PUBLIC NOTICE

US Army Corps
Of Engineers
Wilmington District

Issue Date: January 27, 2015
Comment Deadline: February 26, 2015
Corps Action ID Number: SAW-2014-02224 R-2409C

The Wilmington District, Corps of Engineers (Corps) received an application from the North Carolina Department of Transportation (NCDOT) seeking Department of the Army authorization to permanently impact 1,070 linear feet (lf) of stream along an approximately 1.5 mile section of US 64 from 0.3 mile west of NC 281 at Lake Toxaway to Indian Creek in Transylvania County, North Carolina, in order to improve safety and traffic flow (TIP No. R-2409C).

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.aspx

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

Authority

The Corps evaluates this application and decides 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

The approximately 1.5 mile project is located along US 64 from 0.3 mile west of NC 281 at Lake Toxaway to Indian Creek in the southwestern part of Transylvania County in western North Carolina, approximately 14 miles southwest of Brevard, and 45 miles southwest of Asheville. The project lies between the incorporated areas of Rosman to the east and Highlands (Macon County) to the west. Lake Toxaway is an unincorporated area of Transylvania County and lies at the western terminus of the project.

Project Area: approximately 1.5 miles
Nearest Town: Lake Toxaway
Nearest Waterway: Indian Creek
River Basin: Savannah River Basin
Latitude and Longitude: 35.1243 N, -82.9196 W

Existing Site Conditions

The project area is located in mountainous terrain of the upper Savannah River Basin (HUC 03060101). Elevations range from 2,880 to 3,000 feet National Geodetic Vertical Datum (NGVD). The study area terrain is characterized by steep mountainous slopes, predominantly south facing; rock outcroppings of parent granitic material are occasional; drainageways are high gradient, forming narrow ravines and coves. The project area is bordered to the south by Gorges State Park (7,100 acres).

According to the applicant, US 64 near Lake Toxaway is characterized by a substandard roadway width and narrow shoulders, a poor horizontal and vertical alignment, and a design speed that is lower than the posted speed limit. Wide vehicles, such as tractor-trailer trucks, cross the road centerline into the opposing travel lane when moving through several sharp curves. R-2409C is part of US 64, which is a major transportation route through the Blue Ridge Mountains, and while this part of US 64 is not within the boundaries, it is largely surrounded by the Pisgah National Forest.

Land along the project corridor includes mostly heavily wooded, mountainous, and vacant land. There are few businesses, public facilities, or infrastructure in the project vicinity. The few facilities that are available include those that cater to tourists, visitors and part-time residents, as well as small country stores, gas stations, and automotive repair shops.

Four soil series are mapped within the project area: Ashe stony sandy loam, Ashe and Edneyville soils, Chester fine sandy loam, and Chester stony loam.

Ten jurisdictional stream systems are located within the project study area: five unnamed tributaries (UTs) to Toxaway River (UTs 1-3, 8, and 9), four UTs to Indian Creek (UTs 4-7), and Indian Creek. The combined length of these streams within the project area is approximately 2,438 lf. Three tributaries to the Toxaway River carry the North Carolina Division of Water Resources' (NCDWR) stream classification of C; and four tributaries of Indian Creek have the NCDWR designation of C; Tr. There are no streams in the R-2409C project footprint listed on the North Carolina Department of Environment and Natural Resources (NCDENR's) 2012 Final 303 (d) Lists for impaired waters.

Plant communities in the project area include acidic cover forest, chestnut oak forest, and disturbed/maintained land.

Applicant's Stated Purpose

According to the applicant, the purpose of the project is to improve safety and traffic flow by correcting roadway deficiencies and constructing a climbing lane to enable motorists to pass slower moving cars or trucks.

Project Description

The applicant proposes to permanently impact 1,070 lf, and temporarily impact 324 lf, of streams to improve safety and traffic flow along this approximately 1.5 mile section of US 64. Permanent impacts will be the result of culverts and culvert extensions (983 lf), and bank stabilization (87 lf).

According to the applicant, sharp curves will be straightened to improve sight distances and driver comfort in driving the posted speed. In addition, wider travel lanes and shoulders will provide a greater clear zone and recovery area to meet safer, standard geometric design guidelines. This project will include a 0.5-mile climbing lane from 0.2 mile east of NC 281 to 0.2 mile east of Whetstone Gap Road which will enable motorists to pass slower-moving vehicles or trucks. Overall, the proposed improvements are intended to reduce the potential for collisions from running off the road, hitting fixed objects, overturning, and sideswiping other vehicles.

Avoidance and Minimization

The applicant provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment:

Avoidance measures were taken during the planning and National Environmental Policy Act (NEPA) compliance stages; minimization measures were incorporated as part of the project design, and include the following items:

- The design was shifted to avoid a colony of federally threatened small whorled pogonia plants.

- A retaining wall will be constructed to stabilize the slope and prevent erosion in the hillside below the plants.

- The alignment was shifted to preserve the tree canopy above the plants to minimize disturbance to the microclimate.

- Retaining walls were utilized at Permit Sites 3 and 8 to minimize impacts to jurisdictional streams.

Compensatory Mitigation

The applicant has proposed to purchase credits from the NC Ecosystem Enhancement Program as compensatory mitigation to offset unavoidable functional losses to the aquatic environment resulting from 983 lf of permanent impacts.

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 approved a Categorical Exclusion (CE) on October 28, 2013.

Historic Architecture – an Architectural Historian from NCDOT surveyed the area of potential effect (APE) for this project; neither properties over 50 years old nor any National Register-listed properties are located in FHWA's APE. The North Carolina State Historic Preservation Office (NC HPO) concurred with these findings on June 13, 2006.

An archaeological survey was conducted in July 2006. No archaeological sites were discovered and no further archaeological investigations were recommended for this project. By letter dated January 4, 2007, the NC HPO concurred with these findings.

Approximately 7.26 acres of park property (Gorges State Park) are located with the proposed right of way limits. A portion will be replaced by acquiring and transferring approximately 2.58 acres of private property between US 64 and the park. FHWA has made a 4(f) "de minimis" determination [23 CFR 774.17(5) (2)], based on concurrence from NC DENR Division of Parks and Recreation, that the project will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).

Endangered Species

The FHWA is the lead federal agency for this project and approved a CE on October 28, 2013.

Based on information gathered during the planning process, the FHWA determined that this project may affect, but is not likely to adversely affect, the small whorled pogonia (*Isotria medeoloides*). By letter dated October 24, 2013, the U.S. Fish and Wildlife Service (USFWS) concurred with the FHWA's determination. Additionally, the FHWA determined that this project will have no effect o any other federally listed species and critical habitat.

The Corps has reviewed the project area, examined all information provided by the applicant, and has consulted the latest North Carolina Natural Heritage Database. Based on available information, the Corps concurs with FHWA's determinations of no effect for all other federally listed species (other than the small whorled pogonia) and critical habitat.

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 February 26, 2015 to:

NCDWR Central Office
Attention: Ms. Amy Chapman, Transportation Permitting Unit
(USPS mailing address): 1617 Mail Service Center, Raleigh, North Carolina 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 (DA) 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 NEPA. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

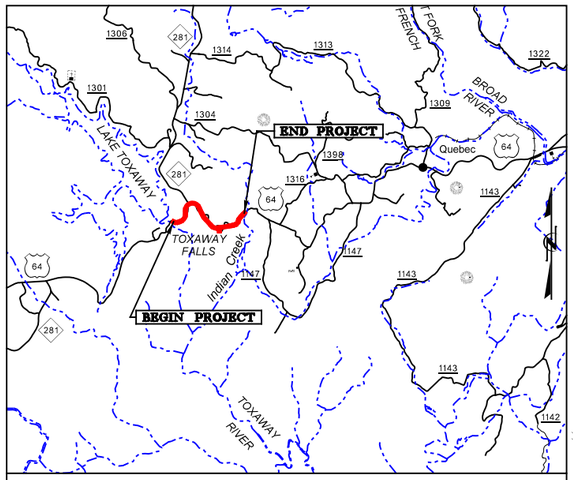
Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing shall be granted, unless 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, February 26, 2015. 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.

09/08/99

TIP PROJECT: R-2409C

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Convential Plan Sheet Symbols



VICINITY MAP

R/W PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSYLVANIA COUNTY

LOCATION: US 64 from LAKE TOXAWAY to INDIAN CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING & RETAINING WALLS

WETLAND AND SURFACE WATER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2409C	1	

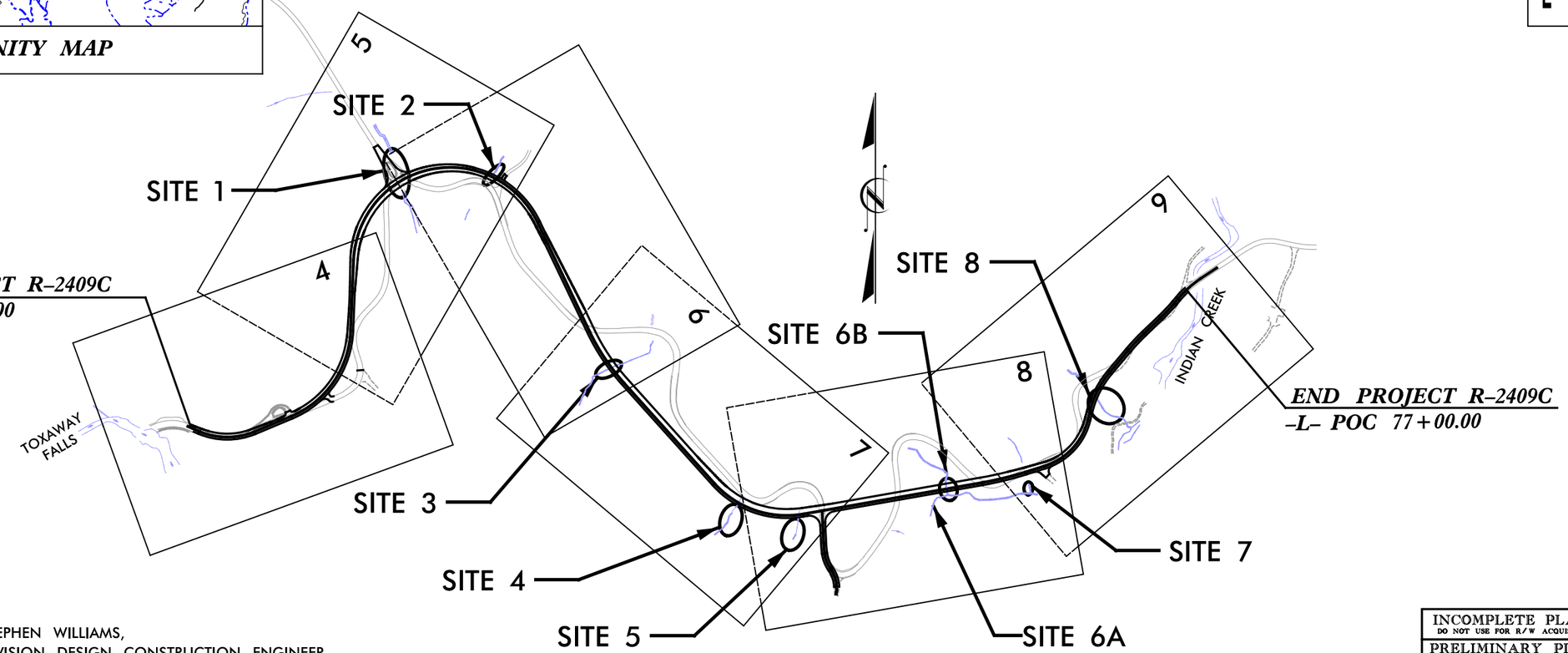
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34428.1.1		P.E.
		R/W

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

SHEET OF
PERMIT DRAWING
SHEET 1 OF 12

ENGLISH



NCDOT CONTACT: STEPHEN WILLIAMS,
DIVISION DESIGN CONSTRUCTION ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

vings\r2409c_hyd_prm_wet_tsh.dgn

1/13/2015
$USERNAME$
$FILEEL$

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2008 = 3,700
ADT =
DHV = %
D = %
T = % *
V = 40 MPH
* TTST = DUAL
FUNC CLASS =
MINOR ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2409C = 1.268 MI.
LENGTH STRUCTURES TIP PROJECT R-2409C = 0.000 MI.
TOTAL LENGTH OF TIP PROJECT R-2409C = 1.268 MI.

Prepared In the Office of:
ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No. F-0258
f/k/a Florence & Hutcheson, Inc.
for the North Carolina Department of Transportation

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
DECEMBER 20, 2013

LETTING DATE:
, 2014

DAVID C. WALLER, P.E.
PROJECT ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

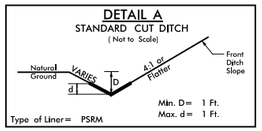
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

8/17/99

REVISIONS

10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED

DETAIL A
STANDARD CUT DITCH
(Not to Scale)



FROM STA. 21+00 TO STA. 25+75 –L– LT
FROM STA. 21+75 TO STA. 26+40 –L– RT

DETAIL D
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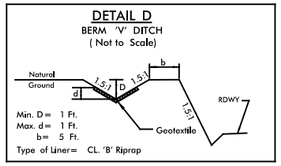
(Not to Scale)



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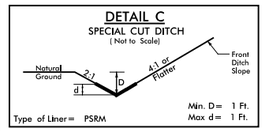

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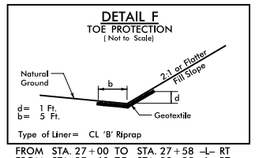

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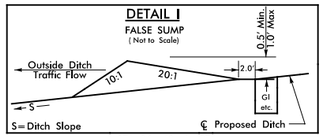

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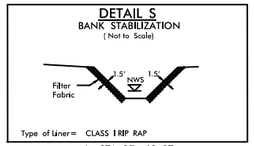

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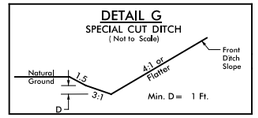

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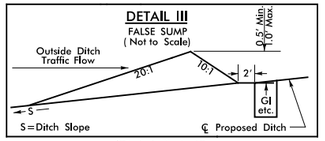

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STA. 25+75 –L– LT

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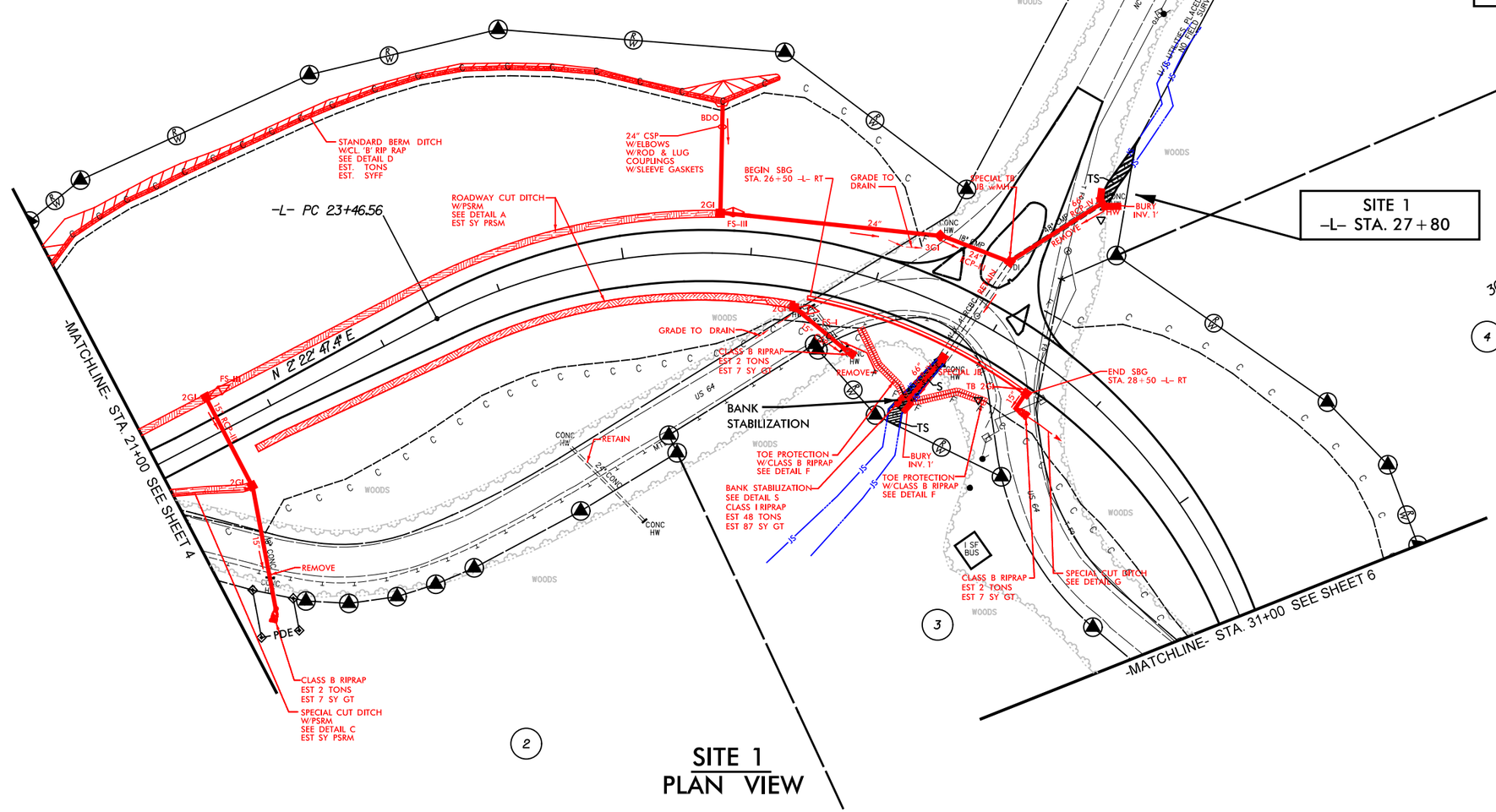

SITE 1
PLAN VIEW

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SCALE: 1"= 100' HORIZ.

LEGEND

DENOTES PERMANENT IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

WETLAND AND SURFACE WATER IMPACTS PERMIT

$DATE$
$USERNAME$
$FILEL$

ICA Engineering
f/k/a Florence & Hutcheson, Inc.
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: P-0238

PROJECT REFERENCE NO.	SHEET NO.
R-2409C	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

SHEET OF

PERMIT DRAWING
SHEET 2 OF 12

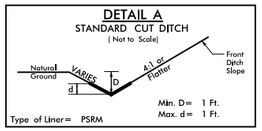
ENGLISH

8/17/99

REVISIONS

10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED

DETAIL A
STANDARD CUT DITCH
(Not to Scale)



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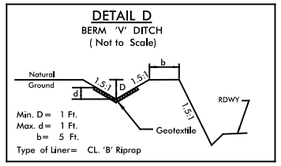
(Not to Scale)



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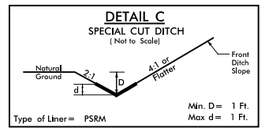

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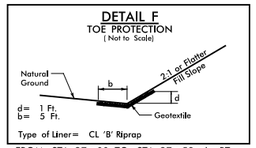

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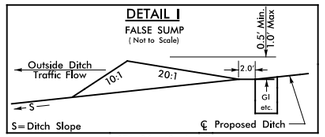

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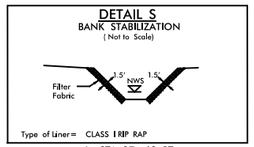

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DETAIL G
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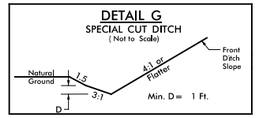

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DETAIL III
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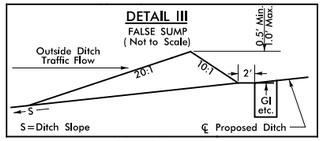

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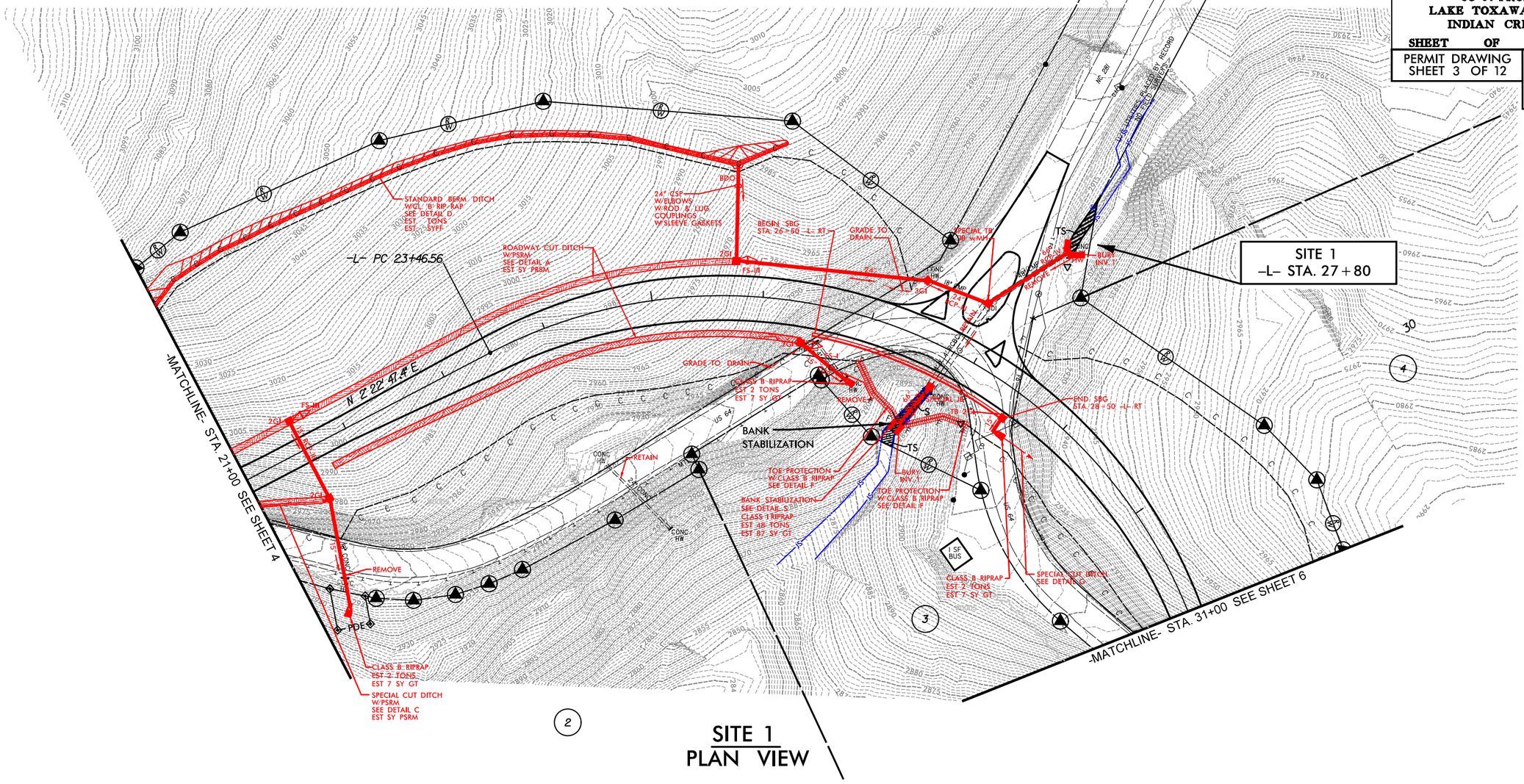
STA. 25+75 –L– LT



SITE 1
PLAN VIEW

LEGEND

DENOTES PERMANENT IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100 0 50 100
SCALE: 1"= 100' HORIZ.

SDATES
$USERNAME$
SFILE$

WETLAND AND SURFACE WATER IMPACTS PERMIT

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TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

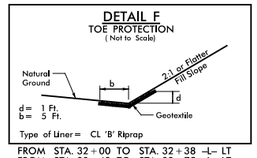
SHEET OF
PERMIT DRAWING
SHEET 3 OF 12

ENGLISH

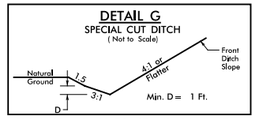
8/17/99

REVISIONS

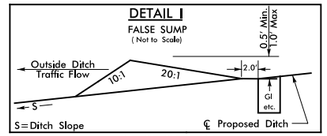
9-16-2014 ADDED PUE ON PARCEL 3
10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED
10-21-2014 ADDED DUE TO PARCEL 3



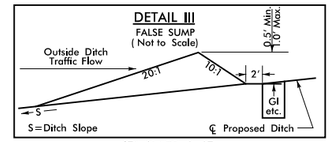
FROM STA. 32+00 TO STA. 32+38 -L- LT
FROM STA. 32+43 TO STA. 32+75 -L- LT
FROM STA. 41+00 TO STA. 42+50 -L- RT
FROM STA. 41+50 TO STA. 42+50 -L- LT



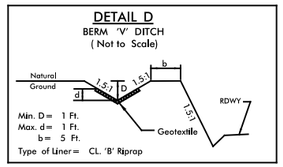
FROM STA. 40+00 TO STA. 41+34 -L- LT



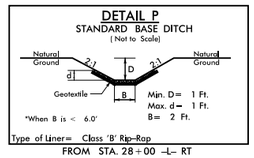
STA. 31+25 -L- RT
STA. 37+80 -L- LT



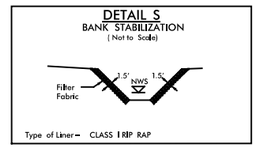
STA. 31+75 -L- LT
STA. 33+25 -L- RT
STA. 37+85 -L- LT



FROM STA. 37+50 TO STA. 38+00 LT



FROM STA. 28+00 -L- RT



-L- STA. 31+88 RT

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: P-0238
f/k/a Florence & Hutcheson, Inc.

PROJECT REFERENCE NO.	SHEET NO.
R-2409C	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

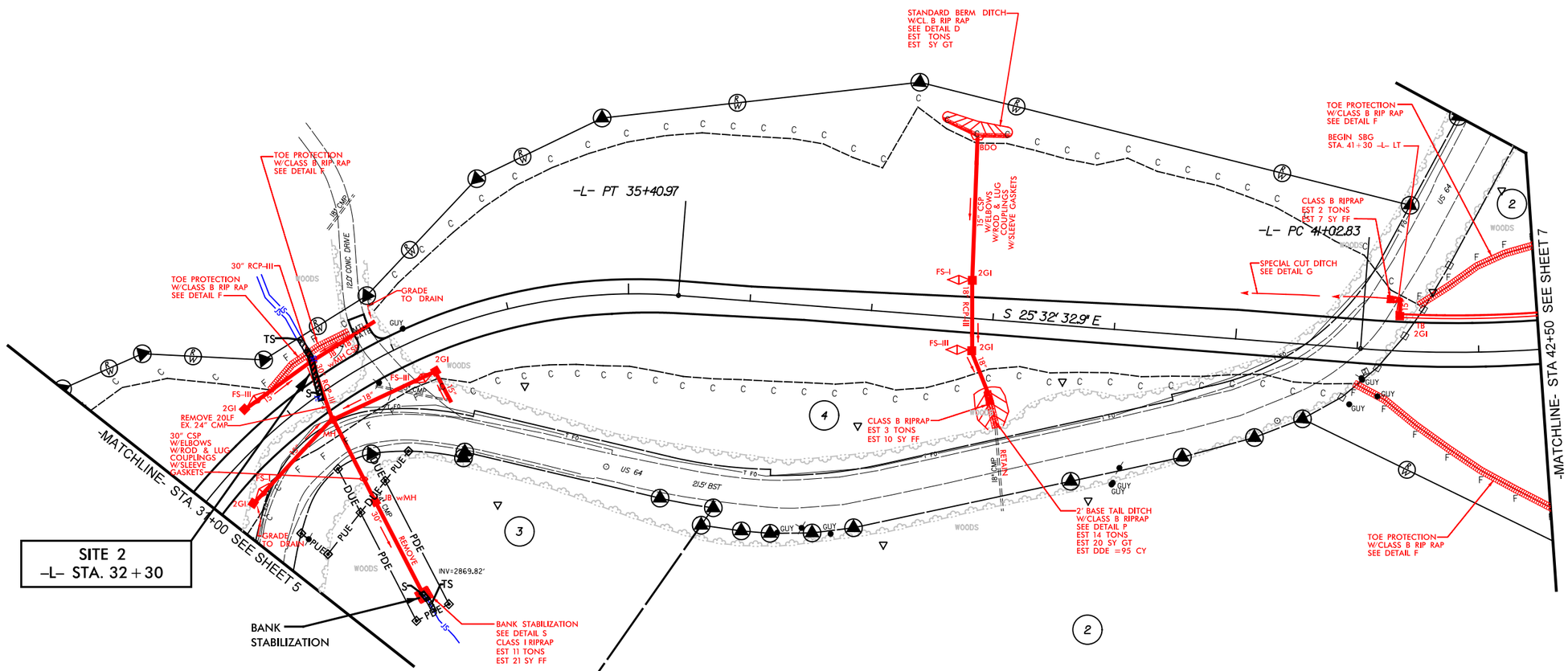
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

SHEET OF

PERMIT DRAWING
SHEET 4 OF 12

ENGLISH



SITE 2
PLAN VIEW

100 0 50 100
SCALE: 1"= 100' HORIZ.

LEGEND

DENOTES PERMANENT IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

WETLAND AND SURFACE WATER IMPACTS PERMIT

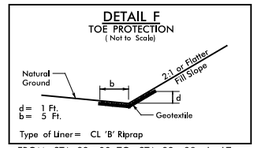
FOR -L- PROFILE SEE SHEET 12

$DATE$
$USERNAME$
$FILEL$

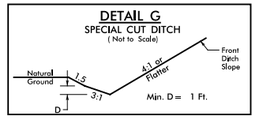
8/17/99

REVISIONS

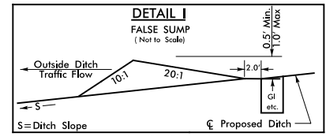
9-16-2014 ADDED PUE ON PARCEL 3
10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED
10-21-2014 ADDED DUE TO PARCEL 3



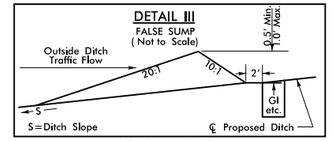
FROM STA. 32+00 TO STA. 32+38 -L- LT
FROM STA. 32+43 TO STA. 32+75 -L- LT
FROM STA. 41+00 TO STA. 42+50 -L- RT
FROM STA. 41+50 TO STA. 42+50 -L- LT



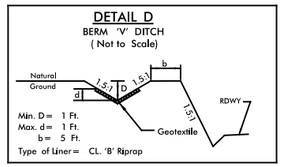
FROM STA. 40+00 TO STA. 41+34 -L- LT



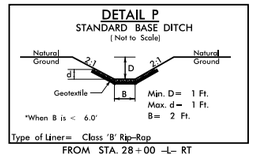
STA. 31+25 -L- RT
STA. 37+80 -L- LT



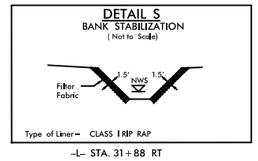
STA. 31+75 -L- LT
STA. 33+25 -L- RT
STA. 37+85 -L- LT



FROM STA. 37+50 TO STA. 38+00 LT



FROM STA. 28+00 -L- RT



-L- STA. 31+88 RT

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PROJECT REFERENCE NO.	SHEET NO.
R-2409C	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

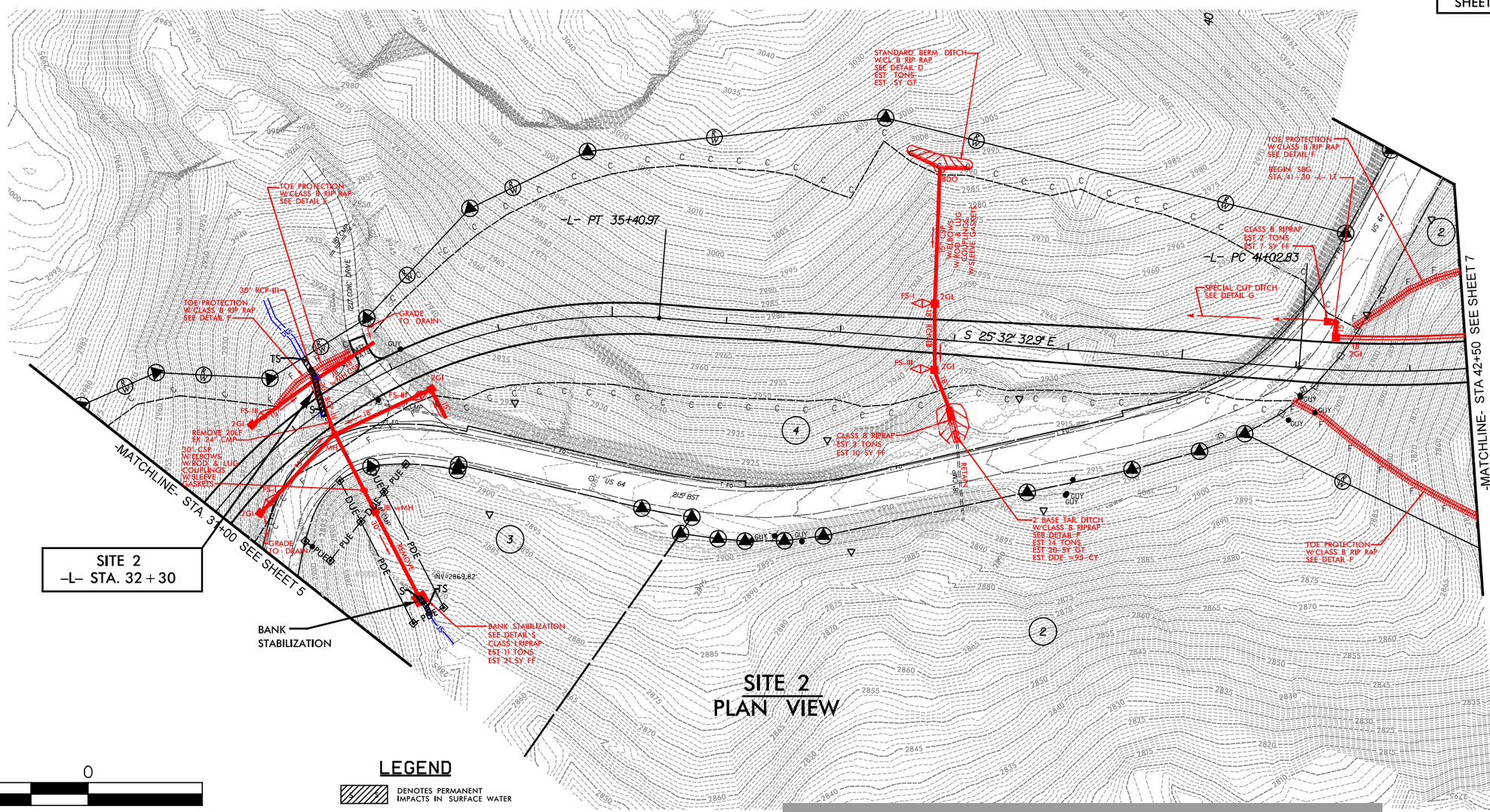
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

SHEET OF
PERMIT DRAWING
SHEET 5 OF 12

ENGLISH



100 0 50 100
SCALE: 1"= 100' HORIZ.

LEGEND

DENOTES PERMANENT IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

WETLAND AND SURFACE WATER IMPACTS PERMIT

FOR -L- PROFILE SEE SHEET 12

SDATES
SIUSERNAMES
SFILES

8/17/99

REVISIONS

9-16-2014 ADDED PUE TO PARCEL 4
10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: P0238
f/k/a Florence & Hutcheson, Inc.

PROJECT REFERENCE NO.	SHEET NO.
R-2409C	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

SHEET OF

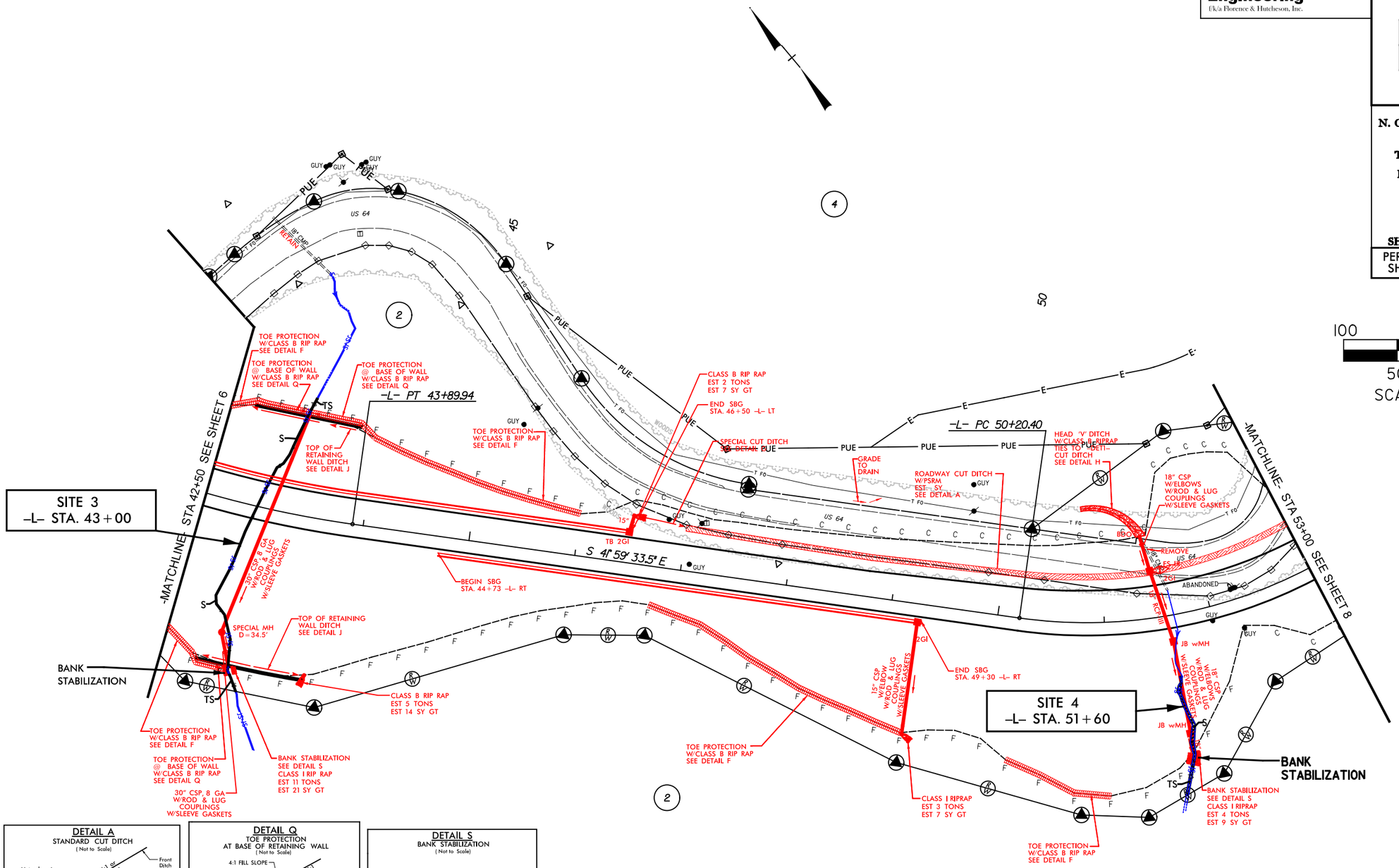
PERMIT DRAWING
SHEET 6 OF 12

ENGLISH

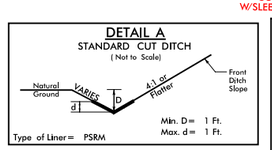
100 0 50 100
SCALE: 1"= 100' HORIZ.

LEGEND

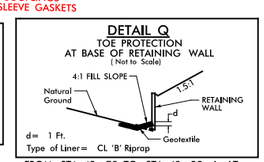
- DENOTES PERMANENT IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



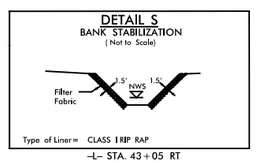
SITE 3 & 4
PLAN VIEW



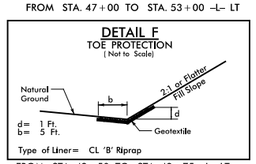
FROM STA. 47+00 TO STA. 53+00 -L- LT



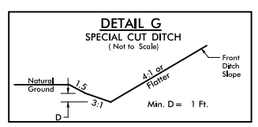
FROM STA. 42+75 TO STA. 43+29 -L- LT
FROM STA. 43+31 TO STA. 43+85 -L- LT
FROM STA. 42+80 TO STA. 43+00 -L- RT



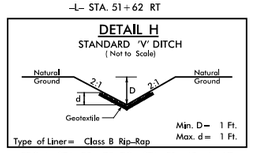
-L- STA. 43+05 RT
-L- STA. 51+62 RT



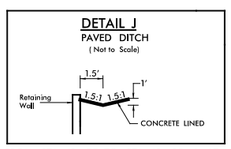
FROM STA. 42+50 TO STA. 42+75 -L- LT
FROM STA. 42+50 TO STA. 42+80 -L- RT
FROM STA. 43+84 TO STA. 46+00 -L- LT
FROM STA. 46+75 TO STA. 49+25 -L- RT
FROM STA. 50+23 TO STA. 51+00 -L- RT



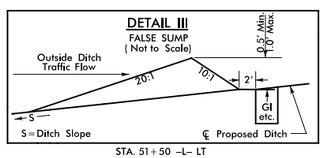
FROM STA. 46+50 TO STA. 47+00 -L- LT



FROM STA. 50+75 TO STA. 51+43 -L- LT



FROM STA. 42+75 TO STA. 43+85 -L- LT
FROM STA. 42+80 TO STA. 43+65 -L- RT



STA. 51+50 -L- LT

WETLAND AND SURFACE WATER IMPACTS PERMIT

SDATES
SUSERNAMEJS
SFILELS

8/17/99

REVISIONS

9-16-2014 ADDED PUE TO PARCEL 4
10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: P-0238
f/k/a Florence & Hutcheson, Inc.

PROJECT REFERENCE NO.	SHEET NO.
R-2409C	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

SHEET OF

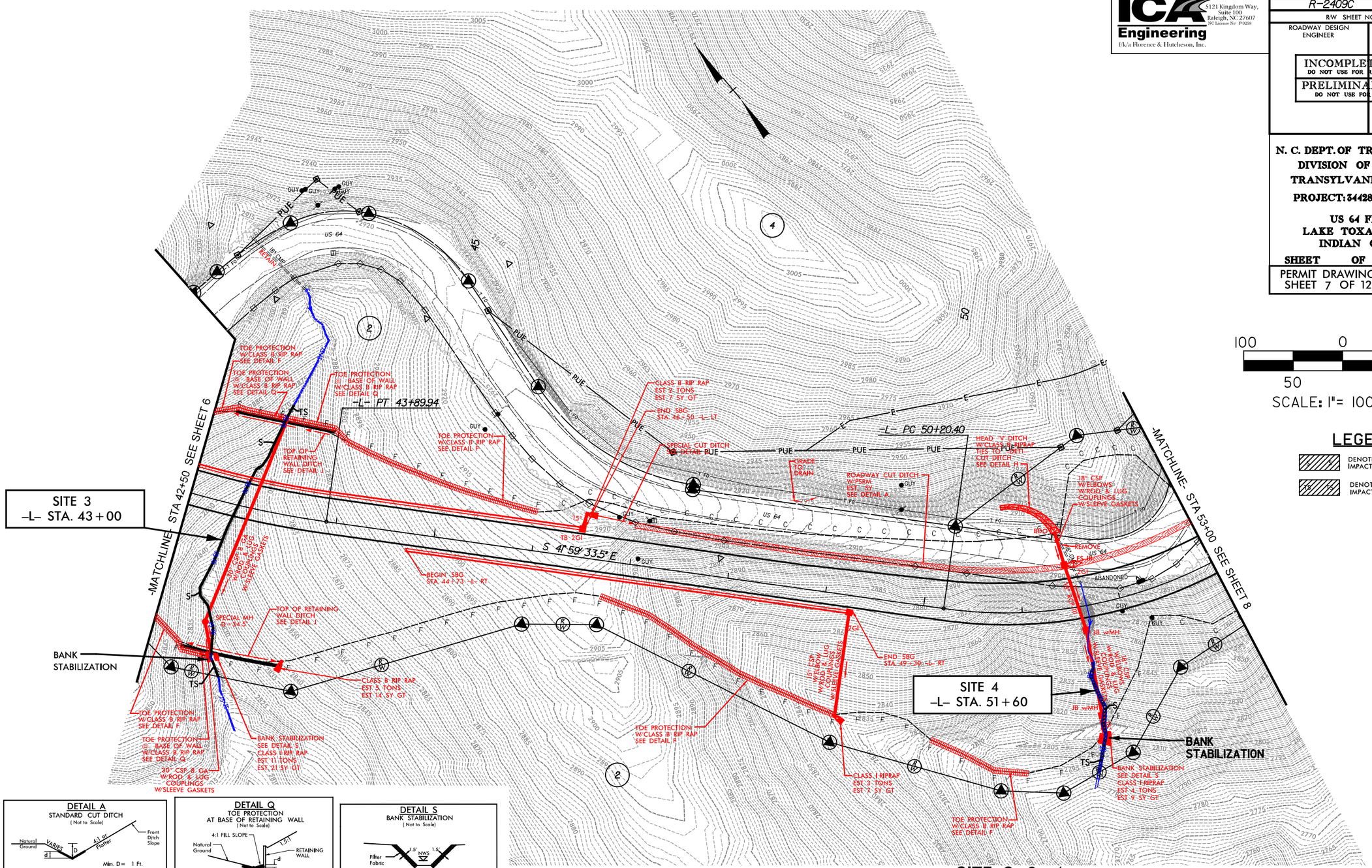
PERMIT DRAWING
SHEET 7 OF 12

ENGLISH

100 0 50 100
SCALE: 1" = 100' HORIZ.

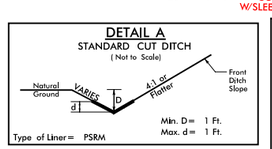
LEGEND

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



SITE 3 & 4
PLAN VIEW

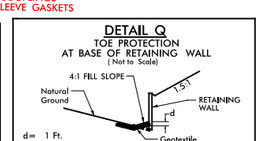
DETAIL A
STANDARD CUT DITCH
(Not to Scale)



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

FROM STA. 47+00 TO STA. 53+00 -L- LT

DETAIL Q
TOE PROTECTION AT BASE OF RETAINING WALL
(Not to Scale)



d = 1 Ft.
Type of Liner = CL 'B' Riprap

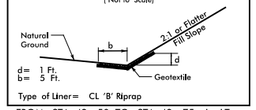
FROM STA. 42+75 TO STA. 43+29 -L- LT
FROM STA. 43+31 TO STA. 43+85 -L- LT
FROM STA. 42+80 TO STA. 43+00 -L- RT

DETAIL S
BANK STABILIZATION
(Not to Scale)

Type of Liner = CLASS I RIP RAP

-L- STA. 43+05 RT
-L- STA. 51+62 RT

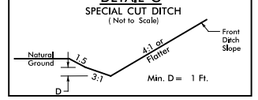
DETAIL F
TOE PROTECTION
(Not to Scale)



d = 1 Ft.
b = 5 Ft.
Type of Liner = CL 'B' Riprap

FROM STA. 42+50 TO STA. 42+75 -L- LT
FROM STA. 42+50 TO STA. 42+80 -L- RT
FROM STA. 43+84 TO STA. 46+00 -L- LT
FROM STA. 46+75 TO STA. 49+25 -L- RT
FROM STA. 50+23 TO STA. 51+00 -L- RT

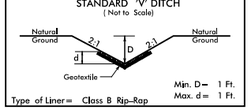
DETAIL G
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.

FROM STA. 46+50 TO STA. 47+00 -L- LT

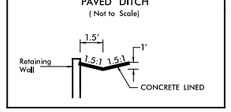
DETAIL H
STANDARD 'V' DITCH
(Not to Scale)



Min. D = 1 Ft.
Max. d = 1 Ft.
Type of Liner = Class B Rip-Rap

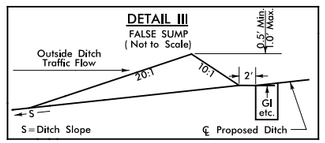
FROM STA. 50+75 TO STA. 51+43 -L- LT

DETAIL J
PAVED DITCH
(Not to Scale)



FROM STA. 42+75 TO STA. 43+85 -L- LT
FROM STA. 42+80 TO STA. 43+65 -L- RT

DETAIL III
FALSE SUMP
(Not to Scale)



STA. 51+50 -L- LT

WETLAND AND SURFACE WATER IMPACTS PERMIT

SDATES
SUSERNAMEJS
SFILELS

PROJECT REFERENCE NO.	SHEET NO.
R-2409C	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ICA Engineering
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N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

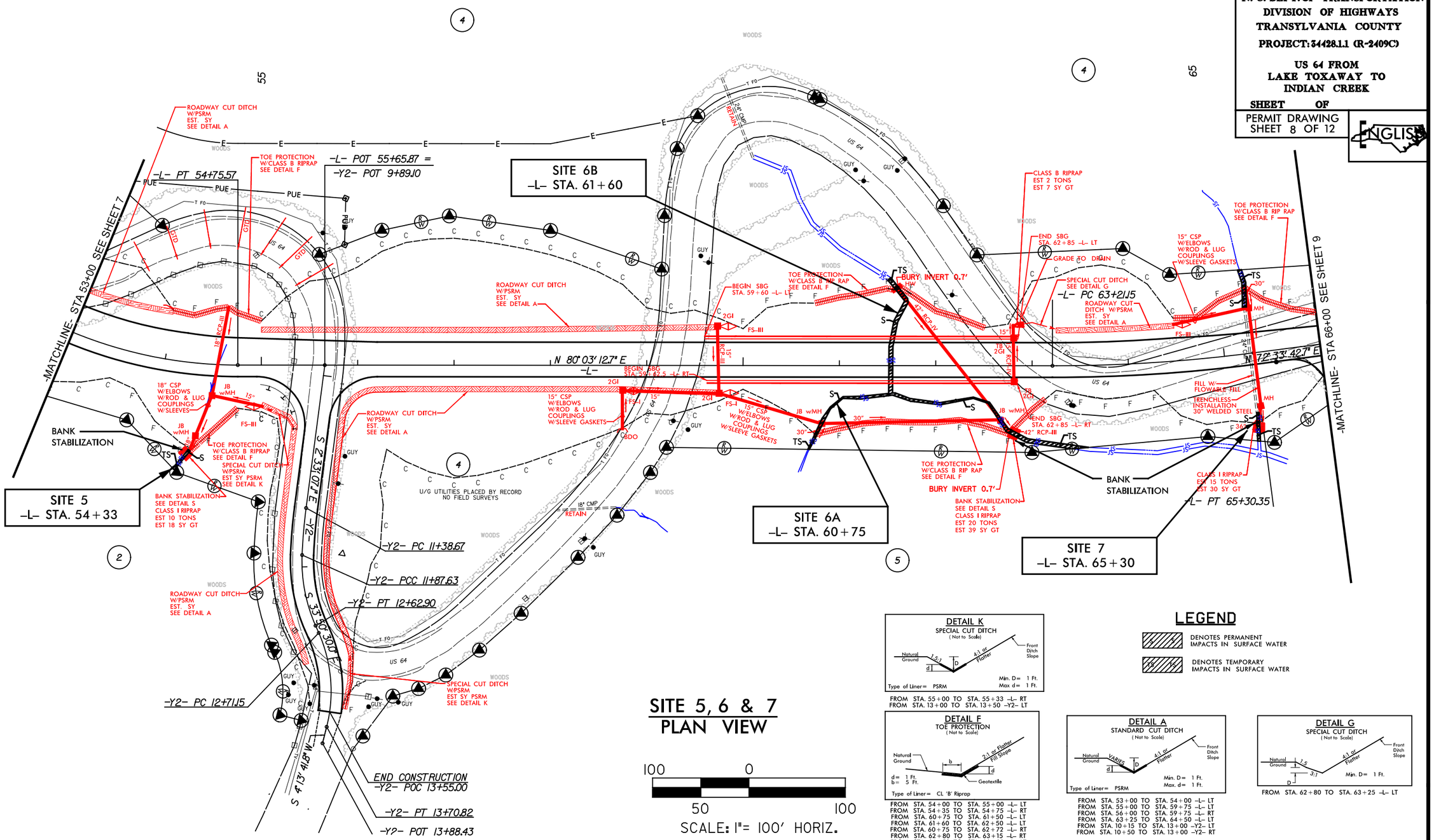
US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

SHEET OF

PERMIT DRAWING
SHEET 8 OF 12

ENGLISH

WETLAND AND SURFACE WATER IMPACTS PERMIT



LEGEND

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

FROM STA. 55+00 TO STA. 55+33 -L- RT
FROM STA. 13+00 TO STA. 13+50 -Y2- LT

FROM STA. 54+00 TO STA. 55+00 -L- LT
FROM STA. 54+35 TO STA. 54+75 -L- RT
FROM STA. 60+75 TO STA. 61+50 -L- LT
FROM STA. 61+60 TO STA. 62+50 -L- LT
FROM STA. 60+75 TO STA. 62+72 -L- RT
FROM STA. 62+80 TO STA. 63+15 -L- RT
FROM STA. 64+50 TO STA. 66+00 -L- LT

FROM STA. 53+00 TO STA. 54+00 -L- LT
FROM STA. 55+00 TO STA. 59+75 -L- LT
FROM STA. 56+00 TO STA. 59+75 -L- RT
FROM STA. 63+25 TO STA. 64+50 -L- LT
FROM STA. 10+15 TO STA. 13+00 -Y2- LT
FROM STA. 10+50 TO STA. 13+00 -Y2- RT

FROM STA. 62+80 TO STA. 63+25 -L- LT

REVISIONS

9-16-2014 ADDED PUE TO PARCEL 4
10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED

8/17/99

$DATE$
$USERNAME$
$FILEL$

8/17/99

REVISIONS

9-16-2014 ADDED PUE TO PARCEL 4
10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED

ICA Engineering
5121 Kingdom Way, Suite 100
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NC License No: P-0238
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PROJECT REFERENCE NO.	SHEET NO.
R-2409C	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

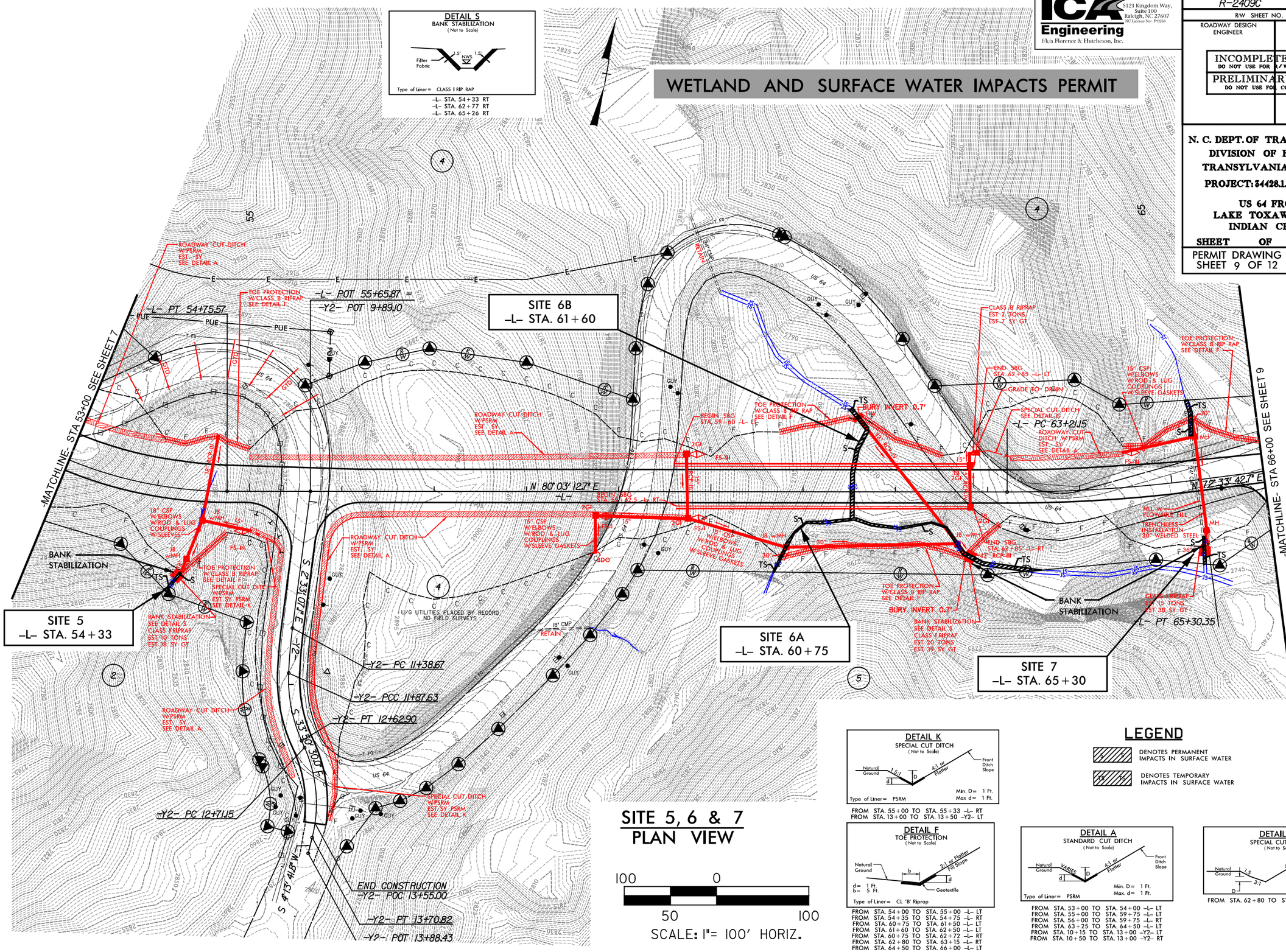
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

SHEET OF
PERMIT DRAWING
SHEET 9 OF 12

ENGLISH

WETLAND AND SURFACE WATER IMPACTS PERMIT



LEGEND

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

DETAIL K
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 1.5:1, D, d, 4:1 or Flatter, Front Ditch Slope

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

FROM STA. 55+00 TO STA. 55+33 -L- RT
FROM STA. 13+00 TO STA. 13+50 -Y2- LT

DETAIL F
TOE PROTECTION
(Not to Scale)

Natural Ground, b, 2:1 or Flatter Fill Slope, d, Geotextile

d= 1 Ft.
b= 5 Ft.
Type of Liner= CL 'B' Riprap

FROM STA. 54+00 TO STA. 55+00 -L- LT
FROM STA. 54+35 TO STA. 54+75 -L- RT
FROM STA. 60+75 TO STA. 61+50 -L- LT
FROM STA. 61+60 TO STA. 62+50 -L- LT
FROM STA. 60+75 TO STA. 62+72 -L- RT
FROM STA. 62+80 TO STA. 63+15 -L- RT
FROM STA. 64+50 TO STA. 66+00 -L- LT

DETAIL A
STANDARD CUT DITCH
(Not to Scale)

Natural Ground, VARIES, D, d, 4:1 or Flatter, Front Ditch Slope

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

FROM STA. 53+00 TO STA. 54+00 -L- LT
FROM STA. 55+00 TO STA. 59+75 -L- LT
FROM STA. 56+00 TO STA. 59+75 -L- RT
FROM STA. 63+25 TO STA. 64+50 -L- LT
FROM STA. 10+15 TO STA. 13+00 -Y2- LT
FROM STA. 10+50 TO STA. 13+00 -Y2- RT

DETAIL G
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 1.5, 3:1, D, 4:1 or Flatter, Front Ditch Slope

Min. D= 1 Ft.

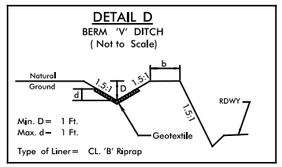
FROM STA. 62+80 TO STA. 63+25 -L- LT

SDATES
SUSERNAME$S
$FILES

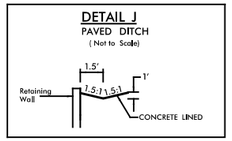
8/17/99

REVISIONS

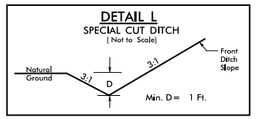
9-16-2014 ADDED PUE TO PARCELS 5 & 6
10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED



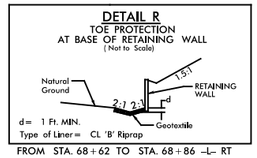
FROM STA. 74+11 TO STA. 76+45 L LT



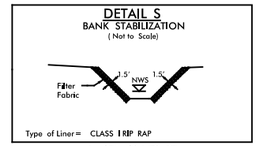
FROM STA. 67+75 TO STA. 68+66 –L– LT
FROM STA. 68+65 TO STA. 69+62 –L– RT



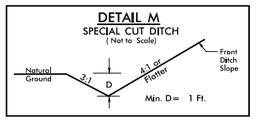
FROM STA. 72+25 TO STA. 73+00 –L– RT



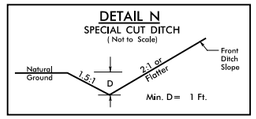
FROM STA. 68+62 TO STA. 68+86 –L– RT



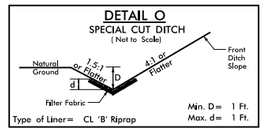
–L– STA. 69+79 RT



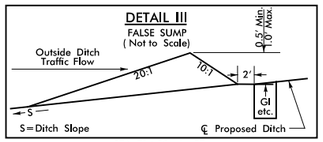
FROM STA. 69+25 TO STA. 69+75 –L– LT



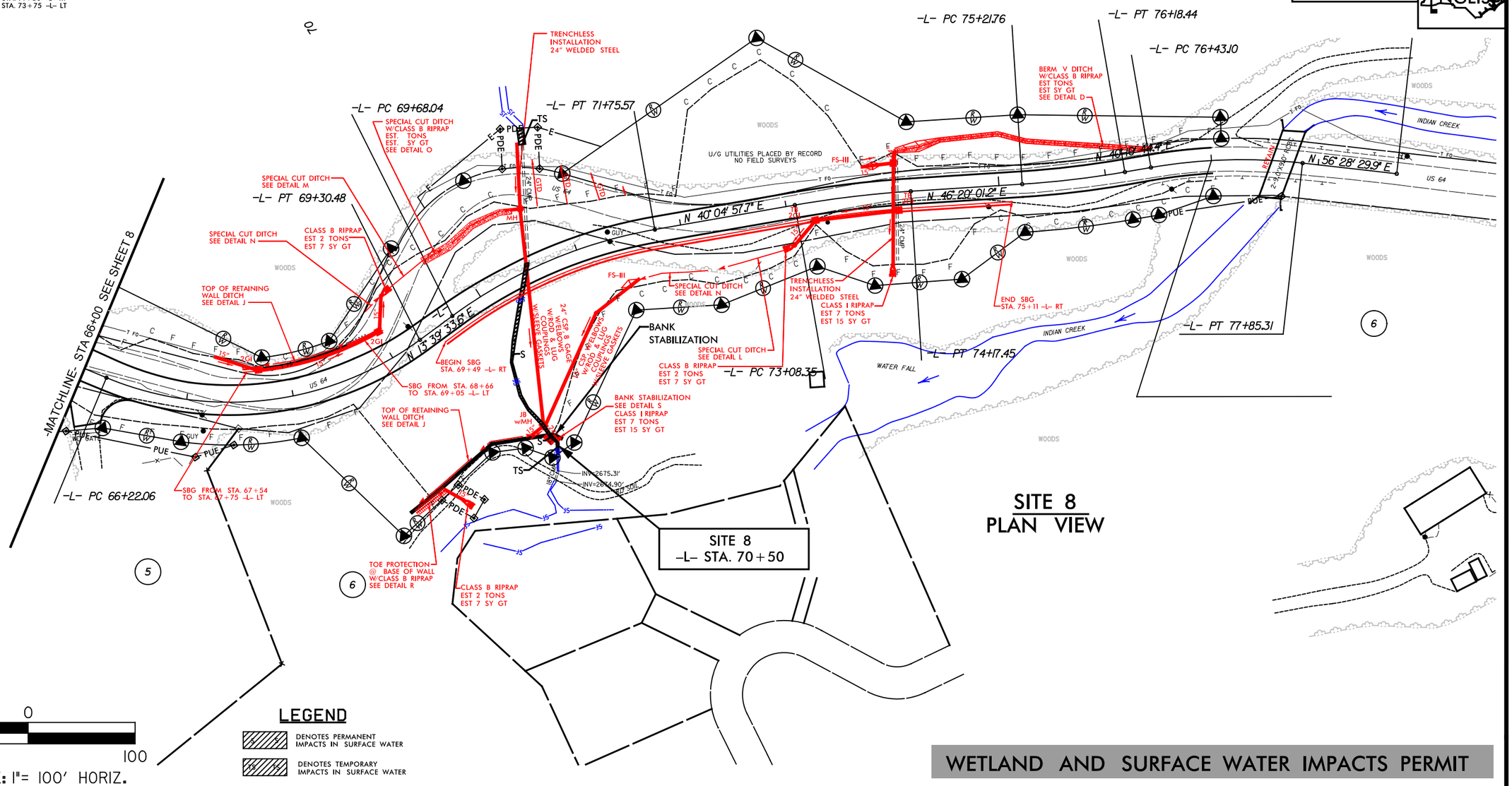
FROM STA. 69+00 TO STA. 69+25 –L– LT
FROM STA. 71+50 TO STA. 72+25 –L– RT



FROM STA. 69+75 TO STA. 70+60 –L– LT



STA. 71+50 –L– RT
STA. 73+75 –L– LT



ICA Engineering
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Raleigh, NC 27607
NC License No: P-0258
f/k/a Florence & Hutcheson, Inc.

PROJECT REFERENCE NO.	SHEET NO.
R-2409C	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRANSYLVANIA COUNTY
PROJECT: 34428.1.1 (R-2409C)

US 64 FROM
LAKE TOXAWAY TO
INDIAN CREEK

SHEET OF
PERMIT DRAWING
SHEET 10 OF 12

ENGLISH

WETLAND AND SURFACE WATER IMPACTS PERMIT

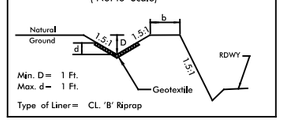
$DATE$
$USERNAME$
$FILEL$

8/17/99

REVISIONS

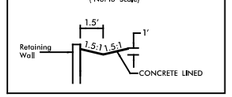
9-16-2014 ADDED PUE TO PARCELS 5 & 6
10-10-2014 ADDED R/W MONUMENTS TO EXISTING RIGHT-OF-WAY WHICH IS BEING RETAINED

DETAIL D
BERM 'V' DITCH
(Not to Scale)



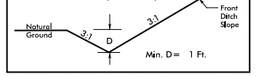
FROM STA. 74+11 TO STA. 76+45 L LT

DETAIL J
PAVED DITCH
(Not to Scale)



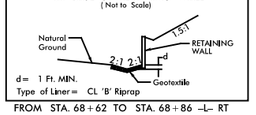
FROM STA. 67+75 TO STA. 68+66 -L- LT
FROM STA. 68+65 TO STA. 69+62 -L- RT

DETAIL L
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 72+25 TO STA. 73+00 -L- RT

DETAIL R
TOE PROTECTION
AT BASE OF RETAINING WALL
(Not to Scale)

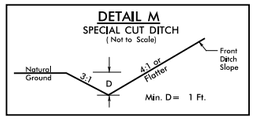


FROM STA. 68+62 TO STA. 68+86 -L- RT

DETAIL S
BANK STABILIZATION
(Not to Scale)

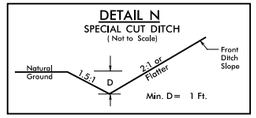
-L- STA. 69+79 RT

DETAIL M
SPECIAL CUT DITCH
(Not to Scale)



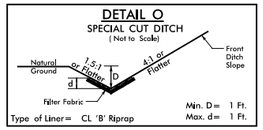
FROM STA. 69+25 TO STA. 69+75 -L- LT

DETAIL N
SPECIAL CUT DITCH
(Not to Scale)



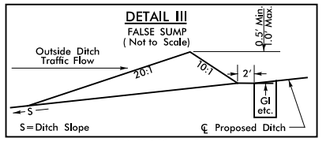
FROM STA. 69+00 TO STA. 69+25 -L- LT
FROM STA. 71+50 TO STA. 72+25 -L- RT

DETAIL O
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 69+75 TO STA. 70+60 -L- LT

DETAIL III
FALSE SUMP
(Not to Scale)



STA. 71+50 -L- RT
STA. 73+75 -L- LT

4

75

ICA Engineering
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US 64 FROM
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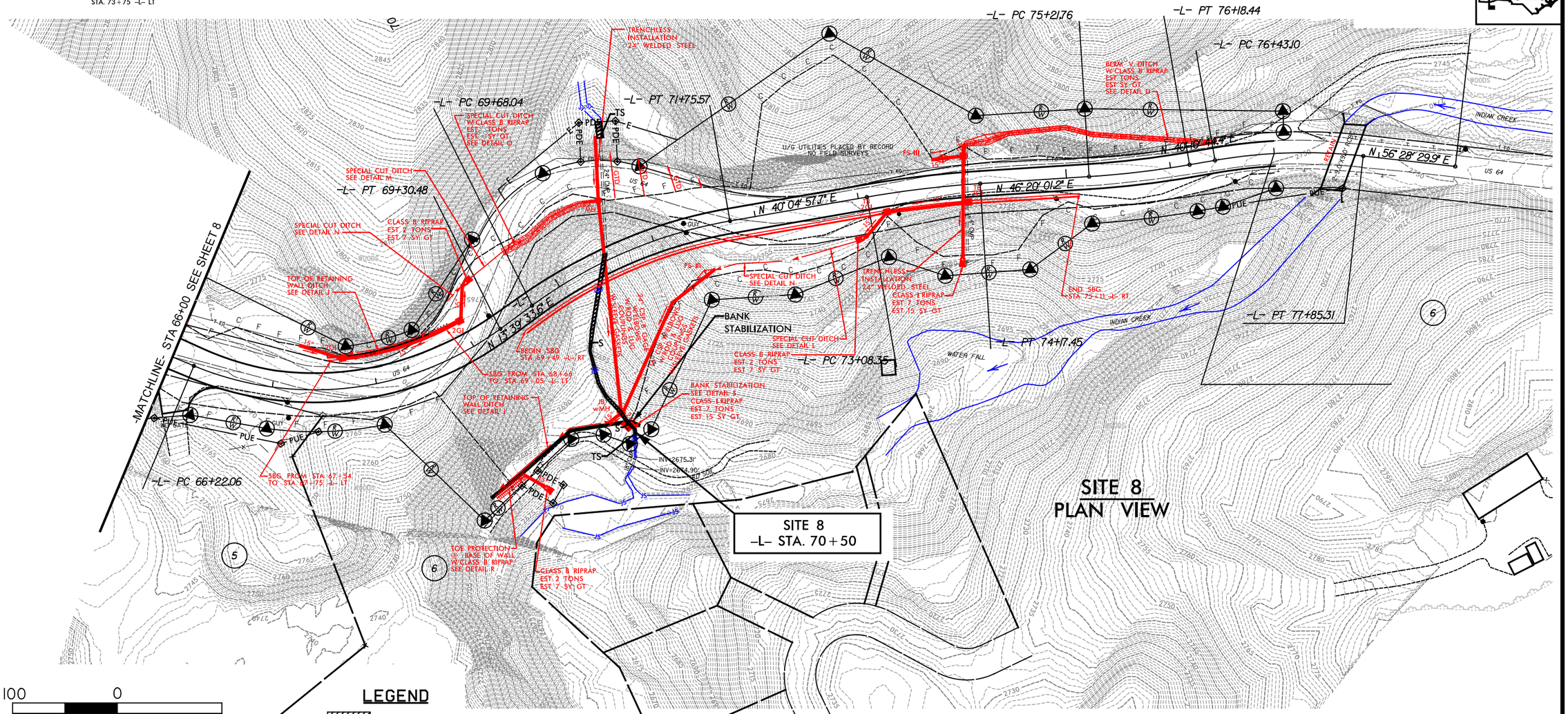
SHEET OF
PERMIT DRAWING
SHEET 11 OF 12

ENGLISH



100 0 50 100
SCALE: 1"= 100' HORIZ.

LEGEND

DENOTES PERMANENT IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

WETLAND AND SURFACE WATER IMPACTS PERMIT

$DATES
$IUSERNAME$
$FILELS