STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

June 6, 2013

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN: Ms. Loretta Beckwith
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 23 & 33 and Section 401 Water Quality Certification** for the proposed replacement of Bridge No. 42 over Saconon Creek on SR 1734 (Stepp Mill Road) in Henderson County, Federal Aid Project No. BRZ-1734(3); Division 14; TIP No. B-3346
$570.00 debit WBS No. 33004.1.1

Dear Madam:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 42 over Saconon Creek on SR 1734 with a 45-foot long, single-span bridge. There will be 147 linear feet of permanent impacts and <0.01 acre (52 linear feet) of temporary impacts to Saconon Creek for filling and relocation associated with the bridge replacement.

Please see enclosed copies of the Pre-Construction Notification (PCN), EEP acceptance letter, Stormwater Management Plan, permit drawings, and design plans. A Categorical Exclusion (CE) was completed in January 2013 and distributed shortly thereafter. Additional copies are available upon request.

Comments from the North Carolina Wildlife Resources Commission (NCWRC) will be required prior to authorization by the Corps of Engineers. By copy of this letter and attachments, NCDOT hereby requests NCWRC review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers and the NCDOT within 30 calendar days of receipt of this application.

This project calls for a letting date of February 18, 2014 and a review date of December 31, 2013; however, the let date may advance as additional funding becomes available.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-707-6000
FAX: 919-212-5785

WEBSITE:NCDOT.GOV

LOCATION:
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

A copy of this permit application and its distribution list will be posted on the NCDOT Website at: http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html. If you have any questions or need additional information, please call Bill Barrett at (919) 707-6103.

Sincerely,

for Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Unit

cc:
NCDOT Permit Application Standard Distribution List

Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.3 Dec 10 2008

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit ☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 23 33	or General Permit (GP) number:
1c. Has the N WP or GP number been verified by the Corps?	☐ Yes ☒ No
1d. Type(s) of approval sought from the DWQ (check all that apply): ☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit ☐ 401 Water Quality Certification – Express ☐ Riparian Buffer Authorization	
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No / For the record only for Corps Permit: ☐ Yes ☒ No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	☒ Yes ☐ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☐ Yes ☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☐ Yes ☒ No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 42 over Saconon Creek on SR 1734 (Stepp Mill Rd.)
2b. County:	Henderson
2c. Nearest municipality / town:	Blue Ridge
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	B-3346

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Party (for LLC if applicable):	*not applicable*
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6103
3g. Fax no.:	(919) 212-5785
3h. Email address:	wabarrett@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	*not applicable*
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	*not applicable*
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	*not applicable*
1b. Site coordinates (in decimal degrees):	Latitude: 35.3406 (DD.DDDDDD) Longitude: - 82.3501 (-DD.DDDDDD)
1c. Property size:	0.21 acre
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Saconon Creek (aka: North Branch Hungry Creek)
2b. Water Quality Classification of nearest receiving water:	C;Tr
2c. River basin:	Broad
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: The area is rural in nature with forested lands and scattered residential homes. Portions of the project are occuring within the Stepp's Mill property, a property determined elilgible for listing in the Natinal Register of Historic Places. A Memorandum of Agreement (MOA) has been executed.	
3b. List the total estimated acreage of all existing wetlands on the property: 0	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 250	
3d. Explain the purpose of the proposed project: To replace a structurally deficient (sufficiency rating of 47.6 out of a possible 100) and functionally obsolete (deck geometry of 2 out of 9) bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 36-foot bridge with a 45-foot, single-span bridge with an off-site detour. The bridge is being constructed upgradient of the existing structure, as the existing bridge is connected by its abutments to the existing dam on Saconon Creek. The roadway grade of the new structure will be approximately the same as the existing grade. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	☐ Yes ☒ No ☐ Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☐ Preliminary ☐ Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes ☒ No ☐ Unknown
5b. If yes, explain in detail according to "help file" instructions.	

6. Future Project Plans	
6a. Is this a phased project?	☐ Yes ☒ No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

☐ Wetlands ☒ Streams - tributaries ☐ Buffers

☐ Open Waters ☐ Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 1 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 3 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 4 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 5 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 6 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
				2g. **Total wetland impacts**	X Permanent X Temporary

2h. Comments:

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 ☒ P ☐ T	bridge replacement	Saconon	☒ PER ☐ INT	☒ Corps ☐ DWQ	15	147
Site 2 ☐ P ☒ T	bridge replacement	Saconon	☒ PER ☐ INT	☒ Corps ☐ DWQ	5	52 (<0.01 ac)
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 5 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 6 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
					3h. **Total stream and tributary impacts**	147 Perm 52 Temp (<0.01ac)

3i. Comments:

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
			4f. Total open water impacts	X Permanent X Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
	5f. Total							

5g. Comments:

5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

6a. Project is in which protected basin?			☐ Neuse ☐ Catawba	☐ Tar-Pamlico ☐ Randleman	☐ Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 ☐ P ☐ T			☐ Yes ☐ No		
B2 ☐ P ☐ T			☐ Yes ☐ No		
B3 ☐ P ☐ T			☐ Yes ☐ No		
			6h. **Total buffer impacts**		
6i. Comments:					

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. The proposed bridge is 9 feet longer than the existing bridge; the proposed bridge will be at approximately the same grade as the existing structure; an off site detour will be used, 3:1 fill slopes where practicable.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. *Design Standards in Sensitive Watersheds* will be implemented during construction. NCDOT will follow the Trout Stream moratorium from January 1 to April 15. BMPs for Bridge Removal will be implemented.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	☒ Yes ☐ No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	☒ DWQ ☒ Corps	
2c. If yes, which mitigat ion option will be used for this project?	☐ Mitigation bank ☒ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	☒ Yes	
4b. Stream mitigation requested:	147 linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☒cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments: There will be 147 LF of permanent stream impact at the site, of which NCDOT will be re-channeling 111 LF, resulting in 36 LF of total stream loss. Pursuant to conversation with Lori Beckwith/USACE on 6-3-13, a mitigation ratio of 2:1 is required for the 36 linear feet of total stream loss, and a mitigation ratio of 1.5:1 will be required for the 111 LF of stream that will be re-channelized.		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				☐ Yes ☐ No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
			6f. **Total buffer mitigation required:**	
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	☐ Yes ☒ No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments: If required from 1a, see attached buffer permit drawings.	☐ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HQW ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☐ Yes ☐ No N/A
5b. Have all of the 401 Unit submittal requirements been met?	☐ Yes ☐ No N/A

F. Supplementary Information	
1. Environmental Documentation (DWQ Requirement)	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	☒ Yes ☐ No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	☒ Yes ☐ No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	☒ Yes ☐ No
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	☐ Yes ☒ No
2b. Is this an after-the-fact permit application?	☐ Yes ☒ No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
3. Cumulative Impacts (DWQ Requirement)	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	☐ Yes ☒ No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.	
4. Sewage Disposal (DWQ Requirement)	
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable	

5. Endangered Species and Designated Critical Habitat (Corps Requirement)	
5a. Will this project occur in or near an area with federally protected species or habitat?	☒ Yes ☐ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☐ Yes ☒ No
5c. If yes, ind icate the USFWS Field Office you have contacted.	☐ Raleigh ☐ Asheville
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NHP, USFWS, and NCDOT field surveys. The only species with habitat at the site, small whorled pogonia, was last surveyed for on May 25, 2011. The survey did not identify any individuals of this species, resulting in a biological conclusion of No Effect.	
6. Essential Fish Habitat (Corps Requirement)	
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes ☒ No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index	
7. Historic or Prehistoric Cultural Resources (Corps Requirement)	
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	☒ Yes ☐ No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation	
8. Flood Zone Designation (Corps Requirement)	
8a. Will this project occur in a FEMA-designated 100-year floodplain?	☐ Yes ☒ No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA	
8c. What source(s) did you use to make the floodplain determination? FEMA Maps	

Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	E. L. Lusk Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	6-7-13 Date

Ecosystem
PROGRAM

June 4, 2013

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

B-3346, Replace Bridge 42 over Saconon Creek on SR 1734, Henderson County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you on June 3, 2013, the impacts are located in CU 03050105 of the Broad River basin in the Southern Mountains (SM) Eco-Region, and are as follows:

Broad 03050105 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	147.0	0	0	0	0	0	0	0

*Some of the stream and wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

EEP commits to implementing sufficient compensatory stream mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill

James B. Stanfill
EEP Asset Management Supervisor

cc: Ms. Lori Beckwith, USACE – Asheville Regulatory Field Office
Ms. Amy Chapman, Division of Water Quality, Wetlands/401 Unit
File: B-3346

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released July 2012)

Project/TIP No.: 33004.1.1 County(ies): Henderson

General Project Information

Project No.:	33004.1.1	Project Type:	Bridge Replacement	Date:	3/27/2013
NCDOT Contact:	Randy Henegar, P.E.	Contractor / Designer:			
Address:	1020 Birchridge Dr. Raleigh, N.C. 27610	Address:			
Phone:	919-707-6726	Phone:			
Email:	rhenegar@ncdot.gov	Email:			
City/Town:	Blue Ridge	County(ies):	Henderson		
River Basin(s):	Broad	CAMA County?	No		
Primary Receiving Water:	Saconon Creek	NCDWQ Stream Index No.:	9-29-30-2-1		
NCDWQ Surface Water Classification for Primary Receiving Water	Primary:	Class C			
	Supplemental:	Trout Waters (Tr)			
Other Stream Classification:					
303(d) Impairments:	None				
Buffer Rules in Effect					

Project Description

Project Length (lin. Miles or feet):	0.087miles	Surrounding Land Use:	Residential

	Proposed Project	Existing Site
Project Built-Upon Area (ac.)	0.21 ac.	0.16 ac.
Typical Cross Section Description:		
Average Daily Traffic (veh/hr/day):	Design/Future: 900	Existing: 580

General Project Narrative:

Bridge #42 is a single span structure that consist of a timber floor on I-beams with an asphalt surface. The end bents are reinforced concrete abutments that are an extension of the dam across Saconon Creek. The overall length of the structure is 36 feet with a clear roadway of 13.1 feet. The replacement structure is a bridge approximately 45 feet long with 10-foot lanes with 2.5-foot offsets on each side.

References

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released July 2012)

Project/TIP No.: 33004.1.1 County(ies): Henderson

Project Environmental Summary

Surface Water Impacts

Sheet No.	Station (From / To)	Feature Impacted	Water / Wetland / Buffer Type	Receiving Surface Water Name	NRTR Map ID	NCDWQ Stream Index	NCDWQ Surface Water Classification	303(d) Impairments	Type of Impact	Existing SCM	Proposed SCM
4	12+00 13+00	Stream	Perennial	Saconon	Saconon Creek	9-29-30-2-1	C;Tr	None	Fill	N/A	

* List all stream and surface water impact locations regardless of jurisdiction or size.

Equalizer Pipes to be noted as a minimization of impacts.

All proposed SCMs listed must also be listed under Swales, Preformed Sour Holes and other Energy Dissipators, or Other Stormwater Control Measures.

Description of Minimization of Impacts or Mitigation

References

TIP PROJECT: B-3346

CONTRACT:

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3346	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33004.1.1	BRZ-1734(3)	P.E.
33004.2.1	BRZ-1734(3)	R/W & UTILITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

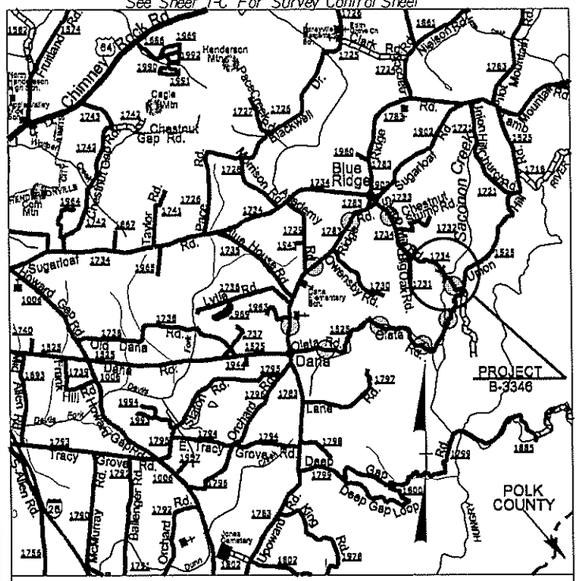
HENDERSON COUNTY

LOCATION: BRIDGE NO. 42 OVER SACONON CREEK ON SR 1734 (STEPP MILL ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE, RETAINING WALL, AND EXISTING STRUCTURE RETROFIT

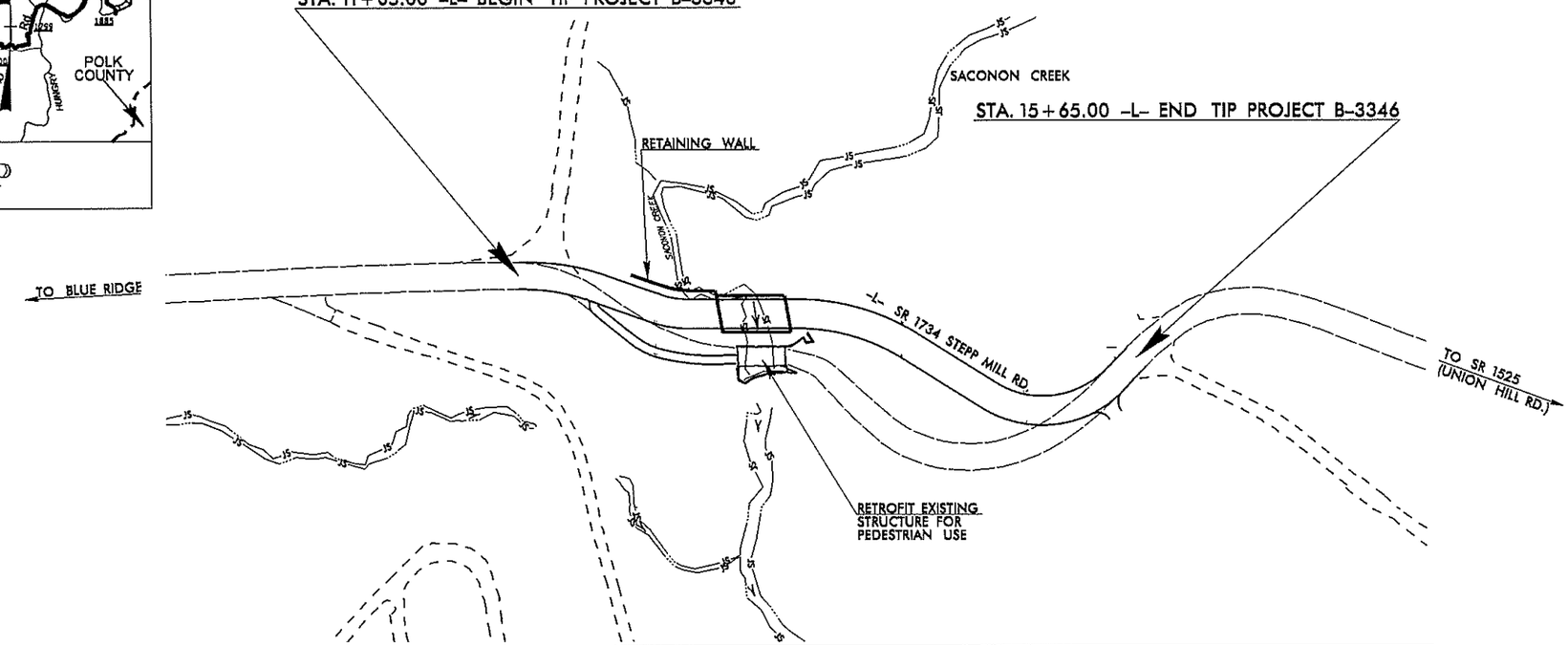
Permit Drawings
Sheet 1 of 6

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols
See Sheet 1-C For Survey Control Sheet



VICINITY MAP

DETOUR ROUTE



NAD 83/95

WETLAND AND SURFACE WATER IMPACTS PERMIT

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED AND SUPERELEVATION.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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 2014 = 580
ADT 2035 = 900
DHV = 12 %
D = 60 %
T = 12 % *
V = 15 MPH
*TTST 1% DUAL 11%

FUNC CLASS = RURAL LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3346 = 0.078 MILES
LENGTH STRUCTURE TIP PROJECT B-3346 = 0.009 MILES
TOTAL LENGTH OF TIP PROJECT B-3346 = 0.087 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 1, 2013

LETTING DATE:
FEBRUARY 18, 2014

JAMES A. SPEER, PE
PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

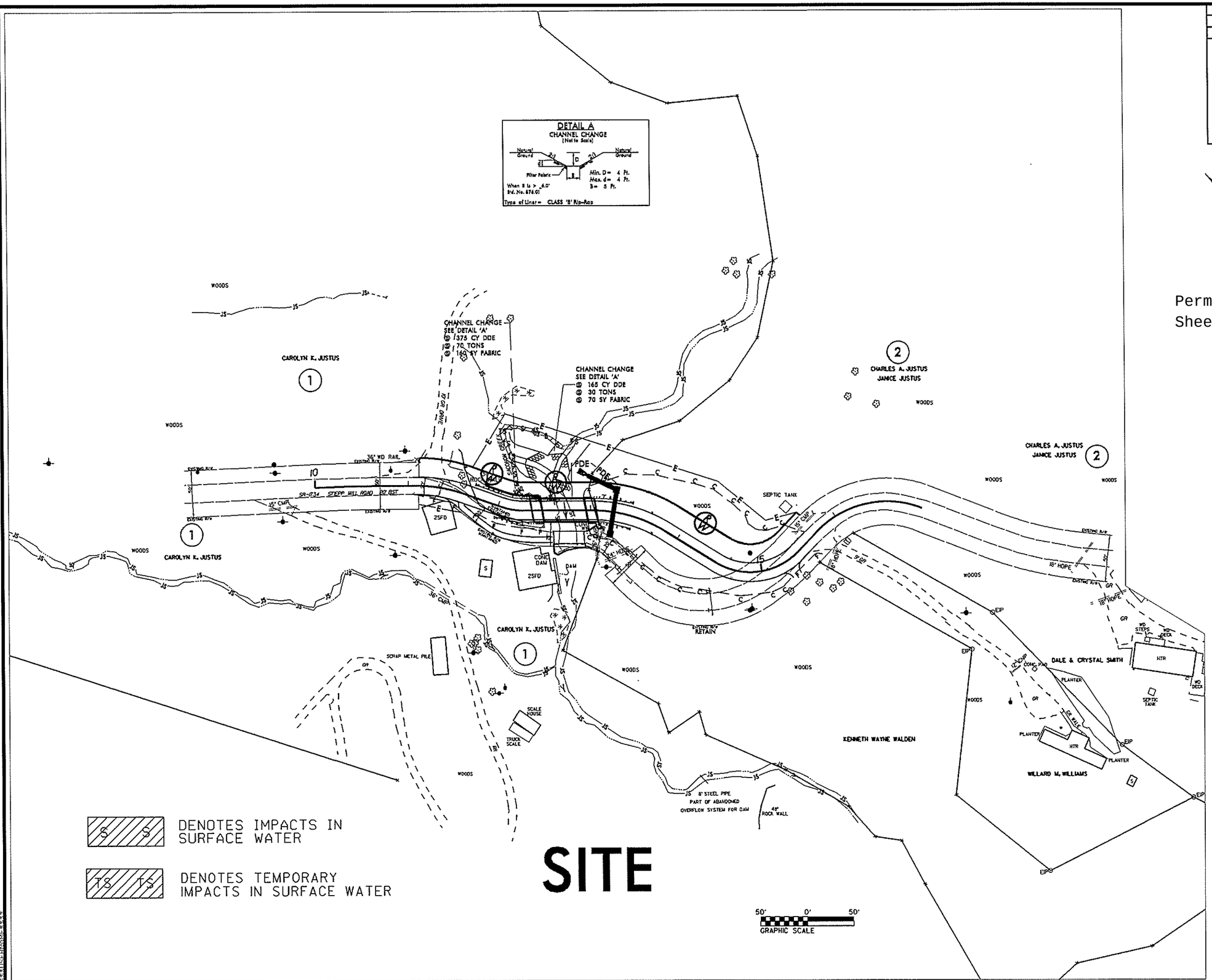
$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$$

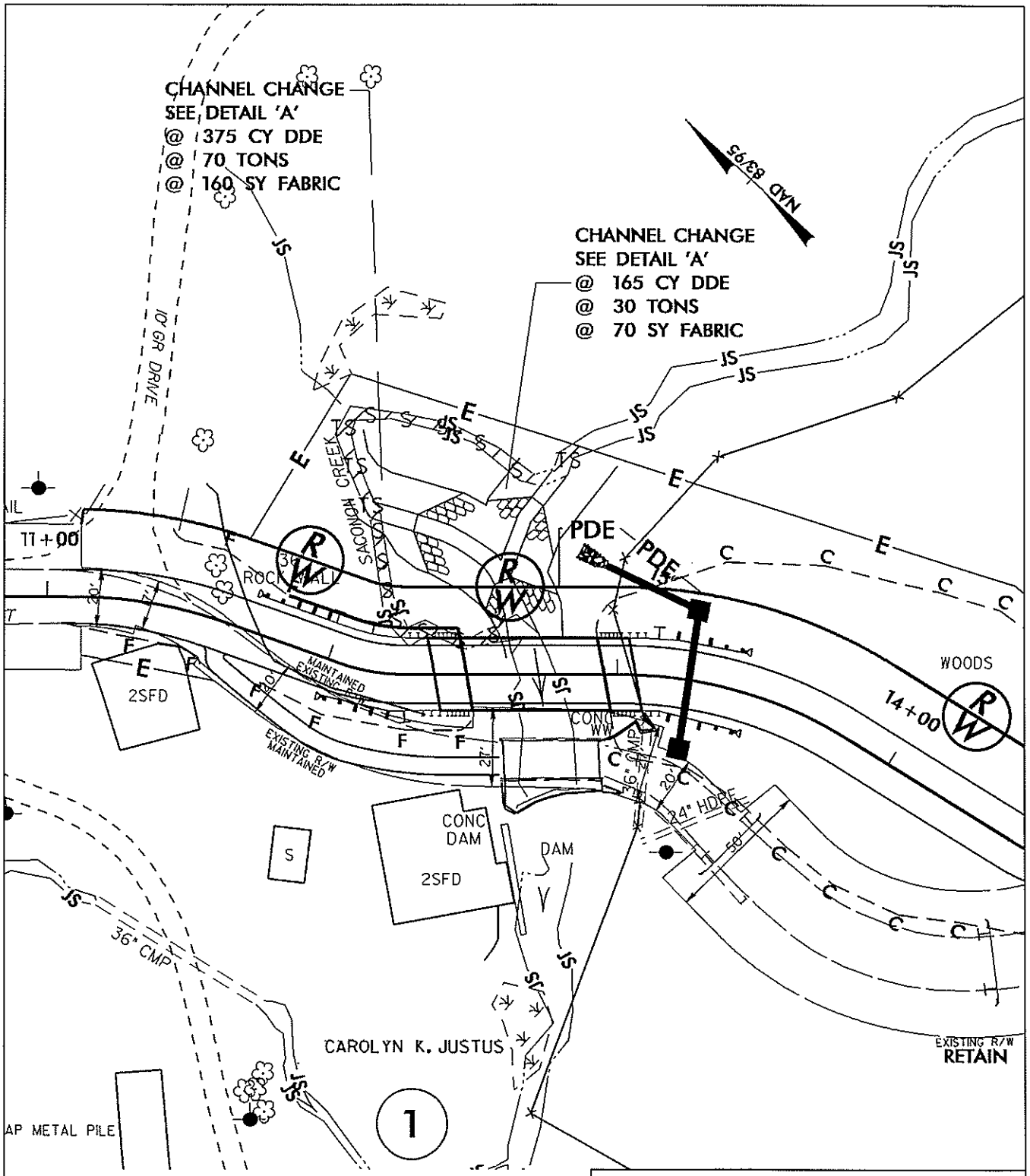
PROJECT REFERENCE NO.	SHEET NO.
B-3346	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/95

Permit Drawings
Sheet 2 of 6





PLAN VIEW

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

50' 0' 50'

GRAPHIC SCALE

NCDOT

DIVISION OF HIGHWAYS

HENDERSON COUNTY

PROJECT: 33004.1.1 (B-3346)

REPLACE BRG#42 OVER SACONON CREEK ON SR 1734 (STEPP MILL RD.)

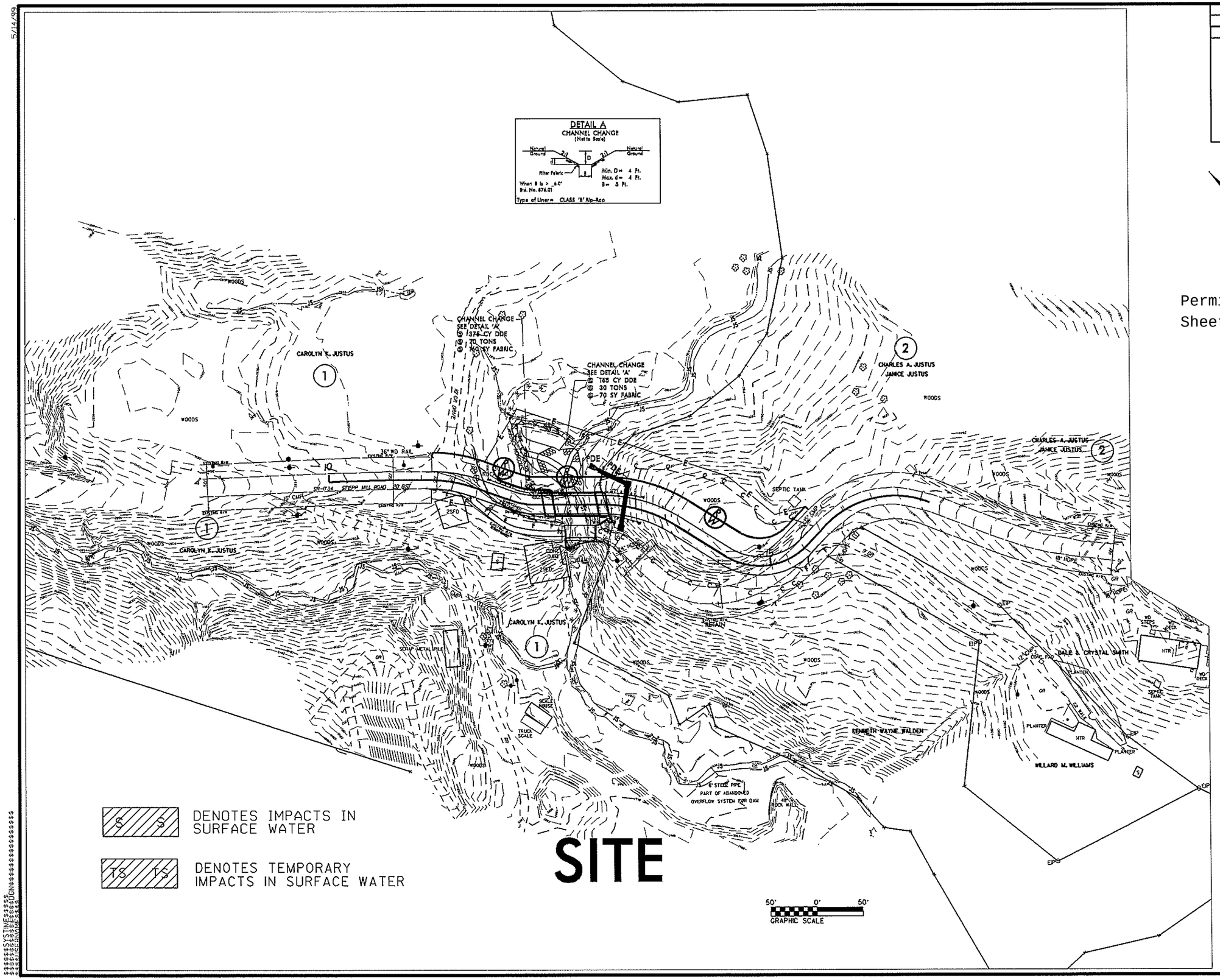
SHEET 3 OF 6 REV 05/29/13

PROJECT REFERENCE NO.	SHEET NO.
B-3346	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83/95

Permit Drawings
Sheet 4 of 6



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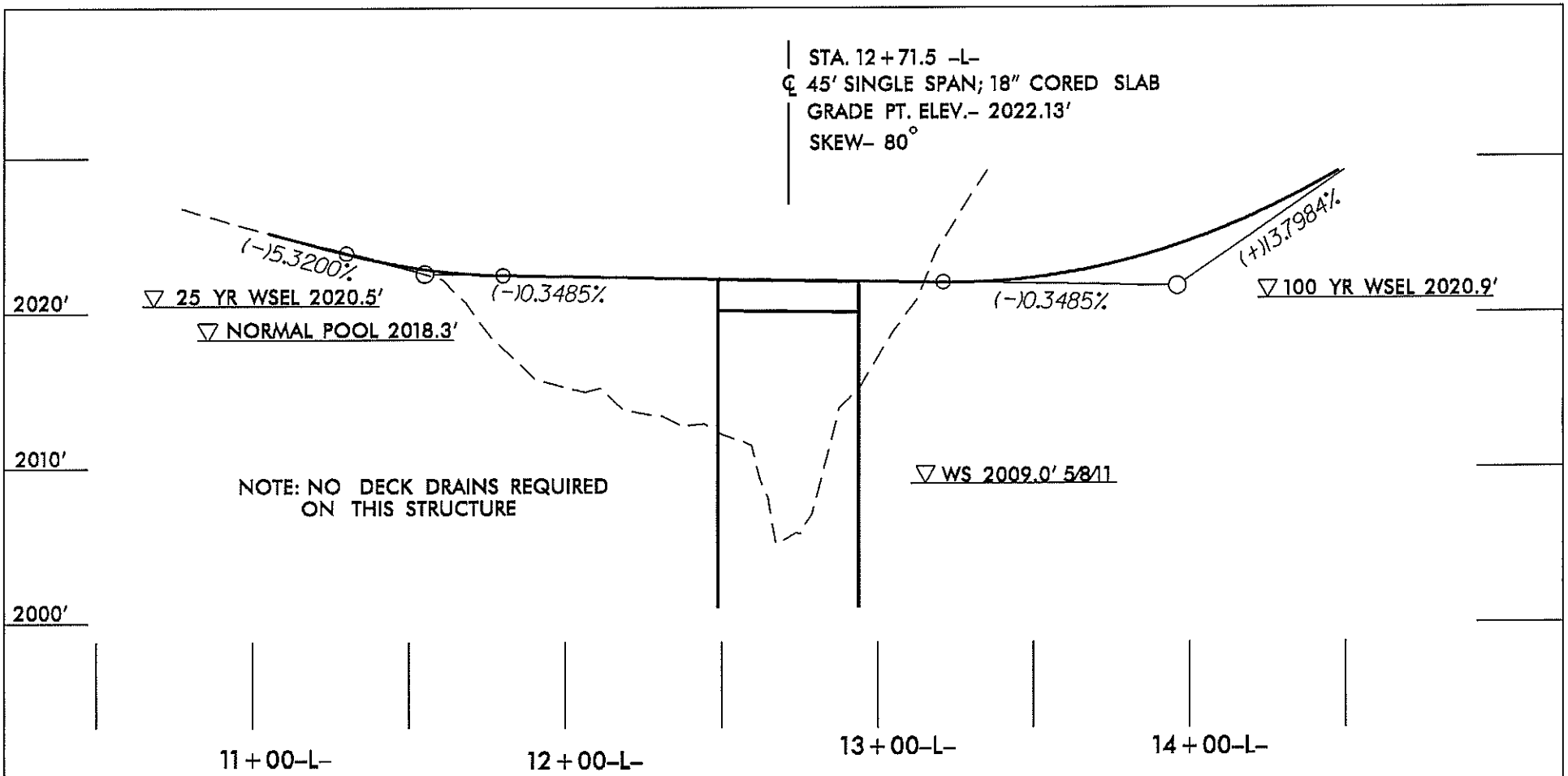


PROFILE

0' 50' 100'
HORIZONTAL SCALE

0' 10' 20'
VERTICAL SCALE

NCDOT
DIVISION OF HIGHWAYS
HENDERSON COUNTY
PROJECT: 33004.1.1 (B-3346)

REPLACE BRG#42 OVER SACONON CREEK ON SR 1734 (STEPP MILL RD.)

SHEET 5 OF 6 03/27/13

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
	12+00-L- to 13+00-L-	1 @ 45'; 18" Cored Slab Bridge						0.014	0.006	147	52	111
TOTALS:								0.01	<0.01	147	52	111

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

HENDERSON COUNTY
WBS -33004.1.1 (B-3346)

SHEET 6 of 6 5/30/2013

ATN Revised 3/31/05

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3346	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33004.1.1	BRZ-1734(3)	P.E.
33004.2.1	BRZ-1734(3)	R/W & UTILITIES

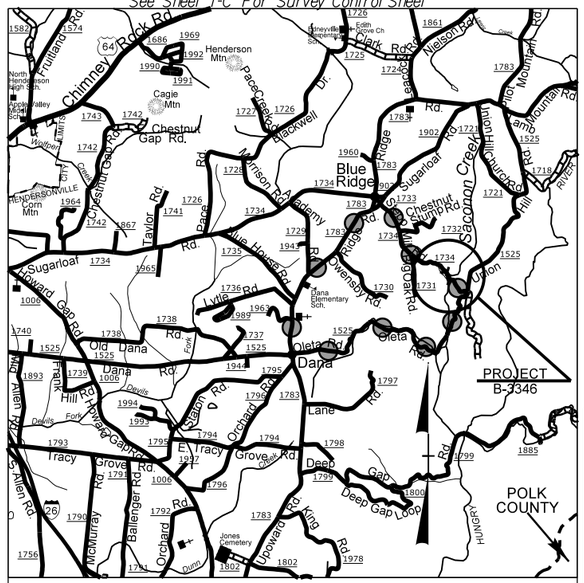
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HENDERSON COUNTY

LOCATION: BRIDGE NO. 42 OVER SACONON CREEK ON SR 1734 (STEPP MILL ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE, RETAINING WALL, AND EXISTING STRUCTURE RETROFIT

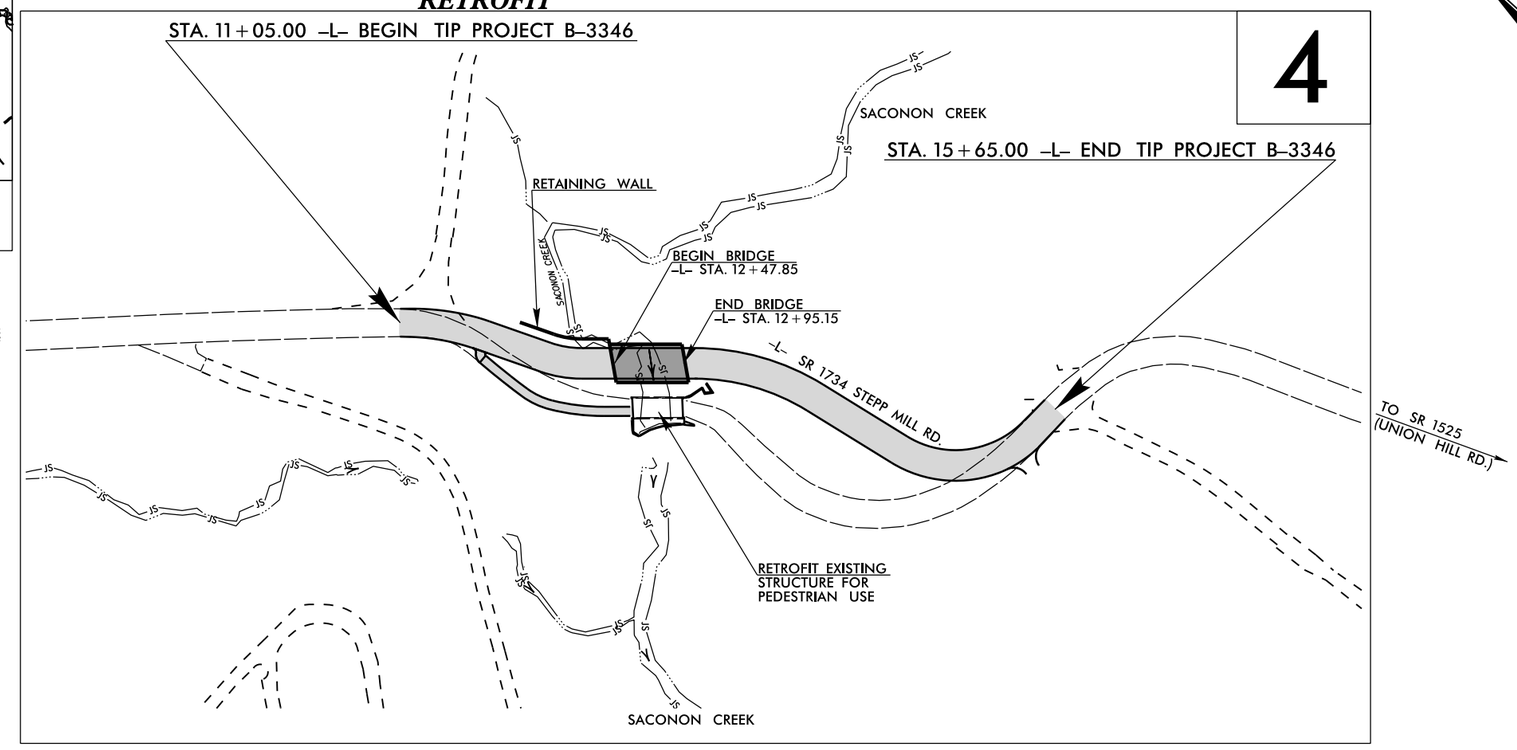
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols
See Sheet 1-C For Survey Control Sheet



VICINITY MAP

DETOUR ROUTE

TO BLUE RIDGE



NAD 83/95

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED AND SUPERELEVATION.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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 2014 = 580
ADT 2035 = 900
DHV = 12 %
D = 60 %
T = 12 % *
V = 15 MPH
*TTST 1% DUAL 11%

FUNC CLASS = RURAL LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3346 = 0.078 MILES
LENGTH STRUCTURE TIP PROJECT B-3346 = 0.009 MILES
TOTAL LENGTH OF TIP PROJECT B-3346 = 0.087 MILES

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ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

TIP PROJECT: B-3346

CONTRACT:

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12/05/11

PROJECT REFERENCE NO.	SHEET NO.
B-3346	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

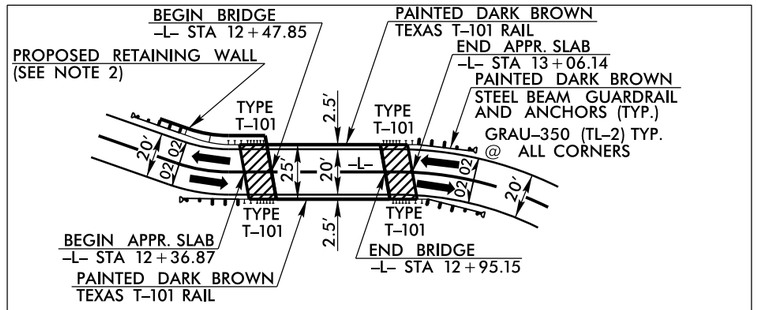
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
B-3346	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

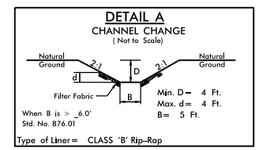
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

5/14/99 R/W REVISION 05-30-13 (DWG) - REVISED THE TCE ON PARCEL 1 (CAROLYN K. JUSTUS) AND PARCEL 2 (CHARLES A. JUSTUS, JANICE JUSTUS) FOR THE ADDITION OF A CHANNEL CHANGE AT -L- STA.12+80.00 LT.



NOTE: EXPOSED EDGES OF CONCRETE CORED SLABS TO BE STAINED BROWN
NTS
SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP



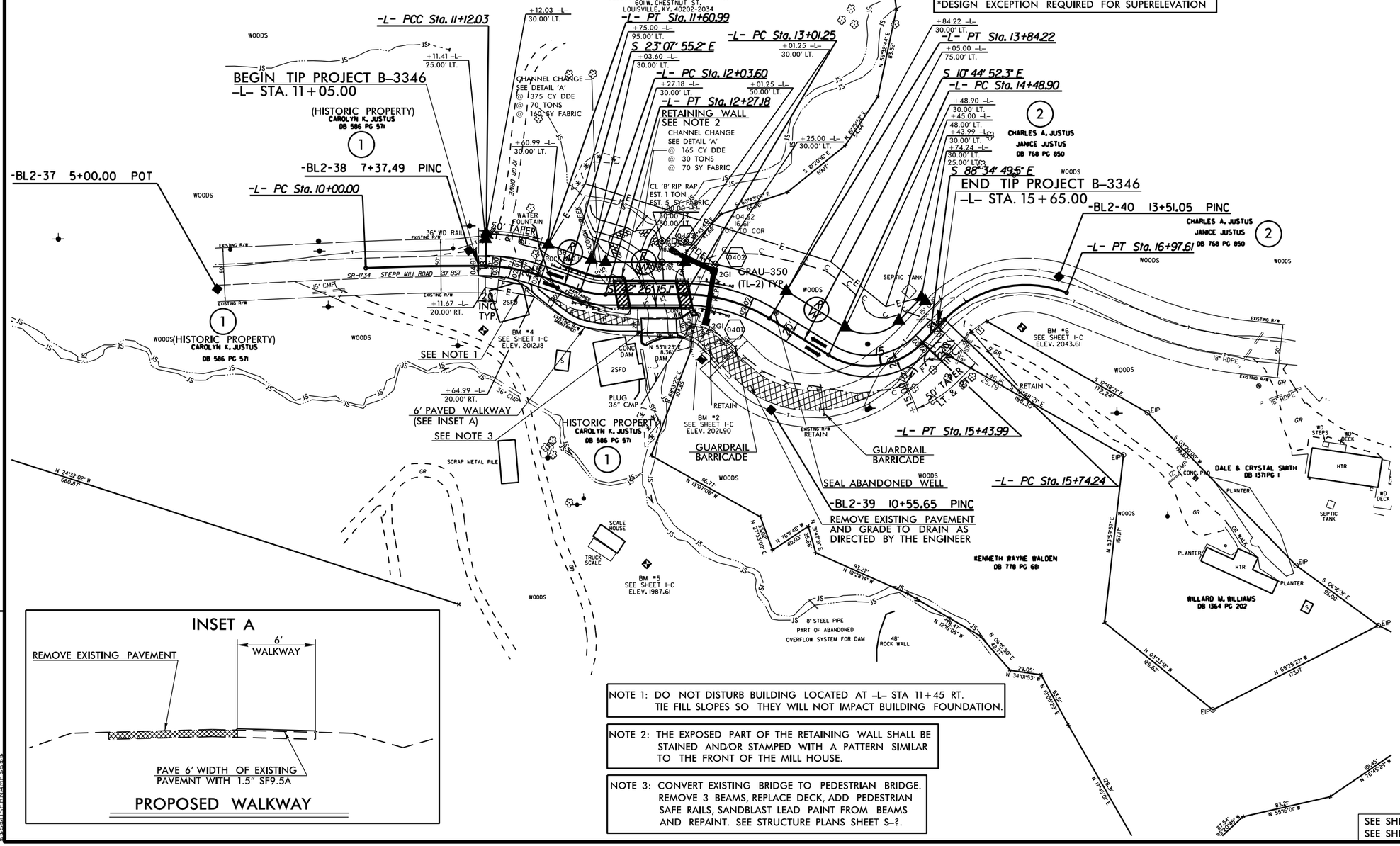
UTILITY OWNERS
DUKE ENERGY CORPORATION
526 S. CHURCH STREET
P.O. BOX 1006 EC100
CHARLOTTE, N.C. 28202
BELLSOUTH TELECOMMUNICATIONS, INC.
601 W. CHESTNUT ST.
LOUISVILLE, KY. 40202-2034

-L-		
PI Sta 10+56.03	PI Sta 11+36.73	PI Sta 12+15.50
Δ = 3° 12' 33.8" (RT)	Δ = 18° 42' 04.2" (RT)	Δ = 19° 18' 19.9" (LT)
D = 2° 51' 53.2"	D = 38° 11' 49.9"	D = 81° 51' 04.0"
L = 112.03'	L = 48.96'	L = 23.59'
T = 56.03'	T = 24.70'	T = 11.91'
R = 2,000.00'	*R = 150.00'	*R = 70.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS

-L-		
PI Sta 13+43.83	PI Sta 15+05.41	PI Sta 16+44.16
Δ = 31° 41' 22.8" (RT)	Δ = 77° 49' 57.2" (LT)	Δ = 67° 19' 06.5" (RT)
D = 38° 11' 49.9"	D = 81° 51' 04.0"	D = 54° 34' 02.7"
L = 82.96'	L = 95.09'	L = 123.37'
T = 42.57'	T = 56.52'	T = 69.92'
*R = 150.00'	*R = 70.00'	R = 105.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS

*DESIGN EXCEPTION REQUIRED FOR SUPERELEVATION

NAD 83/95



NOTE 1: DO NOT DISTURB BUILDING LOCATED AT -L- STA 11+45 RT. TIE FILL SLOPES SO THEY WILL NOT IMPACT BUILDING FOUNDATION.

NOTE 2: THE EXPOSED PART OF THE RETAINING WALL SHALL BE STAINED AND/OR STAMPED WITH A PATTERN SIMILAR TO THE FRONT OF THE MILL HOUSE.

NOTE 3: CONVERT EXISTING BRIDGE TO PEDESTRIAN BRIDGE. REMOVE 3 BEAMS, REPLACE DECK, ADD PEDESTRIAN SAFE RAILS, SANDBLAST LEAD PAINT FROM BEAMS AND REPAINT. SEE STRUCTURE PLANS SHEET S-?.

SEE SHEET 5 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

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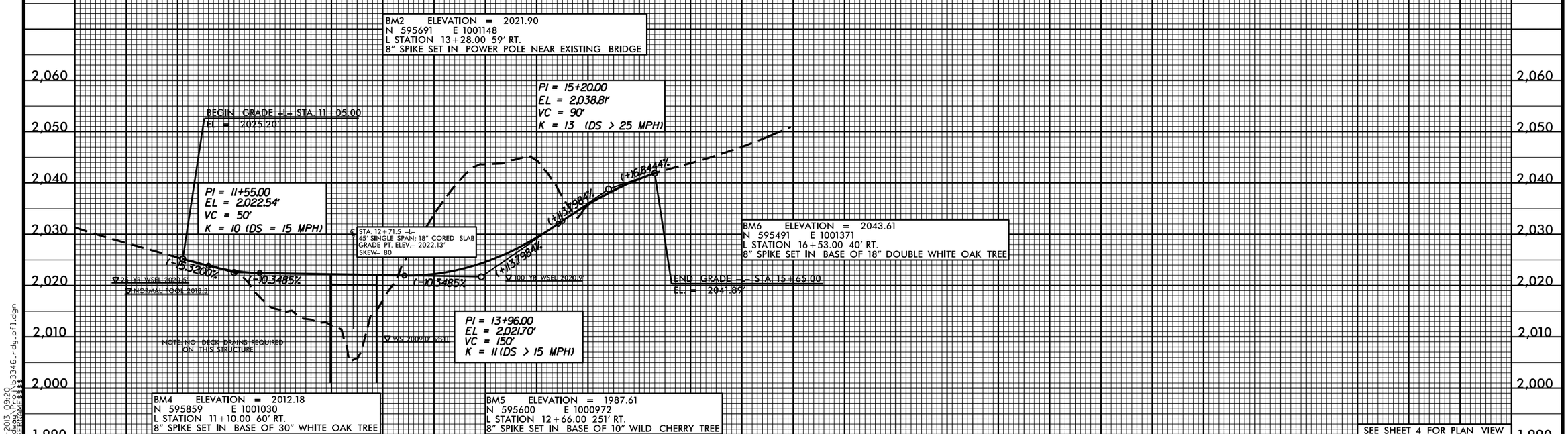
PROJECT REFERENCE NO.	SHEET NO.
B-3346	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	415	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	2020.50	FT
BASE DISCHARGE	=	600	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	2020.90	FT
OVERTOPPING DISCHARGE	=	N/A	CFS
OVERTOPPING FREQUENCY	=	500	YRS
OVERTOPPING ELEVATION	=	2021.95	FT
	=		FT
DATE OF SURVEY	=	05/08/11	
W.S. ELEVATION AT DATE OF SURVEY	=	2009.00	FT



SEE SHEET 4 FOR PLAN VIEW

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