



**US Army Corps
Of Engineers**
Wilmington District

PUBLIC NOTICE

Issue Date: December 5, 2016
Comment Deadline: January 4, 2017
Corps Action ID Number: SAW-2014-02016
STIP No. I-5504

The Wilmington District, Corps of Engineers (Corps) has received an application from the North Carolina Department of Transportation (NCDOT) seeking Department of the Army authorization to permanently impact 1,888 linear feet of stream, 0.02 acre of wetland, and 0.03 acre of open water (pond) in order to reduce projected traffic congestion at the Interstate 26 (I-26)/NC 191 interchange in Asheville, Buncombe County, North Carolina (STIP No. I-5504).

Specific plans and location information are described below and shown on the attached plans. This Public Notice and all attached plans are also available on the Wilmington District Web Site at <http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram/PublicNotices.aspx>

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

Authority

The Corps will evaluate this application and decide whether to issue, conditionally issue, or deny the proposed work pursuant to applicable procedures of the following Statutory Authorities:

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

Location

Nearest Town: Asheville
Nearest Waterways: Hominy Creek, Long Valley Branch, and unnamed tributaries to these streams.
River Basin: French Broad River
Latitude and Longitude: 35.5340 N, -82.6025 W

The proposed project [State Transportation Improvement Program (STIP) No. I-5504] is located at the I-26/NC 191 (Brevard Road) interchange in the City of Asheville, Buncombe County, North Carolina.

The length of the proposed project along NC 191 is approximately 3,600 feet and stretches from the intersection of NC 191 with the Ingles/Asheville Outlets entrance to the intersection of NC 191 and Old Brevard Road. The length of the project along I-26 is approximately 6,680 feet within the NC 191 interchange area, extending west to tie to the I-26 bridge reconstruction over Pond Road/Hominy Creek (B-5178 - currently under construction).

Existing Site Conditions

Buncombe County is the seventh largest county in North Carolina, with a 2010 US Census population of 238,318; the City of Asheville is the tenth largest municipality in the state, with a population of 83,393.

The project study area is located in the Blue Ridge physiographic province of North Carolina. Topography in the project vicinity is generally characterized as moderately steep to very steep side slopes, gently sloping to strongly sloping ridge tops, and narrow, level floodplains along streams. Elevations within the study area range from approximately 2,120 to 2,240 feet above mean sea level. Streams, creeks, tributaries, and wetlands in the project study area are part of the French Broad River basin (USGS Hydrologic Unit 06010105). Land use in the project vicinity consists primarily of forest land interspersed with agricultural land and commercial and residential development primarily along roadways.

I-26 connects Hendersonville, Asheville, and the tri-cities of Tennessee along a general north-south route; however, I-26 is designated as an east-west interstate. The freeway carries tourist traffic bound for the mountains year round and doubles as an important truck route southeast to the inland port at Greer, South Carolina, and to the maritime ports in Charleston, South Carolina. In Asheville, the I-26/NC 191 (Brevard Road) interchange is approximately one mile east of the I-26 interchange with I-40 and I-240. At the I-26/NC 191 (Brevard Road) interchange, I-26 ranges in width from 110 to 120 feet and has a grass median.

NC 191 (Brevard Road) is a state highway in western North Carolina that connects the town of Hendersonville, in Henderson County, to the city of Asheville in Buncombe County. It is 22 miles in length. In the vicinity of STIP Project I-5504, NC 191 is a four-lane road and several local roads intersect it.

Bridge Number 100171 carries NC 191 (Brevard Road) over I-26. The structure was built in 1967. An April 2012 bridge inspection report indicated a sufficiency rating of 69 out of a possible 100 and was the bridge was rated in fair condition. The bridge length is 216 feet and consists of four spans. The span lengths are: one at 37 feet, two at 69.5 feet, and one at 39 feet. The clear roadway width on the structure deck is 68 feet. The vertical clearance under the bridge varies from 16.08 feet to 16.25 feet above the I-26 pavement. The horizontal clearance under the bridge varies from 8.16 feet to 8.41 feet on the right side and 20.58 feet to 20.70 feet on the left.

According to NCDOT, there is a need for greater vertical and horizontal clearances under the NC 191 (Brevard Road) bridge.

The posted speed limit on I-26 is 65 miles per hour (mph) and 45 mph on NC 191 (Brevard Road).

Adjacent to the interchange, land use is urban and consists of residences, businesses, hotels, restaurants, car dealerships, and a regional shopping center. Land immediately adjacent to the interchange in the northeast quadrant is part of the Biltmore Estate, which is one of the most visited tourist destinations in the state and the entire property is listed as a National Historic Landmark on the National Register of Historic Places (NRHP).

There are above-ground and sub-surface utilities located along the entire length of the proposed project, including utility poles that carry power, telephone and traffic signal cables. Gas, water, sanitary sewer and stormwater lines extend underground in the project study area. Adjacent properties north and south of the interchange are served with municipal water and sewer.

There are no designated Outstanding Resource Waters (ORW), High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II) within one mile of the study area. There are no North Carolina Wildlife Resources Commission (NCWRC) trout waters. There are no designated anadromous fish waters or Primary Nursery Areas (PNA) present in the study area. The National Marine Fisheries Service (NMFS) has not identified any Essential Fish Habitat in the study area. There are no streams in the project area on the North Carolina 2014 Final 303(d) list of impaired waters for turbidity or sedimentation.

Aquatic habitats within the project study area consist of wetlands, perennial and intermittent streams, and ponds. Thirteen cool water streams, seven wetlands, and four ponds (one is a stormwater facility) were identified within the project study area.

The following STIP projects are adjacent to, or in the general area of, the proposed project:

STIP Project I-5501: the I-26/NC 280 (Airport Road) interchange. Construction is complete on this project.

STIP Project I-2513: NCDOT proposes to upgrade 4.3 miles of existing I-240 and build 2.6 miles of I-26 on new location from the Patton Avenue interchange to just south of the Broadway interchange with US 19/23/70. The project is currently in the development phase with right-of-way acquisition scheduled to begin in 2019 and construction in 2021.

STIP Project I-4400/I-4700: NCDOT proposes to add lanes on I-26 to meet current and future travel demand that are over-capacity on I-26 during peak hours and travel demand is expected to increase. The project is over 22 miles long, extending to the community of East Flat Rock in Henderson County and to I-40 in Buncombe County. I-4400 is the southern section of I-26, between US 25 and NC 280. I-4700 is the northern section of I-26, between NC 280 and I-40. The project is currently in the development phase with right-of-way acquisition expected to begin in 2018 and construction in 2020.

STIP Project A-0010: NCDOT proposes various improvements to US 19/23 (the future I-26) including bridge replacements, pavement rehabilitation, and lane additions. The project stretches 12 miles, from just north of I-240 in Asheville to just south of Stockton Road near Mars Hill in Buncombe County. Right-of-way acquisition is expected to begin in 2020 with construction anticipated in 2022.

STIP Project No. I-4759: NCDOT proposes to convert the grade separation at I-40 and SR 1228 (Liberty Road) to an interchange. The project includes construction of a two-lane roadway from US 19/US 23/NC 151 to SR 1224. The project is currently in the development phase with right-of-way acquisition beginning in 2019 and construction let in 2021.

STIP Project No. B-5178: NCDOT is currently replacing bridge numbers 235 and 238 on I-26 just west of STIP Project I-5504 at the I-26 Interchange at NC 191 (Brevard Road). Both bridges span SR 3431 (Pond Road) and Hominy Creek.

Applicant's Stated Purpose

According to the applicant, the primary purpose of the proposed project (I-5504) is to reduce project traffic congestion at the I-26/NC 191 interchange. Another benefit would be to improve interchange efficiency and maintain safe conditions.

Level of Service (LOS) is a qualitative measure used to describe the operating conditions of a roadway. LOS is generally described in terms of factors such as speed, travel time, freedom to maneuver, traffic interruptions, driver comfort and convenience, and safety. LOS is represented by a letter ranking from "A" to "F", with "A" representing free flowing conditions and "F" representing traffic-breakdown conditions. NCDOT predicts that some current turning movements on both I-26 exit ramps would operate at an LOS F in 2040 during the morning and evening peak hours under a "No Build" scenario. NCDOT also projects that future year vehicle queues would occur on the exit ramps, possibly extending near the I-26 mainline, thus creating unsafe conditions.

Project Description

NCDOT proposes to modify the I-26/NC 191 (Brevard Road) interchange ramps, widen and elevate the NC 191 Bridge and approaches through the interchange, reconstruct the I-26 pavement, pave the median of I-26, and reconfigure local roadways.

The proposed improvements would include retrofitting the existing ramp configuration to increase the distance along NC 191 (Brevard Road) separating the signalized ramp intersections. The distance between signalized ramp intersections would increase from 850 feet (current conditions) to approximately 1,900 feet. The proposed project also includes widening the eastbound I-26 ramp at its intersection with NC 191 (Brevard Road) and closing Rocky Ridge Road at NC 191 (Brevard Road). Access to residences and businesses on Rocky Ridge Road would be relocated to a new road which would be built on the south side of the existing Petco Animal Supplies store. The proposed project would also include relocation of the intersection of NC 191 (Brevard Road) with the westbound I-26 on- and off-ramp to a new location that is

approximately 1,150 feet northeast of the existing ramp intersection. The relocated westbound off-ramp would be elongated around the perimeter of the Jim Barkley Toyota dealership, which would increase the deceleration distance and vehicle storage space considerably. The relocated on- and off-ramps would intersect NC 191 (Brevard Road) where Pine Lane now intersects. The Pine Lane intersection would be relocated several hundred feet to the northeast to intersect with a right-in/right-out only type of intersection.

As part of this proposed project, the median of I-26 would be paved and median barrier installed so that traffic could be maintained during construction. The limits of median paving would extend in both directions on I-26 to where ramp tapers would match existing pavement.

Properties along Pine Lane would experience an increase in roadway-related impacts due to new on- and off-ramps serving westbound I-26. Some right-of-way acquisition would be required to build these ramps. According to an NCDOT Relocation Report dated June 23, 2014, five residential properties and one business property located on Pine Lane would be displaced by the proposed project. Remaining parcels on the south side of Pine Lane would be reduced in acreage due to right-of-way acquisition. Properties on adjacent streets including Oak Lodge Road, Old Brevard Road, Fordia Path (also known as Poodle Path), Jeff Drive, Trevor's Trail, and Elaine Eden Drive may experience some increase in road-related noise impacts.

The driveway access for Jim Barkley Toyota would not change, but an employee parking lot in the northwest corner of the property would be acquired to make room for new on- and off-ramps for westbound I-26. The parking lot accommodates approximately 26 vehicles.

Circulation and access to the businesses and residences on Rocky Ridge Road and Holcombe Ridge Drive would be impacted due to changes in access control that are designed to make the interchange operate efficiently. Access to Ethan Allen, Rugs & Home, Hampton Inn & Suites, Holiday Inn Express, Fairfield Inn & Suites, City of Asheville Fire Station Number 11, Buncombe Roofing, Rodeway Inn and Suites, Glen's Auto Glass, Mountain Area Recovery Center, and Petco Animal Supplies would be impacted.

A medical clinic, Mountain Area Recovery Center, located at 18 Wedgefield Drive, may be impacted with construction of a new access road to replace the closure of Rocky Ridge Road. The new access road would align with Wedgefield Drive just north of the Mountain Area Recovery Center building, resulting in the potential loss of several on-site parking spaces.

NCDOT may determine that one commercial retail business (Petco Animal Supplies store) on the west side of NC 191 (Brevard Road) needs to be acquired or lose some acreage with the re-routing of access from the Rocky Ridge Road Wedgefield Drive area to NC 191 (Brevard Road). A driveway that currently connects the Petco parking lot to Rocky Ridge Road is proposed to be closed to avoid cut-through traffic in the Petco parking area.

The City of Asheville Fire Station Number 11, which houses fire response service and emergency medical service (EMS) first responder units, would no longer have direct access to NC 191 (Brevard Road) via Rocky Ridge Road. Emergency responders would travel an

additional 1,500 feet to access NC 191 (Brevard Road) via Wedgefield Drive, and a new street would be built adjacent to the south side of the existing Petco Animal Supplies store, intersecting with NC 191 (Brevard Road).

Construction of the proposed project would require the following impacts to waters of the U.S.:

- Permanent impacts to 1,888 linear feet of stream, 0.02 acre of wetland, and 0.03 acre of open water (pond); and,
- Temporary impacts to 87 lf of streams.

Permanent impacts would result from the placement, replacement, or extension of culverts; bank stabilization; other placement of rip rap; embankment/road fill; and stream realignment/relocations.

Avoidance and Minimization

According to the applicant, avoidance and minimization measures have been employed in the project area to the maximum extent practicable. Listed below are some of the measures that would be implemented:

Avoidance and Minimization

- NCDOT's Best Management Practices (BMPs) for the Protection of Surface Waters would be enforced;
- NCDOT's BMPs for Construction and Maintenance Activities would be utilized;
- NCDOT would implement installation, inspection, and maintenance of erosion and sediment control measures;
- Ditches too steep to qualify as swales would be lined with rip rap to minimize flow velocity and turbidity;
- Rip rap pads at drainage system outlets would dissipate flow and reduce velocities and erosive potential;
- Proposed rip rap stabilization would be sized appropriately based on flow velocity to ensure long term stability of banks;
- New roadway drainage would be directed, where practical, to uplands and ditches/swales rather than direct discharge to surface waters;
- At the inlets and outlets of culverts carrying jurisdictional streams, stream realignments are proposed to avoid sharp bends in the streams and prevent future instability;
- Unstable eroded stream banks would be stabilized with rip rap armoring where necessary;
- Low flow conditions at culverts would be accommodated with the appropriate sizing, grade controls, and burial;
- Existing drainage patterns would be maintained to the maximum extent practicable.

In addition to the above practices, specific measures would be utilized to maintain water quality:

- Sites 1, 2, and 3: proposed side slopes have been steepened to 1.75:1 adjacent to all jurisdictional impact areas to minimize impacts to surface waters;
- Steepened slopes would be reinforced to minimize the potential for future erosion of fill slopes. These reinforced fill slopes would be revegetated using NCDOT approved vegetation.
- Sites 1a, 1c, and 3b: Existing concrete channels currently discharging directly to surface waters would be removed and replaced with a rip rap ditches to aid in velocity and turbidity reduction;
- Site 1c: sheet piling or similar exclusion methods would control turbidity during construction and prevent encroachment onto the Biltmore Estate;
- Sites 1c and 1d: The unnamed tributary at the outlet of the 14'x14' RCBC (Stream SI) would be avoided except for placement of mats or other devices over the stream (above the ordinary high water mark) for construction equipment access;
- Site 3b: A rock vein or sill would be constructed at the edge of the dissipater pad to maintain water in the existing 72" pipe that would convey stream base flow. The dissipater pad would be field adjusted, in consultation with the Corps and NCDWR, to ensure proper function.
- Site 3b: Rip rap stabilization would be extended to one (1) foot above the 50 year water surface elevation of the steep slope adjacent to the private access road.

Stormwater Management Plan

- Two (2) vegetated swales would be constructed at the following locations: 43+50 to 46+00 and 56+00 to 56+50. The function of these swales would be to reduce water velocity, promote infiltration, and provide treatment for discharge before runoff enters streams;
- Two (2) rip rap energy dissipater basins would be constructed at the following locations: 26+90 RT and 79+40 LT. The function of these rip rap dissipaters would be to stabilize the stream outlets and reduce stream velocity and turbidity.

Compensatory Mitigation

While the proposed project would permanently impact 1,888 linear feet (lf) of cool water streams, 86 lf of this would be due to bank stabilization. Total permanent impacts to streams, minus bank stabilization, equals 1,802 lf. The applicant proposes to purchase credits from the NC Division of Mitigation Services (NCDMS) as compensatory mitigation to offset unavoidable functional losses to the aquatic environment resulting from 1,802 lf of permanent impacts to streams and 0.02 acre of permanent impacts to riparian wetlands. NCDOT proposes to mitigate for the permanent stream impacts as follows: 791 lf of good quality streams at a 2:1 ratio and 1,011 of fair quality streams at a 1:1 ratio. There is no proposed compensatory mitigation for the 0.03 acre of permanent open water (pond) impact.

Essential Fish Habitat

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, this Public Notice initiates the Essential Fish Habitat (EFH) consultation requirements. The Corps' initial determination is that the proposed project would not affect EFH or associated fisheries managed by the South Atlantic or Mid Atlantic Fishery Management Councils or the National Marine Fisheries Service.

Cultural Resources

The Federal Highway Administration (FHWA) is the lead federal agency for this project and, in accordance with Section 106 of the National Historic Preservation Act (NHPA), will make determinations and request concurrence with these determinations from the North Carolina State Historic Preservation Office (NCHPO). The FHWA approved a Categorical Exclusion (CE) for this project on October 15, 2015.

According to the FHWA and NCDOT:

Based on the NCHPO's statewide survey of historic buildings, districts, and landscapes, there is one historic property within the project study area. The Biltmore Estate is listed on the NRHP as a National Historic Landmark and contains 138 contributing resources, comprised of 56 buildings, 31 sites, and 51 structures. An effects assessment between the FHWA, NCDOT, and NCHPO was held in July 2014 to review three different build alternatives (Options C, F, and G2). As a result of this consultation, Option G2 (i.e., NCDOT's preferred alternative/the proposed project) was determined to have "No Adverse Effect" on the Biltmore Estate and a *de minimis* finding was made with regard to Section 4(f). Options C and F were both given "Adverse Effect" determinations due to the inclusion (in both options) of highway off-ramps within the boundary of the Biltmore Estate.

This project was reviewed by NCDOT under the terms of the 2007 Programmatic Agreement for minor transportation projects; this review resulted in a No Archaeological Survey Required determination on April 30, 2014.

Endangered Species

The FHWA is the lead federal agency for this project and is the federal agency responsible for making determinations and requesting concurrence with these determinations from the U.S. Fish and Wildlife Service (Service), in accordance with Section 7(a)(2) of the Endangered Species Act (ESA). The FHWA approved a CE for this project on October 15, 2015.

The following table contains the federally listed threatened and endangered species for Buncombe County. It also includes the FHWA/NCDOT's determinations of effect to these species that would result from implementation of the proposed project.

Table 1. Federally Protected Species for Buncombe County, NC

Scientific Name	Common Name	Federal Status ¹	Habitat Present	Biological Conclusion
<i>Clemmys muhlenbergii</i>	Bog Turtle	T(S/A)	No	Not Required
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	E	No	No Effect
<i>Myotis grisescens</i>	Gray bat	E	Yes	MANLAA ²
<i>Myotis septentrionalis</i>	Northern long-eared bat	T	Yes	**
<i>Erimonax monachus</i>	Spotfin chub*	T	No	No Effect
<i>Alasmidonta raveneliana</i>	Appalachian elktoe*	E	No	No Effect
<i>Microhexura montivaga</i>	Spruce-fir moss spider	E	No	No Effect
<i>Epioblasma florentina walker</i>	Tan riffleshell*	E	No	No Effect
<i>Geum radiatum</i>	Spreading avens	E	No	No Effect
<i>Spiraea virginiana</i>	Virginia spiraea*	T	No	No Effect
<i>Gymnoderma lineare</i>	Rock gnome lichen	E	No	No Effect

¹E – Endangered. T – Threatened. T(S/A) – Threatened due to similarity of appearance.

²MANLAA – May Affect, Not Likely to Adversely Affect

* Historic record (the species was last observed in the county more than 50 years ago)

**May Affect – NLEB is exempt due to consistency with the 4(d) rule.

Gray bat

NCDOT, for the FHWA, submitted a Section 7 concurrence request to the Service on November 15, 2016.

Other Required Authorizations

The Corps forwards this notice and all applicable application materials to the appropriate State agencies for review.

North Carolina Division of Water Resources (NCDWR): The Corps will generally not make a final permit decision until the NCDWR issues, denies, or waives the state Certification as required by Section 401 of the Clean Water Act (PL 92-500). The receipt of the application and this public notice, combined with the appropriate application fee, at the NCDWR Central Office in Raleigh constitutes initial receipt of an application for a 401 Certification. A waiver will be deemed to occur if the NCDWR fails to act on this request for certification within sixty days of receipt of a complete application. Additional information regarding the 401 Certification may be reviewed at the NCDWR Central Office, Transportation Permitting Unit, 512 North Salisbury Street, Raleigh, North Carolina 27604-2260. All persons desiring to make comments regarding the application for a 401 Certification should do so, in writing, by January 4, 2017 to:

NCDWR Central Office
 Attention: Ms. Amy Chapman, Transportation Permitting Unit
 (USPS mailing address): 1617 Mail Service Center, Raleigh, NC 27699-1617

Or,

(physical address): 512 North Salisbury Street, Raleigh, North Carolina 27604

North Carolina Division of Coastal Management (NCDCM):

Based upon all available information, the Corps has determined that this application for a Department of Army permit does not involve an activity which would affect the coastal zone, which is defined by the Coastal Zone Management (CZM) Act (16 U.S.C. § 1453).

Evaluation

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values (in accordance with Executive Order 11988), land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving the discharge of dredged or fill materials in waters of the United States, the evaluation of the impact of the activity on the public interest will include application of the Environmental Protection Agency's 404(b)(1) guidelines.

Commenting Information

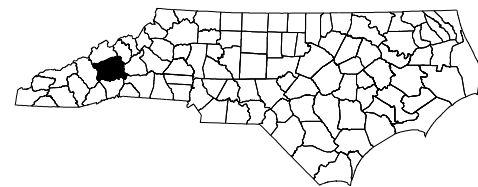
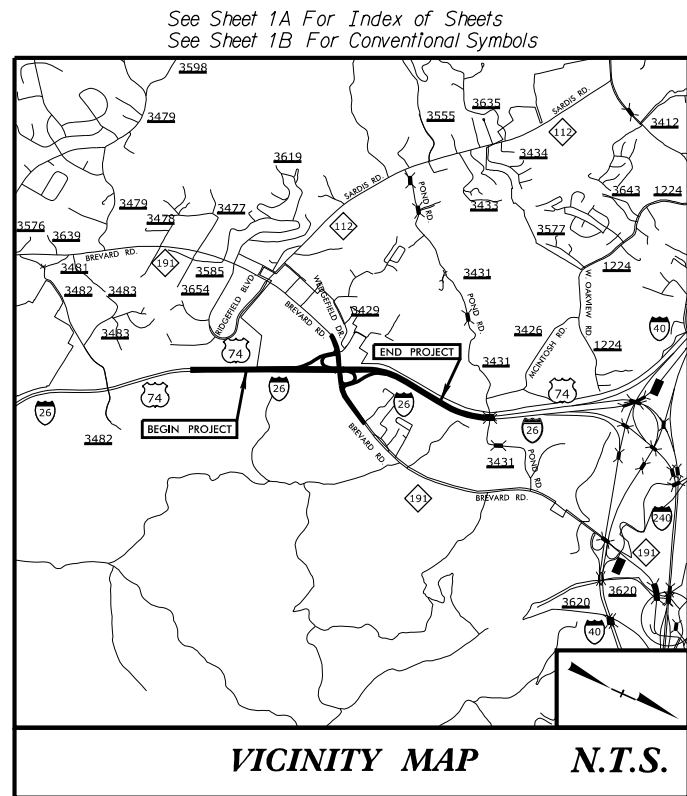
The Corps of Engineers is soliciting comments from the public; federal, state and local agencies and officials, including any consolidated State Viewpoint or written position of the Governor; Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing shall be granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing.

The Corps of Engineers, Wilmington District will receive written comments pertinent to the proposed work, as outlined above, until 5pm, January 4, 2017. Comments should be submitted to Lori Beckwith, Regulatory Project Manager, Asheville Regulatory Field Office, 151 Patton Avenue, Room 208, Asheville, North Carolina 28801-5006, at (828) 271-7980. Comments can also be emailed to loretta.a.beckwith@usace.army.mil

TIP PROJECT: I-5504

CONTRACT: C203754



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

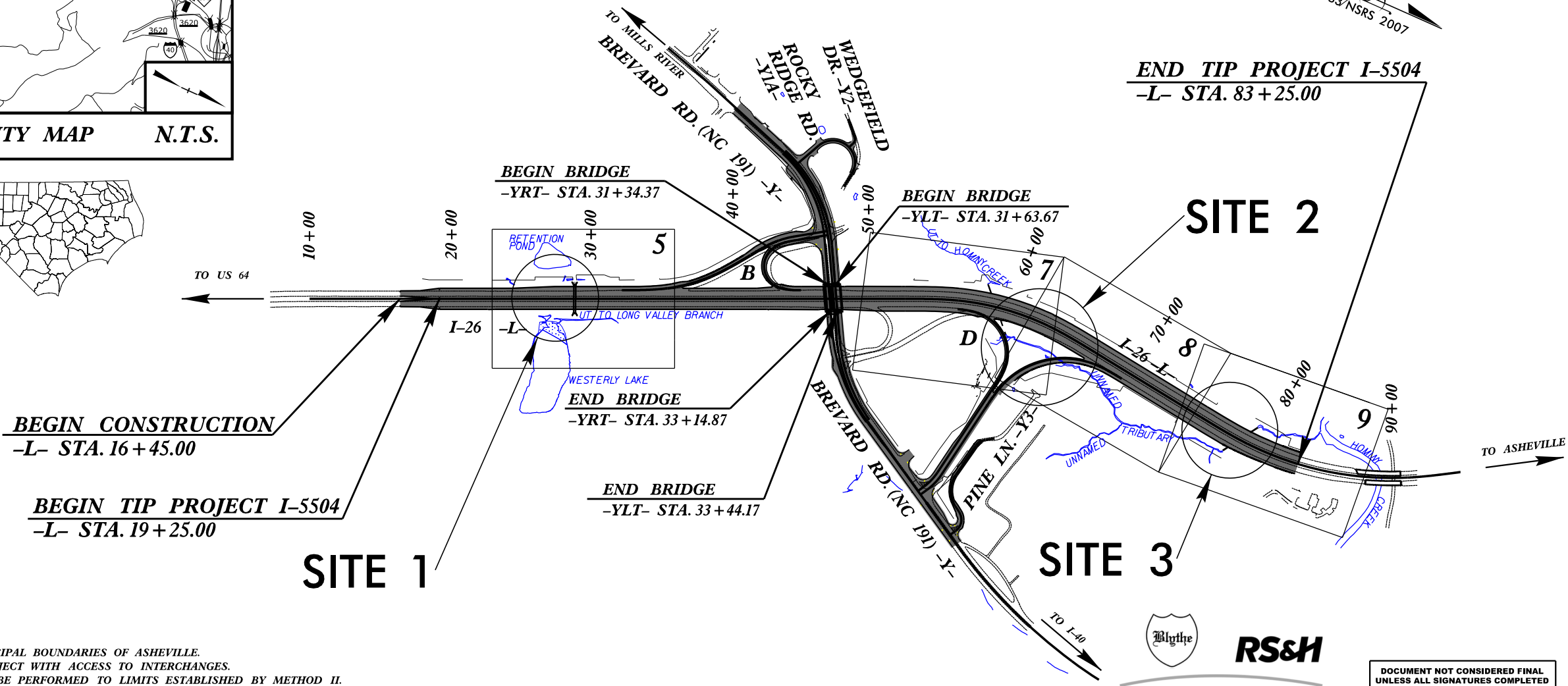
**LOCATION: I-26/NC 191 (BREVARD ROAD) INTERCHANGE MODIFICATIONS
AND I-26 WIDENING AND PAVEMENT RECONSTRUCTION**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, CULVERT,
RETAINING WALLS, SOUND WALLS, SIGNALS, AND SIGNING**

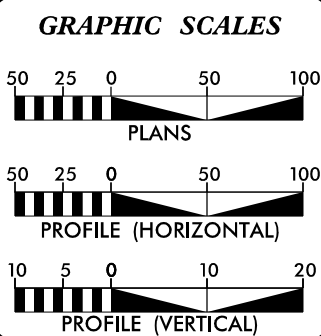
WETLAND AND SURFACE WATER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5504	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45552.3.1	IMF-026-1(191)47	P.E.	

**PERMIT DRAWING
SHEET 1 OF 26**



THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ASHEVILLE.
THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS TO INTERCHANGES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO LIMITS ESTABLISHED BY METHOD II.
DESIGN EXCEPTION REQUIRED FOR THE HORIZONTAL RADII OF -LPD- AND -RPD-.



DESIGN DATA

ADT 2016 =	95,900
ADT 2040 =	118,300
DHV =	10 %
D =	55 %
T =	14 % *
V =	70 MPH
* (TTST = 10% + DUAL = 4%)	
FUNC CLASS =	INTERSTATE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5504	=	1.212 MILES
LENGTH STRUCTURE TIP PROJECT I-5504	=	0.000 MILES
TOTAL LENGTH TIP PROJECT I-5504	=	1.212 MILES

*NOTE: EASTBOUND LANES USED TO CALCULATE LENGTH OF PROJECT.

K. ZAK HAMIDI, PE
NCDOT CONTACT

Prepared In the Office of:
RS&H
ARCHITECTS-ENGINEERS-PLANNERS, INC.
8601 SIX FORKS ROAD, SUITE 260
RALEIGH, NC 27615

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 16, 2016

LETTING DATE:
FEBRUARY 16, 2016

JASON TALLEY, PE
PROJECT ENGINEER

ALLISON DRAKE, PE
PROJECT DESIGN ENGINEER

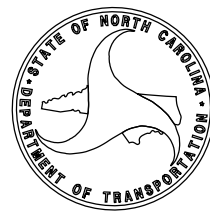
HYDRAULIC DESIGN ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

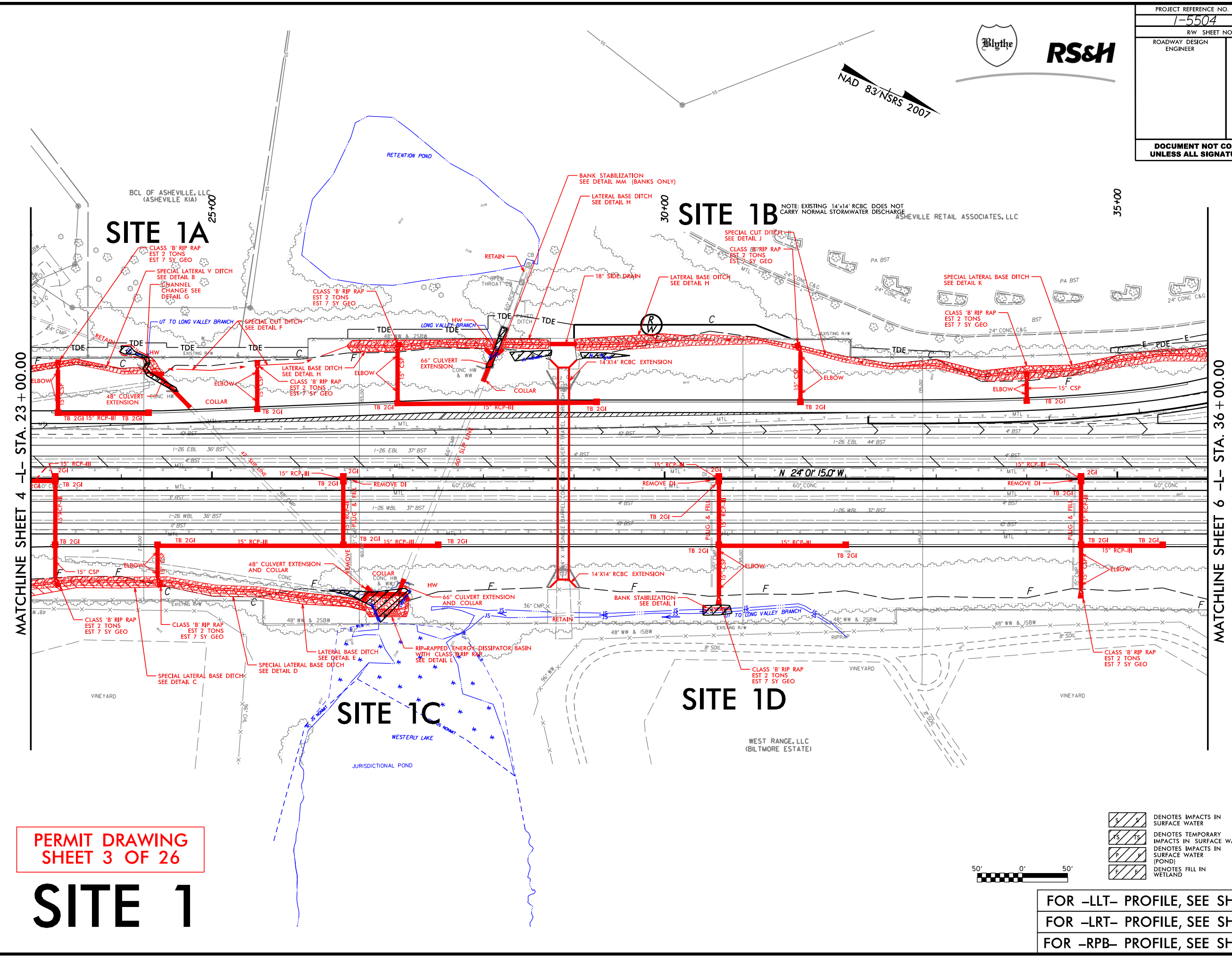
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



PROJECT REFERENCE NO. 1-5504	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



NAD 83/NSRS 2007



**PERMIT DRAWING
SHEET 3 OF 26**

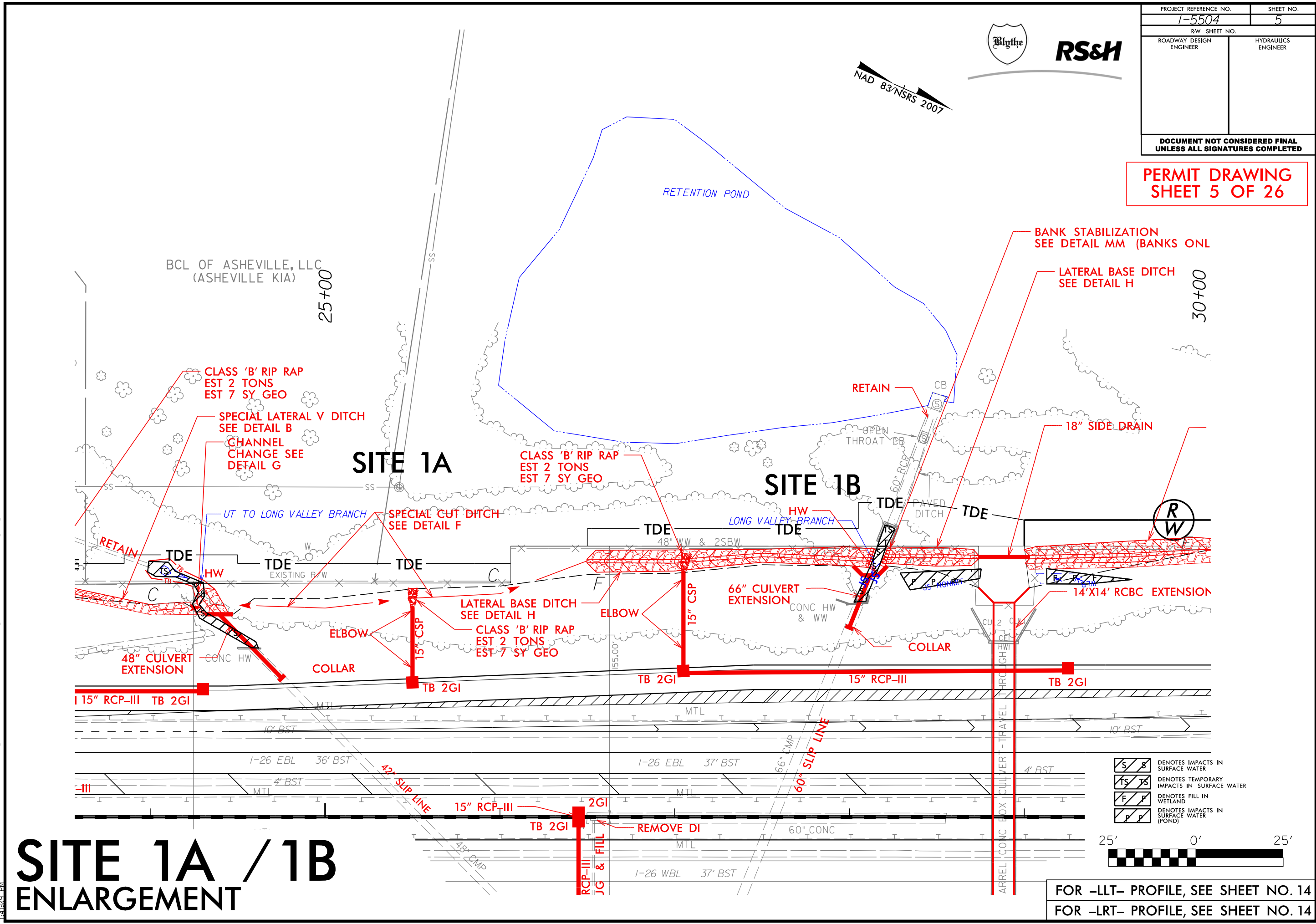
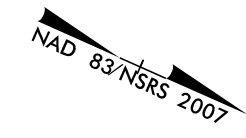
SITE 1

FOR -LLT- PROFILE, SEE SHEET NO. 14
 FOR -LRT- PROFILE, SEE SHEET NO. 14
 FOR -RPB- PROFILE, SEE SHEET NO. 23

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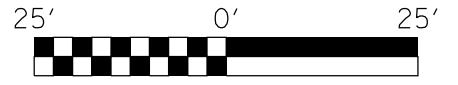
PROJECT REFERENCE NO. 1-5504	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**PERMIT DRAWING
SHEET 5 OF 26**



SITE 1A / 1B ENLARGEMENT

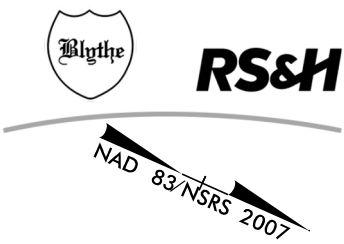
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER (POND)



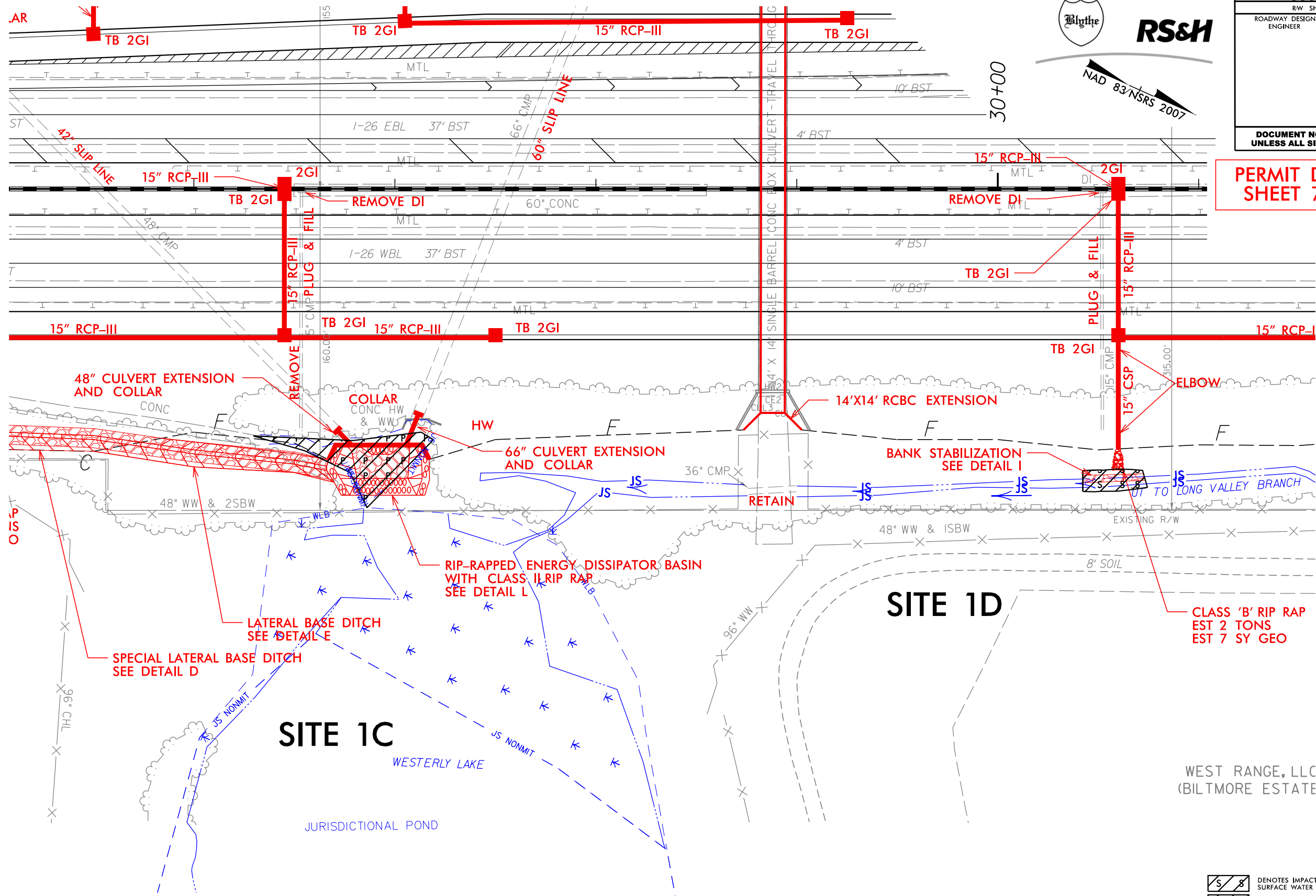
FOR -LLT- PROFILE, SEE SHEET NO. 14
FOR -LRT- PROFILE, SEE SHEET NO. 14

10/25/2016
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 15504

PROJECT REFERENCE NO. 1-5504	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

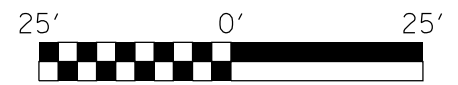


PERMIT DRAWING
SHEET 7 OF 26



SITE 1C / 1D ENLARGEMENT

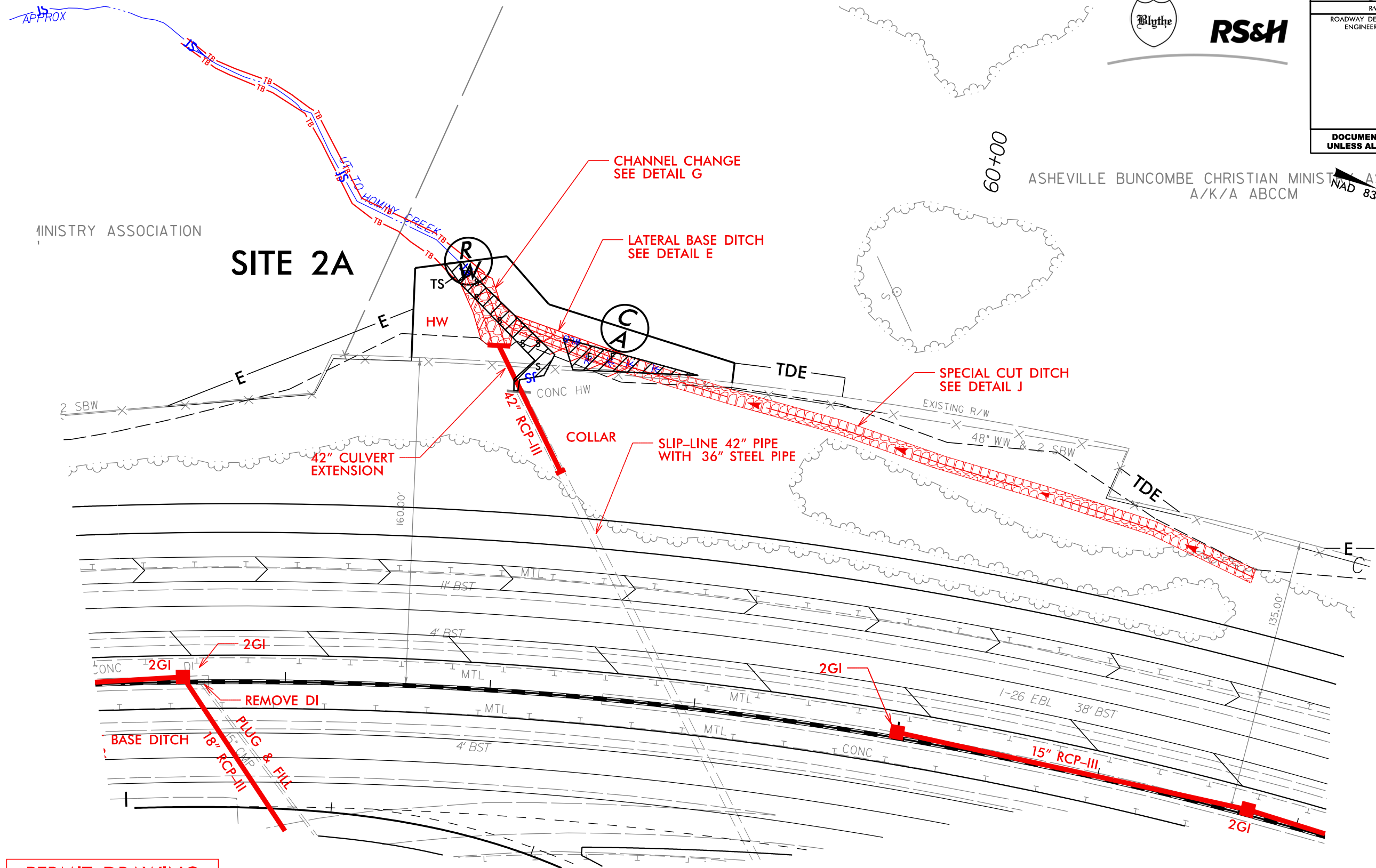
- S B DENOTES IMPACTS IN SURFACE WATER
- TS JS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- P F DENOTES IMPACTS IN SURFACE WATER (POND)



FOR -LRT- PROFILE, SEE SHEET NO. 14

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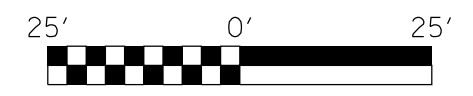
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



ASHEVILLE BUNCOMBE CHRISTIAN MINISTRY ASSOCIATION
A/K/A ABCCM
NAD 83/NRS 2007

**PERMIT DRAWING
SHEET 11 OF 26**

SITE 2A ENLARGEMENT



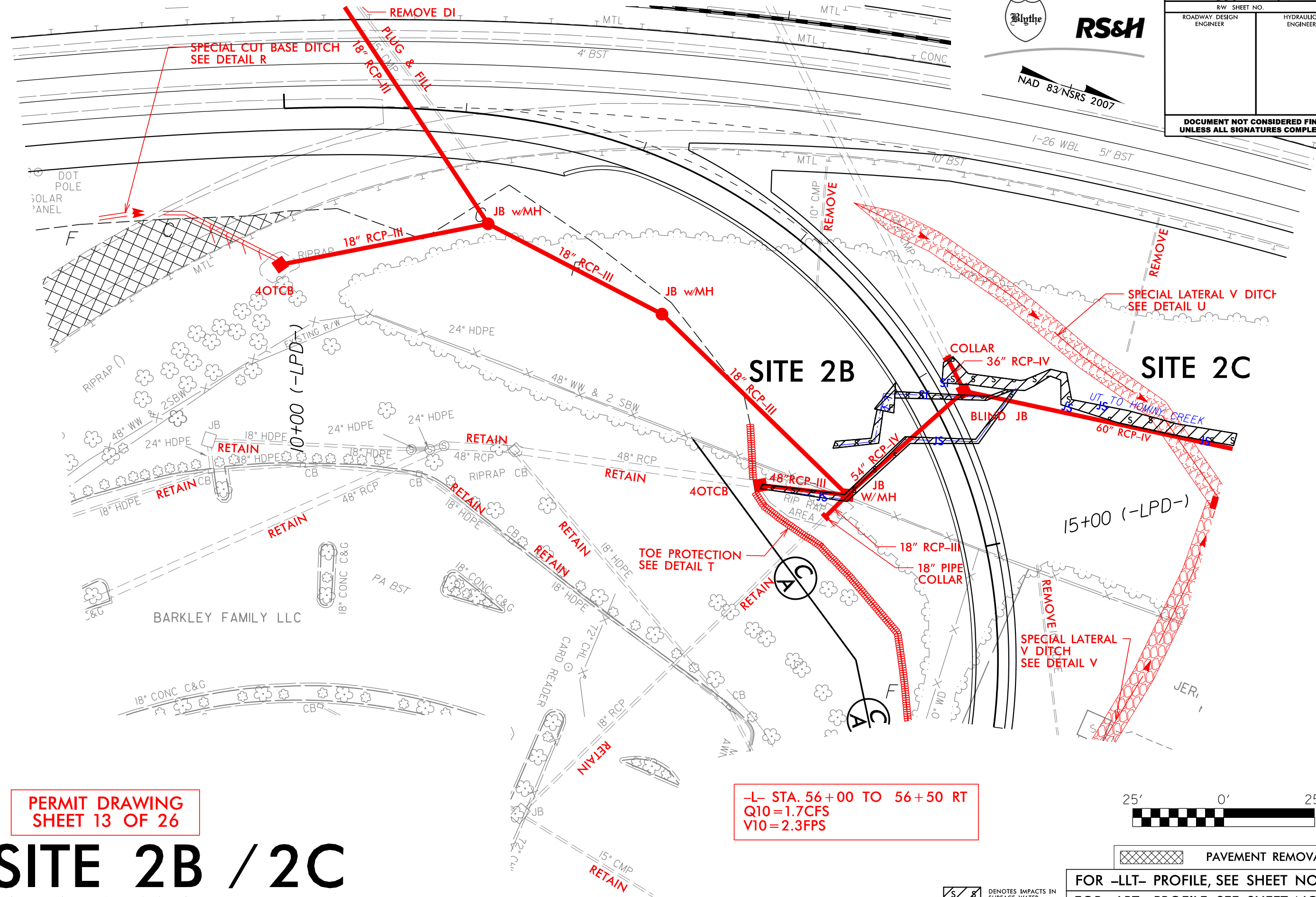
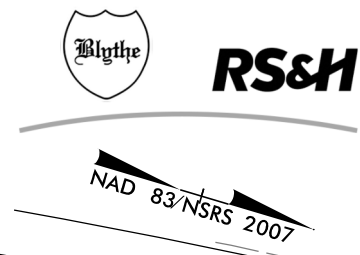
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND

PAVEMENT REMOVAL

FOR -LLT- PROFILE, SEE SHEET NO. 16
FOR -LRT- PROFILE, SEE SHEET NO. 16
FOR -LPD- PROFILE, SEE SHEET NO. 25

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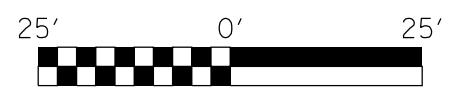
PROJECT REFERENCE NO. 1-5504	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



**PERMIT DRAWING
SHEET 13 OF 26**

SITE 2B / 2C ENLARGEMENT

**-L- STA. 56+00 TO 56+50 RT
Q10=1.7CFS
V10=2.3FPS**



PAVEMENT REMOVAL

DENOTES IMPACTS IN SURFACE WATER
 DENOTES FILL IN WETLAND

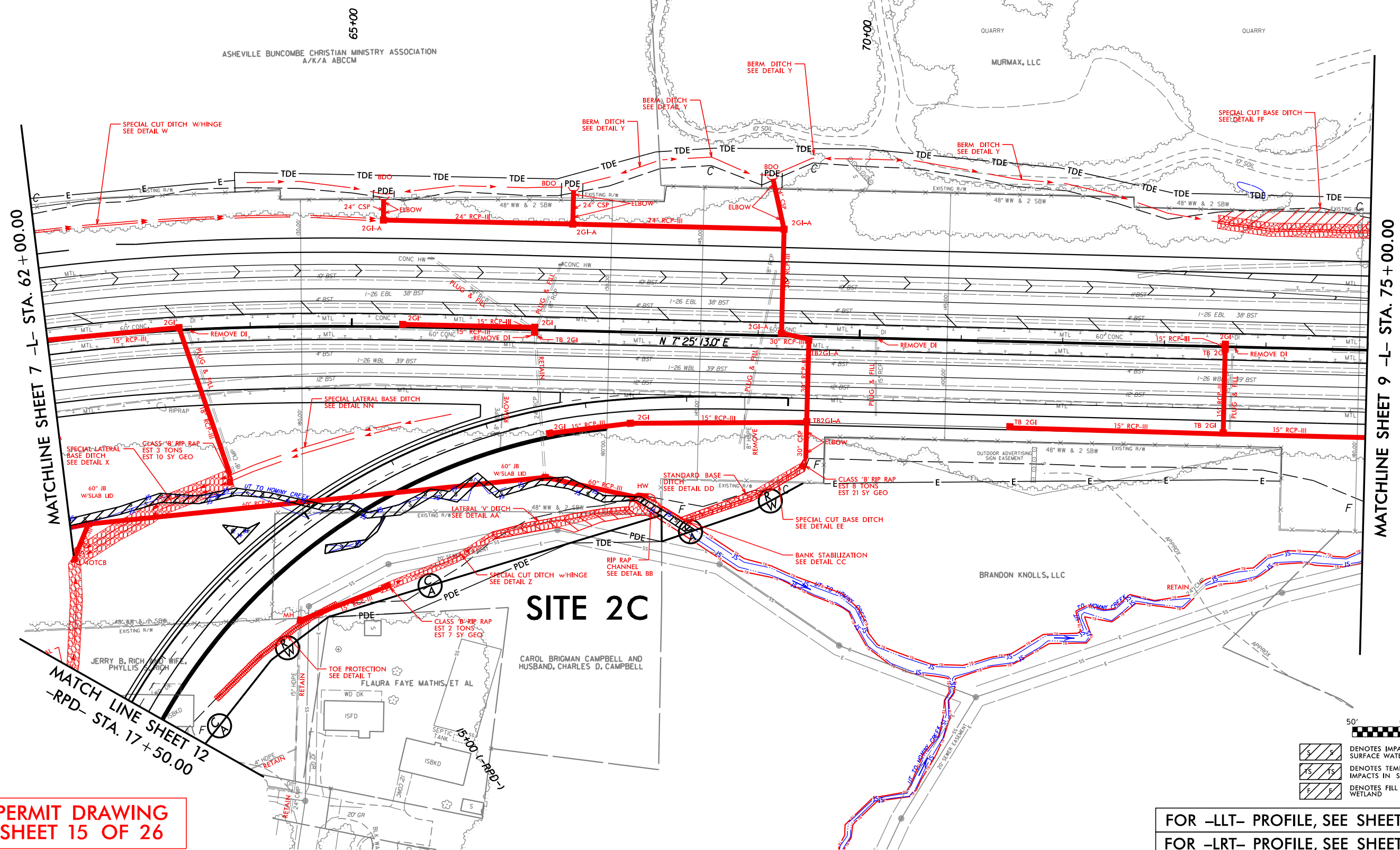
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FOR -LRT- PROFILE, SEE SHEET NO. 16
FOR -LPD- PROFILE, SEE SHEET NO. 25

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SITE 2

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PROJECT REFERENCE NO. 1-5504	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

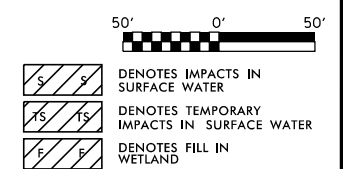


MATCHLINE SHEET 7 -L- STA. 62 + 00.00

MATCHLINE SHEET 9 -L- STA. 75 + 00.00

PERMIT DRAWING
SHEET 15 OF 26

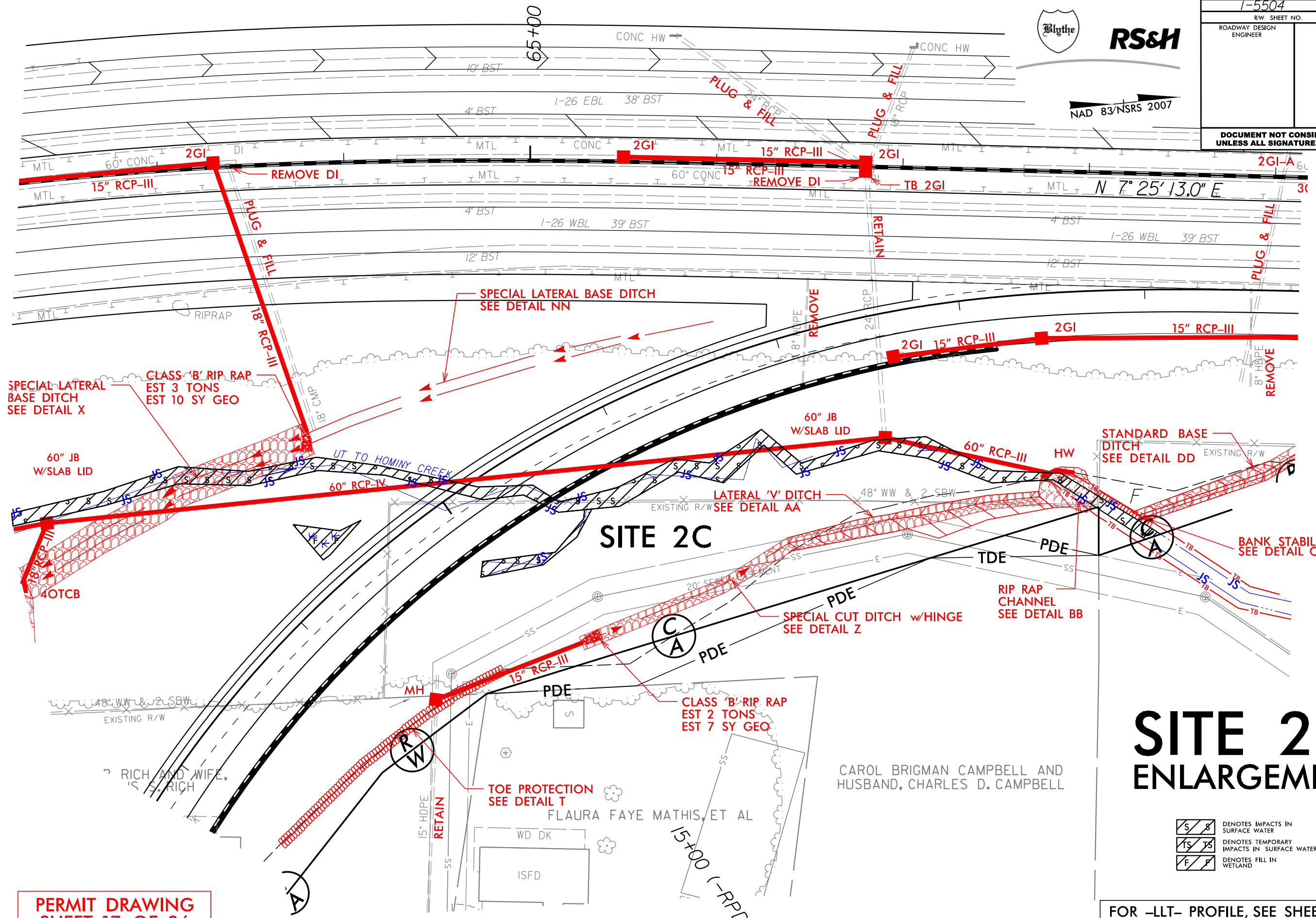
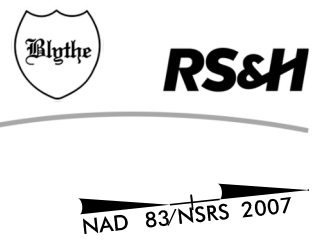
FOR -LLT- PROFILE, SEE SHEET NO. 17
FOR -LRT- PROFILE, SEE SHEET NO. 17
FOR -RPD- PROFILE, SEE SHEET NO. 24



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PROJECT REFERENCE NO. 1-5504	SHEET NO. 8
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

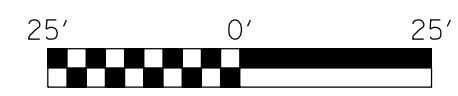


**PERMIT DRAWING
SHEET 17 OF 26**

SITE 2C ENLARGEMENT

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

FOR -LLT- PROFILE, SEE SHEET NO. 17
 FOR -LRT- PROFILE, SEE SHEET NO. 17
 FOR -RPD- PROFILE, SEE SHEET NO. 24



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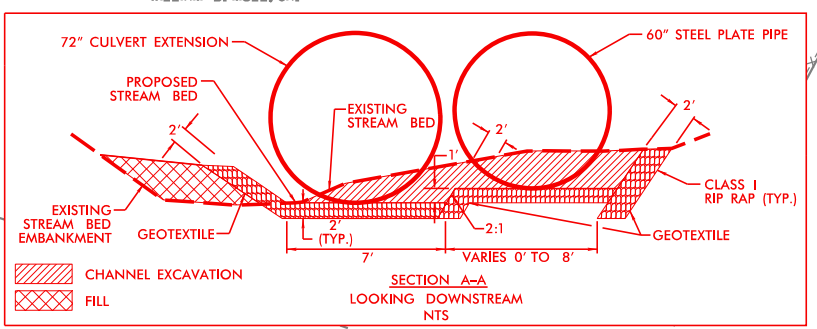
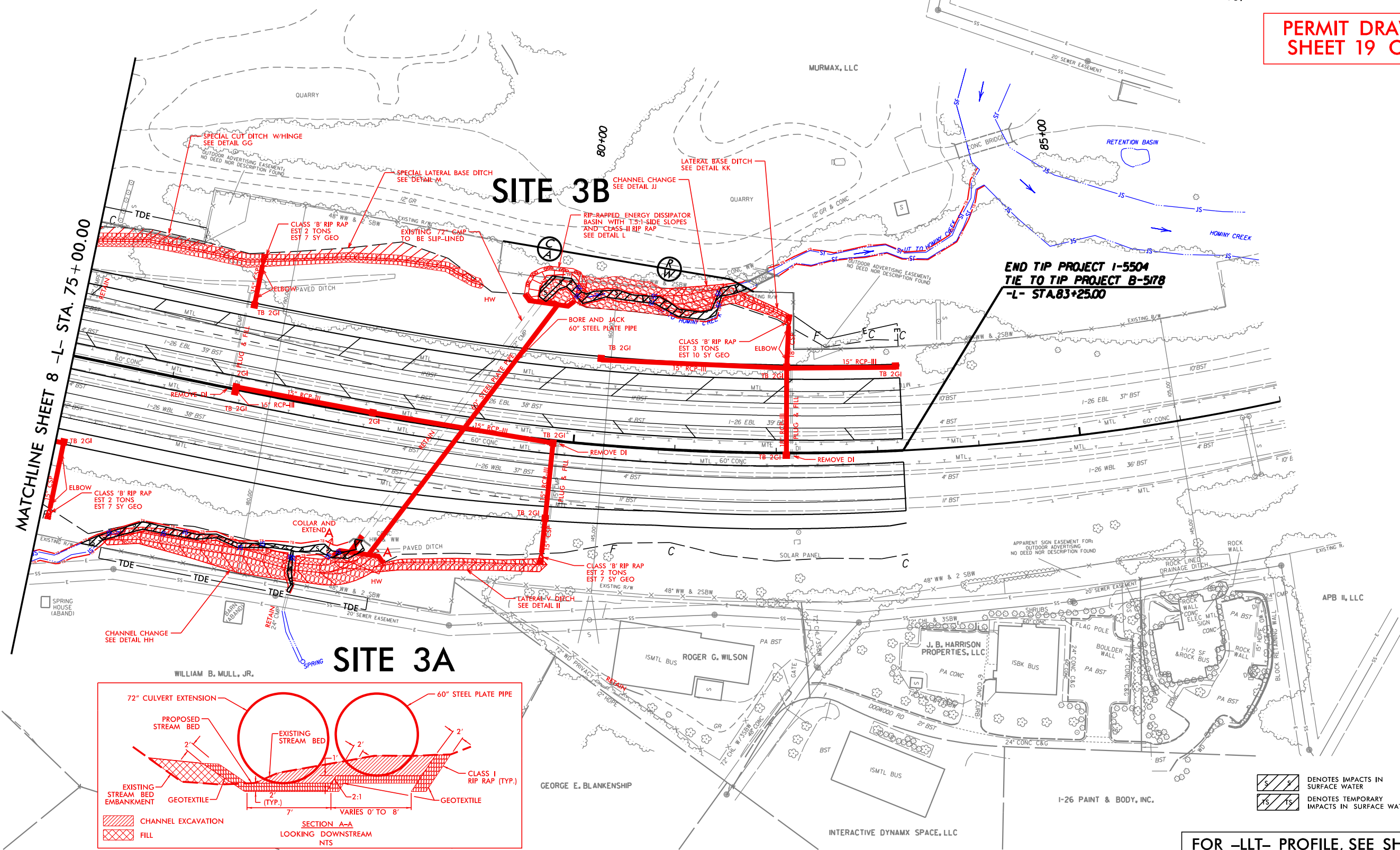
SITE 3



PROJECT REFERENCE NO. 1-5504	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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PERMIT DRAWING
SHEET 19 OF 26



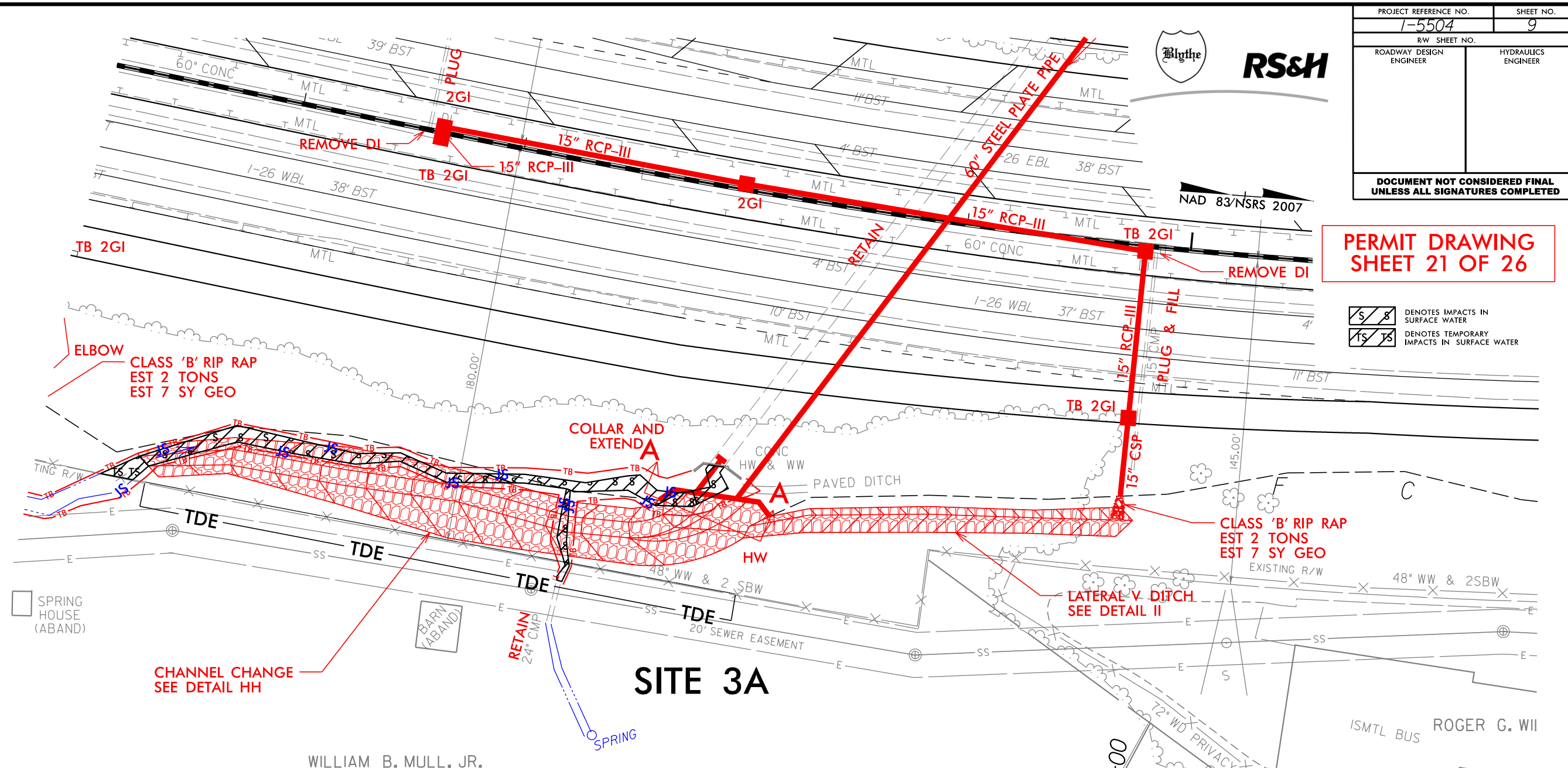
DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



FOR -LLT- PROFILE, SEE SHEET NO. 18
 FOR -LRT- PROFILE, SEE SHEET NO. 18

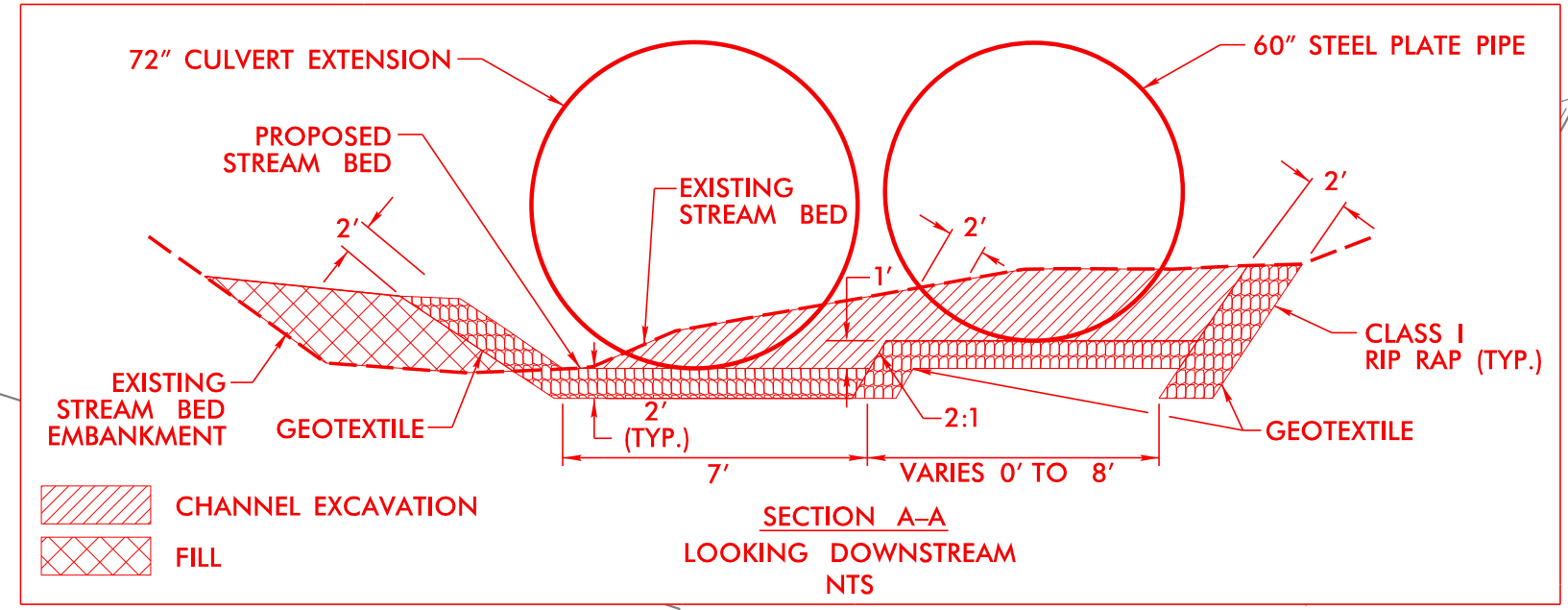
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PROJECT REFERENCE NO. 1-5504	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



**PERMIT DRAWING
SHEET 21 OF 26**

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SITE 3A ENLARGEMENT

GEORGE E. BLANKENSHIP



FOR -LLT- PROFILE, SEE SHEET NO. 18
FOR -LRT- PROFILE, SEE SHEET NO. 18

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SITE 3B ENLARGEMENT



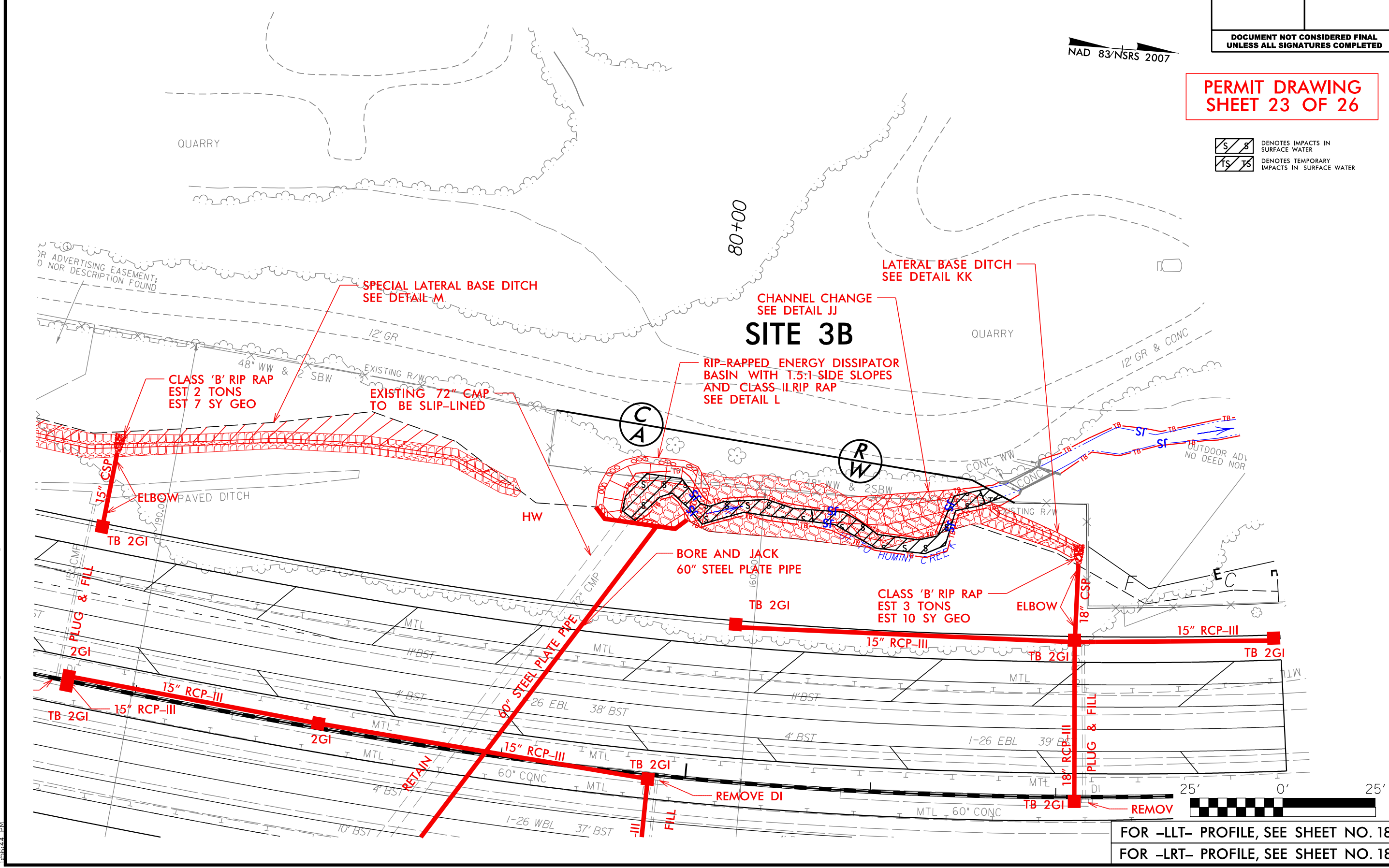
PROJECT REFERENCE NO. 1-5504	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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**PERMIT DRAWING
SHEET 23 OF 26**

DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



FOR -LLT- PROFILE, SEE SHEET NO. 18
FOR -LRT- PROFILE, SEE SHEET NO. 18

10/26/2006
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