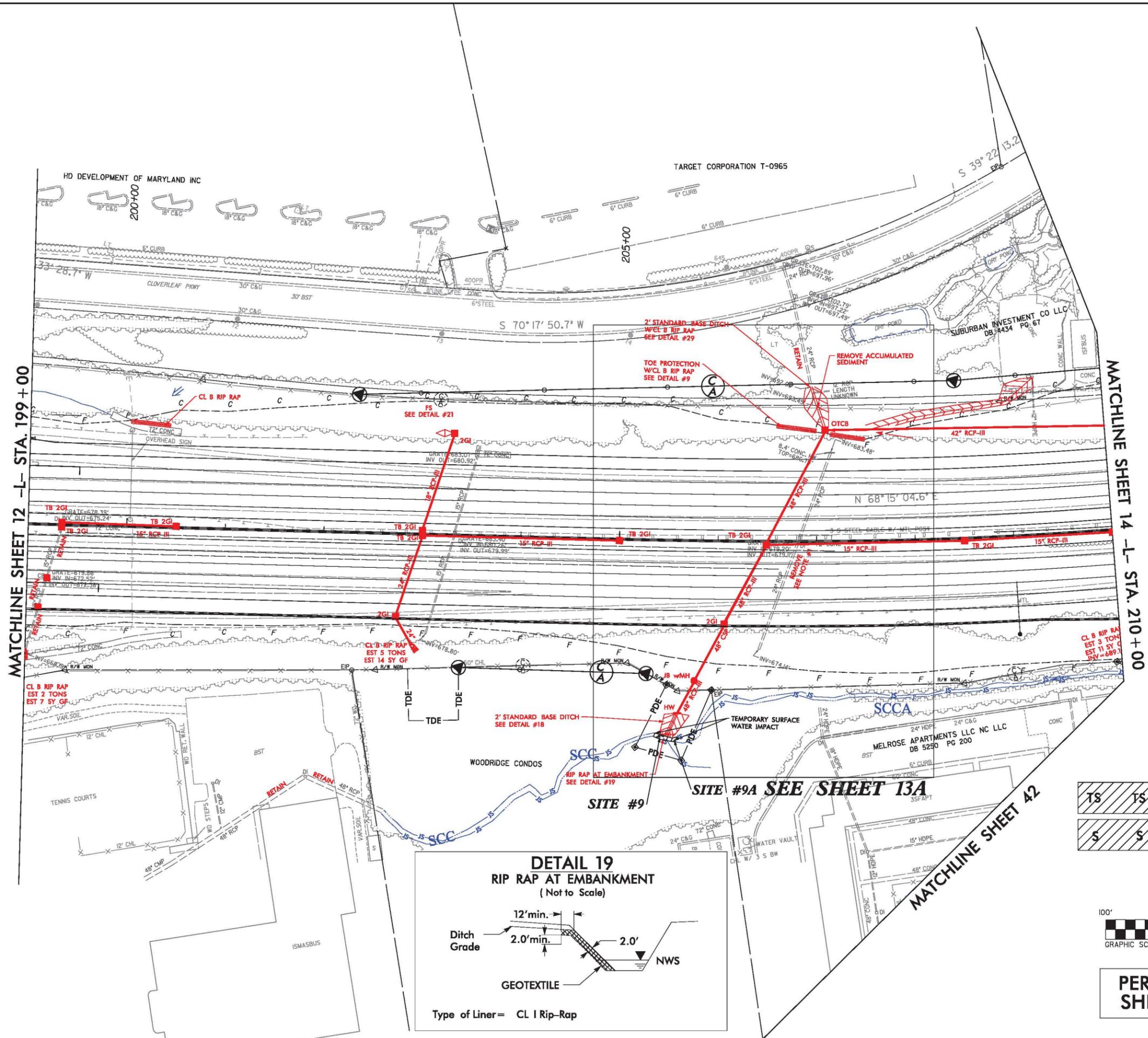


PERMIT DRAWING
 SHEET 20 OF 128

DENOTES IMPACTS IN SURFACE WATER

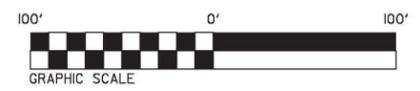
8/17/99
 I:\3802A\Hydraulics\PERMITS_Environmental\Drawings\psh_contours\13802a_rdw_psh12C.dgn
 3/19/2016
 I:\3802A\Hydraulics\PERMITS_Environmental\Drawings\psh_contours\13802a_rdw_psh12C.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

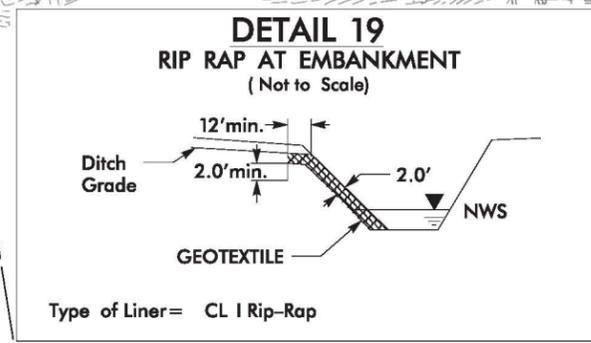
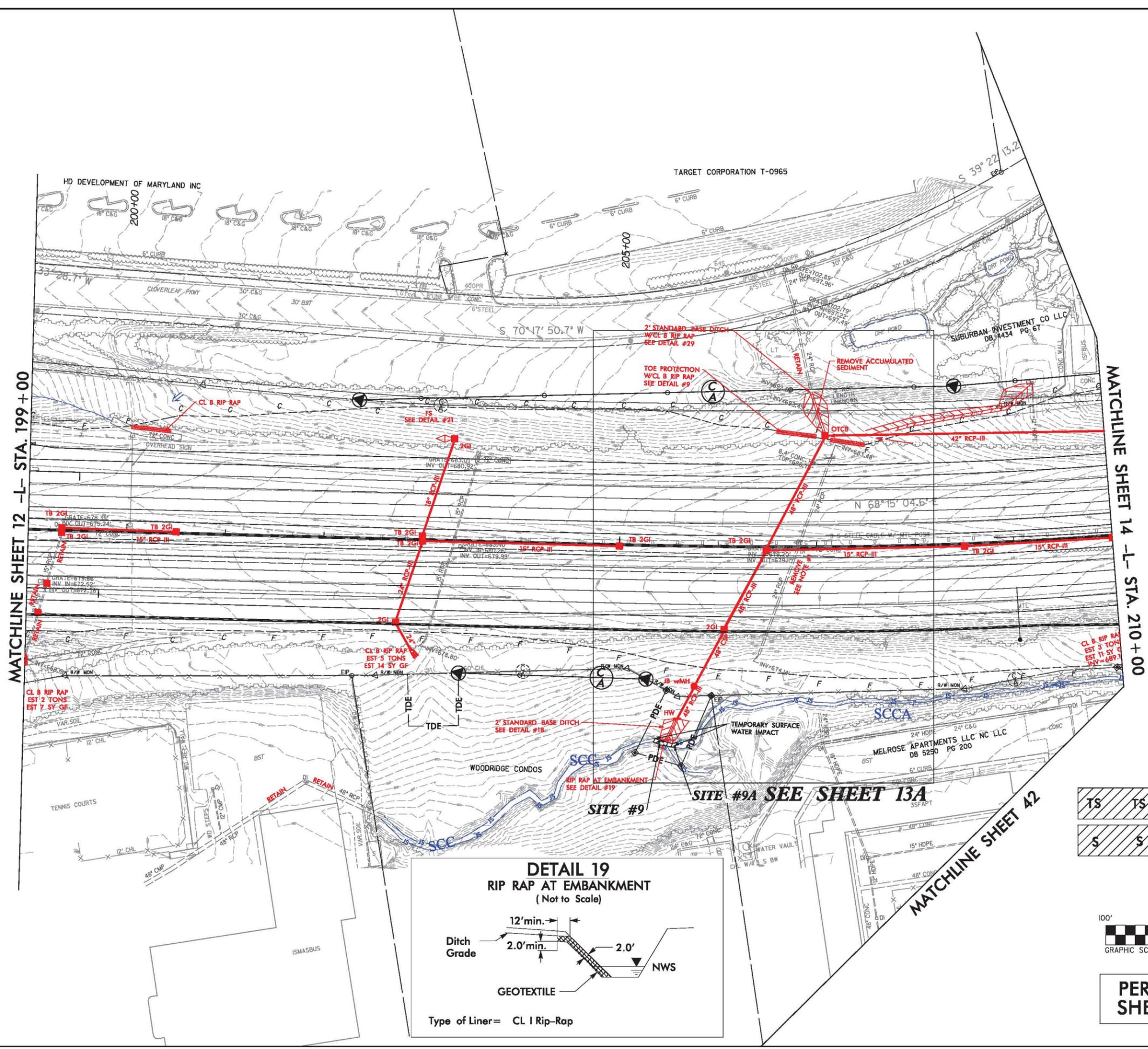
DENOTES IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 21 OF 128

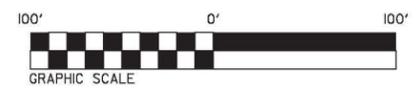
8/17/99
 3/19/2016
 I-3802A - I-3802A\Hydro\1\Drawings\psh_w\contours\3802a_rdy_psh13.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER



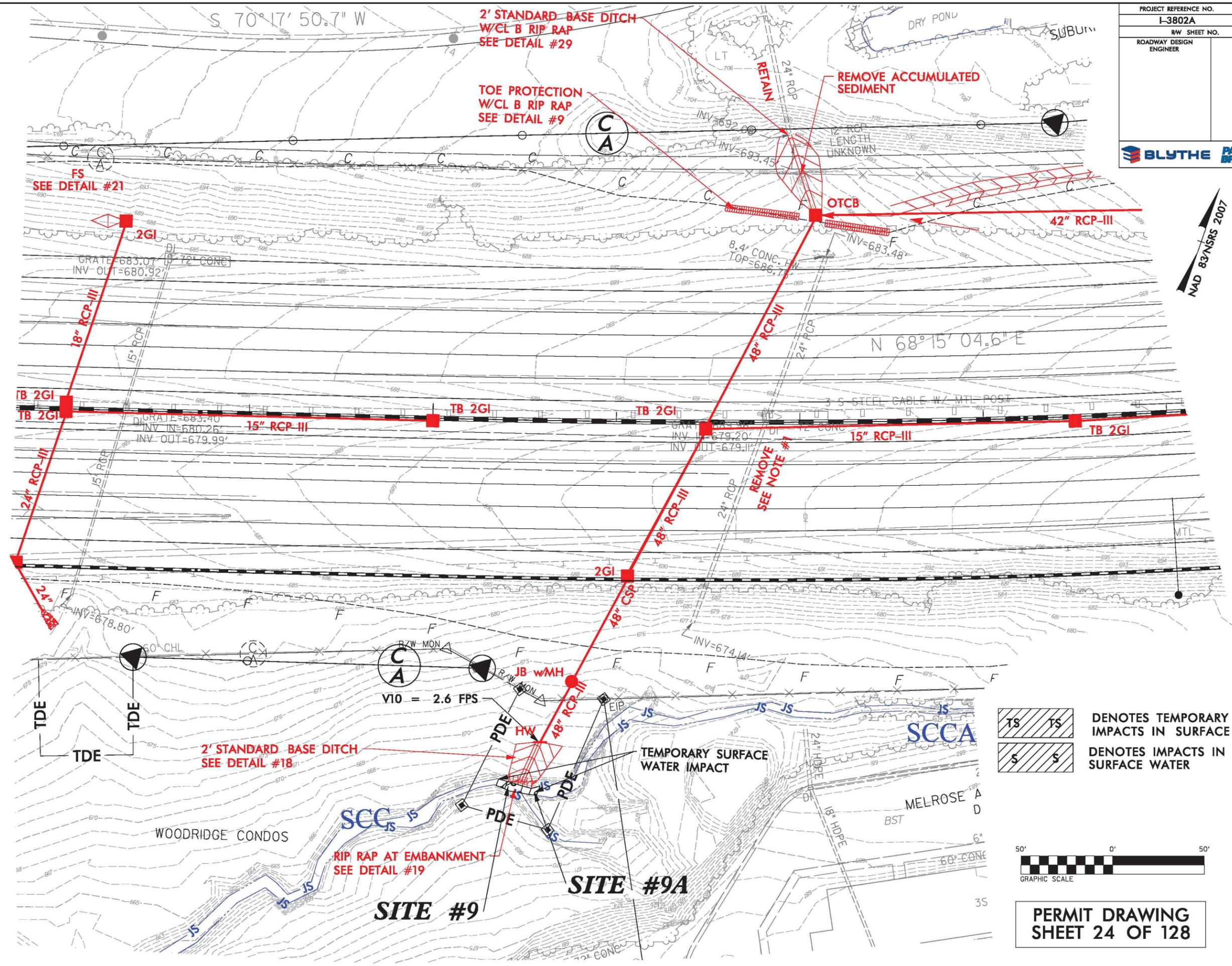
PERMIT DRAWING
SHEET 22 OF 128

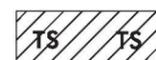
8/17/99
 3/19/2016
 I:\3802A\3802A\Hydro\1\Drawings\psh\contours\13802a_r.dwg_psh13.dgn
 PARSONS BRINCKERHOFF

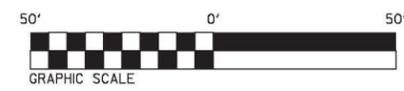
8/17/99
 1/19/2016
 I:\3802A\Hydro\1\3802A\Hydro\1\3802A\Drawings\psh\contours\13802a_rdy_psh13A.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO. I-3802A	SHEET NO. 13A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

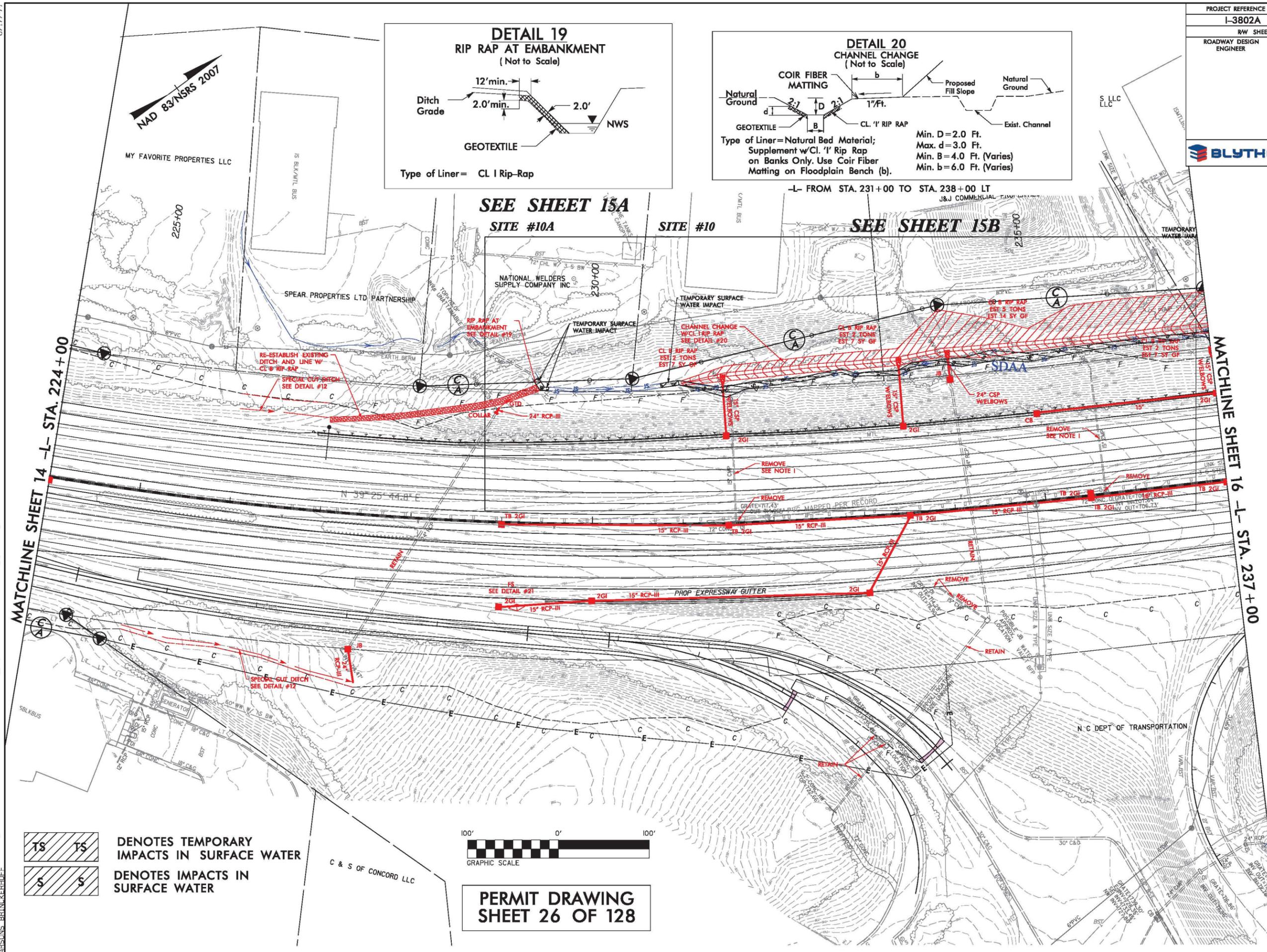
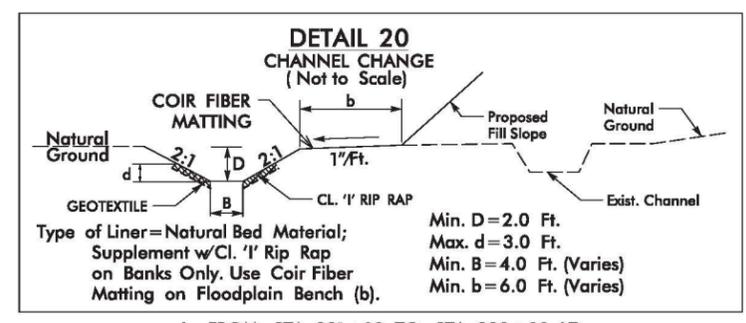
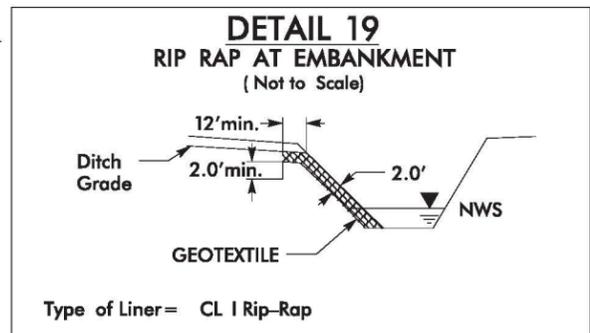
BLYTEH PARSONS BRINCKERHOFF



 DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

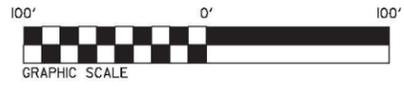


PERMIT DRAWING SHEET 24 OF 128



TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER



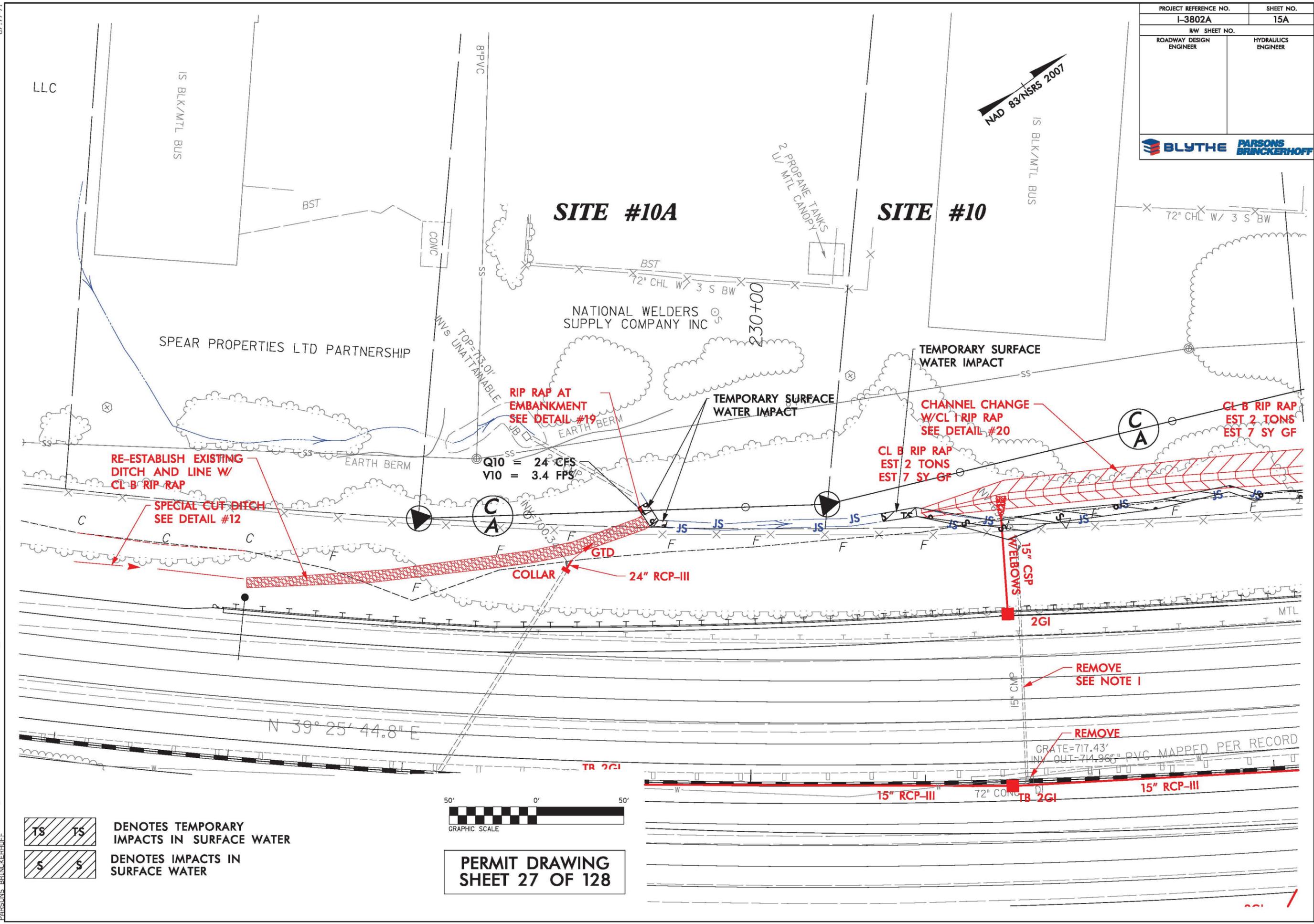
**PERMIT DRAWING
SHEET 26 OF 128**

8/17/99
 3/19/2016
 I:\3802A\Hydro\1\Drawings\psh\contours\13802a_rdy_psh15.dgn
 PARSONS BRINCKERHOFF

8/17/99
 3/19/2015
 I:\3802A\3802A\Hydraulic\Permits\Drawings\psh_w\contours\3802a_rdy_psh15a.dgn
 PERMITS.Environmental\Drawings\psh_w\contours\3802a_rdy_psh15a.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO. I-3802A	SHEET NO. 15A
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE PARSONS BRINCKERHOFF

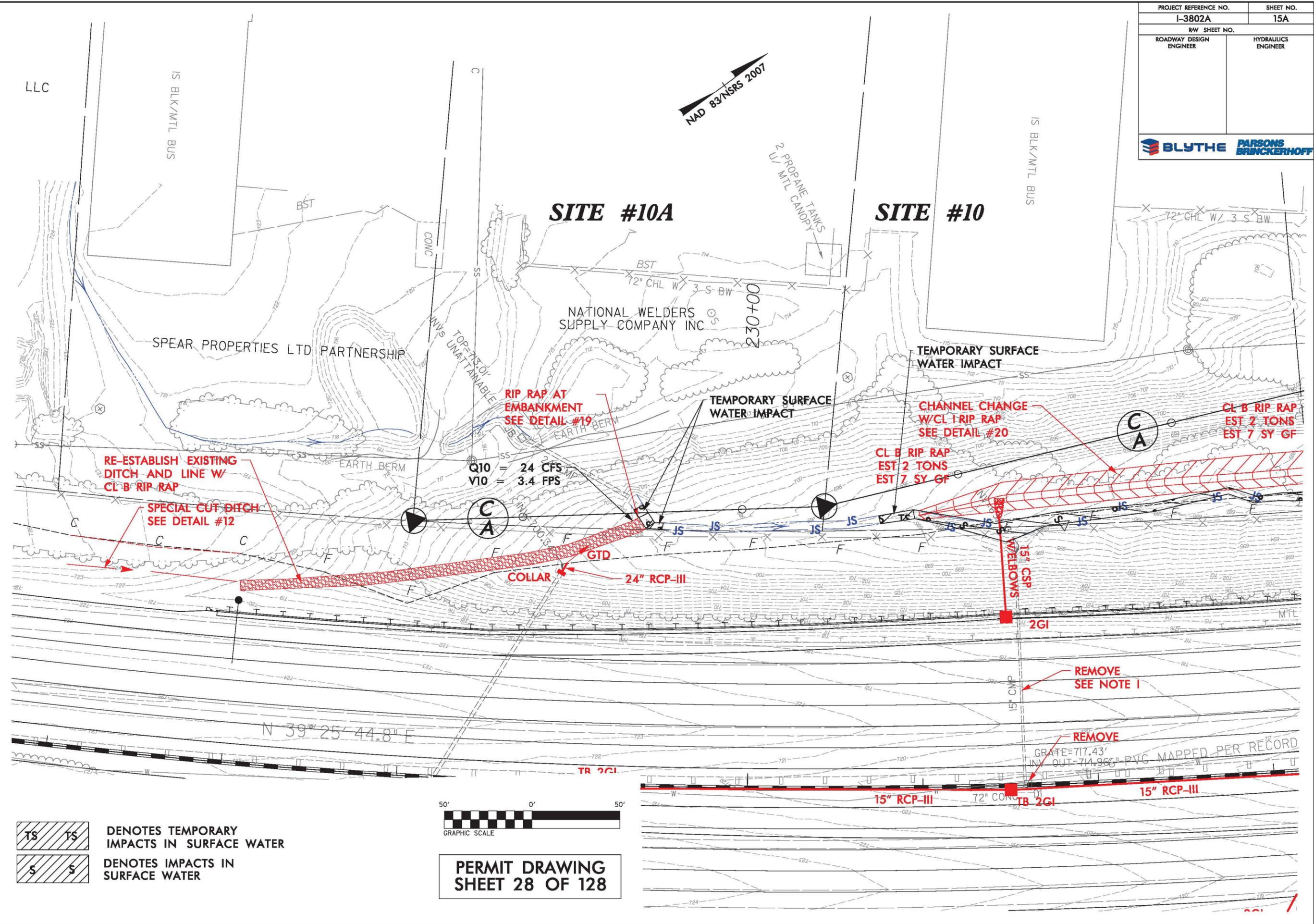


 DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

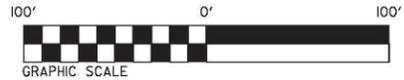
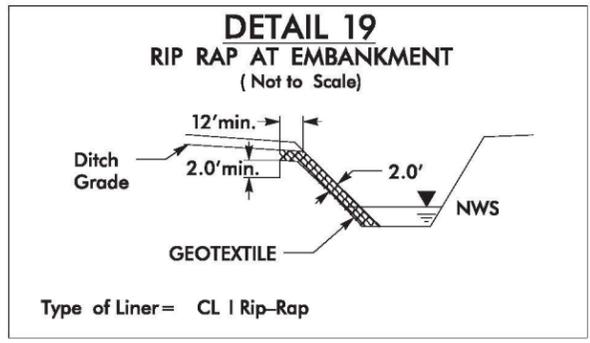
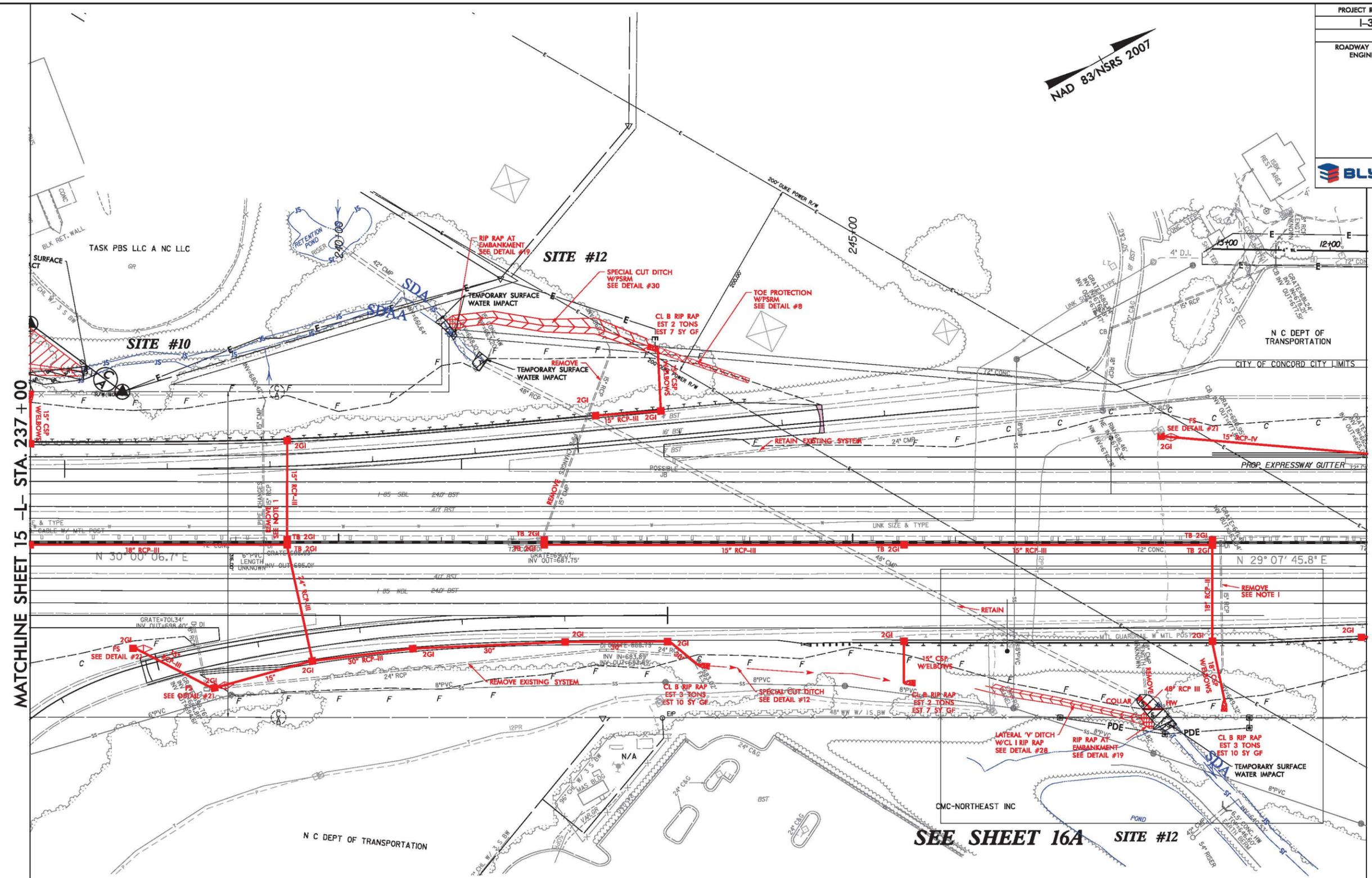
PERMIT DRAWING SHEET 27 OF 128

PROJECT REFERENCE NO. I-3802A	SHEET NO. 15A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	

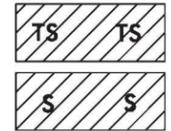
8/17/99
 3/19/2015
 I:\3802A\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh\contours\13802a_rdy_psh15A.dgn
 PARSONS BRINCKERHOFF



NAD 83/NSRS 2007

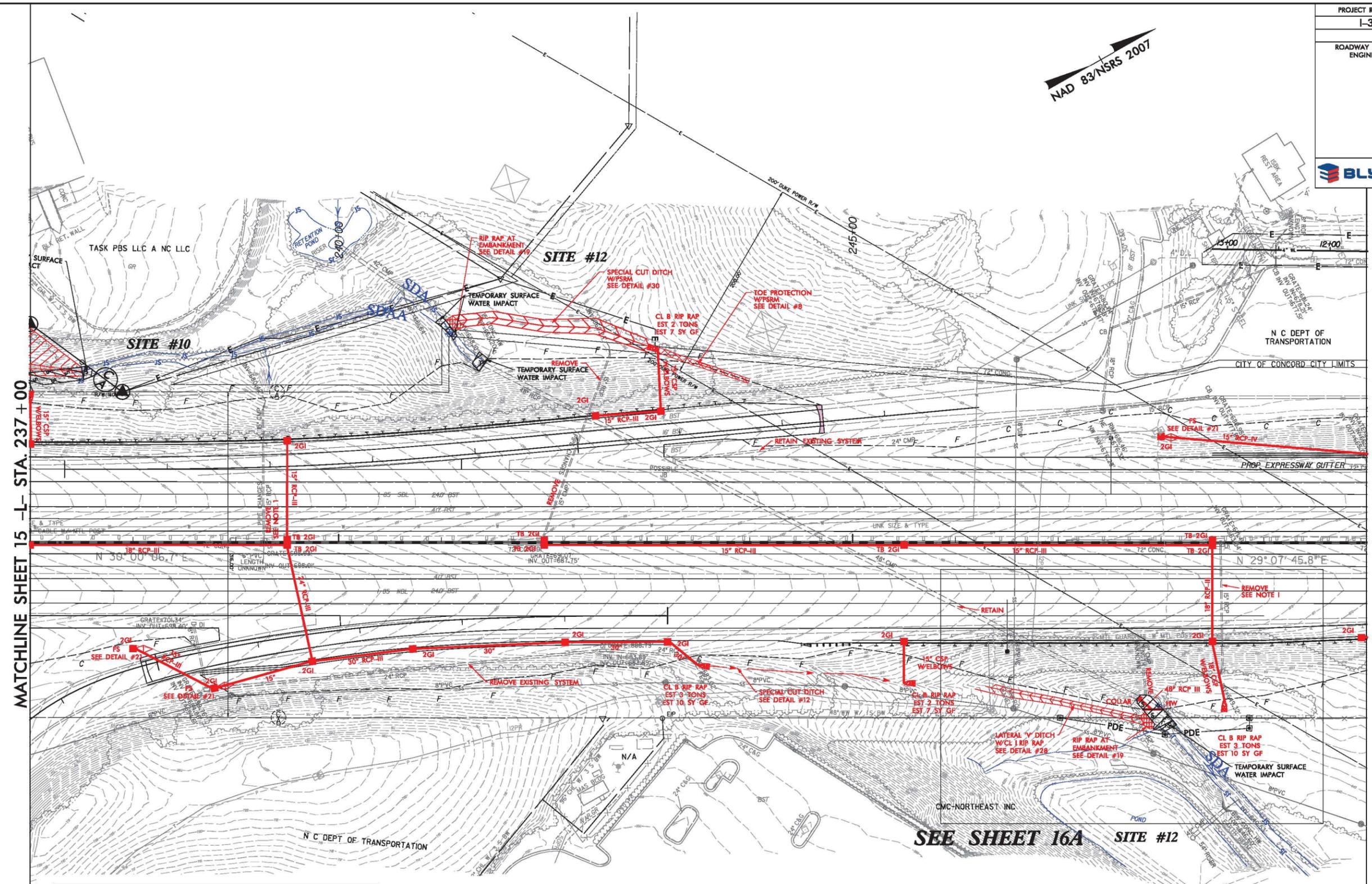


PERMIT DRAWING
SHEET 31 OF 128



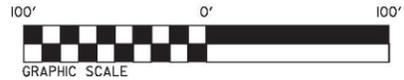
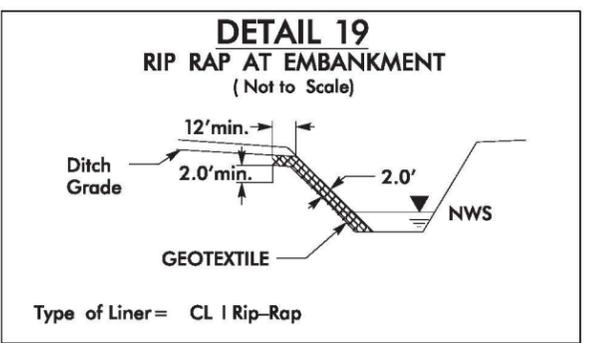
TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S DENOTES IMPACTS IN SURFACE WATER

8/17/99
 3/19/2016
 I:\3802A\3802A\Hydraulics\Permits\Drawings\sh_wo_contours\3802a_rdy_psh16.dgn
 PARSONS BRINCKERHOFF

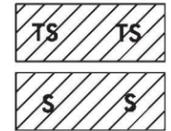


MATCHLINE SHEET 15 -L- STA. 237 + 00

MATCHLINE SHEET 17 -L- STA. 250 + 00



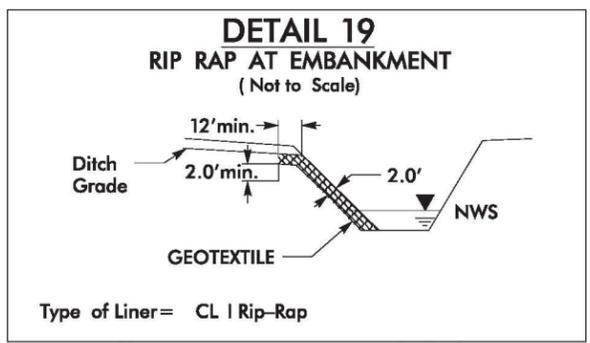
PERMIT DRAWING
SHEET 32 OF 128



TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S S DENOTES IMPACTS IN SURFACE WATER

8/17/99
3/19/2016
I:\3802A\3802A\Hydraulics\PERMITS.Environmental\Drawings\psh.cntours\13802a_r.dwg_psh16.dgn
PARSONS BRINCKERHOFF

4/13/2009 1:57:28 PM I:\3802A\Hydro\1.ccs\PERMITS\Environmental\Drawings\psh_wo_concours\13802a_rdy_psh17.dgn



SEE SHEET 17A

PROJECT REFERENCE NO. I-3802A	SHEET NO. 17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

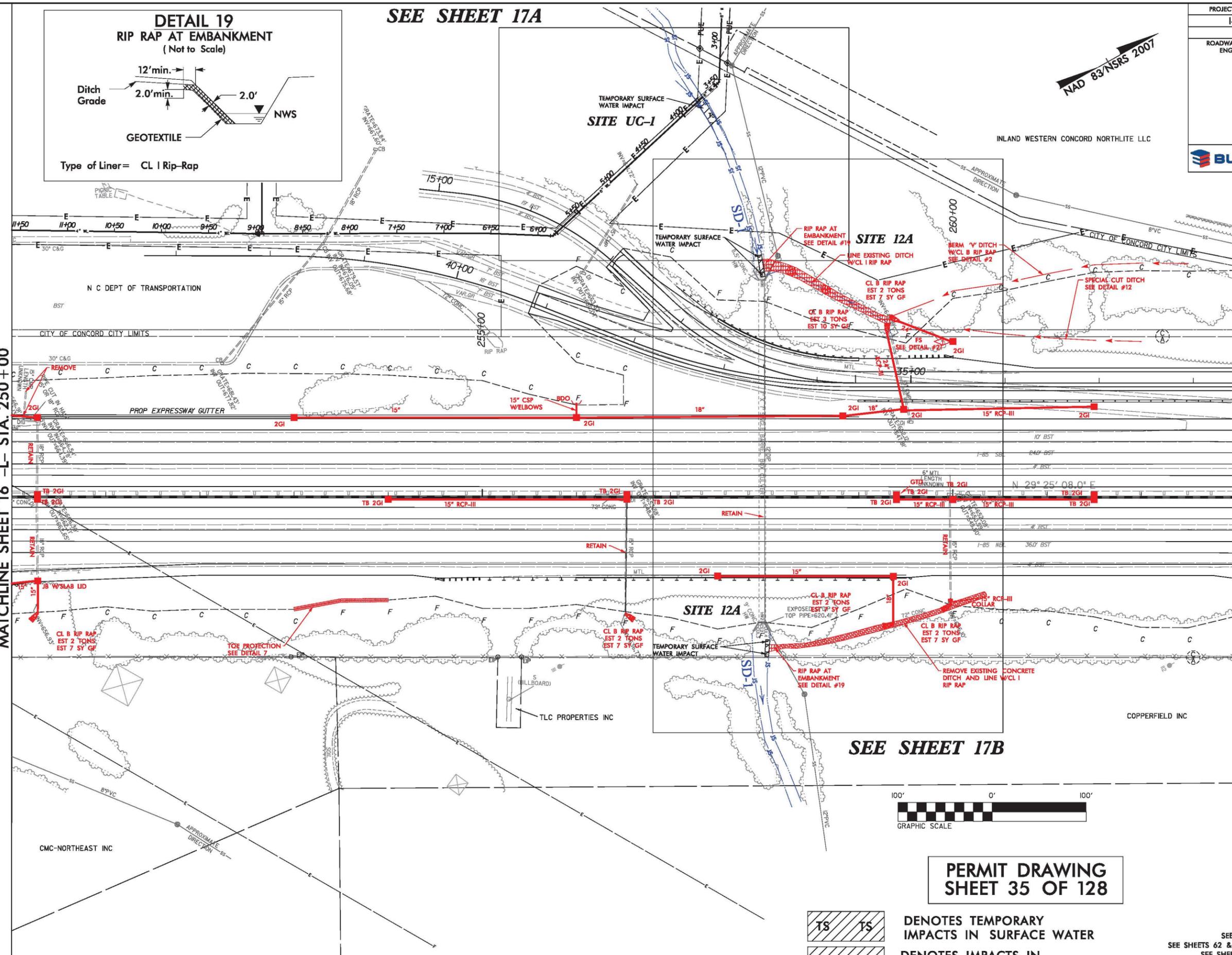
NAD 83/NSRS 2007

INLAND WESTERN CONCORD NORTHLITE LLC

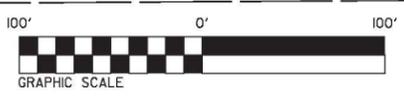
BLYTHE **PARSONS BRINCKERHOFF**

MATCHLINE SHEET 16 -L- STA. 250 + 00

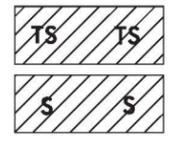
MATCHLINE SHEET 18 -L- STA. 263 + 00



SEE SHEET 17B



PERMIT DRAWING
SHEET 35 OF 128



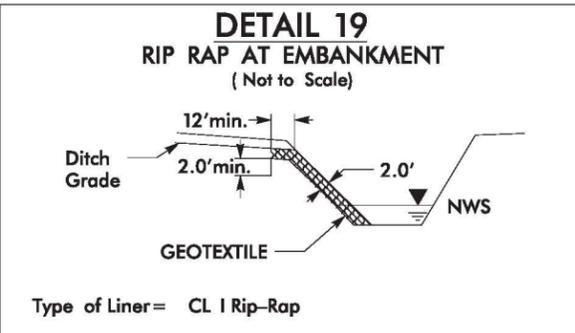
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

NOTE: PROVIDE WOVEN WIRE FENCE AT ALL C/A IF MISSING OR IMPACTED BY CONSTRUCTION.

SEE SHEET 2-AV FOR DITCH DETAILS
SEE SHEETS 62 & 63 FOR -LSB- & -LNB- PROFILES
SEE SHEET 85 & 86 FOR -Y9RPA- PROFILE
SEE SHEET 87 FOR -Y9SPURA- PROFILE

8/17/99
4/3/2010
1:57:28:00
I:\3802A\13802A\Hydro\1\13802A\Drawings\psh.cmtours\13802a_rdy_psh17.dgn
PARSONS BRINCKERHOFF

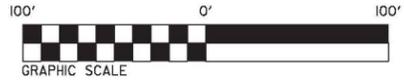
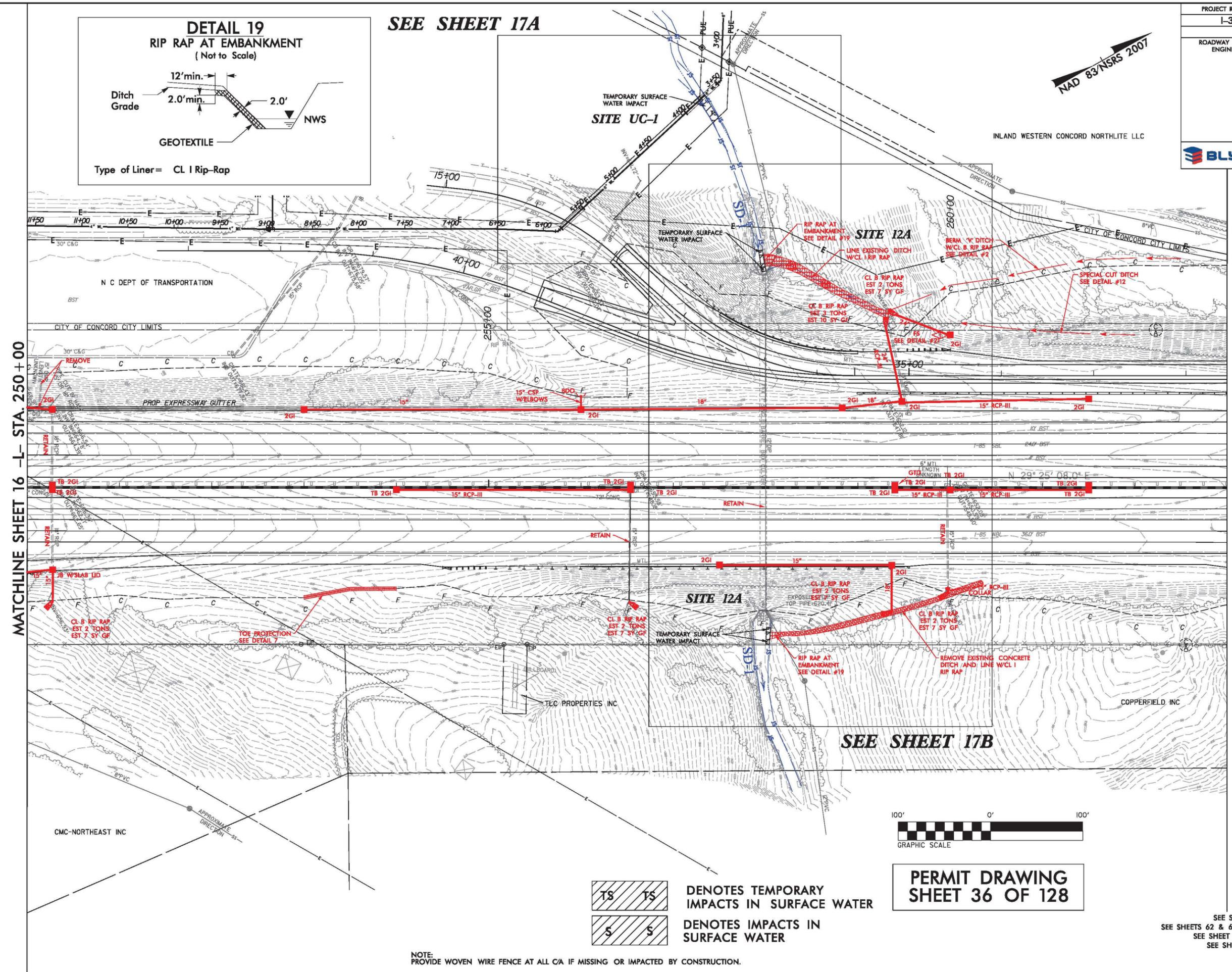


SEE SHEET 17A

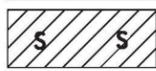
PROJECT REFERENCE NO.	SHEET NO.
I-3802A	17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INLAND WESTERN CONCORD NORTHLITE LLC

BLYTHE **PARSONS BRINCKERHOFF**



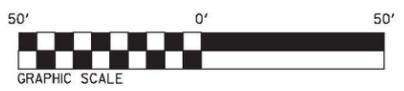
PERMIT DRAWING
SHEET 36 OF 128

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

NOTE: PROVIDE WOVEN WIRE FENCE AT ALL C/A IF MISSING OR IMPACTED BY CONSTRUCTION.

SEE SHEET 2-AV FOR DITCH DETAILS
SEE SHEETS 62 & 63 FOR -LSB- & -LNB- PROFILES
SEE SHEET 85 & 86 FOR -Y9RPA- PROFILE
SEE SHEET 87 FOR -Y9SPURA- PROFILE

8/17/99
4/3/2010
1:51:28:10A
I:\3802A\Hydro\100\PERMITS\Environmental\Drawings\psh_cmtours\13802a_rdy_psh17A.dgn
PARSONS BRINCKERHOFF



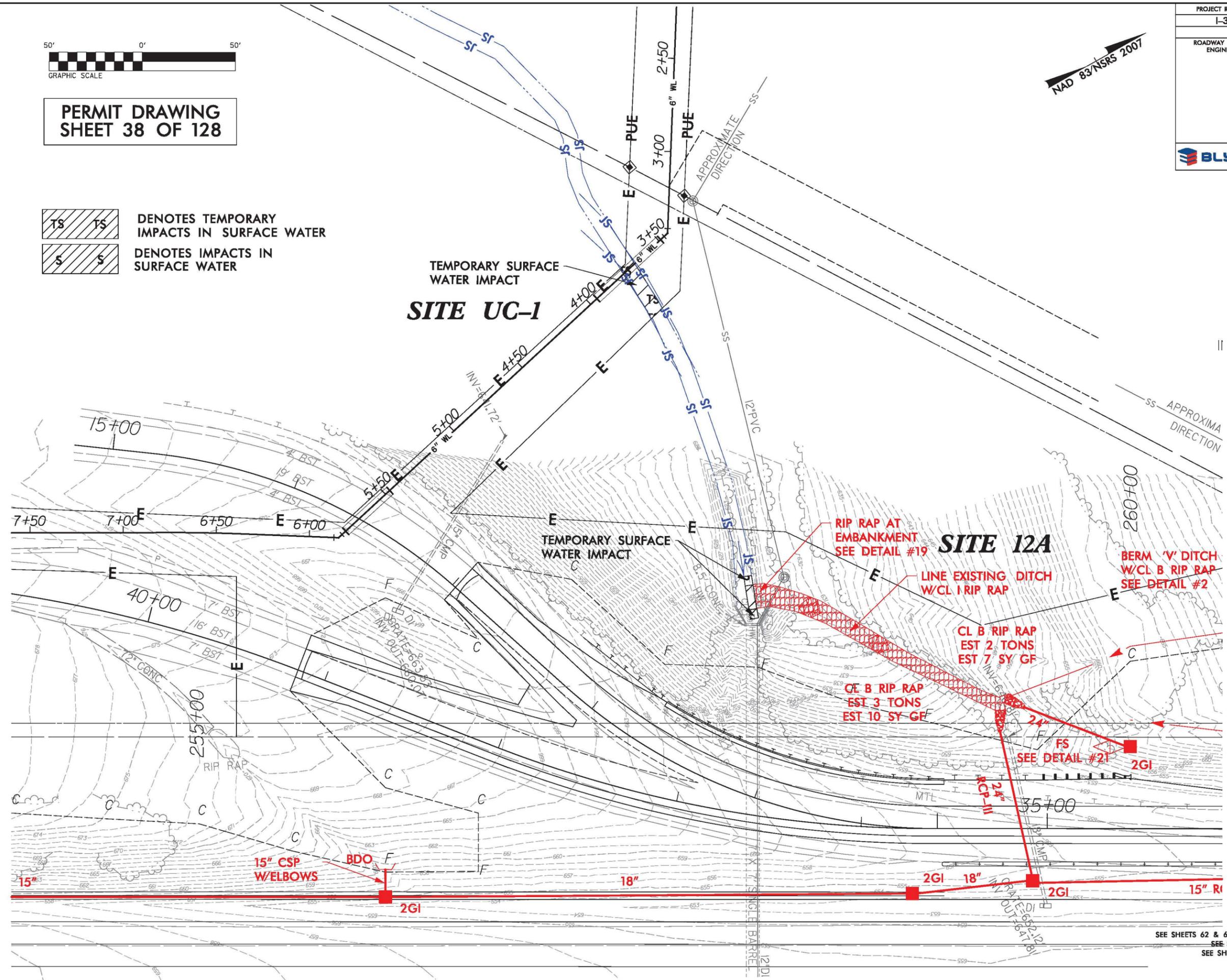
PERMIT DRAWING
SHEET 38 OF 128



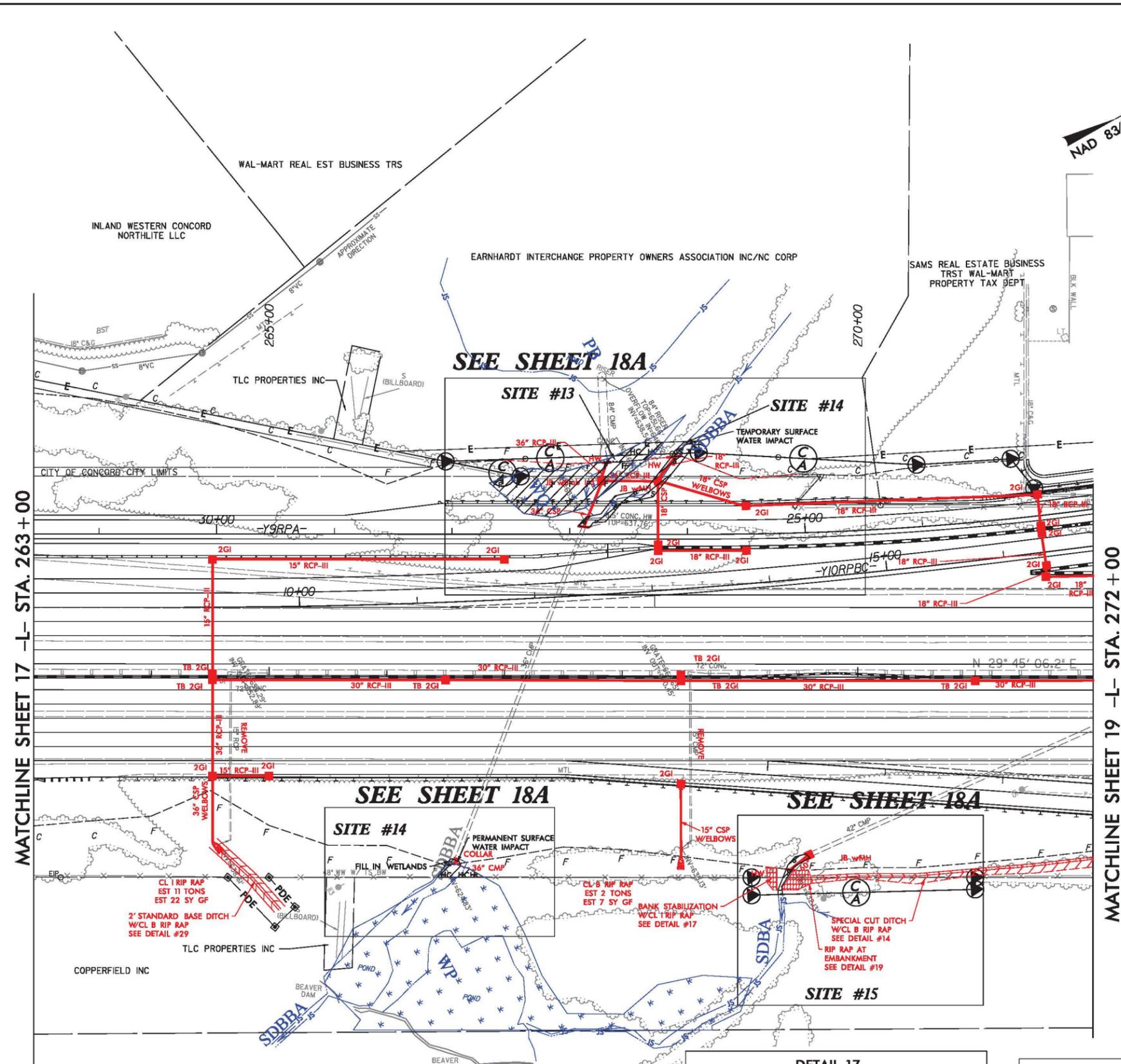
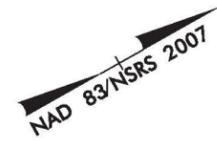
PROJECT REFERENCE NO. I-3802A	SHEET NO. 17A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE **PARSONS BRINCKERHOFF**

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

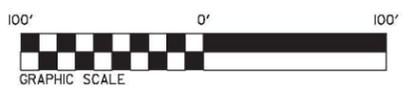


SEE SHEETS 62 & 63 FOR -LSB- & -LNB- PROFILES
SEE SHEET 85 FOR -Y9RPA- PROFILE
SEE SHEET 85 FOR -Y9SPURA- PROFILE



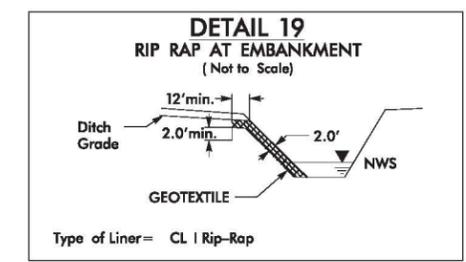
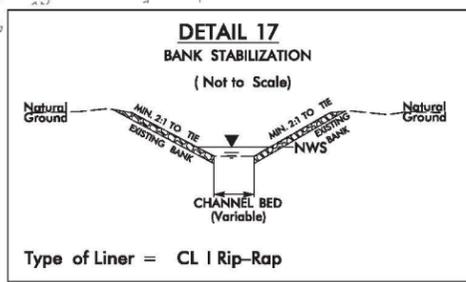
MATCHLINE SHEET 17 -L- STA. 263+00

MATCHLINE SHEET 19 -L- STA. 272+00



PERMIT DRAWING SHEET 41 OF 128

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

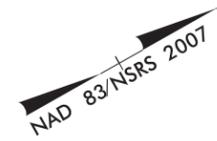


8/17/99
1/19/2016
I:\3802A\3802A\Hydraul\Permits\Environmental\Drawings\psh_wo\contours\3802a_rdy_psh18.dgn
PARSONS BRINCKERHOFF

8/17/99
 7/19/2016
 I:\3802A\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_\contours\13802a_r_dj_psh18.dgn
 PARSONS BRINCKERHOFF

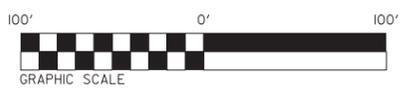
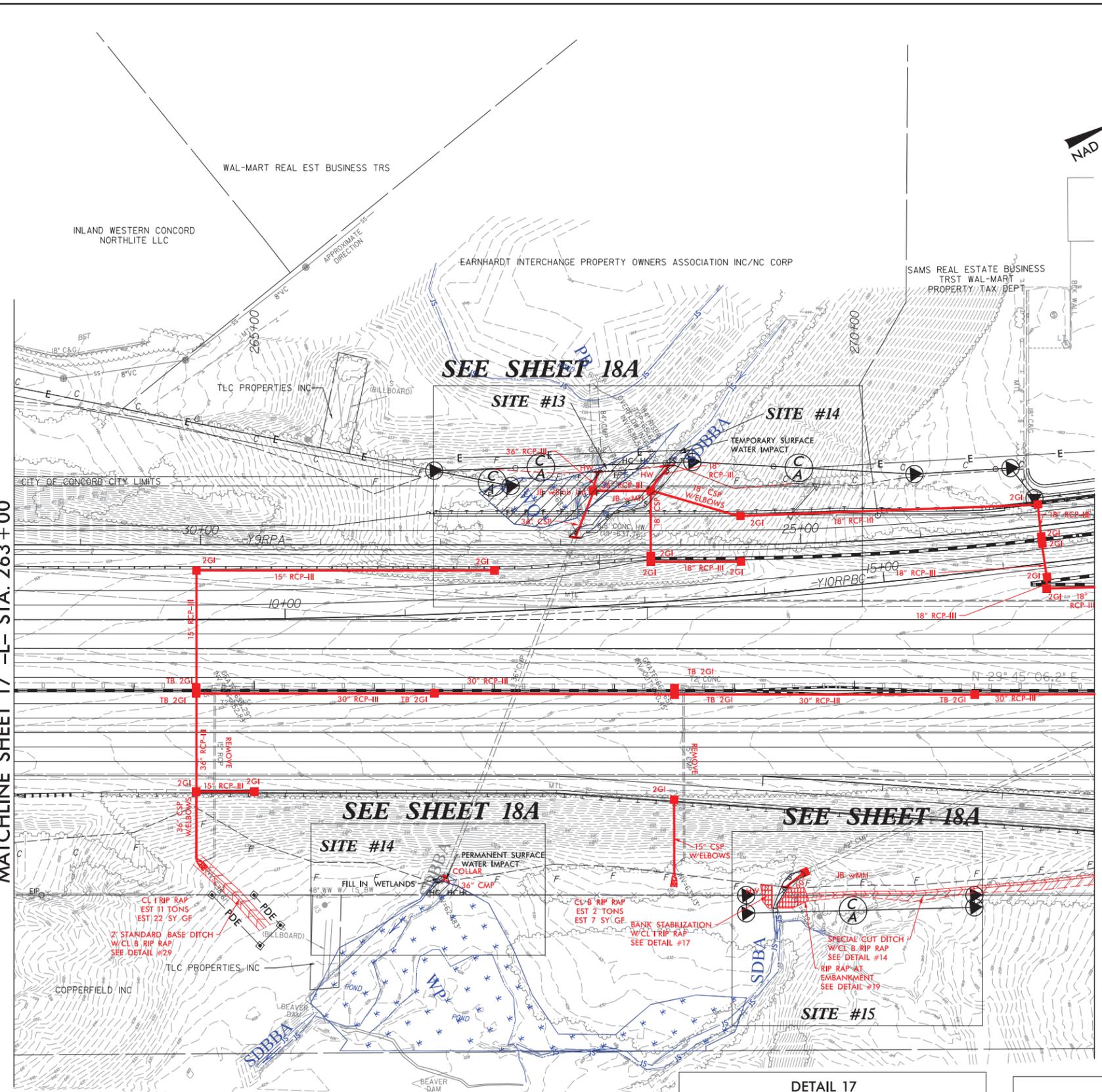
PROJECT REFERENCE NO. I-3802A	SHEET NO. 18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE PARSONS BRINCKERHOFF



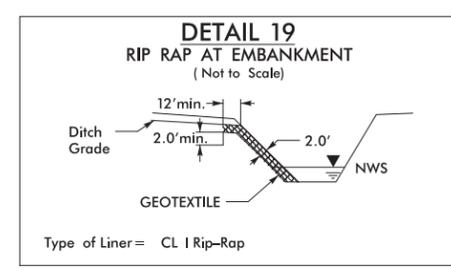
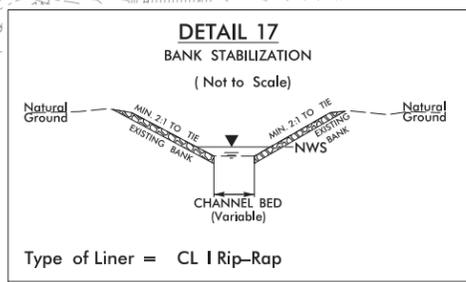
MATCHLINE SHEET 17 -L- STA. 263 + 00

MATCHLINE SHEET 19 -L- STA. 272 + 00



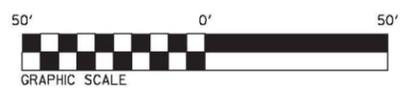
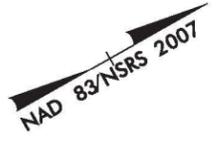
PERMIT DRAWING SHEET 42 OF 128

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



8/17/99
1:19/2510A - I3802A\Hydraulics\PERMITS_Environmental\Drawings\psh_w\contours\3802a_rdy_psh18A.dgn
PARSONS BRINCKERHOFF

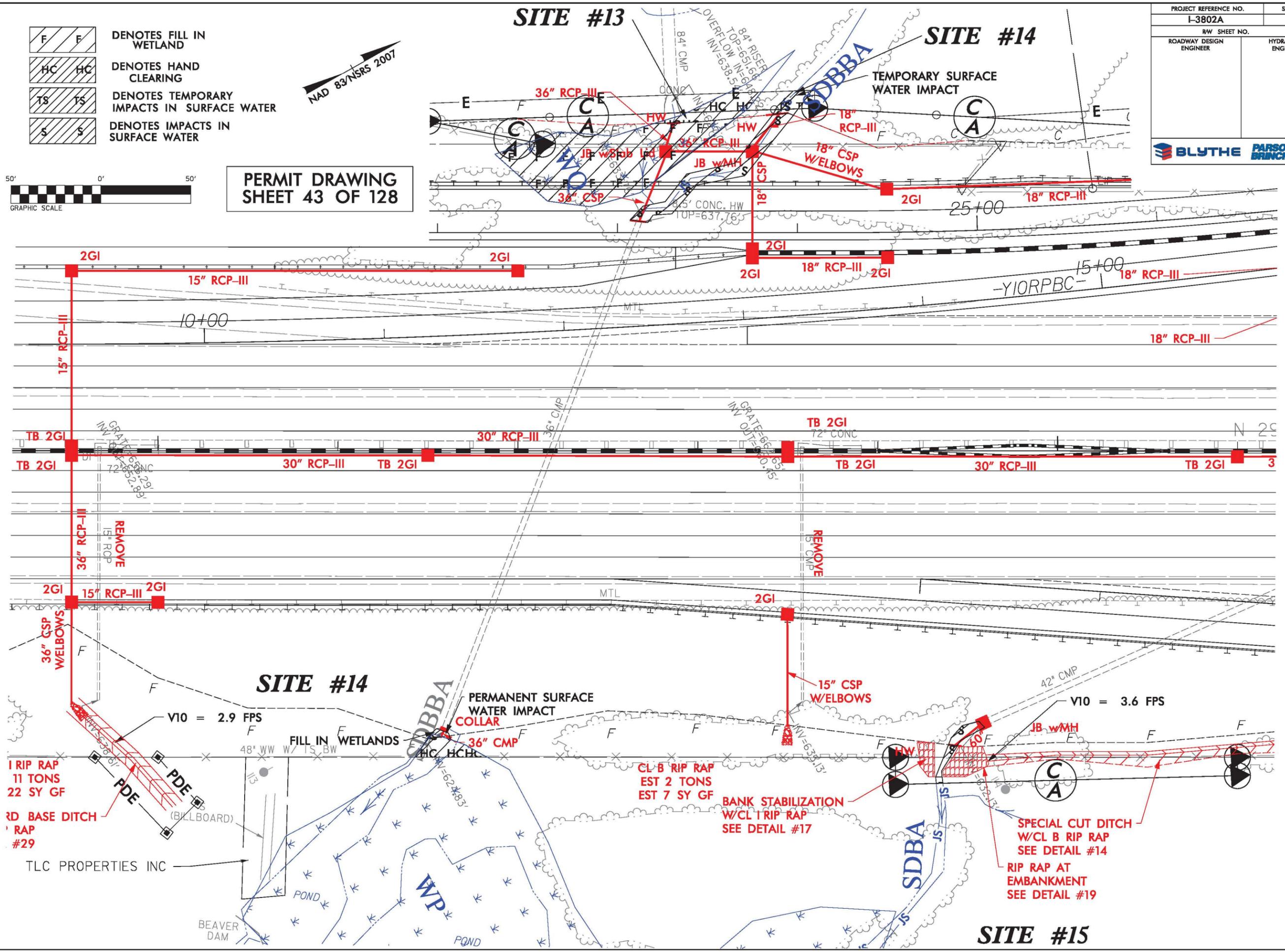
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 43 OF 128

PROJECT REFERENCE NO. I-3802A	SHEET NO. 18A
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE **PARSONS BRINCKERHOFF**



1 RIP RAP
11 TONS
22 SY GF

RD BASE DITCH
RAP
#29

TLC PROPERTIES INC

CL B RIP RAP
EST 2 TONS
EST 7 SY GF

BANK STABILIZATION
W/CL B RIP RAP
SEE DETAIL #17

SPECIAL CUT DITCH
W/CL B RIP RAP
SEE DETAIL #14

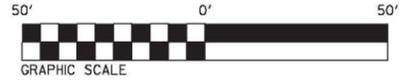
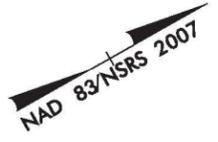
RIP RAP AT
EMBANKMENT
SEE DETAIL #19

SITE #15

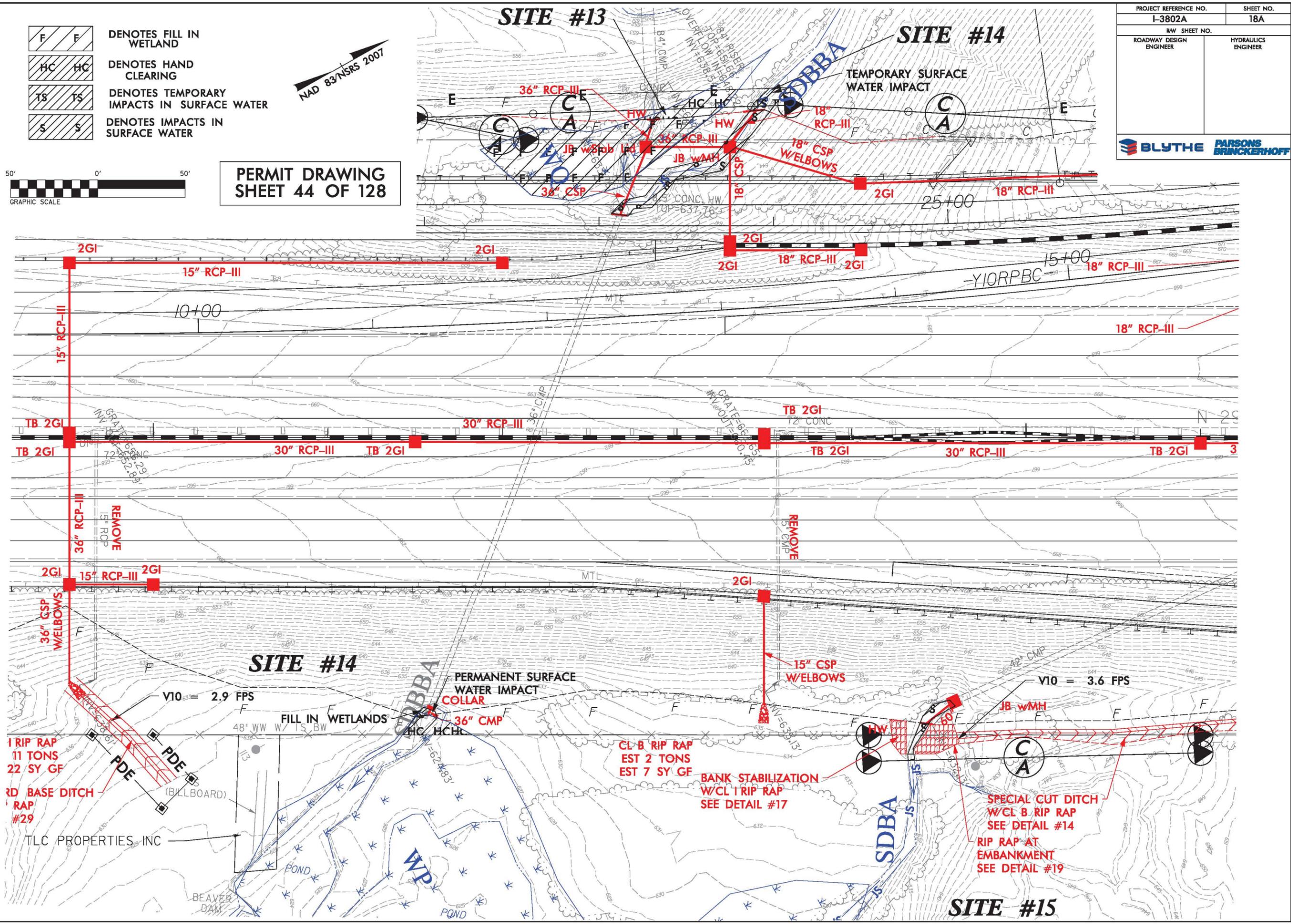
PROJECT REFERENCE NO. I-3802A	SHEET NO. 18A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE **PARSONS BRINCKERHOFF**

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



**PERMIT DRAWING
SHEET 44 OF 128**



1 RIP RAP
11 TONS
22 SY GF

3D BASE DITCH
RAP
#29

TLC PROPERTIES, INC

CL B RIP RAP
EST 2 TONS
EST 7 SY GF

BANK STABILIZATION
W/CL I RIP RAP
SEE DETAIL #17

SPECIAL CUT DITCH
W/CL B RIP RAP
SEE DETAIL #14

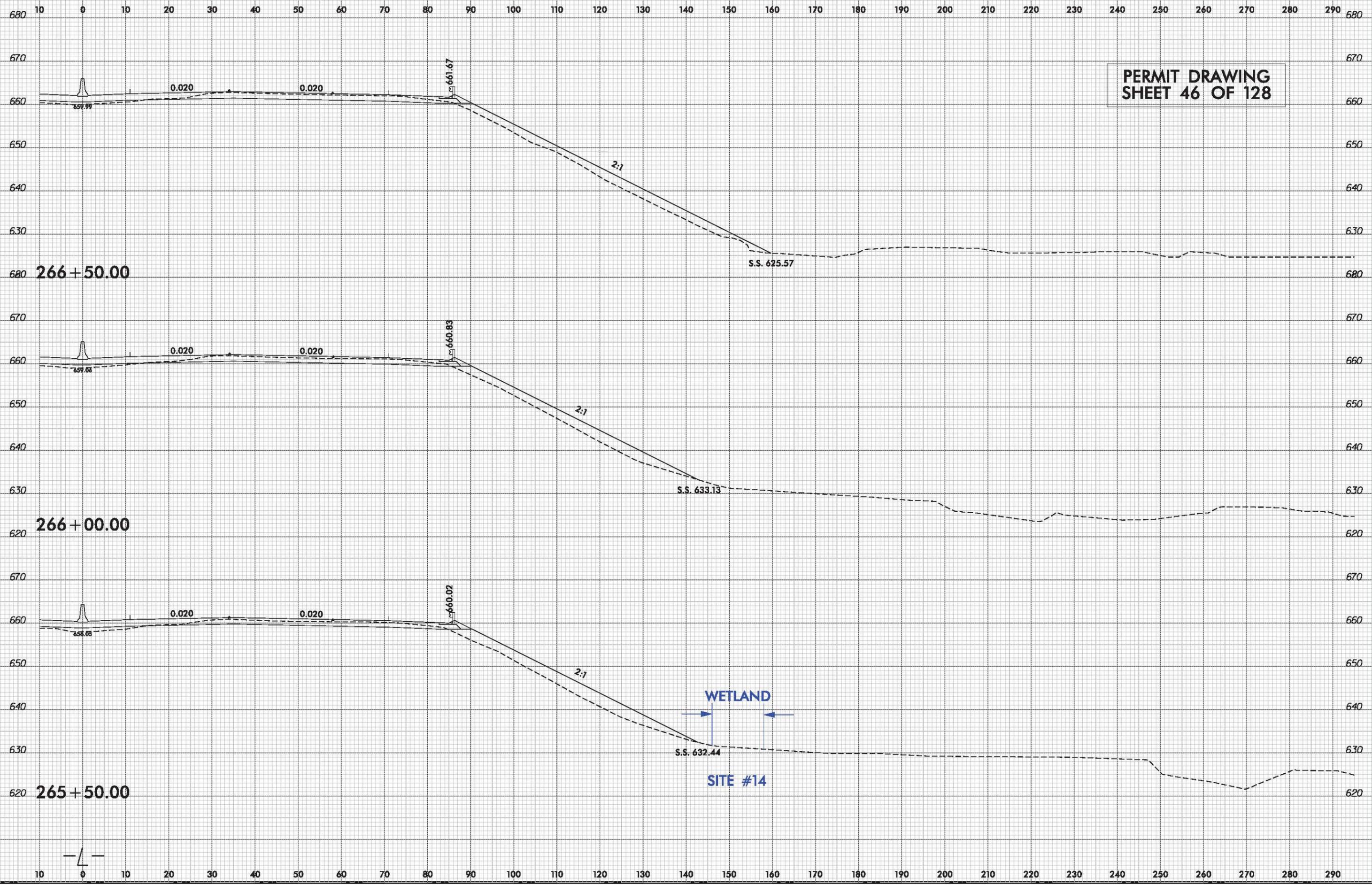
RIP RAP AT
EMBANKMENT
SEE DETAIL #19

1/19/2016 1:38:02A I:\3802A\Hydro\1\Permits_Environmental\Drawings\psh_cmtours\13802a_rdg_psh18A.dgn
 PARSONS BRINCKERHOFF

8/23/99



PROJ. REFERENCE NO. I-3802A	SHEET NO. X-354
--------------------------------	--------------------

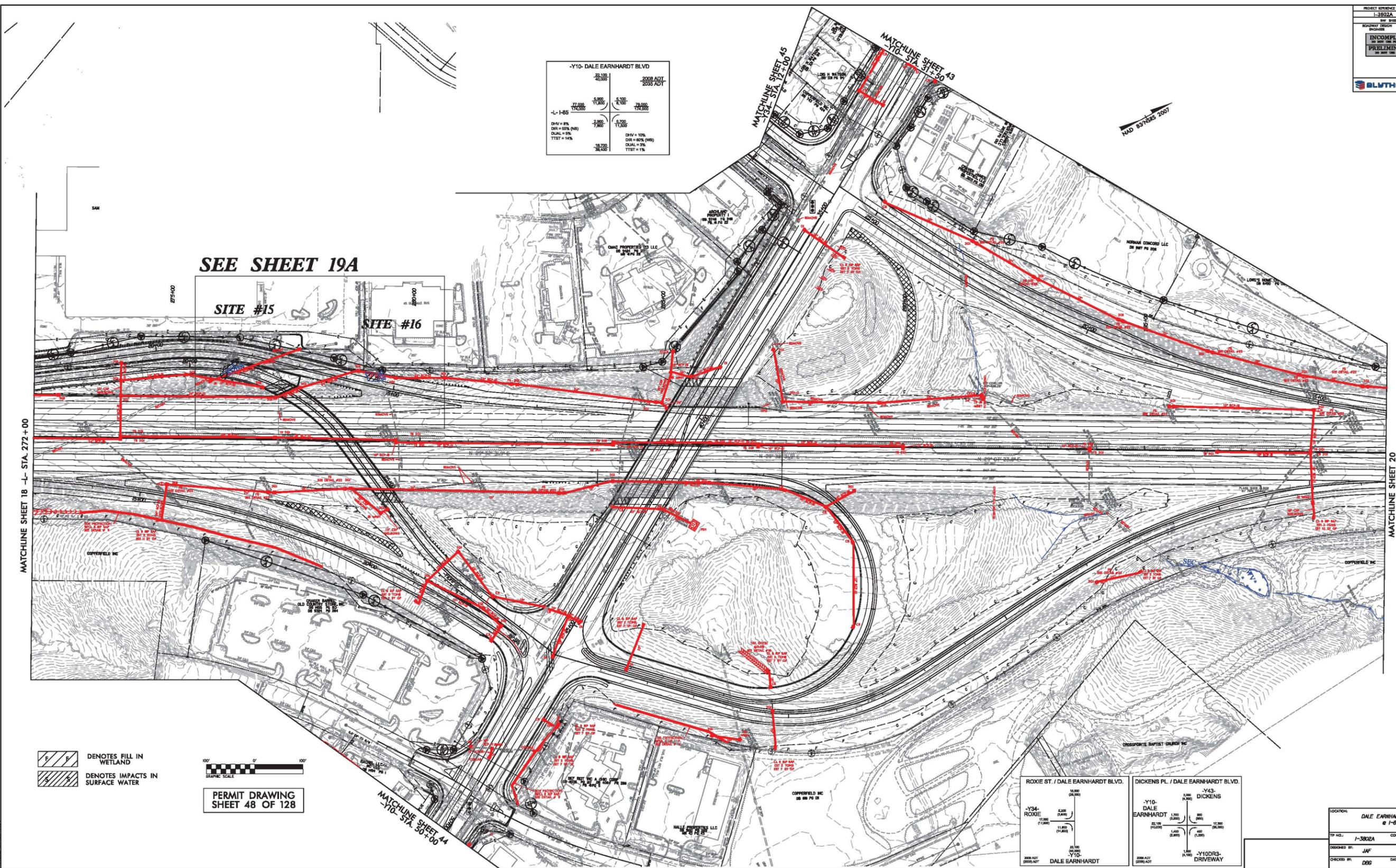


VERTICAL CURVE DATA



PROJECT REFERENCE NO.	SHEET NO.
I-3802A	49
ROADWAY DESIGN	PROJAILICE
DESIGN	PROJECTS
INCOMPLETE PLANS DO NOT USE FOR CONSTRUCTION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-Y10- DALE EARNHARDT BLVD			
	25,100	2038 ADT	
	40,000	2038 ADT	
-L- I-85	5,500	5,500	79,000
	17,000	11,000	174,000
	2,000	5,700	
	7,800	11,800	
DRV = 9%			DRV = 10%
DRI = 50% (WB)			DRI = 80% (WB)
DUAL = 5%			DUAL = 5%
TEST = 14%			TEST = 1%
	18,700		
	36,400		



SEE SHEET 19A

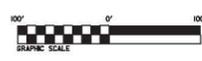
SITE #15

SITE #16

MATCHLINE SHEET 18 -L- STA. 272+00

MATCHLINE SHEET 20 -L- STA. 300+00

- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 48 OF 128

MATCHLINE SHEET 44
-Y10- STA. 50+00

ROXIE ST. / DALE EARNHARDT BLVD.			
	15,800		
	40,000		
-Y34- ROXIE	6,200		
	17,000		
	11,800		
	25,100		
	40,000		
	2038 ADT		
	2038 ADT		
	DALE EARNHARDT		

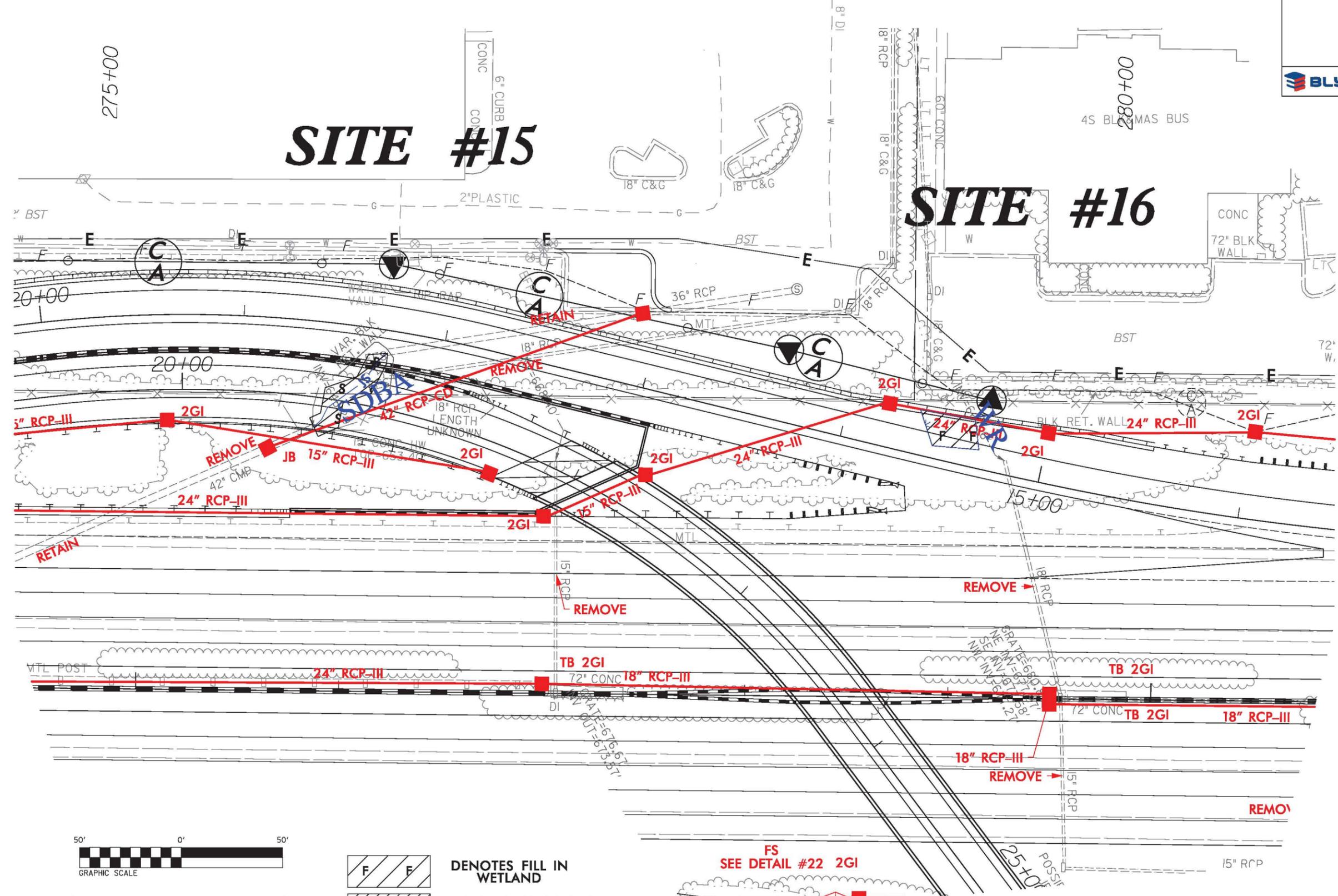
DICKENS PL. / DALE EARNHARDT BLVD.			
	5,500	-Y43- DICKENS	
	10,000		
-Y10- DALE EARNHARDT	1,200	300	
	25,100	17,000	
	1,400	400	
	2,000	1,200	
	5,500		
	10,000		
	2038 ADT		
	2038 ADT		
	DALE EARNHARDT		

LOCATION:	DALE EARNHARDT BLVD. @ I-85
TRF NO.:	I-3802A
DESIGNED BY:	JAF
CHECKED BY:	DGG
DATE:	3/19/2015

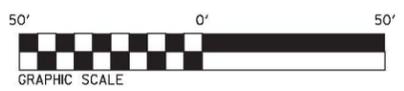
PROJECT REFERENCE NO. I-3802A	SHEET NO. 19A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE #15

SITE #16



NAD 83/NRS 2007



**PERMIT DRAWING
SHEET 49 OF 128**

- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER

FS
SEE DETAIL #22 2GI

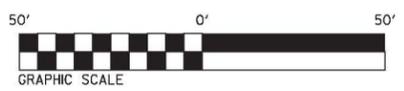
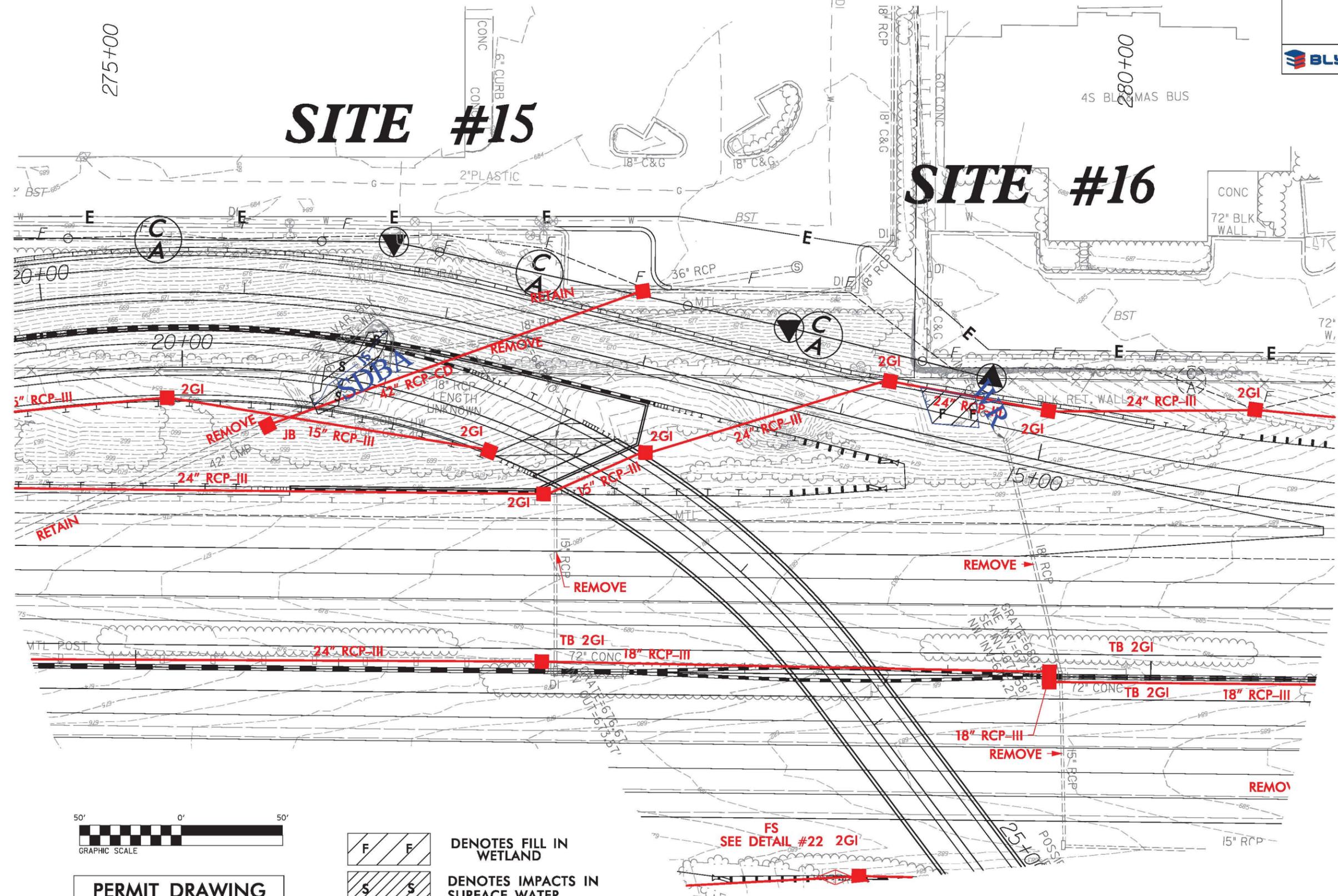
8/17/99
 I:\3802A\Hydraulic\PERMITS\Environmental\Drawings\psh_w\contours\3802a_rdy_psh19a.dgn
 3/19/2016 1:17:25 PM I:\3802A\Hydraulic\PERMITS\Environmental\Drawings\psh_w\contours\3802a_rdy_psh19a.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO. I-3802A	SHEET NO. 19A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE **PARSONS BRINCKERHOFF**

SITE #15

SITE #16



PERMIT DRAWING SHEET 50 OF 128

- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER

FS SEE DETAIL #22 2GI

NAD 83/NRS 2007

8/17/99
 3/19/2016
 I:\3802A\Hydraulic\PERMITS\Environmental\Drawings\psh\contours\13802a_rdy_psh19A.dgn
 PARSONS BRINCKERHOFF

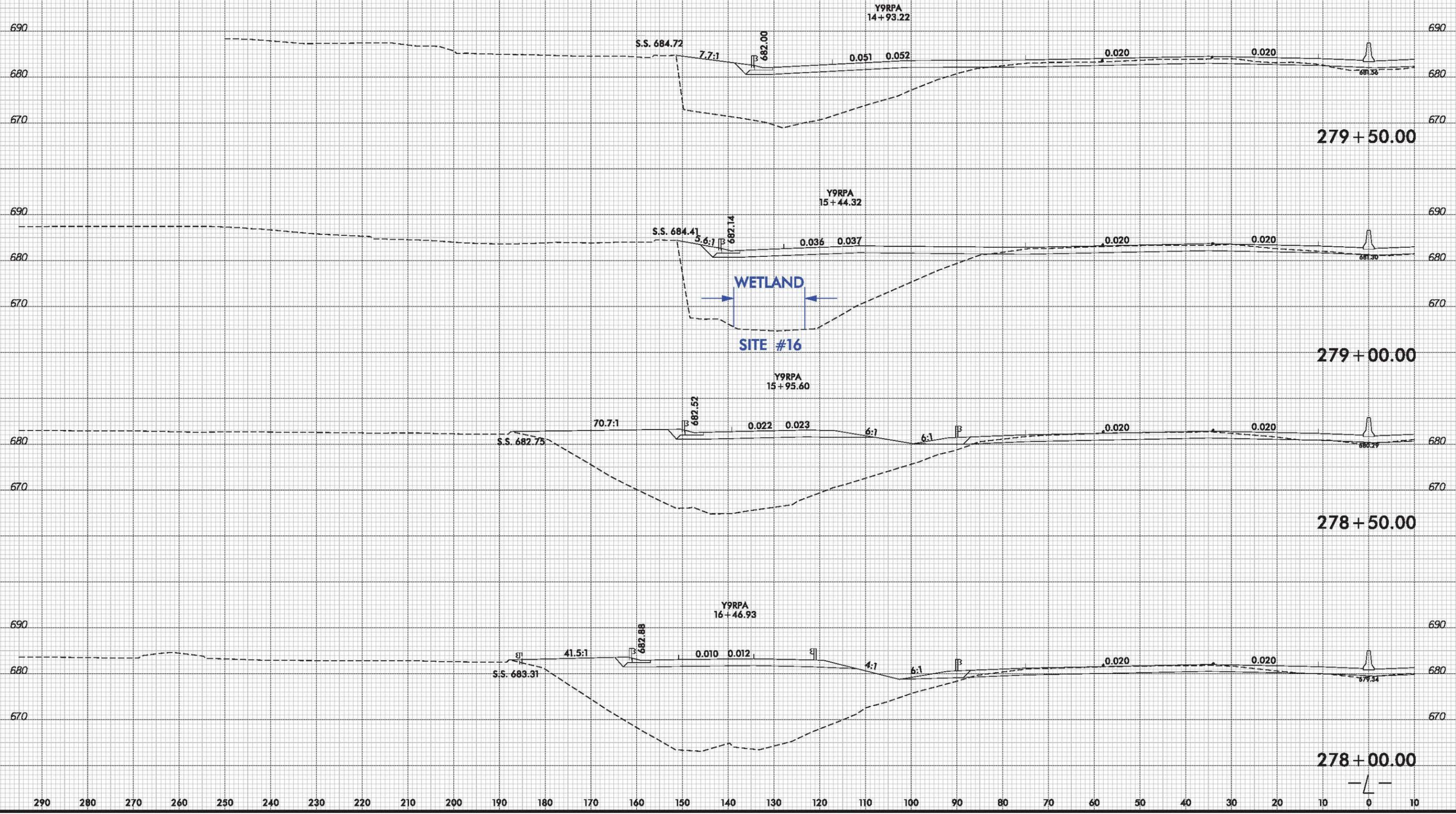
8/23/99



PROJ. REFERENCE NO.	SHEET NO.
I-3802A	X-112

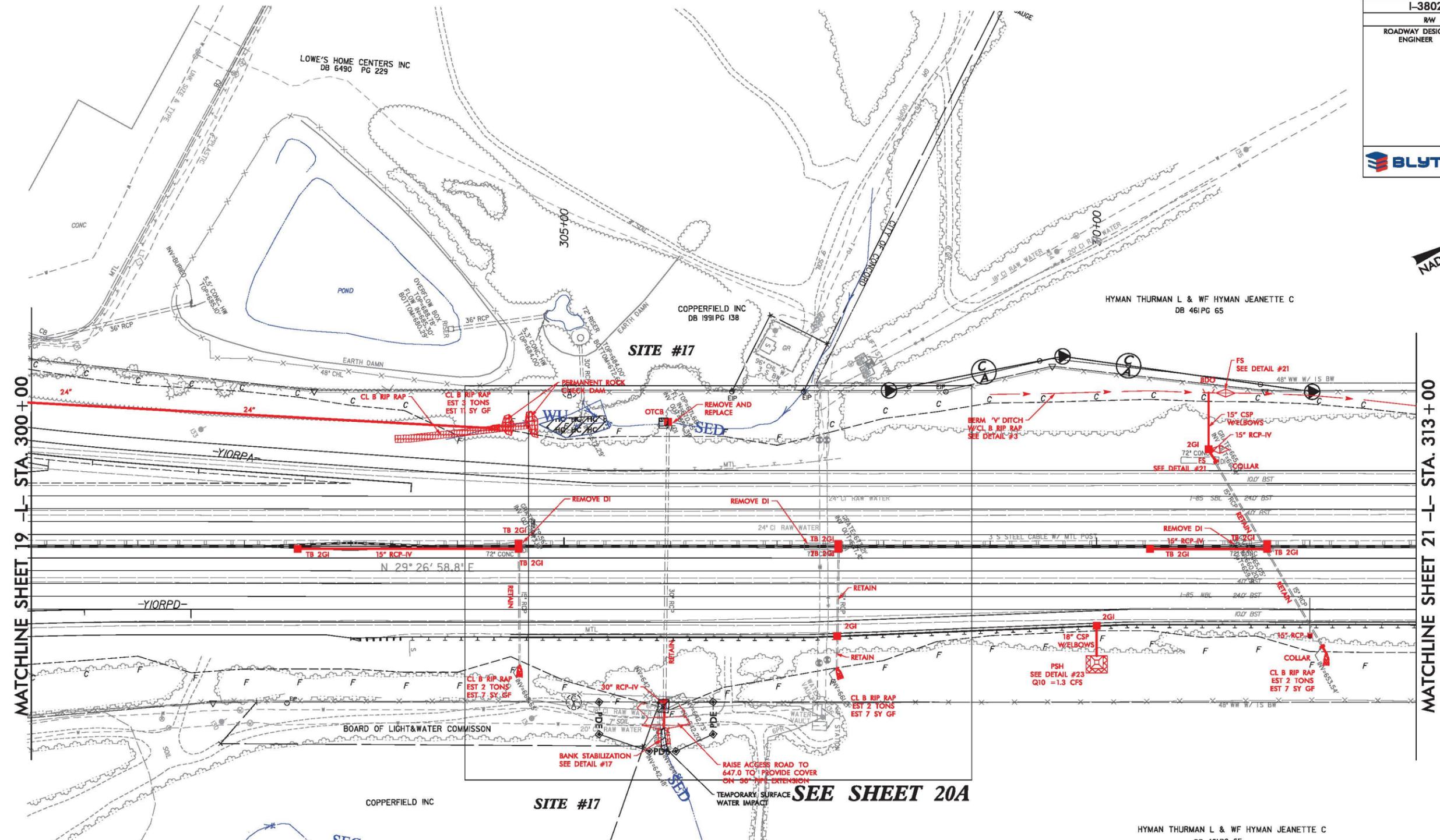
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

PERMIT DRAWING
SHEET 51 OF 128



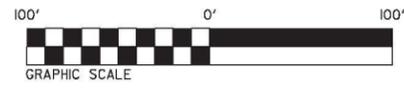
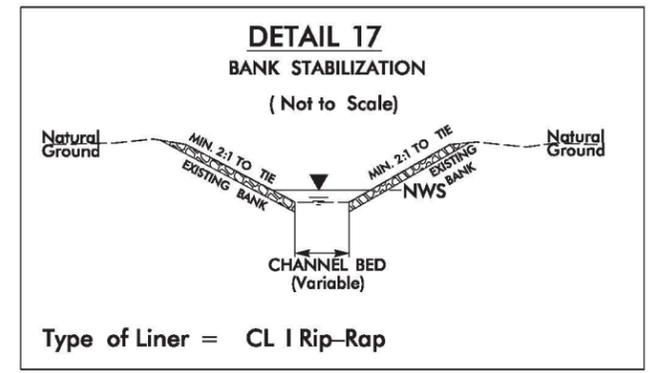
DATE: 8/23/99
 DRAWN BY: [illegible]
 CHECKED BY: [illegible]
 APPROVED BY: [illegible]

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	20
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE SHEET 19 -L- STA. 300 + 00

MATCHLINE SHEET 21 -L- STA. 313 + 00

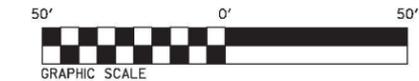


PERMIT DRAWING SHEET 52 OF 128

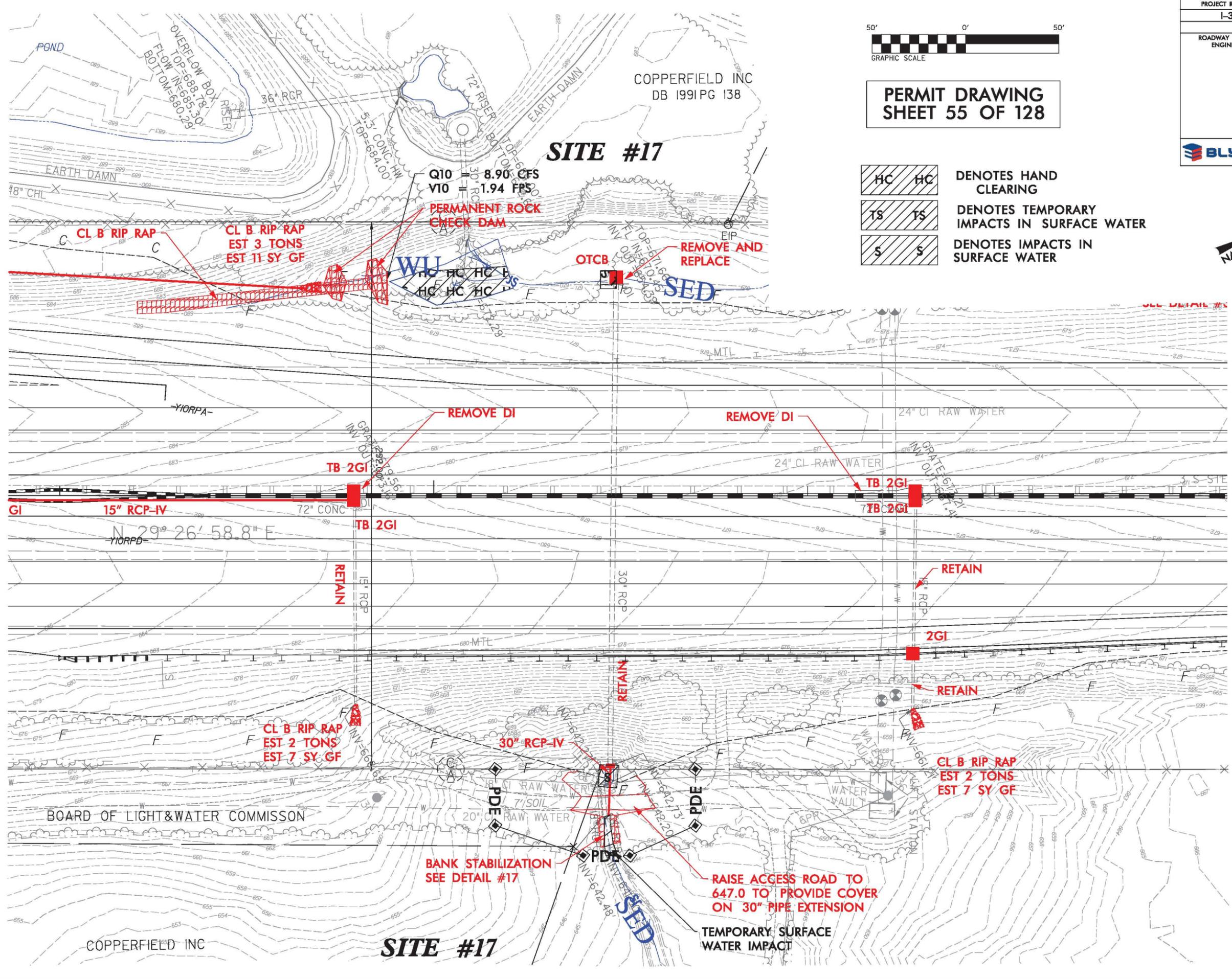
- DENOTES HAND CLEARING
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER

3/19/2016 1:38:02A I:\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_w\contours\3802a_rdy_psh-20.dgn
 1:38:02A I:\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_w\contours\3802a_rdy_psh-20.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO. I-3802A	SHEET NO. 20A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

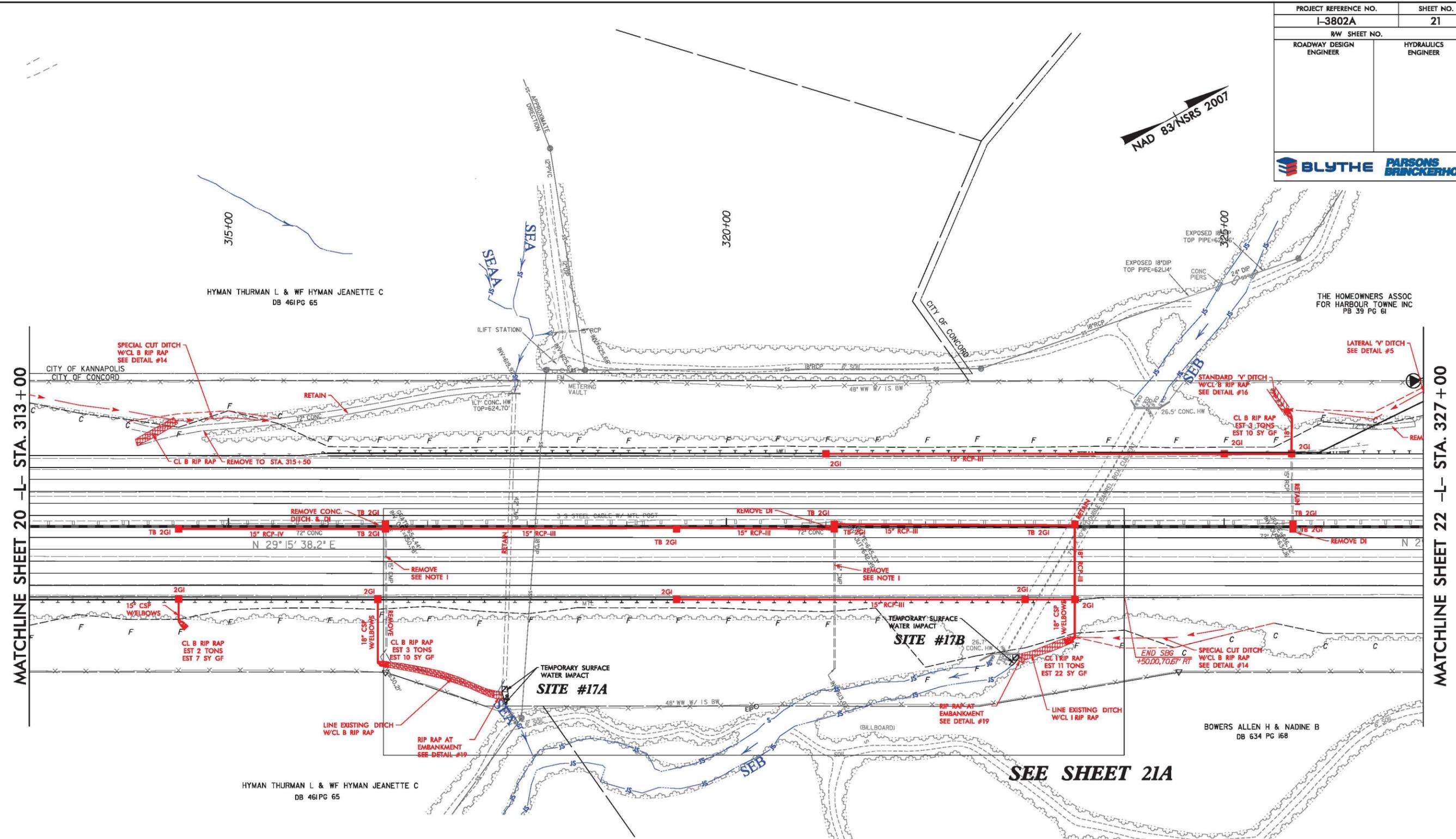


**PERMIT DRAWING
SHEET 55 OF 128**



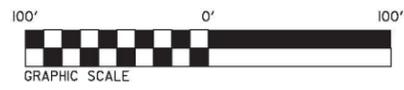
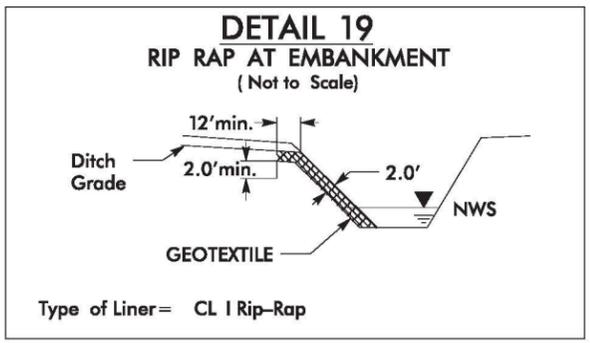
I:\3802A\13802A\Hydro\13802A\Drawings\psh\contours\13802a_rdy_psh_20A.dgn
 1/19/2005 1:19:25 PM
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE SHEET 20 -L- STA. 313 + 00

MATCHLINE SHEET 22 -L- STA. 327 + 00



PERMIT DRAWING
SHEET 57 OF 128

DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

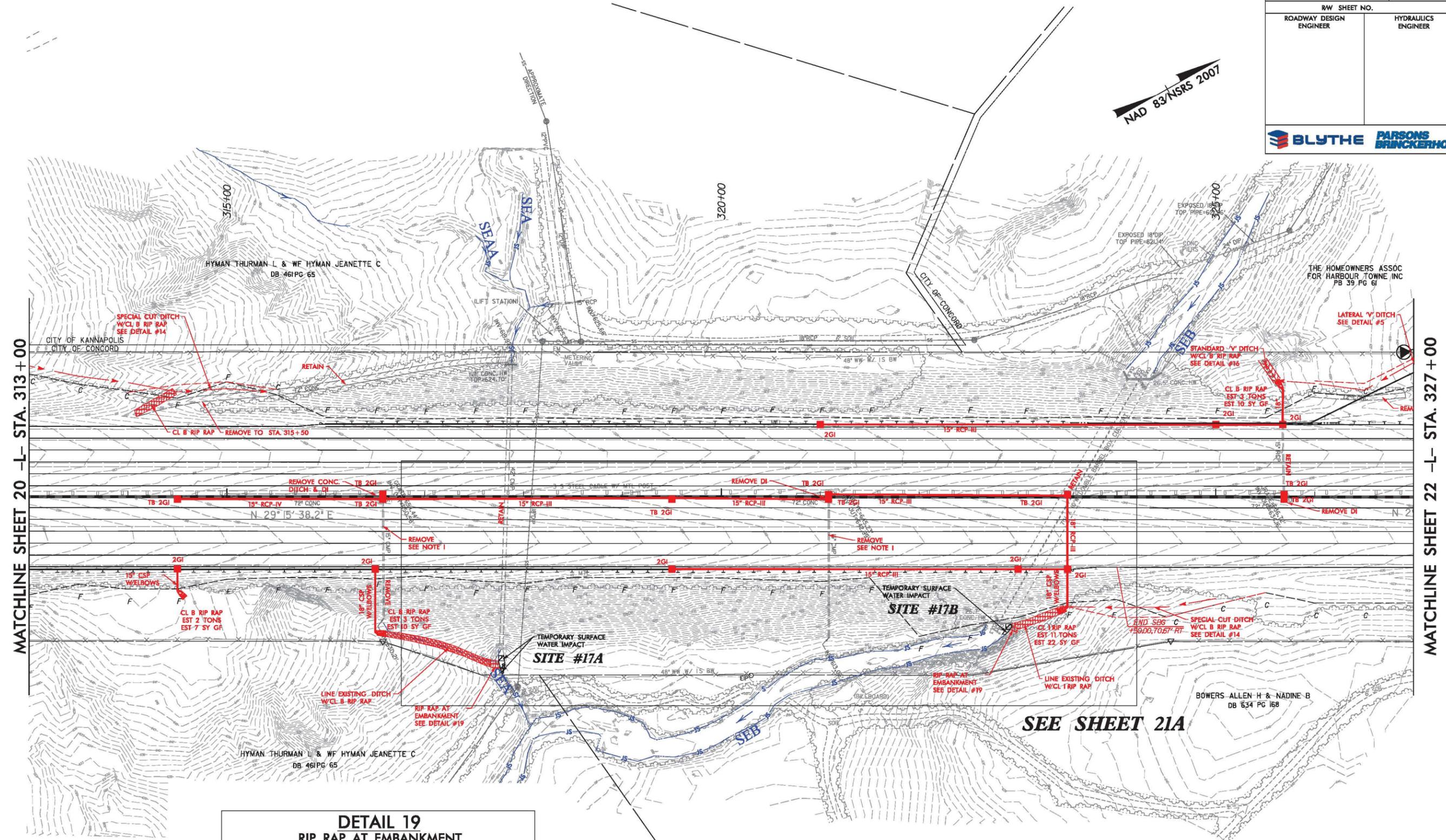
NOTE:
PROVIDE WOVEN WIRE FENCE AT ALL C/A IF MISSING OR IMPACTED BY CONSTRUCTION.

SEE SHEETS 2-AU & 2-AV FOR NOISEWALL -NW7-
SEE SHEET 2-AW FOR DITCH DETAILS
SEE SHEETS 67 & 68 FOR -LSB- & -LNB- PROFILES

8/17/99

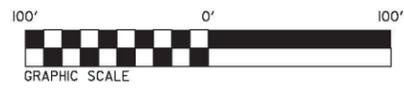
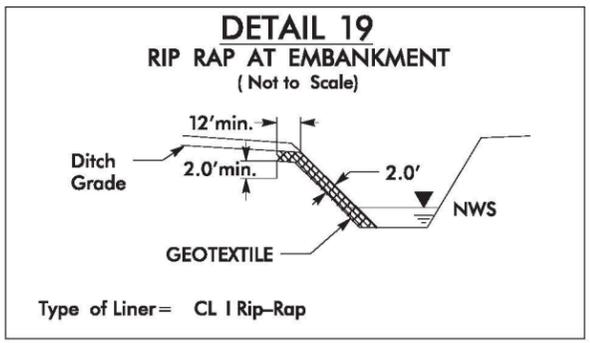
 3/19/2016
 I:\3802A\3802A\Hydraulics\Permits\Environmental\Drawings\psh_wo_concours\3802a_rdy_psh21.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

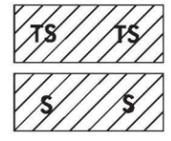


MATCHLINE SHEET 20 -L- STA. 313 + 00

MATCHLINE SHEET 22 -L- STA. 327 + 00



PERMIT DRAWING
SHEET 58 OF 128



TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER

NOTE:
PROVIDE WOVEN WIRE FENCE AT ALL C/A IF MISSING OR IMPACTED BY CONSTRUCTION.

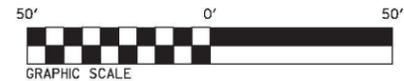
SEE SHEETS 2-AU & 2-AV FOR NOISEWALL -NW7-
SEE SHEET 2-AW FOR DITCH DETAILS
SEE SHEETS 67 & 68 FOR -LSB- & -LNB- PROFILES

8/17/99
3/19/2016
I:\3802A\3802A\Hydro\1.cas\PERMITS_Environmental\Drawings\psh_cmtours\1_3802a_rdy_psh21.dgn
PARSONS BRINCKERHOFF

3/19/2015 1:19:25 PM I:\3802A\Hydraulic\PERMITS\Environmental\Drawings\psh_wo_contours\3802a_rdy_psh21a.dgn
 PARSONS BRINCKERHOFF

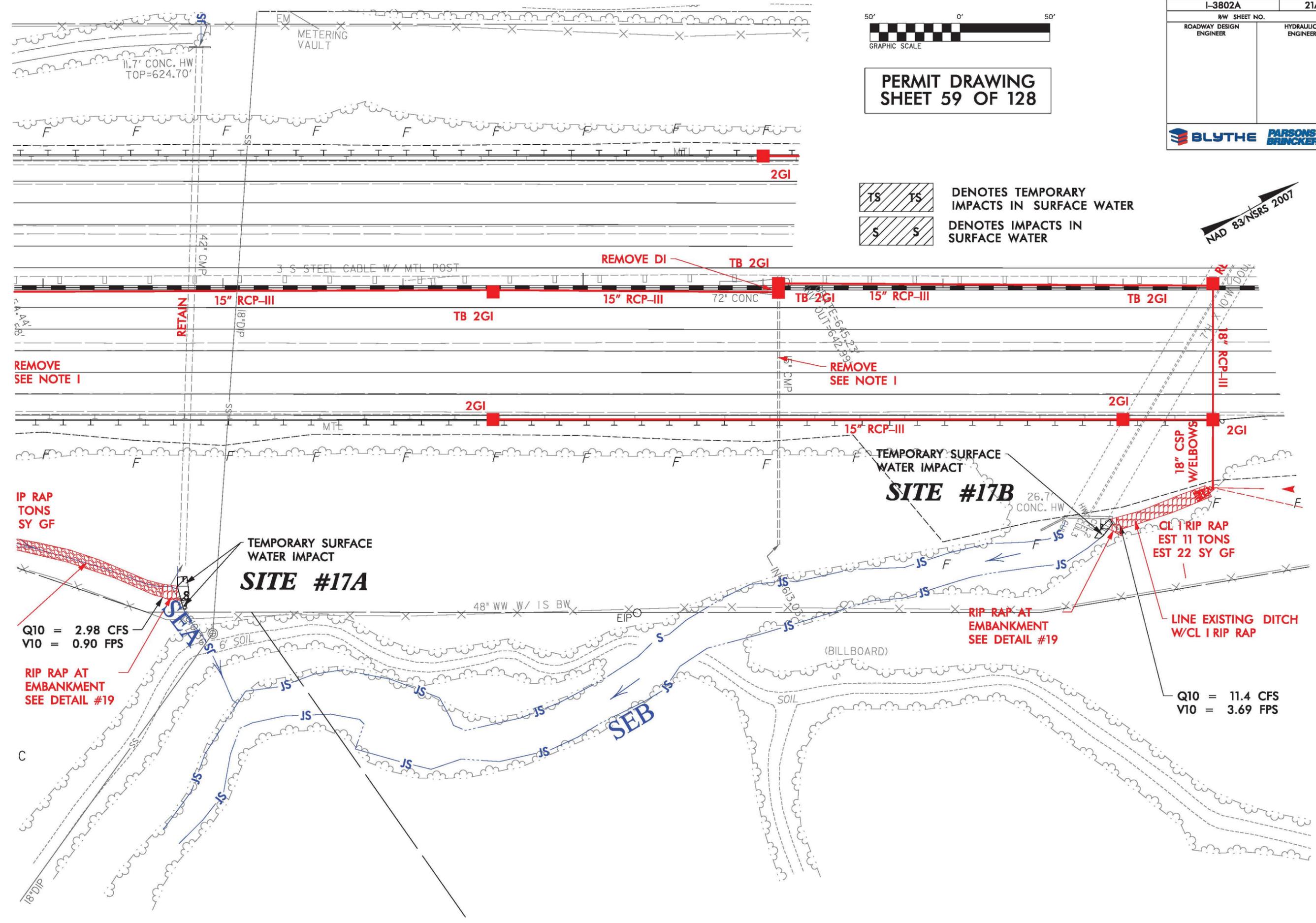
PROJECT REFERENCE NO. I-3802A	SHEET NO. 21A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE PARSONS BRINCKERHOFF



PERMIT DRAWING SHEET 59 OF 128

DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER



IP RAP
TONS
SY GF

$Q_{10} = 2.98 \text{ CFS}$
 $V_{10} = 0.90 \text{ FPS}$

RIP RAP AT EMBANKMENT
SEE DETAIL #19

TEMPORARY SURFACE WATER IMPACT
SITE #17A

TEMPORARY SURFACE WATER IMPACT
SITE #17B

CL 1 RIP RAP
EST 11 TONS
EST 22 SY GF

RIP RAP AT EMBANKMENT
SEE DETAIL #19

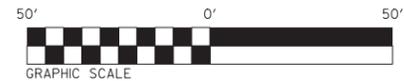
$Q_{10} = 11.4 \text{ CFS}$
 $V_{10} = 3.69 \text{ FPS}$

LINE EXISTING DITCH
W/CL 1 RIP RAP

8/17/99
3/19/2016
I:\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_contours\13802a_r.dwg_psh21A.dgn
PARSONS BRINCKERHOFF

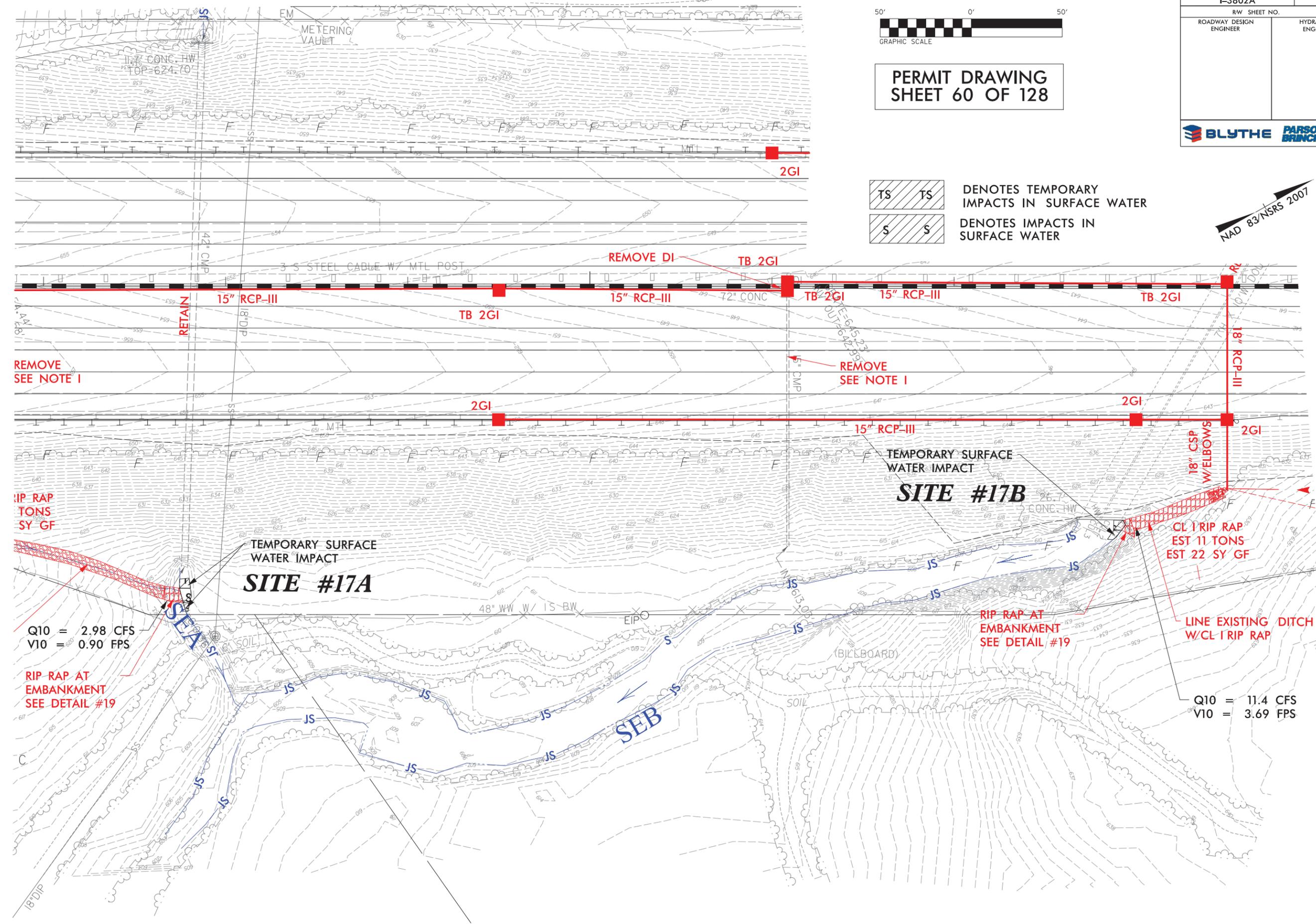
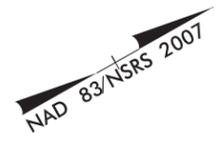
PROJECT REFERENCE NO. I-3802A	SHEET NO. 21A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE **PARSONS BRINCKERHOFF**



PERMIT DRAWING SHEET 60 OF 128

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S S DENOTES IMPACTS IN SURFACE WATER



Q10 = 2.98 CFS
V10 = 0.90 FPS

RIP RAP AT EMBANKMENT SEE DETAIL #19

TEMPORARY SURFACE WATER IMPACT
SITE #17A

TEMPORARY SURFACE WATER IMPACT
SITE #17B

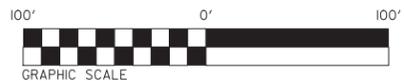
CL 1 RIP RAP EST 11 TONS EST 22 SY GF

RIP RAP AT EMBANKMENT SEE DETAIL #19

LINE EXISTING DITCH W/CL 1 RIP RAP

Q10 = 11.4 CFS
V10 = 3.69 FPS

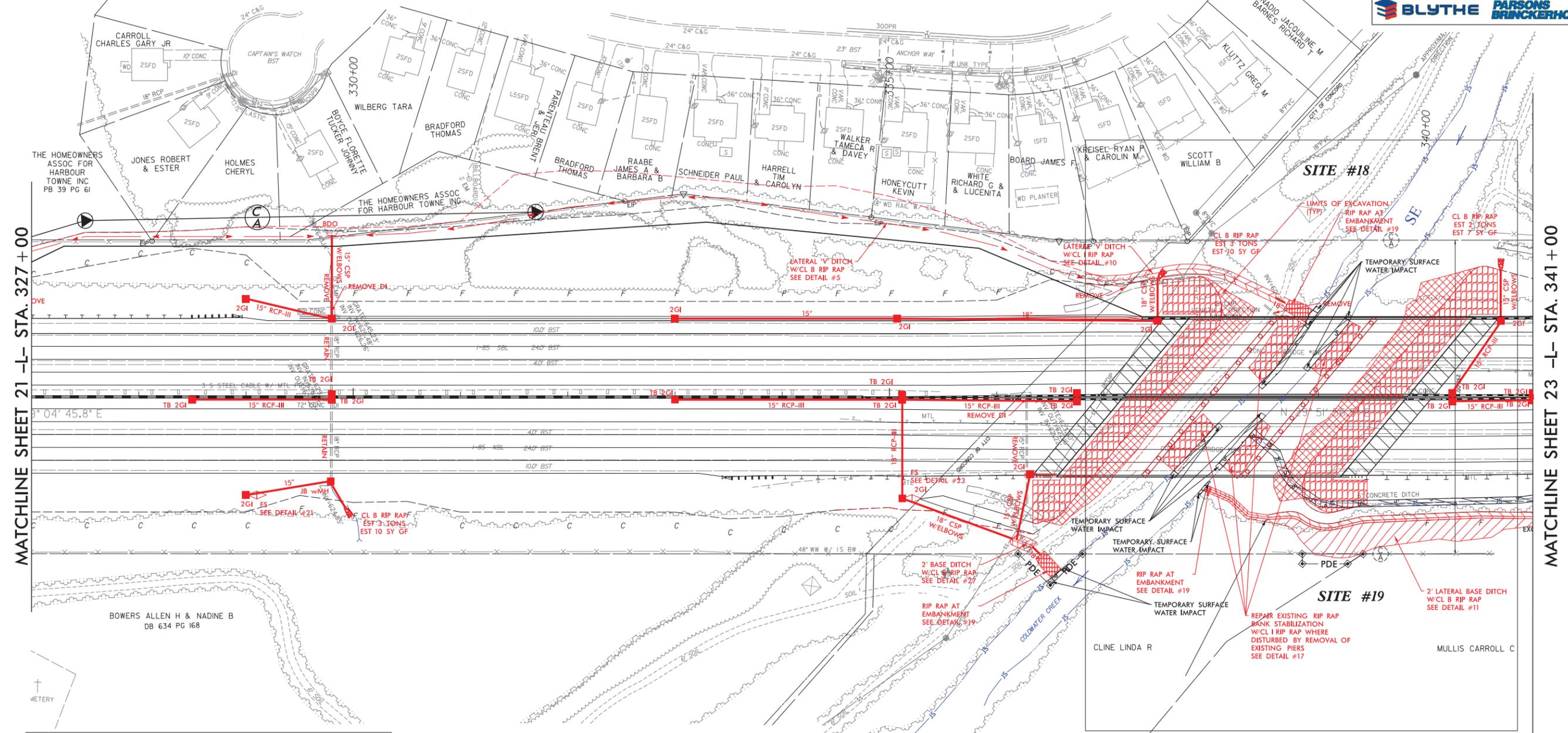
PROJECT REFERENCE NO.	SHEET NO.
L-3802A	22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
BLYTHE PARSONS BRINCKERHOFF	



PERMIT DRAWING SHEET 61 OF 128

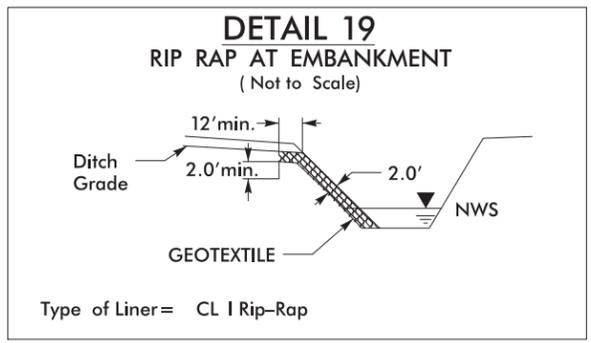
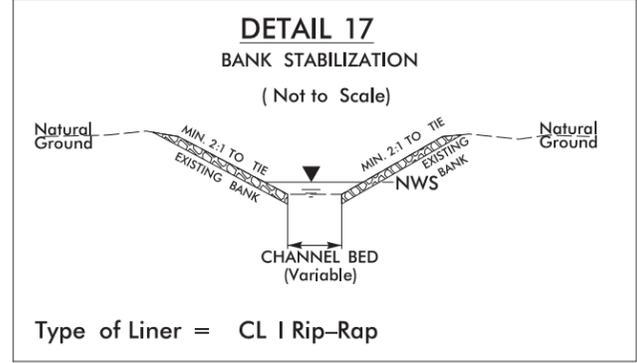
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER



MATCHLINE SHEET 21 -L- STA. 327 + 00

MATCHLINE SHEET 23 -L- STA. 341 + 00

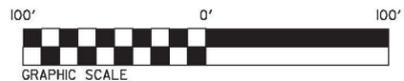


SEE SHEET 22A

4/17/2016 1:17:26 PM I:\3802A\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_w\contours\13802a_r.dj_psh22.dgn

4/17/2009 13802A - 13802A\Hydro\13802A\Drawings\psh_cmtours\13802a_r.dwg_psh22.dgn
 13802A - 13802A\Hydro\13802A\Drawings\psh_cmtours\13802a_r.dwg_psh22.dgn
 PARSONS BRINCKERHOFF

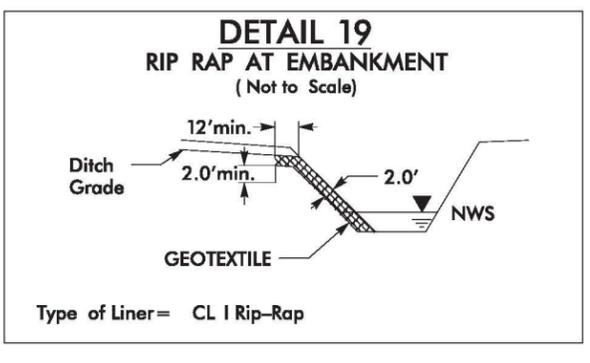
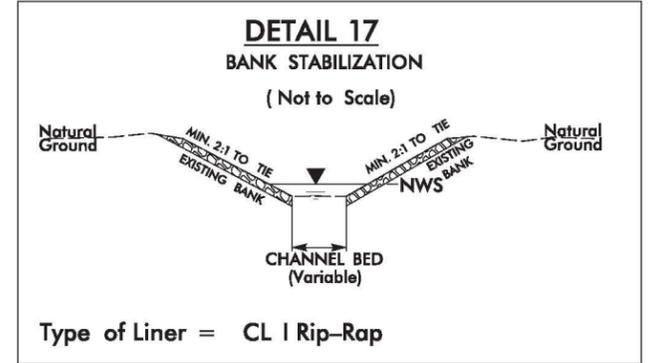
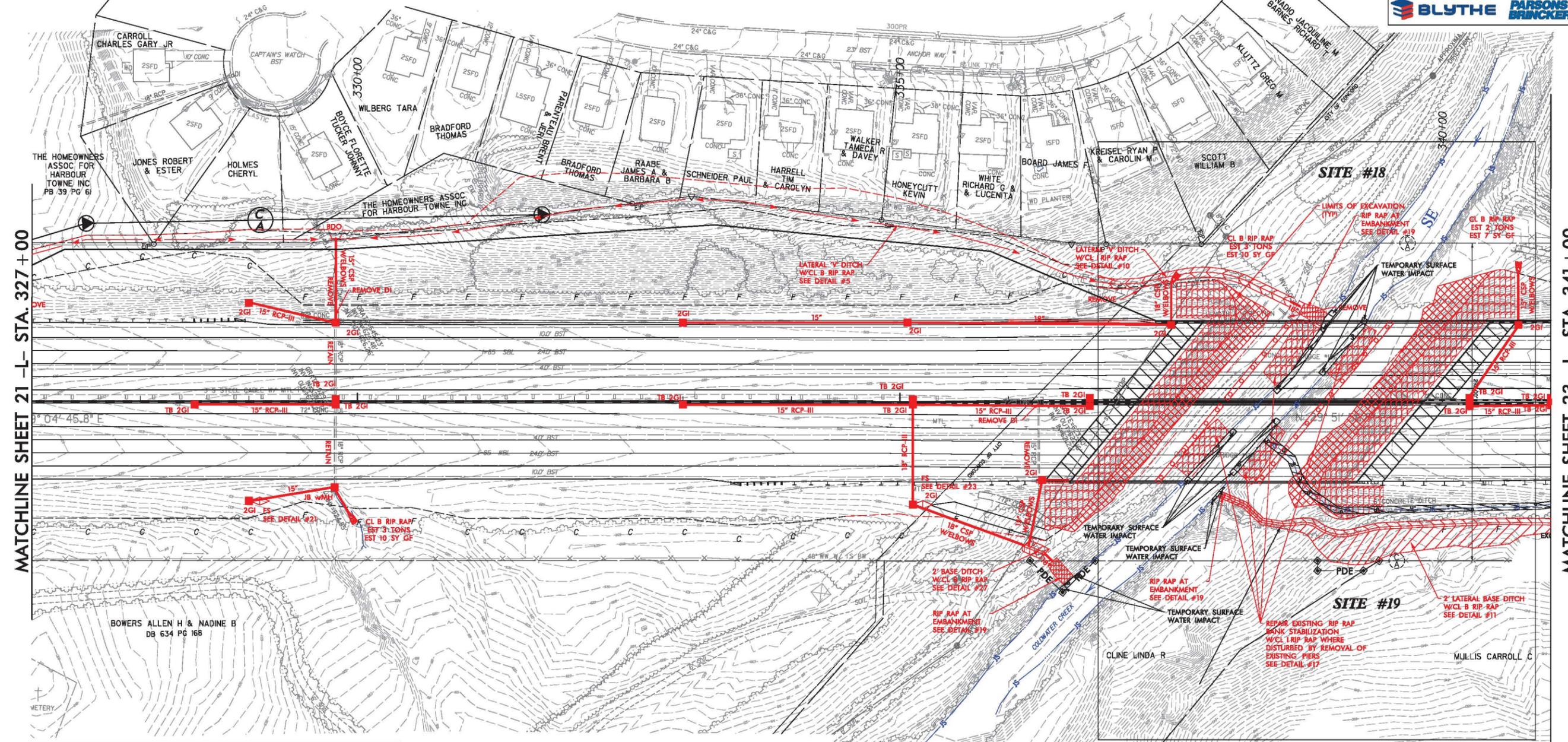
PROJECT REFERENCE NO.	SHEET NO.
I-3802A	22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PERMIT DRAWING SHEET 62 OF 128

DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

NAD 83/NRS 2007

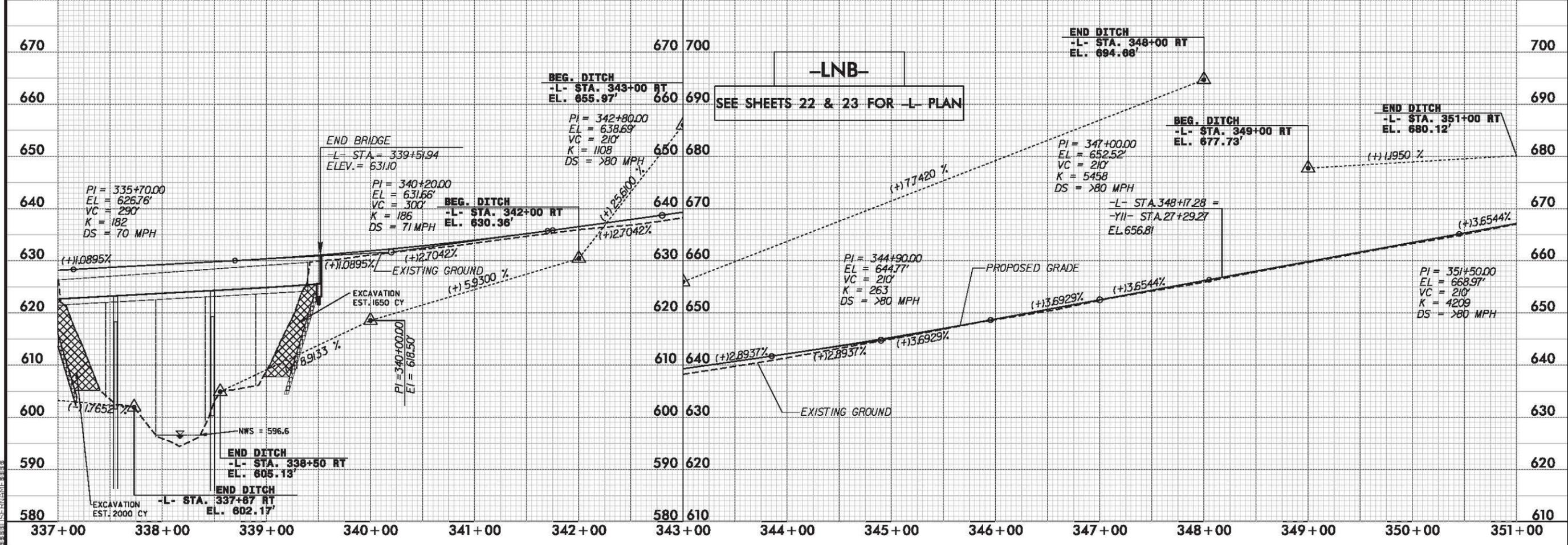
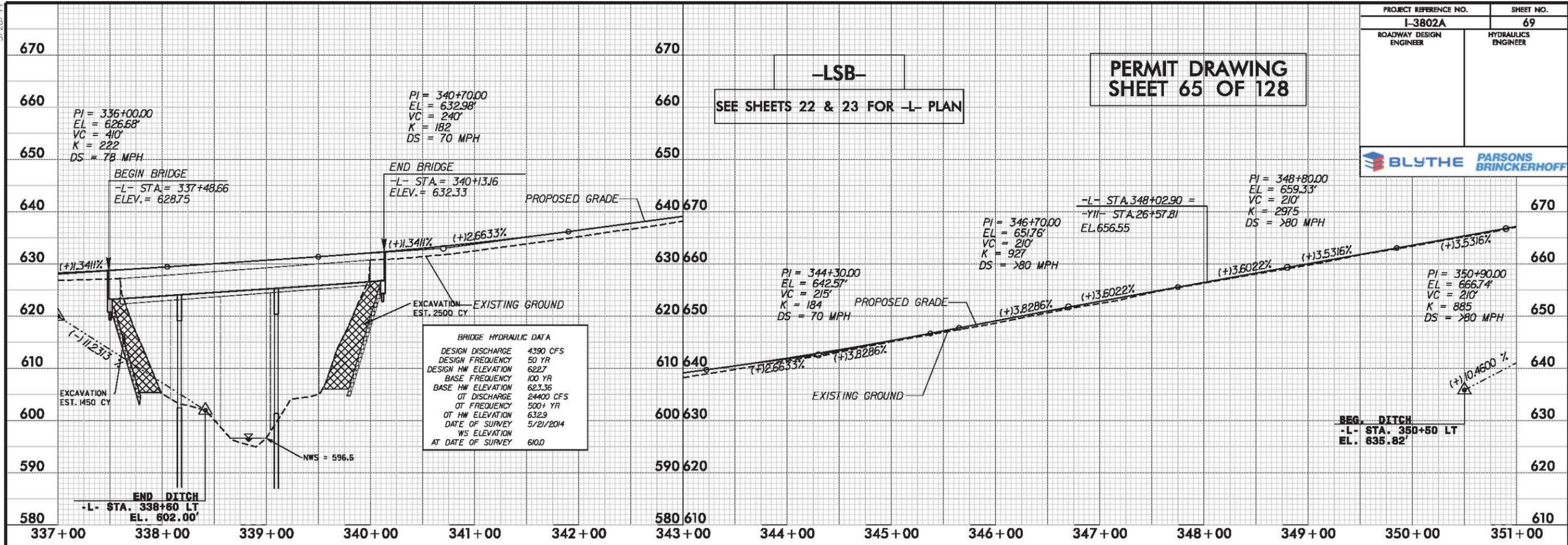


SEE SHEET 22A

MATCHLINE SHEET 21 -L- STA. 327 + 00

MATCHLINE SHEET 23 -L- STA. 341 + 00

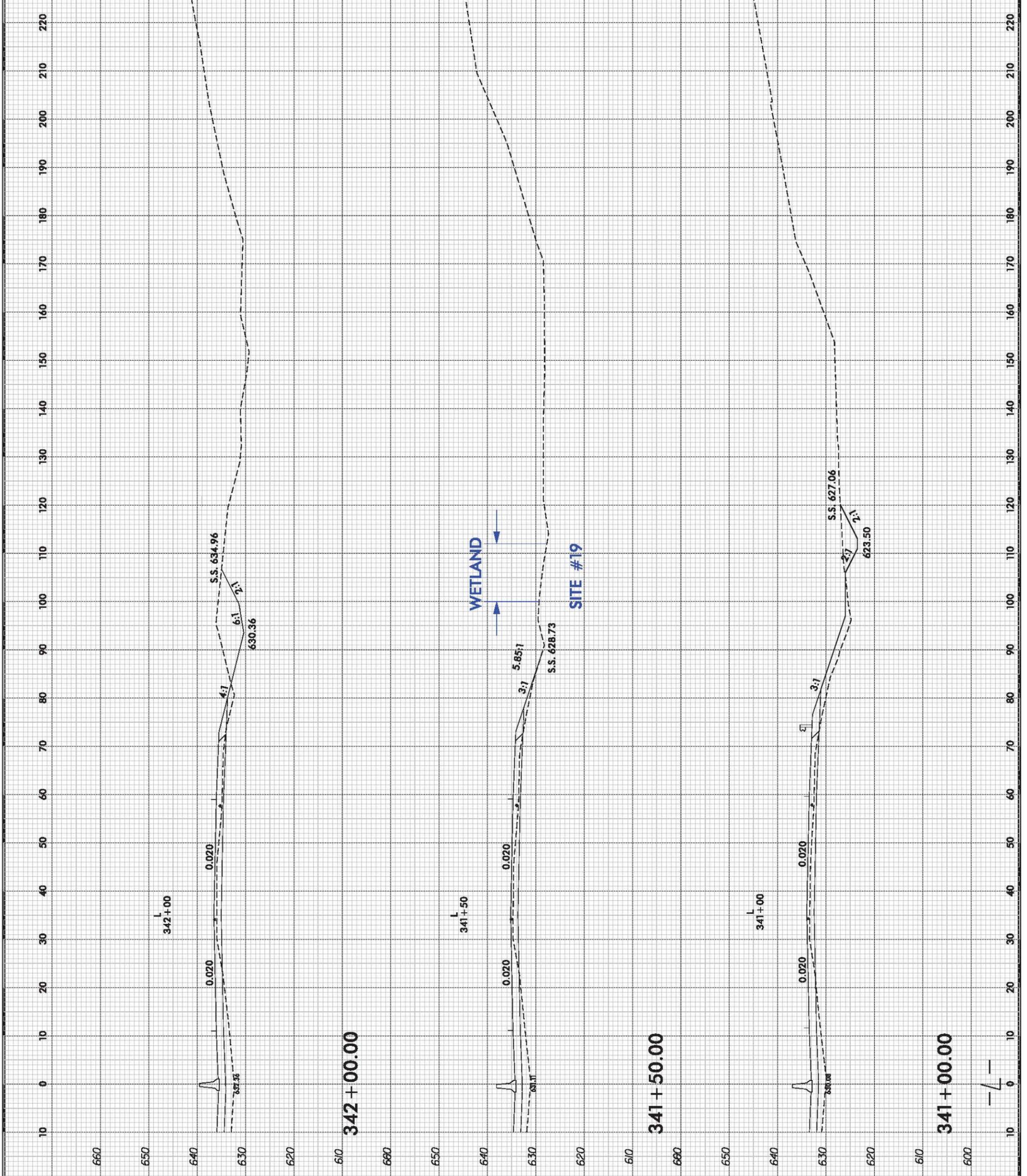
5/28/14



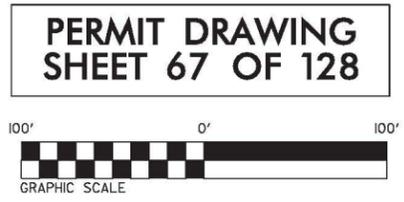
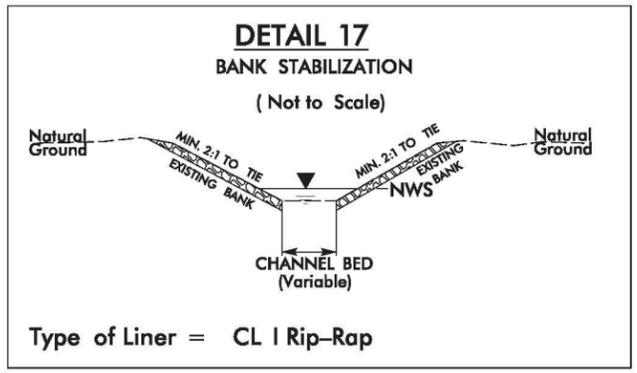
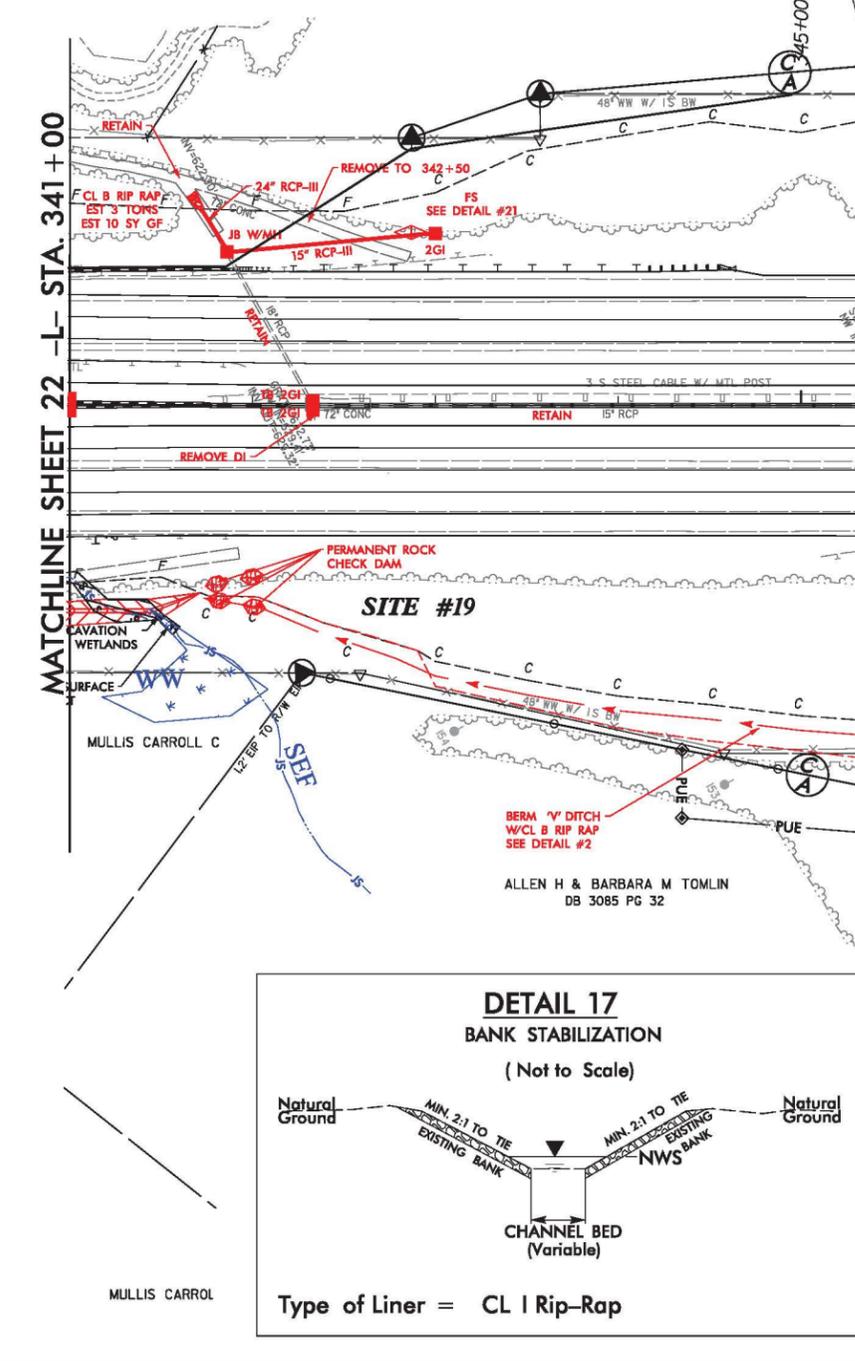
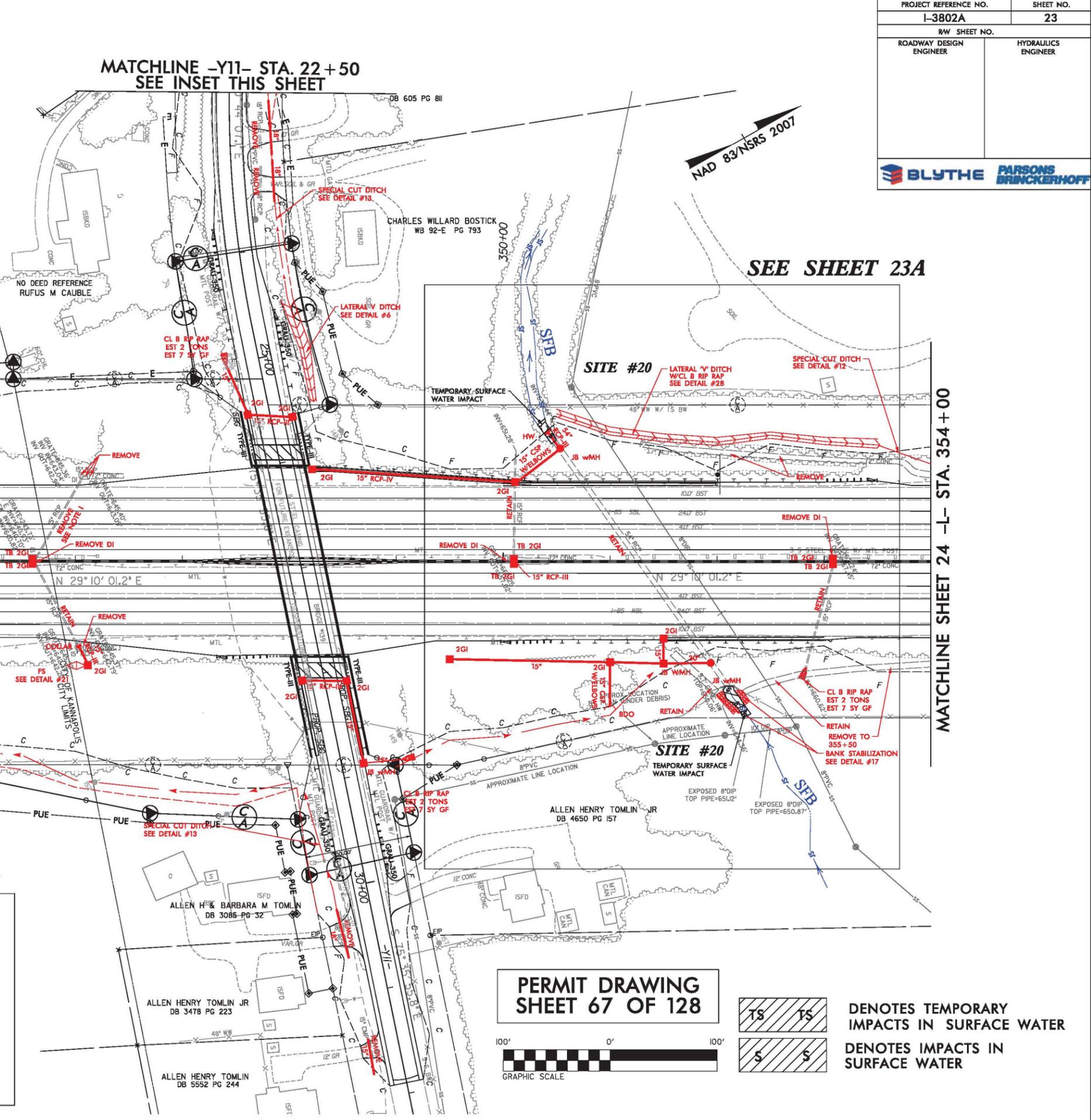
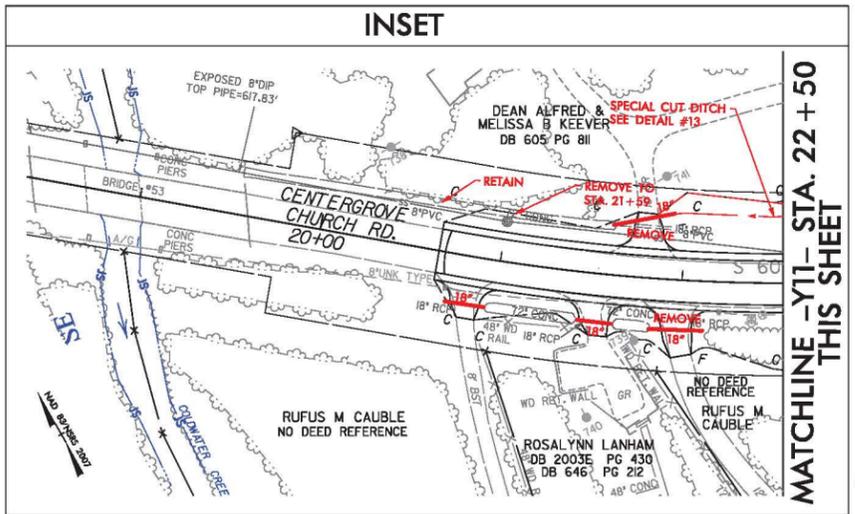
5/28/14



PERMIT DRAWING
 SHEET 66 OF 128



PROJECT REFERENCE NO.	SHEET NO.
I-3802A	23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

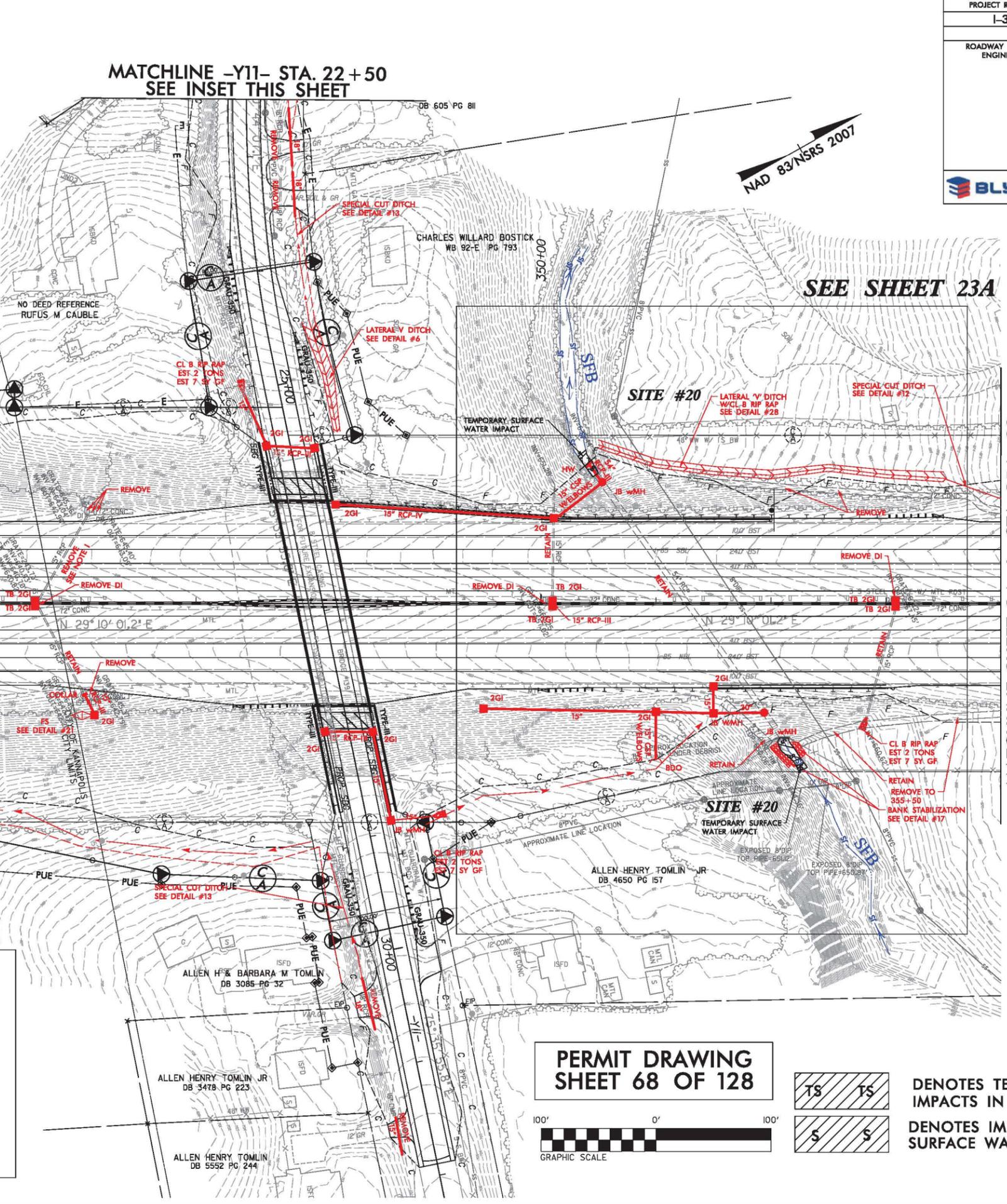
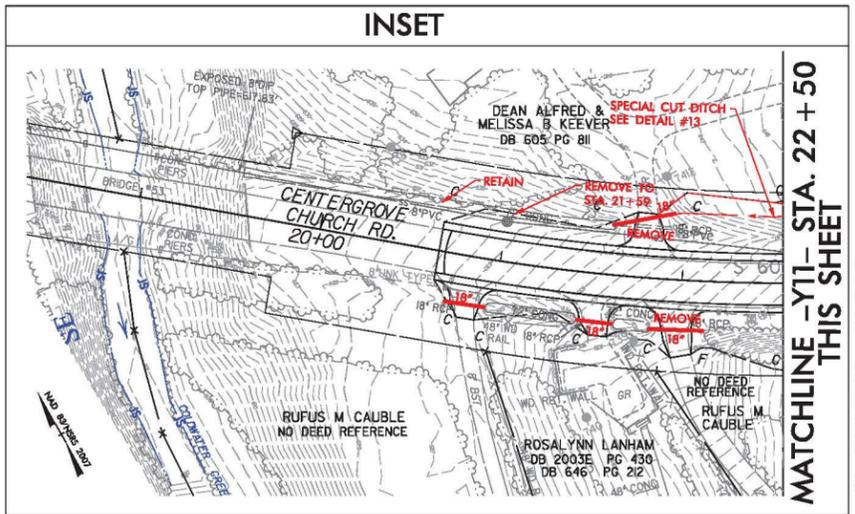


DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

4/17/2016 1:51:28 PM I:\3802A\3802A\Hydro\1.cas\PERMITS.Environmental\Drawings\psh_wo_contours\13802a_rdy_psh23.dgn
 8/17/99
 BLYTHE PARSONS BRINCKERHOFF

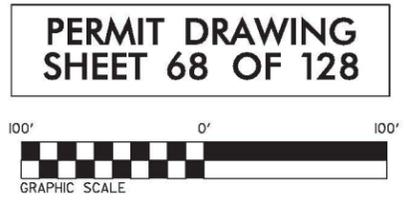
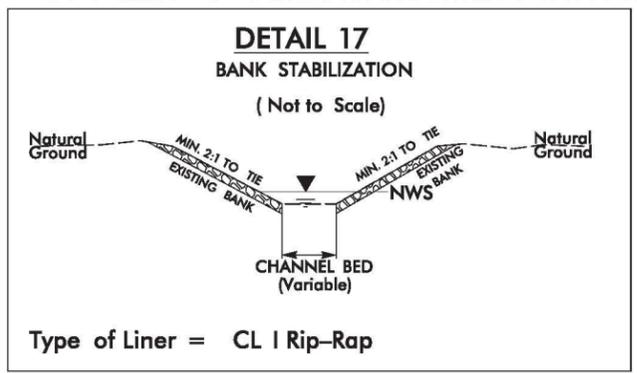
4/17/2010 1:38:02AM I:\3802A\Hydro\100\PERMITS\Environmental\Drawings\psh\contours\13802a_rdy_psh23.dgn
 8/17/99
 BLYTHE PARSONS BRINCKERHOFF

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



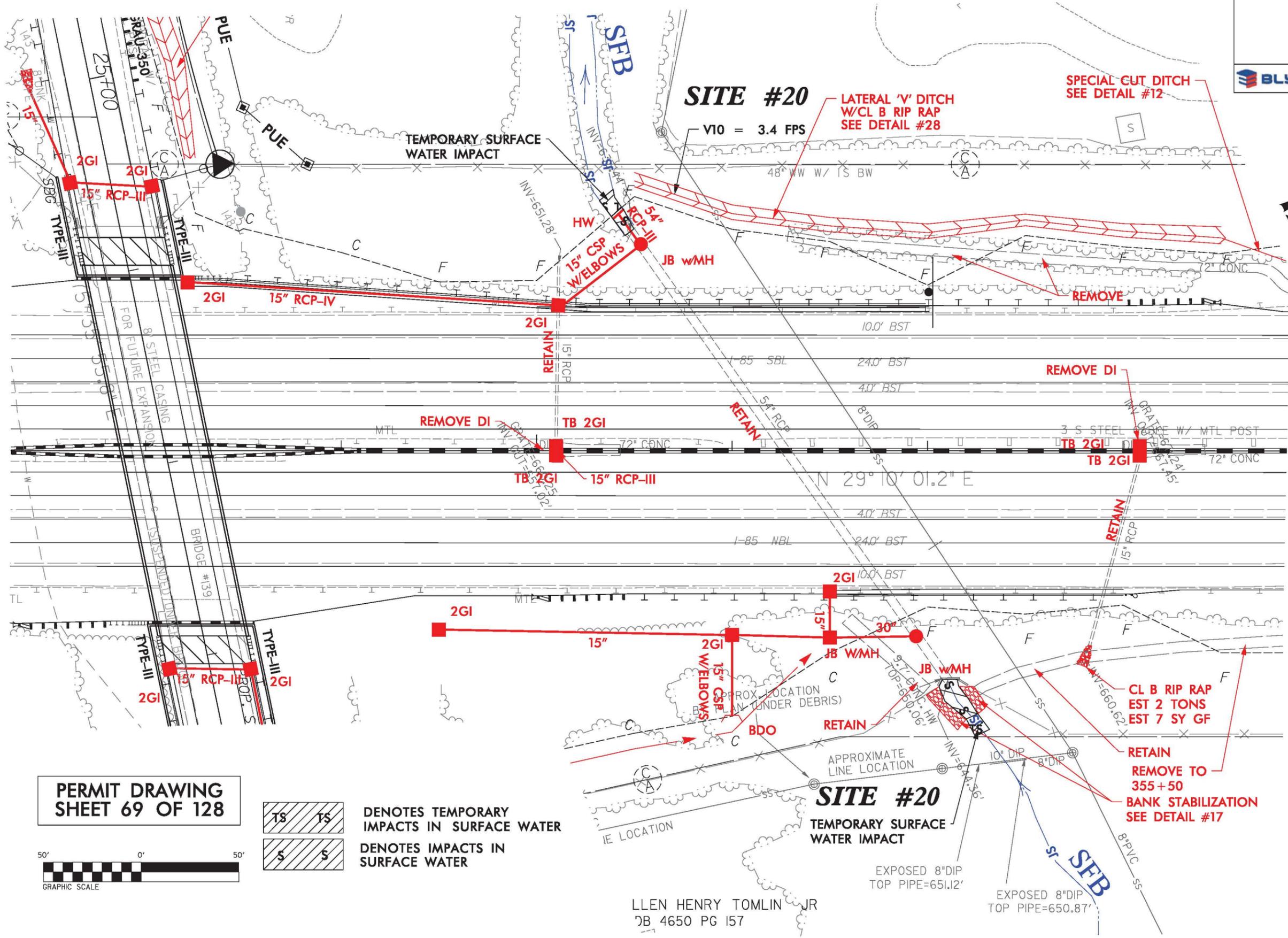
MATCHLINE SHEET 22 -L- STA. 341 + 00

MATCHLINE SHEET 24 -L- STA. 354 + 00

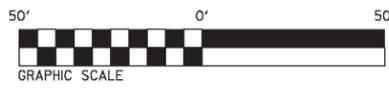


DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO. I-3802A	SHEET NO. 23A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**PERMIT DRAWING
SHEET 69 OF 128**



DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

SITE #20

V10 = 3.4 FPS

LATERAL 'V' DITCH
W/CL B RIP RAP
SEE DETAIL #28

SPECIAL GUT DITCH
SEE DETAIL #12



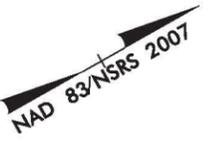
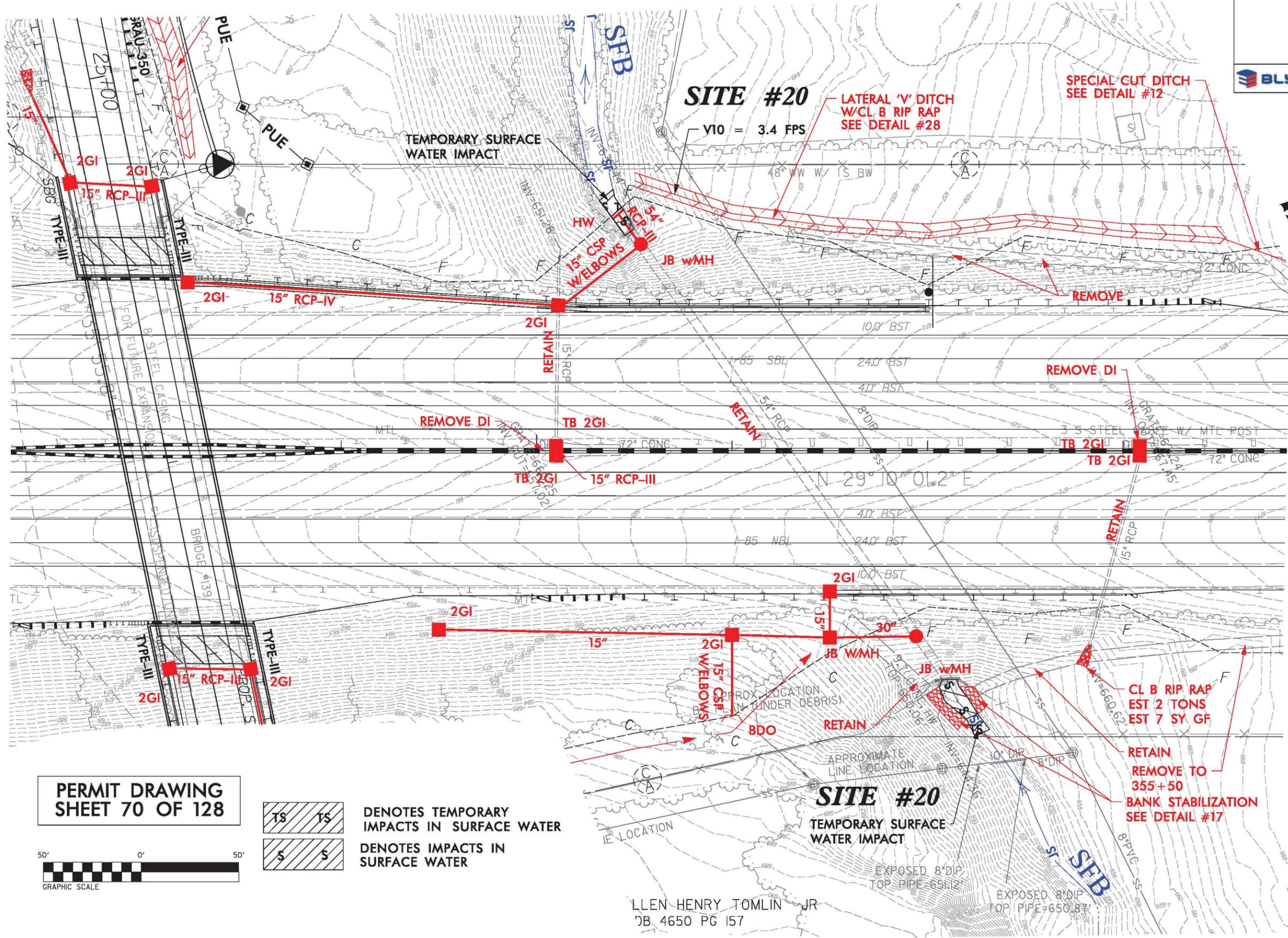
SITE #20

TEMPORARY SURFACE
WATER IMPACT

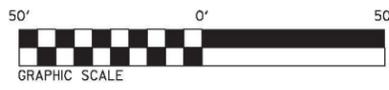
LLEN HENRY TOMLIN JR
DB 4650 PG 157

8/17/99
 3/19/2016
 I:\3802A\Hydra\1\3802A\Hydra\1\3802A\Hydra\1\3802A.dwg
 PERMITS.Environmental\Drawings\psh_wo_contours\13802a_rdy_psh23A.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	23A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**PERMIT DRAWING
SHEET 70 OF 128**



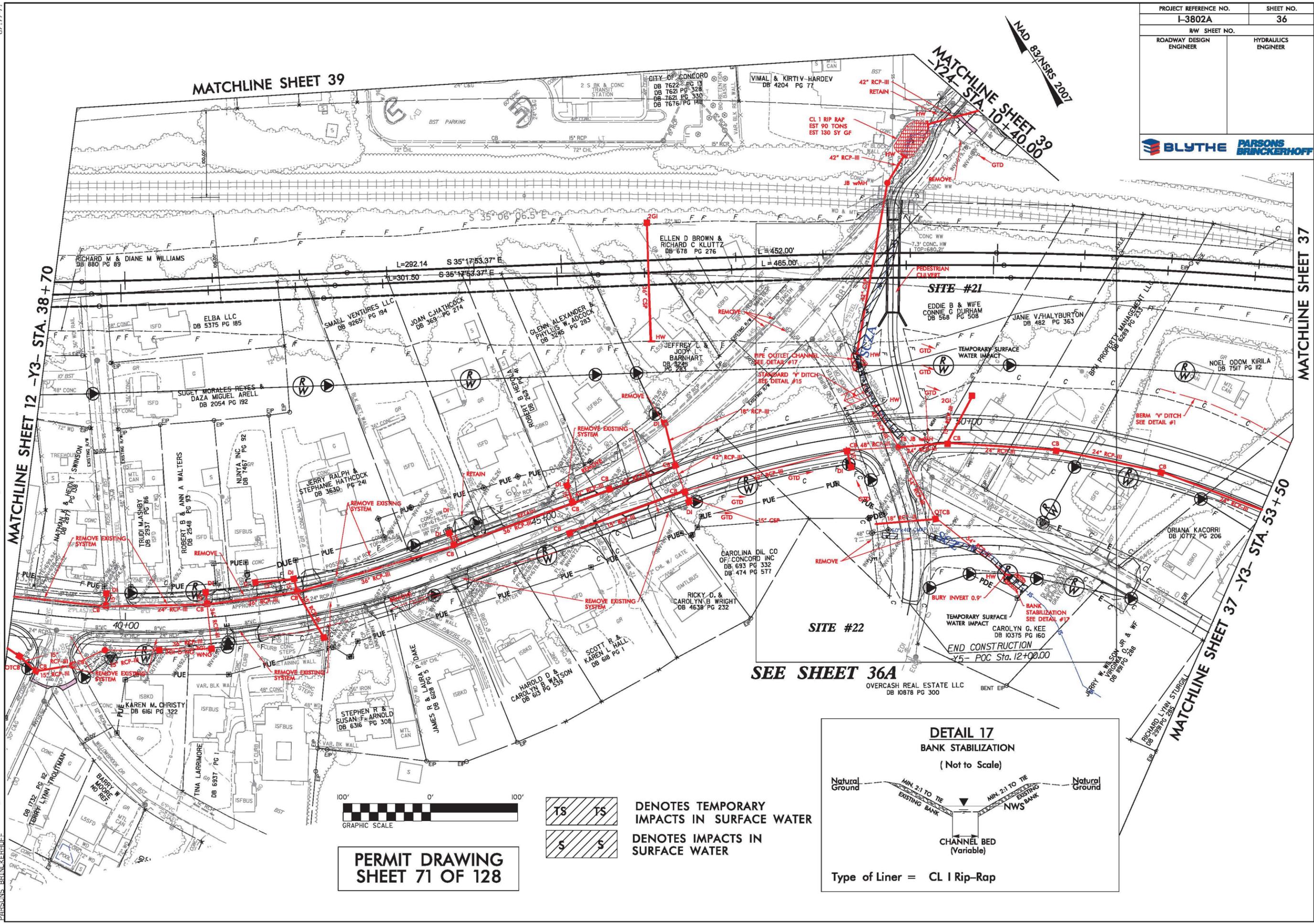
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

LLEN HENRY TOMLIN JR
DB 4650 PG 157

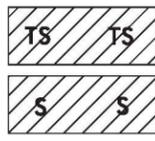
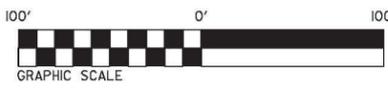
8/17/99
 3/19/2016
 I:\3802A\Hydraulics\PERMITS_Environmental\Drawings\psh_contours\I-3802a_rdy_psh23A.dgn
 PARSONS BRINCKERHOFF

8/17/99
 13802A-13802A-Hydraulic-Permits-Drawings-psh_wd-contours-13802a_rdy_psh36.dgn
 3/19/2016
 13802A-13802A-Hydraulic-Permits-Drawings-psh_wd-contours-13802a_rdy_psh36.dgn
 PARSONS BRINCKERHOFF

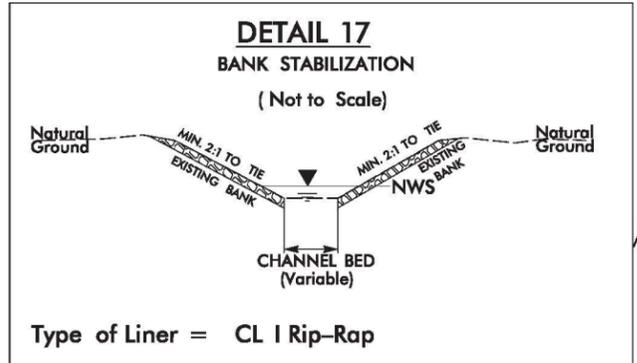
PROJECT REFERENCE NO.	SHEET NO.
I-3802A	36
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PERMIT DRAWING SHEET 71 OF 128



TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 S S DENOTES IMPACTS IN SURFACE WATER



SEE SHEET 36A

OVERCASH REAL ESTATE LLC
DB 10878 PG 300

END CONSTRUCTION
Y5- POC Sta. 12+00.00

TEMPORARY SURFACE WATER IMPACT
CAROLYN G. KEE
DB 10375 PG 160

BURY INVERT 0.9'

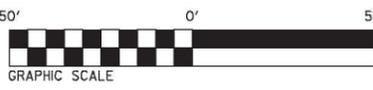
BANK STABILIZATION
SEE DETAIL #17

TEMPORARY SURFACE WATER IMPACT

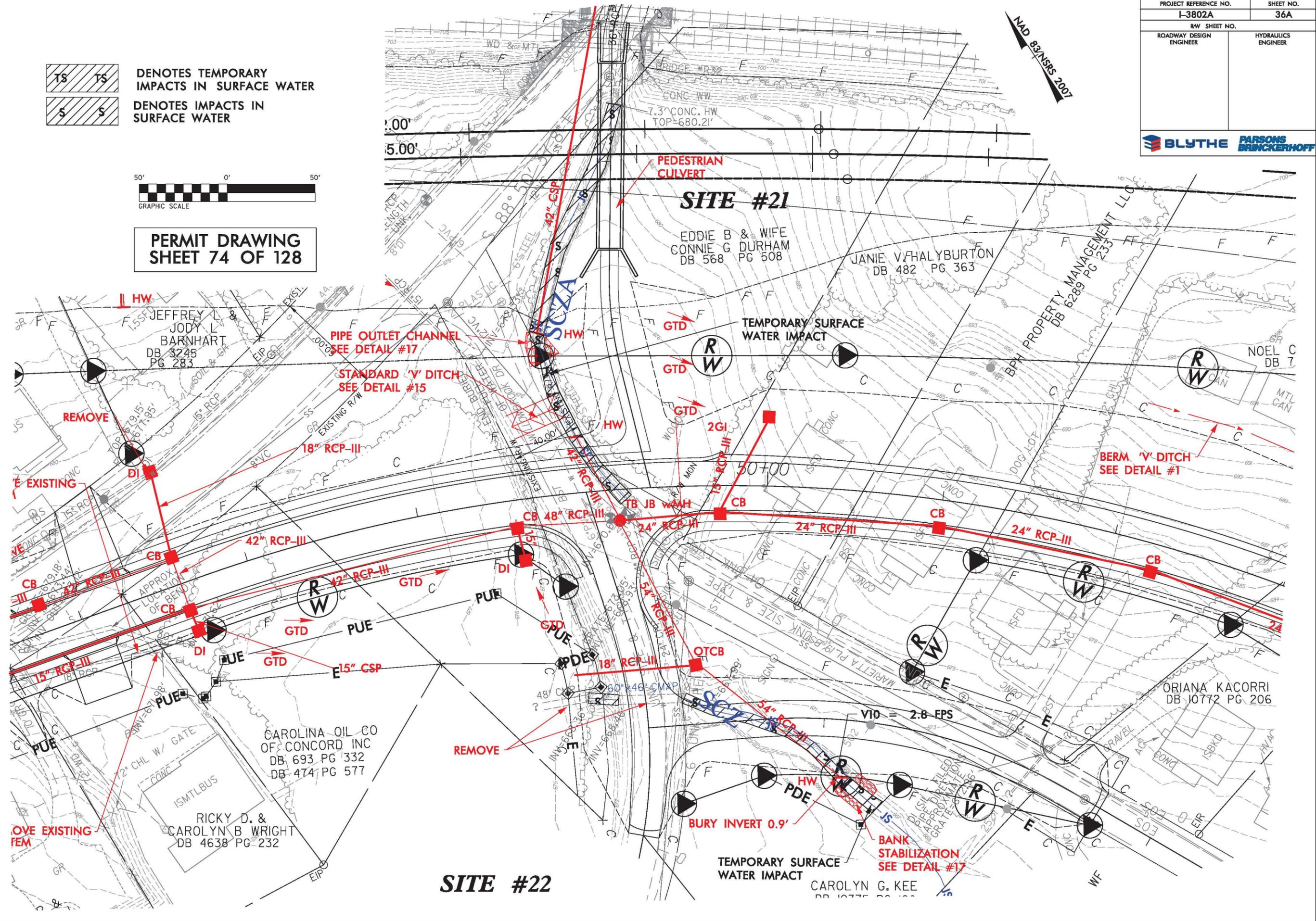
PROJECT REFERENCE NO. I-3802A	SHEET NO. 36A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE PARSONS BRINCKERHOFF

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER



PERMIT DRAWING SHEET 74 OF 128

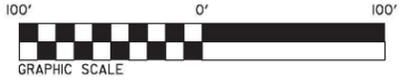
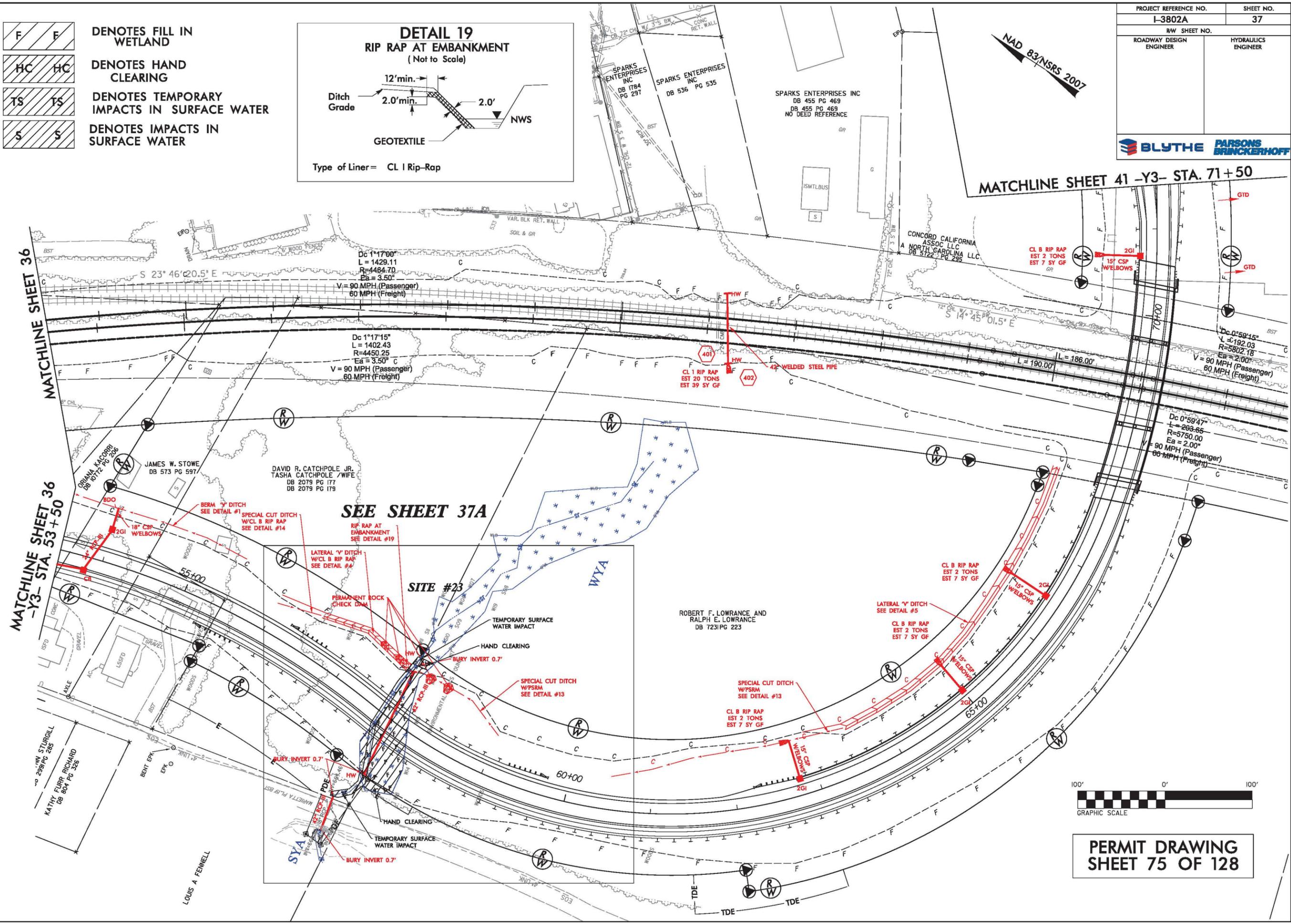
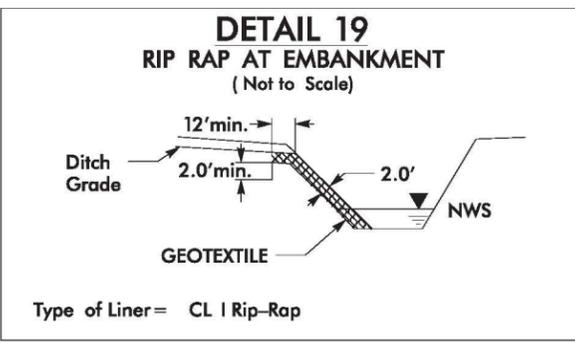


8/17/99
 3/19/2016
 I:\3802A\3802A\Hydro\1\Permits\Environmental\Drawings\psh.com\tours\13802a_r.dwg_psh36A.dgn
 PARSONS BRINCKERHOFF

8/17/99

PROJECT REFERENCE NO. I-3802A	SHEET NO. 37
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
BLYTHE PARSONS BRINCKERHOFF	

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

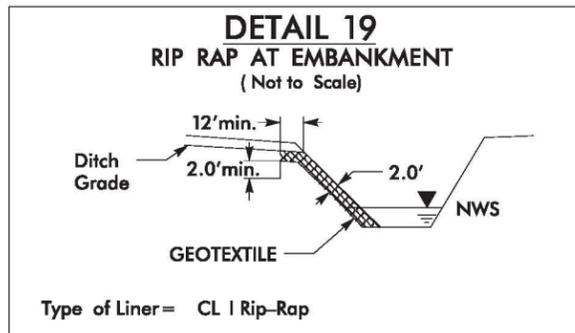


PERMIT DRAWING SHEET 75 OF 128

3/19/2016 I:\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_wo_contours\3802a_rdy_psh37.dgn
 1:1
 PARSONS BRINCKERHOFF

3/19/2016 1:38:02AM I:\3802A\Hydra\1\3802A\Drawings\psh\contours\13802a_rtdj_psh37.dgn
 8/17/99
 13802A\3802A\Hydra\1\3802A\Drawings\psh\contours\13802a_rtdj_psh37.dgn
 PARSONS BRINCKERHOFF

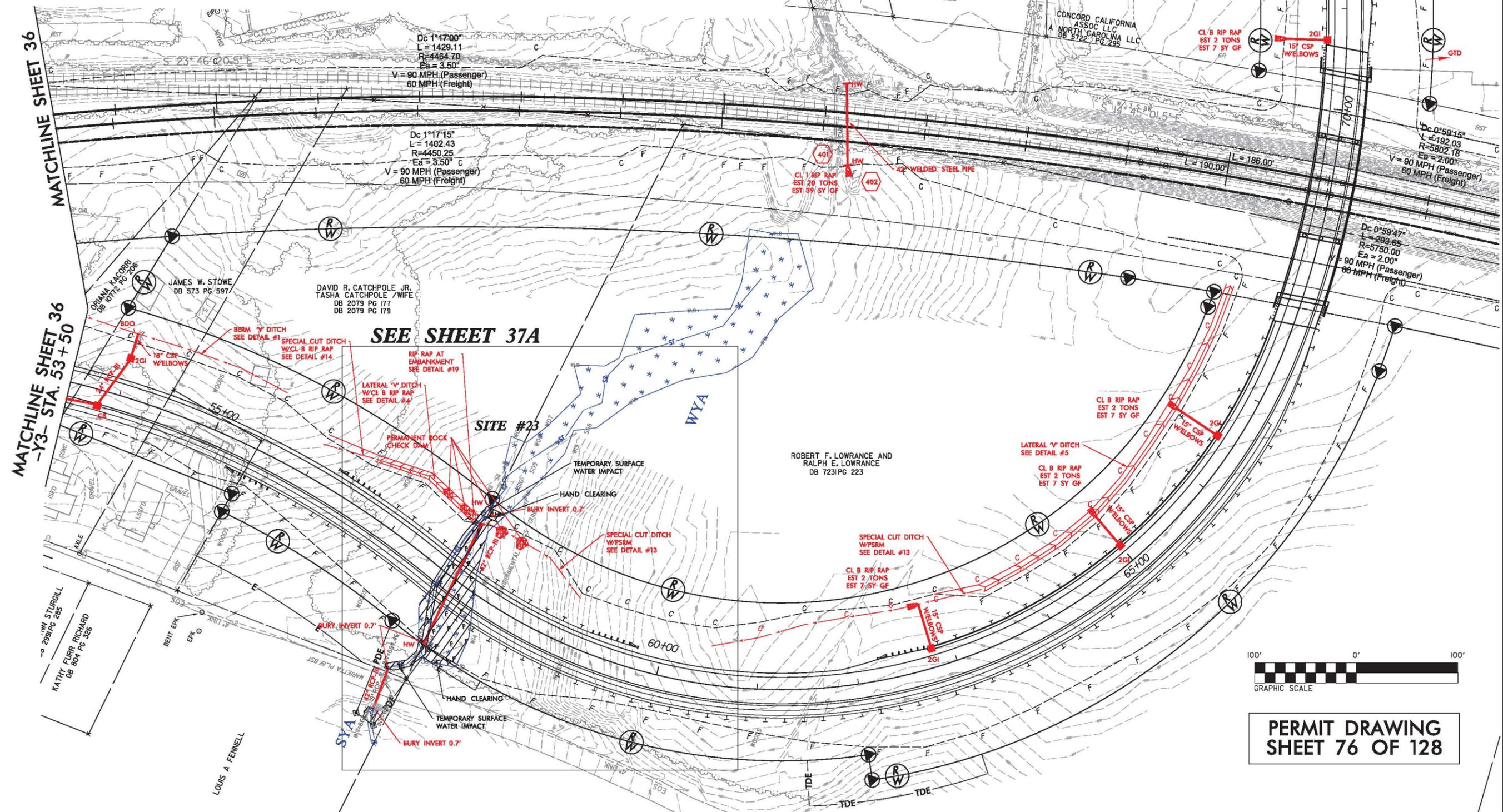
-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. I-3802A	SHEET NO. 37
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BLYTHE PARSONS BRINCKERHOFF

MATCHLINE SHEET 41 -Y3- STA. 71+50



8/17/99
 3/19/2016
 I:\3802A\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_wo_contours\3802a_rdy_psh37A.dgn
 PARSONS BRINCKERHOFF

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

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

SPECIAL CUT DITCH
W/CL B RIP RAP
SEE DETAIL #14

RIP RAP AT
EMBANKMENT
SEE DETAIL #19

LATERAL 'V' DITCH
W/CL B RIP RAP
SEE DETAIL #4

Q10 = 8.21 CFS
V10 = 1.98 FPS

PERMANENT ROCK
CHECK DAM

SITE #23

TEMPORARY SURFACE
WATER IMPACT

HAND CLEARING

BURY INVERT 0.7'

Q10 = 1.06 CFS
V10 = 1.19 FPS

SPECIAL CUT DITCH
W/PSRM
SEE DETAIL #13

BURY INVERT 0.7'

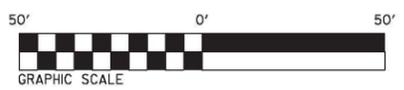
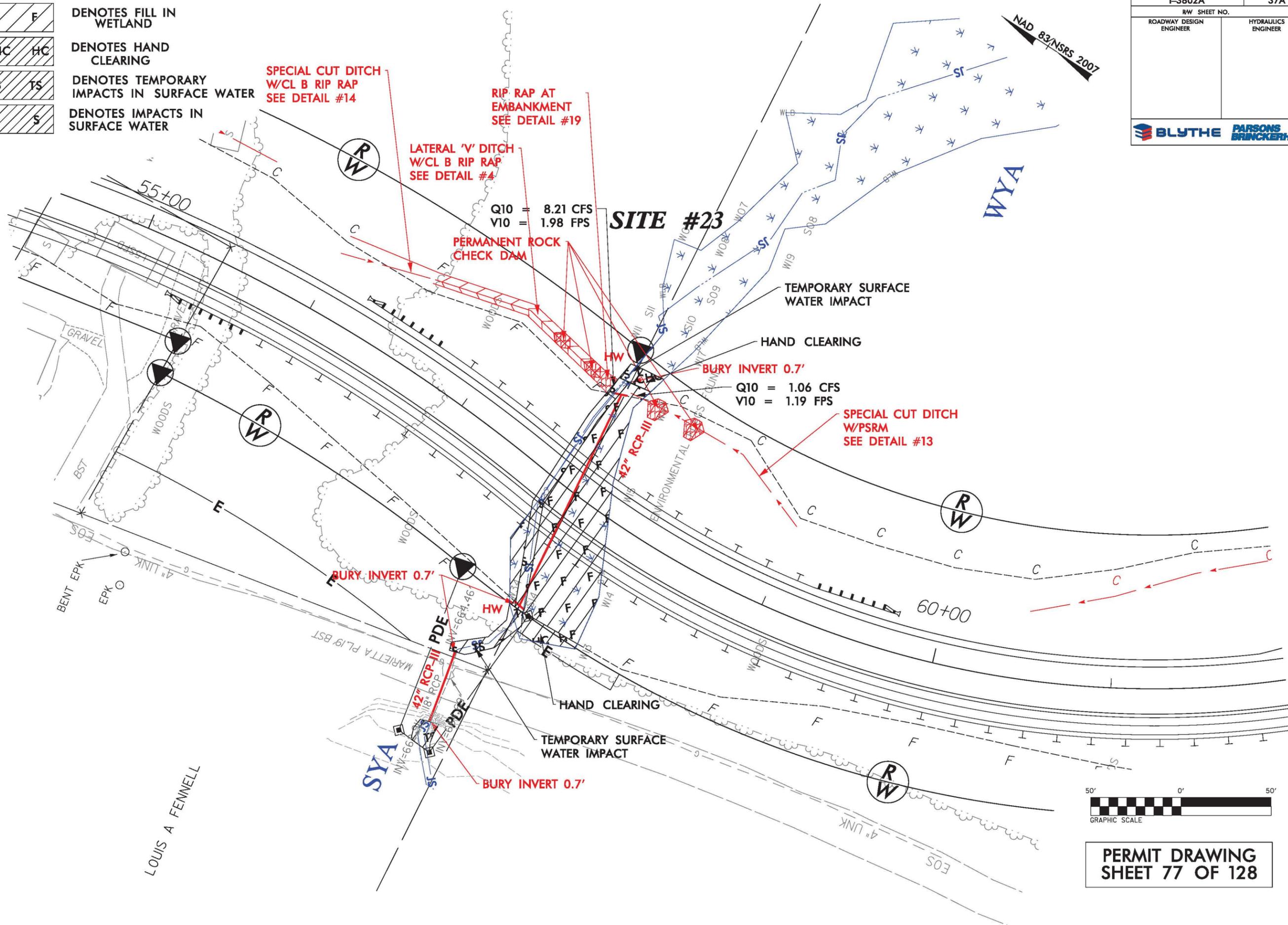
HW

HAND CLEARING

TEMPORARY SURFACE
WATER IMPACT

BURY INVERT 0.7'

PROJECT REFERENCE NO. I-3802A	SHEET NO. 37A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PERMIT DRAWING
SHEET 77 OF 128

8/17/99
 3/19/2015
 I:\3802A\3802A\Hydraulics\PERMITS.Environmental\Drawings\psh_contours\13802a_rdy_psh37A.dgn
 PARSONS BRINCKERHOFF

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

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

SPECIAL CUT DITCH
W/CL-B RIP RAP
SEE DETAIL #14

RIP RAP AT
EMBANKMENT
SEE DETAIL #19

LATERAL 'V' DITCH
W/CL-B RIP RAP
SEE DETAIL #4

Q10 = 8.21 CFS
V10 = 1.98 FPS

PERMANENT ROCK
CHECK DAM

SITE #23

TEMPORARY SURFACE
WATER IMPACT

HAND CLEARING

BURY INVERT 0.7'

Q10 = 1.06 CFS
V10 = 1.19 FPS

SPECIAL CUT DITCH
W/PSRM
SEE DETAIL #13

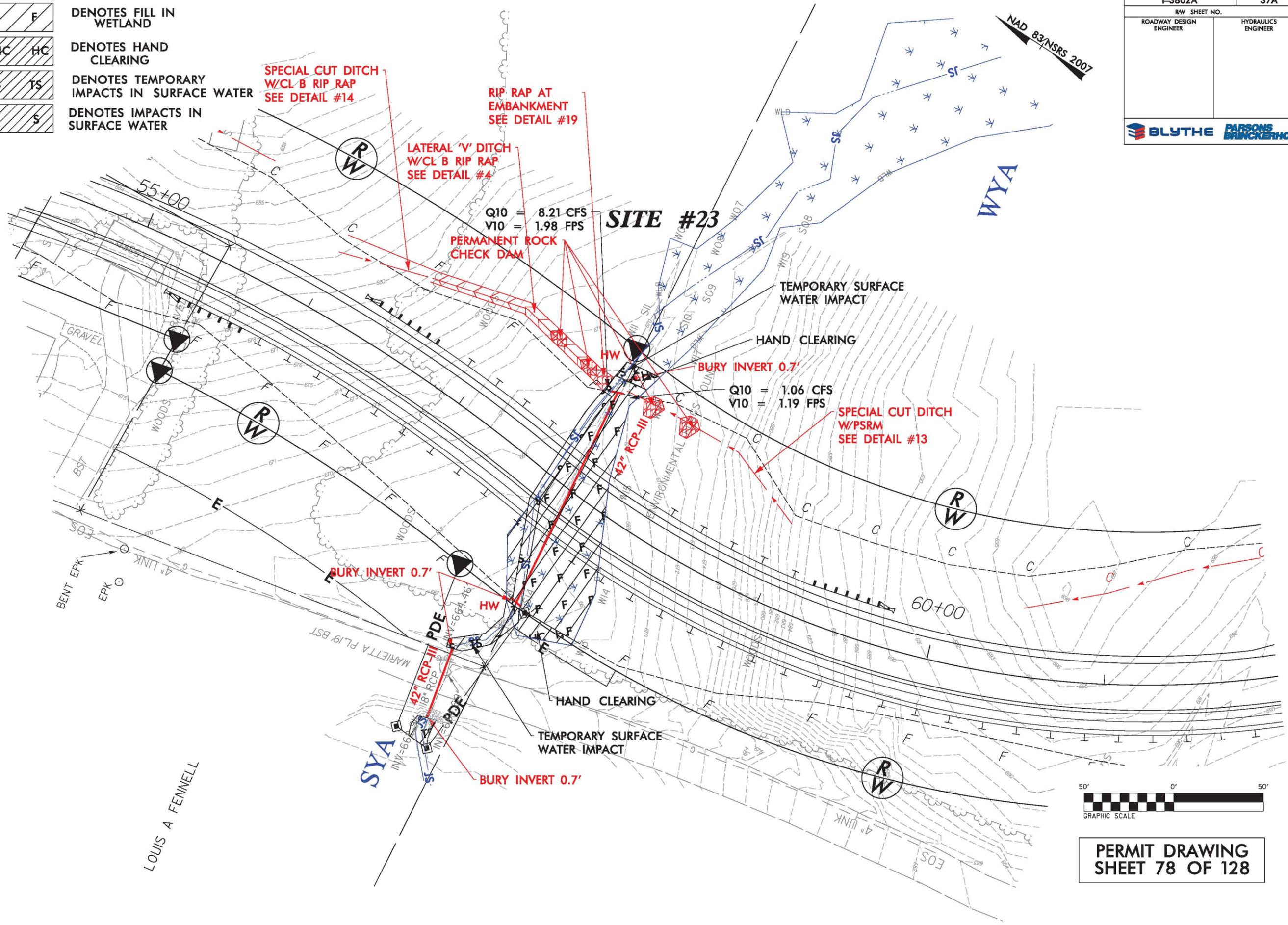
BURY INVERT 0.7'

HW

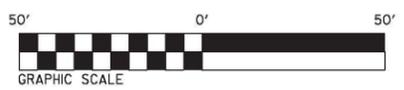
HAND CLEARING

TEMPORARY SURFACE
WATER IMPACT

BURY INVERT 0.7'



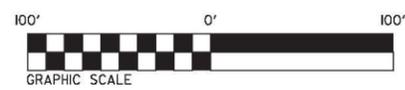
PROJECT REFERENCE NO. I-3802A	SHEET NO. 37A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



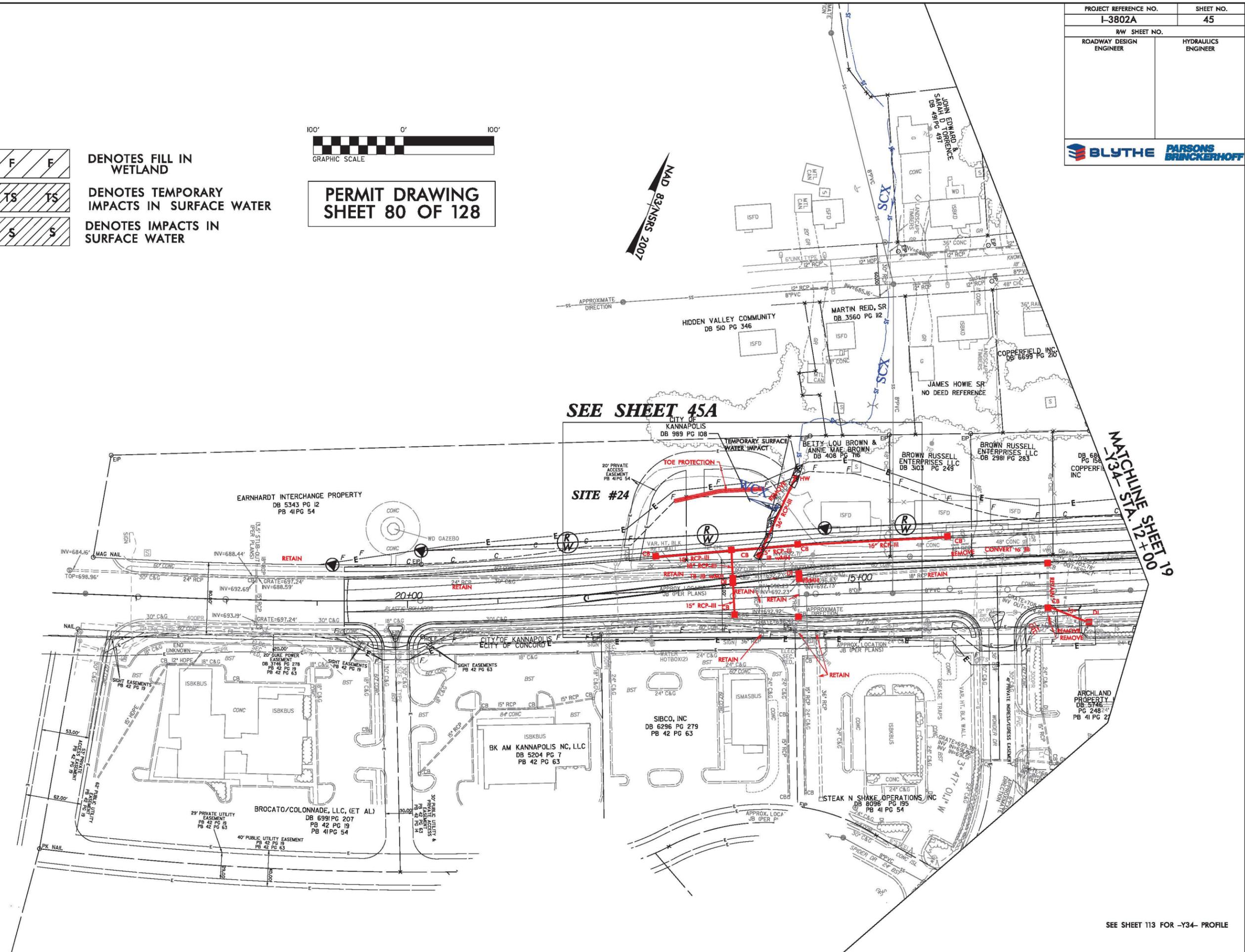
**PERMIT DRAWING
SHEET 78 OF 128**

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	45
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



**PERMIT DRAWING
SHEET 80 OF 128**



SEE SHEET 45A

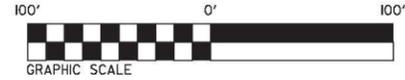
MATCHLINE STA. 12+00 TO SHEET 19

SEE SHEET 113 FOR -Y34- PROFILE

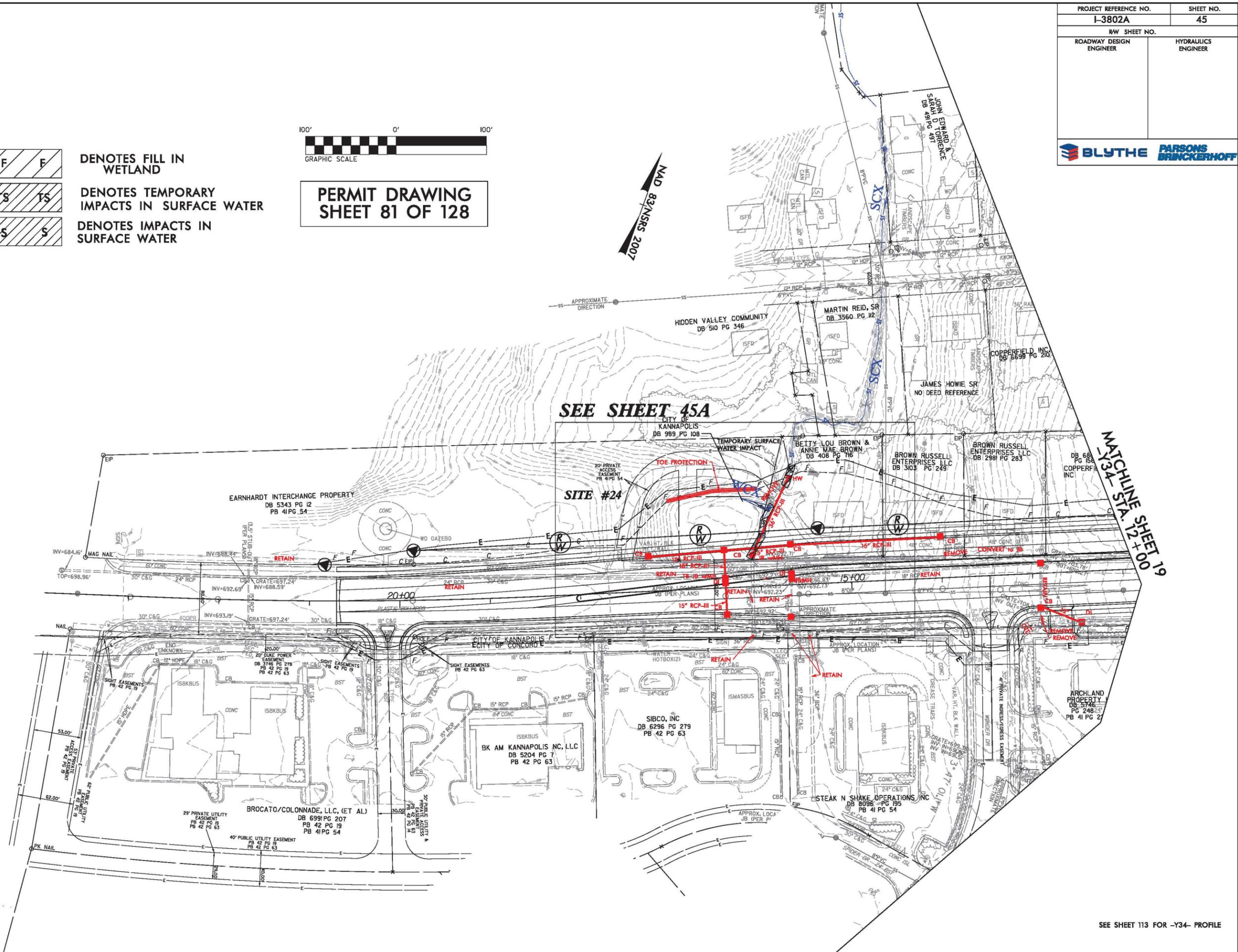
3/19/2015 1:38:02AM I:\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_wa_contours\13802a_rdy_psh-45.dgn
 1:38:02AM I:\3802A\Hydraulics\PERMITS\Environmental\Drawings\psh_wa_contours\13802a_rdy_psh-45.dgn
 PARSONS BRINCKERHOFF

PROJECT REFERENCE NO.	SHEET NO.
I-3802A	45
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



**PERMIT DRAWING
SHEET 81 OF 128**

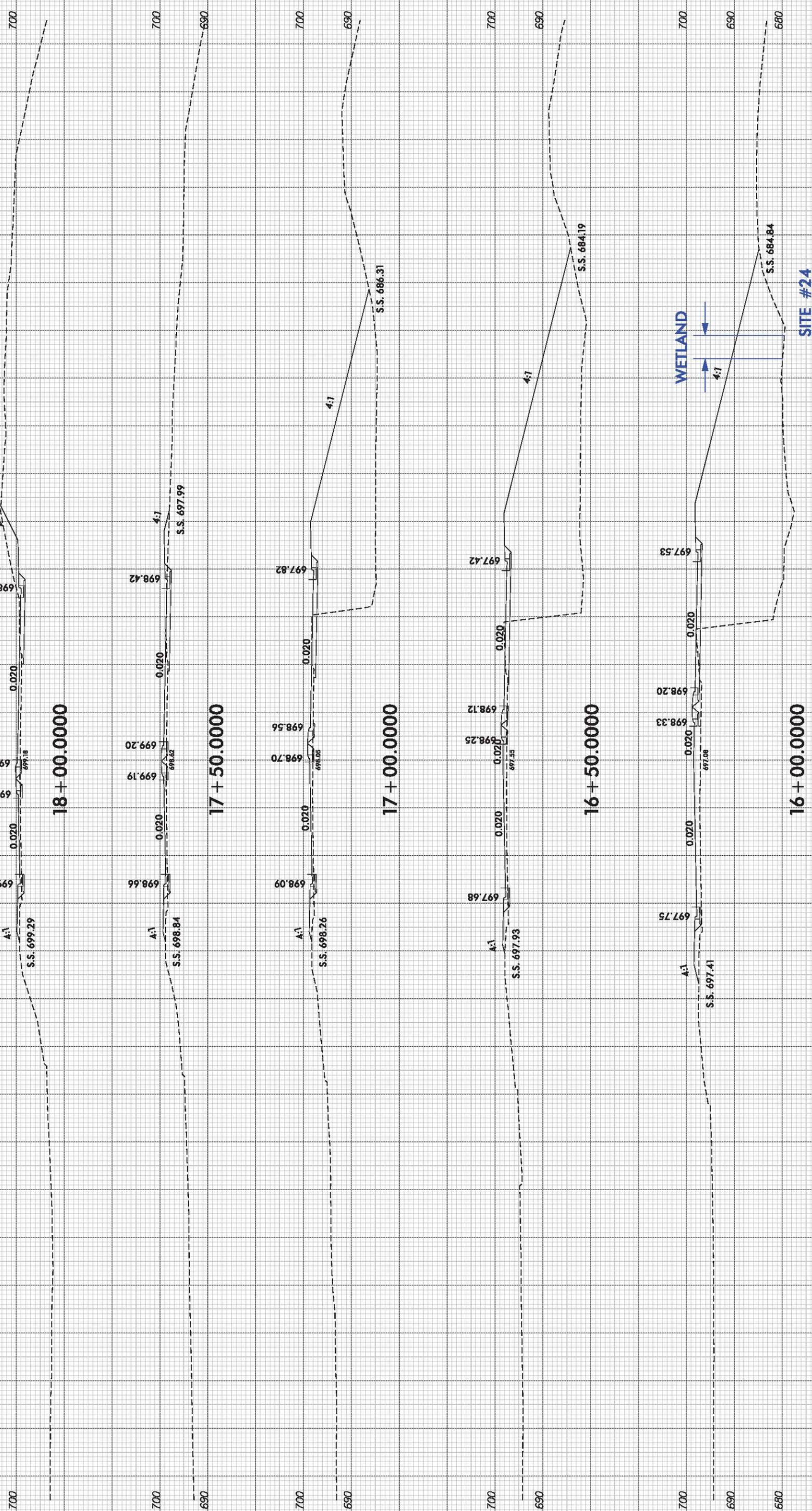


SEE SHEET 113 FOR -Y34- PROFILE

8/17/99
 I:\3802A\3802A\Hydro\1\3802A\Drawings\psh\contours\1\3802a_r.dwg
 1/19/2010
 I:\3802A\3802A\Hydro\1\3802A\Drawings\psh\contours\1\3802a_r.dwg
 PARSONS BRINCKERHOFF

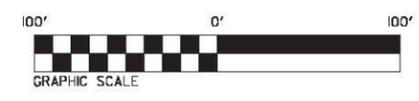
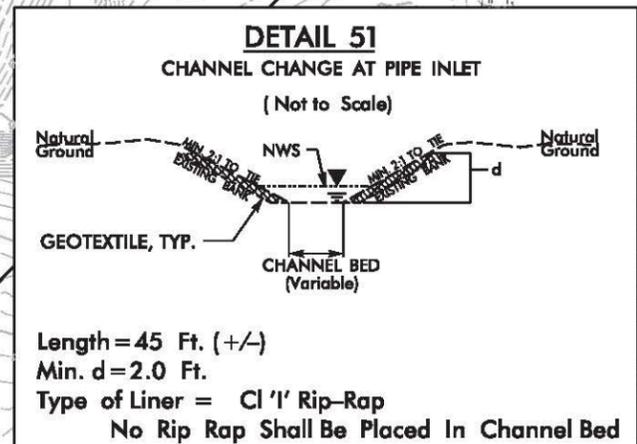
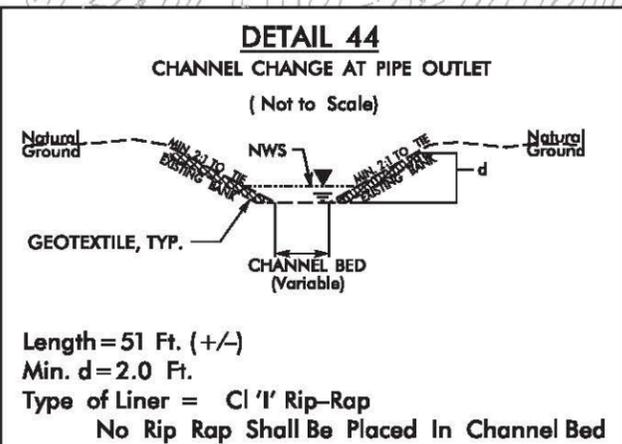


**PERMIT DRAWING
 SHEET 84 OF 128**

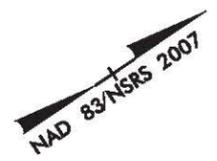


-Y34-

8/17/99



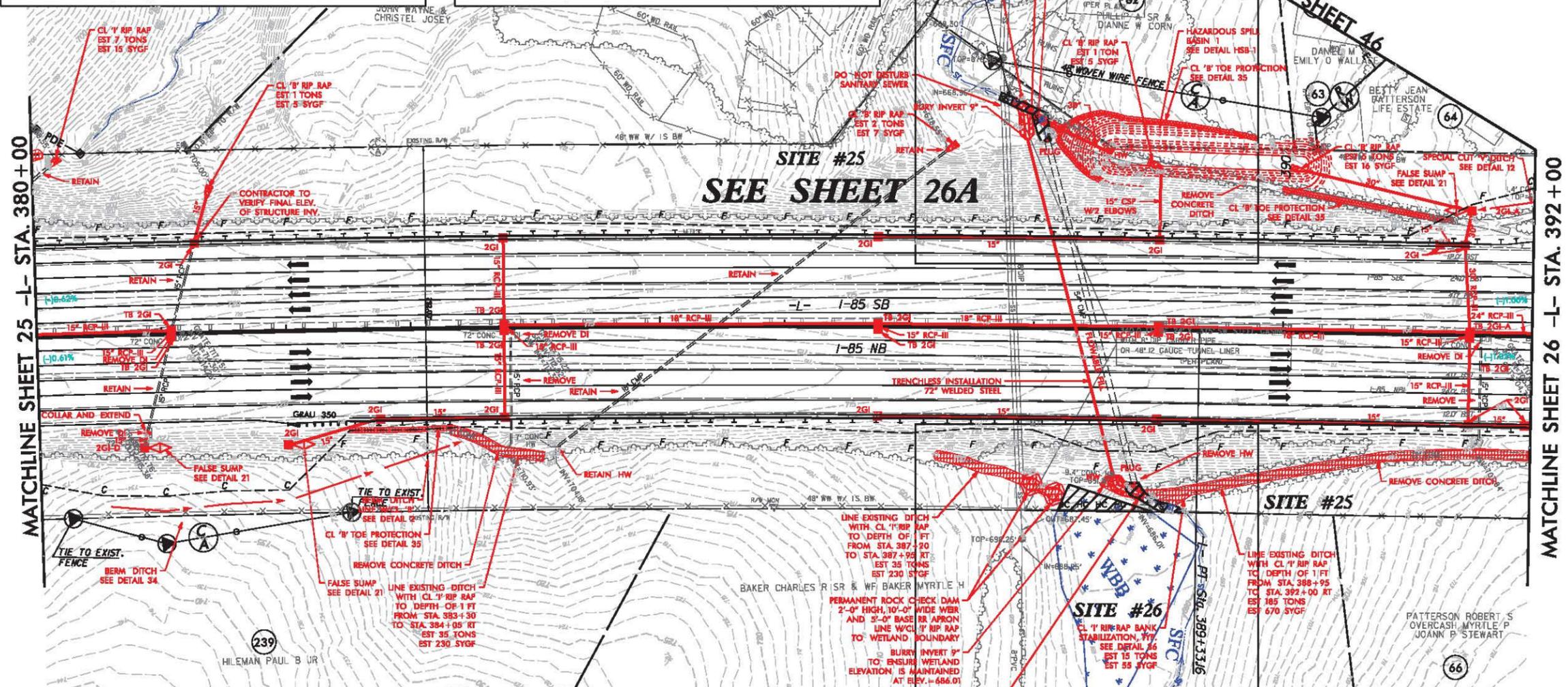
PERMIT DRAWING
SHEET 86 OF 128



PROJECT REFERENCE NO. I-3802A	SHEET NO. 26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

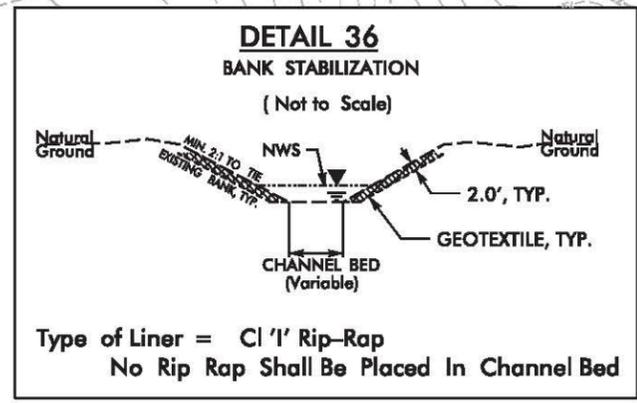


SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6977
Fax: 919-789-6991
License: C-2197



MATCHLINE SHEET 25 -L- STA. 380+00

MATCHLINE SHEET 26 -L- STA. 392+00



DENOTES IMPACTS IN SURFACE WATER



DENOTES HAND CLEARING



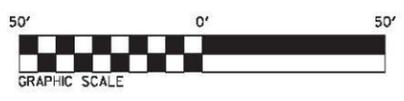
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTES:
1. EXISTING PIPE MAY BE RETAINED FOR TEMPORARY DRAINAGE DURING CONSTRUCTION. ONCE PROPOSED DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING PIPE IS TO BE REMOVED. THE PORTION OF PIPE REMAINING UNDER NEW PAVEMENT IS TO BE PLUGGED AND THE FILLED WITH FLOWABLE FILL.

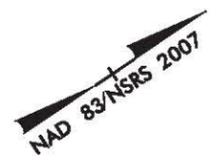
SEE SHEET 72 FOR -LSB- & -LNB- PROFILES

3/19/2005 I:\3802A_hyd_prm_wet_86_psh26_con.dgn

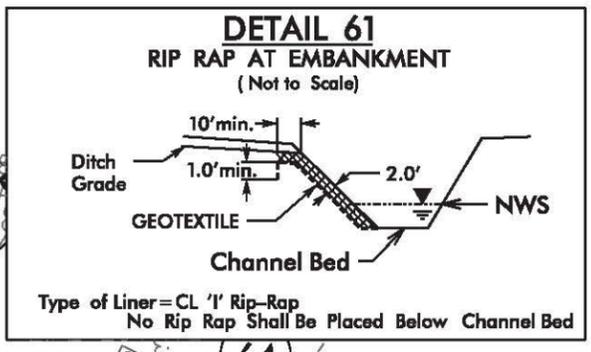
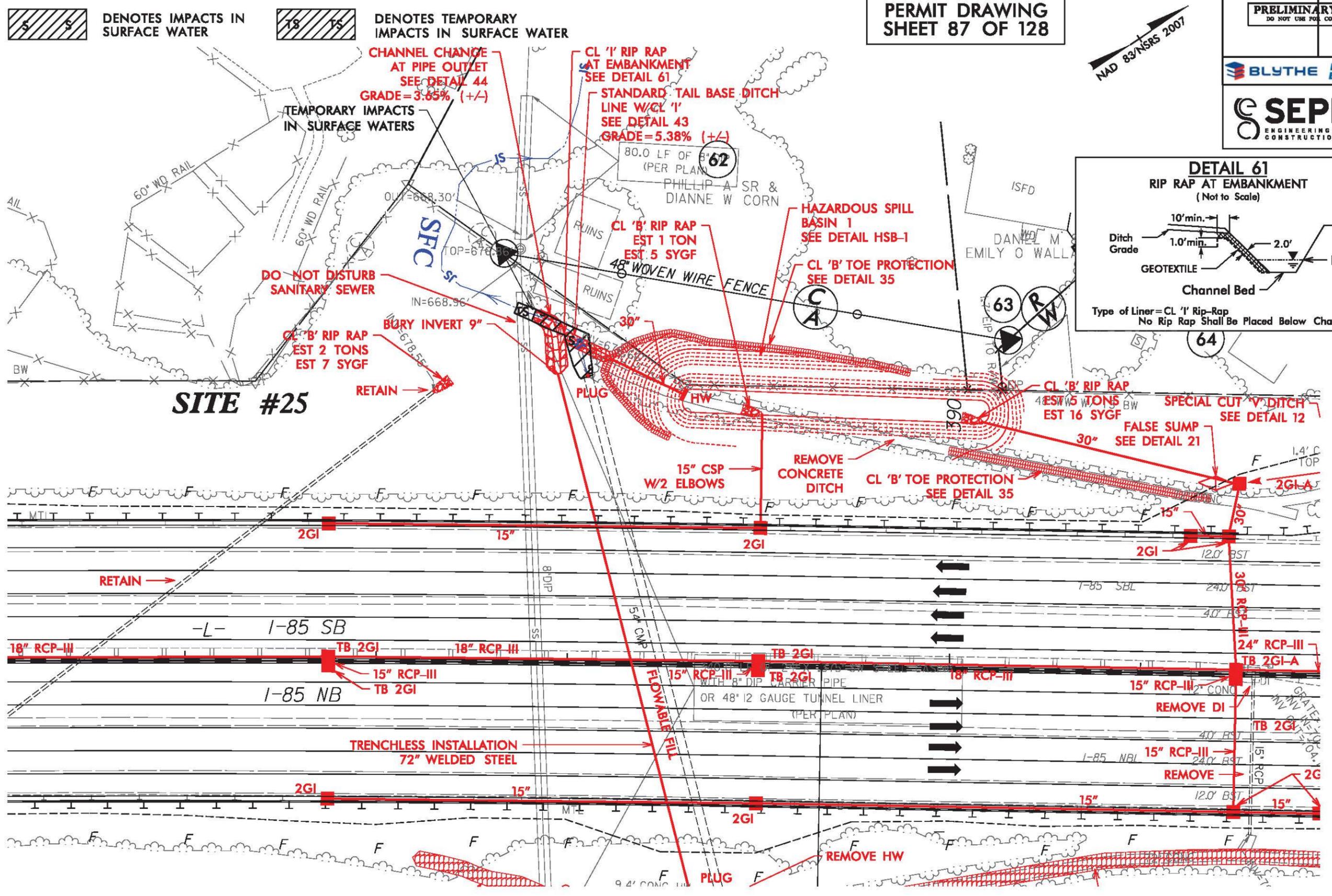
8/17/99



PERMIT DRAWING SHEET 87 OF 128



PROJECT REFERENCE NO. I-3802A	SHEET NO. 26A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

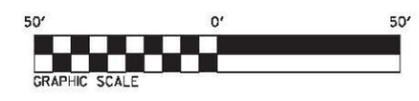


3/19/2005
I:\3802A_hyd_perm_wet_87_psh26A.dgn

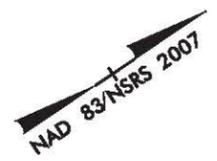
BAT/99
3/24/2015
11:58:02 AM
I:\proj\2015\A_hyd_prm_wet_90_psh26B.con.dgn

 DENOTES HAND CLEARING

 DENOTES IMPACTS IN SURFACE WATER



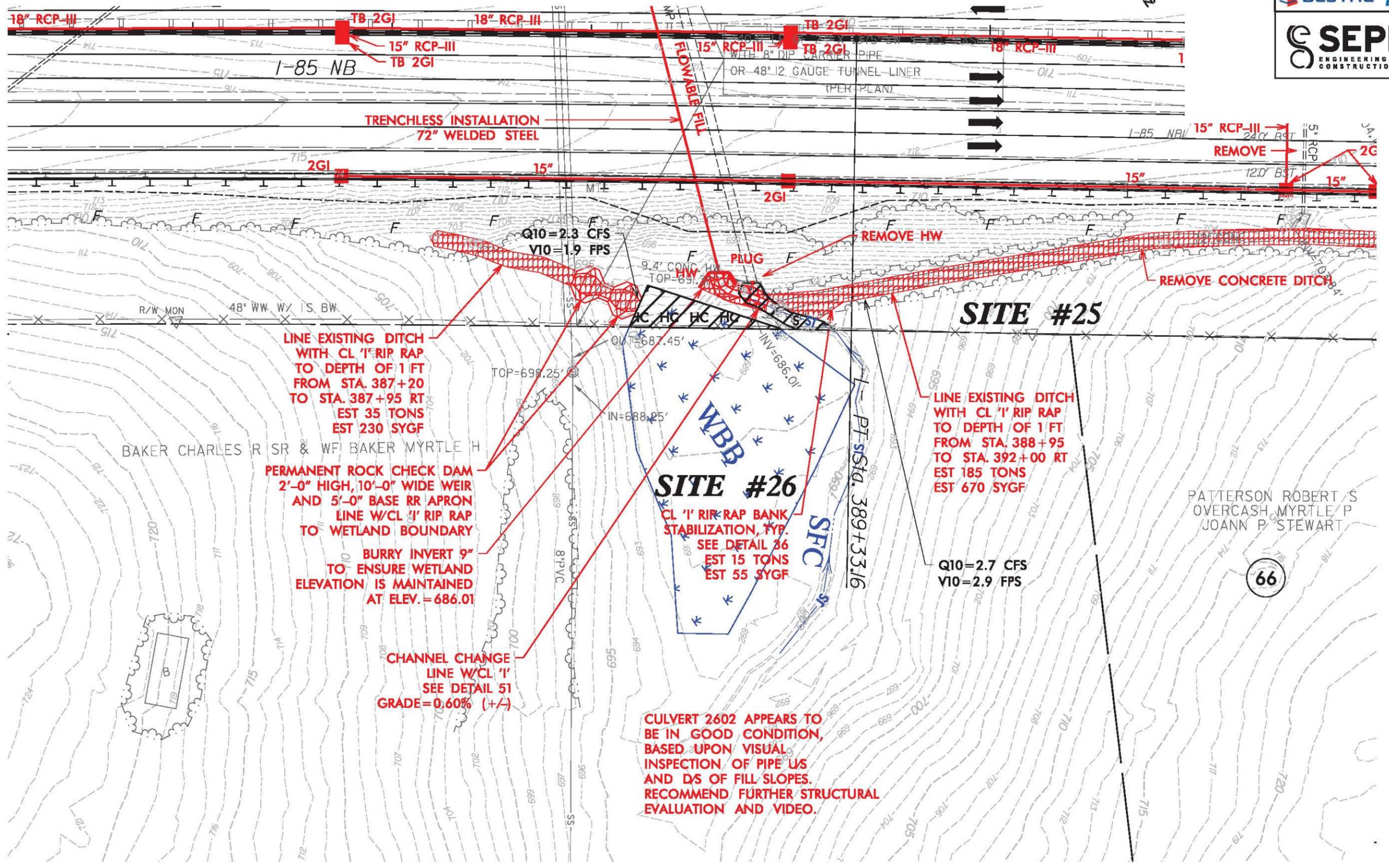
PERMIT DRAWING
SHEET 90 OF 128



PROJECT REFERENCE NO. I-3802A	SHEET NO. 26B
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	




SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6977
Fax: 919-789-6971
License: C-2197



8/23/99

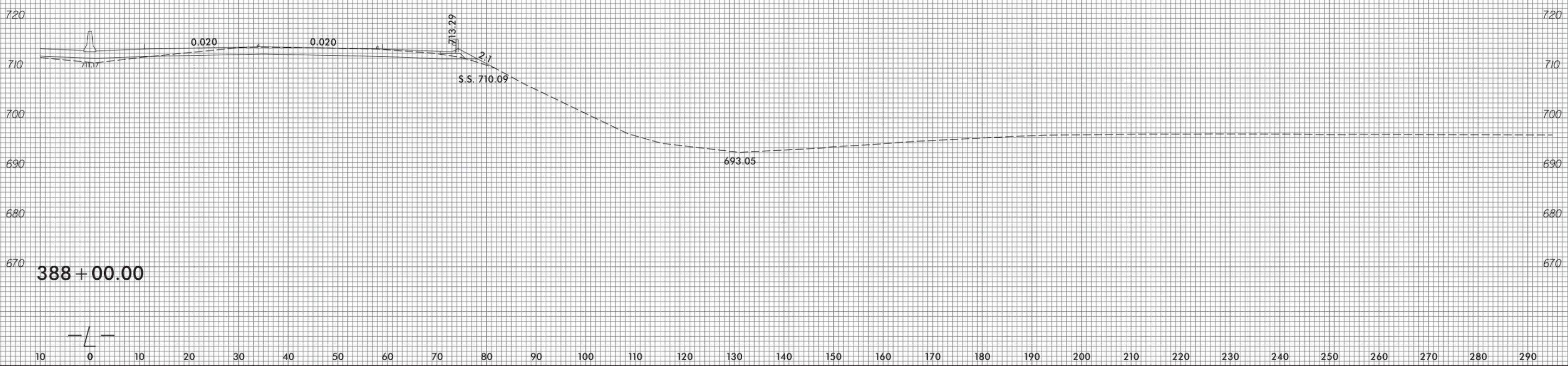
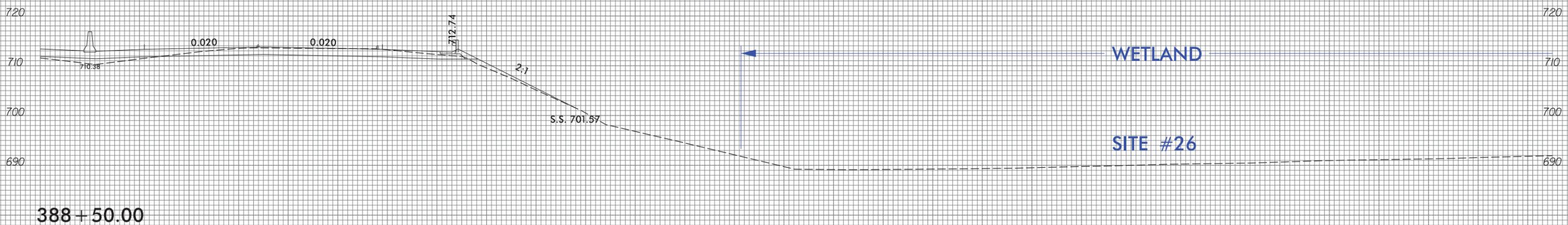
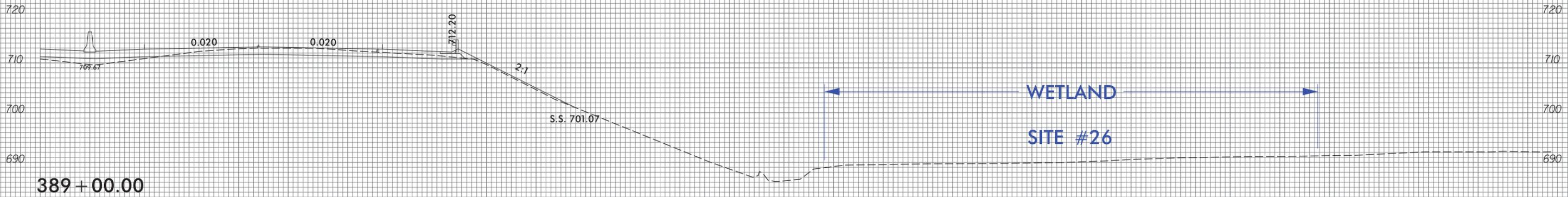


PROJ. REFERENCE NO.
I-3802A

SHEET NO.
X-433

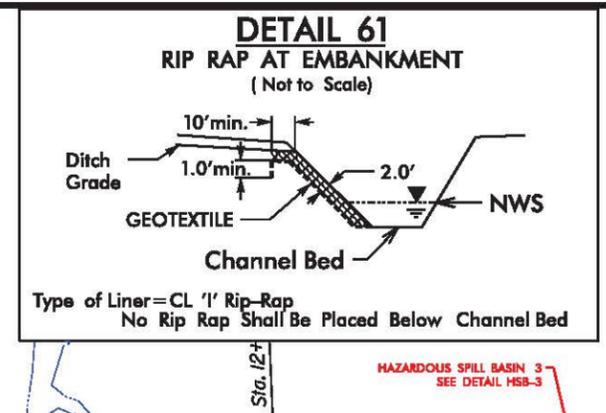
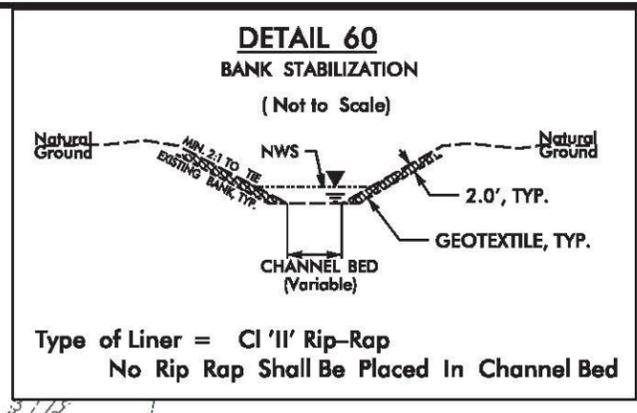
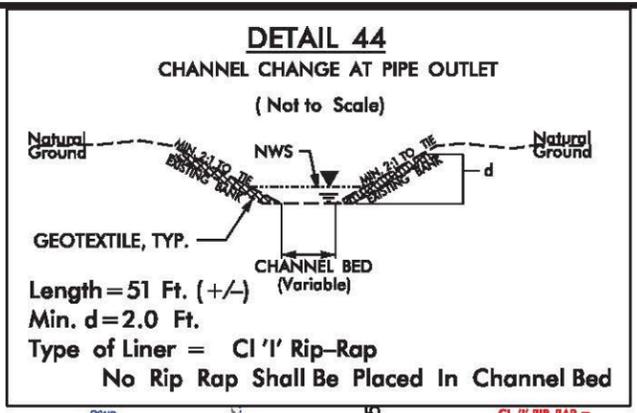
10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

PERMIT DRAWING
SHEET 92 OF 128



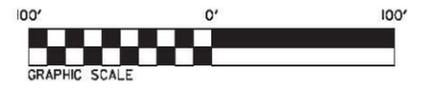
3/19/2015 11:58:02 AM I:\3802A_hyd_p.m_wet_92_x433.dgn

B.17/99

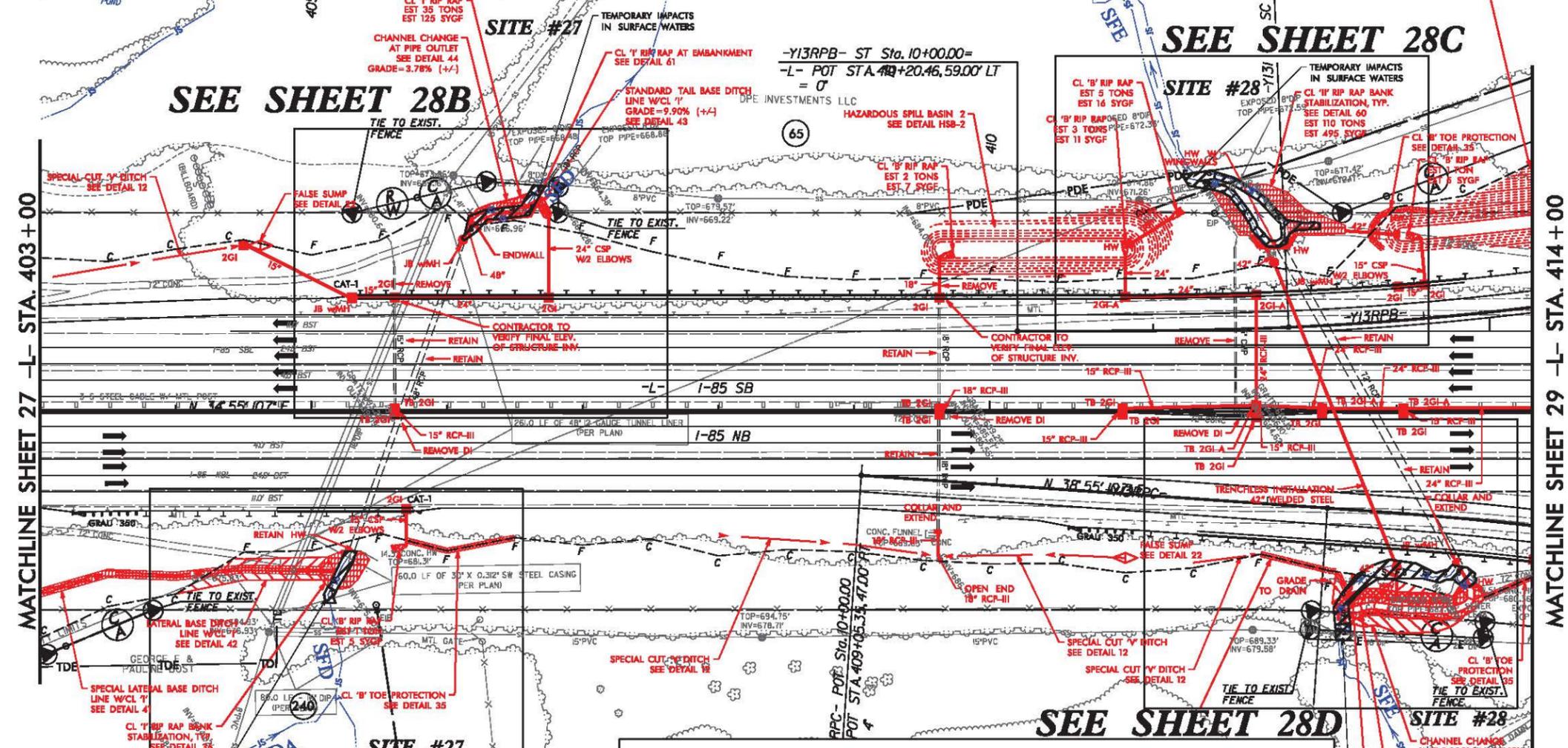


PROJECT REFERENCE NO. I-3802A	SHEET NO. 28
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6977
Fax: 919-789-6991
License: C-2197

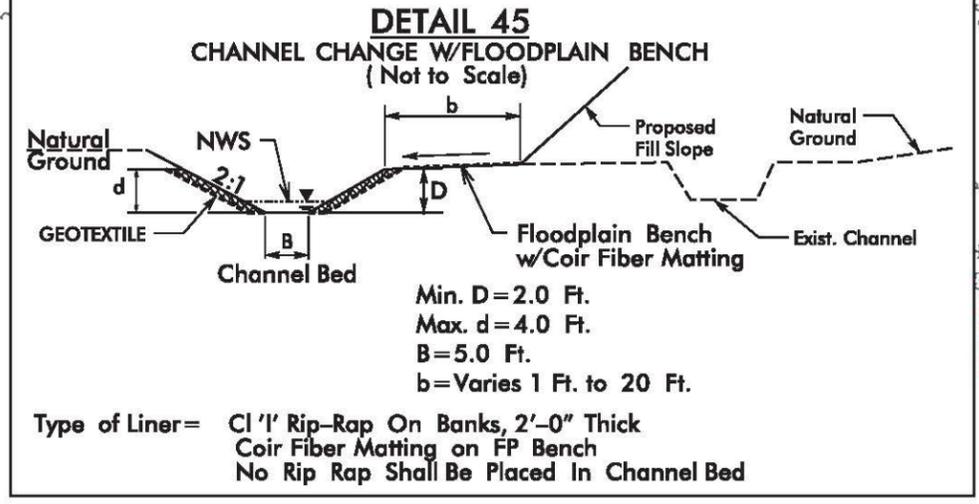
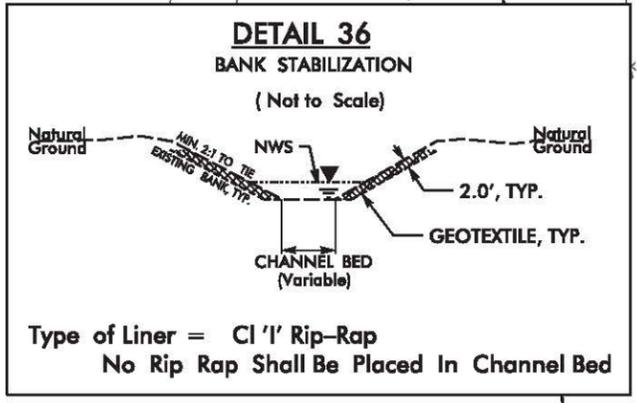


PERMIT DRAWING
SHEET 93 OF 128



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

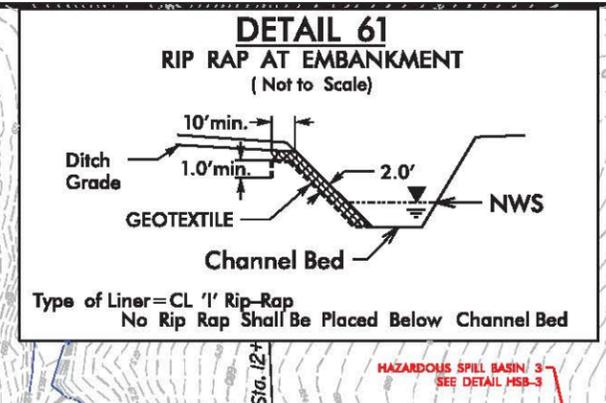
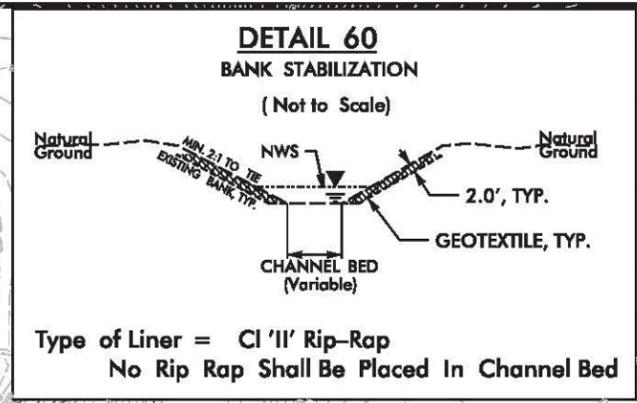
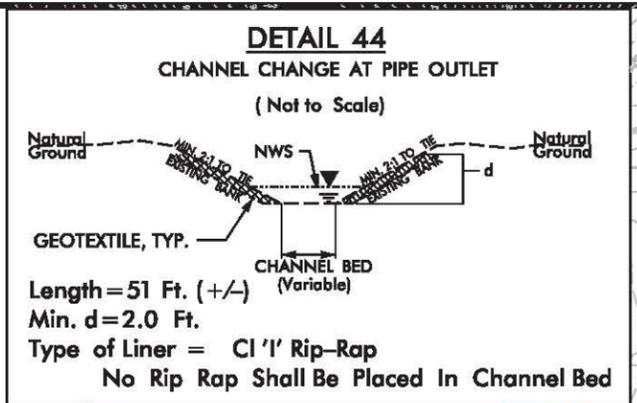


NOTES:
1. EXISTING PIPE MAY BE RETAINED FOR TEMPORARY DRAINAGE DURING CONSTRUCTION. ONCE PROPOSED DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING PIPE IS TO BE REMOVED. THE PORTION OF PIPE REMAINING UNDER NEW PAVEMENT IS TO BE PLUGGED AND THE FILLED WITH FLOWABLE FILL.

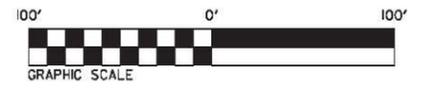
SEE SHEETS 73 & 74 FOR -LSB- & -LNB- PROFILES
SEE SHEET 93 FOR -Y13RPB- PROFILE
SEE SHEET 94 FOR -Y13RPC- PROFILE

3/19/2005
I-3802A_hyd.prm_wet_93_psh28.dgn

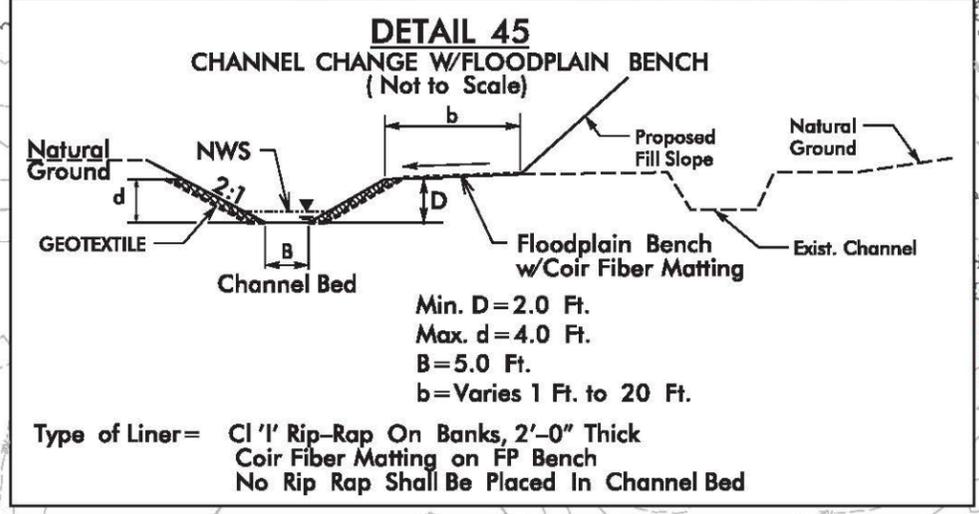
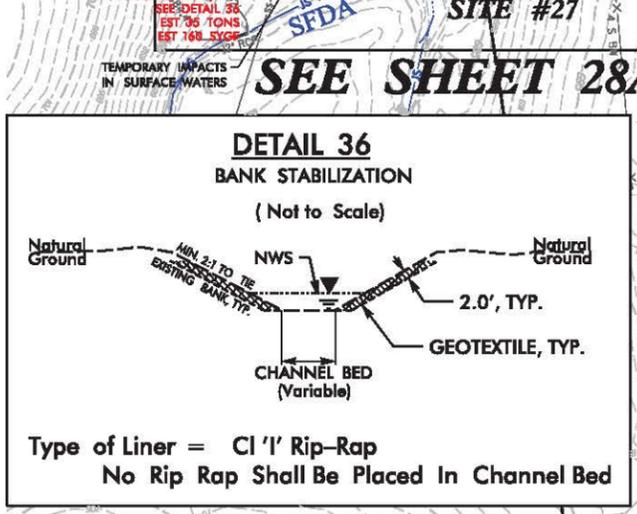
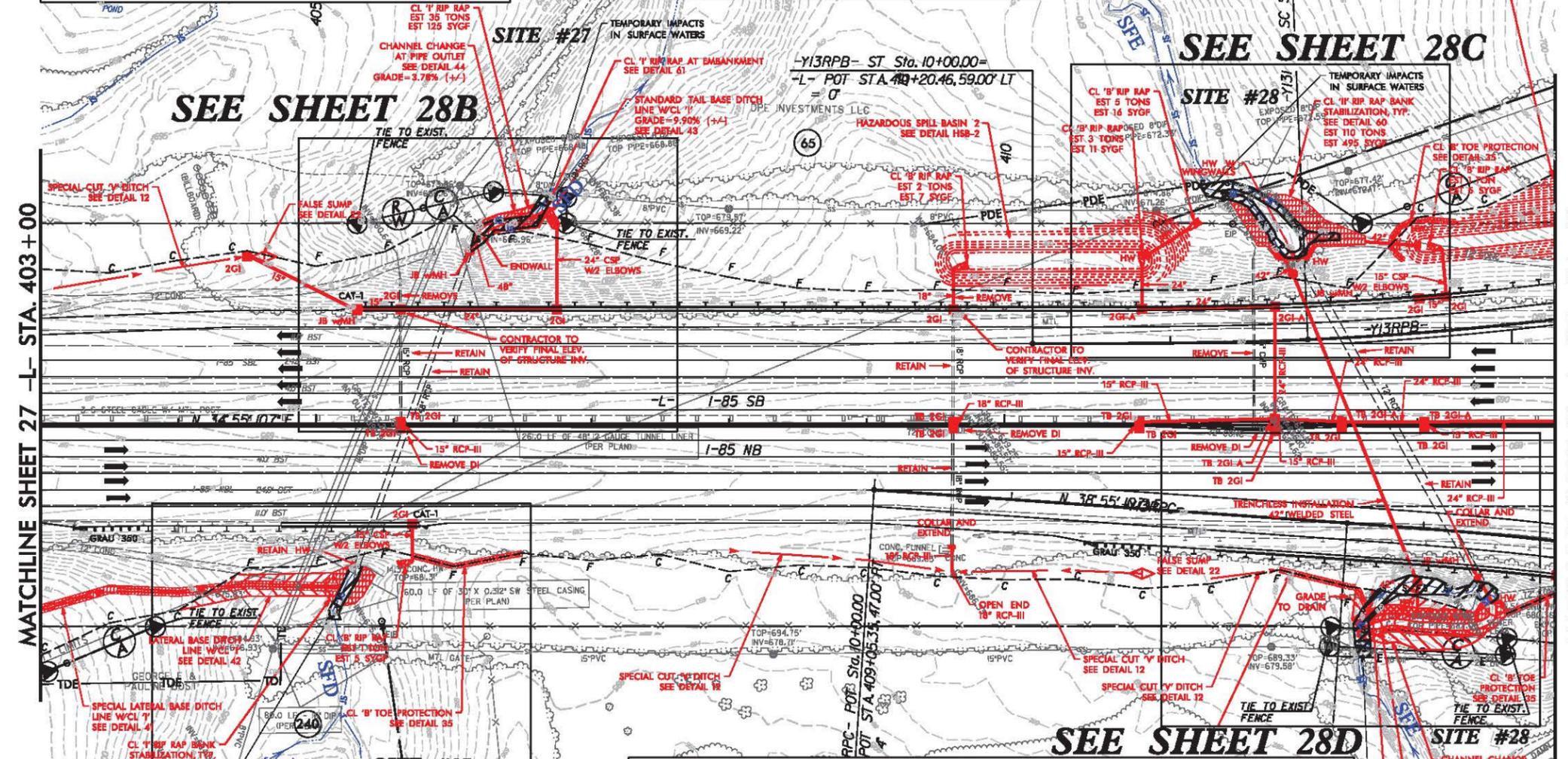
B.17/99



PROJECT REFERENCE NO. I-3802A	SHEET NO. 28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



PERMIT DRAWING
SHEET 94 OF 128



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTES:
1. EXISTING PIPE MAY BE RETAINED FOR TEMPORARY DRAINAGE DURING CONSTRUCTION. ONCE PROPOSED DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING PIPE IS TO BE REMOVED. THE PORTION OF PIPE REMAINING UNDER NEW PAVEMENT IS TO BE PLUGGED AND THE FILLED WITH FLOWABLE FILL.

SEE SHEETS 73 & 74 FOR -LSB- & -LNB- PROFILES
SEE SHEET 93 FOR -Y13RPB- PROFILE
SEE SHEET 94 FOR -Y13RPC- PROFILE

3/19/2005
I-3802A_hyd.prm_wet_94_psh28_conc.dgn

B/17/99

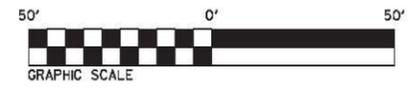
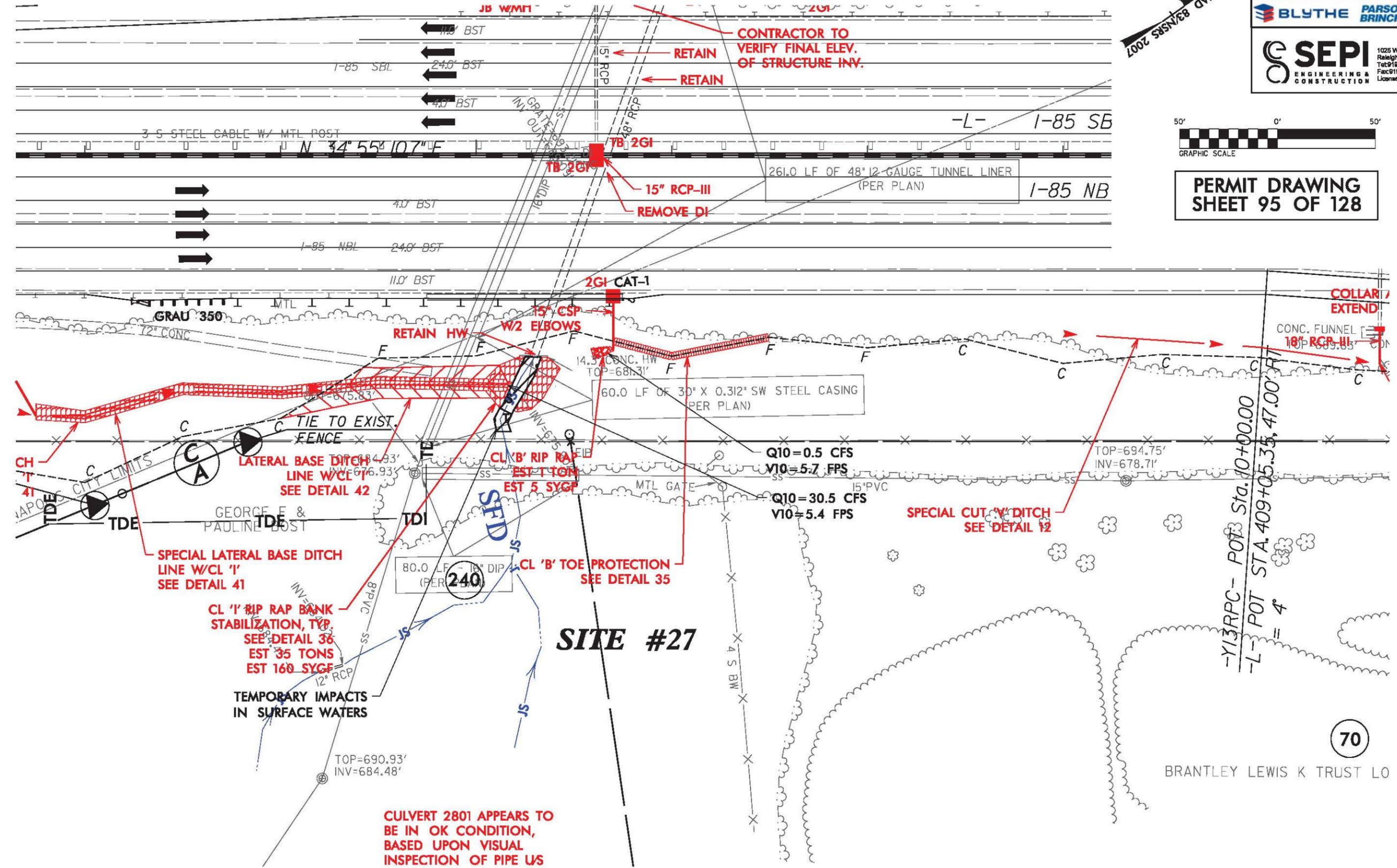
PROJECT REFERENCE NO. I-3802A	SHEET NO. 28A
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BLYTHE PARSONS BRINCKERHOFF

SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6677
Fax: 919-789-6691
License: C-2197

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 95 OF 128

70

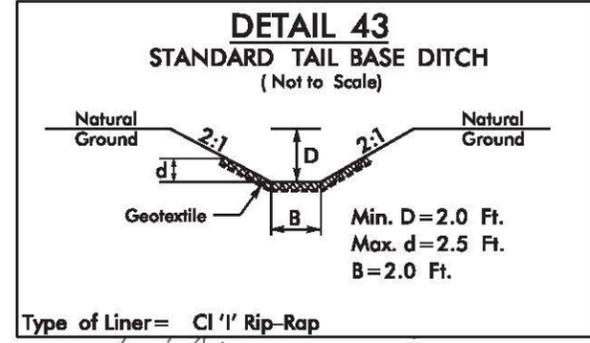
BRANTLEY LEWIS K TRUST LO

CULVERT 2801 APPEARS TO BE IN OK CONDITION, BASED UPON VISUAL INSPECTION OF PIPE US

3/19/2015 I:\3802A_bud_perm_wet_95_psh28A.dgn

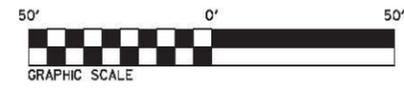
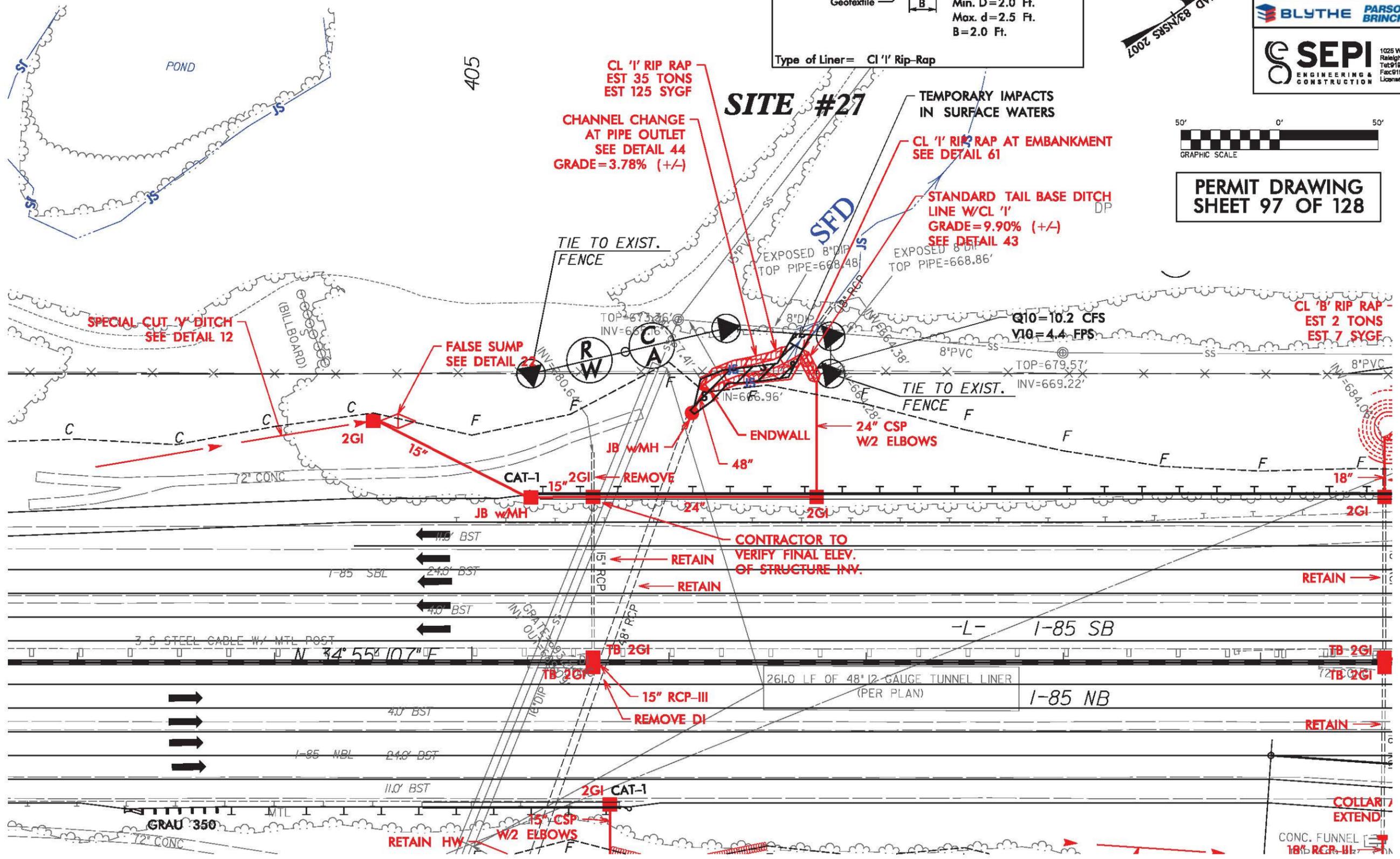
BAT/99

PROJECT REFERENCE NO. I-3802A	SHEET NO. 28B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
BLYTHE PARSONS BRINCKERHOFF	
SEPI ENGINEERING & CONSTRUCTION	
1025 Wade Avenue Raleigh, NC 27606 Tel: 919-789-6677 Fax: 919-789-6691 License: C-2197	



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

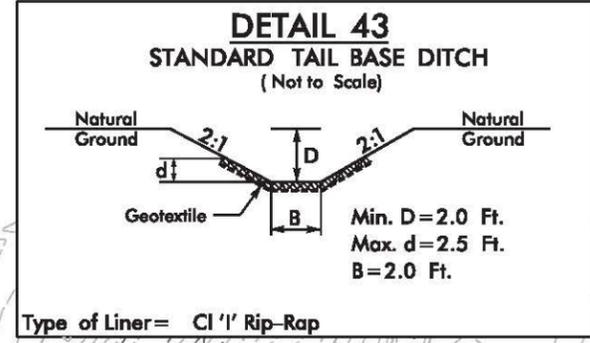


PERMIT DRAWING
SHEET 97 OF 128

3/19/2005 I:\3802A\hyd.prm.wet_97_psh28B.dgn

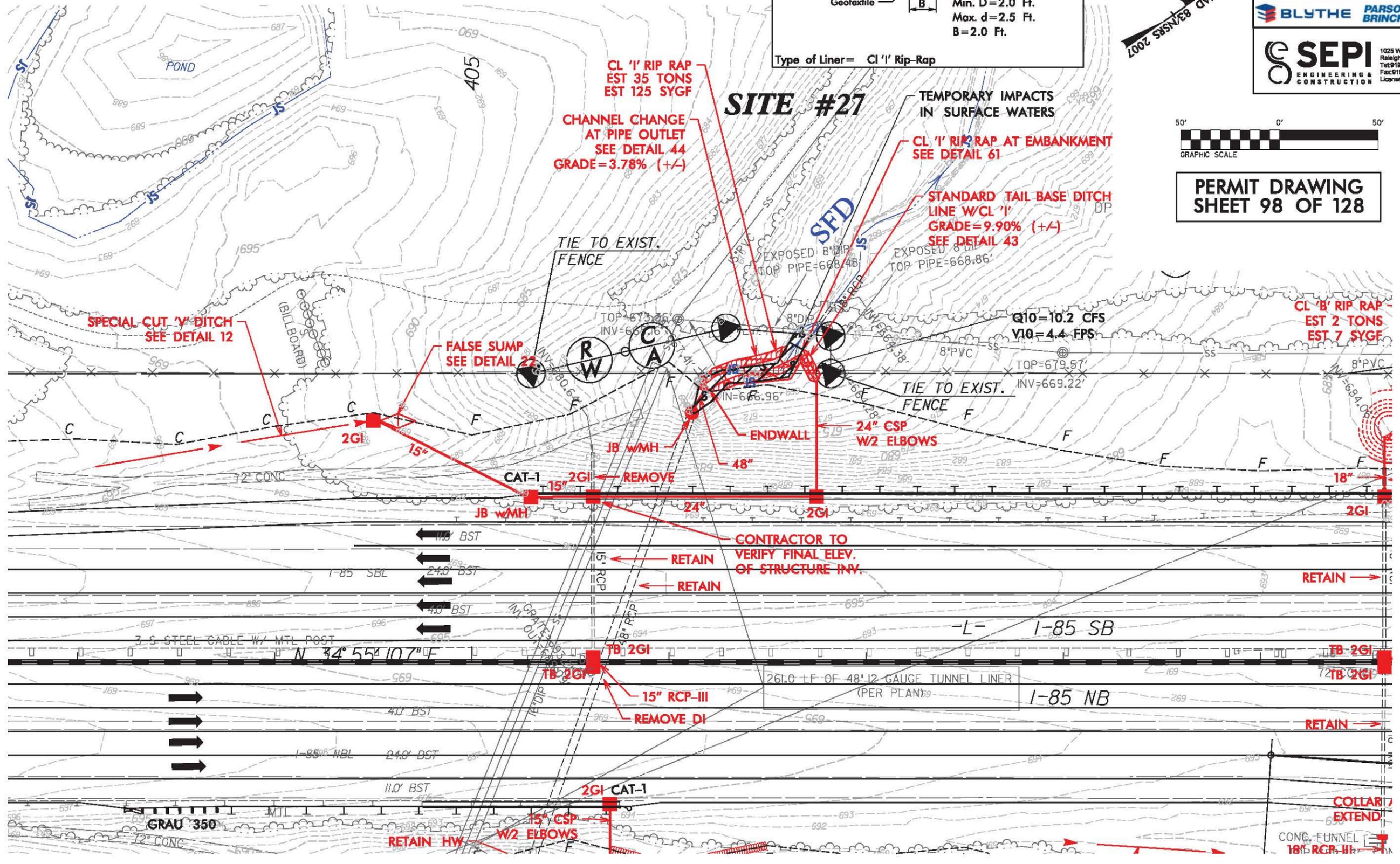
BAT/99

PROJECT REFERENCE NO. I-3802A	SHEET NO. 28B
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



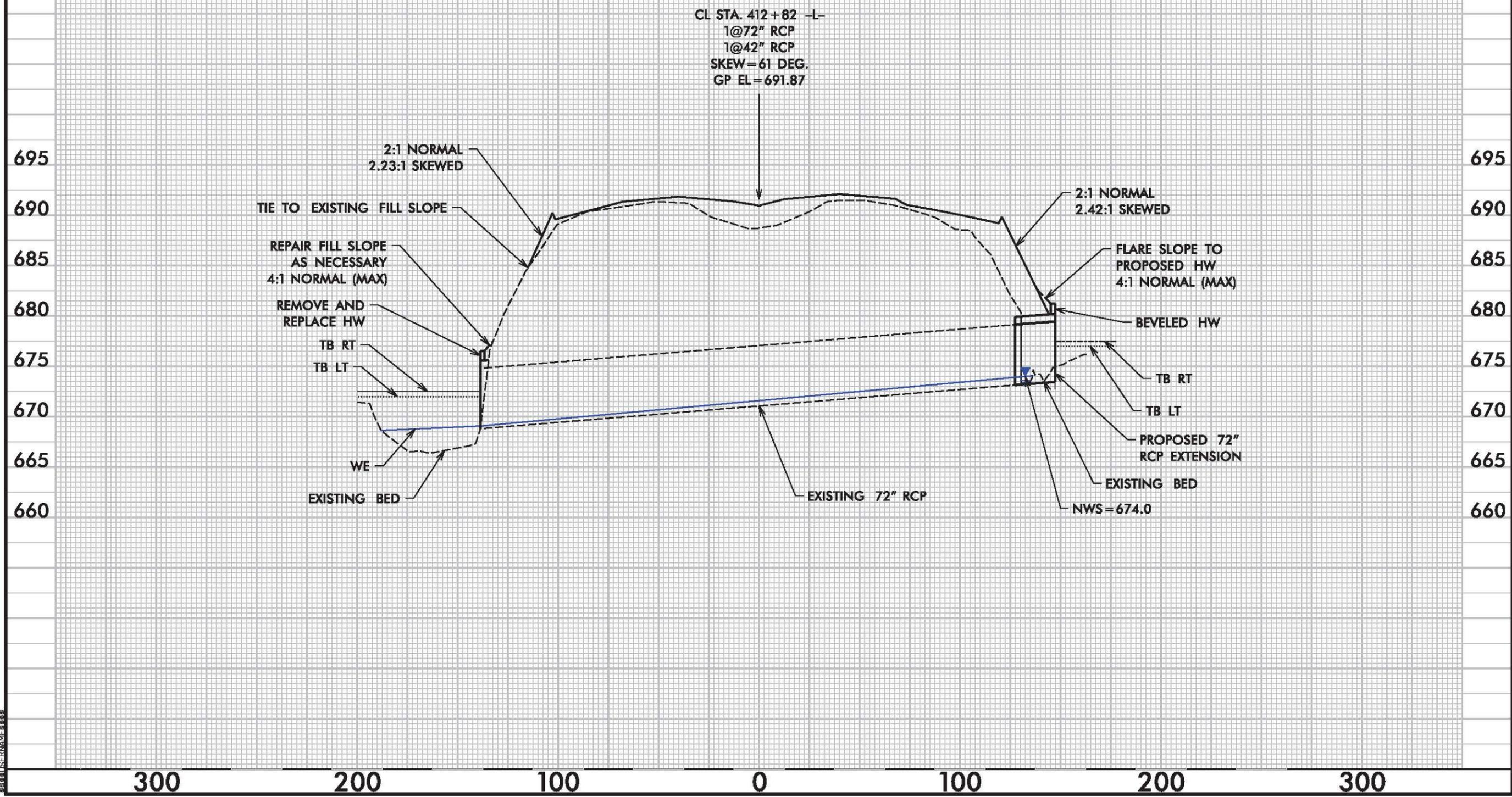
PERMIT DRAWING
SHEET 98 OF 128

3/19/2005 hyd_perm_wet_98_psh28B.con.dgn

5/14/99

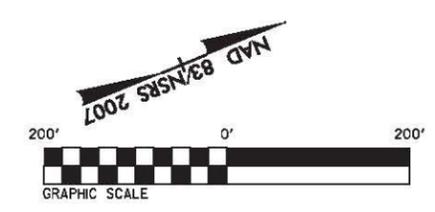
PROJECT REFERENCE NO. 1-3802A	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 103 OF 128

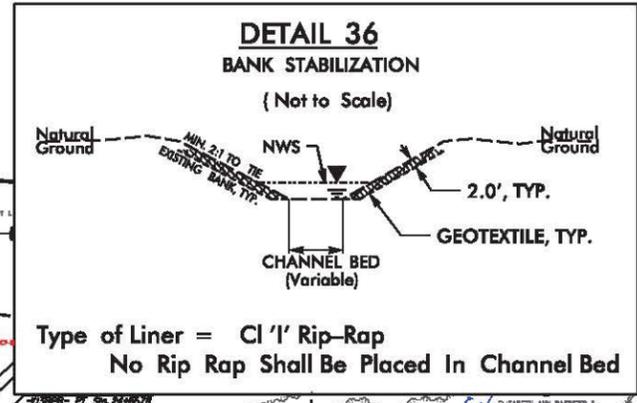
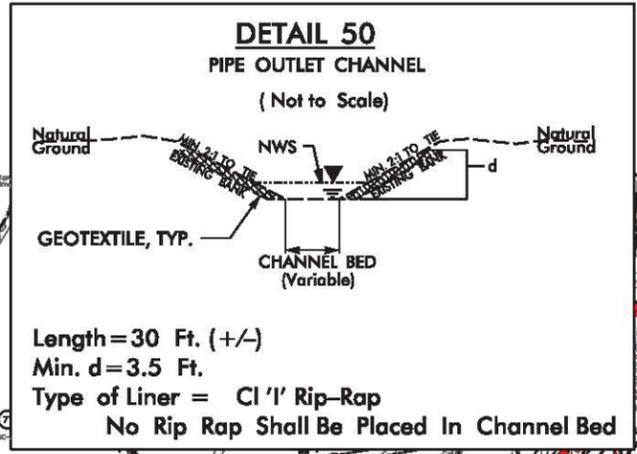


SYSTEMS
 DESIGN
 CONSULTANTS
 INC.

PROJECT NUMBER	2008 ADT
DATE	2008 ADT
DESIGNER	SEPI
CONTRACTOR	BLATHE
PROJECT NAME	LANE ST. IMPROVEMENTS
SHEET NO.	104 OF 128
DATE	2008 ADT

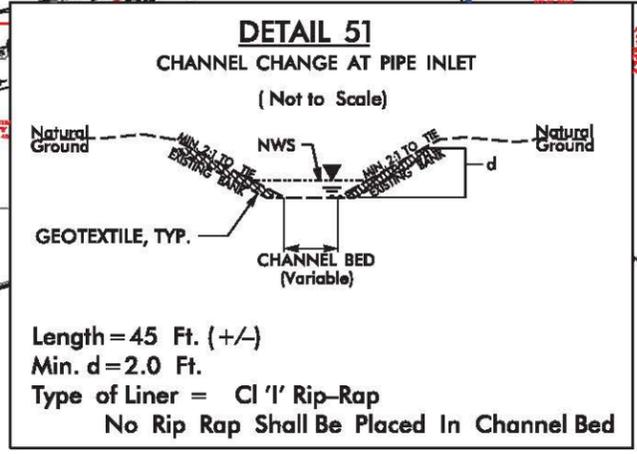
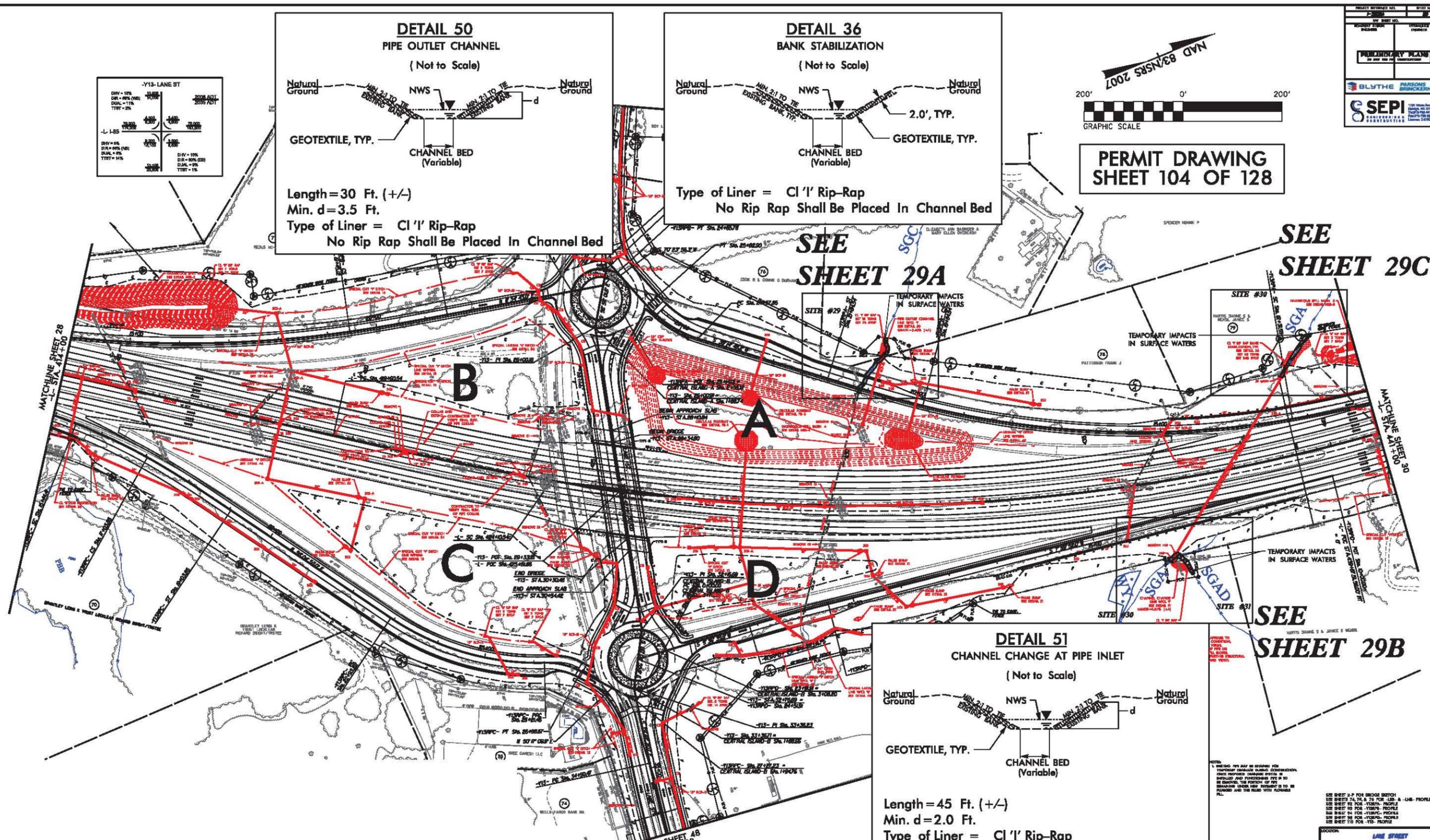


**PERMIT DRAWING
SHEET 104 OF 128**



-Y13- LANE ST

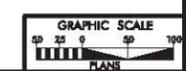
DIRV = 10%	DIRV = 10%	DIRV = 10%	DIRV = 10%
DUAL = 11%	DUAL = 11%	DUAL = 11%	DUAL = 11%
TTST = 2%	TTST = 2%	TTST = 2%	TTST = 2%



DENOTES IMPACTS IN SURFACE WATER

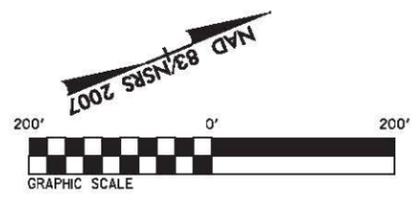
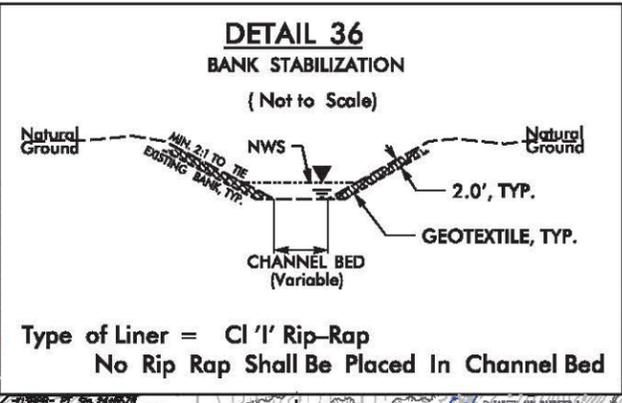
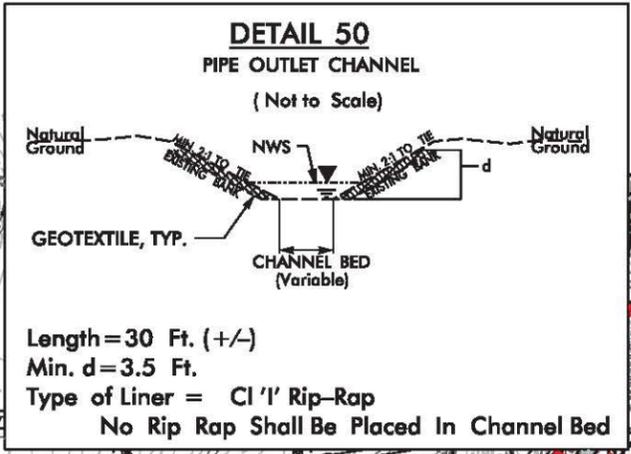


DENOTES TEMPORARY IMPACTS IN SURFACE WATER



DATE	2008 ADT
DESIGNER	SEPI
CONTRACTOR	BLATHE
PROJECT NAME	LANE ST. IMPROVEMENTS
SHEET NO.	104 OF 128
DATE	2008 ADT

-Y13- LANE ST		2008 ADI 2005 701	
DIV - 100	DUAL - 11%	10000	10000
DIV - 0%	DUAL - 11%	10000	10000
DIV - 0%	DUAL - 11%	10000	10000
-L- L-5		2008 ADI 2005 701	
DIV - 0%	DUAL - 11%	10000	10000
DIV - 0%	DUAL - 11%	10000	10000
DIV - 0%	DUAL - 11%	10000	10000



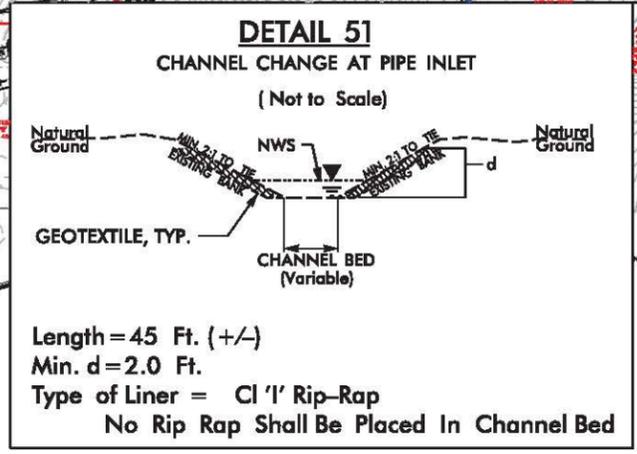
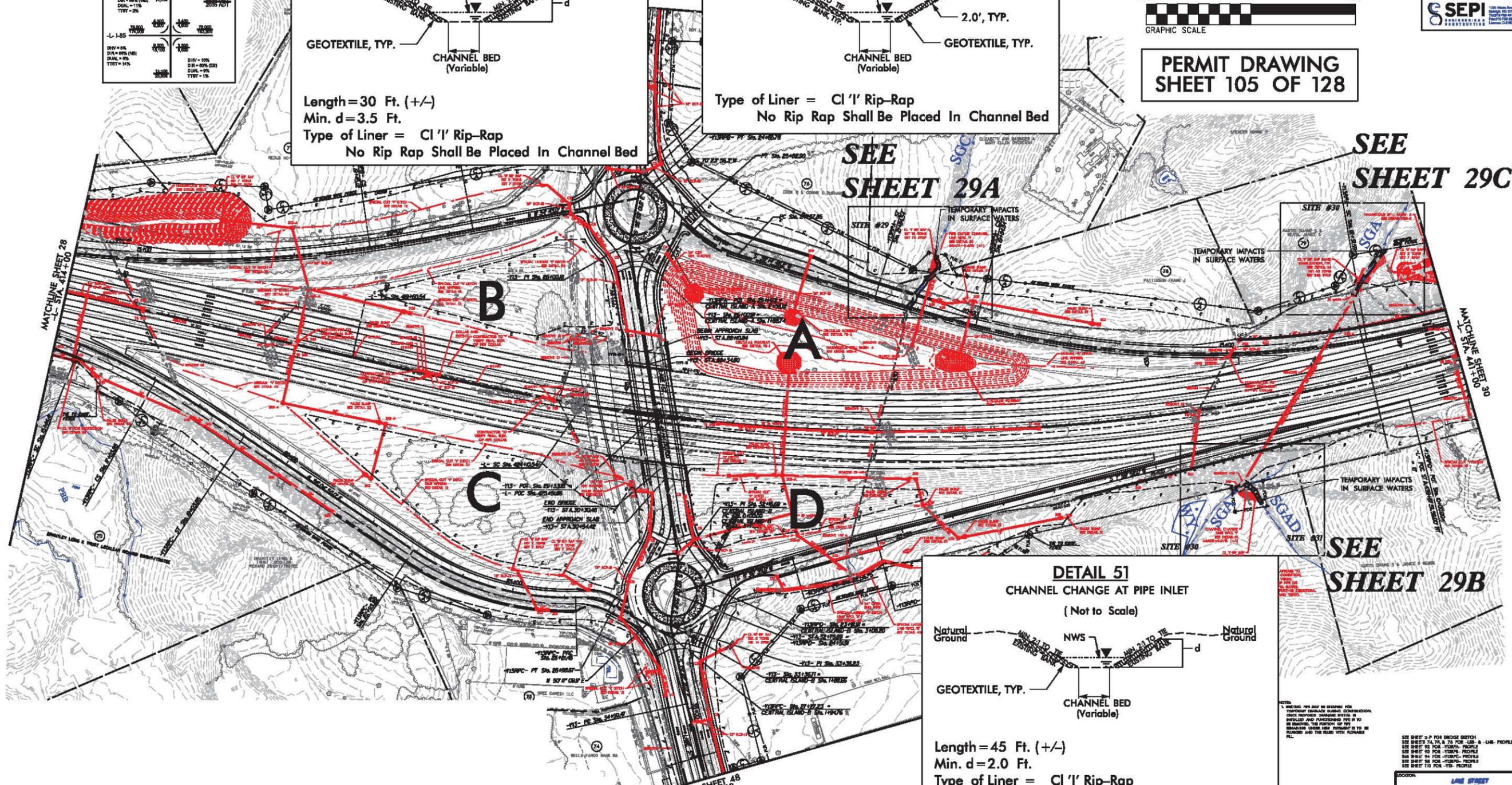
**PERMIT DRAWING
SHEET 105 OF 128**

PROJECT NUMBER	2008 ADI 2005 701
DATE	08/11/08
PROJECT NAME	Y13- LANE ST
PROJECT LOCATION	Y13- LANE ST
PROJECT NUMBER	2008 ADI 2005 701
DATE	08/11/08
PROJECT NAME	Y13- LANE ST
PROJECT LOCATION	Y13- LANE ST

PRELIMINARY PLANS

BLTYHE PARSONS BRINCKERHOFF

SEPI



DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PROJECT NUMBER	2008 ADI 2005 701
DATE	08/11/08
PROJECT NAME	Y13- LANE ST
PROJECT LOCATION	Y13- LANE ST

B/17/99

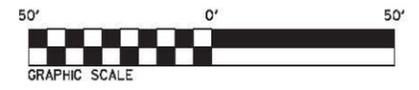
PROJECT REFERENCE NO. I-3802A	SHEET NO. 29A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BLYTHE PARSONS BRINCKERHOFF

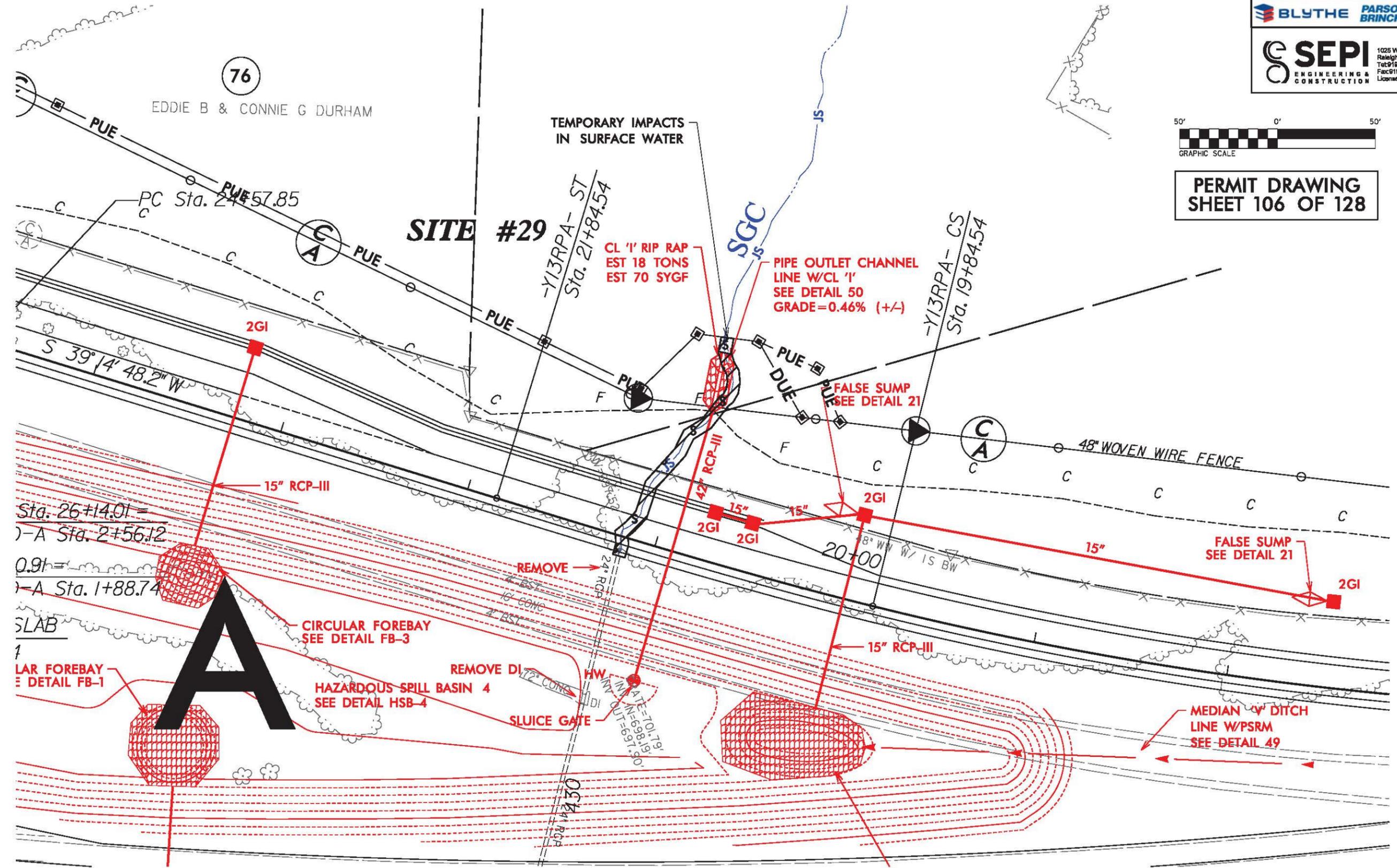
SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-0677
Fax: 919-789-0691
License: C-2197

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 106 OF 128



3/19/2005 I:\3802A_hyd_perm_wet_106_pah29A.dgn

B/17/99

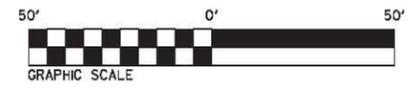
PROJECT REFERENCE NO. I-3802A	SHEET NO. 29A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BLYTHE PARSONS BRINCKERHOFF

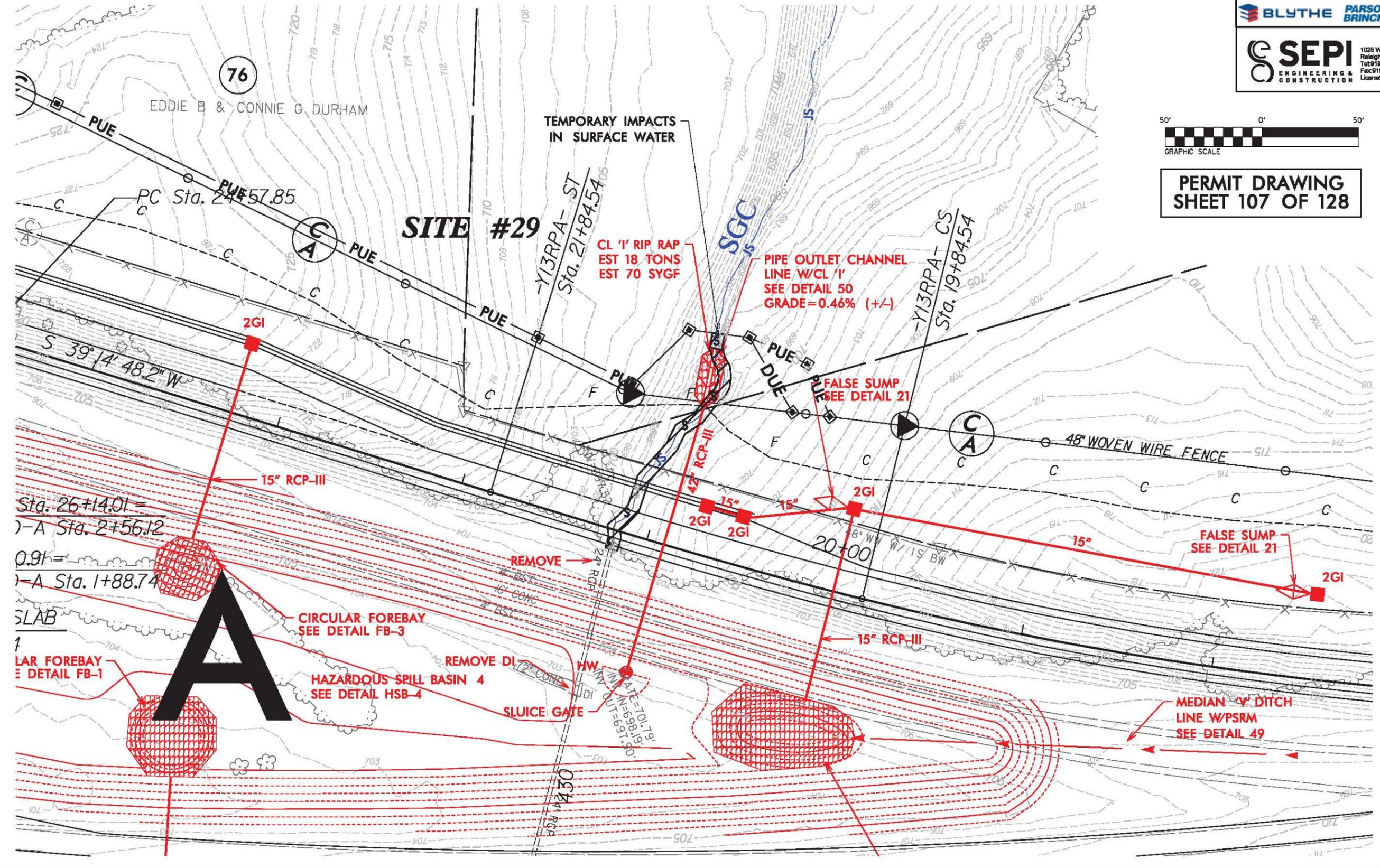
SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27606
Tel: 919-789-6677
Fax: 919-789-6691
License: C-2197

 DENOTES IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 107 OF 128



3/19/2007
I-3802A_hyd_perm_wet_107_pah29A.con.dgn

B/17/99

PROJECT REFERENCE NO. I-3802A	SHEET NO. 29B
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

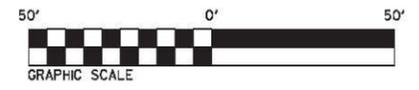
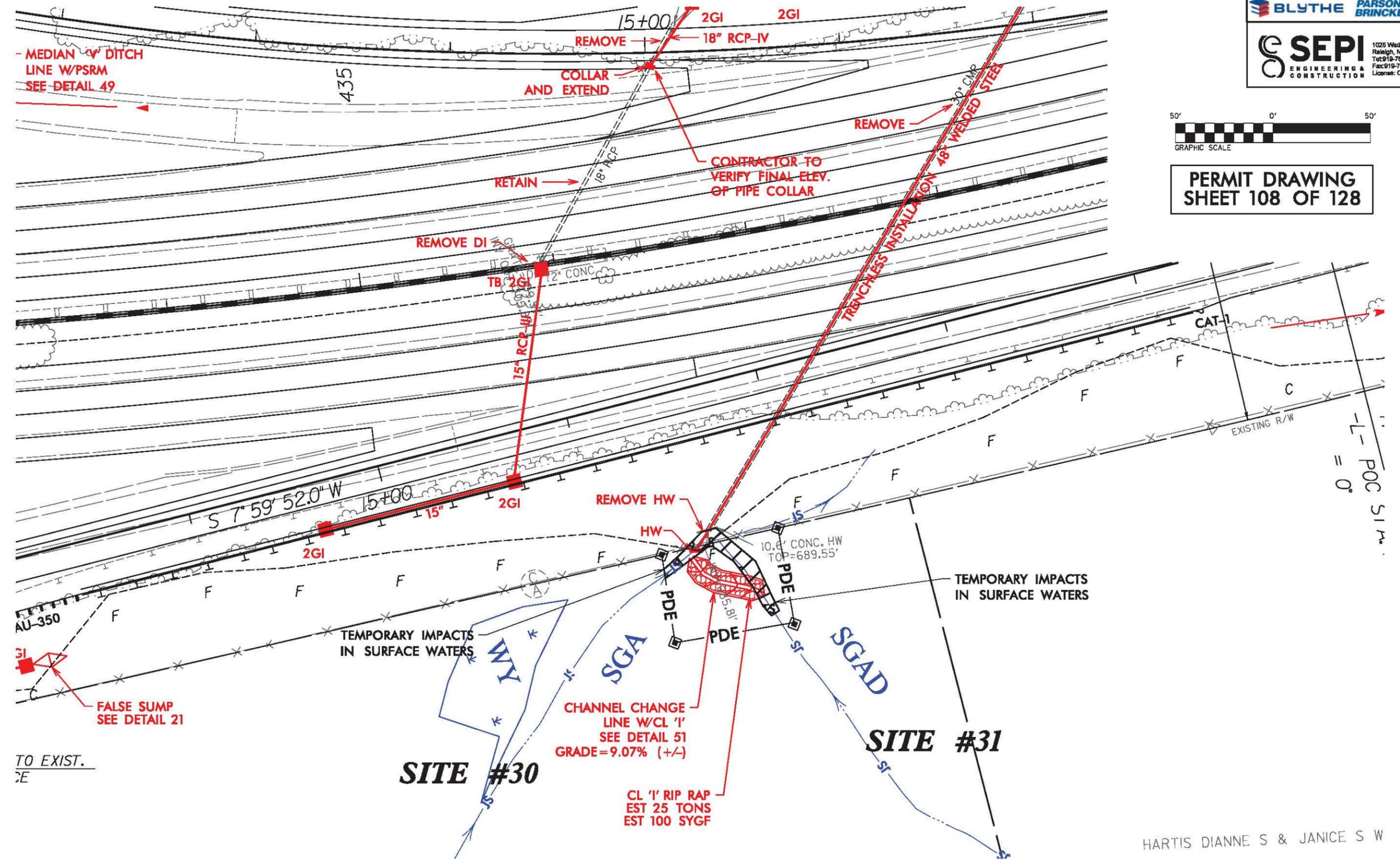
BLYTHE PARSONS BRINCKERHOFF

SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27606
Tel: 919-789-6677
Fax: 919-789-6691
License: C-2197



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 108 OF 128

FALSE SUMP
SEE DETAIL 21

TO EXIST.
E

SITE #30

CHANNEL CHANGE
LINE W/CL '1'
SEE DETAIL 51
GRADE = 9.07% (+/-)

CL '1' RIP RAP
EST 25 TONS
EST 100 SYGF

SITE #31

TEMPORARY IMPACTS
IN SURFACE WATERS

HARTIS DIANNE S & JANICE S W

3/19/2015 3:49:28 PM I:\3802A_hyd.prm_wet_108_pah29B.dgn

B/17/99

PROJECT REFERENCE NO. I-3802A	SHEET NO. 29B
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

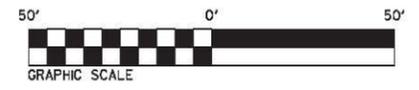
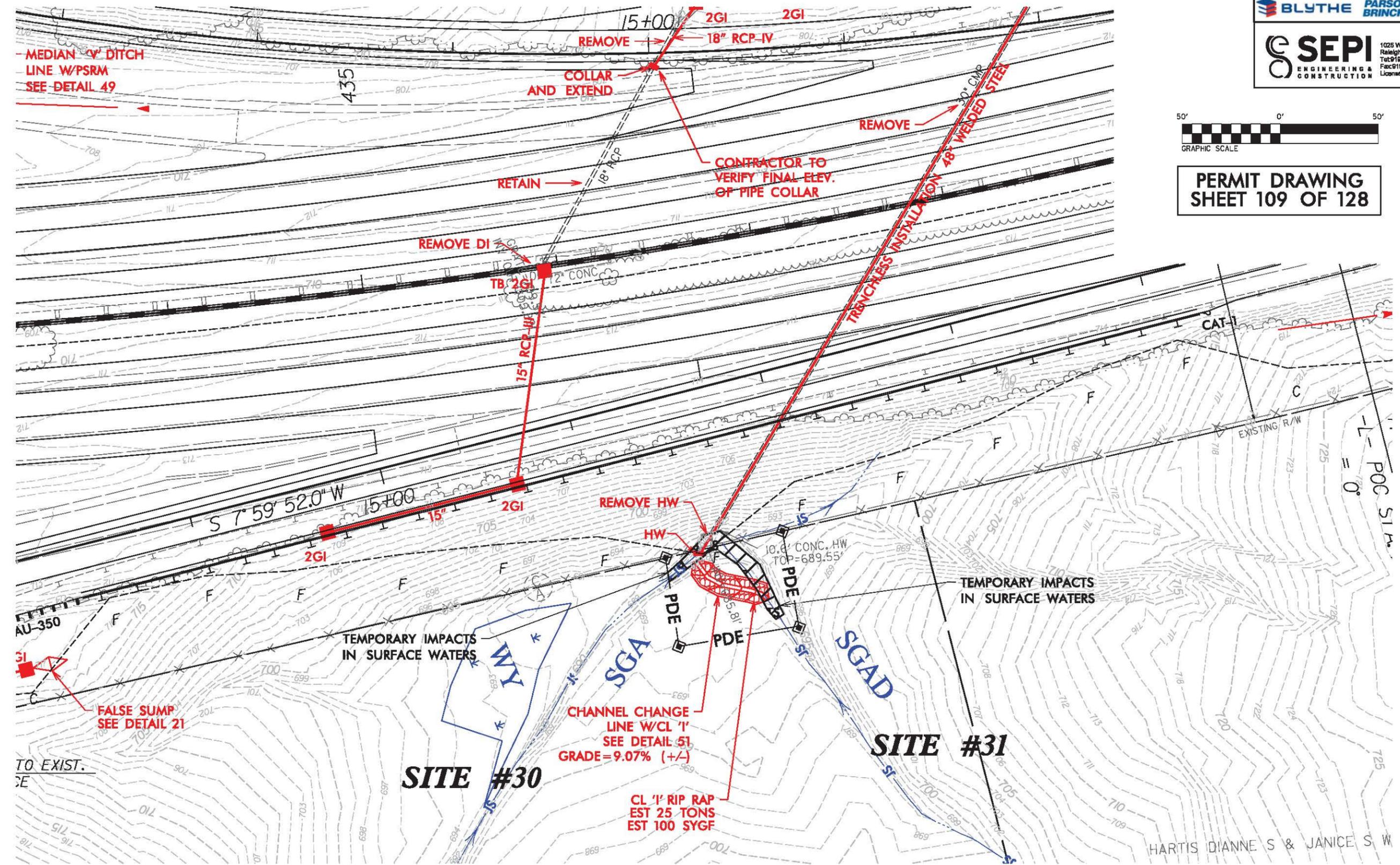
BLYTHE PARSONS BRINCKERHOFF

SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27606
Tel: 919-789-6977
Fax: 919-789-6991
License: C-2197



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 109 OF 128

3/19/2005
 I:\3802A_hyd.prm_wet_109_pah29B.con\dgn
 11:58:10 AM

HARTIS DIANNE S & JANICE S W

B/17/99

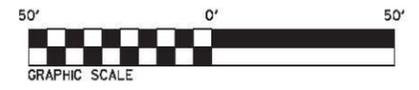
PROJECT REFERENCE NO. I-3802A	SHEET NO. 29C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BLYTHE PARSONS BRINCKERHOFF

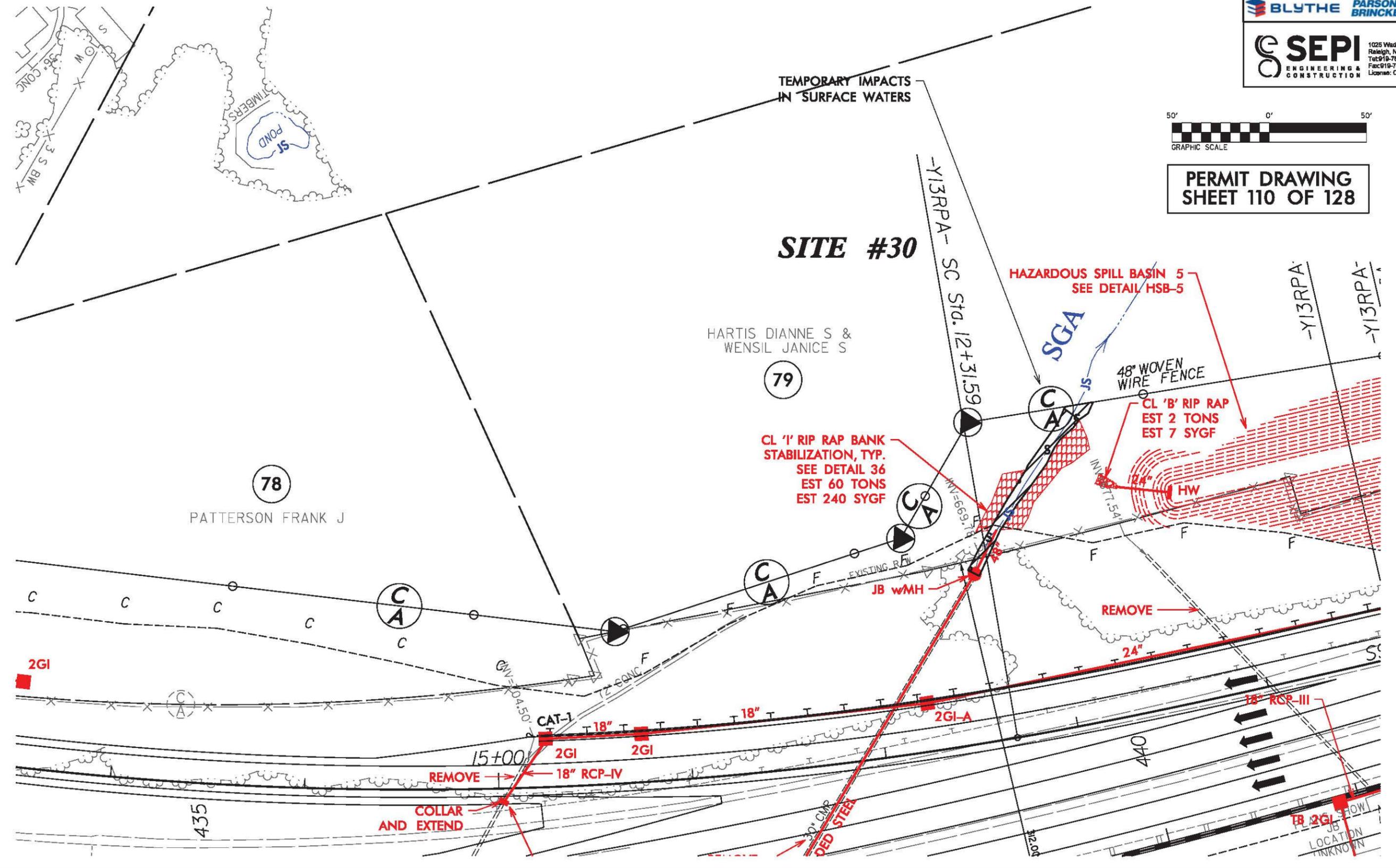
SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6677
Fax: 919-789-6691
License: C-2197

 DENOTES IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 110 OF 128



3/19/2005 I-3802A_hyd_perm_wet_110_pah29C.dgn

B/17/99

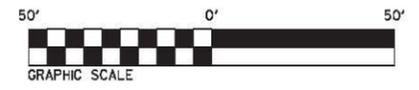
PROJECT REFERENCE NO. I-3802A	SHEET NO. 29C
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BLYTHE PARSONS BRINCKERHOFF

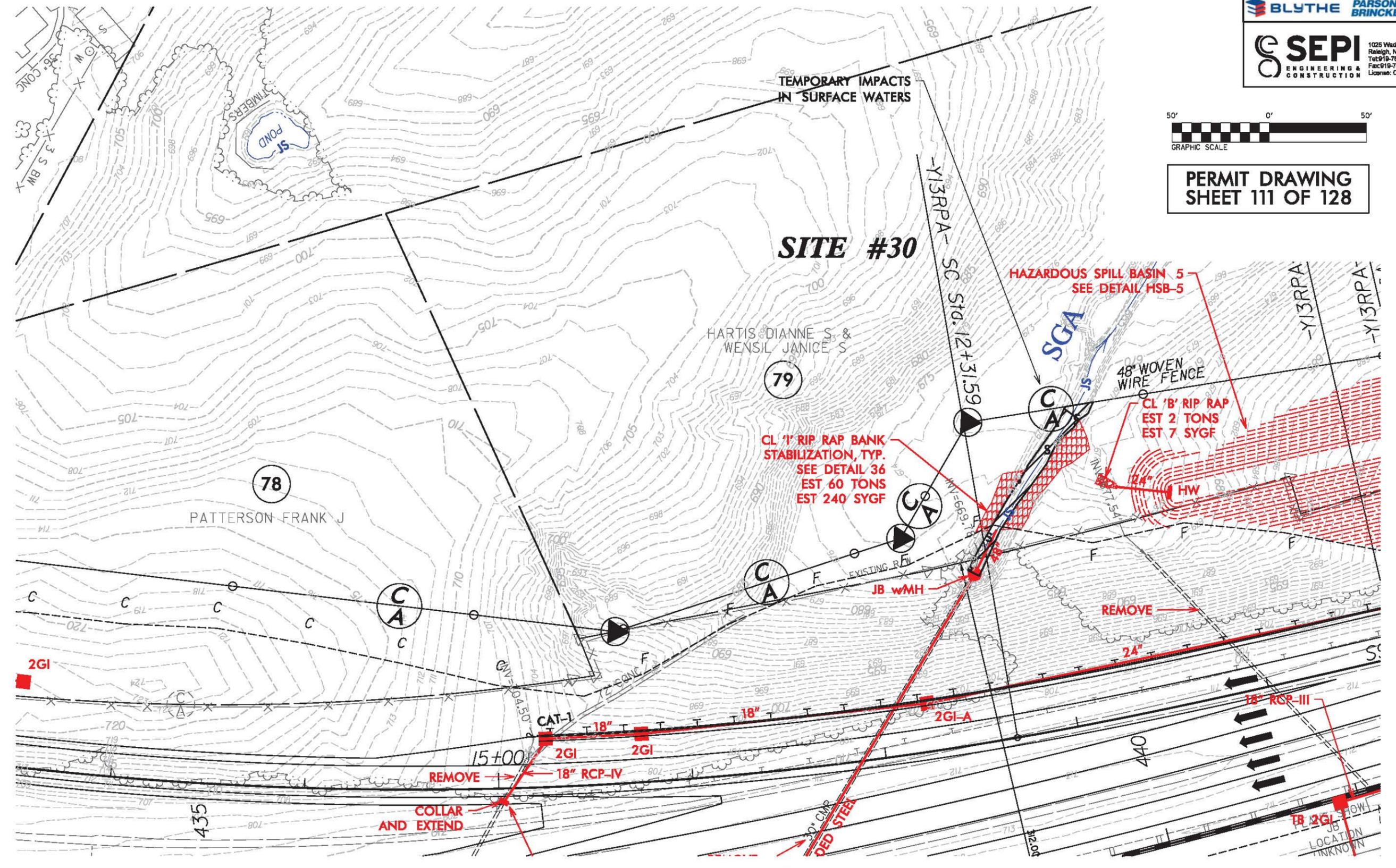
SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6677
Fax: 919-789-6691
License: C-2197

 DENOTES IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 111 OF 128



3/19/2005
I:\3802A_bud_perm_wet_111_psh29c.con.dgn

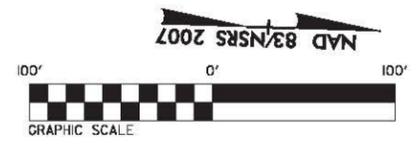
8/17/99

PROJECT REFERENCE NO. I-3802A	SHEET NO. 30
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BLYTHE PARSONS BRINCKERHOFF

SEPI
ENGINEERING & CONSTRUCTION

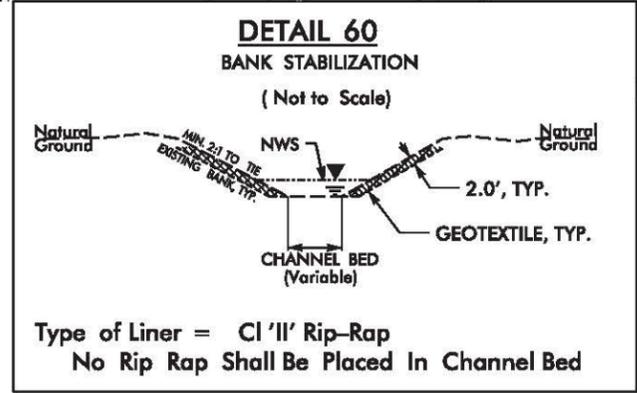
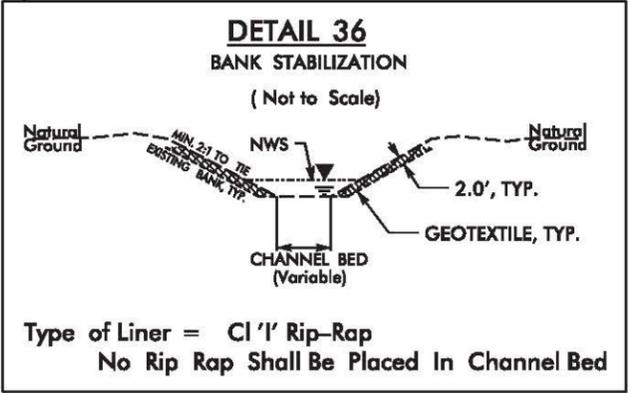
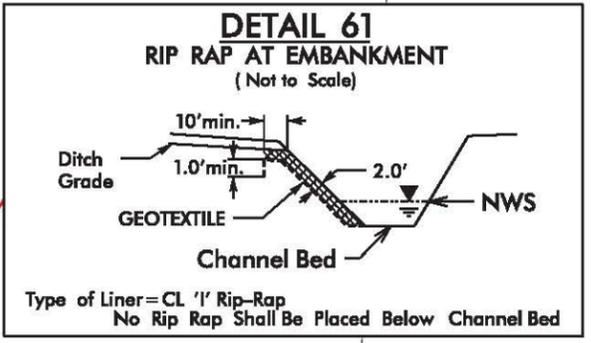
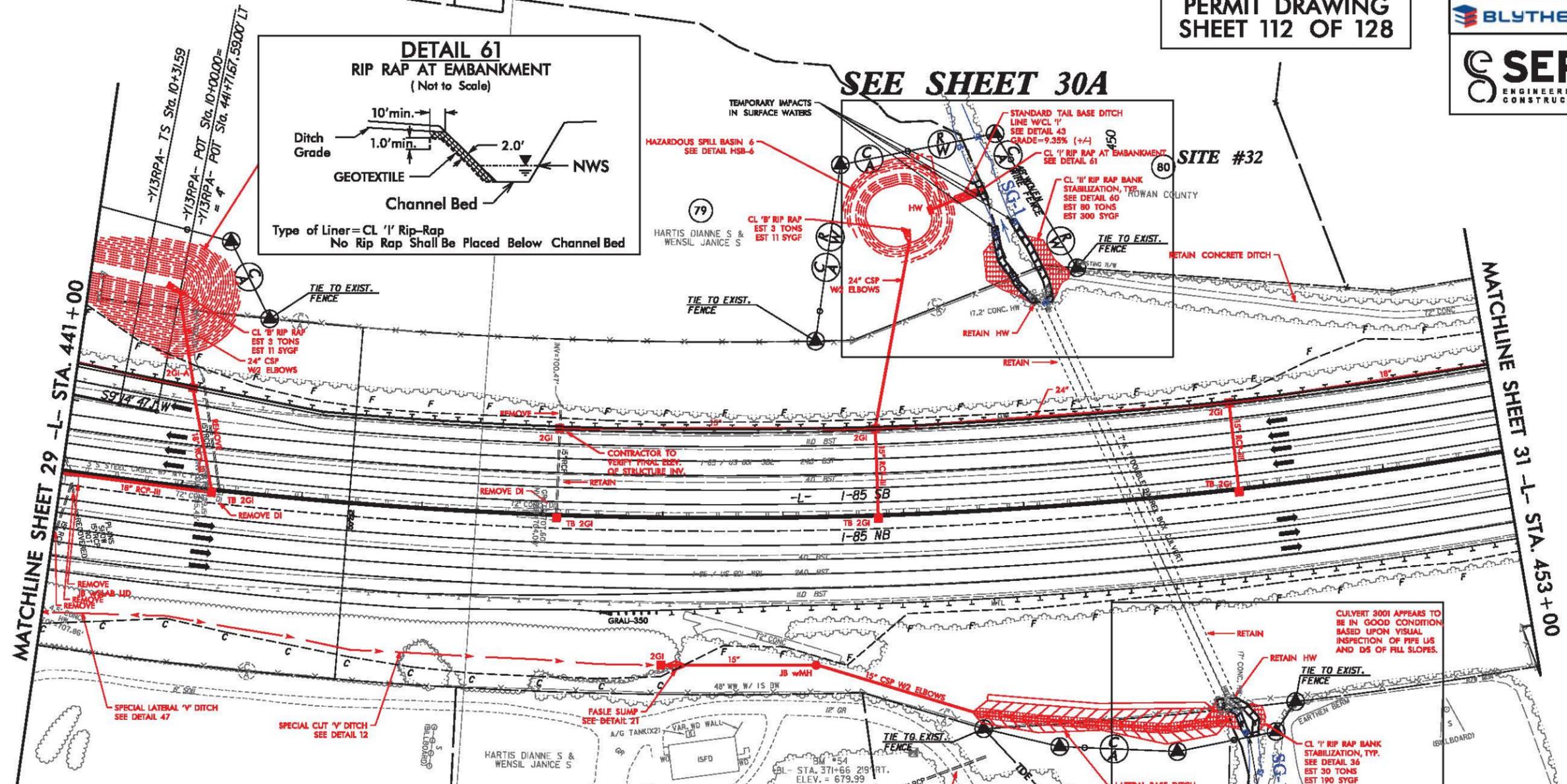
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6677
Fax: 919-789-6691
License: C-2197



PERMIT DRAWING SHEET 112 OF 128

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



NOTES:

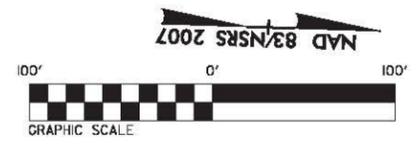
- EXISTING PIPE MAY BE RETAINED FOR TEMPORARY DRAINAGE DURING CONSTRUCTION. ONCE PROPOSED DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING PIPE IS TO BE REMOVED. THE PORTION OF PIPE REMAINING UNDER NEW PAVEMENT IS TO BE PLUGGED AND THE FILLED WITH FLOWABLE FILL.

SEE SHEETS 76 & 77 FOR -LSB- & -LNB- PROFILES
SEE SHEET 92 FOR -Y13RPA- PROFILE

3/19/2005 11:58:02 AM I:\3802A\hyd_perm_wet_112_pah\30.dgn

8/17/99

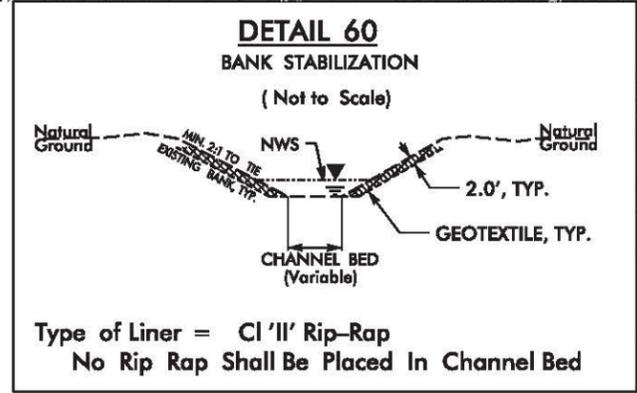
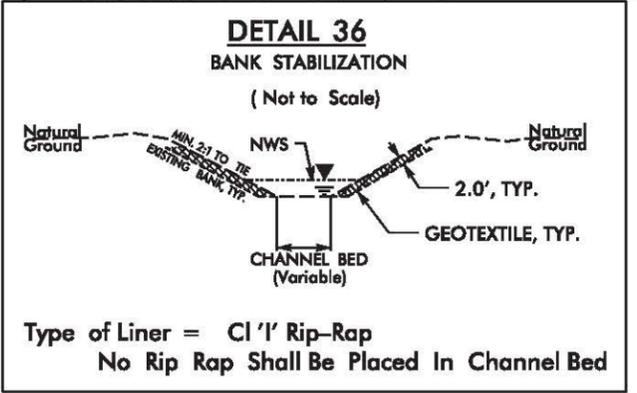
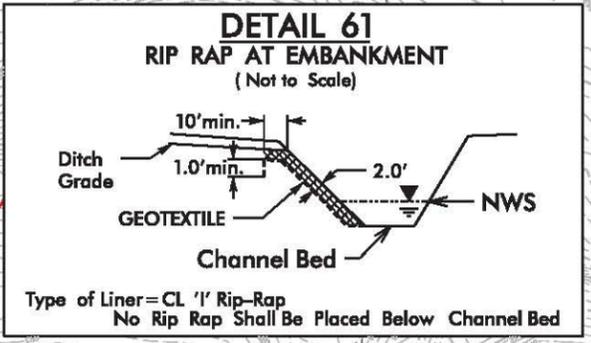
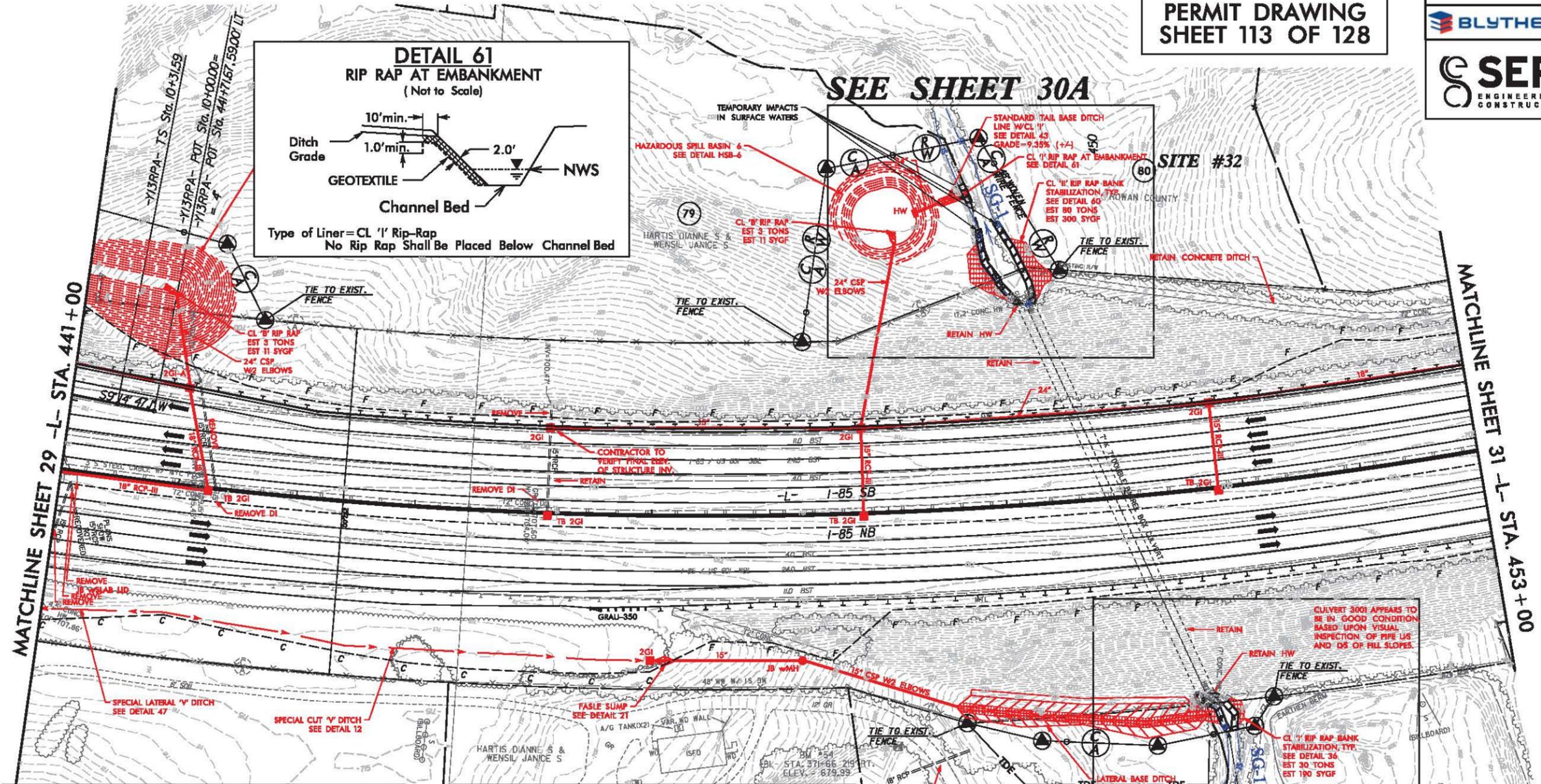
PROJECT REFERENCE NO. I-3802A	SHEET NO. 30
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



PERMIT DRAWING
SHEET 113 OF 128

BLYTHE PARSONS
BRINCKERHOFF

SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6977
Fax: 919-789-6991
License: C-2197



NOTES:
1. EXISTING PIPE MAY BE RETAINED FOR TEMPORARY DRAINAGE DURING CONSTRUCTION. ONCE PROPOSED DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING PIPE IS TO BE REMOVED. THE PORTION OF PIPE REMAINING UNDER NEW PAVEMENT IS TO BE PLUGGED AND THE FILLED WITH FLOWABLE FILL.

SEE SHEETS 76 & 77 FOR -LSB- & -LNB- PROFILES
SEE SHEET 92 FOR -Y13RPA- PROFILE

3/19/2005 I:\3802A_bud.prm_wet_113_psh30_conc.dgn

B/17/99

PROJECT REFERENCE NO. I-3802A	SHEET NO. 30A
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BLYTHE PARSONS BRINCKERHOFF

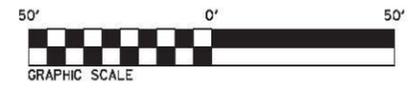
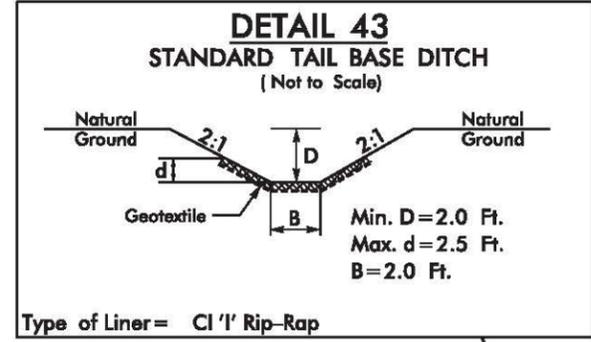
SEPI
ENGINEERING & CONSTRUCTION

1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6977
Fax: 919-789-6991
License: C-2197

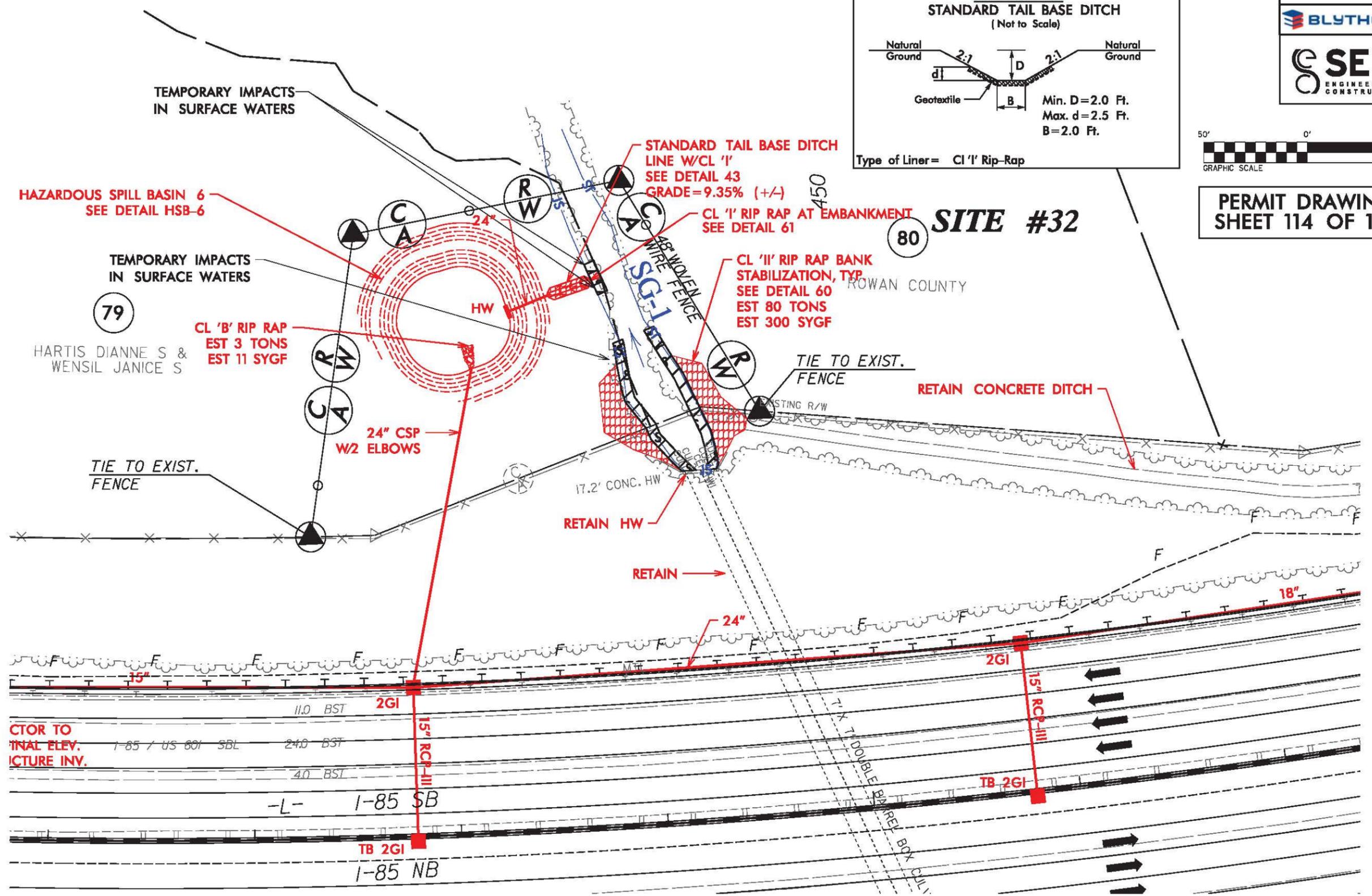
NAD 83/NSRS 2007

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 114 OF 128



3/19/2005 3:49:28 PM I:\3802A_hyd_perm_wet_114_pah\30A.dgn

B.17/99

PROJECT REFERENCE NO. I-3802A	SHEET NO. 30A
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

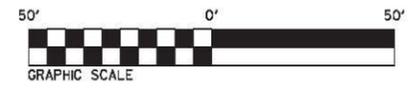
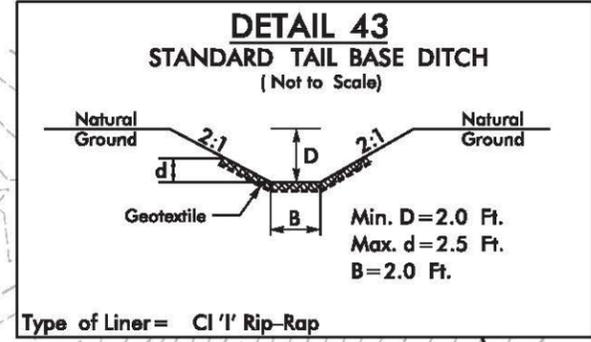
BLYTHE PARSONS BRINCKERHOFF

SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-6977
Fax: 919-789-6991
License: C-2197

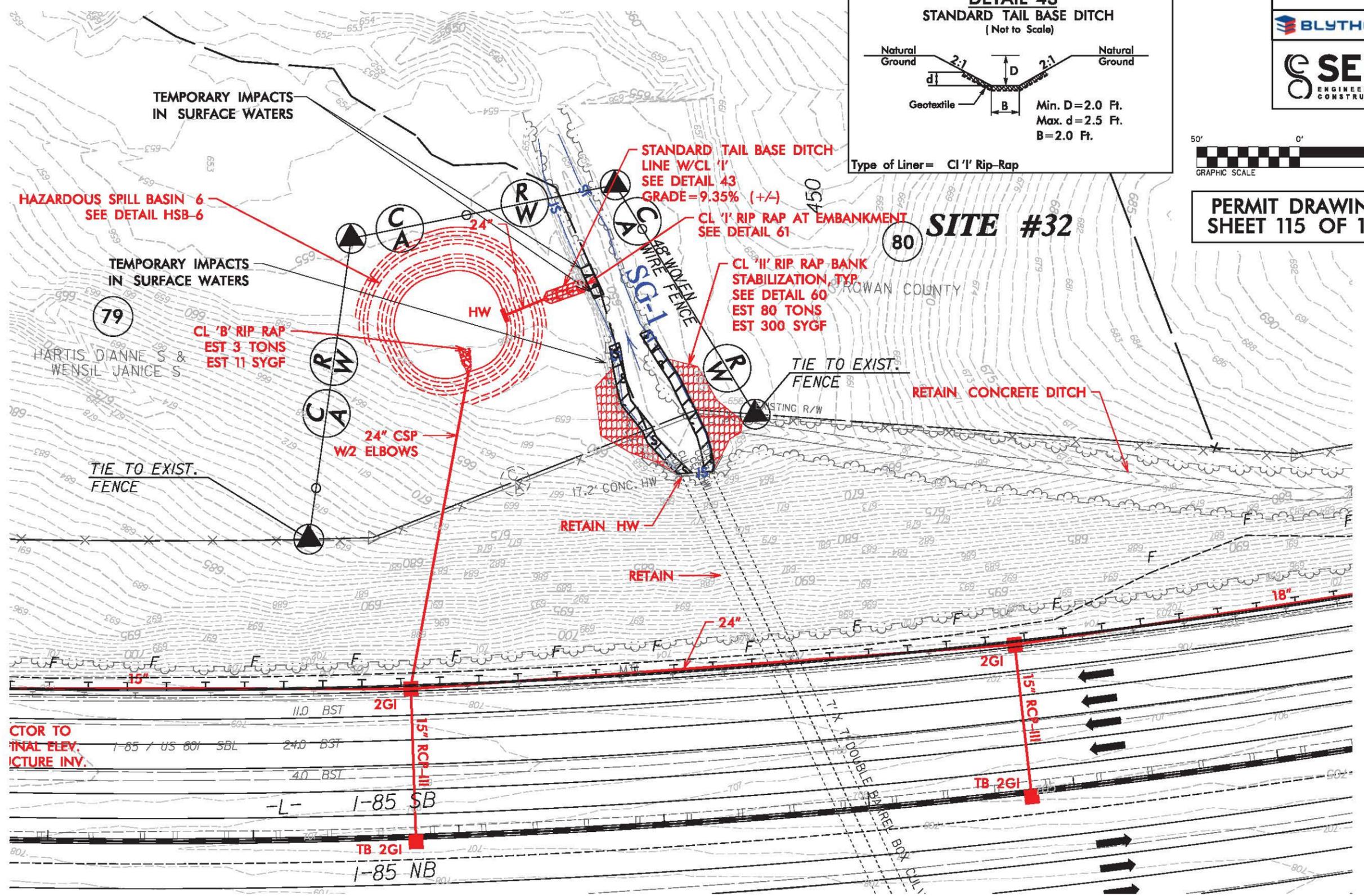
NAD 83/NRS 2007

 DENOTES IMPACTS IN SURFACE WATER

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING SHEET 115 OF 128



3/19/2015 11:58:22 AM I:\proj\115_pah\30A_con.dgn

8/17/99

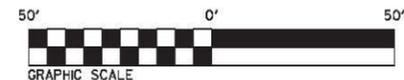
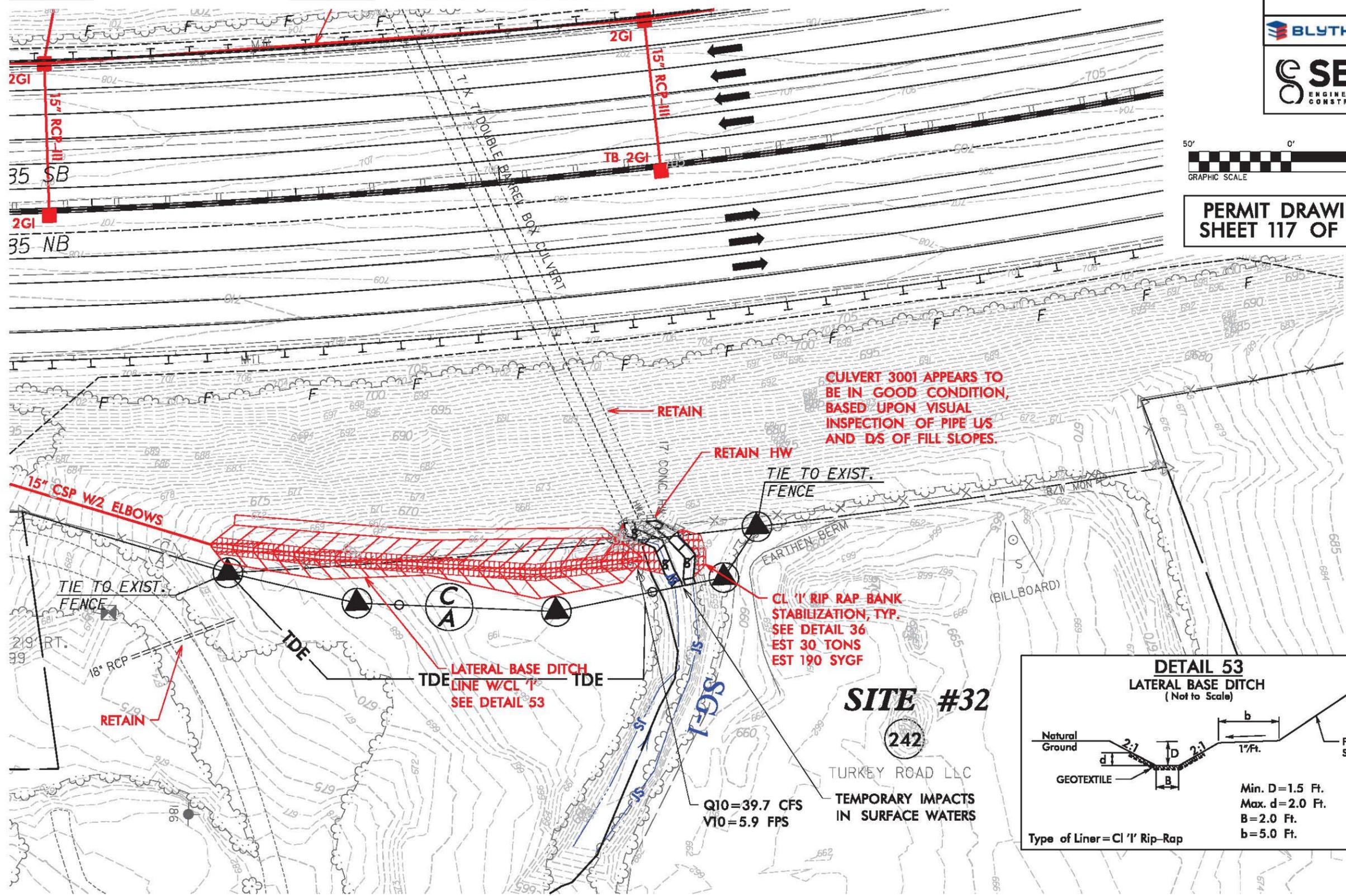
PROJECT REFERENCE NO. I-3802A	SHEET NO. 30B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BLYTHE PARSONS BRINCKERHOFF

SEPI
ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27606
Tel: 919-789-6977
Fax: 919-789-6991
License: C-2197

NAD 83/NSRS 2007

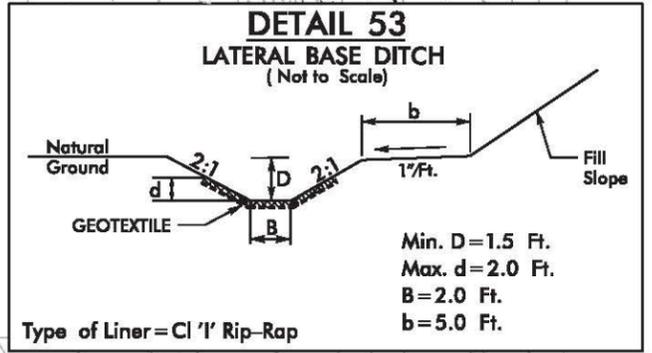
DENOTES IMPACTS IN SURFACE WATER DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING SHEET 117 OF 128

CULVERT 3001 APPEARS TO BE IN GOOD CONDITION, BASED UPON VISUAL INSPECTION OF PIPE US AND DS OF FILL SLOPES.

CL 1' RIP RAP BANK STABILIZATION, TYP. SEE DETAIL 36 EST 30 TONS EST 190 SYGF



SITE #32

242

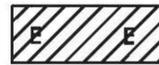
TURKEY ROAD LLC

TEMPORARY IMPACTS IN SURFACE WATERS

Q10=39.7 CFS
V10=5.9 FPS

3/19/2005 3:49:28 PM I:\3802A_hyd_perm_wet_117_pah\30B_con.dgn

8/17/99



DENOTES EXCAVATION IN WETLAND



DENOTES FILL IN WETLAND



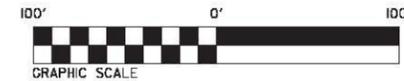
DENOTES IMPACTS IN SURFACE WATER



DENOTES HAND CLEARING



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING SHEET 118 OF 128

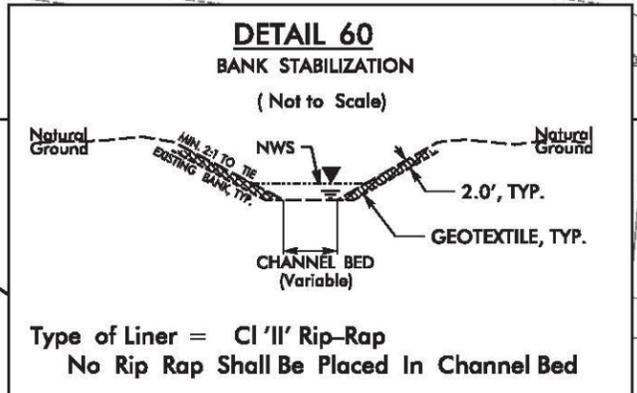
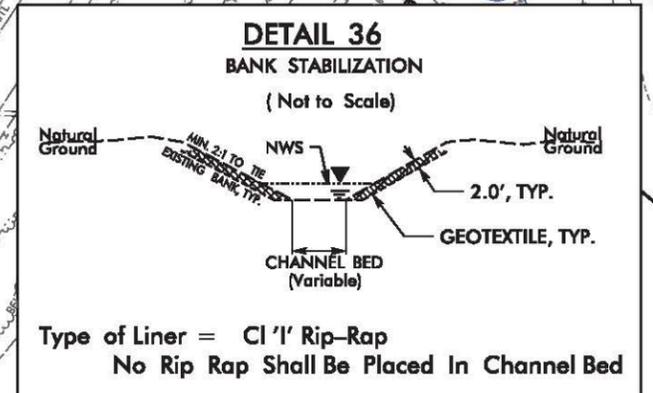
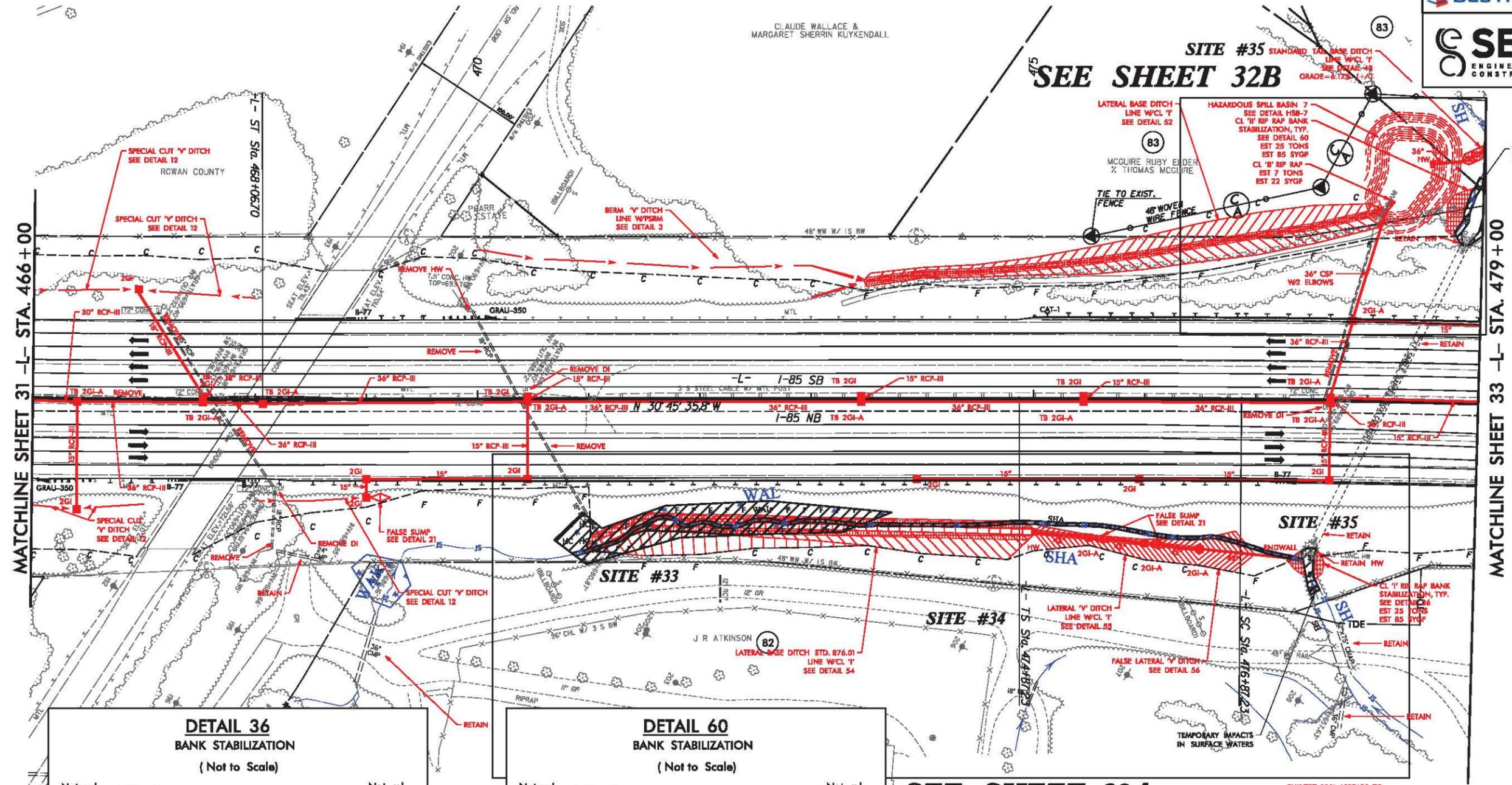


PROJECT REFERENCE NO. I-3802A	SHEET NO. 32
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SEPI
ENGINEERING & CONSTRUCTION

1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-0677
Fax: 919-789-0691
License: C-2197



SEE SHEET 32A

CULVERT 3201 APPEARS TO BE IN GOOD CONDITION, BASED UPON VISUAL INSPECTION OF PIPE US AND DS OF FILL SLOPES.

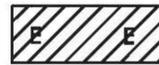
NOTES:
1. EXISTING PIPE MAY BE RETAINED FOR TEMPORARY DRAINAGE DURING CONSTRUCTION. ONCE PROPOSED DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING PIPE IS TO BE REMOVED. THE PORTION OF PIPE REMAINING UNDER NEW PAVEMENT IS TO BE PLUGGED AND THE FILLED WITH FLOWABLE FILL.

SEE SHEET 78 & 79 FOR -LSB- & -LNB- PROFILES

3/19/2005 11:58:22 AM I:\3802A\hyd_prm_wet_118_pah\32.dgn

JAMES S & ZELL R BALLOU

B.17/99



DENOTES EXCAVATION IN WETLAND



DENOTES FILL IN WETLAND



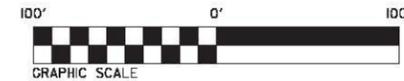
DENOTES IMPACTS IN SURFACE WATER



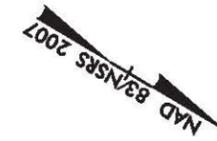
DENOTES HAND CLEARING



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING SHEET 119 OF 128

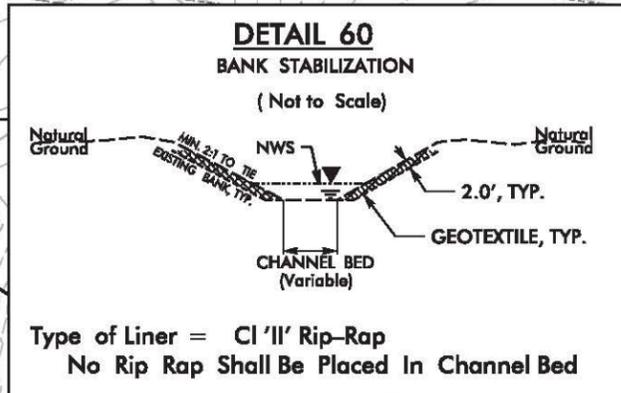
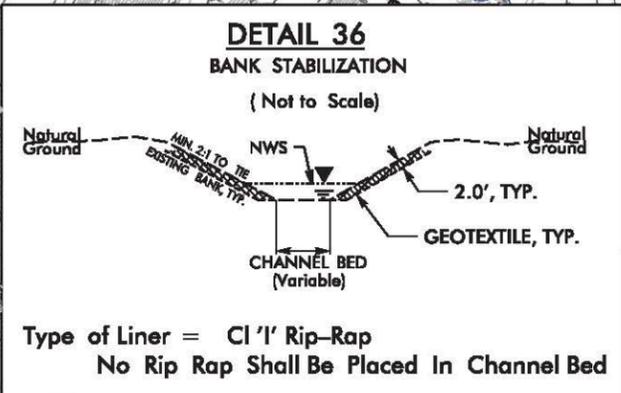
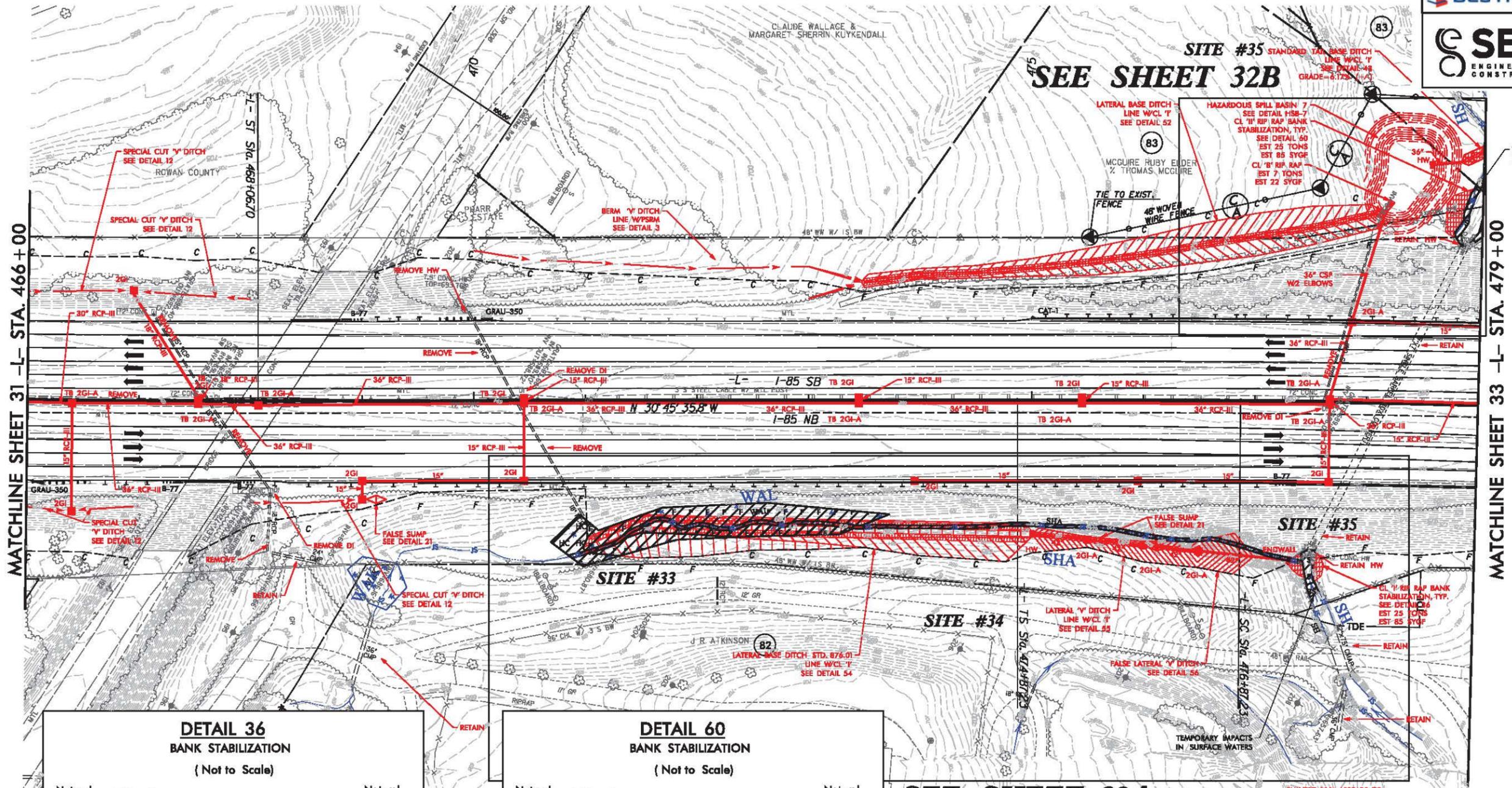


PROJECT REFERENCE NO. I-3802A	SHEET NO. 32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SEPI
ENGINEERING & CONSTRUCTION

1025 Wade Avenue
Raleigh, NC 27606
Tel: 919-789-0677
Fax: 919-789-0691
License: C-2197



SEE SHEET 32A

CULVERT 3201 APPEARS TO BE IN GOOD CONDITION, BASED UPON VISUAL INSPECTION OF PIPE US AND DS OF FILL SLOPES.

NOTES:
1. EXISTING PIPE MAY BE RETAINED FOR TEMPORARY DRAINAGE DURING CONSTRUCTION. ONCE PROPOSED DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING PIPE IS TO BE REMOVED. THE PORTION OF PIPE REMAINING UNDER NEW PAVEMENT IS TO BE PLUGGED AND THE FILLED WITH FLOWABLE FILL.

SEE SHEET 78 & 79 FOR -LSB- & -LNB- PROFILES

3/19/2005 I:\3802A_bud_prm_wet_119_pah\32_con.dgn

JAMES S & ZELL R-BALLOU

B.17/99



DENOTES EXCAVATION IN WETLAND



DENOTES FILL IN WETLAND



DENOTES HAND CLEARING



DENOTES IMPACTS IN SURFACE WATER



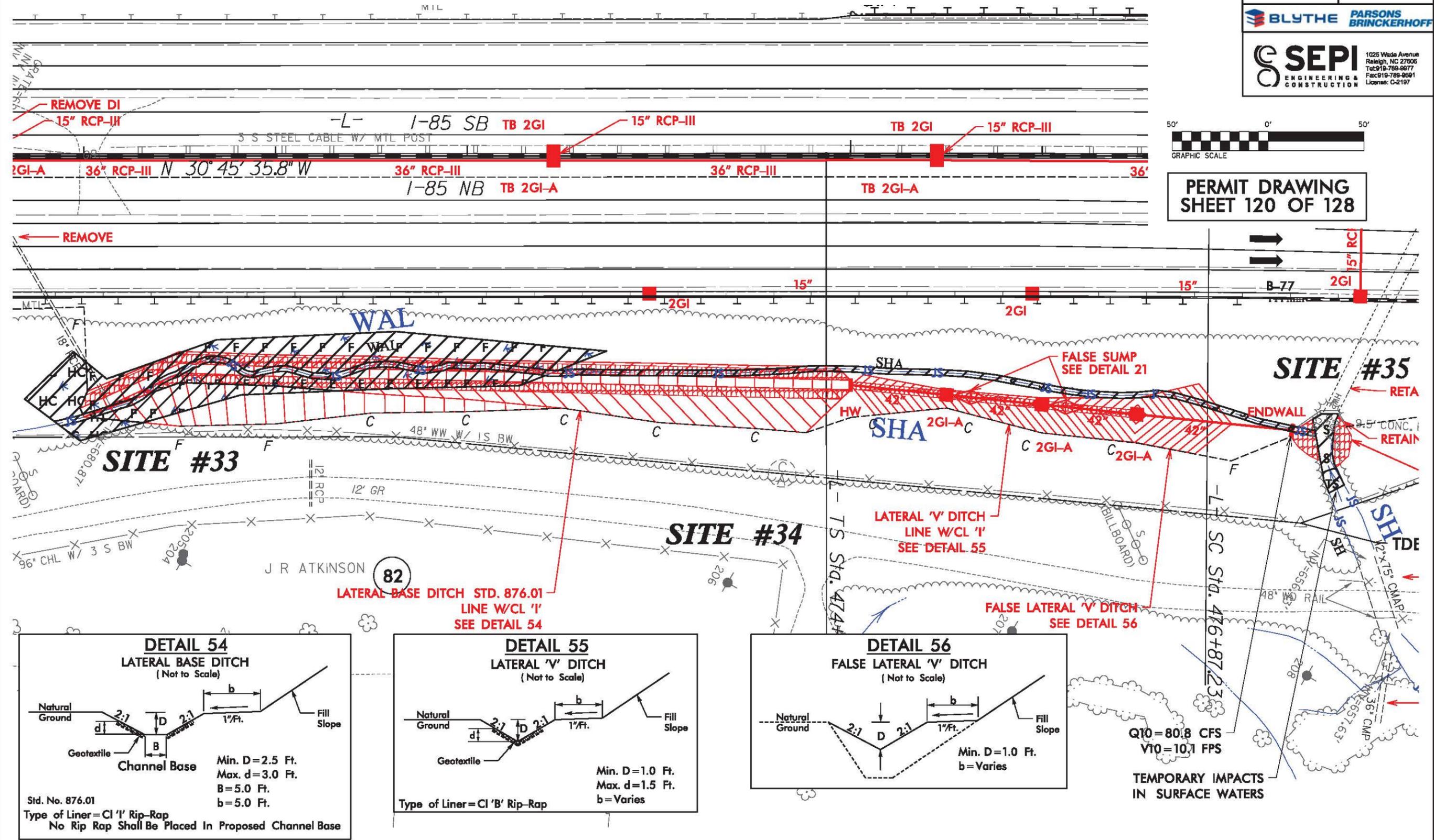
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO. I-3802A	SHEET NO. 32A
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

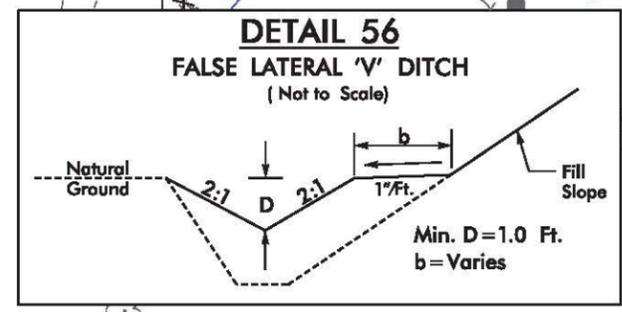
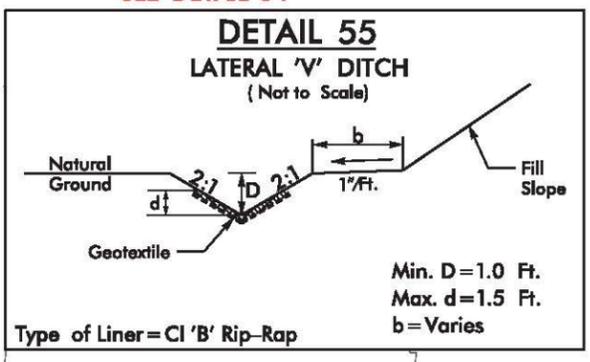
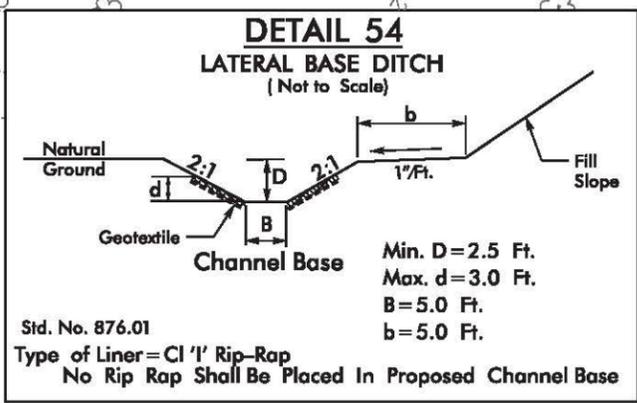
BLYTHE PARSONS BRINCKERHOFF

SEPI
ENGINEERING & CONSTRUCTION

1025 Wade Avenue
Raleigh, NC 27606
Tel: 919-789-6977
Fax: 919-789-6991
License: C-2197



PERMIT DRAWING SHEET 120 OF 128



Q10=80.8 CFS
V10=10.1 FPS

TEMPORARY IMPACTS IN SURFACE WATERS

3/19/2005 I-3802A_hyd_perm_wet_120_pah32A.dgn

B.17/99



DENOTES EXCAVATION IN WETLAND



DENOTES FILL IN WETLAND



DENOTES HAND CLEARING



DENOTES IMPACTS IN SURFACE WATER



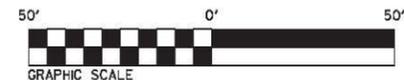
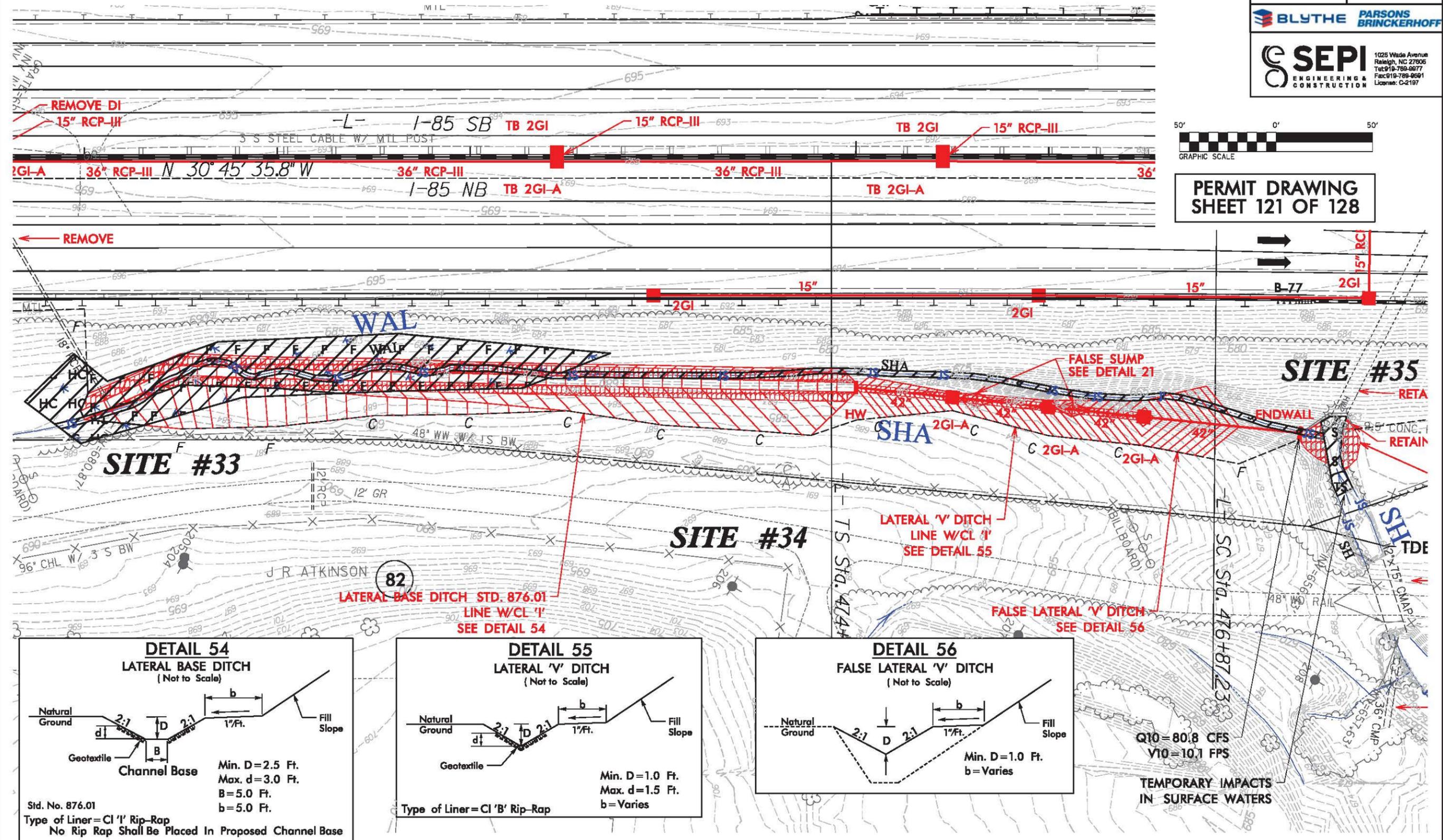
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO. I-3802A	SHEET NO. 32A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

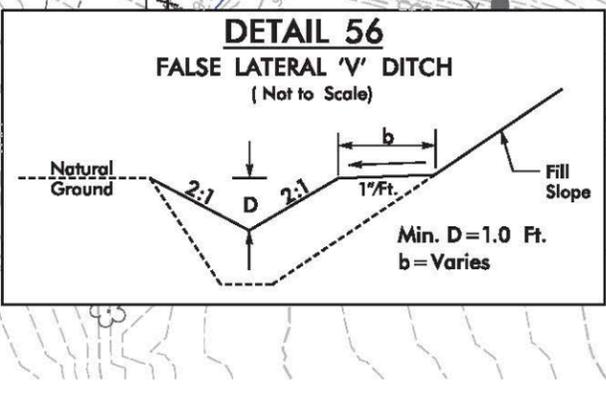
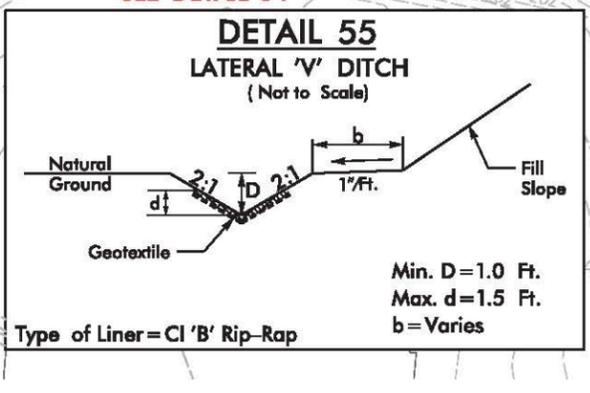
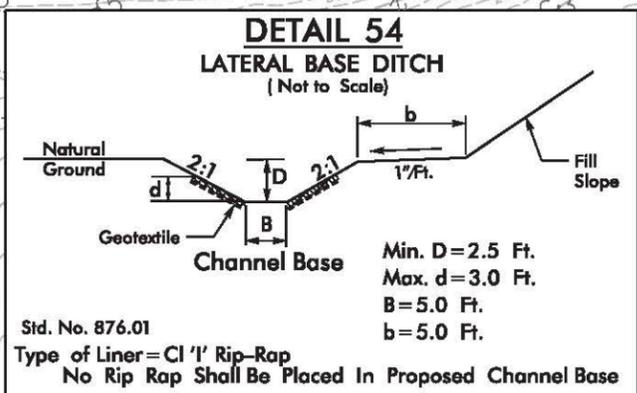
BLYTHE PARSONS BRINCKERHOFF

SEPI
ENGINEERING & CONSTRUCTION

1025 Wade Avenue
Raleigh, NC 27606
Tel: 919-789-6877
Fax: 919-789-6691
License: C-2197



PERMIT DRAWING SHEET 121 OF 128



3/19/2015 11:58:22 AM I:\proj\32A\hyd_prm_wet_121.pah\32A_con.dgn

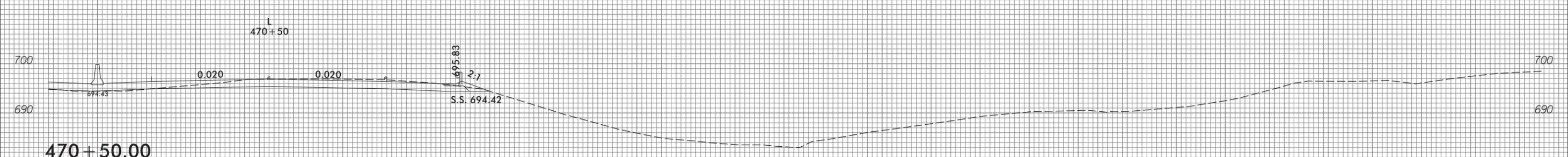
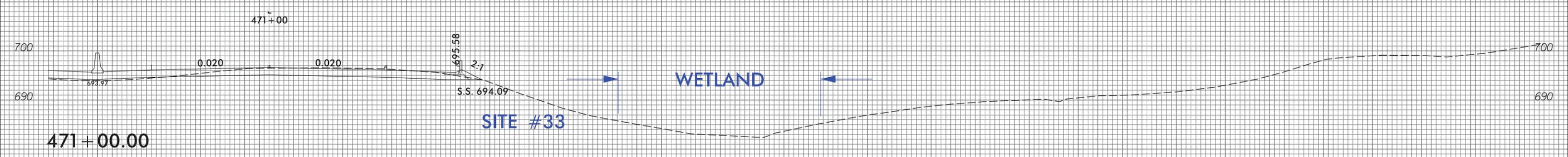
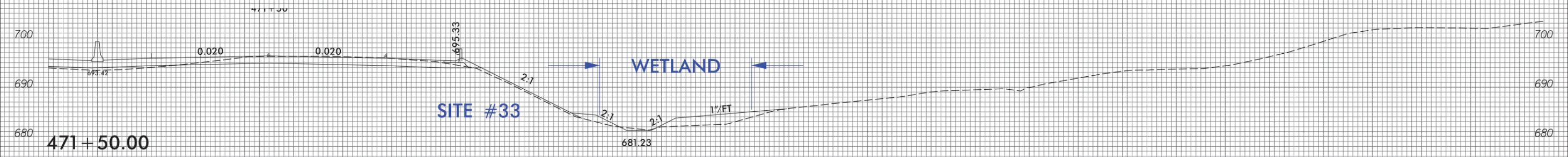
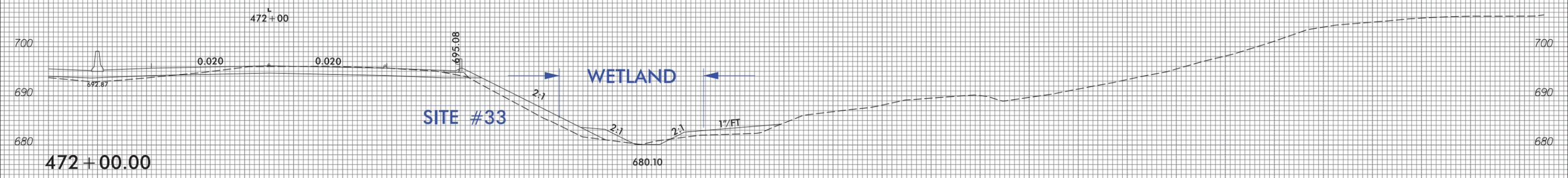
8/23/99



PROJ. REFERENCE NO.	SHEET NO.
I-3802A	X-479

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 122 OF 128



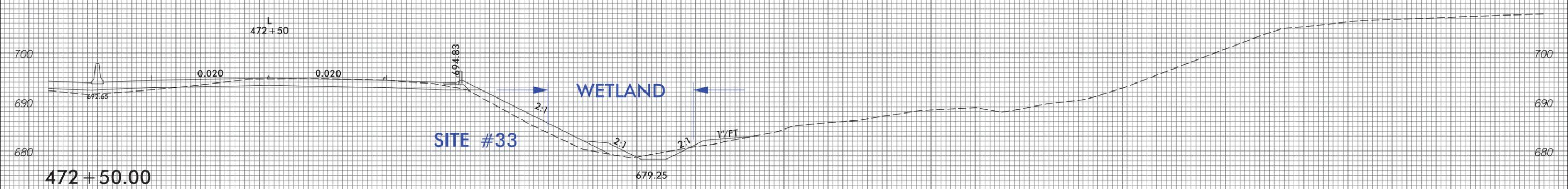
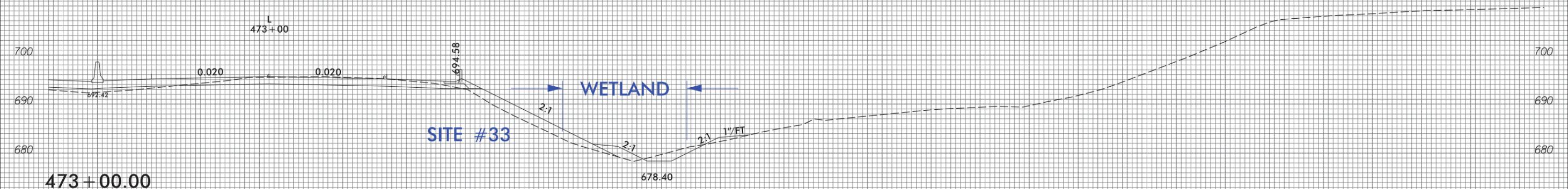
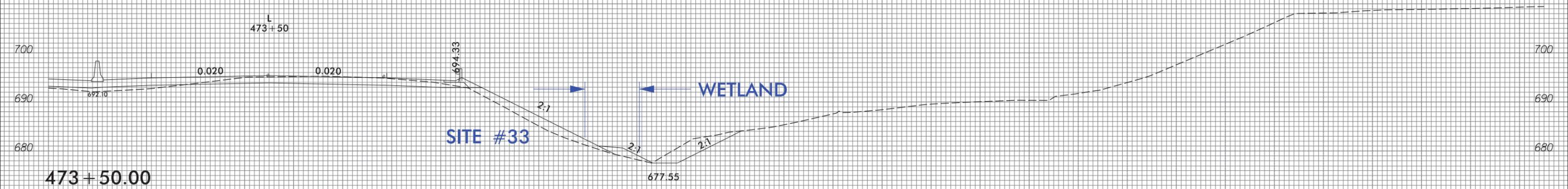
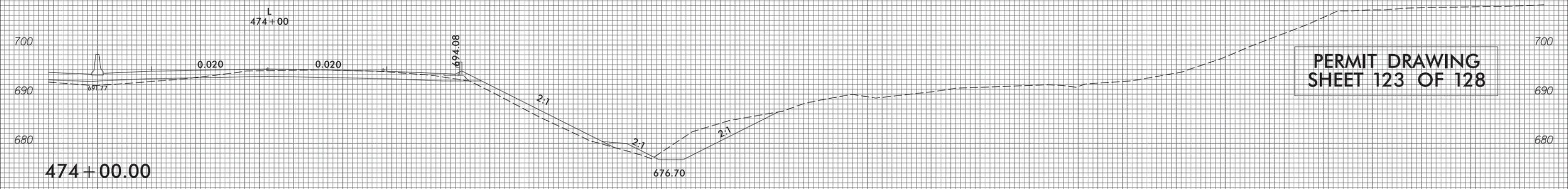
10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

3/19/2015
I:\3802A_hyd_perm_wet_122_x479.dgn
USER:raul

8/23/99

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 123 OF 128

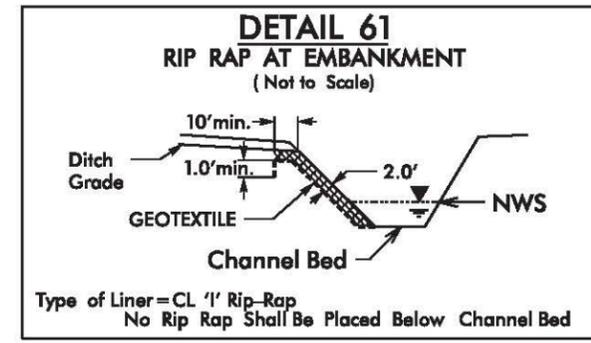


10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

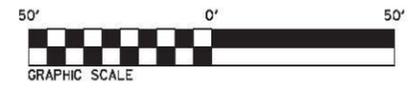
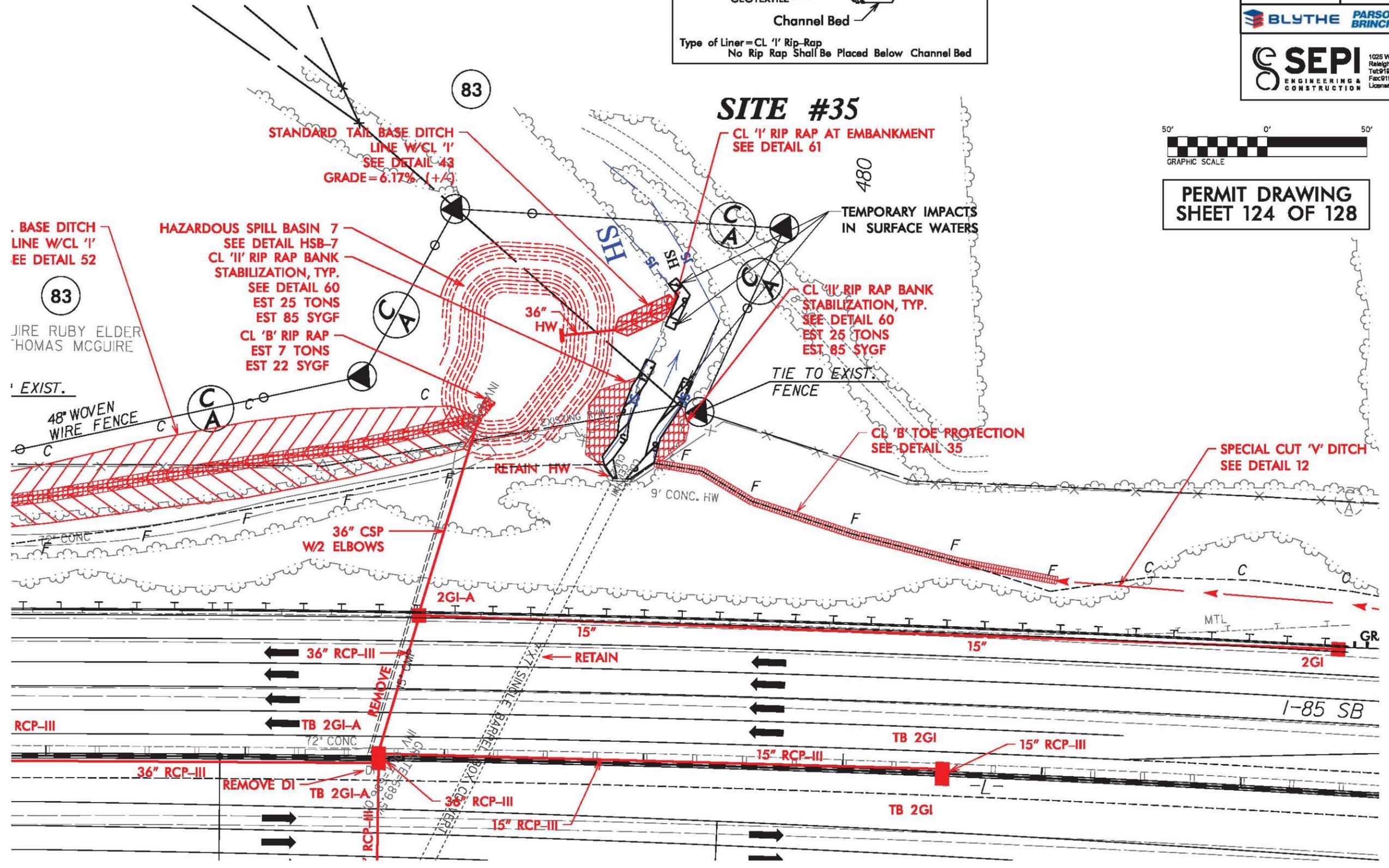
3/19/2015
I:\3802A_hyd_p.m_wet_123_x480.dgn
USER:raul

B/17/99

PROJECT REFERENCE NO. I-3802A	SHEET NO. 32B
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
BLYTHE PARSONS BRINCKERHOFF	
SEPI ENGINEERING & CONSTRUCTION	
1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-6677 Fax: 919-789-6691 License: C-2197	



DENOTES IMPACTS IN SURFACE WATER DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PERMIT DRAWING
SHEET 124 OF 128

3/19/2005 I-3802A_hyd_perm_wet_124_pah32B.dgn

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	83+00 -L-	BANK STABILIZATION						< 0.01	< 0.01	15	10	
2	94+68 -L-	BANK STABILIZATION						0.02	< 0.01	137	30	
3	97+00 -L-	EXTEND EX 30" RCP-III						< 0.01	< 0.01	15	20	
4	157+27 -L-	EXTEND EX 42" RCP-III						< 0.01	< 0.01	7	10	
4	157+25 -L-	BANK STABILIZATION						< 0.01	< 0.01	14	10	
6	193+25 -L-	FILL						0.01		95		
7	193+00 -L-	6' LATERAL BASE DITCH						0.03	< 0.01	140	10	
7A	44+87 -Y7-	REPLACE EXIST. 48" CMP						0.02		120		
8	195+25 -L-	4' LATERAL BASE DITCH							< 0.01		15	
9	205+50 -L-	BANK STABILIZATION						< 0.01	< 0.01	9	5	
9A	205+50 -L-	BANK STABILIZATION						< 0.01	< 0.01	5	5	
10	230+75 - 237+60 -L-	CHANNEL CHANGE						0.11	< 0.01	666	30	
10A	229+40 -L-	BANK STABILIZATION						< 0.01	< 0.01	7	12	
12	241+00 / 248+00 -L-	BANK STABILIZATION						0.01	< 0.01	22	20	
12	241+40 -L-	EXTEND EX 48" RCP-III						< 0.01	< 0.01	25	10	
UC-1	257+45 -L-	6" WATER LINE							< 0.01		37	
12A	257+45 -L-	BANK STABILIZATION						< 0.01	< 0.01	21	20	
13	267+70 -L-	EXTEND 36" CSP	0.08				0.01					
14	268+45 -L-	18" RCP-III						0.03	< 0.01	106	16	
14	267+00 -L-	EXTEND EX 36" CMP	< 0.01				< 0.01	< 0.01		3		
15	269+50 -L-	EXTEND EX 42" CMP						< 0.01		23		
15	269+50 -L-	BANK STABILIZATION						< 0.01	< 0.01	20	4	
15	271+00 -L-	FILL						0.01		60		
SHEET 126 SUBTOTALS*:			0.08				0.02	0.27	0.04	1510	264	0

*Rounded subtotals are sum of actual impacts

NOTES: Site 5 was eliminated by reconfiguring storm drainage system per 4C meeting comments.
 Site 11 was eliminated by reconfiguring storm drainage system per 4C meeting comments.
 Site 7A was added after the 4C meeting.
 Site UC-1 was added after the 4C meeting.

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 04/07/2015
 CABARRUS AND ROWAN
 I-3802A
 C203328

SHEET 126 OF 128

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
16	279+00 -L-	FILL	< 0.01									
17	305+00 -L-	FILL, OTCB					0.01	< 0.01			10	
17	306+00 -L-	EXTEND 30" RCP-IV						< 0.01		12		
17	306+00 -L-	BANK STABILIZATION						< 0.01	< 0.01	16	6	
17A	317+76 -L-	BANK STABILIZATION						< 0.01	< 0.01	8	10	
17B	322+90 -L-	BANK STABILIZATION						< 0.01	< 0.01	6	5	
18	338+00 -L-	BANK STABILIZATION						0.03	< 0.01	185	35	
19	340+00 -L-	FILL			< 0.01			0.06	< 0.01	356	15	
20	350+50 -L-	EXTEND 54" RCP-III						< 0.01	< 0.01	12	10	
20	352+00 -L-	BANK STABILIZATION						< 0.01	< 0.01	22	10	
21	48+75 -Y3-	FILL						0.04		210		
21	48+75 -Y3-	BANK STABILIZATION						< 0.01	< 0.01	15	20	
22	50+00 -Y3-	FILL, EXTEND 54" RCP-III						0.02		130		
22	50+00 -Y3-	BANK STABILIZATION						< 0.01	< 0.01	15	10	
23	58+00 -Y3-	FILL	0.10				< 0.01	0.04	0.01	135	65	
23	58+00 -Y3-	BANK STABILIZATION						< 0.01	< 0.01	11	10	
24	16+00 -Y34-	EXTEND 36" RCP-III	< 0.01					0.01	< 0.01	80	10	
SHEET 127 SUBTOTALS*:			0.11		< 0.01		0.02	0.22	0.03	1213	216	0

*Rounded subtotals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 04/07/2015
 CABARRUS AND ROWAN
 I-3802A
 C203328
 SHEET 127 OF 128

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
25	388+34 -L-	CHANNEL CHANGE						0.01	< 0.01	63	10	
25	388+34 -L-	BANK STABILIZATION						< 0.01		35		
26	388+34 -L-	72" WSP WORK AREA					0.02					
27	405+66 -L-	EXTEND 48" RCP						< 0.01		14		
27	405+66 -L-	CHANNEL CHANGE						0.01	< 0.01	56	7	
27	405+66 -L-	BANK STABILIZATION						< 0.01	< 0.01	31	12	
28	412+82 -L-	EXTEND 72" RCP /42" WSP						0.02		76		
28	412+82 -L-	CHANNEL CHANGE						0.01	< 0.01	43	12	
28	412+82 -L-	BANK STABILIZATION						0.02	< 0.01	73	17	
29	20+91 -Y13RPA-	42" RCP						0.01		93		
29	20+91 -Y13RPA-	OUTFALL CHANNEL						< 0.01	< 0.01	35	8	
30	437+82 -L-	48" WSP						< 0.01		34		
30	437+82 -L-	CHANNEL CHANGE						< 0.01	< 0.01	10	11	
30	437+82 -L-	BANK STABILIZATION						0.01	< 0.01	71	10	
31	437+82 -L-	CHANNEL CHANGE						< 0.01	< 0.01	37	11	
32	449+92 -L-	BANK STABILIZATION						0.02	< 0.01	106	23	
33	470+69 / 473+73 -L-	LATERAL BASE DITCH	0.11		0.04		0.02					
34	470+85 / 477+45 -L-	LATERAL BASE DITCH						0.03		427		
34	470+85 / 477+45 -L-	42" ALTERNATE PIPE						0.02		234		
34	470+85 / 477+45 -L-	BANK STABILIZATION						< 0.01		13		
35	478+17 -L-	BANK STABILIZATION						0.02	< 0.01	99	30	
SHEET 126 SUBTOTALS*:			0.08				0.02	0.27	0.04	1510	264	0
SHEET 127 SUBTOTALS*:			0.11		< 0.01		0.02	0.22	0.03	1213	216	0
SHEET 128 SUBTOTALS*:			0.11		0.04		0.04	0.22	0.03	1550	151	0
PROJECT TOTALS*:			0.30	0.00	0.04	0.00	0.07	0.71	0.11	4273	631	0

*Rounded subtotals and totals are sum of actual impacts

NOTES: In addition to the project totals listed above, this permit includes a total of 0.01 acres of Temporary Impacts in Wetlands for Erosion Control Devices per the NCDOT Roadside Environmental Unit.

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 04/07/2015
 CABARRUS AND ROWAN
 I-3802A
 C203328