



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

DATE: March 30, 2022

MEMORANDUM TO: Mr. H.L. Cox, P.E.
Division 6 Engineer

DocuSigned by:

Mack C. Rivenbark III

AAAD1248B309416...

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

SUBJECT: Environmental Permits for the I-295 Fayetteville Outer Loop.
Cumberland and Hoke Counties. WBS 34817.1.FR7 and
34817.1.FR8, **TIP Nos. U-2519BA and U-2519BB.**

Attached are the U.S. Army Corps of Engineers Individual Permit and N.C. Division of Water Resources (NCDWR) Individual Water Quality Certification. A permit modification request was submitted to the regulatory agencies on March 7, 2022 which included minor revisions to proposed jurisdictional resource impacts for U-2519BA. The modified permits will be distributed once received.

A copy of this permit package will be posted on the NCDOT website at:
<https://xfer.services.ncdot.gov/pdea/PermIssued/>

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

Mr. Ron Davenport, P.E. State Contract Officer
Mr. Greg Price, Division 6 Environmental Officer
Dr. Majed Al-Ghandour, P.E., Programming and TIP
Mrs. Jennifer Evans, P.E. Project Management Unit
Mr. Byron Sanders, Jr., P.E., Utilities
Mr. Stephen Morgan, P.E., Hydraulics
Mr. Brian Hanks, P.E., Structures Management
Mr. Mark Staley, Roadside Environmental
Mr. Lamar Sylvester, P.E., State Construction Engineer

PROJECT COMMITMENTS

Cumberland, Hoke, and Robeson Counties
I-295 Fayetteville Outer Loop
Federal Project No. DPR-0100(001) and DPR-0100(002)STIP
Project Numbers: U-2519, X-0002B, & X-0002C

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

All commitments developed during the project development and design phase have been incorporated into the design and were standard commitments. Current status, changes, or additions to the project commitments as shown in the Draft Environmental Impact Statement for the project are printed in *italic* font.

PDEA / Roadway Design / Hydraulics (Protection of Surface Waters)

Impacts to watershed areas and the water quality of all receiving waters will be minimized by strict adherence to NCDOT's "Best Management Practices for Protection of Surface Waters," March 1997. Additionally, every effort will be made to minimize natural water body impacts during final design. The proposed Fayetteville Outer Loop would cross Little Cross Creek and Cross Creek above Bonnie Doone Lake and Rose Lake. Although these waters are part of the Fayetteville public drinking water supply, the proposed outer loop would not be located within the critical watershed area of either creek. The proposed outer loop would be located approximately 3.5 miles upstream of the critical watershed areas. During the design phase of the study, hazardous spill basins will be considered to prevent stream contamination from spill runoff.

This commitment was implemented during design.

PDEA / Roadway Design (Section 7 Consultation for Federally-Protected Species) Areas containing protected species will be avoided if possible during the design phase of the project. Section 7 consultation with the US Fish and Wildlife Service will be completed prior to signing the Final Environmental Impact Statement for circulation. Additionally, habitat fragmentation mitigation will be further evaluated during the design phase of the study. Field surveys for all federally listed endangered species known to inhabit Cumberland, Hoke, and Robeson counties were performed. Measures to minimize impacts to the protected species were incorporated into the preliminary designs and coordinated with the Merger Team.

A Biological Assessment (BA) was prepared to assess impacts to federally listed plant species and a butterfly. In addition, a separate BA was prepared for impacts to the red-cockaded woodpecker. The Section 7 consultation was completed April 28, 2005.

PDEA / Right of Way (Purchase of Property for Red-cockaded Woodpecker Habitat) NCDOT will work with the members of the North Carolina Sandhills Conservation Partnership (NCSCP), with a reasonable effort, to acquire one piece of property in accordance with NCDOT and FHWA policies and procedures for property acquisition, the area identified as the Northern Corridor (see Figure 3 on page 31 of the Biological Opinion [April 28, 2005]). The identified property will contain approximately 75 acres of habitat that does or can support a

southern yellow pine-dominated overstory and can be reasonably managed to create/maintain foraging habitat for the red-cockaded woodpecker.

This commitment was implemented prior to permitting.

PDEA (Minimize Impacts to Habitat of RCW Cluster FB 65)

NCDOT will coordinate with Fort Bragg and the US Fish and Wildlife Service to establish and implement the best strategy for minimizing direct impacts of tree clearing and highway construction to red-cockaded woodpecker (RCW) Cluster FB 65, its resident RCW group and residual foraging and nesting habitat.

This commitment was coordinated with Fort Bragg.

PDEA / Structure Design / Roadway Design / Division 6 (Avoidance and Minimization of Wetland Impacts)

Wetland avoidance is considered during all phases of the project. If wetlands cannot be avoided, every effort will be made to minimize the impacts through the location and design of the roadway facility within the selected corridor. Mitigation of unavoidable wetland impacts will be coordinated through the appropriate state and federal agencies.

This commitment was implemented during design.

PDEA / Roadway Design (Traffic Noise Analysis of Preferred Alternative)

Sound barriers corresponding to the preferred alternative will be investigated in more detail in the design study phase of the project.

This commitment was implemented during design and updated during the development of this Construction Consultation as follows.

U-2519BA and BB Design Noise Report (U-2519BA and BB DNR) – RK&K conducted traffic noise analysis per applicable NCDOT Traffic Noise Abatement Policy effective July 13, 2011 (NCDOT Policy) to evaluate predicted traffic noise impacts and assess potentially feasible and reasonable traffic noise mitigation measures for the proposed 5-mile long section of the 4-lane I-295 (Fayetteville Outer Loop) controlled-access interstate highway facility on new location in Cumberland County (STIP#: U-2519BA and U-2519BB) from west of Waldos Beach Road, extend westward to an interchange with SR 1003 (Camden Road), turn northward to the west of Cayman Drive, and continue northward to just north of a new interchange with SR 1140 (Strickland Bridge Road). NCDOT and FHWA accepted (signed) the Proposed I-295 (Fayetteville Outer Loop) From South of SR 1003 (Camden Road) to South of US 401 Design Noise Report (U-2519BA and BB DNR) on July 21, 2016. As documented in the U-2519BA and BB DNR, NW1A, NW1B, NW4B, and NW5 were considered “likely” pending completion of the project design, the public involvement process, concurrence with the NCDOT Policy, and FHWA approval. Noise walls NW1A, NW1B, and NW5 were removed from the project because completion of U-2519BA project design and the public involvement process subsequent to July 21, 2016 determined that NW1A, NW1B and NW5 did not meet applicable feasibility and reasonableness criteria. Noise Wall NW4B met all remaining feasibility and reasonableness criteria subsequent to completion of the project design and the public involvement process, and is presently programmed for construction.

U-2519BA Design Noise Report Addendum (U-2519BA DNR Addendum) – As a supplement to the I-295 Fayetteville Outer Loop (U-2519BA and U-2519BB) Design Noise Report accepted by FHWA and NCDOT on July 21, 2016, traffic noise analysis per NCDOT Policy was conducted to evaluate additional roadway improvements not evaluated in the U-2519BA and BB DNR to be constructed along approximately 1.1 miles of SR 1112 (Stoney Point Road) from west of SR 1139 (Barefoot Road) to east of SR 1110 (Grimes Road). The findings and recommendations of the analysis were presented in the report entitled U-2519BA Design Noise Report Addendum – I-295 Fayetteville Outer Loop – SR 1112 (Stoney Point Road) Improvements from West of SR 1139 (Barefoot Road) to East of SR 1110 (Grimes Road), Cumberland County (U-2519BA DNR Addendum), and was accepted by NCDOT on May 21, 2021. One traffic noise barrier, Noise Wall 5 (NW5) meets NCDOT Policy feasibility and reasonableness criteria, and would mitigate impacts to seven receptors on Braddy Road. NW5, which has a length of 1,800 feet, will be constructed adjacent to the westbound lanes of Stoney Point Road from the intersection of Stoney Point Road and Braddy Road to the Stoney Point Road Bridge over I-295, and adjacent to the northbound lanes of the I-295 Fayetteville Outer Loop from the Stoney Point Road Bridge to STA 518+69.31.

U-3422 Design Noise Report – NCDOT proposes to widen and improve approximately 3.25 miles of Camden Road (SR 1003) to a four-lane, median-divided facility from the I-295 Fayetteville Outer Loop to NC 59 (Hope Mills Road / N. Main Street) as programmed in STIP Project No. U-3422. The western terminus of the U-3422 improvements on Camden Road coincides with the eastern terminus of the tie-in to Camden Road (-Y13-) on U-2519BA. RK&K conducted traffic noise analysis per NCDOT Policy to evaluate the U-3422 improvements, for which two of the Noise Study Areas included the easterly portion of the U-2519BA Project Study Area on Camden Road (-Y13-) and extended westward back to the I-295/Camden Road Interchange on U-2519BA. The findings and recommendations of the U-3422 analysis were presented in the report entitled, U-3422 Design Noise Report – SR 1003 (Camden Road) from Future I-295 (Fayetteville Outer Loop) to NC 59 (Hope Mills Road / N. Main Street, Cumberland County that NCDOT accepted (signed) on November 30, 2021. A total of four traffic noise mitigation measures (Noise Walls NW1, NW1C, NW6A, and NW6B) were assessed as potentially feasible and reasonable traffic noise abatement measures for the U-3422 Project and were considered “unlikely” because they do not meet NCDOT Policy feasibility and reasonableness criteria; therefore, noise walls were not recommended for the U-3422 Project, or the portion of the U-2519BA Project included in the U-3422 DNR.

Hydraulics / Division 6 (Anadromous Fish In-Stream Construction Moratorium)

For floodway encroachments, the North Carolina Department of Transportation will coordinate with the community and with the Federal Emergency Management Agency during the design phase of the project. Adherence to the North Carolina Department of Transportation’s “Stream Crossing Guidelines for Anadromous Fish Passage” would allow movement of anadromous fish.

North Carolina Department of Transportation will comply with a moratorium for anadromous fish of “no in-water work” from February 15 to June 30 on Rockfish Creek. This commitment will be implemented during construction.

Geotechnical Design (Hazardous Materials Site Assessment)

When the final proposed centerline is established and right of way determined, a hazardous materials site assessment will be performed to the degree necessary to determine levels of

contamination at any potential hazardous materials sites along the preferred alternate. The assessment will be made prior to right of way acquisition. Resolution of problems associated with contamination will be coordinated with appropriate agencies.

This commitment was implemented prior to Right of Way.

Roadside Environmental / Roadway Design (Mitigation of Visual Impacts) Measures to minimize visual impacts will be taken into consideration during design of the roadway. Overall, visual impacts may be mitigated through a variety of actions such as alignment modifications during design, landscaping, screening, embankments, and selective clearing of natural materials.

The commitment was implemented during design.

PDEA (Archaeological Survey of Preferred Corridor)

If a build alternate is selected as the Preferred Alternative, a detailed archaeological survey of the preferred corridor will be conducted. This survey will be coordinated with the State Historic Preservation Office.

*In coordination with the State Historic Preservation Office (HPO), detailed archaeological studies of the preferred corridor were conducted from 2001 to 2004. The specific findings of the initial survey are documented in "Dimensions of Fall Line Site Function: Surveying and Testing the West Fayetteville North Carolina Outer Loop," Technical Report #992 by New South Associates (2002). In coordination with the HPO and the Fort Bragg Cultural Resources Program (FBCRP), three additional intensive archaeological surveys were prepared for expanded coverage of the Preferred Alternative. The specific findings of these surveys are documented in three separate addenda: 1) "Cultural Resources Survey of 284 Acres South of Cliffdale Road, West Fayetteville Outer Loop, Cumberland and Hoke Counties, North Carolina," 2) "Cultural Resources Survey of 534 Acres North of Cliffdale Road, West Fayetteville Outer Loop, Cumberland County, North Carolina," and 3) "Cultural Resources Survey of 31 Additional Land Parcels of the Proposed West Fayetteville Outer Loop, Cumberland and Robeson Counties, North Carolina," all of which will be integrated into one appendix to be attached to the original 2002 survey report by New South Associates. A summary of the findings and impacts can be found in Section 6 of this document. These reports conclude that the Preferred Alternative will impact ten archaeological sites within the area of potential effects, eight of which are considered eligible for the National Register of Historic Places (31CD64, 31CD65, 31CD871, 31CD874, 31CD882, 31CD962, 31CD965, and 31RB485). The remaining two sites are cemeteries (31CD967/967** and 31CD976**). Therefore, the NCDOT will prepare a Memorandum of Agreement for the recovery or relocation efforts on these ten sites and will implement a satisfactory data recovery program. A Memorandum of Agreement regarding the implementation of mitigation efforts for all ten archaeological sites was signed in March 2005. One cemetery (31CD976**) will need to be relocated per applicable State statutes (i.e., NC GS 65 or NC GS 70.3) after consultation with the Office of State Archaeology. The prehistoric archaeological component of 31CD967/967** will not be impacted by the proposed project, but its historic cemetery component requires a GPR survey in order to determine the locations of unmarked burials that may or may not be impacted by the proposed project. If burials associated with 31CD967/967** are to be impacted by the proposed project, then such burials will be relocated per applicable State statutes (i.e., NC GS 65 or NC GS 70.3) after consultation with the Office of State*

Archaeology. Since Sites 31CD64, 31CD65, and 31CD871, all of which will be affected by the subject project, are located within the Fort Bragg Military Reservation, the NCDOT will develop mitigation plans in consultation with both the HPO and the Fort Bragg Cultural Resources Program.

Roadside Environmental / Division 6 (Borrow and Solid Waste Operations)

Borrow and solid waste operations would be managed through the North Carolina Department of Transportation's, "Best Management Practices for Protection of Surface Waters," March 1997. Additionally, any solid waste generated during construction would be temporary and would either be hauled away to landfills or disposed of on-site by controlled burning, in compliance with all local, state, and federal regulations.

This commitment will be implemented during construction of the project.

PDEA / Roadway Design / Roadside Environmental (Retaining Wall and Screening Adjacent to Keithville Rental Units)

A retaining wall and vegetative screening will be provided adjacent to the Keithville Rental Units to avoid right-of-way acquisition and minimize visual impacts. These will be located at the northwest corner of the property adjacent to the Bragg Boulevard/Fayetteville Outer Loop interchange (quadrant D).

This commitment was implemented during design.

PDEA / Roadway Design / Division 6 (Raeford Road and Shaw-Gillis House)

To minimize harm to the Shaw-Gillis Historic District, Raeford Road will be closed and landscaping will be provided adjacent to the roadway. In addition, access to the property from US 401 will be maintained, and the exterior of the Shaw-Gillis house will be painted following construction.

This commitment was negotiated during design and will be implemented during construction.

PDEA / Roadway Design / Right of Way (Coordination with Fort Bragg)

NCDOT will provide funds or construct and replace Fort Bragg's perimeter fence impacted by the proposed project. NCDOT will coordinate with Fort Bragg to provide perimeter roads and tank trails along the proposed project. The criteria and construction of visual screening to eliminate the line of sight to facilities located along the project will be coordinated with Fort Bragg. NCDOT will provide resources and/or construct new Access Check Point facilities in coordination with Fort Bragg at Reilly Road, Canopy Road, and Bragg Boulevard. The design of the Yadkin Road overpass will be coordinated with Fort Bragg to incorporate the new roadway grade into the Access Check Point facilities. Smith Lake Access Road off Murchison Road will be closed and relocated off Honeycutt Road in coordination with Fort Bragg. The new access will incorporate the current facilities and minimize harm to existing pine trees.

These commitments were addressed during design and will be negotiated as part of the Right of Way settlement with Fort Bragg.

PDEA / Roadway Design / Hydraulics (Cumberland County Greenway Pedestrian Crossing)

NCDOT will provide a bridge or box culvert at the existing wetland at the rear of Pine Forest High School to allow for a pedestrian crossing in coordination with a proposed Cumberland County greenway.

The commitment was implemented during design.

PDEA (Protected Species Surveys)

Several systematic surveys of all potentially-suitable habitats for American chaffseed, Michaux's sumac, pondberry, rough-leaved loosestrife, and the Saint Francis' Satyr butterfly were conducted by biologists from May 2001 through August 2004. No individuals of any of these species were observed during the surveys. A re-survey will be conducted one year prior to construction, during the appropriate survey window, within the project limits to determine if any members of these species are present.

This commitment was implemented within the year prior to awarding to the contract of the final design projects. Surveys will continue to be conducted within the year prior to construction of the remaining preliminary design sections.

Protected species surveys were updated for U-2519BA and U-2519BB. A survey for pondberry was conducted on March 18, 2020 and March 20, 2020, and no specimens were observed. Surveys for Rough-leaved loosestrife, Saint Francis' satyr butterfly, Michaux's sumac, and American chaffseed were conducted on May 18, 2021, May 19, 2021, and August 31, 2021 (additional study areas), and no specimens were observed.

*The extension of Flowering Bradford Way (-Y13G-) was a recent design change to connect Camden Road (SR 1003, -Y13-) and Bammel Drive (-Y13G-). A small portion of the new location for this connector road is outside of the original Project Study Area and needed to be surveyed for potential impacts to protected species. RK&K conducted a desktop assessment of this area and reviewed IPaC data on February 15, 2022. RK&K determined that habitat was not present and rendered a biological conclusion of Not Required for American alligator (*Alligator mississippiensis*). RK&K determined that habitat was not present and rendered a biological conclusion of No Effect for Pondberry (*Lindera melissifolia*), Rough-leaved loosestrife (*Lysimachia asperulaefolia*), Michaux's sumac (*Rhus michauxii*), and American chaffseed (*Schwalbea americana*). (See the attached Natural Resources Assessment of STIPU-2519BA/BB – Additional Study Area for the Extension of Flowering Bradford Way from Camden Road to Bammel Drive, RK&K, February 17, 2022.)*

Roadway Design (Traffic Capacity Analysis)

A capacity analysis for an updated design year using 2030 traffic volumes will be prepared and utilized in the design of the Final Plans.

This commitment will be implemented prior to the completion of Final Plans.

Traffic volumes were updated to 2040 on June 10, 2015.

COMMITMENTS FROM PERMITTING

PDEA / Division 6 Construction (RCW Conservation Measures)

The permittee shall abide by the conservation measures identified in the Biological Assessment prepared for the Red-cockaded Woodpecker, *Picoides borealis*, dated 9 September 2004 and the conservation measures identified by the US Fish and Wildlife Service in the Biological Opinion dated 28 April 2005.

The commitment was implemented during design and will continue to be followed during construction.

PDEA (Mandatory Terms and Conditions of RCW “Incidental Take”)

The 404 Permit does not authorize you to take an endangered species, in particular the Red- Cockaded Woodpecker. In order to legally take a listed species, you must have separate authorization under the ESA. (e.g., an ESA Section 10 permit, or a BO under the ESA Section 7, with “incidental take” provisions with which you must comply). The USFWS Biological Opinion, dated 28 April 2005, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with “incidental take” that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and the ESA.

The commitment was implemented during design and will continue to be followed during construction.

PDEA (Terms and Conditions from BO)

In order to be exempt from prohibitions of section 9 of the Act, the NCDOT must comply with the following terms and conditions, which implement the reasonable and prudent measures, described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

(1) [RPM (1)] Upon acquisition of the conservation property, NCDOT will identify the entity or entities responsible for owning and managing the property and secure an agreement from the entity (or entities) that the property will be managed in accordance with an RCW conservation plan approved by the Service and the NCSCP. (NCDOT’s obligations will not extend beyond the acquisition of the property, NCDOT’s receipt of assurances from the responsible third party that the property will be managed in accordance with standards set by the NCSCP for RCW conservation, and subsequent transferal to the third party; it is not anticipated that the cost of NCDOT’s obligation would exceed \$ 1.0 million).

The NCDOT purchased the 113-acre Marshbanks Property to help establish the Northern Connector to encourage movement of existing RCW populations.

(2) [RPM (1)] If the property is not acquired and transferred to a responsible third party at least six months prior to initiation of construction, then NCDOT, NCSCP and the Service will meet to determine an appropriate alternative that reasonably supports the objective of establishing the

Northern Corridor as a demographic linkage between RCW subpopulations in the Sandhills East primary core population (Overhills HMU) and NEA. In any case, conservation actions to fulfill this reasonable and prudent measure must occur prior to construction.

The NCDOT purchased the 113-acre Marshbanks Property to help establish the Northern Connector to encourage movement of existing RCW populations.

(3) [RPM (2)] Where NCDOT is able to program the timing of tree clearing and highway construction within the project area, NCDOT will, in the early stages of the planning process, schedule meetings with Fort Bragg's Directorate of Public Works and the Service to determine:

- A. The best time to conduct tree clearing and/or construction activities in a manner that minimizes impacts to cluster 65 and its associated RCW group.
- B. Determine the time and location where artificial cavities will be created to minimize the loss of RCWs associated with project activities.
- C. Establish protective measures for trees selected and/or used to provision cavities for conserving RCWs associated with the Fayetteville Outer Loop project.

NCDOT Coordinated with Fort Bragg on tree clearing plans prior to construction.

Upon locating a dead, injured, or sick individual of an endangered or threatened species, initial notification must be made to the Clemson Field Office. Additional notification must be made to the Raleigh, North Carolina Fish and Wildlife Ecological Services Field Office. Care should be taken in handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death or injury. All procedural and reporting requirements as outlined in the Service's region-wide biological opinion on monitoring and management (Service 2003b) will be followed.

These reasonable and prudent measures, together with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. The Service believes that no more than one RCW group will be incidentally taken. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking, and review with the Service the need for possible modification of the reasonable and prudent measures.

PDEA (Section 404 / NEPA Interagency Merger Process)

The permittee shall continue coordination of design for U-2519 Sections AA, AB, BA, BB, CA, and CB through the NEPA/Section 404 Merger 01 Process – Concurrence points 2A, 4B and 4C. The final design shall incorporate appropriate avoidance, minimization, and mitigation of aquatic resource impacts to the fullest extent practicable. The applicant shall not commence any work within waters of the United States within U-2519 Sections AA, AB, BA, BB, CA, and CB until after the submittal of a modified permit application with final design plans reflecting the appropriate avoidance, minimization and mitigation within these sections and has received final approval from Wilmington District Corps of Engineers.

All sections of the project (U-2519 AA, AB, BA, BB, CA, CB, DA, X-0002 B and X-0002 C) have been through the NEPA/Section 404 Merger 01 Process as follows:

- Concurrence Point 1 Signed – July 13, 2000
- Concurrence Point 2 Signed – July 31, 2000
- Concurrence Point 3 Signed – October 5, 2000
- Concurrence Point 2A and 4A Signed – March 16, 2004

The following sections have been through the NEPA/Section 404 Merger 01 Process for Concurrence points 4B and 4C as follows:

X-0002C	Concurrence Point 4B and 4C	February 22, 2006 & June 13, 2007
X-0002B	Concurrence Point 4B and 4C	December 14, 2005 & June 13, 2007
U-2519E	Concurrence Point 4B and 4C	N/A* & June 13, 2007
U-2519DA	Concurrence Point 4B and 4C	December 14, 2005 & June 13, 2007
U-2519CB	Concurrence Point 4B and 4C	March 16, 2005 & January 23, 2013
U-2519CA	Concurrence Point 4B and 4C	April 12, 2006 & February 15, 2017
U-2519BA	Concurrence Point 4B and 4C	February 17, 2016 & February 15, 2017
U-2519BB	Concurrence Point 4B and 4C	February 17, 2016 & February 15, 2017

* received Concurrence Point 4B as U-2519DA

PDEA (Privateer Farms Mitigation Site for Compensatory Jurisdictional Mitigation)

Compensatory mitigation for the unavoidable impacts to 34.84 acres of riparian wetlands and 13.59 acres of non-riparian wetlands associated with the proposed project shall be provided by debiting 104.52 acres of riparian wetlands and 40.77 acres of non-riparian wetlands from the Privateer Farms Mitigation Site. Compensatory mitigation for the unavoidable impacts to 12,346 linear feet of important stream reach associated with the proposed project shall be provided by debiting 18,519 linear feet of stream reach from the Privateer Farms Mitigation Site. The permittee shall maintain the Privateer Farms Mitigation Site in its natural condition, as altered by the mitigation plan, in perpetuity. Except as authorized or required by the mitigation plan, prohibited activities on the mitigation property include, but are not limited to, filling; grading; excavating; earth moving of any kind; construction of roads, walkways, buildings signs, or any other structure; any activity that may alter the drainage patterns on the property; destruction, mowing, or other alteration of vegetation on the property; disposal or storage of any garbage trash, or other waste material. In addition, the permittee shall take no action, whether on or off the mitigation property, which will adversely impact the wetlands on the mitigation property. This condition above runs with the land. The permittee shall not sell, lease, or otherwise convey any interest in the mitigation property without subjecting the property to legally enforceable restrictions on the use of the property, to ensure its preservation, approved in writing by the Wilmington District Corps of Engineers.

A permit modification request was submitted on March 7, 2022 which included a request for minor revisions to proposed jurisdictional resources.

Division 6 Construction (Proper Measures for Draining Ponds)

At locations where ponds will be drained, proper measures will be taken to drain the pond with limited impact to upstream and downstream channel stability as well as to native aquatic species. Proper measures will be taken to avoid sediment release and/or sediment accumulation downstream as a result of pond draining. If typical pond draining techniques will create significant disturbance to native aquatic species, additional measures such as collection

and relocation may be necessary to prevent a significant fish kill. NCDOT shall consult with NC Wildlife Resources staff to determine if there are any sensitive species, and the most appropriate measures to limit impacts to these species. The permittee shall observe any natural channel re-establishment, or utilize natural channel construction techniques, to ensure that the jurisdictional stream channel above and below the drained pond remain stable, and that no additional impacts occur within the natural stream channel as a result of draining the pond.



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

July 26, 2018

Regulatory Division/1200A

Action ID: SAW-2008-01413
NC DOT TIP No.: U-2519 BA and BB
Corps Modification # 5

Mr. Philip S. Harris, III, P.E., CPM
Natural Environment Section Head-PDEA
N.C. Department of Transportation
1598 Mail Service Center
Raleigh, NC 27699-1598

Dear Mr. Harris:

Reference the Department of the Army (DA) permit issued on October 23, 2008, and subsequent modifications dated December 21, 2010, June 24, 2014, April 25, 2017, and March 12, 2018 for the discharge of fill material into waters and wetlands adjacent to various creeks, and their tributaries in order to construct Section CA of TIP# U-2519 (Fayetteville Outer Loop TIP Nos. X-0002 B&C, and U-2519 AA, AB, BA, BB, CA, CB, DA, & E), in Cumberland County, North Carolina. Reference is also made to your permit modification request dated May 31, 2018, in which you requested construction authorization for Sections BA and BB. This request would amount to 7.67 acres of permanent fill, excavation, and mechanized land clearing in wetlands and 1,463 linear feet of stream channel permanently impacted in association with the road project. Under the conditions of the DA permit, this permit modification is reliant upon submittal of final plans showing further avoidance/minimization as well as a final mitigation plan to offset unavoidable impacts associated with these Sections. This required information was included within your May, 2018 request.

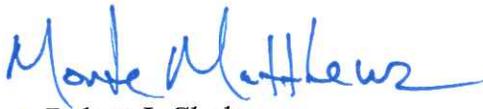
Since these impacts were evaluated within our original assessment, I have determined that the proposed project modifications described above are not contrary to the public interest and are consistent with the 404 (B) (1) Guidelines and therefore, the DA permit is hereby modified for U-2519 Sections BA and BB with one additional condition addressing mitigation needs. The authorized work shall be completed in accordance with the attached revised drawings. All other conditions of the original permit and previous modifications remain applicable. The permit expiration date remains December 31, 2021.

Additional Special Condition:

1. In order to compensate for additional 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 modification authorization.

This approved modification should be attached to the original permit and will be utilized for future compliance reviews of the project. If you have questions, please contact Liz Hair of the Wilmington Regulatory Field Office, at telephone (910) 251-4049.

FOR THE COMMANDER


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

Enclosures:

- 1) 401 Water Quality Certification Modification dated June 21, 2018
- 2) Wetland and Stream Impact Drawings revisions dated March 2, 2018 (section BA) and April 11, 2018 (section BB)

Copies Furnished (electronic):

Ms. Joanne Steenhuis, NCDEQ-DWR
Mr. Chris Rivenbark, NCDOT
Mr. Jim Rerko, NCDOT
Mr. Chris Militscher, EPA
Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NC WRC



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

January 9, 2019

Regulatory Division

Action ID. SAW-2008-01413

SUBJECT: NC DOT TIP No. U-2519 Corps Modification # 6

Mr. Philip S. Harris, III, P.E., CPM
Natural Environment Section Head-PDEA
N.C. Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Reference the Department of the Army (DA) permit issued on October 23, 2008, and subsequent modifications dated December 21, 2010, June 24, 2014, April 25, 2017, March 12, 2018, and July 26, 2018 for the discharge of fill material into waters and wetlands adjacent to various creeks, and their tributaries in order to construct TIP# U-2519 (Fayetteville Outer Loop TIP Nos. X-0002 B&C, and U-2519 AA, AB, BA, BB, CA, CB, DA, & E), in Cumberland County, North Carolina. This was a phased permit, which only authorized work on selected sections. Other sections were not authorized to commence until final designs were completed, impacts to waters and wetlands were minimized to the extent practicable, and all modified plans including, but not limited to, a compensatory mitigation plan were submitted and approved by the US Army Corps of Engineers (Corps).

Also reference your permit modification request dated September 18, 2018, for construction authorization on Sections AA and AB. This modification request includes: 1) 9.23 acres of permanent fill, excavation, and mechanized land clearing in wetlands; 2) 0.41 acre temporary wetland fill; 3) 0.96 acre hand clearing in wetlands; 4) 4,719 linear feet of permanent stream channel impact; and 5) 1,049 linear feet of temporary stream channel impact associated with the road project. This modification presents the final design impacts and a proposed compensatory mitigation plan for these specific sections (AA and AB) of the Fayetteville Outer Loop.

After review of the information you submitted and the inclusion of the following special conditions, we have determined that the proposed project modifications described above are not contrary to the public interest and are consistent with the 404(b)(1) Guidelines. Therefore, the

DA permit is hereby modified for U-2519 section AA and AB with following additional special conditions. Please be aware that all other conditions of the original permit and previous modifications remain applicable. Per your request, the permit expiration date is hereby extended to December 31, 2022.

Additional Special Conditions:

January 9, 2019 Mod. SC1 - In order to compensate for additional 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 modification authorization.

January 9, 2019 Mod. SC2 - All work authorized by this permit must be performed in strict compliance with the originally approved application and plans, and/or any plans previously approved through the subsequent permit modifications. This includes those received on September 18, 2018, and authorized through this permit modification.

This approved modification should be attached to the original permit and will be utilized for future compliance reviews of the project. If you have questions, please contact Liz Hair of the Wilmington Regulatory Field Office, at telephone (910) 251-4049.

FOR THE COMMANDER


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

Enclosures

- 1) 401 Water Quality Certification Modification dated October 18, 2018
- 2) Wetland and Stream Impact Drawings revisions dated September 5, 2018
- 3) Compensatory Mitigation Responsibility Transfer Form

Copies Furnished (electronic):

Ms. Joanne Steenhuis, NCDEQ-DWR

Mr. Chris Rivenbark, NCDOT

Mr. Jim Rerko, NCDOT

Mr. Chris Militscher, EPA

Mr. Gary Jordan, USFWS

Mr. Travis Wilson, NC WRC



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

LINDA CULPEPPER
Interim Director

June 21, 2018

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

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for Proposed improvements to Fayetteville Outer Loop (FaOL) from I-95 South of Fayetteville to NC 24-87, in Cumberland, Hoke and Robeson Counties, Federal Aid Project No. NHP-0620(031), State Project No. 34817.3.13, TIP Nos. X-0002 B&C, and U-2519 AA, AB, BA, BB, CA, DA, and E.
NCDWR Project No. 20080737 v.9

Dear Mr. Harris:

Attached hereto is a modification of Certification No. 3758 issued to The North Carolina Department of Transportation (NCDOT) dated October 6, 2008, and modifications dated June 3, 2010, December 16, 2010, May 22, 2014, June 24, 2014, January 19, 2017, March 29, 2017, April 28, 2017, May 5, 2017 and January 29, 2018. This modification is for the impacts to U-2519 Fayetteville Outer Loop's BA and BB sections. Section BA is approximately a 3.77 mile section of the FaOL that begins south of SR 1003 (Camden Road) and extends to south of SR 1104 (Strickland Bridge Road) and the BB portion is a 1.25 mile section that begins south of SR 1104 (Strickland Bridge Road) and extends to south of US 401.

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

Sincerely,

A handwritten signature in blue ink, appearing to read 'Linda Culpepper', written over a printed name.

Linda Culpepper, Interim Director
Division of Water Resources

Attachments

Electronic copy only distribution:

Liz Hair, US Army Corps of Engineers, Wilmington Field Office
Jim Rerko, Division 6 Environmental Officer
Tyler Stanton, NC Department of Transportation
Chris Rivenbark, NC Department of Transportation
Chris Militscher, US Environmental Protection Agency
Gary Jordan, US Fish and Wildlife Service
Travis Wilson, NC Wildlife Resources Commission
Joanne Steenhuis, NC Division of Water Resources Wilmington Regional Office
File Copy

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

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500 and 15A NCAC 2B. This certification authorizes the NCDOT to impact an additional 8.29 acres of jurisdictional wetlands, 1730 linear feet of streams and 0.422 acres of open waters. The project shall be constructed pursuant to the modification dated received June 1, 2018. The authorized impacts are as described below:

Wetland Impacts in the Cape Fear River Basin

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Area under Bridge (ac)	Total Wetland Impact (ac)
1(BA) [Z60]	1.746			0.103			1.849
2A (BA) [Z59]	2.818			0.085			2.903
2B (BA) [Z 59]	0.115			0.046			0.161
3(BA) [Z57]	0.513		0.192	0.104			0.809
4 (BA) [Z56]	0.003	0.008		0.016	0.604		0.631
5 (BA) [Z55]	0.023			0.017			0.040
6 (BA) [Z55/pond Z55A]	0.815		0.004	0.109			0.928
7 (BA) [WB]	0.364			0.027			0.391
1 (BB) [Z9]	0.085			0.037			0.122
2 (BB) [Z9]	0.287			0.052			0.339
4 (BB) [Z7]	0.046			0.033	0.015		0.094
5 (BB) [WA]			0.003	0.020			0.023
Total	6.815	0.008	0.199	0.649	0.619		8.29

Total Wetland Impact for (Site/Modification): 8.29 acres.

Stream Impacts in the Cape Fear River Basin

Site	Permanent Fill in Intermittent stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impacts (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1 (BA) L330+46 – 333+76			494 lf 25 lf	13 lf 12 lf	507 37	494 25
2 (BB) [Z9]	100	20			120	100
3 (BB) [BC]	145	60			205	145
4 (BB) [Z7]	364	35			399	364
5 (BB) [SA]			11		11	11
7 (BB) [Z9]	126	36			162	126
8 (BB) [Z9]	199	45			244	199
9 (BB) [Z9]		45			45	
TOTAL	934	241	530	25	1730	1464

Total Stream Impacts for Project (Site Modification): 1730 linear feet

Open Water Impacts in the Cape Fear Basin

Site	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
1 (BA) Z60 pipe	0.030	0.002	0.032
1 (BA) Z60 bank stabilization	0.001	0.001	0.001
6 (BA) Z 55/pond Z55a	0.097	0.037	0.134
2 (BB) Z9	0.010	0.001	0.011
3 (BB) BC	0.011	0.002	0.013
4 (BB) Z7	0.020	0.001	0.021
5 (BB) SA	0.001		0.001
6 (BB) Z9	0.174		0.174
7 (BB) Z9	0.012	0.002	0.014
8 (BB) Z9	0.016	0.002	0.018
9 (BB) Z9		0.003	0.003
TOTAL	0.372	0.050	0.422

Total Open Water Impact for Project: 0.422 acres

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

This approval is only valid for the purpose and design that you submitted in your modified application dated received June 1, 2018. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated October 6, 2008 and modifications dated June 3, 2010, December 16, 2010, May 22, 2014, June 24, 2014, January 19, 2017, March 29, 2017, April 28, 2017, May 5, 2017 and January 29, 2018 still apply except where superseded by this certification. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Condition(s) of Certification:

1. **Add Project Specific Conditions** This modification is applicable only to the additional proposed activities. All of the authorized activities and conditions of certification associated with the original Water Quality Certification dated October 6, 2008 and subsequent modifications dated June 3, 2010, December 16, 2010, May 22, 2014, June 24, 2014, January 19, 2017, March 29, 2017, April 28, 2017, May 5, 2017, and January 29, 2018 still apply except where superseded by this certification.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

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

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

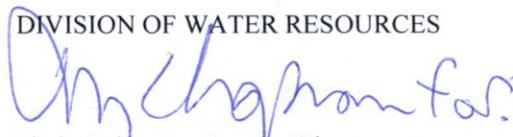
Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919) 431-3000, Facsimile: (919) 431-3100

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

Mr. Bill F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699

This the 21st day of June 2018

DIVISION OF WATER RESOURCES



Linda Culpepper, Interim Director

WQC No. 3758



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

LINDA CULPEPPER
Interim Director

NCDWR Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

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

Applicant's Certification

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

Signature: _____ Date: _____

Agent's Certification

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

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

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

Signature _____ Registration No. _____ Date _____



**North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS**



(Version 2.07; Released October 2016)

WBS Element: 34817.1.FR7 **TIP No.:** U-2519BA **County(ies):** Cumberland **Page** 1 **of** 2

General Project Information

WBS Element:	34817.1.FR7	TIP Number:	U-2519BA	Project Type:	New Location	Date:	3/2/2018
NCDOT Contact:	Paul Atkinson, PE		Contractor / Designer:	RK&K: Jeff Meador, PE			
Address:	1000 Birch Ridge Dr. Raleigh, NC 27610		Address:	900 Ridgefield Drive, Suite 350 Raleigh, NC 27609			
Phone:	919-707-6707		Phone:	919-878-9560			
Email:	patkinson@ncdot.gov		Email:	jmeador@rkk.com			
City/Town:	Fayetteville			County(ies):	Cumberland		
River Basin(s):	Cape Fear			CAMA County?	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	3.77	Surrounding Land Use:	Residential, Commercial					
	Proposed Project			Existing Site				
Project Built-Upon Area (ac.)	62.5	ac.	15.7	ac.				
Typical Cross Section Description:	4 lane divided highway w/ a 70ft median: (2) 12 foot paved shoulders, (2) 12 foot travel lanes, (2) 4 foot paved median shoulders, 62 foot grass median - Total width of 142'			New location				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	34,000	Year:	2038	Existing:	27,300	Year:	2018

General Project Narrative:
(Description of Minimization of Water Quality Impacts)

The proposed project (U-2519BA) is to construct a fully controlled access, four-lane divided highway from South of SR 1003 (Camden Road) to South of SR 1104 (Strickland Bridge Road). The project will have an interchange at Camden Road and grade separations at King Road and Stoney Point Road. There is one major structure along the project, a 3-span, 320' long bridge over UT to Stewarts Creek. In order to avoid impacts, the bridge was designed to span UT to Stewarts Creek and adjacent wetlands, with permanent impacts for the piers only. A temporary work bridge will be utilized to construct the bridge to minimize impacts during construction. All other stream crossings through the alignment will use pipes and have been designed to have as little environmental and surface water impacts as possible. Near station -L- 442+00 RT, an existing roadbed & 18" RCP is proposed to be removed to reconnect an existing wetland on the project. Where excavation is necessary, coir fiber matting and rip-rap were utilized for bank stabilization in an attempt to reduce sediment transport and streambank erosion. Measures have been taken, including reduction of pipe slopes, to lower velocities at jurisdictional features to non-erosive. In an effort to minimize impacts to the project, the team used 3:1 side slopes with guardrail in stream areas where feasible. All of the design is within the Cape Fear River Basin.

Waterbody Information

Surface Water Body (1):	Rockfish Creek [(Upchurches Pond, Old Brower Mill Pond (Number Two Lake)]		NCDWR Stream Index No.:	18-31-(18)			
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class B					
Other Stream Classification:	Supplemental Classification:	None					
Impairments:							
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:	Z60-W (Stream not included in NRTR - Stream within wetland Z60-W)				Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A		Dissipator Pads Provided in Buffer?	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
	(If yes, provide justification in the General Project Narrative)						



North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
 FOR NCDOT PROJECTS



(Version 2.07; Released October 2016)

WBS Element: 34817.1.FR7
 TIP No.: U-2519BA
 County(ies): Cumberland
 Page 2 **of** 2

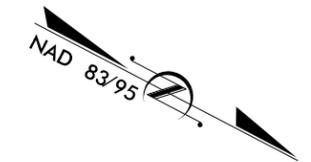
Additional Waterbody Information

Surface Water Body (2):	UT to Stewarts Creek		NCDWR Stream Index No.:	18-31-21	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		None		
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	Z56-S	Buffer Rules in Effect:		N/A	
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (3):	Pond Z55A-P		NCDWR Stream Index No.:	N/A	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		None		
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	Z55A-P	Buffer Rules in Effect:		N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

09/28/19

See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

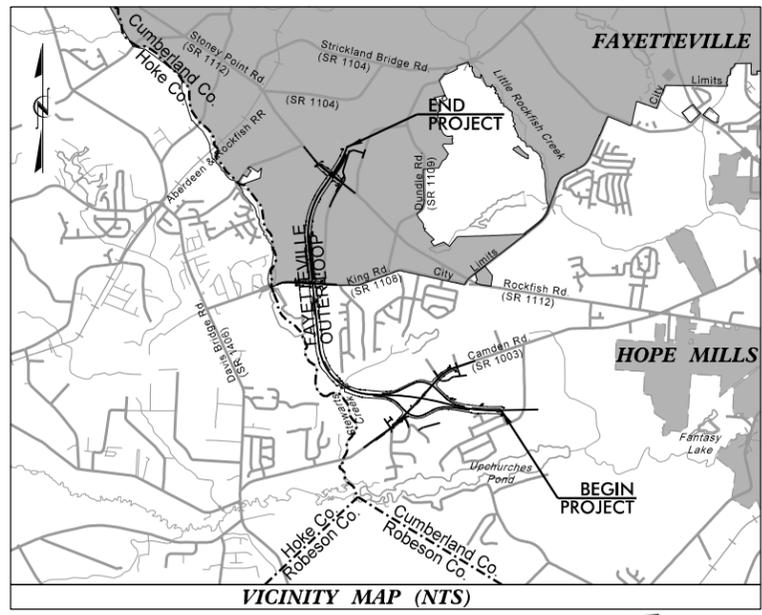


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2519BA	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34817.1.FR7	NHF-0100(24)	P.E.	
34817.2.FR14	NHF-0100(24)	UTILITIES & RW	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 1 OF 39

TIP PROJECT: U-2519BA

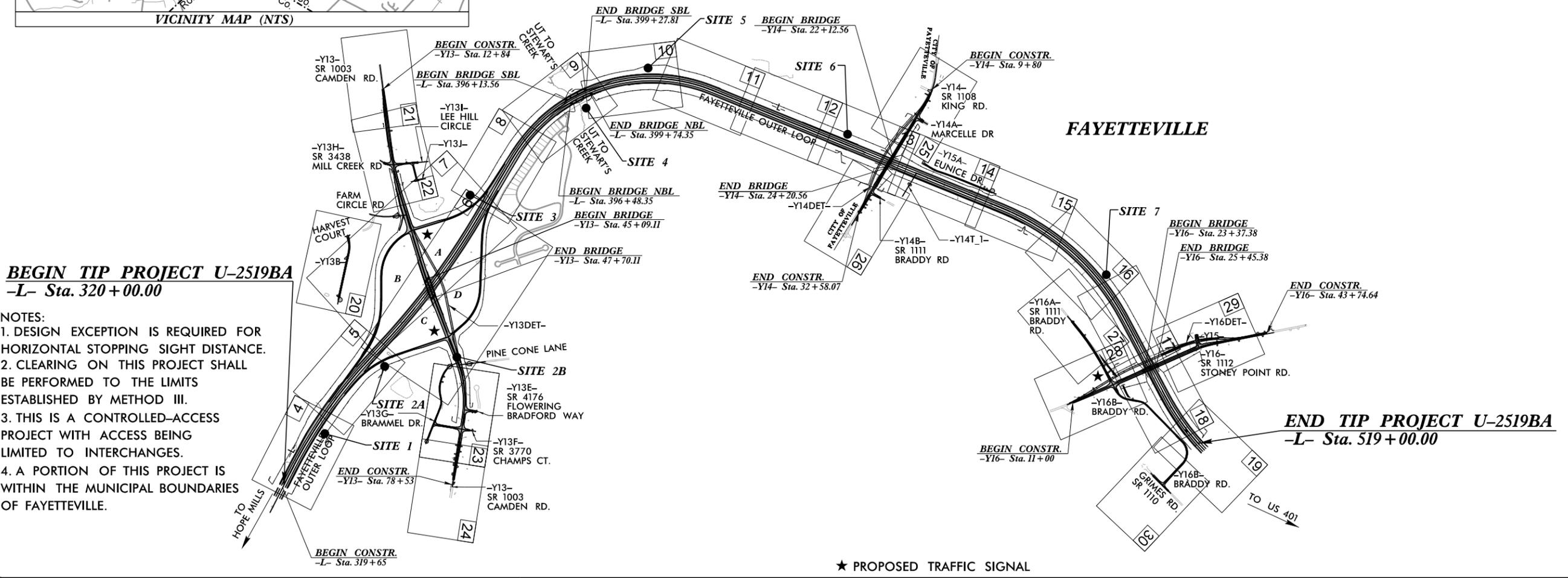


CUMBERLAND COUNTY

LOCATION: FAYETTEVILLE OUTER LOOP FROM SOUTH OF
SR 1003 (CAMDEN ROAD) TO SOUTH OF SR 1104
(STRICKLAND BRIDGE ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS
SIGNING, STRUCTURES, & NOISE WALLS

WETLAND AND STREAM IMPACTS



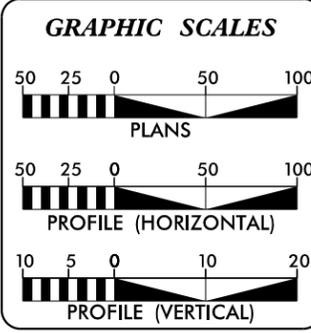
BEGIN TIP PROJECT U-2519BA
-L- Sta. 320 + 00.00

- NOTES:
- DESIGN EXCEPTION IS REQUIRED FOR HORIZONTAL STOPPING SIGHT DISTANCE.
 - 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.
 - A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF FAYETTEVILLE.

END TIP PROJECT U-2519BA
-L- Sta. 519 + 00.00

★ PROPOSED TRAFFIC SIGNAL

CONTRACT:



DESIGN DATA

ADT 2018 =	27,300
ADT 2038 =	34,000
K =	8%
D =	55%
T =	12% *
V =	70 MPH
FUNC CLASS = INTERSTATE	
* (TTST 4% + DUAL 8%) STATEWIDE TIER	

PROJECT LENGTH (NB LANE)

LENGTH ROADWAY TIP PROJECT U-2519BA.....	3.707 miles
LENGTH STRUCTURES TIP PROJECT U-2519BA.....	0.062 miles
TOTAL LENGTH OF TIP PROJECT U-2519BA.....	3.769 miles

PREPARED IN THE OFFICE OF:
RK&K
FOR NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 16, 2016

LETTING DATE:
SEPTEMBER 18, 2018

NCDOT CONTACT: GARY LOVERING, PE
PROJECT ENGINEER - ENGR. COORD.

B. KEITH SKINNER, PE
PROJECT ENGINEER
RK&K, LLP

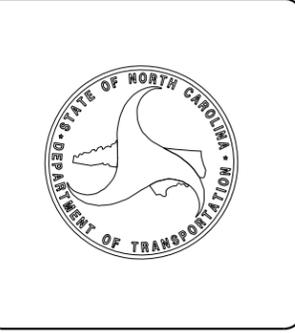
MICHAEL T. MERRITT, PE
PROJECT DESIGN ENGINEER
RK&K, LLP

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

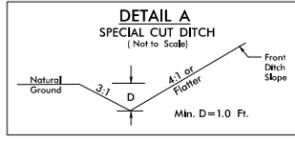
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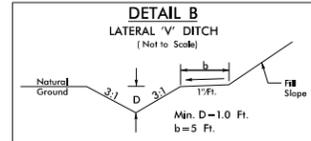
3/2/2018 R:\Hydraulics\PERMITS_Environmental\Drawings\4C\U2519BA_PERM_WET_1.sh.dgn
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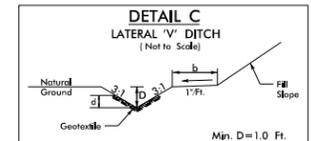
PERMIT DRAWING SHEET 2 OF 39



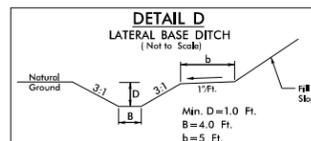
- L- STA. 422+00 TO STA. 424+00 RT
- L- STA. 469+50 TO STA. 472+50 RT
- Y13- STA. 31+66 TO STA. 34+50 RT
- Y13- STA. 52+50 TO STA. 53+70 LT
- Y13- STA. 56+00 TO STA. 57+45 RT
- Y13- STA. 77+50 TO STA. 78+00 RT
- Y13B- STA. 20+00 TO STA. 20+50 LT
- Y13- CUL1- STA. 13+50 TO STA. 14+50 LT
- Y13- CUL1- STA. 13+50 TO STA. 14+80 RT
- Y13- CUL3- STA. 12+00 TO STA. 13+35 LT
- Y13- CUL3- STA. 12+00 TO STA. 13+46 RT
- Y13DET- STA. 14+00 TO STA. 16+50 RT
- Y13DET- STA. 30+50 TO STA. 33+50 RT
- Y16DET- STA. 31+50 TO STA. 34+50 LT
- Y13C- STA. 10+56 TO STA. 13+50 LT
- Y13- STA. 13+25 TO STA. 13+75 LT
- Y13RPD- STA. 22+50 TO STA. 23+50 LT
- Y14- STA. 13+00 TO STA. 14+00 LT
- Y14- STA. 29+18 TO STA. 32+00 LT
- Y14B- STA. 10+59 TO STA. 11+50 RT
- Y14B- STA. 10+75 TO STA. 11+50 LT
- Y16- STA. 12+00 TO STA. 13+35 RT
- Y16A- STA. 11+00 TO STA. 13+00 LT
- Y16A- STA. 16+17 TO STA. 20+00 LT
- Y16A- STA. 11+00 TO STA. 16+50 RT
- Y16B- STA. 27+00 TO STA. 29+50 LT



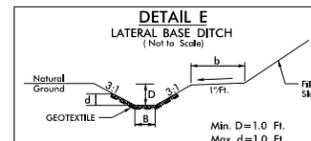
- L- STA. 379+00 TO STA. 379+50 LT
- L- STA. 456+00 TO STA. 457+00 LT
- L- STA. 462+50 TO STA. 464+20 RT
- L- STA. 468+00 TO STA. 469+00 RT
- L- STA. 472+50 TO STA. 475+00 RT
- L- STA. 472+95 TO STA. 477+00 LT
- L- STA. 491+00 TO STA. 496+00 LT
- L- STA. 517+50 TO STA. 519+00 LT
- Y13- STA. 28+00 TO STA. 31+66 RT
- Y13- STA. 49+50 TO STA. 52+50 LT
- Y13B- STA. 12+17 TO STA. 13+00 LT
- Y13B- STA. 10+58 TO STA. 10+50 RT
- Y13I- STA. 11+50 TO STA. 13+25 LT
- Y13I- STA. 13+35 TO STA. 13+75 RT
- Y13RPD- STA. 19+50 TO STA. 22+00 RT
- Y14- STA. 24+18 TO STA. 22+00 LT
- Y14- STA. 26+90 TO STA. 29+50 RT
- Y16- STA. 13+35 TO STA. 17+00 RT
- Y16- STA. 18+74 TO STA. 20+12 LT
- Y16A- STA. 16+50 TO STA. 18+50 RT
- Y16A- STA. 20+00 TO STA. 22+24 LT
- Y13DET- STA. 34+70 TO STA. 35+65 LT
- Y16DET- STA. 21+17 TO STA. 23+00 LT



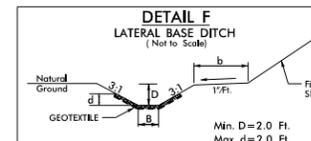
- L- STA. 420+27 TO STA. 421+50 RT
- Y13B- STA. 10+50 TO STA. 12+17 LT



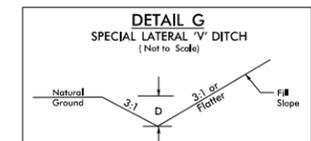
- L- STA. 376+50 TO STA. 377+00 RT
- L- STA. 390+50 TO STA. 394+00 LT
- Y13RPD- STA. 19+00 TO STA. 20+50 RT
- Y14- STA. 24+65 TO STA. 26+90 RT



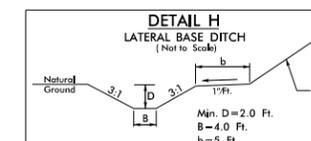
- L- STA. 327+50 TO STA. 332+50 LT
- L- STA. 348+00 TO STA. 349+50 LT
- L- STA. 395+58 TO STA. 397+19 RT
- L- STA. 399+60 TO STA. 403+00 RT
- L- STA. 406+00 TO STA. 415+00 RT
- L- STA. 419+50 TO STA. 420+27 RT
- Y13RPA- STA. 22+00 TO STA. 23+50 RT
- Y13RPD- STA. 20+50 TO STA. 22+00 LT
- Y13B- STA. 18+00 TO STA. 18+80 RT



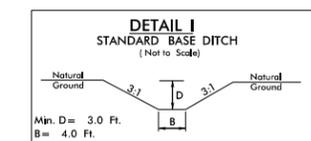
- Y13- STA. 58+22 TO STA. 60+00 LT
- Y13RPB- STA. 23+00 TO STA. 23+50 RT



- L- STA. 456+00 TO STA. 456+65 RT
- Y16- STA. 37+00 TO STA. 44+25 LT
- Y16- STA. 37+50 TO STA. 44+06+22 RT
- Y16B- STA. 13+50 TO STA. 15+00 RT
- Y16C- STA. 11+00 TO STA. 12+13 LT
- Y14DET- STA. 14+50 TO STA. 27+00 LT
- Y16DET- STA. 30+50 TO STA. 31+84 LT
- Y16DET- STA. 33+50 TO STA. 34+25 LT



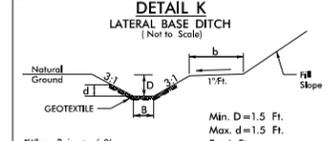
- L- STA. 346+00 TO STA. 350+50 RT
- L- STA. 485+00 TO STA. 489+00 RT
- Y13- STA. 57+50 TO STA. 58+22 LT
- Y13- STA. 69+00 TO STA. 78+53 LT



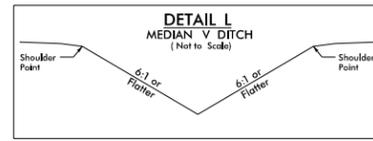
- Y13- STA. 58+60 LT, L=40', S=0.32%
- BEG. ELEV=169.20, END ELEV=169.33



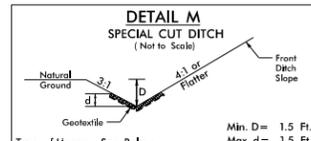
- L- STA. 405+00 TO STA. 406+00 RT
- L- STA. 417+50 TO STA. 419+50 RT
- L- STA. 422+00 TO STA. 422+50 RT
- L- STA. 426+00 TO STA. 431+00 RT
- L- STA. 428+50 TO STA. 431+00 LT
- L- STA. 454+00 TO STA. 456+00 RT
- L- STA. 454+00 TO STA. 456+00 LT



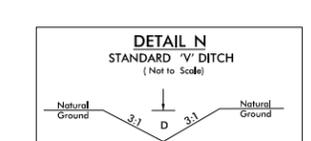
- L- STA. 394+00 TO STA. 395+93.14 LT
- L- STA. 398+96 TO STA. 399+60 RT
- L- STA. 489+00 TO STA. 493+50 RT
- Y13RPA- STA. 20+00 TO STA. 22+00 RT
- Y13RPD- STA. 16+50 TO STA. 19+00 LT



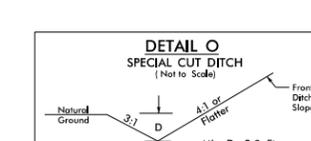
- L- STA. 426+00 TO STA. 431+00 CL
- L- STA. 518+50 TO STA. 519+00 CL



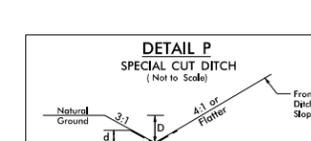
- L- STA. 457+18 TO STA. 458+00 LT, CL I
- L- STA. 463+50 TO STA. 465+50 LT, CL B
- Y13RPB- STA. 23+50 TO STA. 24+50 RT, CL B
- Y14- STA. 10+50 TO STA. 13+00 RT, CL I
- Y15A- STA. 12+17 TO STA. 13+00 RT, CL I
- Y15A- STA. 19+17 TO STA. 21+00 LT, CL B
- Y16A- STA. 18+50 TO STA. 19+50 RT, CL B



- Y13- STA. 34+00 TO STA. 36+22 RT, L=22'
- S=0.32%, BEG. ELEV=178.00, END ELEV=176.70
- Y13CUL1- STA. 14+50 TO STA. 15+06 LT, L=56'
- S=0.96%, BEG. ELEV=177.05, END ELEV=176.51
- Y13CUL1- STA. 14+80 TO STA. 15+14 RT, L=34'
- S=0.79%, BEG. ELEV=176.97, END ELEV=176.70
- Y14- STA. 8+20 TO STA. 9+87 RT, L=170'
- S=2.38%, BEG. ELEV=161.96, END ELEV=166.0
- Y14B- STA. 11+50 TO STA. 12+05 LT, L=55'
- S=1.2%, BEG. ELEV=196.95, END ELEV=196.29
- Y14B- STA. 11+50 TO STA. 12+40 RT, L=90'
- S=0.67%, BEG. ELEV=196.52, END ELEV=195.92
- Y14I- STA. 12+00 LT, L=110', S=1.71%
- BEG. ELEV=190.17, END ELEV=188.29
- Y14I- STA. 12+25 RT, L=135', S=1.67%
- BEG. ELEV=189.21, END ELEV=186.95
- Y15- STA. 10+70 RT, L=31', S=2.58%
- BEG. ELEV=214.20, END ELEV=215.00
- Y16- STA. 13+65 RT, L=48', S=0.3%
- BEG. ELEV=212.14, END ELEV=212.00
- Y16- STA. 44+25 LT, L=105', S=0.45%
- BEG. ELEV=213.12, END ELEV=212.65



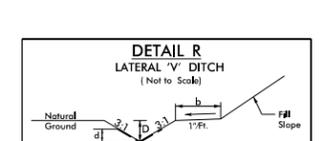
- Y13- STA. 21+00 TO STA. 25+50 RT
- Y13CUL2- STA. 10+96 TO STA. 12+12 LT
- Y13- CUL2- STA. 11+25 TO STA. 12+71 RT
- Y13RPA- STA. 27+00 TO STA. 28+29 RT
- Y16- STA. 35+00 TO STA. 37+50 RT
- Y16B- STA. 29+50 TO STA. 33+00 LT



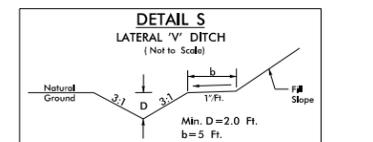
- L- STA. 415+00 TO STA. 415+50 RT
- L- STA. 456+80 TO STA. 458+50 RT
- Y13- STA. 12+91 TO STA. 14+00 LT
- Y13- STA. 12+84 TO STA. 14+00 RT
- Y13DET- STA. 36+15 TO STA. 37+50 LT
- Y14- STA. 10+00 TO STA. 11+00 LT
- Y14DET- STA. 11+78 TO STA. 14+50 RT
- Y15A- STA. 12+30 TO STA. 13+00 LT



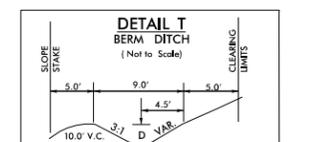
- L- STA. 440+90 TO STA. 441+98 LT



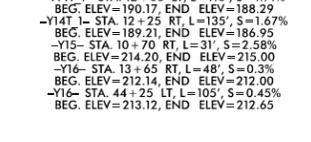
- Y13F- STA. 10+61 TO STA. 11+50 LT



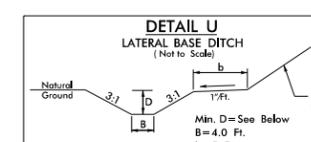
- L- STA. 506+00 TO STA. 513+00 RT
- Y13- STA. 31+66 TO STA. 36+25 LT
- Y14- STA. 15+00 TO STA. 18+67 RT
- Y13DET- STA. 15+50 TO STA. 16+50 LT
- Y13DET- STA. 34+70 LT
- Y14DET- STA. 14+50 TO STA. 19+20 RT
- Y16- STA. 21+27 TO STA. 23+56 RT



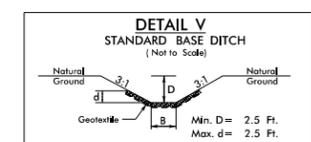
- L- STA. 354+00 TO STA. 358+82 LT
- L- STA. 377+00 TO STA. 380+50 RT
- L- STA. 431+00 TO STA. 434+70 LT
- L- STA. 450+90 TO STA. 451+79 RT
- Y13RPB- STA. 23+50 TO STA. 36+00 RT



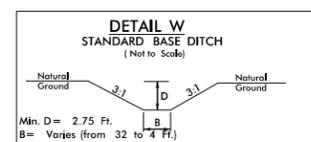
- L- STA. 372+50 TO STA. 373+29.10 LT, D=4'
- Y13- STA. 60+00 TO STA. 67+00 LT, D=3'
- Y16B- STA. 26+62 TO STA. 27+50 RT, D=4.5'



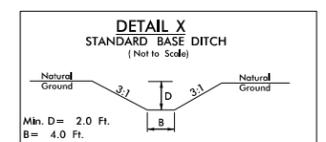
- L- STA. 457+08 LT, L=41', S=0.34%
- BEG. ELEV=184.72, END ELEV=184.58



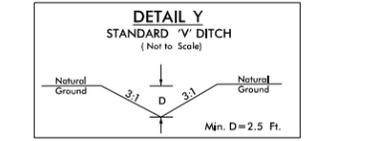
- Y15A- STA. 12+29 LT, L=139', S=0.39%
- BEG. ELEV=184.20, END ELEV=183.66
- Y16C- STA. 33+34 RT, L=74', S=0.3%
- BEG. ELEV=206.10, END ELEV=205.88
- Y13I- STA. 13+75 LT, L=145', S=0.5%
- BEG. ELEV=175.85, END ELEV=175.08



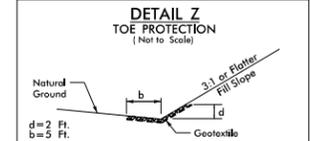
- Y16DET- STA. 21+17 RT, L=68', S=0.09%
- BEG. ELEV=213.70, END ELEV=213.64



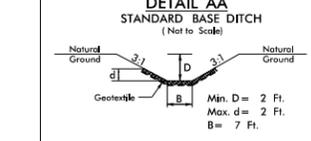
- Y13CUL2- STA. 12+12 LT, L=832', S=0.3%
- BEG. ELEV=169.77, END ELEV=172.25
- Y13CUL2- STA. 10+96 LT, L=30', S=0.3%
- BEG. ELEV=169.42, END ELEV=169.33



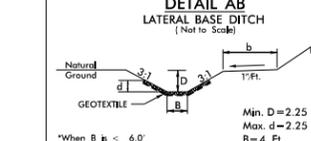
- L- STA. 328+00 TO STA. 331+50 RT
- L- STA. 331+50 TO STA. 334+50 LT
- L- STA. 392+27 TO STA. 393+50 RT
- L- STA. 440+50 TO STA. 443+35 RT
- L- STA. 440+50 TO STA. 443+50 LT
- Y13RPB- STA. 20+00 TO STA. 23+00 RT
- Y13RPB- STA. 17+00 TO STA. 19+00 RT



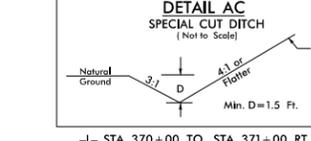
- L- STA. 420+27 RT, L=116', S=3.82%
- BEG. ELEV=175.20, END ELEV=179.63



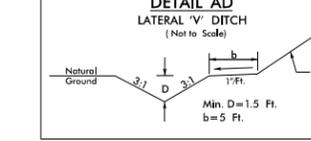
- L- STA. 331+15 TO STA. 332+00 RT
- Y13- STA. 67+00 TO STA. 69+00 LT
- Y13RPA- STA. 16+75 TO STA. 20+00 RT
- Y13RPD- STA. 12+53 TO STA. 16+50 LT



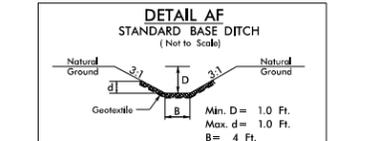
- L- STA. 370+00 TO STA. 371+00 RT
- Y13- STA. 21+00 TO STA. 25+50 LT
- Y13- STA. 29+50 TO STA. 31+66 LT
- Y13- STA. 59+00 TO STA. 67+50 RT
- Y13DET- STA. 1+00 TO STA. 15+50 LT
- Y13DET- STA. 30+50 TO STA. 34+00 RT
- Y13B- STA. 16+25 TO STA. 18+00 LT
- Y13B- STA. 15+00 TO STA. 18+00 RT
- Y13I- STA. 10+20 TO STA. 13+50 RT
- Y13RPB- STA. 38+50 TO STA. 40+50 RT
- Y14- STA. 14+00 TO STA. 15+00 RT
- Y16A- STA. 13+00 TO STA. 16+17 LT
- Y16DET- STA. 12+95 TO STA. 14+00 RT
- Y16DET- STA. 31+00 TO STA. 33+50 RT



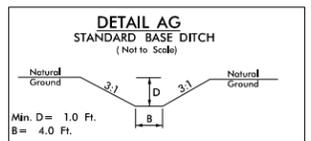
- L- STA. 371+00 TO STA. 371+61 RT
- L- STA. 375+50 TO STA. 379+00 LT
- L- STA. 464+20 TO STA. 468+00 RT
- L- STA. 490+00 TO STA. 496+00 LT
- Y13- STA. 37+38 TO STA. 45+00 RT
- Y13- STA. 67+50 TO STA. 76+50 RT
- Y13B- STA. 10+15 TO STA. 18+00 RT
- Y13I- STA. 10+50 TO STA. 12+50 LT
- Y13RPA- STA. 18+59 TO STA. 22+00 LT
- Y13RPD- STA. 16+15 TO STA. 19+50 RT
- Y13DET- STA. 16+50 TO STA. 30+50 RT
- Y15- STA. 11+00 TO STA. 11+50 RT
- Y16- STA. 29+00 TO STA. 32+00 LT
- Y16B- STA. 23+00 TO STA. 25+00 LT
- Y16DET- STA. 14+00 TO STA. 16+00 RT
- Y16DET- STA. 18+75 TO STA. 21+17 LT



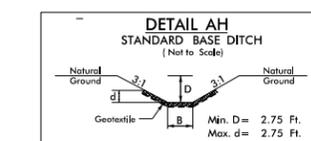
- L- STA. 332+00 TO STA. 338+00 RT
- L- STA. 375+35 TO STA. 376+50 RT
- L- STA. 489+39 TO STA. 490+00 LT



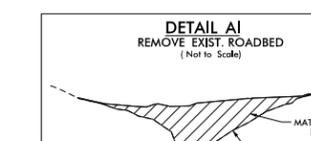
- Y13B- STA. 20+50 RT, L=57', S=4.9%
- BEG. ELEV=154.81, END ELEV=152.00
- L- 376+92 RT, L=60', S=8.3%
- BEG. ELEV=154.50, END ELEV=149.55
- Y13RPD- STA. 18+89 LT, L=44', S=8.3%
- BEG. ELEV=160.20, END ELEV=156.57
- Y13B- STA. 18+80 RT, L=50', S=7.4%
- BEG. ELEV=156.70, END ELEV=153.00



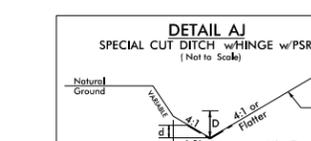
- Y14- STA. 6+80 TO 7+80 RT, L=100', S=1.46%
- BEG. ELEV=161.20, END ELEV=159.74



- Y13I- STA. 13+75 LT, L=15', S=0.5%
- BEG. ELEV=175.08, END ELEV=175.00
- Y15A- STA. 12+20 LT, L=61', S=0.39%
- BEG. ELEV=184.44, END ELEV=184.20



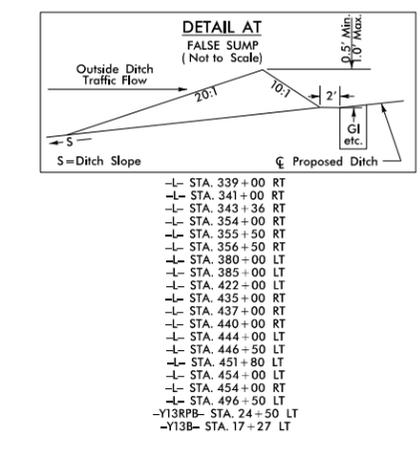
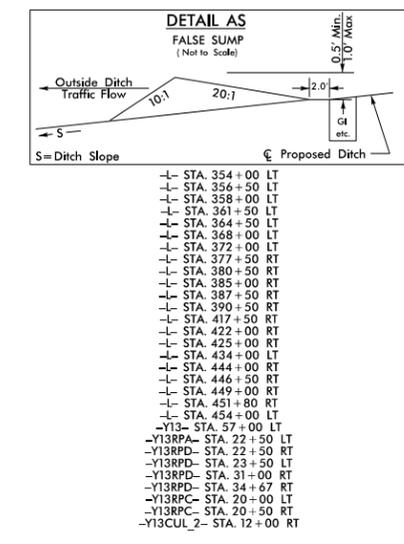
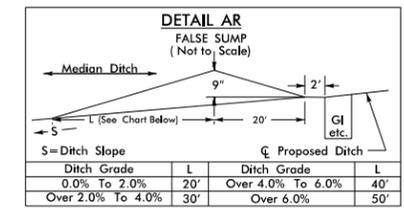
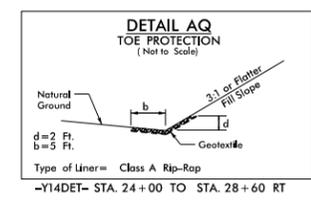
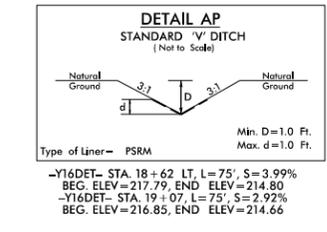
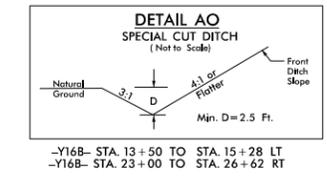
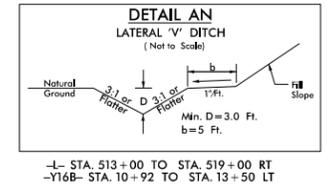
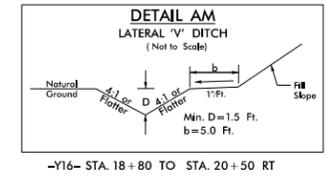
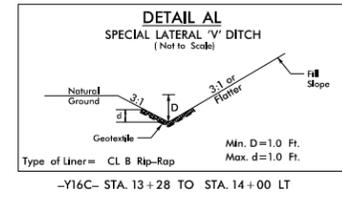
- L- STA. 441+93 TO STA. 443+35 RT



- Y14DET- STA. 10+50 TO STA. 11+78 RT

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PERMIT DRAWING SHEET 3 OF 39



6/12/09

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B.17/99



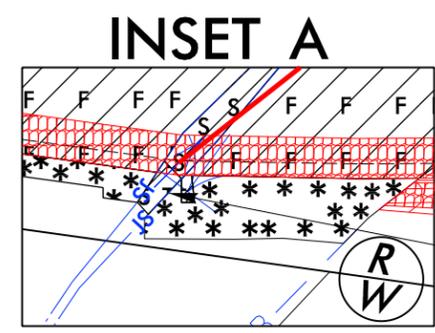
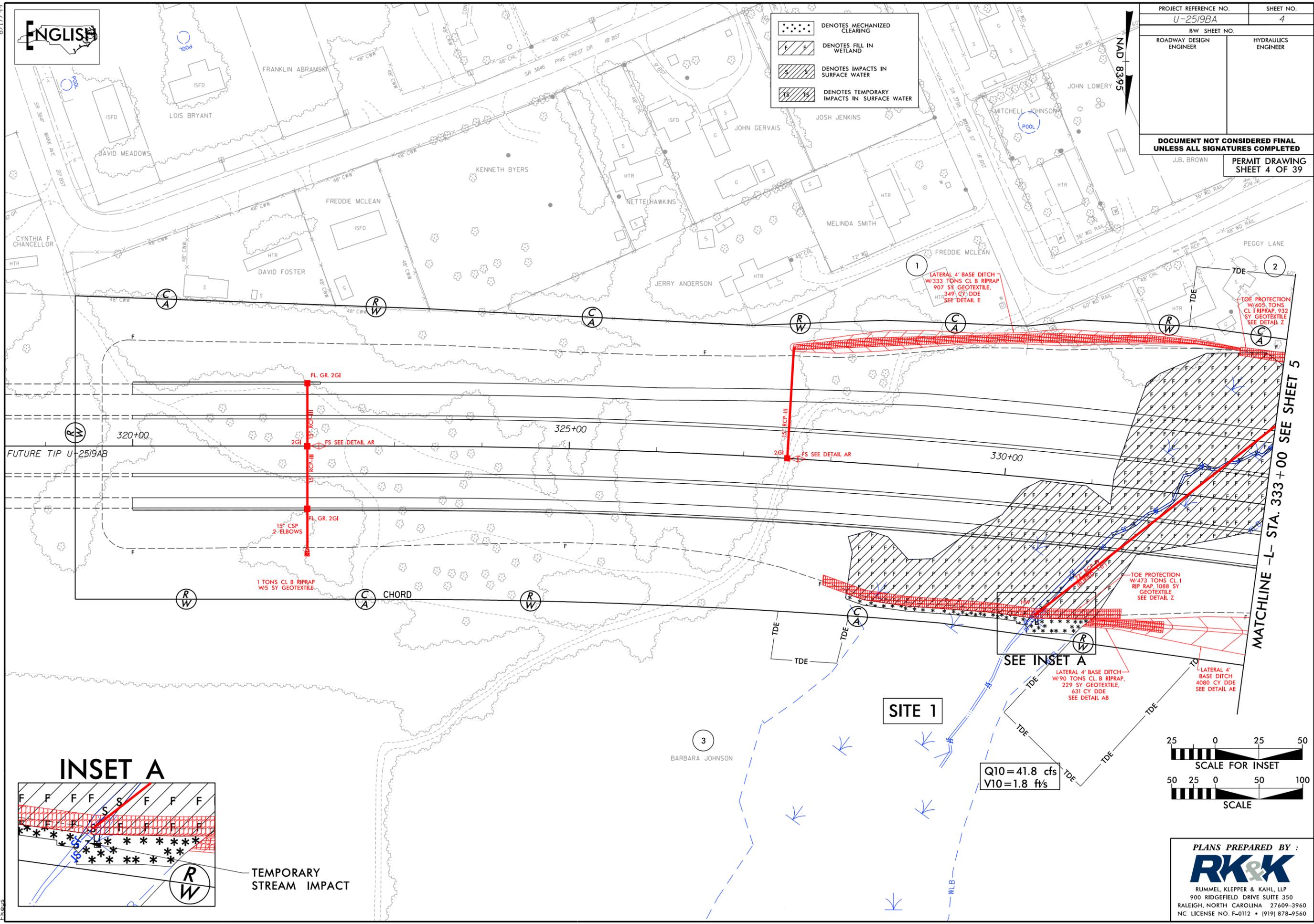
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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J.B. BROWN PERMIT DRAWING SHEET 4 OF 39

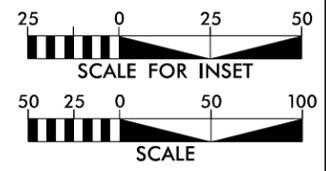
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- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83 95



TEMPORARY STREAM IMPACT

Q10=41.8 cfs
V10=1.8 ft/s



PLANS PREPARED BY :

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NC LICENSE NO. F-0112 • (919) 878-9560

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B.17/99



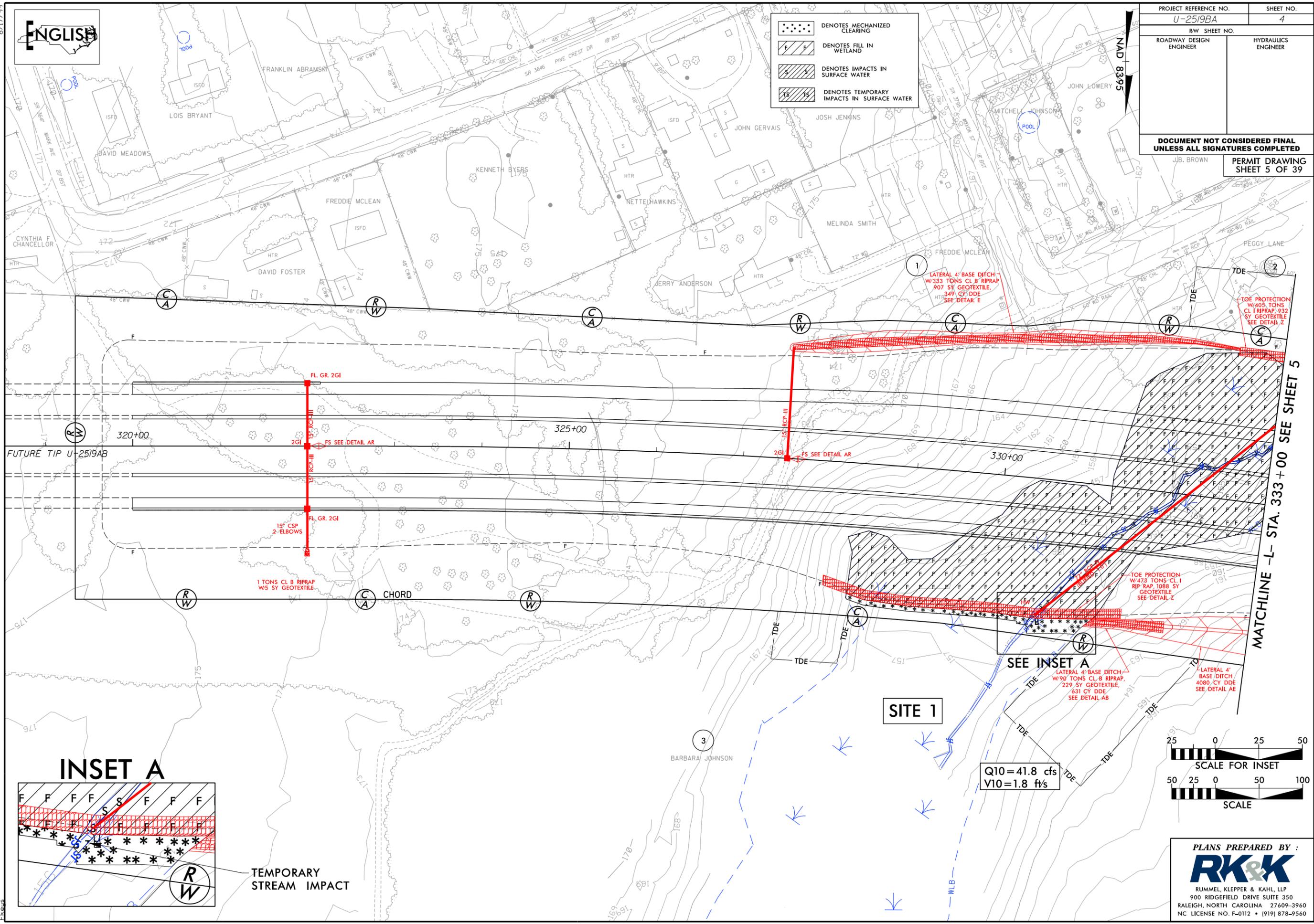
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RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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UNLESS ALL SIGNATURES COMPLETED**

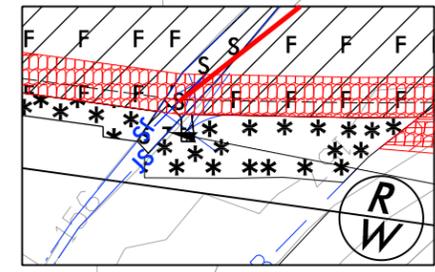
J.B. BROWN PERMIT DRAWING SHEET 5 OF 39

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

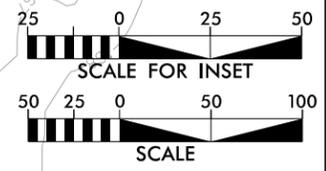
NAD 83 95



INSET A



TEMPORARY STREAM IMPACT



PLANS PREPARED BY :

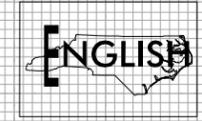
RK&K

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5/14/99

PROJECT REFERENCE NO. <i>U-2519BA</i>	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

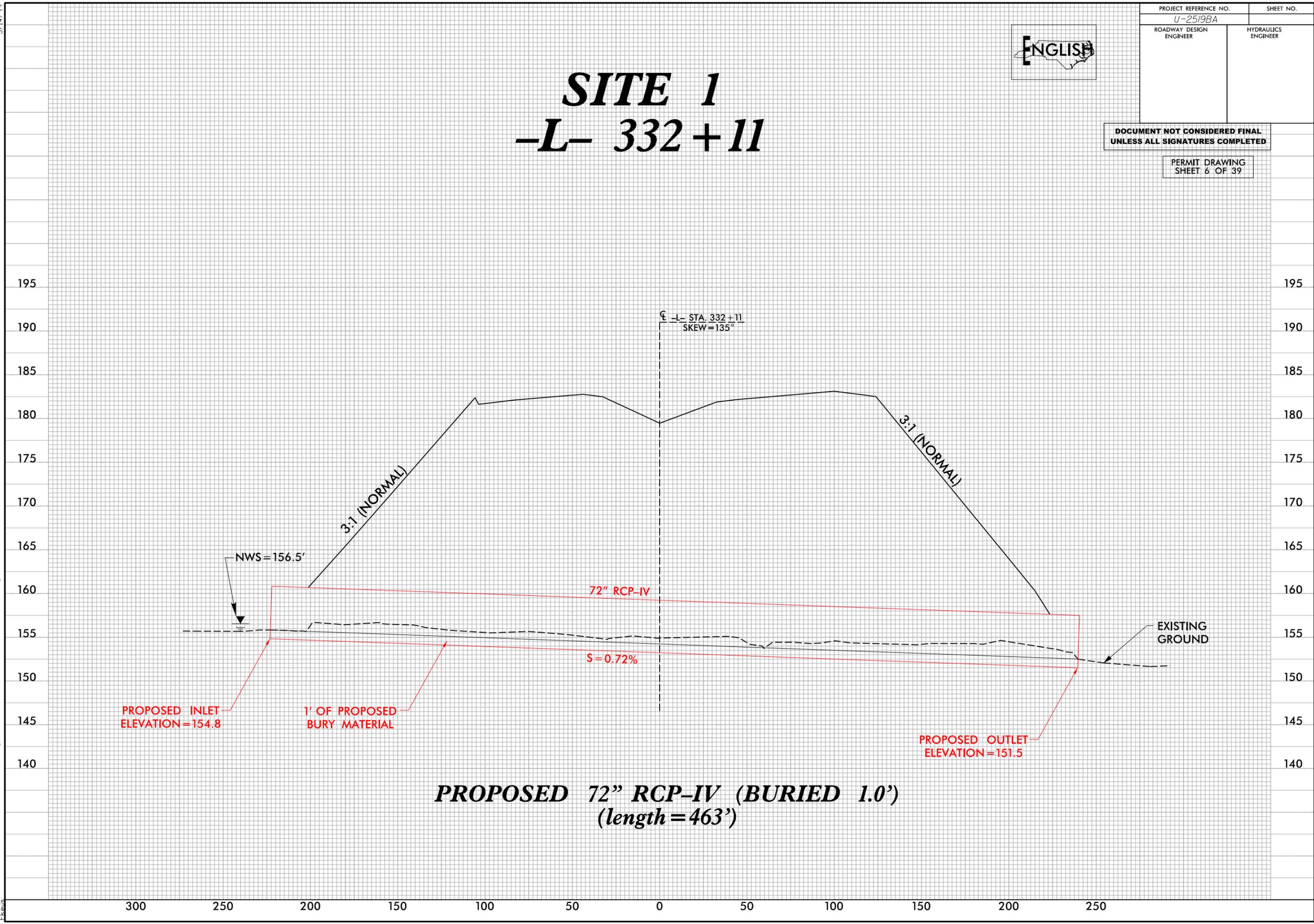


SITE 1

-L- 332+11

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PERMIT DRAWING
SHEET 6 OF 39



PROPOSED INLET
ELEVATION = 154.8

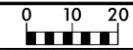
1' OF PROPOSED
BURY MATERIAL

PROPOSED OUTLET
ELEVATION = 151.5

PROPOSED 72" RCP-IV (BURIED 1.0')
(length = 463')

3/2/2016
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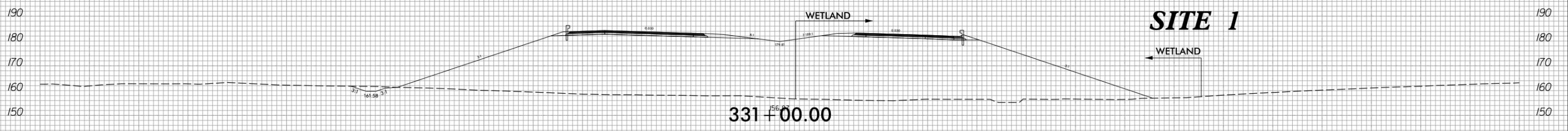
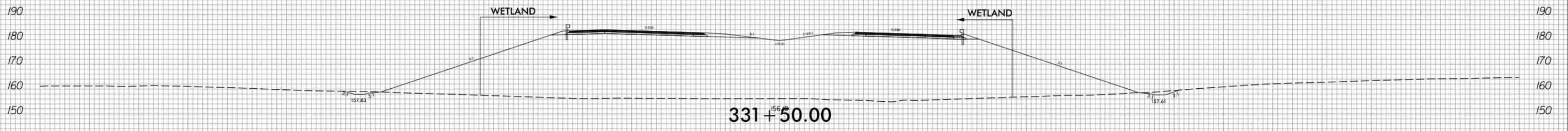
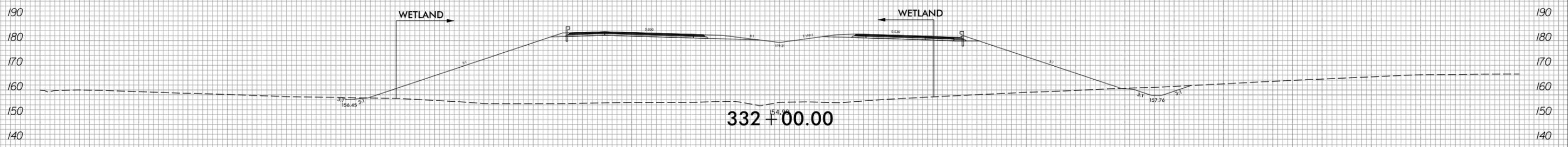
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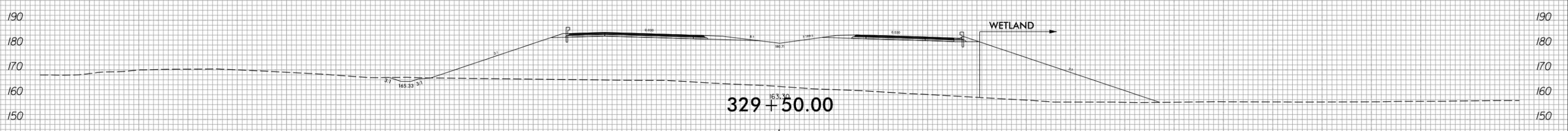
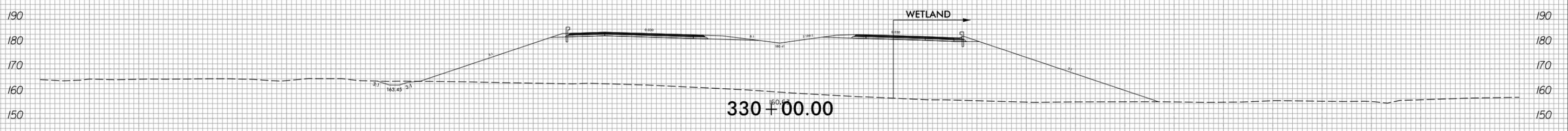
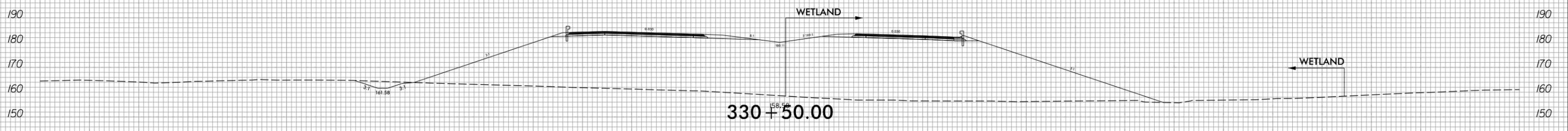
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U-2519BA	X-5

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PERMIT DRAWING
SHEET 7 OF 39

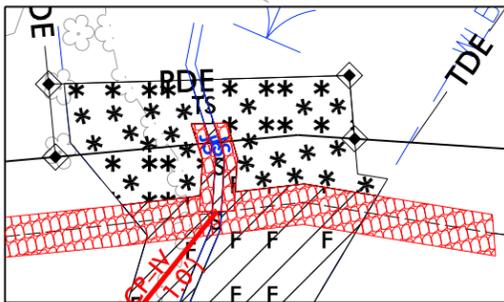
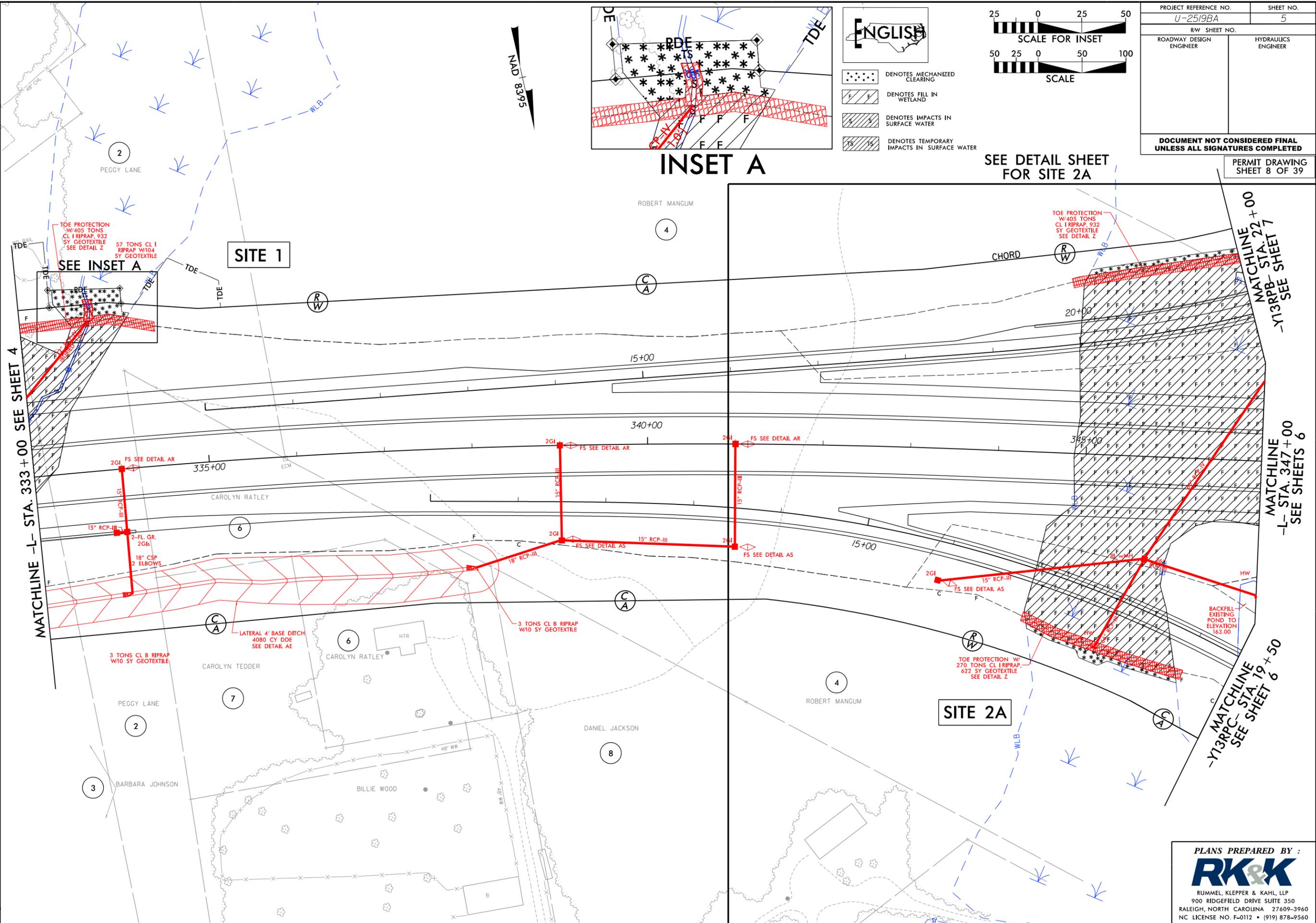


SITE 1



3/2/2018
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3/2/2018
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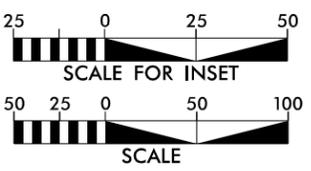


INSET A

SEE DETAIL SHEET FOR SITE 2A

ENGLISH

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



PROJECT REFERENCE NO. U-2519BA	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

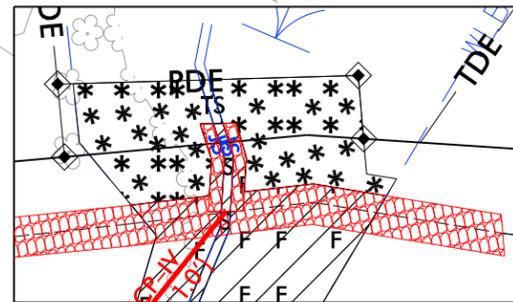
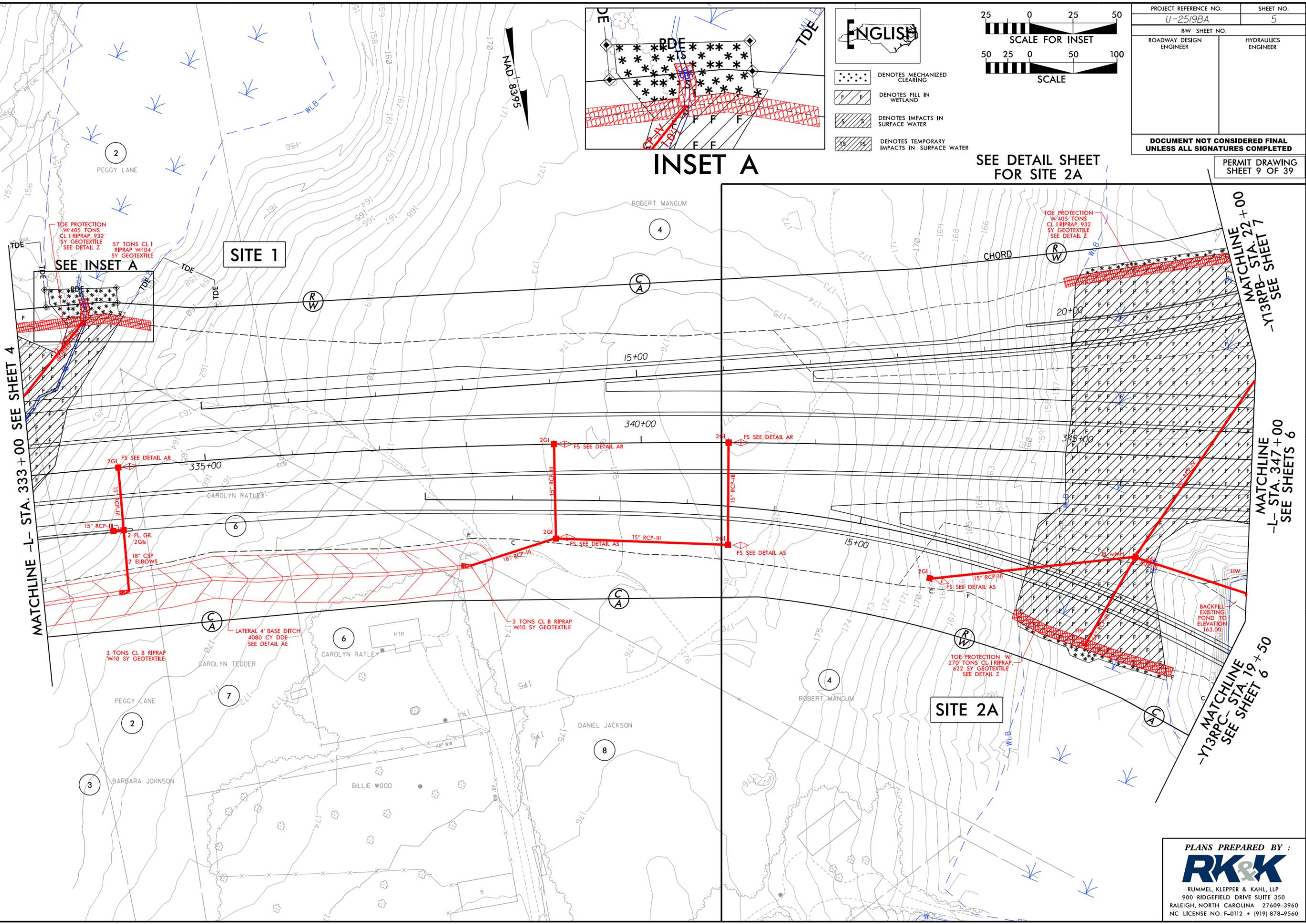
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PLANS PREPARED BY :

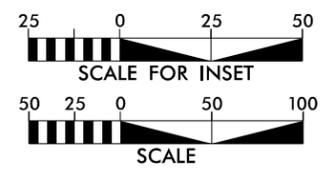
RK&K

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NC LICENSE NO. F-0112 • (919) 878-9560

8/17/99
3/2/2018
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INSET A



- ENGLISH
- DENOTES MECHANIZED CLEARING
- F F F DENOTES FILL IN WETLAND
- S S S DENOTES IMPACTS IN SURFACE WATER
- T T T DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO. U-2519BA	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PERMIT DRAWING SHEET 9 OF 39	

SEE DETAIL SHEET FOR SITE 2A

MATCHLINE -L- STA. 333+00 SEE SHEET 4

MATCHLINE STA. 22+00
-Y13RPB- SHEET 7
SEE SHEET 7

MATCHLINE -L- STA. 347+00
SEE SHEETS 6

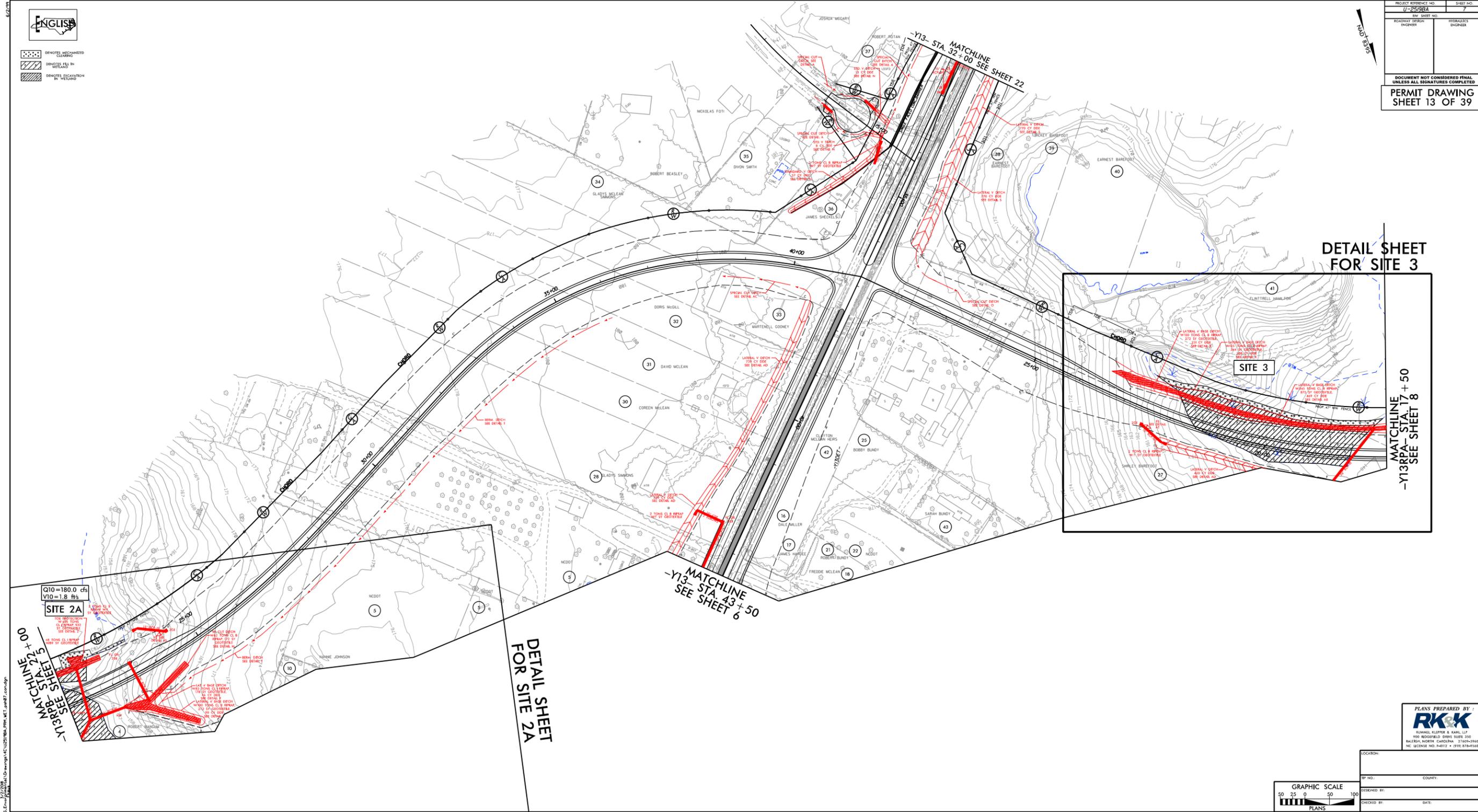
MATCHLINE -Y13RPC- STA. 19+50
SEE SHEET 6

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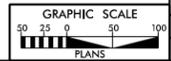
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- DENOTES MECHANIZED CLEARING
- DENOTES ALL IN WETLAND
- DENOTES EXCAVATION IN WETLAND



PROJECT REFERENCE NO. 17-0387A	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDROLOGIC ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PERMIT DRAWING SHEET 13 OF 39	

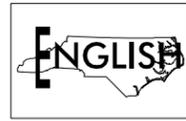
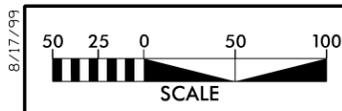


LOCATION:	COUNTY:
DATE:	DATE:
CHECKED BY:	CHECKED BY:
DESIGNED BY:	DATE:

PLANS PREPARED BY:

R&K

SHIMMEL HUPPES & HALL, L.P.
100 REDFORD DRIVE SUITE 310
RALEIGH, NORTH CAROLINA 27609-2940
NC LICENSE NO. 4-4017 • (919) 878-6568

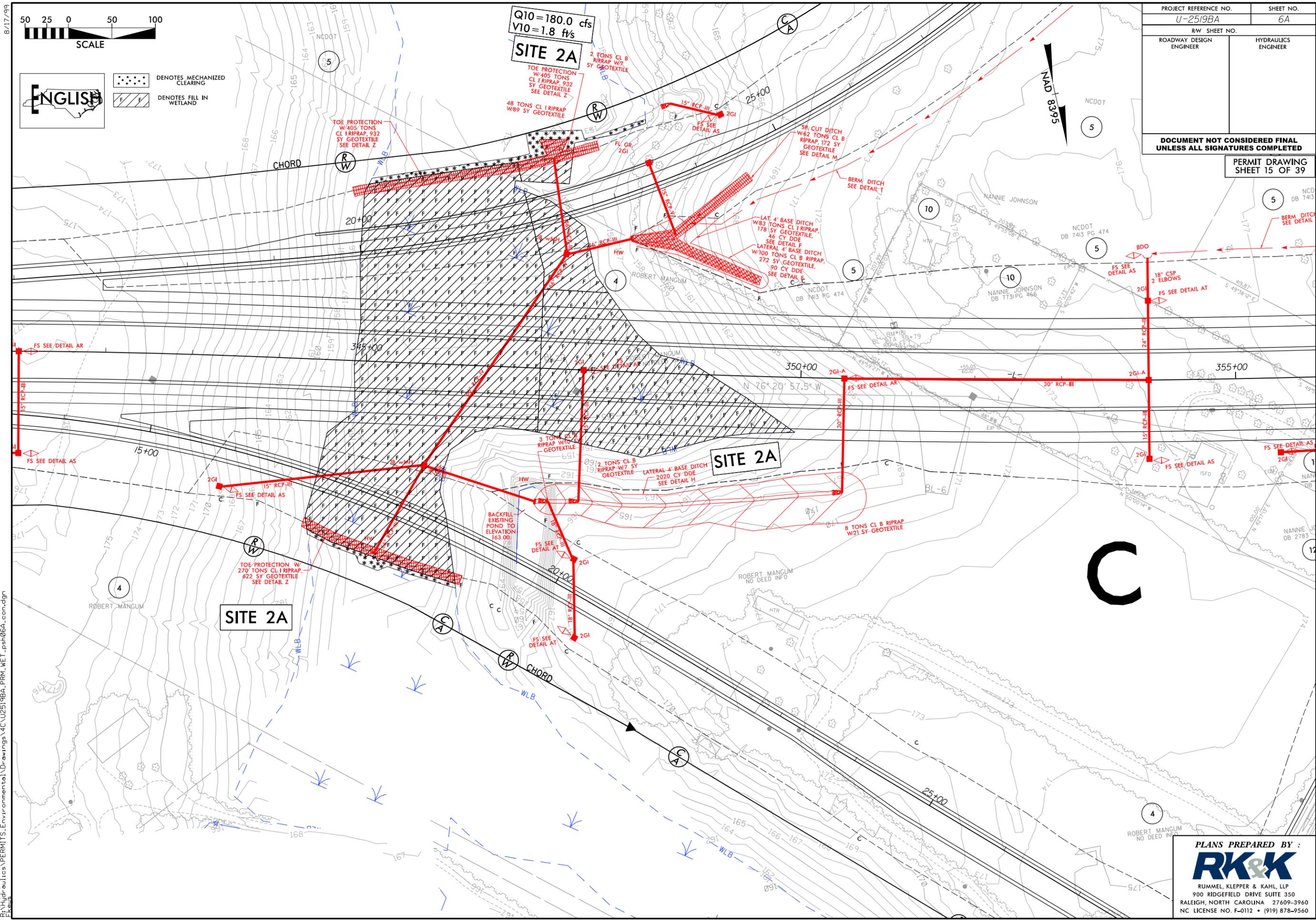


DENOTES MECHANIZED CLEARING
 DENOTES FILL IN WETLAND

PROJECT REFERENCE NO. U-2519BA	SHEET NO. 6A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PERMIT DRAWING SHEET 15 OF 39



C

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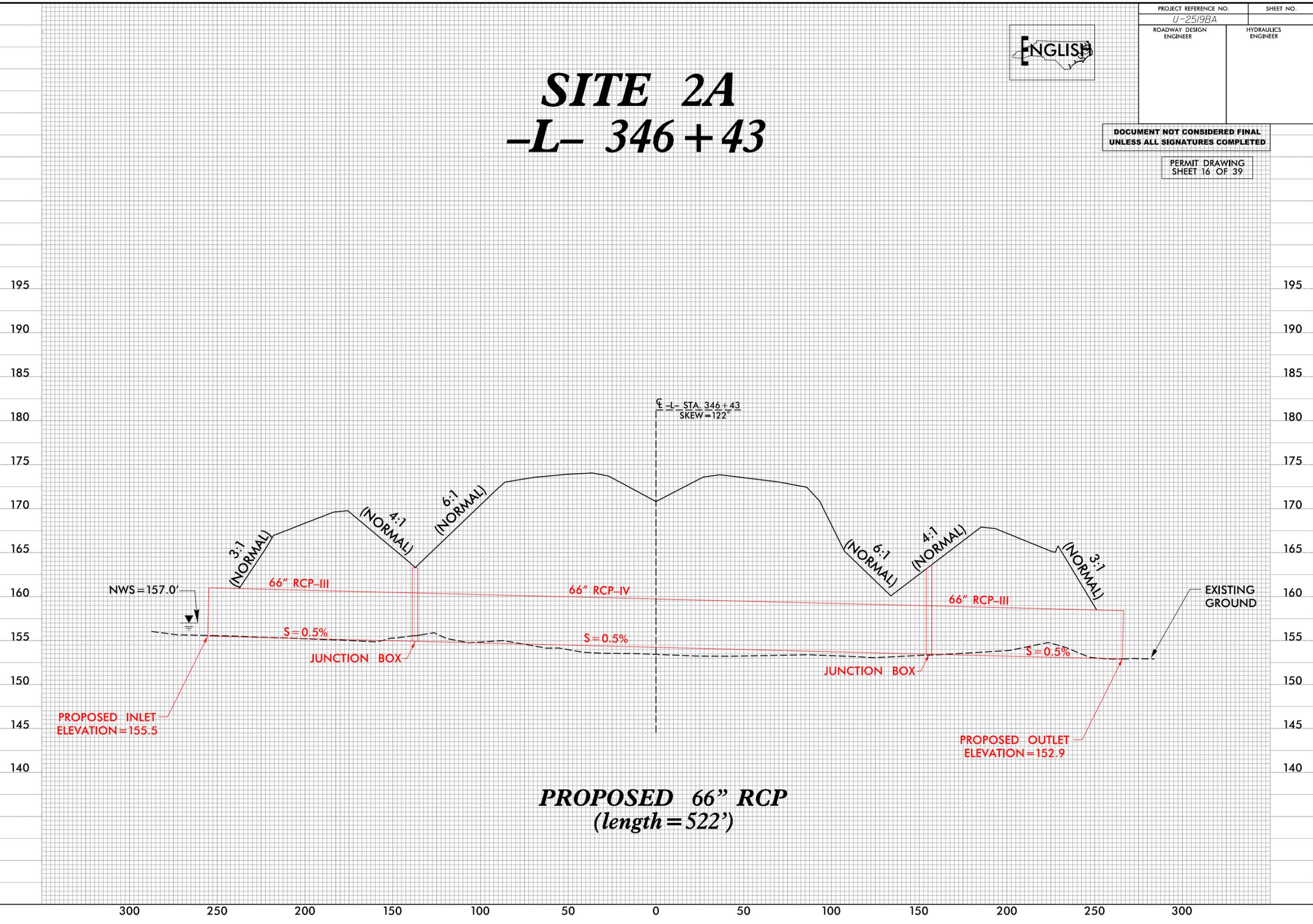


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PERMIT DRAWING SHEET 16 OF 39

SITE 2A -L- 346 + 43

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3/2/2018
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8/23/99

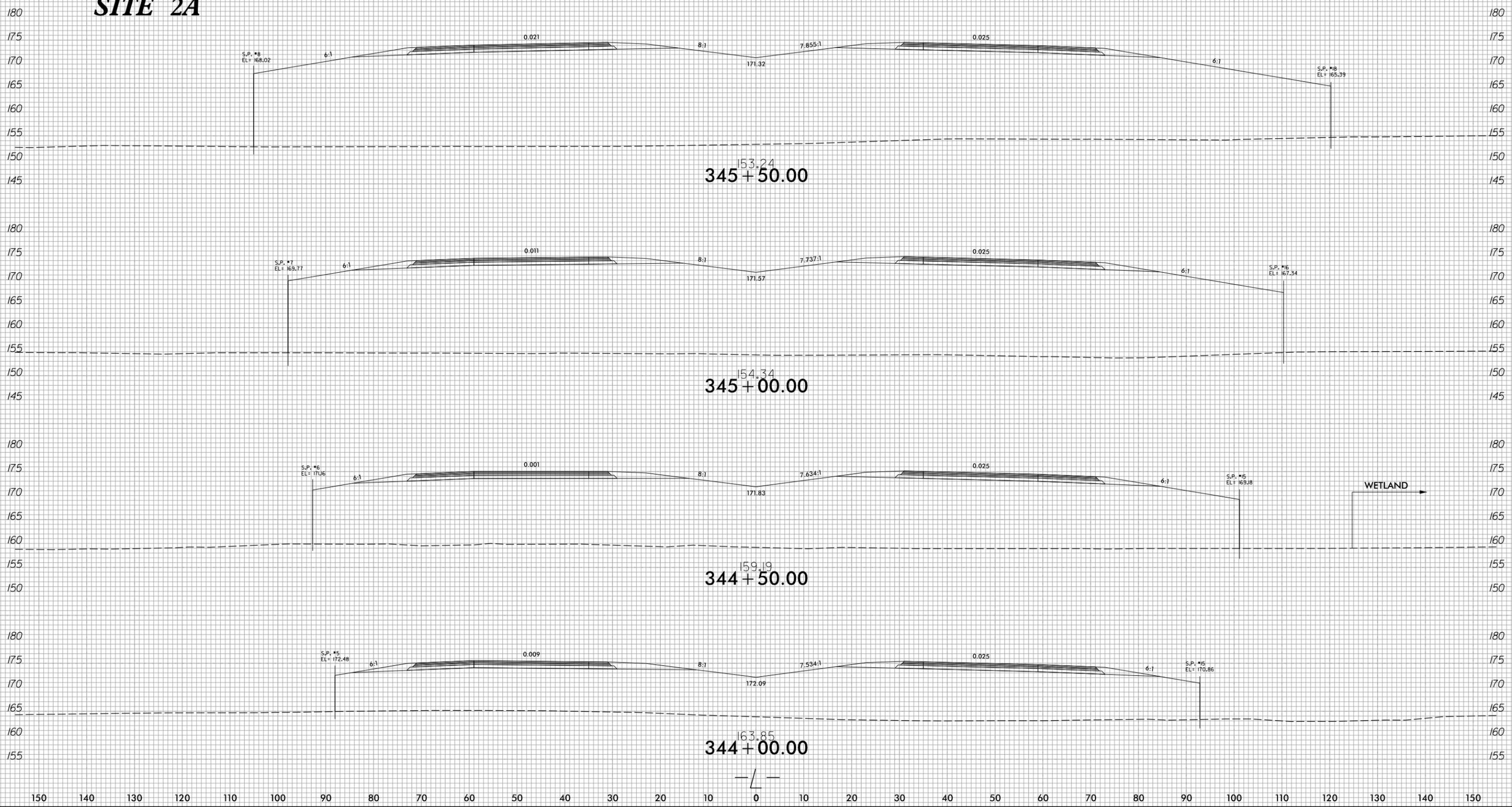


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PERMIT DRAWING
SHEET 17 OF 39

SITE 2A



WETLAND

3/2/2018
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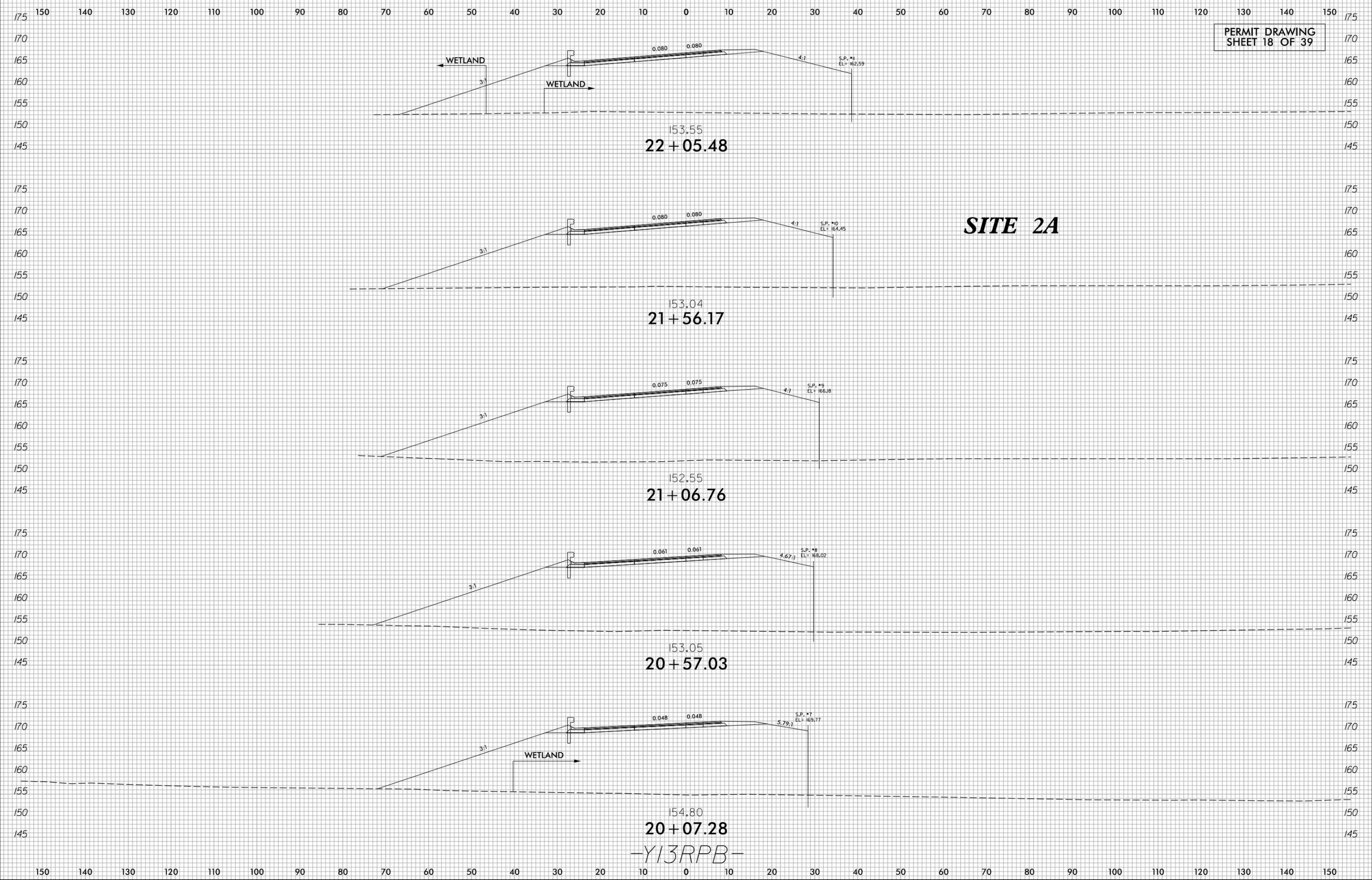
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PERMIT DRAWING
SHEET 18 OF 39

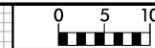


SITE 2A

-Y13RPB-

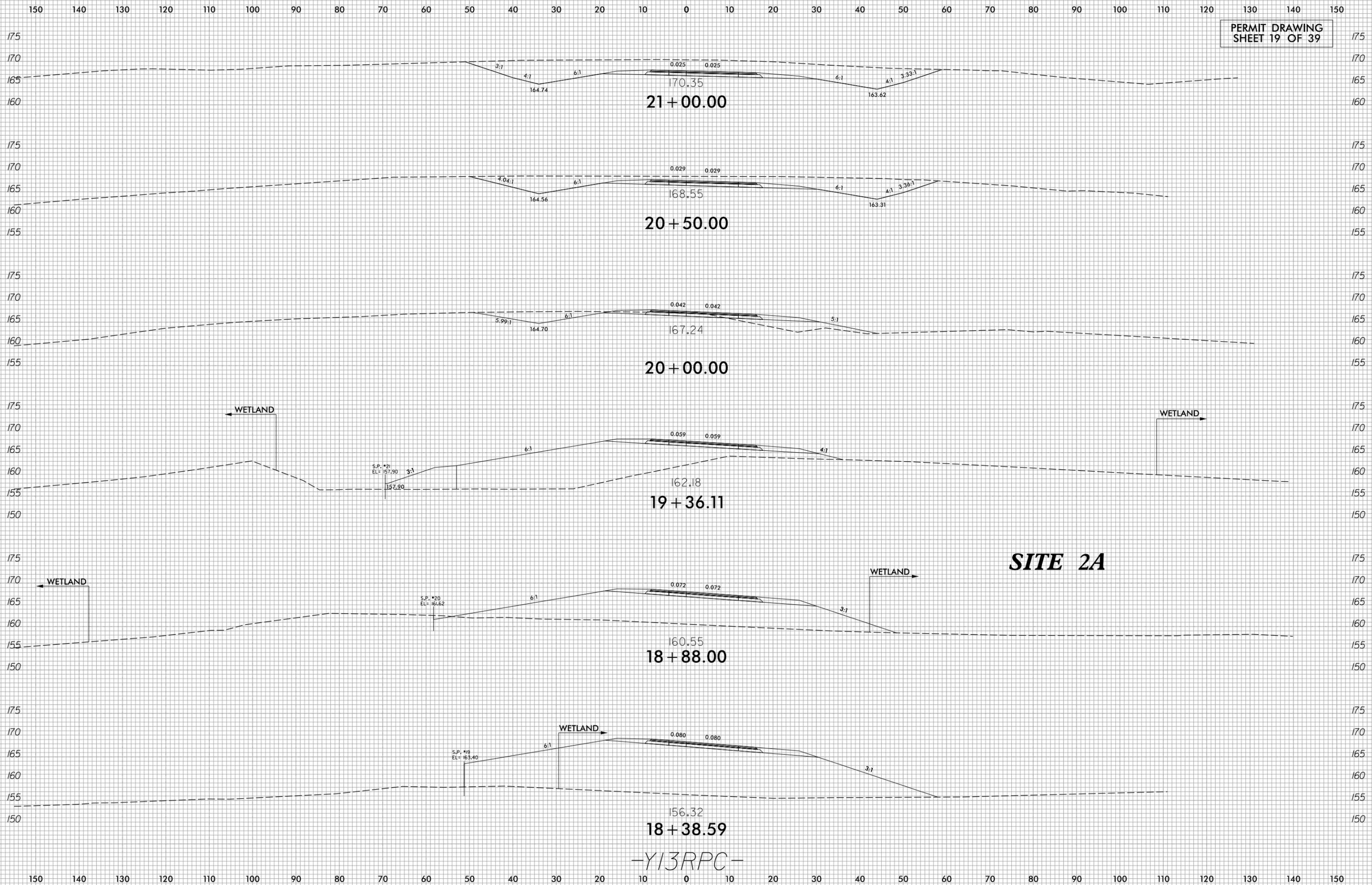
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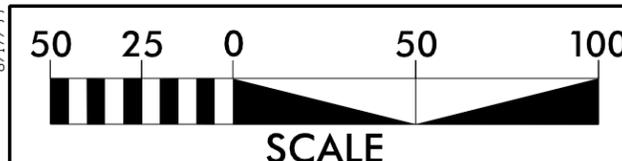


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PERMIT DRAWING
SHEET 19 OF 39



3/2/2008
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- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND

PROJECT REFERENCE NO. U-2519BA	SHEET NO. 6B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PERMIT DRAWING SHEET 20 OF 39	

SITE 2B

Q10 = 85.9 cfs
V10 = 1.6 ft/s

30 TONS CL B RIP RAP W/74 SY GEOTEXTILE

MIN FS (DETAIL AT)
ELEV. = 172.3

3 TONS CL B RIP RAP W/10 SY GEOTEXTILE

SPECIAL CUT DITCH SEE DETAIL O

SPECIAL CUT DITCH SEE DETAIL AC

STD. V DITCH 12 CY DDE SEE DETAIL Y

2 @ 42" RCP-II
STD. * BASE DITCH 40' CF DDE SEE DETAIL I

FS SEE DETAIL AT

2 TONS CL B RIP RAP W/7 SY GEOTEXTILE

5 TONS CL B RIP RAP W/14 SY GEOTEXTILE

LATERAL 4' BASE DITCH SEE DETAIL H

LATERAL 4' BASE DITCH W/296 TONS CL. I RIP RAP 632 SY GEOTEXTILE, 455 CY DDE SEE DETAIL F

SITE 2B

PEAR TREE VENTURES LLC
DB 6108 PG 207
DB 6057 PG 481
PB 110 PG 03

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RUMMEL, KLEPPER & KAHL, LLP
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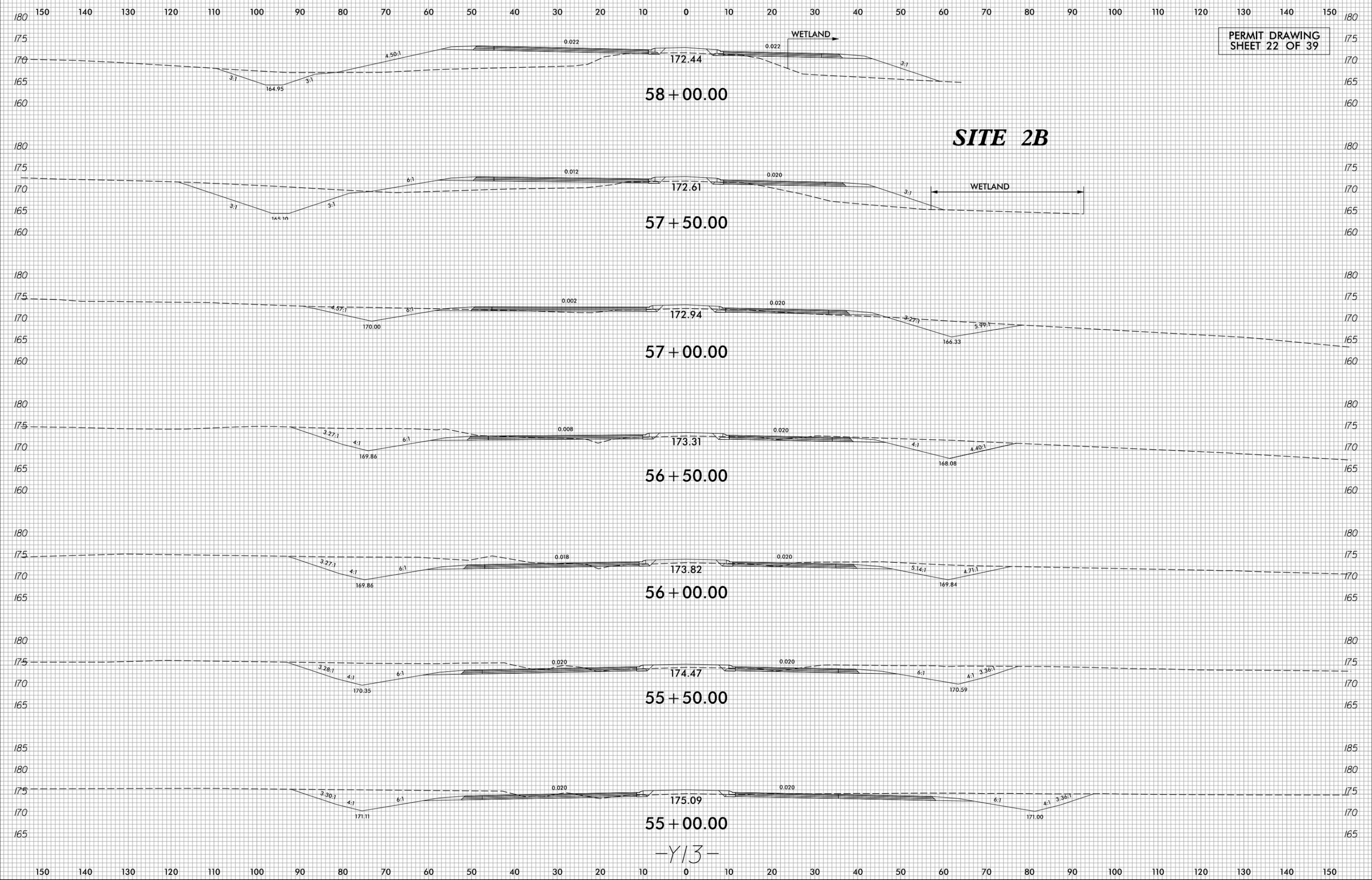
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8/23/99



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PERMIT DRAWING
SHEET 22 OF 39



-Y13-

3/2/2018
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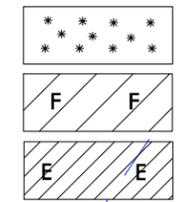
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 23 OF 39



SCALE



***** DENOTES MECHANIZED CLEARING

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND



41

FLINTTRELL HAMILTON

SITE 3

TDE
TDE
CHORD
TDE
TDE

LATERAL 4' BASE DITCH
W/100 TONS CL. B RIPRAP,
272 SY GEOTEXTILE,
231 CY DDE
SEE DETAIL E

LATERAL 4' BASE DITCH
W/125 TONS CL. B RIPRAP,
344 SY GEOTEXTILE,
308 CY DDE
SEE DETAIL K

LATERAL 4' BASE DITCH
W/345 TONS CL. B RIPRAP,
875 SY GEOTEXTILE,
469 CY DDE
SEE DETAIL AB

2GI
C
15" RCP-III
FS
SEE DETAIL AT

2 TONS CL B RIPRAP
W/7 SY GEOTEXTILE

27

SHIRLEY BAREFOOT

LATERAL V DITCH
420 CY DDE
SEE DETAIL AD

LATERAL V DITCH
420 CY DDE
SEE DETAIL AD

2GI-A
C
36" RCP-III
FS
SEE DETAIL AT

LATERAL 4' BASE DITCH
137 CY DDE
SEE DETAIL U

MATCHLINE
-Y13RPA- STA. 17 + 50
SEE SHEET 8

MATCHLINE
-L- STA. 37A + 50
SEE SHEET 8

PLANS PREPARED BY :

RK&K

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3/2/2018
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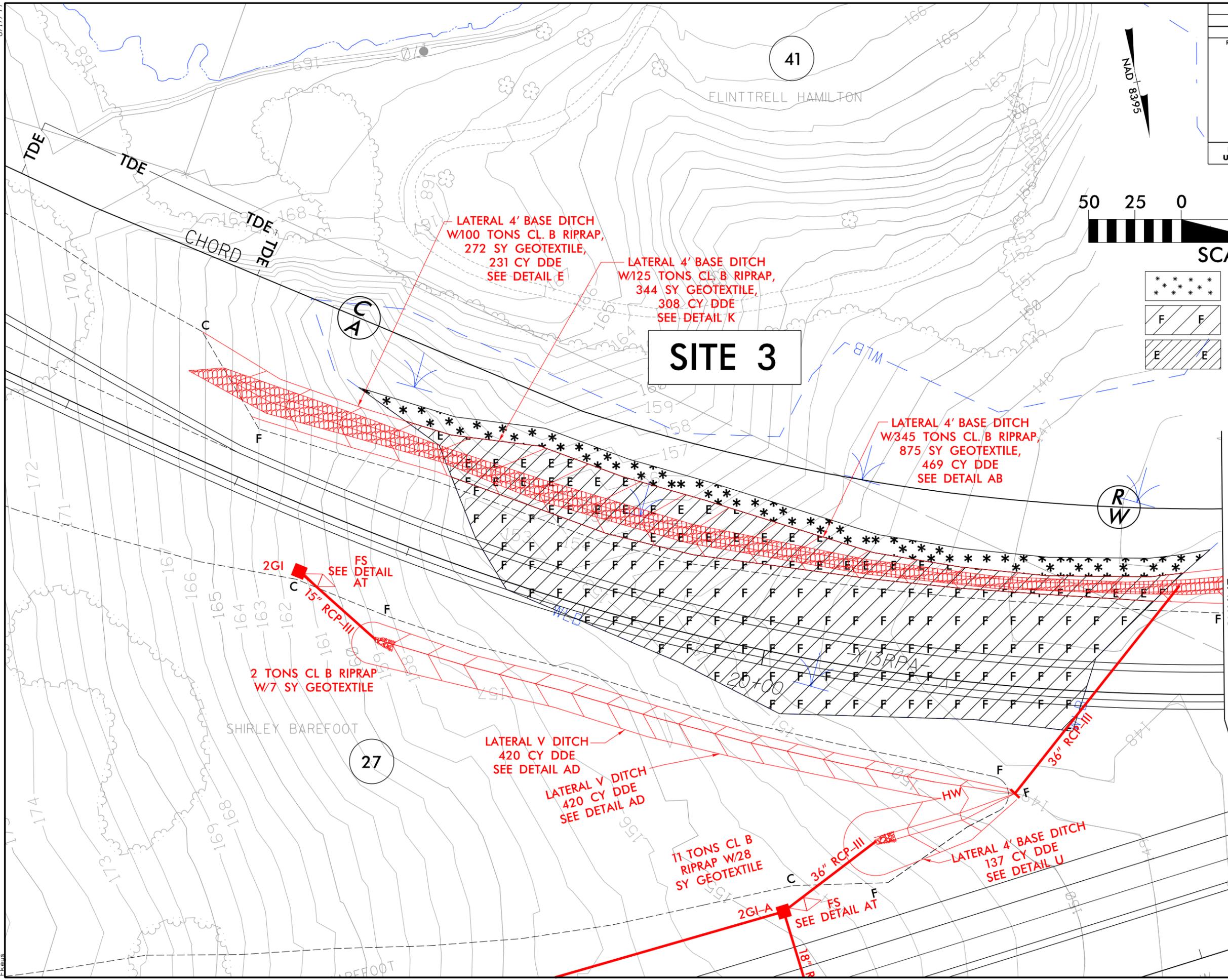
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 24 OF 39



- ***** DENOTES MECHANIZED CLEARING
- F F DENOTES FILL IN WETLAND
- E E DENOTES EXCAVATION IN WETLAND



MATCHLINE
-Y13RPA- STA. 17 + 50
SEE SHEET 8

MATCHLINE
-L- STA. 374 + 50
SEE SHEET 8

PLANS PREPARED BY :
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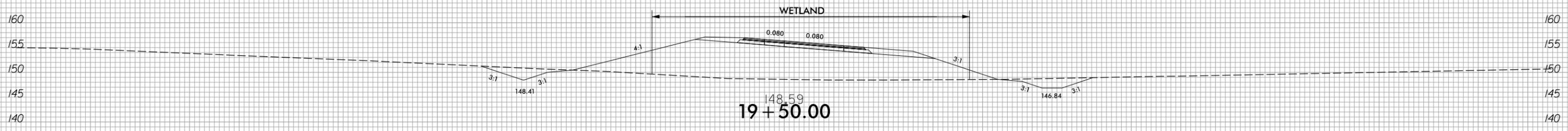
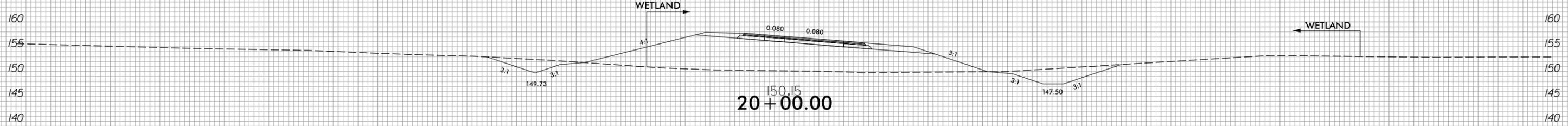
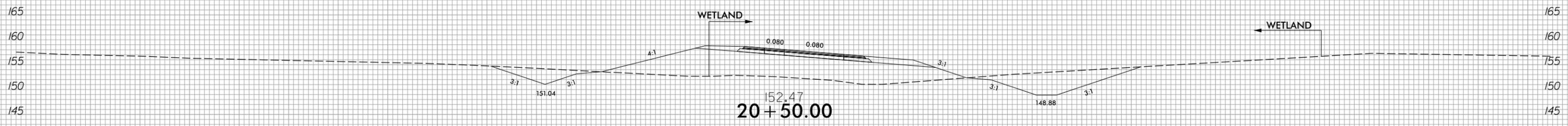
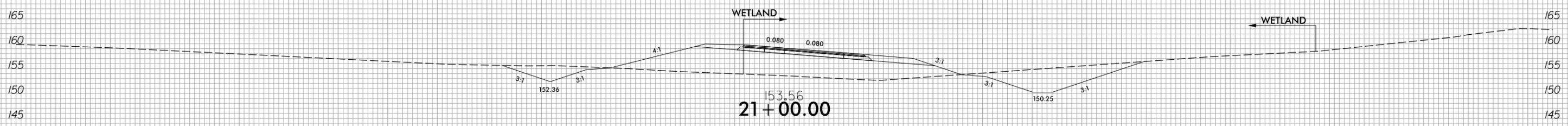
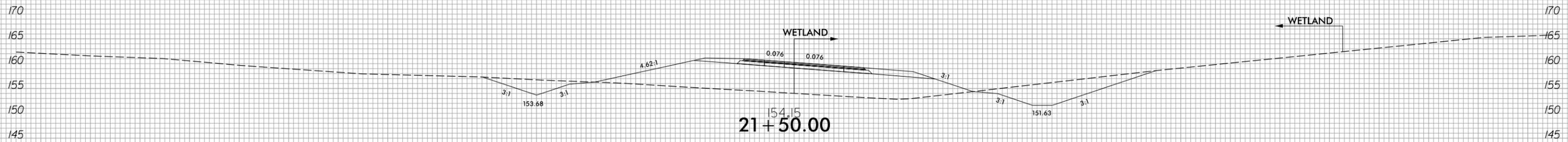
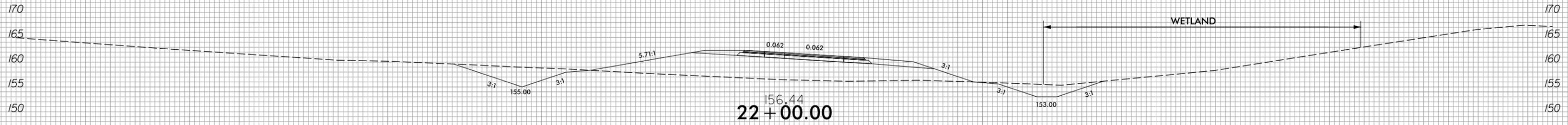
PROJ. REFERENCE NO.
U-2519BA

SHEET NO.
X-81

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SITE 3

PERMIT DRAWING
SHEET 25 OF 39

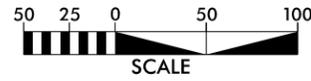


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Krels

8/17/99



- DENOTES MECHANIZED CLEARING
- DENOTES HAND CLEARING

PROJECT REFERENCE NO. U-2519BA	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
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PERMIT DRAWING
SHEET 26 OF 39

CAMDEN GLEN DEVELOPMENT LLC

209

Q10=17.6 cfs
V10=1.8 ft/s

44

JOHNNY BEASLEY

SITE 4

MATCHLINE -L- STA. 388+00 SEE SHEET 8

MATCHLINE -L- STA. 401+00 SEE SHEET 10

8 TONS CL B RIP RAP
W/21 SY GEOTEXTILE

LATERAL 4' BASE DITCH
1011 CY DDE
SEE DETAIL D

LATERAL 4' BASE DITCH
W/120 TONS CL B RIPRAP,
332 SY GEOTEXTILE,
635 CY DDE
SEE DETAIL K

CLASS II RIP RAP
PLACE TO
EL. 140.0'
(STRUCTURE PAY ITEM)

CLASS II RIP RAP
PLACE TO
EL. 140.0'
(STRUCTURE PAY ITEM)

TEMP
WORK
BRIDGE

390+00
FS
SEE DETAIL
AR

24" RCP-III

30" RCP-III

2GI-A

FS
SEE DETAIL
AT

2GI

TOE PROTECTION
W/CL I RIPRAP
SEE DETAIL Z

FL GR.
2GI

395+00

15" RCP-III

2-FL GR.
2CH

15" RCP-III

FL GR.
2GI

15" CSP
2 ELBOWS

400+00
FS
SEE DETAIL
AR

2GI

15" RCP-III

FL GR.
2GI

Q10=8.8 cfs
V10=1.3 ft/s

LATERAL 4' BASE DITCH
W/179 TONS CL B
RIP RAP, 488 SY GEOTEXTILE,
234 CY DDE
SEE DETAIL E

LATERAL 4' BASE DITCH
W/40 TONS CL B RIP RAP,
110 SY GEOTEXTILE, 80 CY DDE
SEE DETAIL K

LATERAL 4' BASE DITCH
W/227 TONS
CL B RIP RAP,
617 SY GEOTEXTILE,
427 CY DDE
SEE DETAIL E

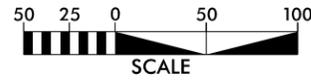
Q10=12.9 cfs
V10=1.6 ft/s

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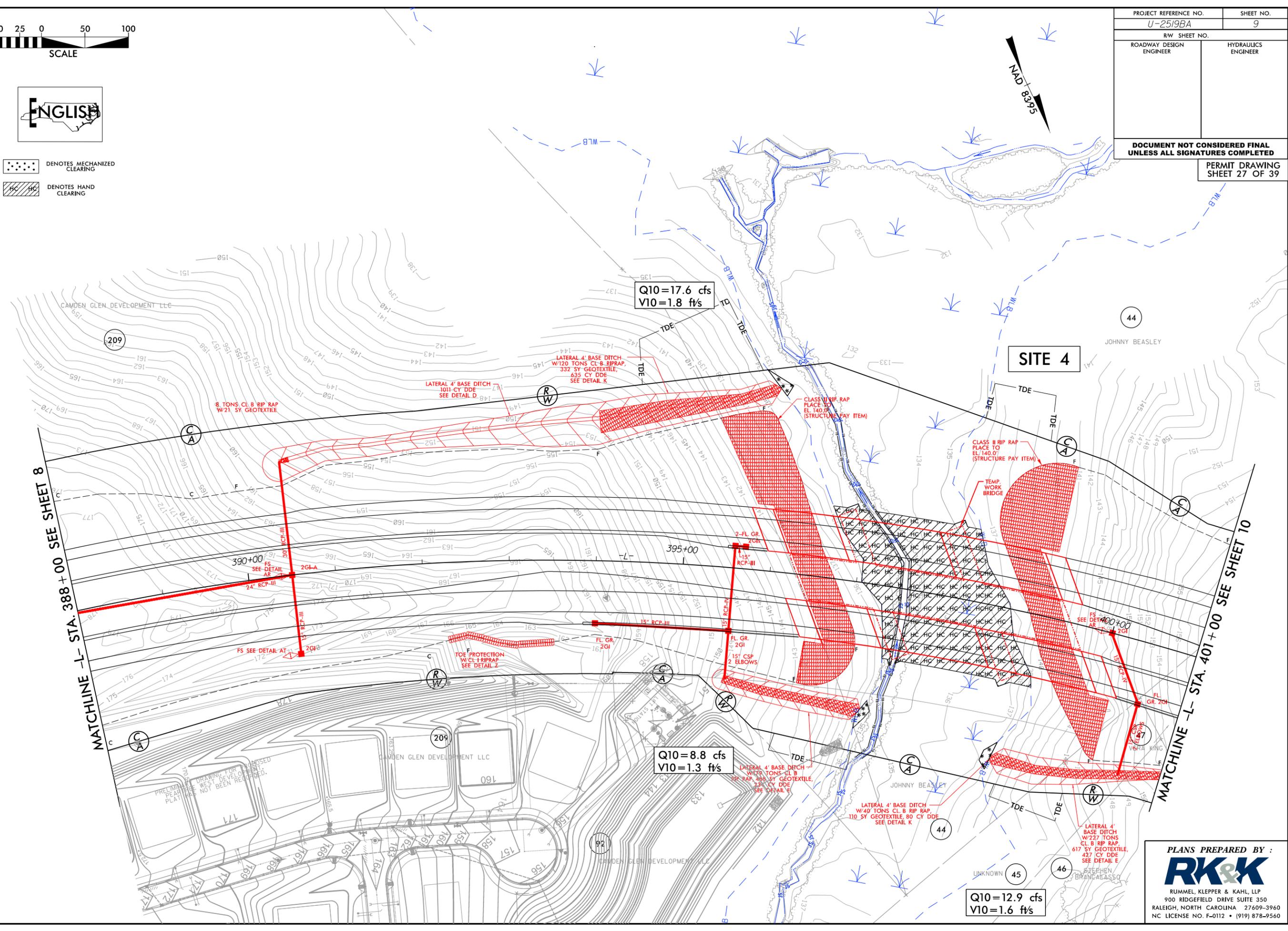


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- HC HC DENOTES HAND CLEARING

PROJECT REFERENCE NO. U-2519BA	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PERMIT DRAWING
SHEET 27 OF 39



MATCHLINE -L- STA. 388+00 SEE SHEET 8

MATCHLINE -L- STA. 401+00 SEE SHEET 10

Q10=17.6 cfs
V10=1.8 ft/s

Q10=8.8 cfs
V10=1.3 ft/s

Q10=12.9 cfs
V10=1.6 ft/s

SITE 4

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-L-

PROJECT REFERENCE NO. U-2519BA	SHEET NO. 33
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

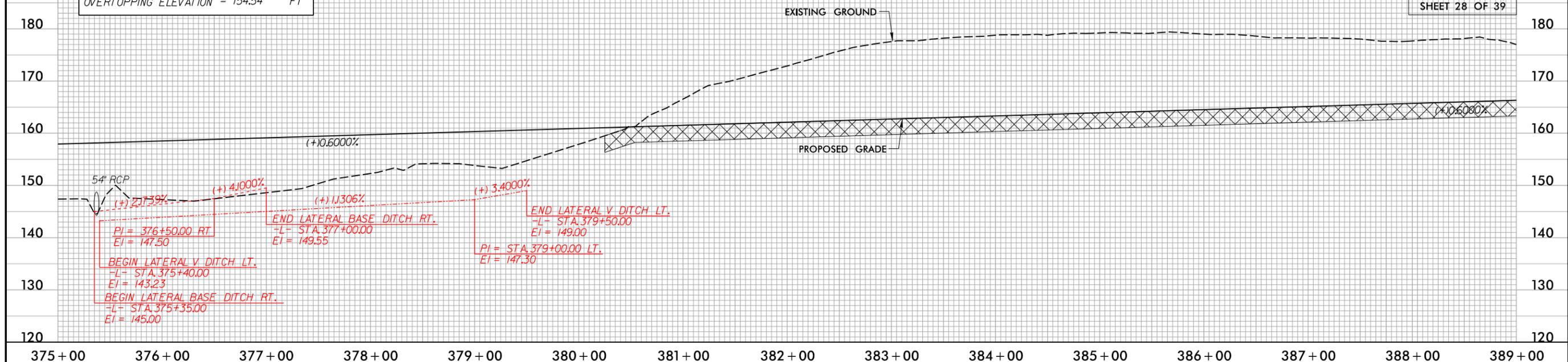
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PERMIT DRAWING SHEET 28 OF 39

PIPE HYDRAULIC DATA
-L- STA. 375+37

DRAINAGE AREA	= 45.0	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 130.0	CFS
DESIGN HW ELEVATION	= 150.31	FT
100 YEAR DISCHARGE	= 140.0	CFS
100 YEAR HW ELEVATION	= 150.58	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 226.3	CFS
OVERTOPPING ELEVATION	= 154.54	FT

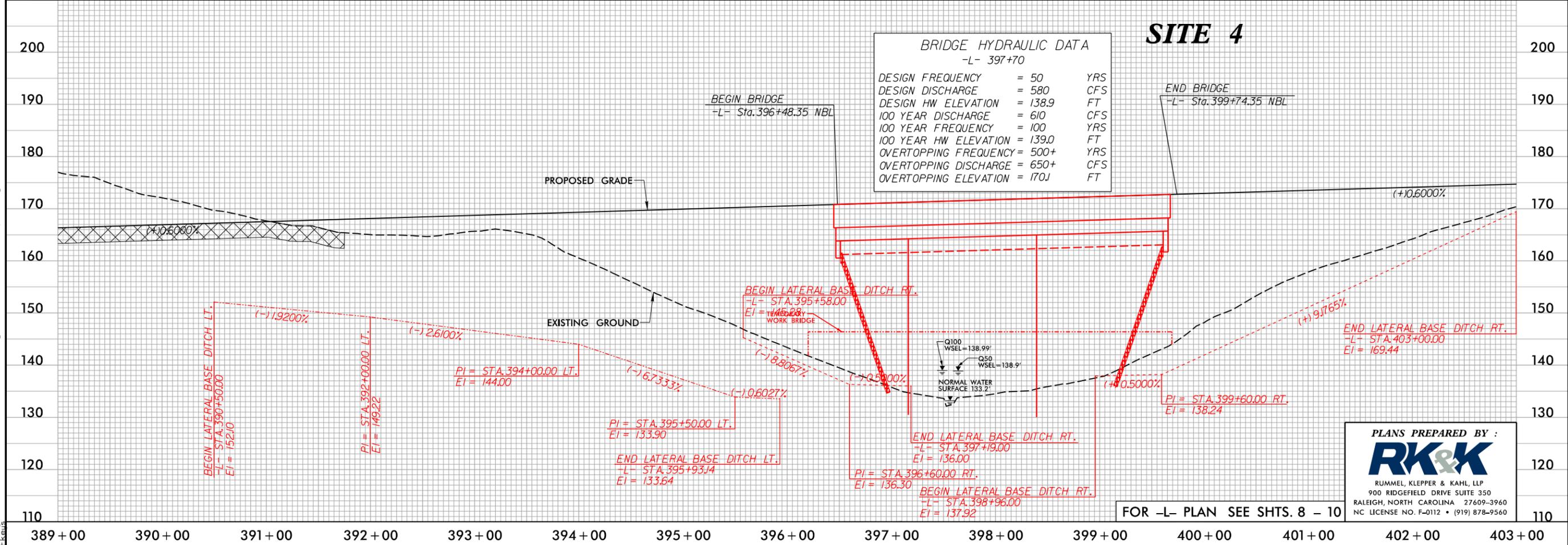
BM # 182
N 443073 E 1990463
-L- STA. 381+24.43 OFF 135.74' RT
ELEV=176.25'



SITE 4

BRIDGE HYDRAULIC DATA
-L- 397+70

DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 580	CFS
DESIGN HW ELEVATION	= 138.9	FT
100 YEAR DISCHARGE	= 610	CFS
100 YEAR FREQUENCY	= 100	YRS
100 YEAR HW ELEVATION	= 139.0	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 650+	CFS
OVERTOPPING ELEVATION	= 170J	FT



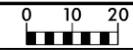
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FOR -L- PLAN SEE SHTS. 8 - 10

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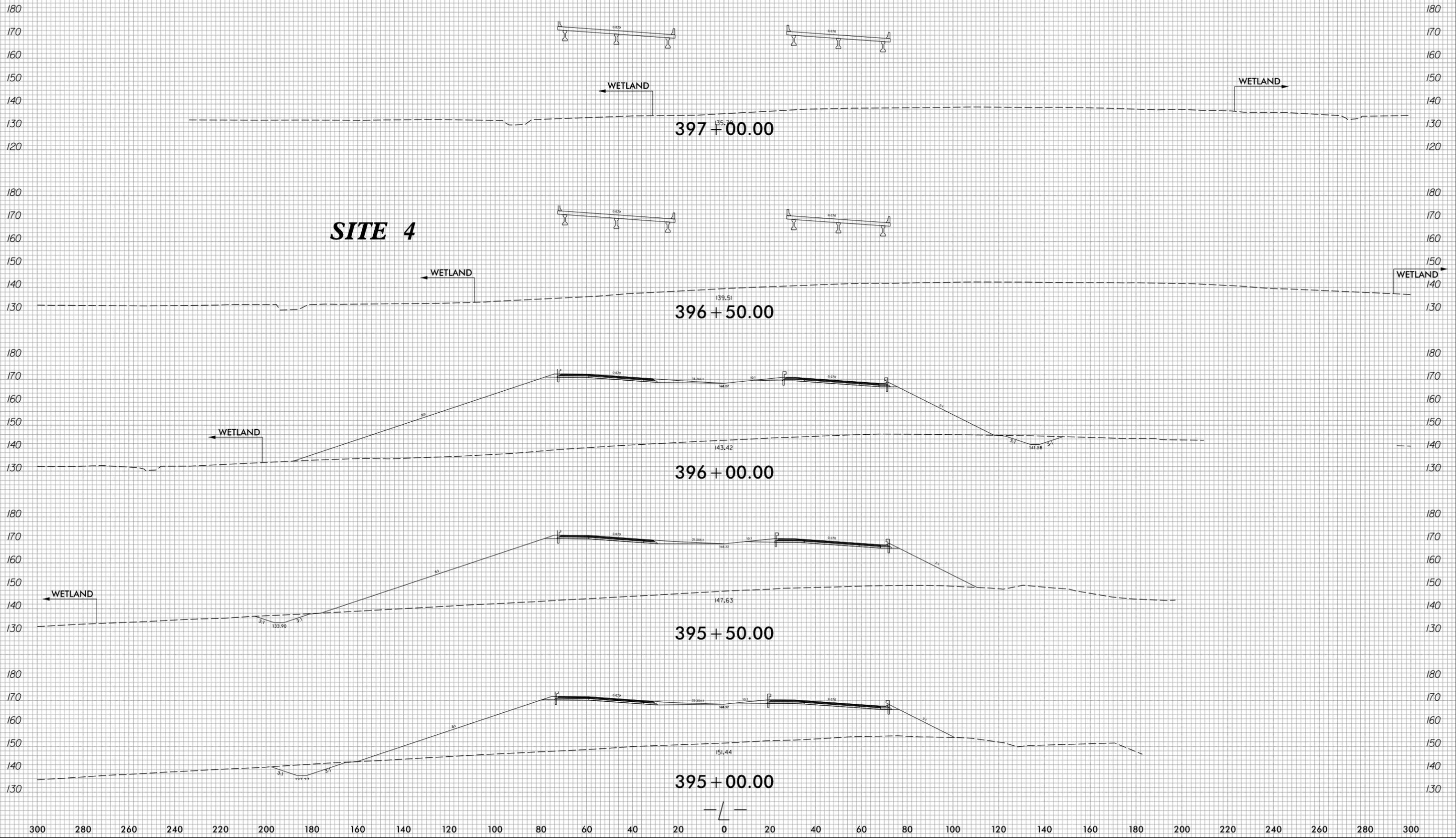
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PROJ. REFERENCE NO. U-2519BA	SHEET NO. X-31
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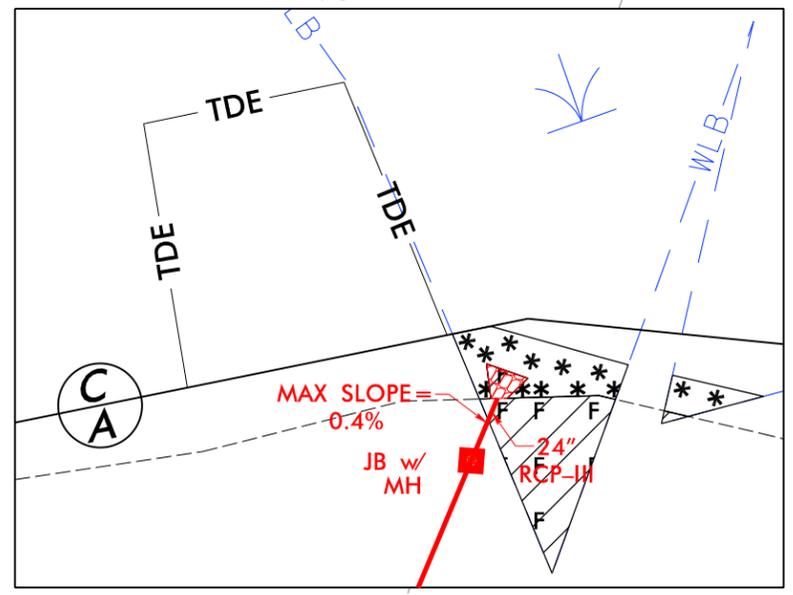
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SHEET 29 OF 39



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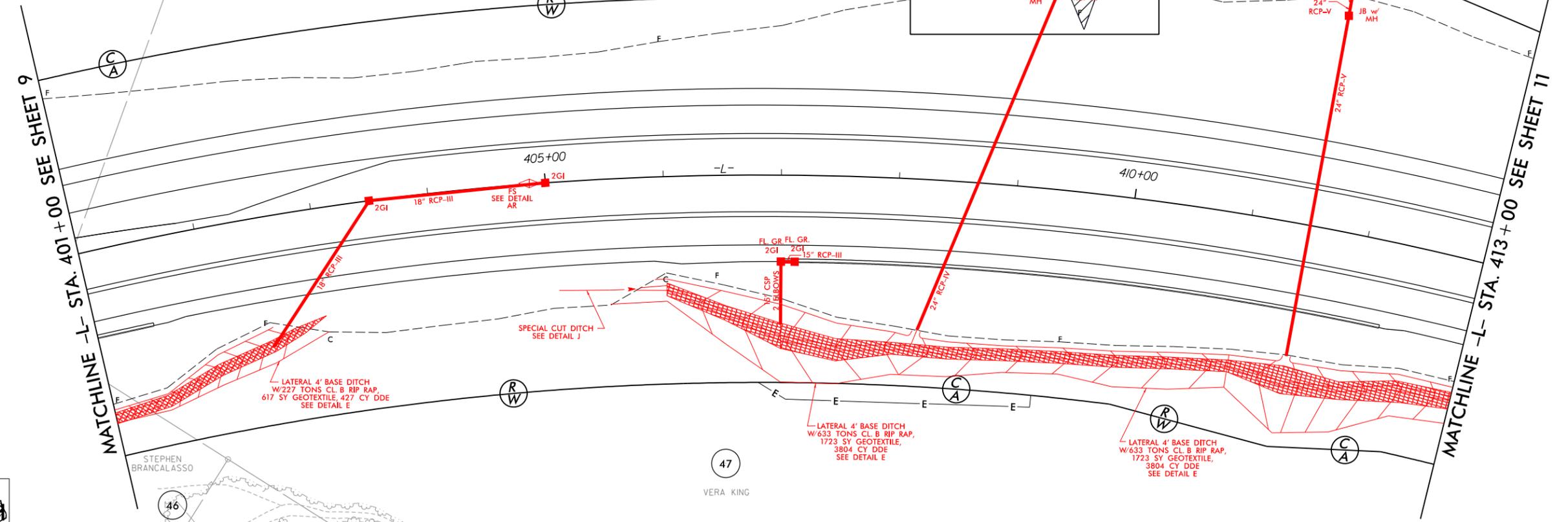
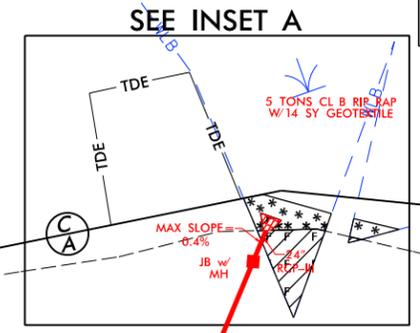
8.17/99

INSET A



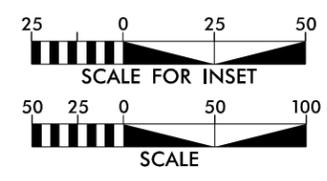
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PERMIT DRAWING SHEET 30 OF 39	

Q10=12.0 cfs
V10=1.9 ft/s
SITE 5



***** DENOTES MECHANIZED CLEARING

F F DENOTES FILL IN WETLAND



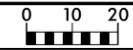
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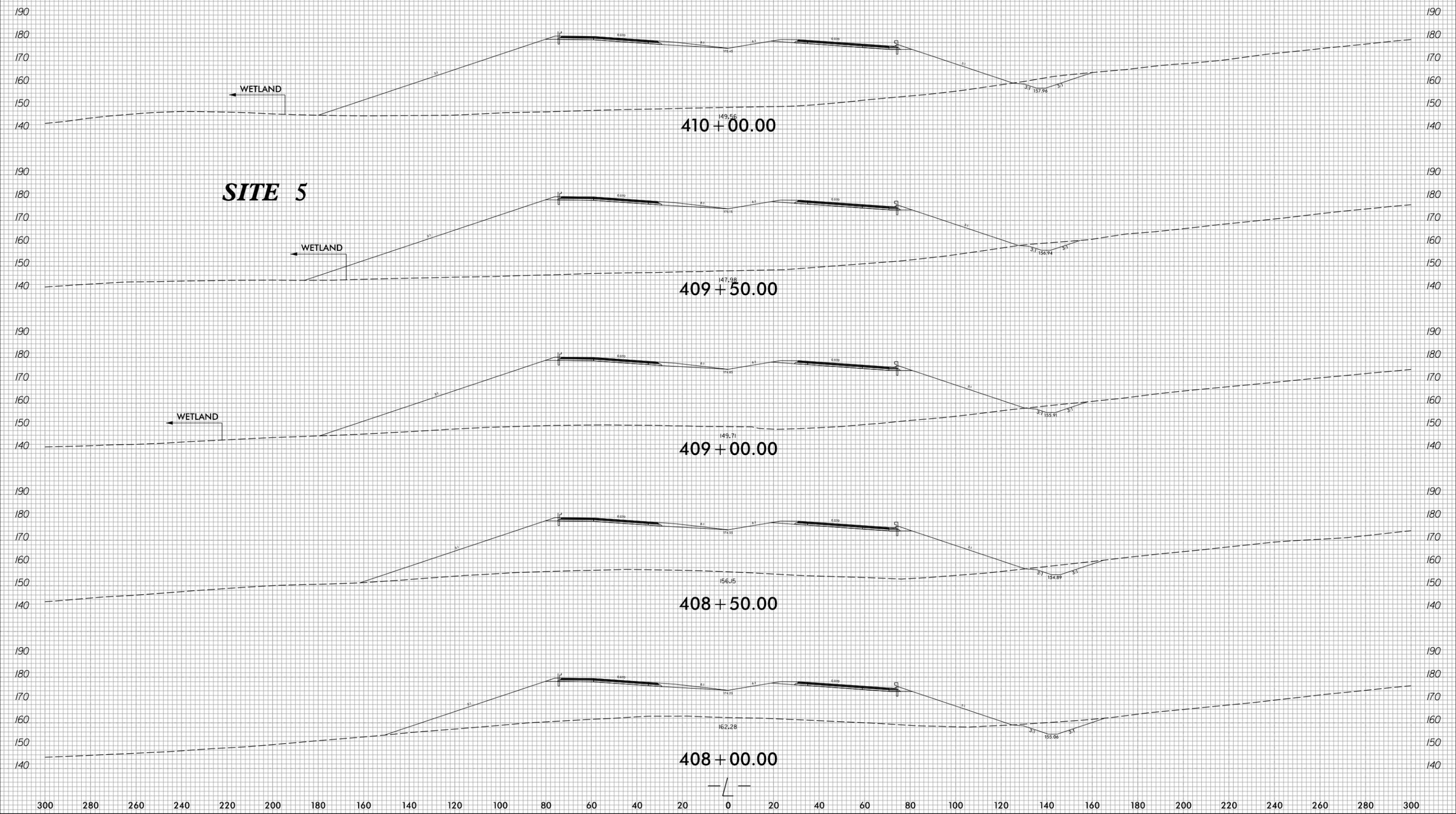
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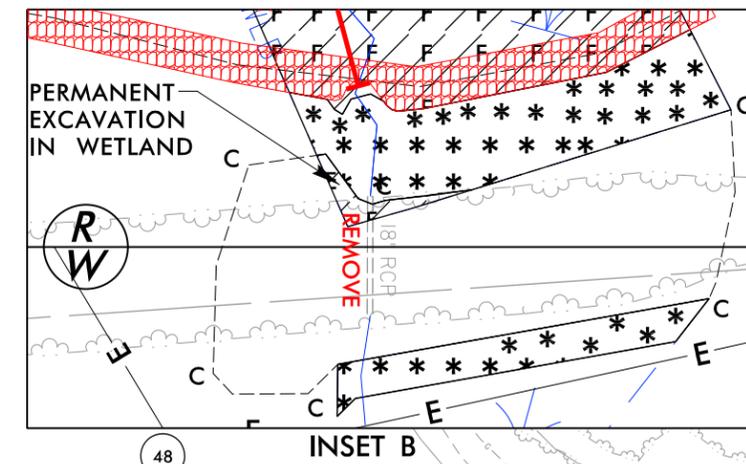
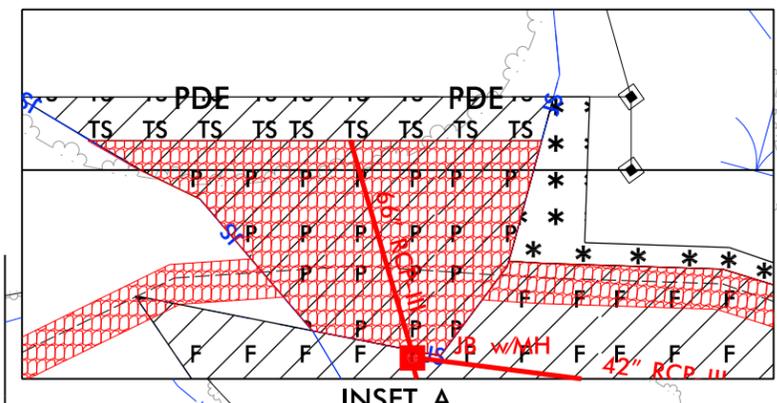
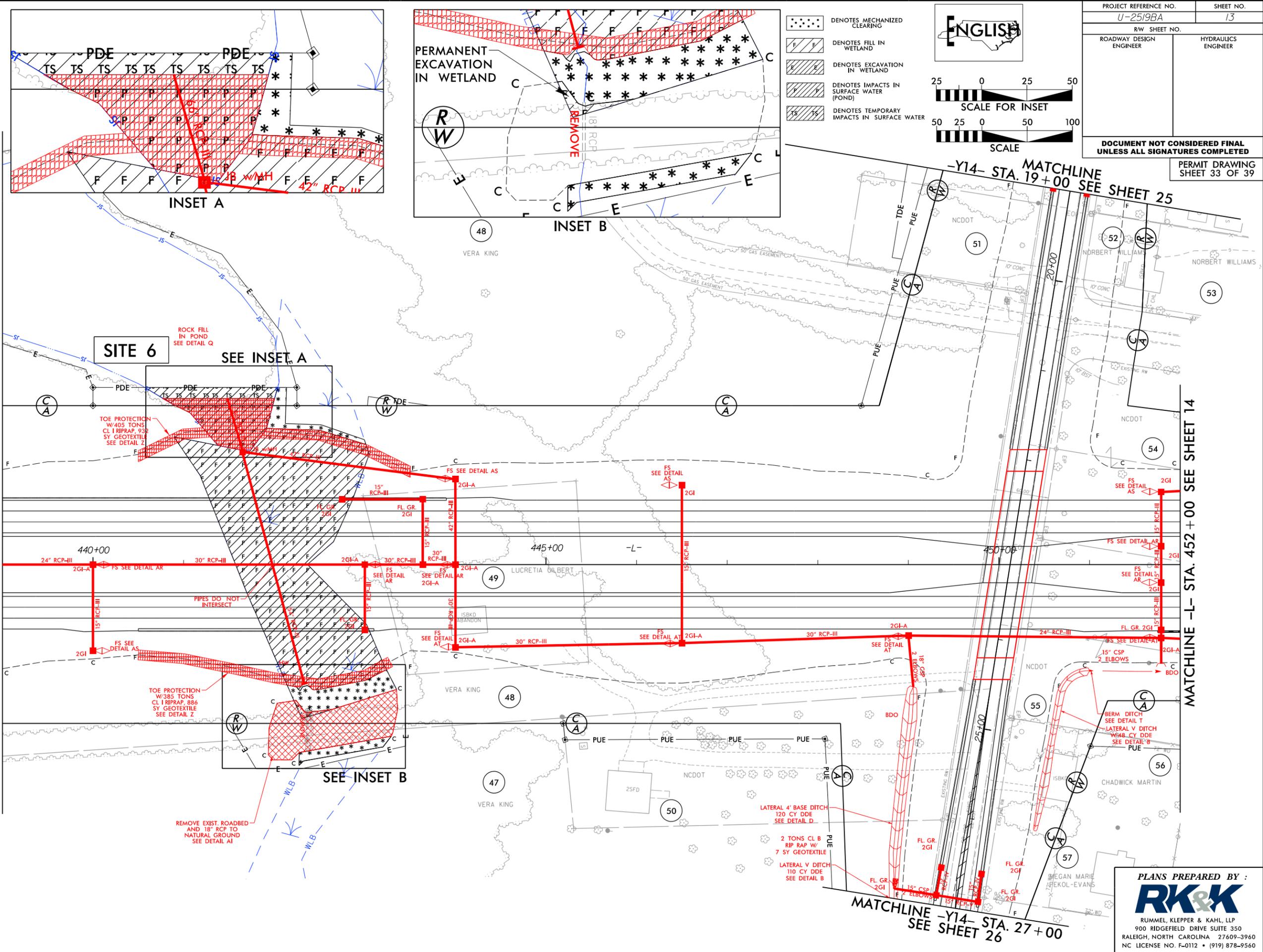


PROJ. REFERENCE NO.	SHEET NO.
U-2519BA	X-38

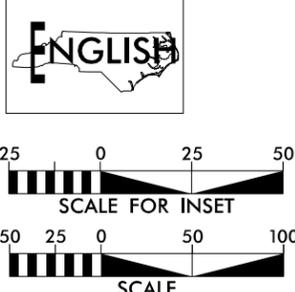
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SHEET 32 OF 39



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



PROJECT REFERENCE NO. U-2519BA	SHEET NO. 13
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PERMIT DRAWING SHEET 33 OF 39	

MATCHLINE -L- STA. 439 + 00 SEE SHEET 12

MATCHLINE -L- STA. 452 + 00 SEE SHEET 14

MATCHLINE -Y14- STA. 19 + 00 SEE SHEET 25

MATCHLINE -Y14- STA. 27 + 00 SEE SHEET 26

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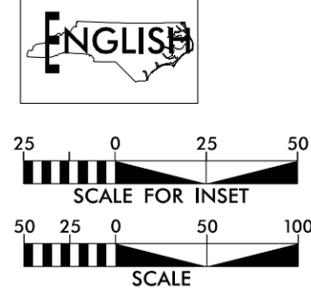
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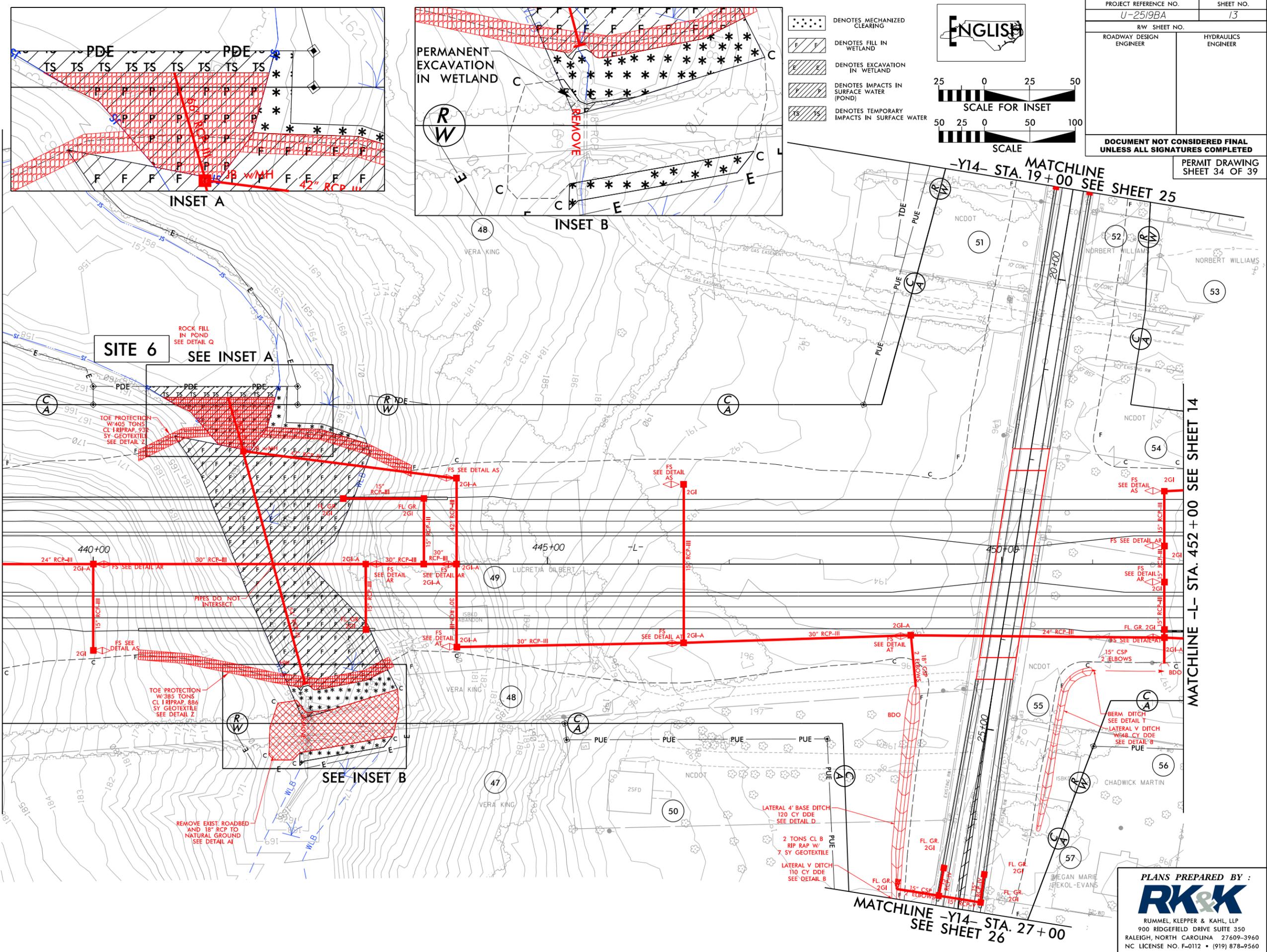
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PERMIT DRAWING
SHEET 34 OF 39



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



MATCHLINE -L- STA. 439 + 00 SEE SHEET 12

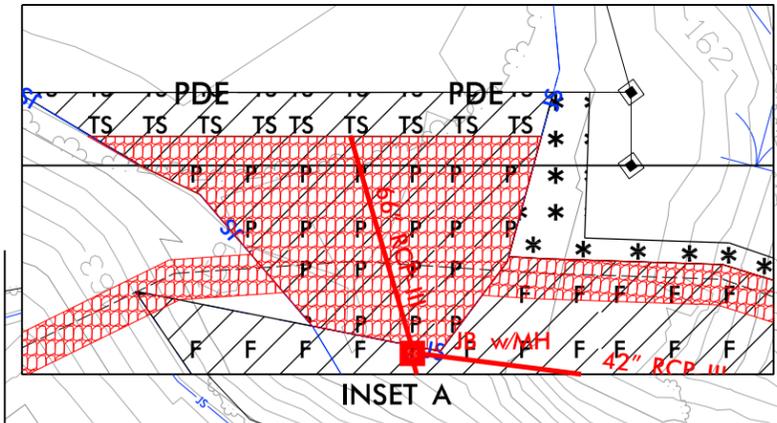
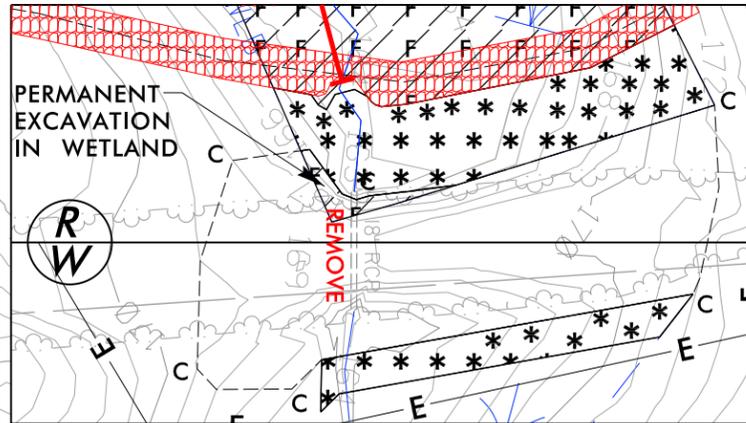
MATCHLINE -L- STA. 452 + 00 SEE SHEET 14

MATCHLINE -Y14- STA. 27+00
SEE SHEET 26

MATCHLINE -Y14- STA. 19+00
SEE SHEET 25

SITE 6
SEE INSET A

SEE INSET B



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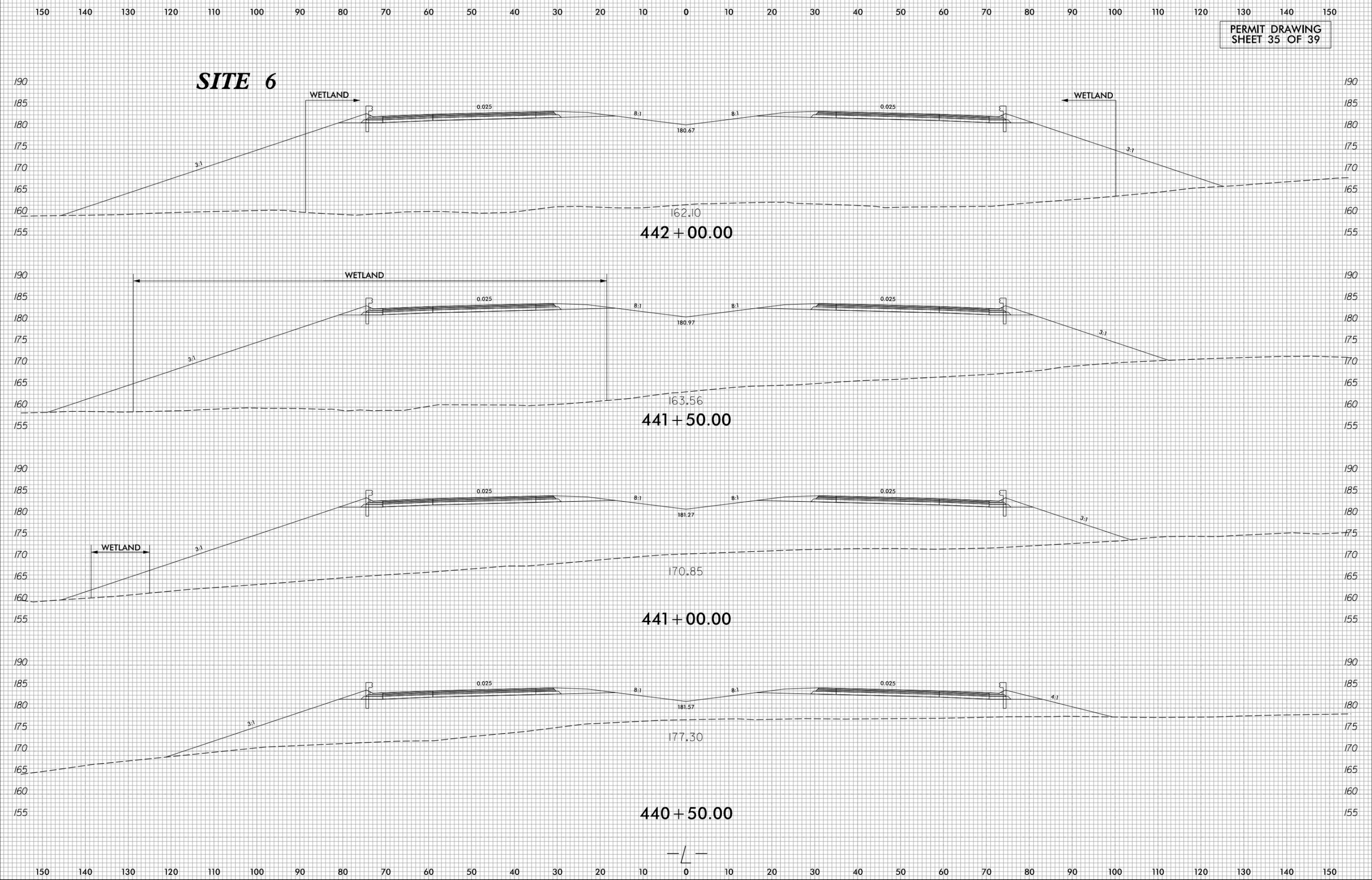
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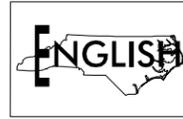
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PERMIT DRAWING
SHEET 35 OF 39

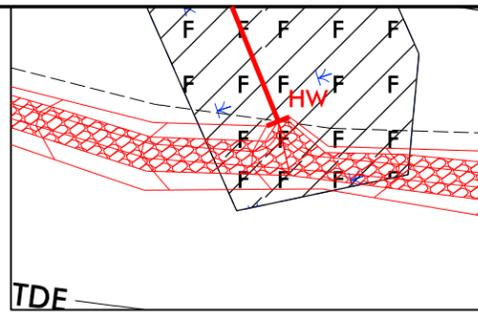


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DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND



INSET A

DAYNE PROPERTIES DEVELOPMENT, INC

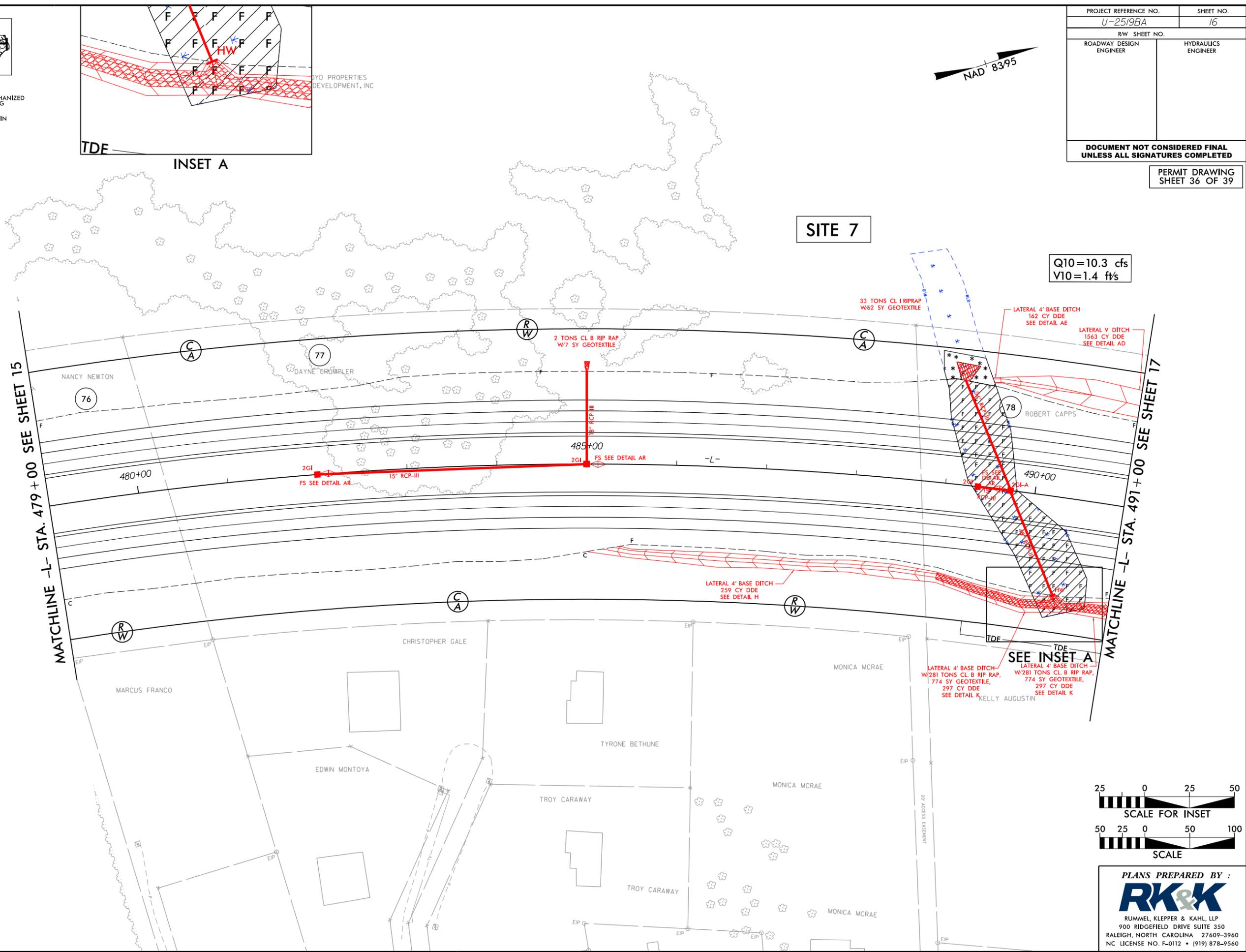


PROJECT REFERENCE NO. U-2519BA	SHEET NO. 16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING SHEET 36 OF 39

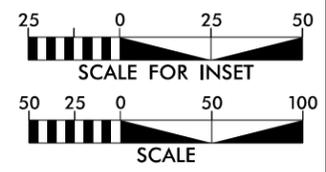
SITE 7

Q10=10.3 cfs
V10=1.4 ft/s



MATCHLINE -L- STA. 479 + 00 SEE SHEET 15

MATCHLINE -L- STA. 491 + 00 SEE SHEET 17



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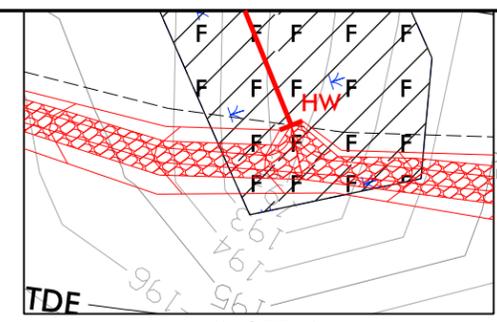
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PROJECT REFERENCE NO. U-2519BA	SHEET NO. 16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 37 OF 39



- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND

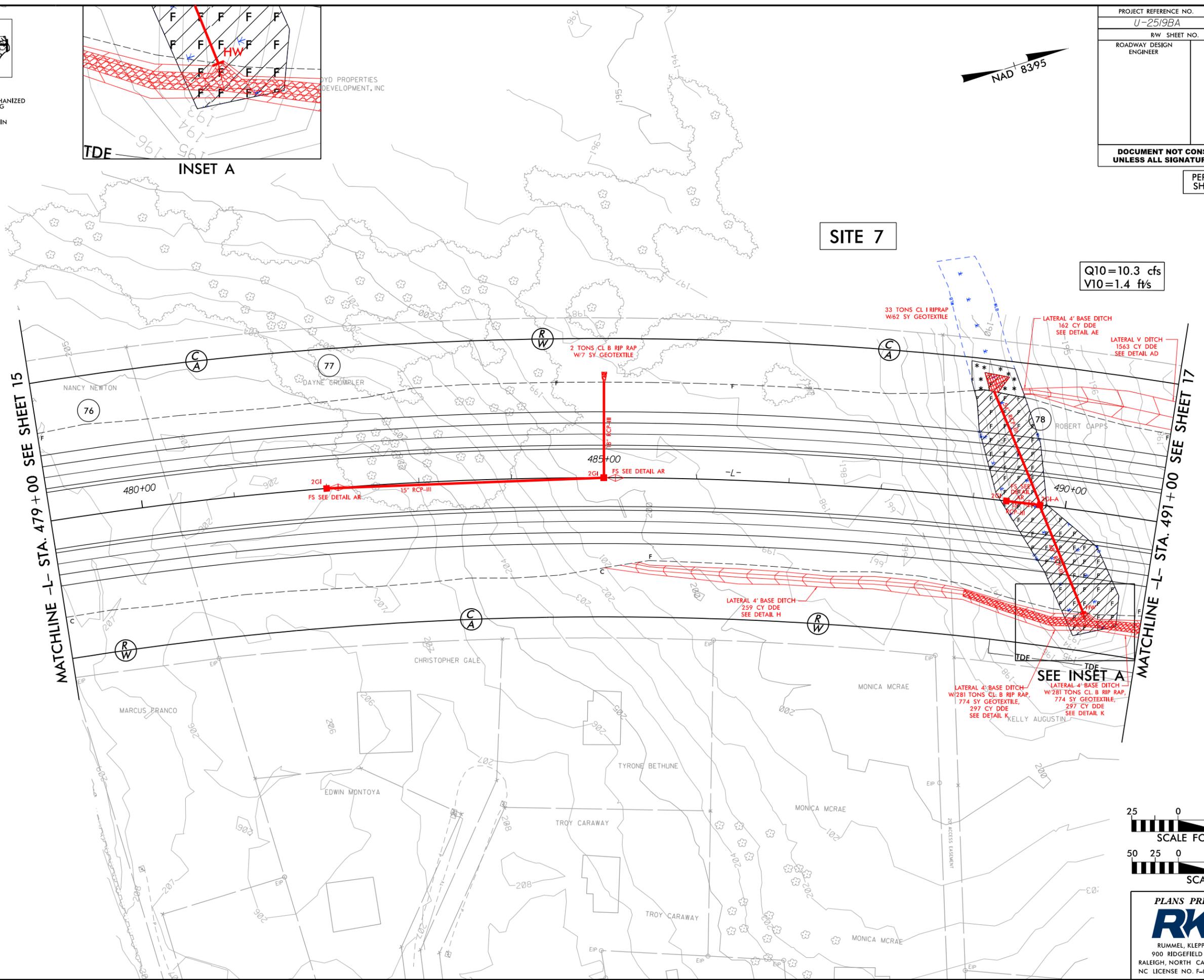


INSET A



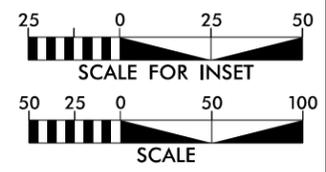
SITE 7

Q10=10.3 cfs
V10=1.4 ft/s



MATCHLINE -L- STA. 479 + 00 SEE SHEET 15

MATCHLINE -L- STA. 491 + 00 SEE SHEET 17

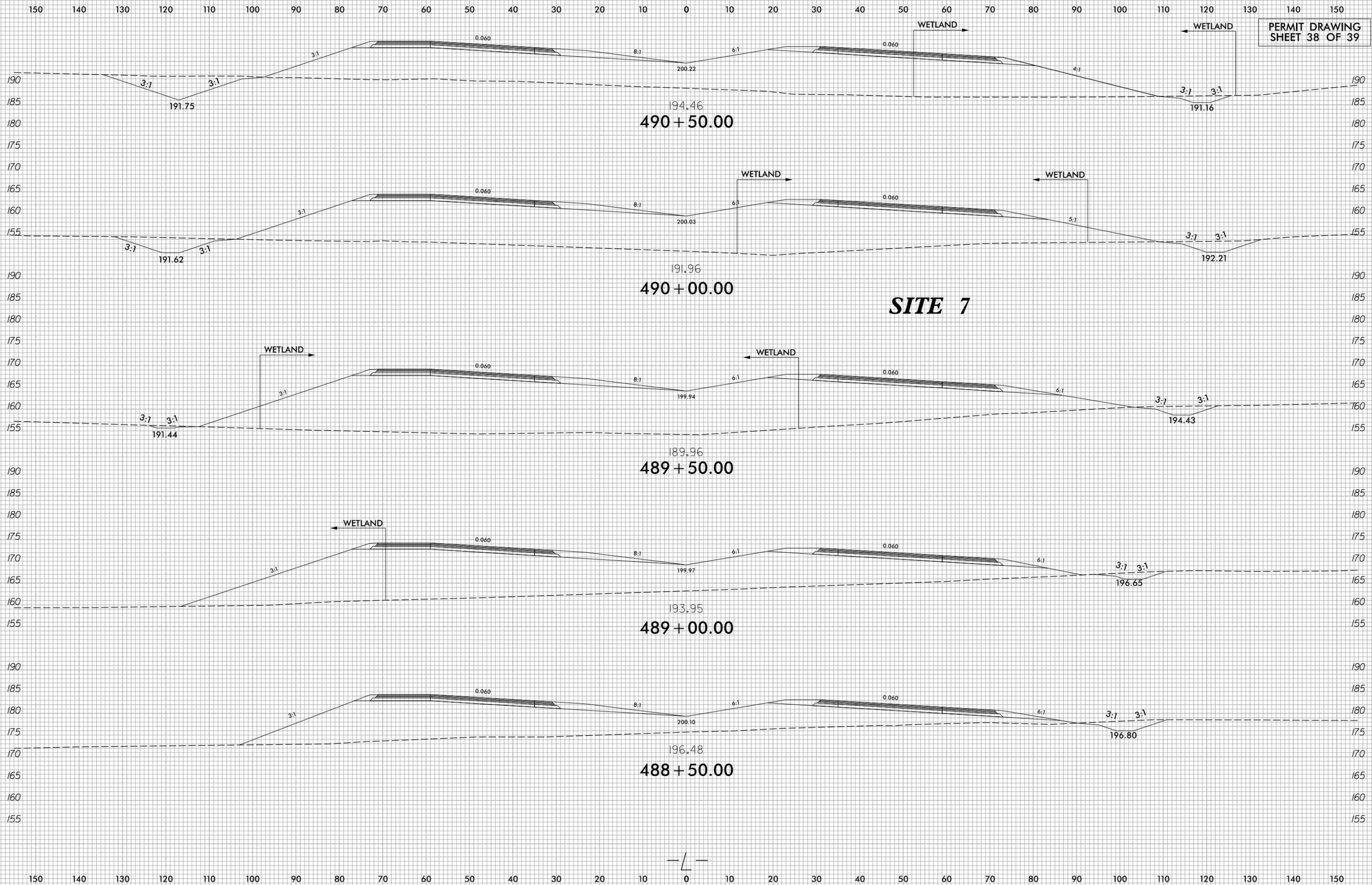


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SHEET 38 OF 39



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WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 330+46 - 333+76	72" RCP-IV						0.03	< 0.01	494	13	
		BANK STABILIZATION						< 0.01	< 0.01	25	12	
		FILL	1.75			0.10						
2A	-L- 344+86 - 348+95	66" RCP	2.82			0.09						
2B	-Y13- 57+42 - 58+60	2@42" RCP ¹	0.11			0.05						
3	-Y13RPA- 17+57 - 22+58 RT	FILL	0.51		0.19	0.10						
4	-L- 397+07 - 398+81	BRIDGE ²	< 0.01	< 0.01		0.02	0.60					
5	-L- 409+08 - 409+92 LT	24" RCP	0.02			0.02						
6	-L- 441+57 - 443+35	54" RCP	0.82		< 0.01	0.11		0.10	0.04			
7	-L- 489+30 - 489+82	54" RCP	0.36			0.03						
TOTALS*:			6.40	< 0.01	0.20	0.51	0.60	0.13	0.04	518	26	0

*Rounded totals are sum of actual impacts

NOTES:
 1. INCLUDES -Y13- DETOUR IMPACTS
 2. SUMMARIZES BRIDGE & TEMPORARY WORK BRIDGE IMPACTS: PERMANENT FILL IN WETLAND IMPACT DUE TO THE PROPOSED BENTS IS 130.7 SQ. FT (<0.01 ac) (INCLUDED ABOVE)
 TEMPORARY IMPACTS DUE TO THE TEMPORARY WORK BRIDGE IS 350 SQ. FT (<0.01 ac) (INCLUDED ABOVE)

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 MARCH 2018
 CUMBERLAND
 U2519BA

SHEET 39 OF 39

		North Carolina Department of Transportation Highway Stormwater Program STORMWATER MANAGEMENT PLAN					
(Version 2.07, Released October 2016)							
WBS Element: 34817.1.FR8		TIP No.: U-2519BB		County(ies): Cumberland		Page 1 of 2	
General Project Information							
WBS Element: 34817.1.FR8		TIP Number: U-2519BB		Project Type: New Location		Date: 9/25/2017	
NCDOT Contact:		Paul Atkinson, PE 1020 Birch Ridge Drive Raleigh, NC 27610 Phone: 919-707-6707 Email: p.atkinson@ncdot.gov		Contractor / Designer:		CALYX Engineers + Consultants / David P. Bocker, PE 7500 East Independence Blvd. Suite 100 Charlotte, NC 28227 Phone: 704-566-4342 Email: dbocker@CALYXengineers.com	
City/Town: Fayetteville		County(ies): Cumberland		CAMA County? No			
River Basin(s): Cape Fear							
Wetlands within Project Limits? Yes							
Project Description							
Project Length (lin. miles or feet): 1.25		Surrounding Land Use: Varies - Primarily Undeveloped Farmland and Woodlands with adjacent Residential Areas					
		Proposed Project			Existing Site		
Project Built-Up Area (ac.): 35.0 ac.		Typical Cross Section Description: Controlled Access Freeway Facility - 6-lane divided section with grassed median and interchange at Strickland Bridge Road (-Y17-)			4.7 ac. New Location / Undeveloped with some residential and various 2-lane roadways		
Annual Avg Daily Traffic (veh/hr/day):		Design/Future: 46800		Year: 2038		Existing: 37400	
General Project Narrative: (Description of Minimization of Water Quality Impacts)		The project consists of a section of new location controlled access facility west of Fayetteville in Cumberland County, NC. U-2519BB also consists of a full interchange at Strickland Bridge Road along with several side road realignments and relocations. The proposed stormwater runoff from the proposed freeway facility and associated side roads will utilize both ditches and storm drainage systems. Grass swale treatment will occur throughout the project in the median and in areas where flat slopes can be maintained. In wetland areas, roadway embankment/ fill slopes outside of the interchange have been minimized to 3:1 to minimize impacts. There are no major structures on this section of the project; however, several crosspipes are proposed which have been buried 1' to allow for fish passage. Additionally, where proposed ditches exceed 5% grade, riprap has been utilized to minimize erosion prior to outletting into the receiving outfalls.					
Waterbody Information							
Surface Water Body (1): Little Rockfish Creek		NCDWR Stream Index No.:		18-31-24-(3)			
NCDWR Surface Water Classification for Water Body		Primary Classification: Class B					
		Supplemental Classification: None					
Other Stream Classification: None							
Impairments: None							
Aquatic T&E Species? No		Comments:					
NRTS Stream ID:						Buffer Rules in Effect: N/A	
Project Includes Bridge Spanning Water Body? No		Deck Drains Discharge Over Buffer? N/A				Dissipator Pads Provided in Buffer? N/A	
Deck Drains Discharge Over Water Body? N/A		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							
WBS Element: 34817.1.FR8		TIP No.: U-2519BB		County(ies): Cumberland		Page 2 of 2	



North Carolina Department of Transportation
 Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
 FOR NCDOT PROJECTS



(Version 2.07; Released October 2016)

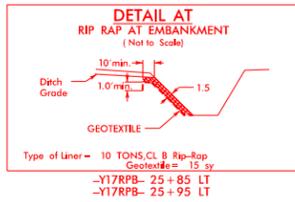
Additional Waterbody Information					
Surface Water Body (2):	Stewarts Creek		NCDWR Stream Index No.:	18-31-21	
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C			
	Supplemental Classification:	None			
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	Comments:				
NRTR Stream ID:				Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (3):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	Comments:				
NRTR Stream ID:				Buffer Rules in Effect:	
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (4):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	Comments:				
NRTR Stream ID:				Buffer Rules in Effect:	
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (5):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	Comments:				
NRTR Stream ID:				Buffer Rules in Effect:	
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

PROJECT REFERENCE NO. U-2519BB	SHEET NO. 5B
RW SHEET NO.	
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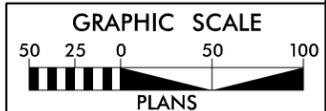
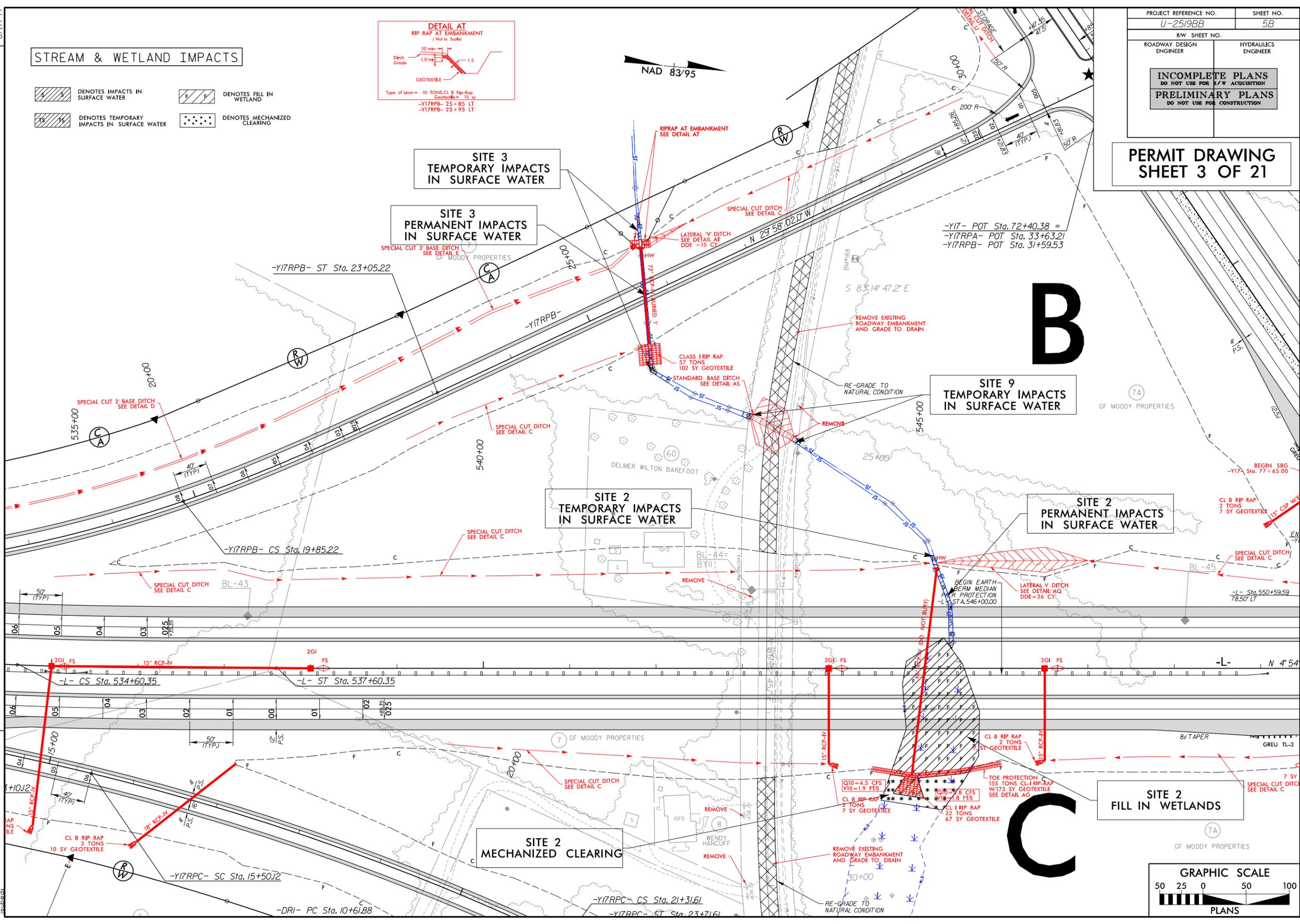
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SHEET 3 OF 21**

STREAM & WETLAND IMPACTS

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



NAD 83/95



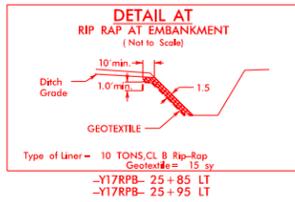
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PROJECT REFERENCE NO. U-2519BB	SHEET NO. 5B
RW SHEET NO.	HYDRAULICS ENGINEER
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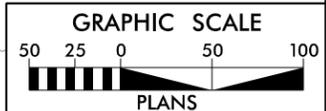
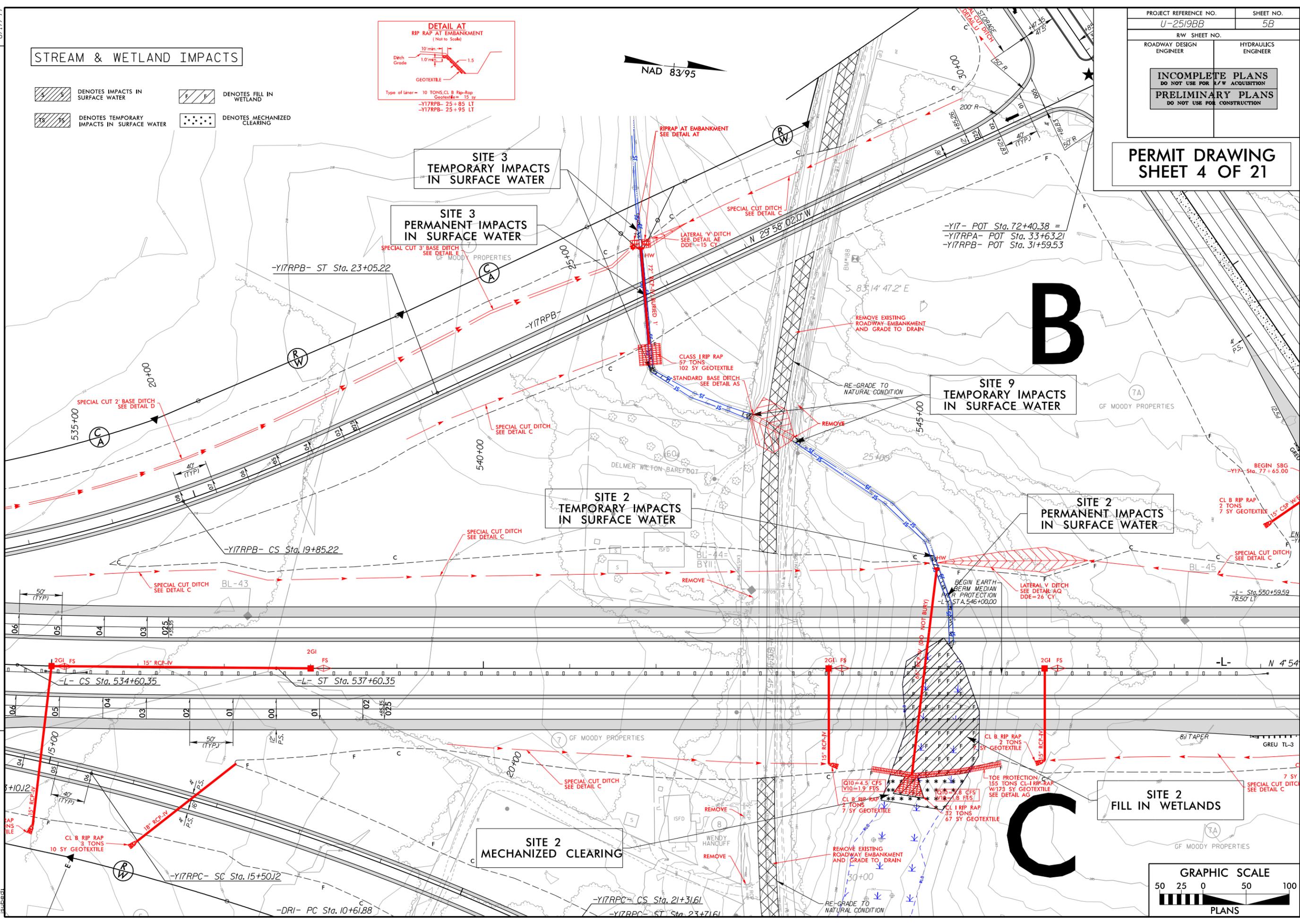
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SHEET 4 OF 21**

STREAM & WETLAND IMPACTS

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



NAD 83/95



REVISIONS

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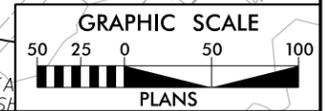
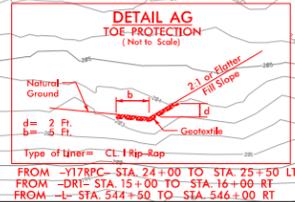
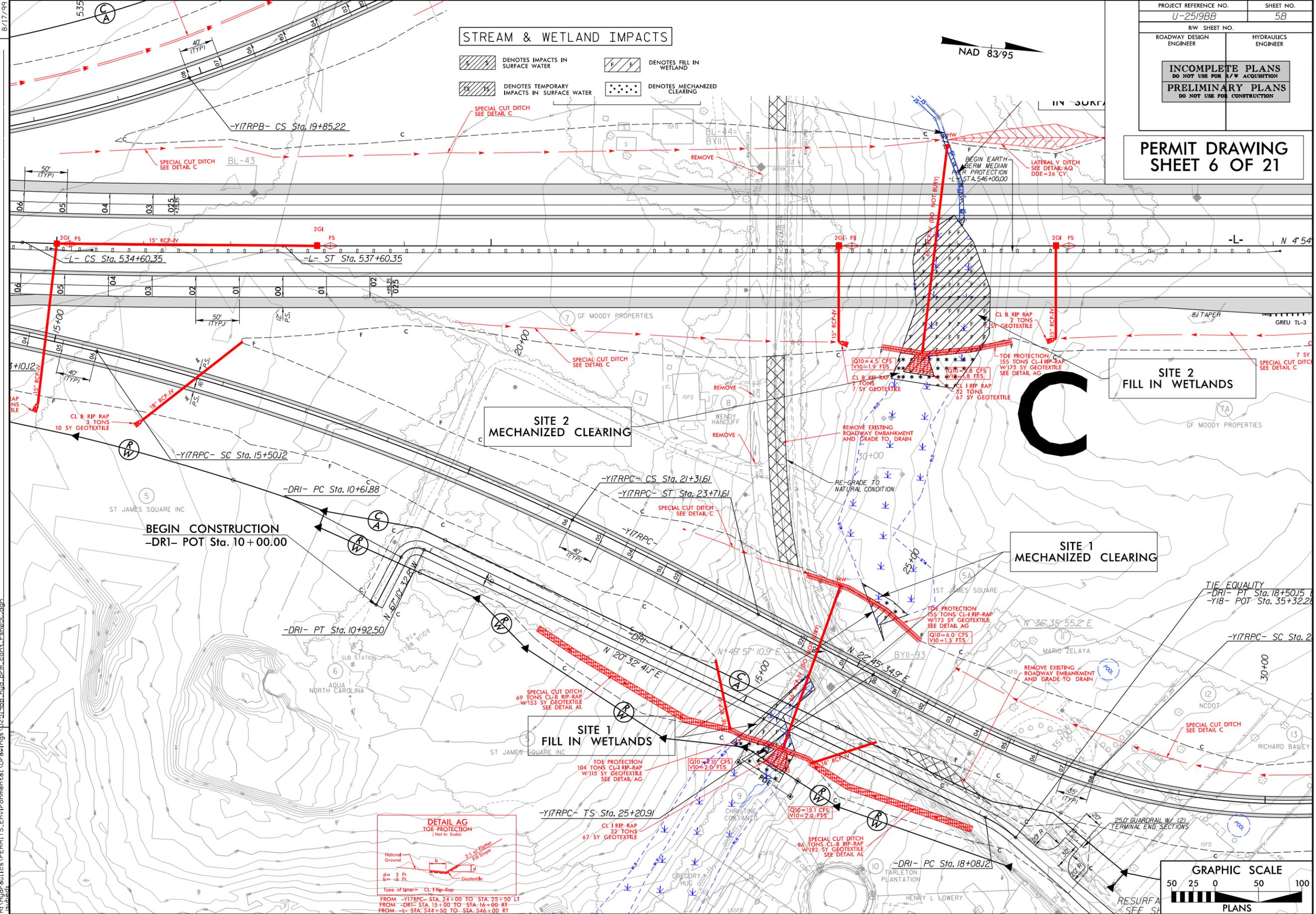
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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PERMIT DRAWING
SHEET 6 OF 21

STREAM & WETLAND IMPACTS

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



REVISIONS

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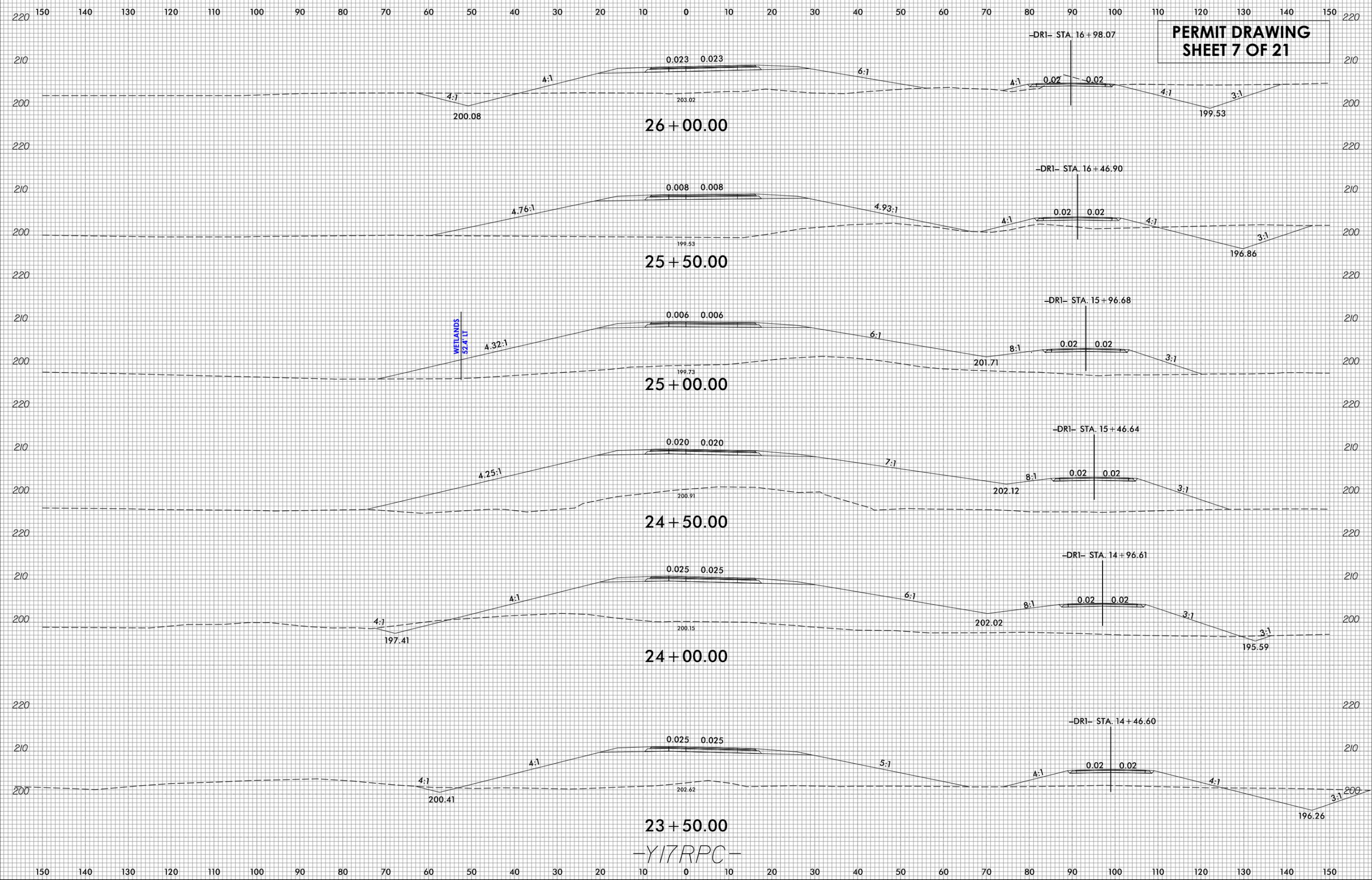
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PROJ. REFERENCE NO.
U-2519BB

SHEET NO.
X-32

**PERMIT DRAWING
SHEET 7 OF 21**



26 + 00.00

25 + 50.00

25 + 00.00

24 + 50.00

24 + 00.00

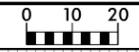
23 + 50.00

-Y17RPC-

WETLANDS
52.4' LT

9/29/2017
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kels

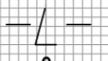
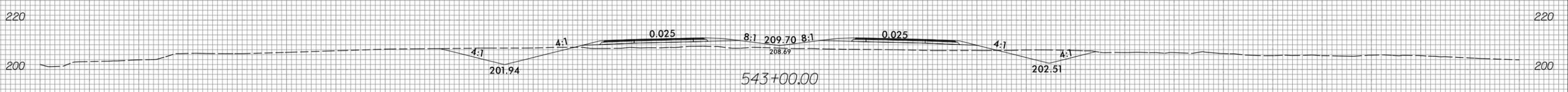
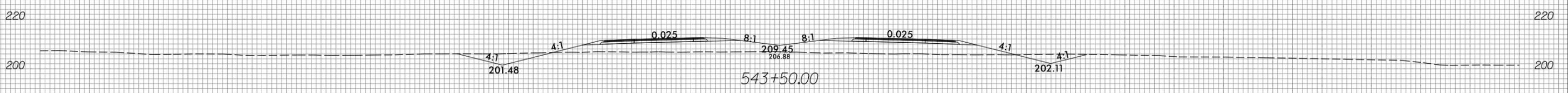
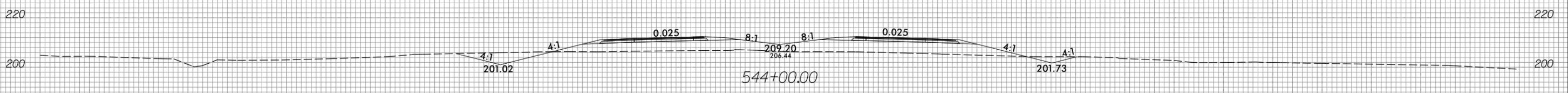
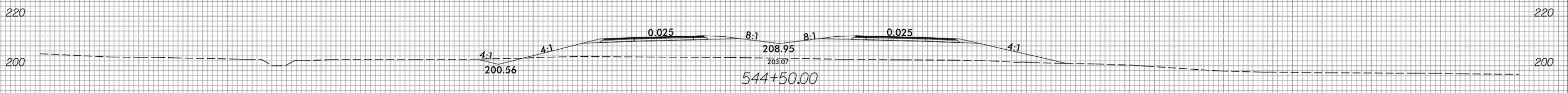
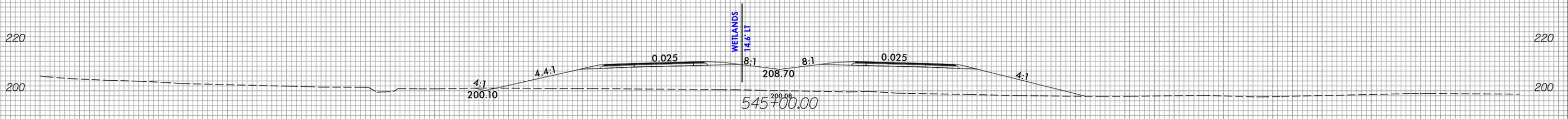
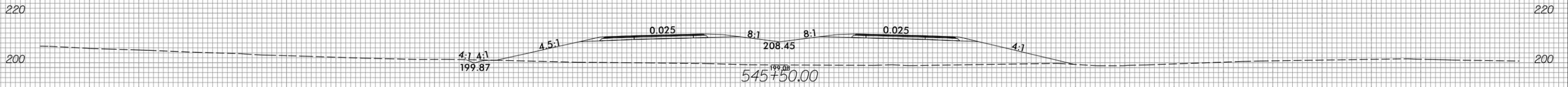
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U-2519BB	X-9

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SHEET 8 OF 21**



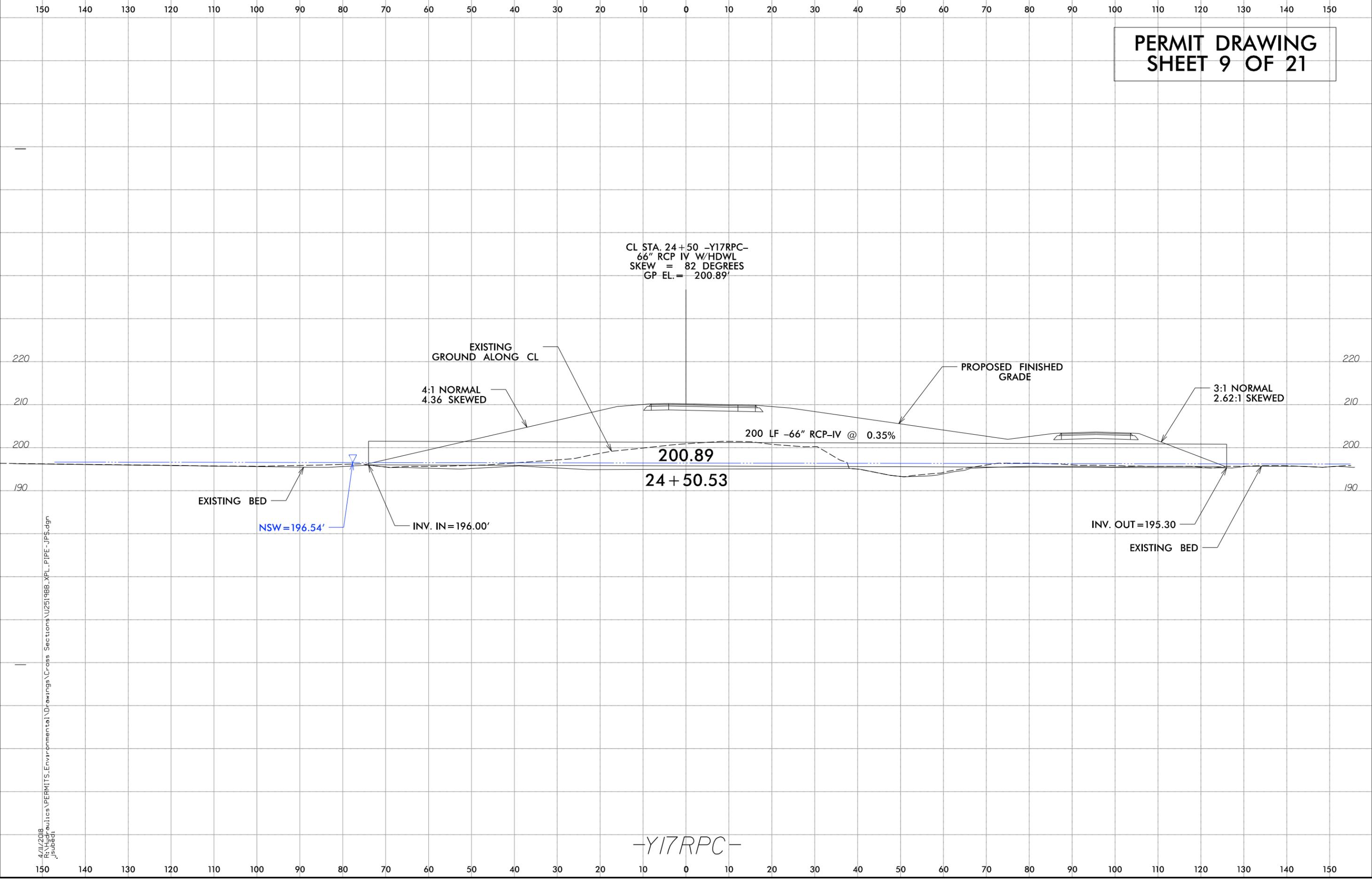
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4/11/2018
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	U-2519BB	X-4

PERMIT DRAWING SHEET 9 OF 21



-Y17RPC-

6/23/16

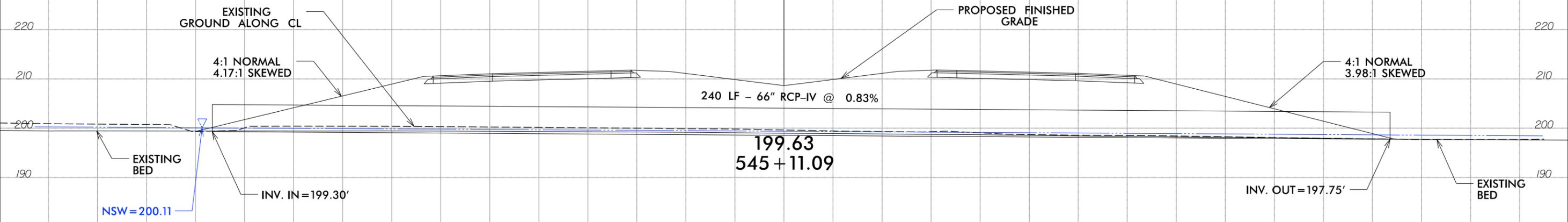


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U-2519BB	X-1

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**PERMIT DRAWING
SHEET 10 OF 21**

CL STA. 545+11 -L-
66" RCP IV W/HDWL
SKEW = 97 DEGREES
GP EL. = 199.63'



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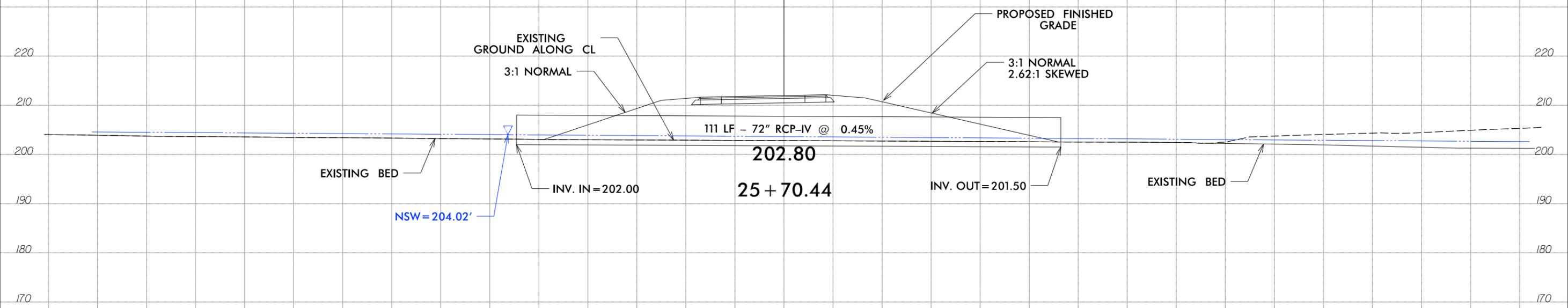


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U-2519BB	X-3

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**PERMIT DRAWING
SHEET 11 OF 21**

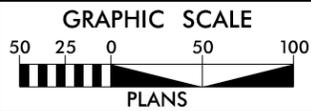
CL STA. 25+70 -Y17RPB-
72" RCP IV W/HDWL
SKEW = 110 DEGREES
GP EL. = 202.80'



-Y17RPB-

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

4/1/2018
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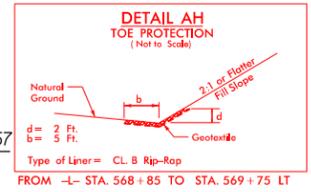
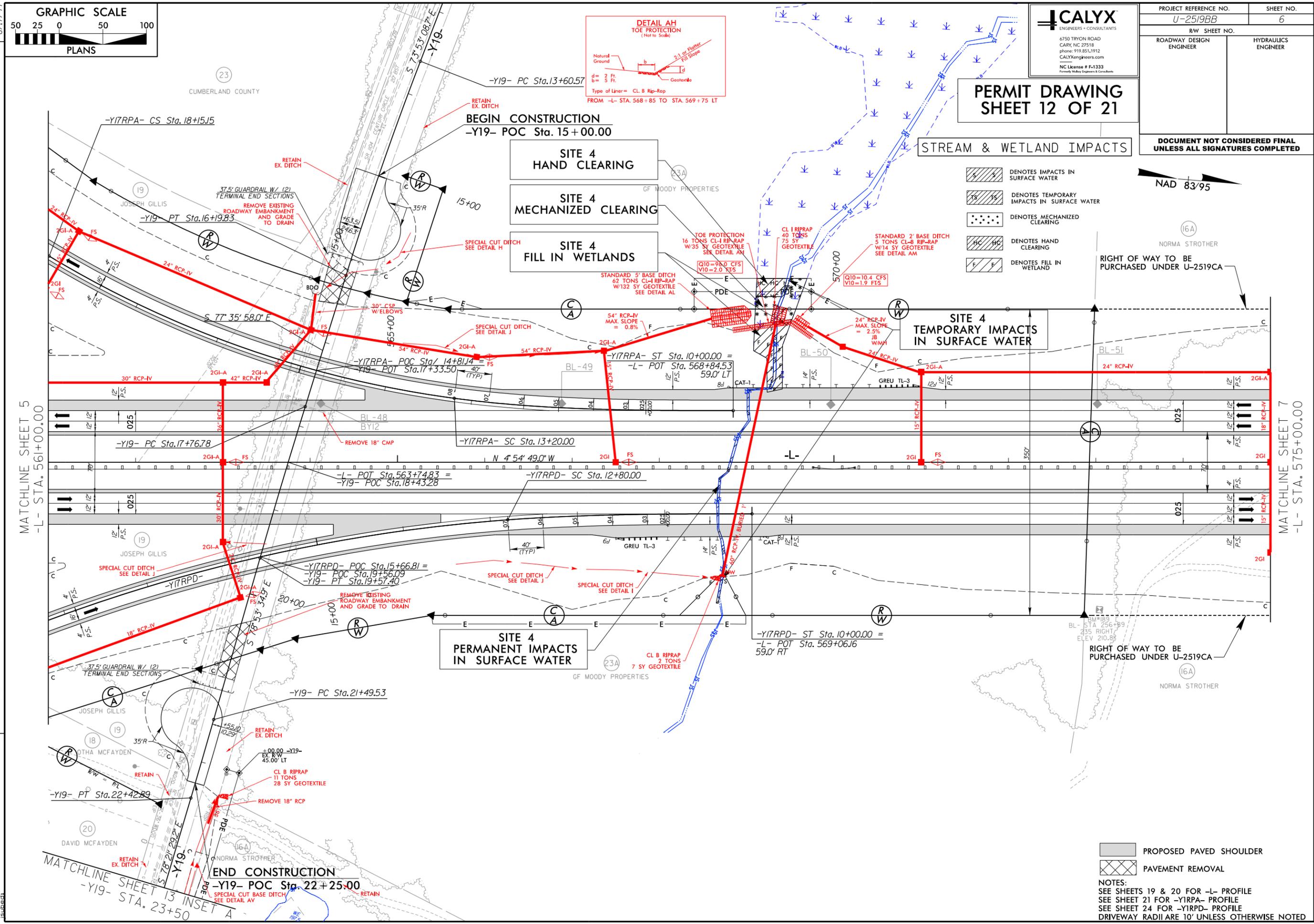
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING SHEET 12 OF 21

STREAM & WETLAND IMPACTS

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

NAD 83/95



RIGHT OF WAY REVISION - 7/24/2017 - REMOVED ROW ON PARCEL NUMBER 16A NORMA STROTHER.

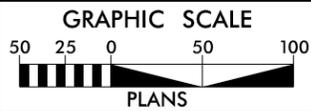
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SUBMIT

MATCHLINE SHEET 5
-L- STA. 561+00.00

MATCHLINE SHEET 7
-L- STA. 575+00.00

- PROPOSED PAVED SHOULDER
- PAVEMENT REMOVAL

NOTES:
SEE SHEETS 19 & 20 FOR -L- PROFILE
SEE SHEET 21 FOR -Y1RPA- PROFILE
SEE SHEET 24 FOR -Y1RPD- PROFILE
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

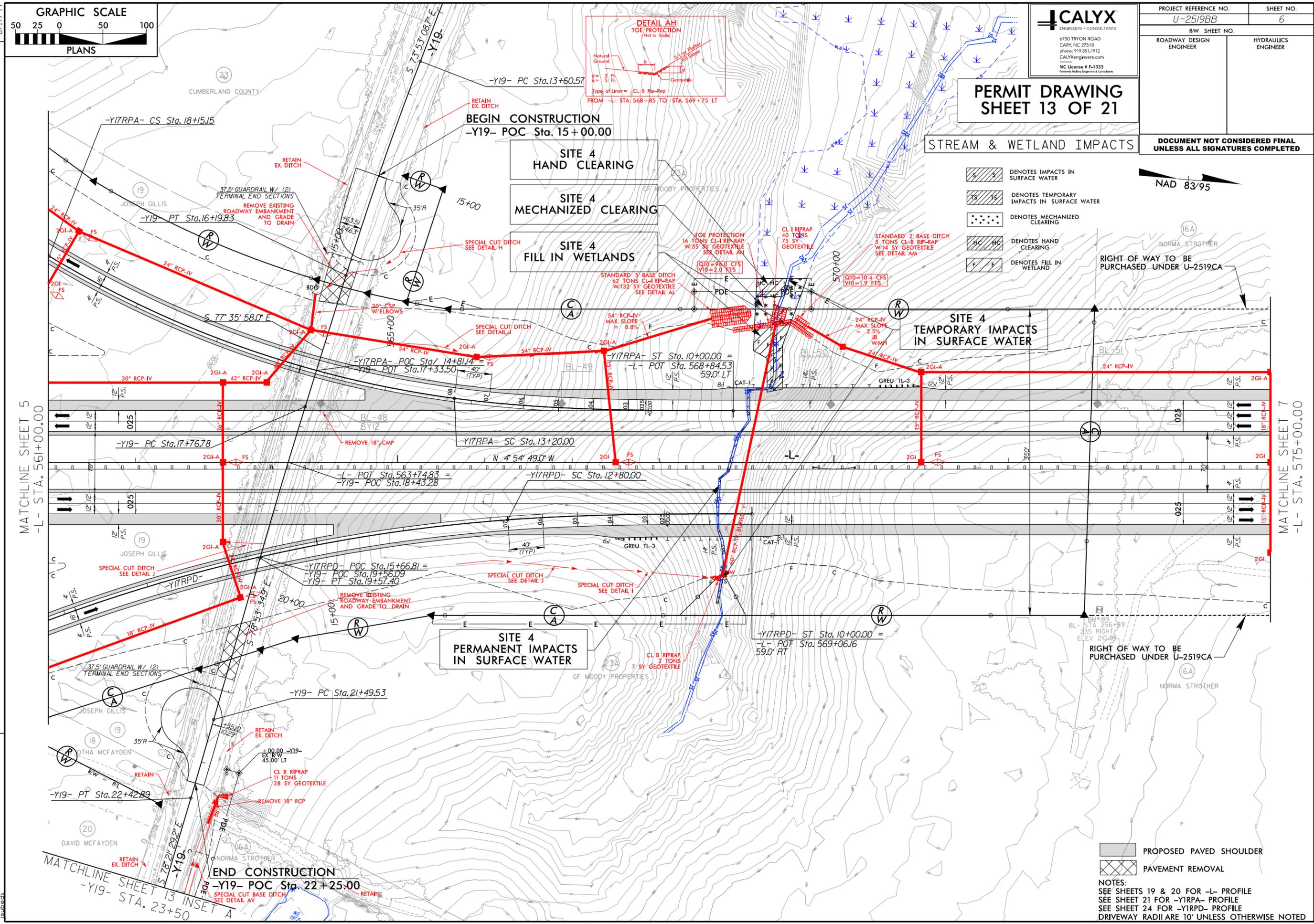
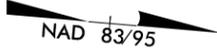


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PROJECT REFERENCE NO. U-2519BB	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PERMIT DRAWING SHEET 13 OF 21	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

STREAM & WETLAND IMPACTS

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



MATCHLINE SHEET 5
-L- STA. 561+00.00

MATCHLINE SHEET 7
-L- STA. 575+00.00

RIGHT OF WAY REVISION - 7/24/2017 - REMOVED ROW ON PARCEL NUMBER 16A NORMA STROTHER.

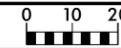
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SUBJECT

MATCHLINE SHEET 13 INSET A
-Y19- STA. 23+50

- PROPOSED PAVED SHOULDER
- PAVEMENT REMOVAL

NOTES:
SEE SHEETS 19 & 20 FOR -L- PROFILE
SEE SHEET 21 FOR -Y1RPA- PROFILE
SEE SHEET 24 FOR -Y1RPD- PROFILE
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

8/23/99

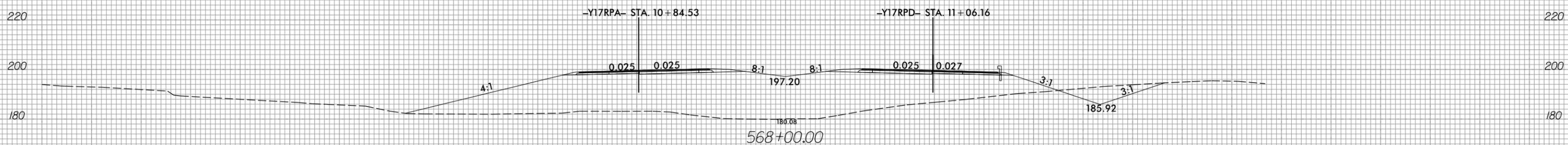
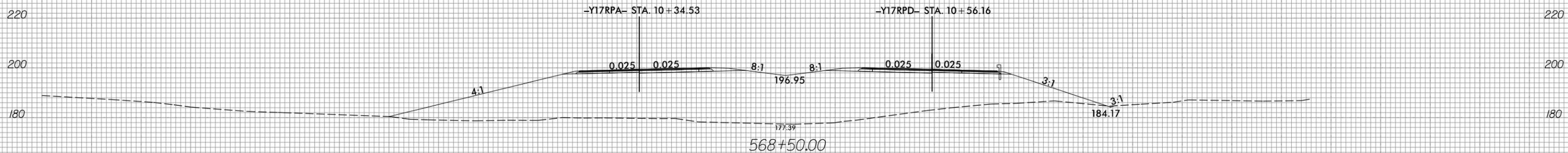
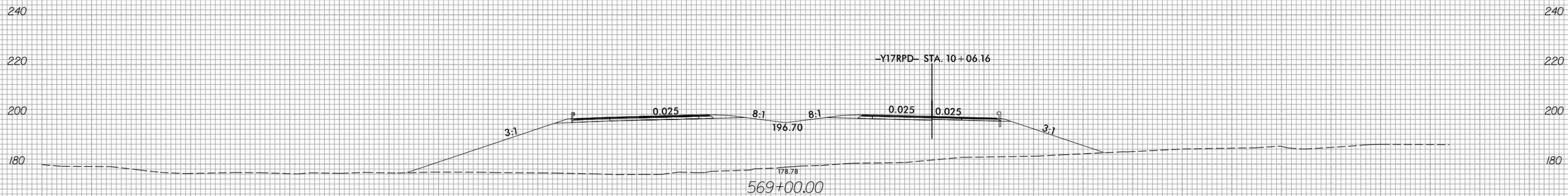
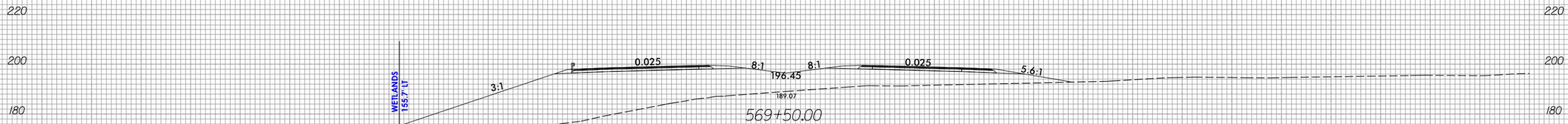
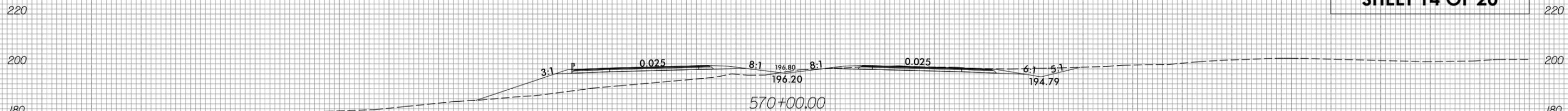


PROJ. REFERENCE NO.
U-2519BB

SHEET NO.
X-16

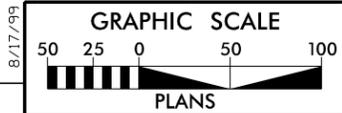
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**PERMIT DRAWING
SHEET 14 OF 20**



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STREAM & WETLAND IMPACTS

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING
- DENOTES EXCAVATION IN WETLAND

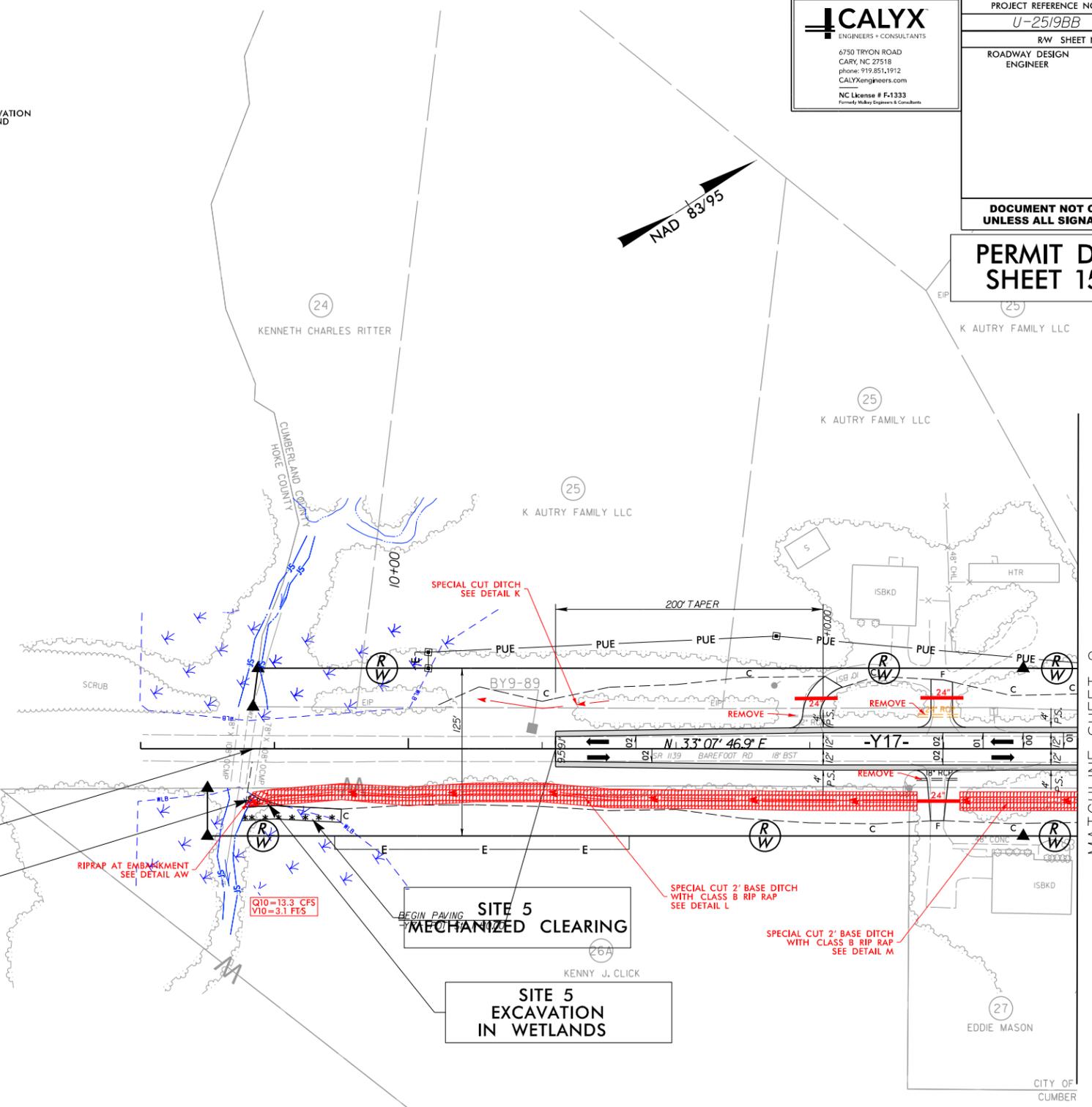
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PROJECT REFERENCE NO. <i>U-2519BB</i>	SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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UNLESS ALL SIGNATURES COMPLETED**

**PERMIT DRAWING
SHEET 15 OF 21**

REVISIONS

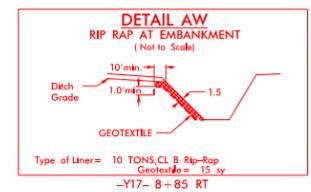


**BEGIN CONSTRUCTION
-Y17- POT Sta. 8+85.00**

**SITE 5
PERMANENT IMPACTS
IN SURFACE WATER**

**SITE 5
MECHANIZED CLEARING**

**SITE 5
EXCAVATION
IN WETLANDS**

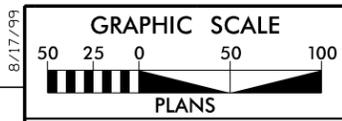


NOTES:
SEE SHEET 25 FOR -Y17- PROFILE
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

PAVED SHOULDER

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MATCHLINE SHEET 9
-Y17- STA. 15+00.00



STREAM & WETLAND IMPACTS

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING
- DENOTES EXCAVATION IN WETLAND

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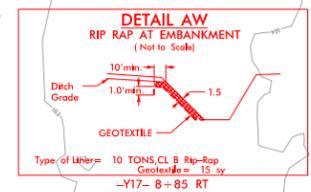
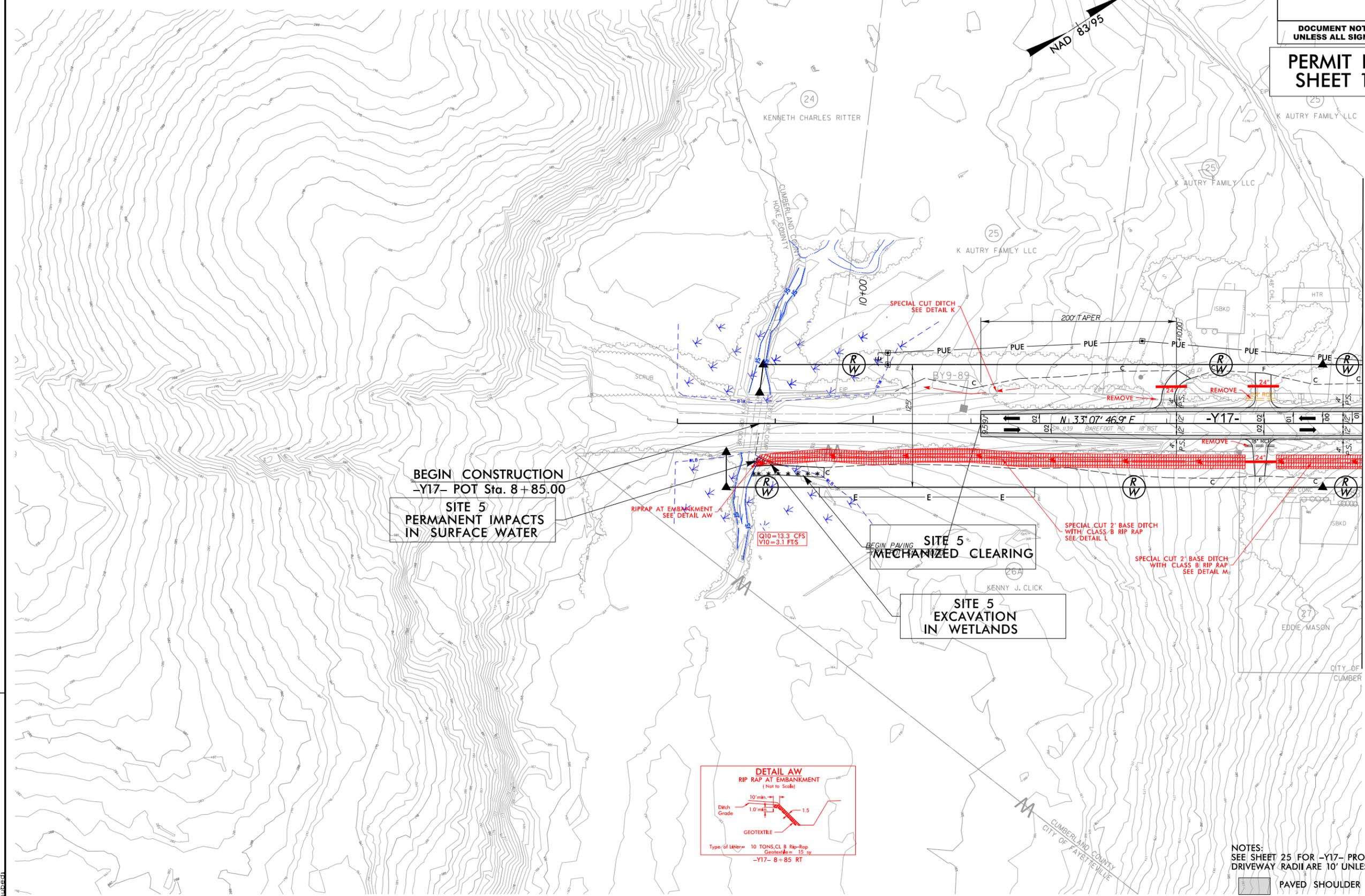
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

**PERMIT DRAWING
SHEET 16 OF 21**

REVISIONS

MATCHLINE SHEET 9
-Y17- STA. 15+00.00



NOTES:
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DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

PAVED SHOULDER

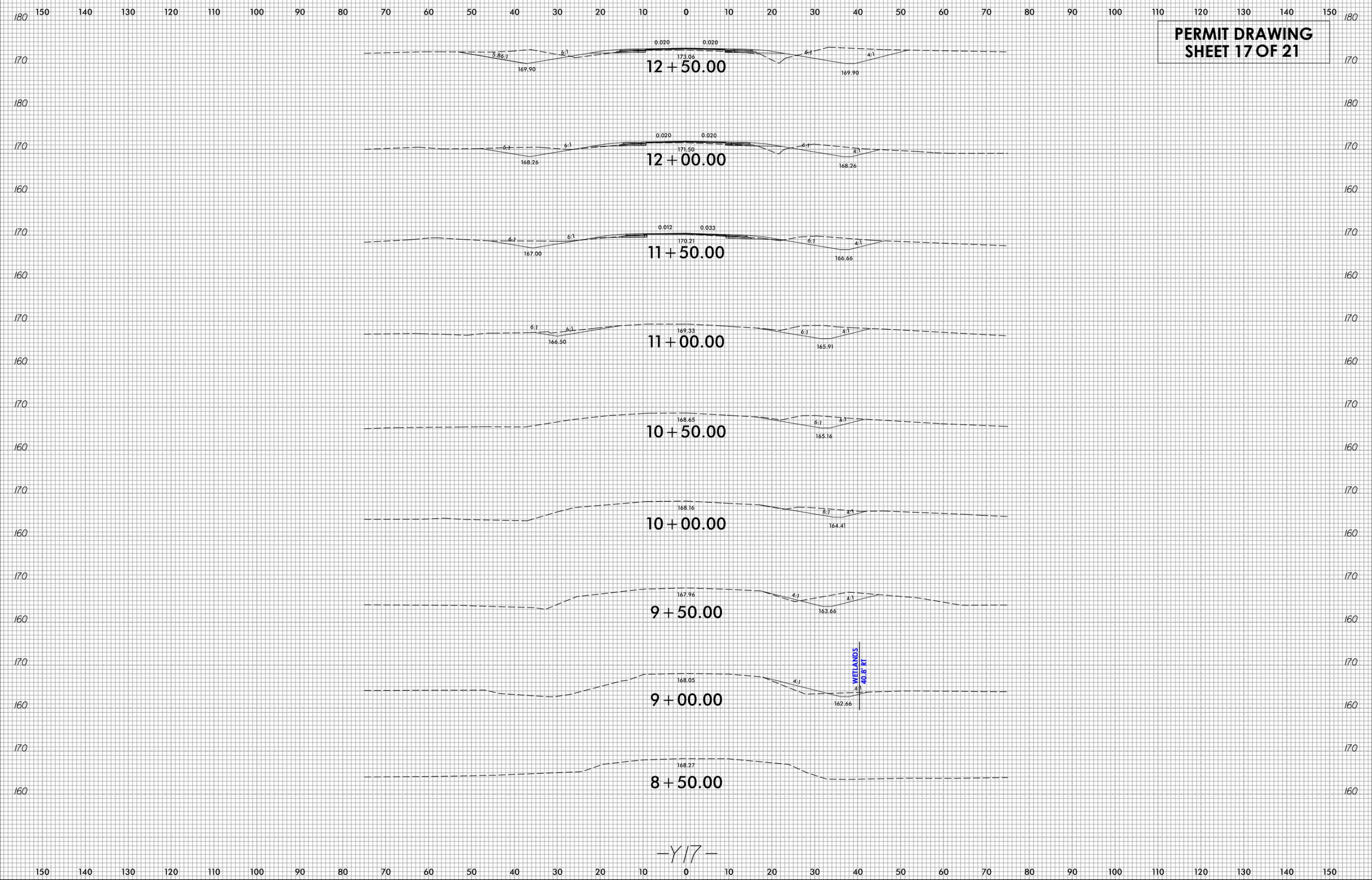
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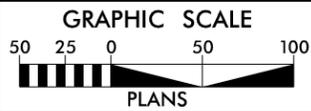
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SHEET 17 OF 21**



-Y17-

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STREAM & WETLAND IMPACTS

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

PERMIT DRAWING SHEET 18 OF 21

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PROJECT REFERENCE NO. U-2519BB	SHEET NO. 12
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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MATCHLINE SHEET II
-Y17- STA. 56+50.00

MATCHLINE SHEET 5
-Y17- STA. 70+50.00

SITE 8 TEMPORARY IMPACTS IN SURFACE WATER

SITE 8 PERMANENT IMPACTS IN SURFACE WATER

SITE 6 PERMANENT IMPACTS IN SURFACE WATER

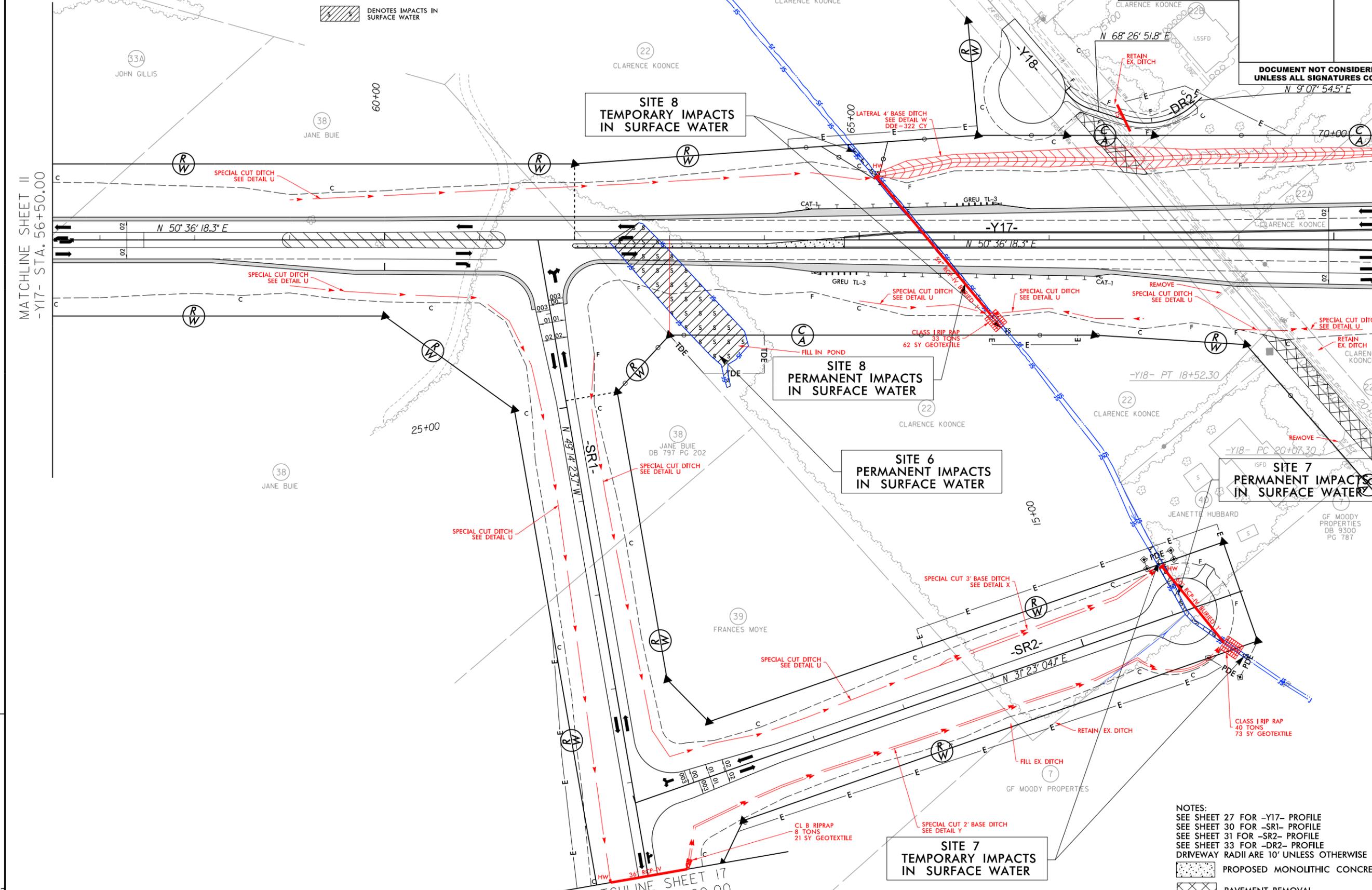
SITE 7 PERMANENT IMPACTS IN SURFACE WATER

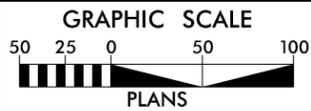
SITE 7 TEMPORARY IMPACTS IN SURFACE WATER

- NOTES:**
SEE SHEET 27 FOR -Y17- PROFILE
SEE SHEET 30 FOR -SR1- PROFILE
SEE SHEET 31 FOR -SR2- PROFILE
SEE SHEET 33 FOR -DR2- PROFILE
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
- PROPOSED MONOLITHIC CONCRETE ISLAND
 - PAVEMENT REMOVAL
 - PROPOSED PAVED SHOULDER

REVISIONS
1) RIGHT OF WAY REVISION - 3/29/2017 - CHANGED PARCEL NUMBER 22A TO PARCEL NUMBER 22B.

4/11/2018
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Psh12.dgn





STREAM & WETLAND IMPACTS

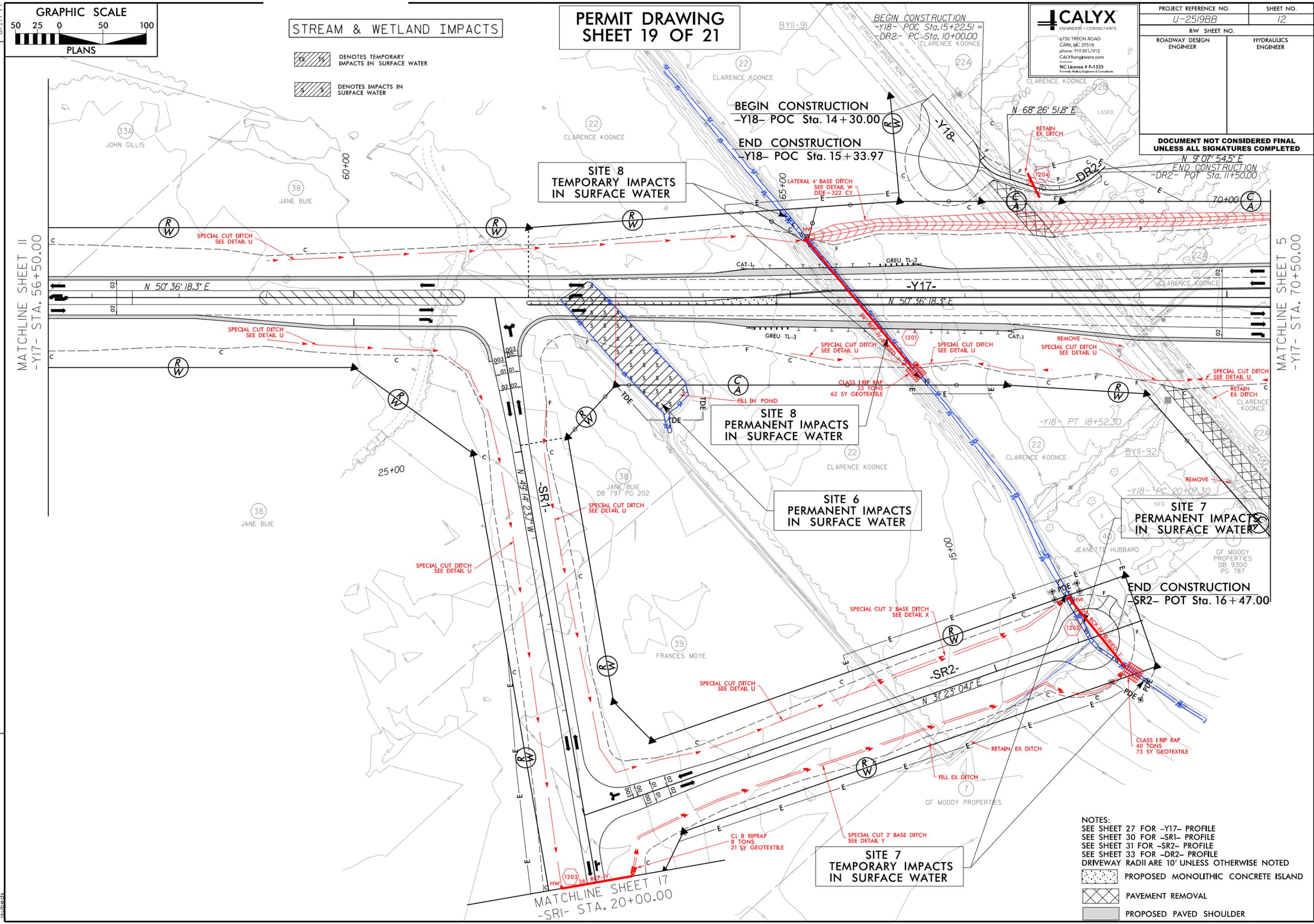
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER

**PERMIT DRAWING
SHEET 19 OF 21**

CALYX
ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27518
phone: 919.851.1912
CALYXengineers.com
NC License # F-1333
Formerly: Hubley Engineers & Consultants

PROJECT REFERENCE NO. U-2519BB	SHEET NO. 12
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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



REVISIONS
 1) RIGHT OF WAY REVISION - 3/29/2017 - CHANGED PARCEL NUMBER 22A TO PARCEL NUMBER 22B.
 4/11/2018
 R:\Hydro\PERMITS\Environmental\Drawings\J2519BB_hyd_perm_cont_Psh12.dgn
 subject

- NOTES:**
 SEE SHEET 27 FOR -Y17- PROFILE
 SEE SHEET 30 FOR -SR1- PROFILE
 SEE SHEET 31 FOR -SR2- PROFILE
 SEE SHEET 33 FOR -DR2- PROFILE
 DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
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 - PROPOSED PAVED SHOULDER

MATCHLINE SHEET II
-Y17- STA. 56+50.00

MATCHLINE SHEET 5
-Y17- STA. 70+50.00

MATCHLINE SHEET 17
-SR1- STA. 20+00.00

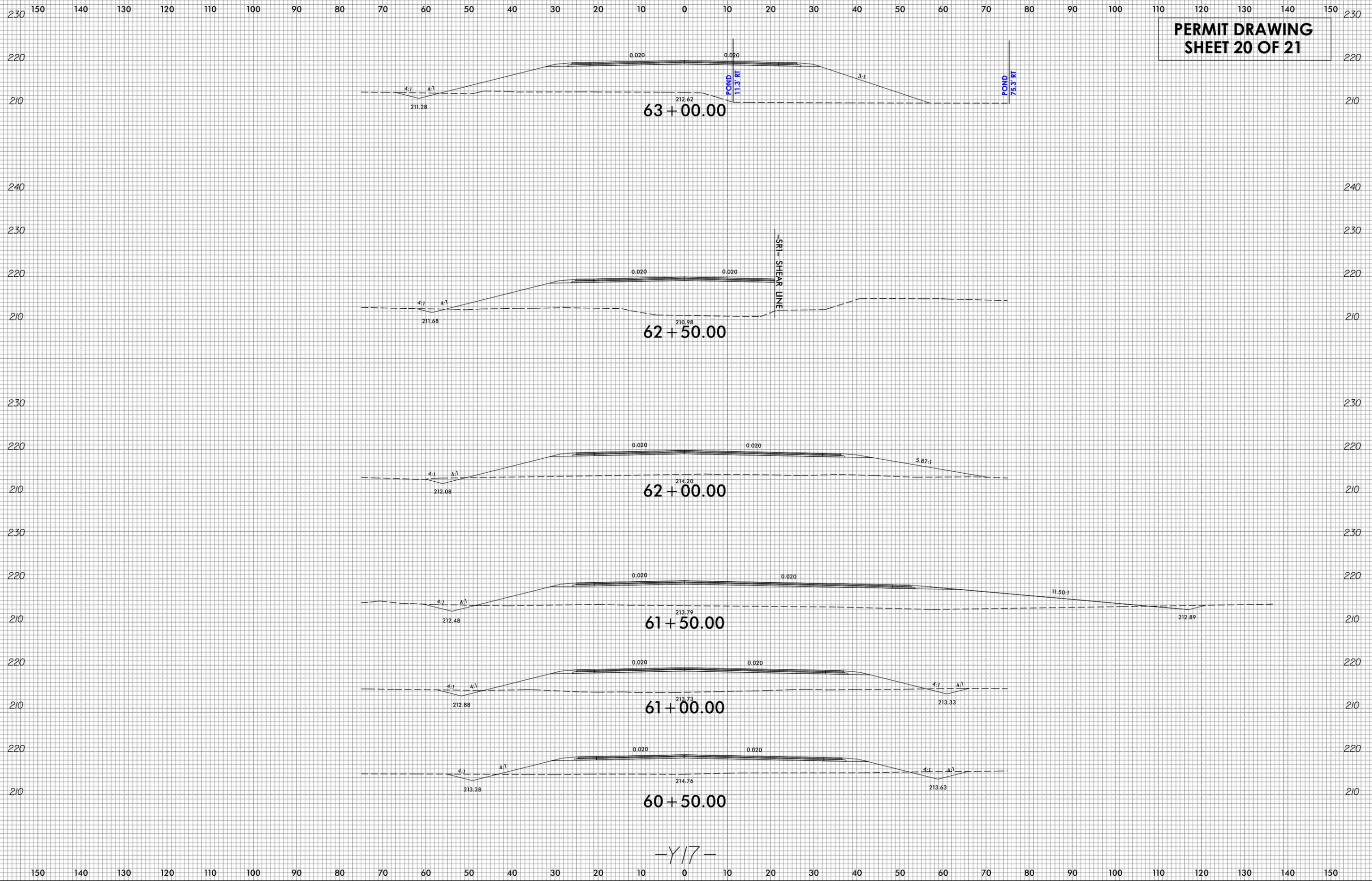
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PROJ. REFERENCE NO.
U-2519BB

SHEET NO.
X-57

**PERMIT DRAWING
SHEET 20 OF 21**



-Y17-

9/29/2017
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