



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

July 22, 2008

U. S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive Suite 105
Wake Forest, NC 27587

ATTENTION: Mr. Monte Matthews
NCDOT Coordinator

SUBJECT: **Permit Modification Request for Nationwide Permit 33 and Section 401 Water Quality Certification** for the proposed replacement of Bridge No. 190 over Johns River on SR 1328. Caldwell County, Federal Project No. BRZ-1328(4), Division 11, T.I.P. No. B-3624, Debit \$240 from WBS Element 33172.1.1.

Reference: Original Permit Application requested February 21, 2008
Nationwide Permit Issued March 31, 2008
USACE Action ID -200800883
Section 401 Water Quality Certifications Issued April 7, 2008
DWQ Project No. 080372

Dear Mr. Matthews:

Please see the enclosed revised Pre-Construction Notification (PCN) and revised permit drawings for the above referenced project. A Nationwide 23 and 33 permit was authorized by the USACE on March 31, 2008, and General Water Quality Certification Nos. 3701 and 3688 by DWQ on April 7, 2008 for 0.01 acre of permanent fill in the Johns River and 0.05 acre of temporary fill in the Johns River. A recent change in the design for this project includes the addition of two temporary causeways in order to remove the existing bridge. There will be an additional 0.04 acre of temporary stream impacts due to this causeway.

Section 404 Permit:

It is anticipated that the additional temporary impacts relating to causeways will be authorized under Section 404 Nationwide Permit 33 (Temporary Construction, Access and Dewatering). We are, therefore, requesting the modification of the Nationwide Permit 33 issued March 31, 2008.

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

TELEPHONE: 919-715-1334
FAX: 919-715-5501
WEBSITE: WWW.NCDOT.ORG

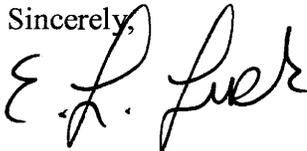
LOCATION:
PARKER LINCOLN BUILDING,
2728 CAPITAL BLVD.
RALEIGH NC 27604

Section 401 Permit:

It is anticipated that the additional temporary impacts will be authorized by Section 401 General Certification number 3688. We are therefore requesting a modification to the General Certification issued April 7, 2008. The NCDOT will adhere to all general conditions of the Water Quality Certification. Therefore, in accordance with 15A NCAC 2H .0501(a) we are providing five copies of this application to the North Carolina Department of Environmental and Natural Resources for their records and \$240 to act as payment for processing the permit modification (see subject line).

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Brett Feulner at bmfeulner@ncdot.gov or (919) 715-1488.

Sincerely,



for

Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch

cc:

W/attachment

Mr. Brian Wrenn, NCDWQ (5 Copies)
Ms. Marella Buncick, USFWS
Ms. Marla Chambers, NCWRC

W/o attachment (see website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Michael A. Pettyjohn, P.E. Division 11 Engineer
Mr. Heath Slaughter, Division 11 Environmental Officer
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Ms. Natalie Lockhart
Mr. Scott McLendon, USACE, Wilmington

Office Use Only:

Form Version March 05

USACE Action ID No. _____ **DWQ No.** _____

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

I. Processing

1. Check all of the approval(s) requested for this project:

<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Riparian or Watershed Buffer Rules
<input type="checkbox"/> Section 10 Permit	<input type="checkbox"/> Isolated Wetland Permit from DWQ
<input checked="" type="checkbox"/> 401 Water Quality Certification	<input type="checkbox"/> Express 401 Water Quality Certification
2. Nationwide, Regional or General Permit Number(s) Requested: NW 23 & 33
3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here:
4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here:
5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here:

II. Applicant Information

1. Owner/Applicant Information

Name: Gregory J. Thorpe, Ph.D., Environmental Management Director

Mailing Address: 1598 Mail Service Center
Raleigh, NC 27699

Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794

E-mail Address: gthorpe@dot.state.nc.us
2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: _____

Company Affiliation: _____

Mailing Address: _____

Telephone Number: _____ Fax Number: _____

E-mail Address: _____

III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: Replacement of Bridge No. 190 over The Johns River

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-3624

3. Property Identification Number (Tax PIN): N/A

4. Location
County: Caldwell Nearest Town: Collettsville
Subdivision name (include phase/lot number): N/A
Directions to site (include road numbers/names, landmarks, etc.): The site is located at the crossing of SR 1328 over the Johns River

5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
Decimal Degrees (6 digits minimum): 35.8846°N, 81.7040°W

6. Property size (acres): N/A

7. Name of nearest receiving body of water: Johns River

8. River Basin: Catawba River
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)

9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: Forestland

10. Describe the overall project in detail, including the type of equipment to be used: _____
Standard DOT construction equipment.

11. Explain the purpose of the proposed work: The purpose is to replace the old bridge that is functionally obsolete and structurally deficient.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. NA

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.

No

VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: The project impacts are as follows, <0.01 acre of permanent impacts in the Johns River and 0.09 acre of temporary impacts in the Johns River

2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
Total Wetland Impact (acres)					

3. List the total acreage (estimated) of all existing wetlands on the property: 0

4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
Site 1	Johns River	Permanent	Perennial	80	-	<0.01
Site 1-3	Johns River	Temporary	Perennial	80	-	0.09
Total Stream Impact (by length and acreage)						0.09

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
Total Open Water Impact (acres)				

6. List the cumulative impact to all Waters of the U.S. resulting from the project:

Stream Impact (acres):	0.09
Wetland Impact (acres):	0
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	0.09
Total Stream Impact (linear feet):	0

7. Isolated Waters

Do any isolated waters exist on the property? Yes No

Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

8. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): uplands stream wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.):

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.):

Current land use in the vicinity of the pond:

Size of watershed draining to pond: _____ Expected pond surface area: _____

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. Best Management Practices for the Protection of Surface Waters and BMP's for Bridge Demolition and Removal will be used, new bridge will be longer than the existing bridge

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/nwetlands/strmgide.html>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

No mitigation proposed

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet): _____

Amount of buffer mitigation requested (square feet): _____

Amount of Riparian wetland mitigation requested (acres): _____

Amount of Non-riparian wetland mitigation requested (acres): _____

Amount of Coastal wetland mitigation requested (acres): _____

IX. Environmental Documentation (required by DWQ)

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes No
2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?
Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.
Yes No
3. If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter. Yes No

X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify _____)? Yes No
2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1		3 (2 for Catawba)	
2		1.5	
Total			

* Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. _____

XI. Stormwater (required by DWQ)

Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. Approximately the same as current conditions

XII. Sewage Disposal (required by DWQ)

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.

N/A

XIII. Violations (required by DWQ)

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?

Yes No

Is this an after-the-fact permit application? Yes No

XIV. Cumulative Impacts (required by DWQ)

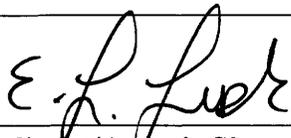
Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes No

If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at <http://h2o.enr.state.nc.us/ncwetlands>. If no, please provide a short narrative description: _____

Replacement of an existing structure

XV. Other Circumstances (Optional):

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).



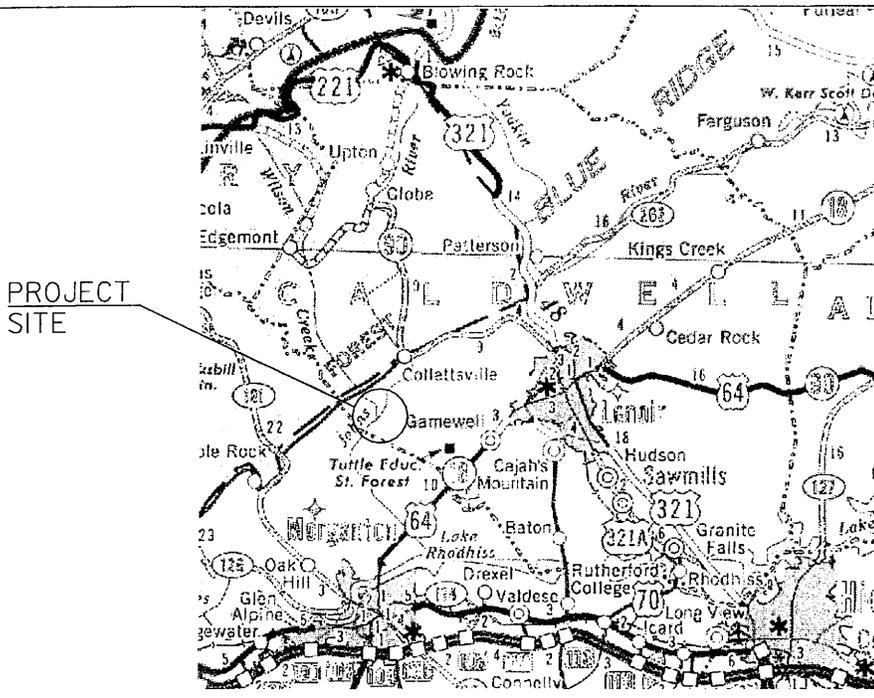
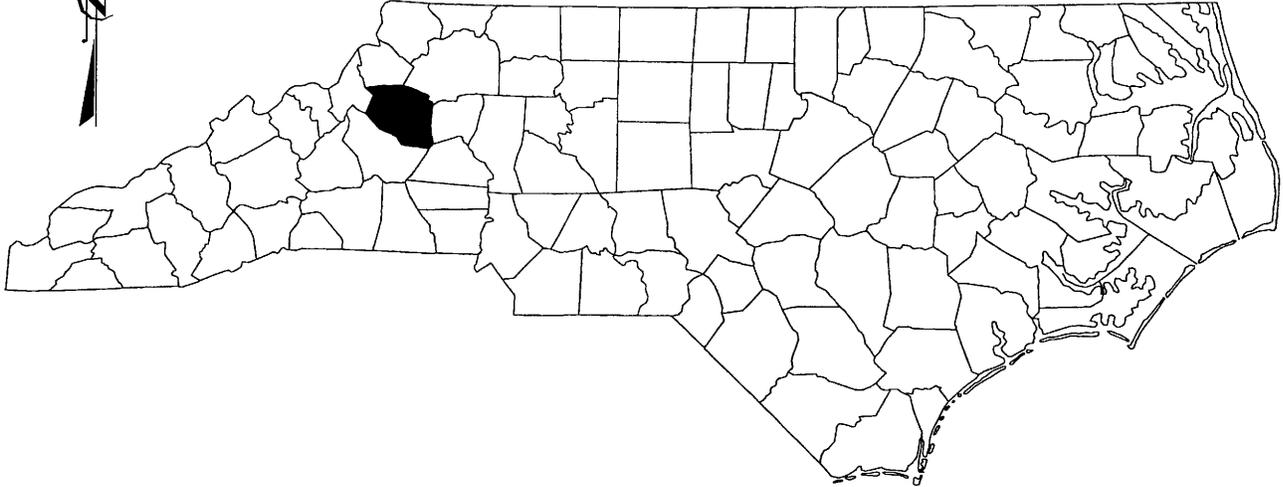
7.17.08

Applicant/Agent's Signature

Date

(Agent's signature is valid only if an authorization letter from the applicant is provided.)

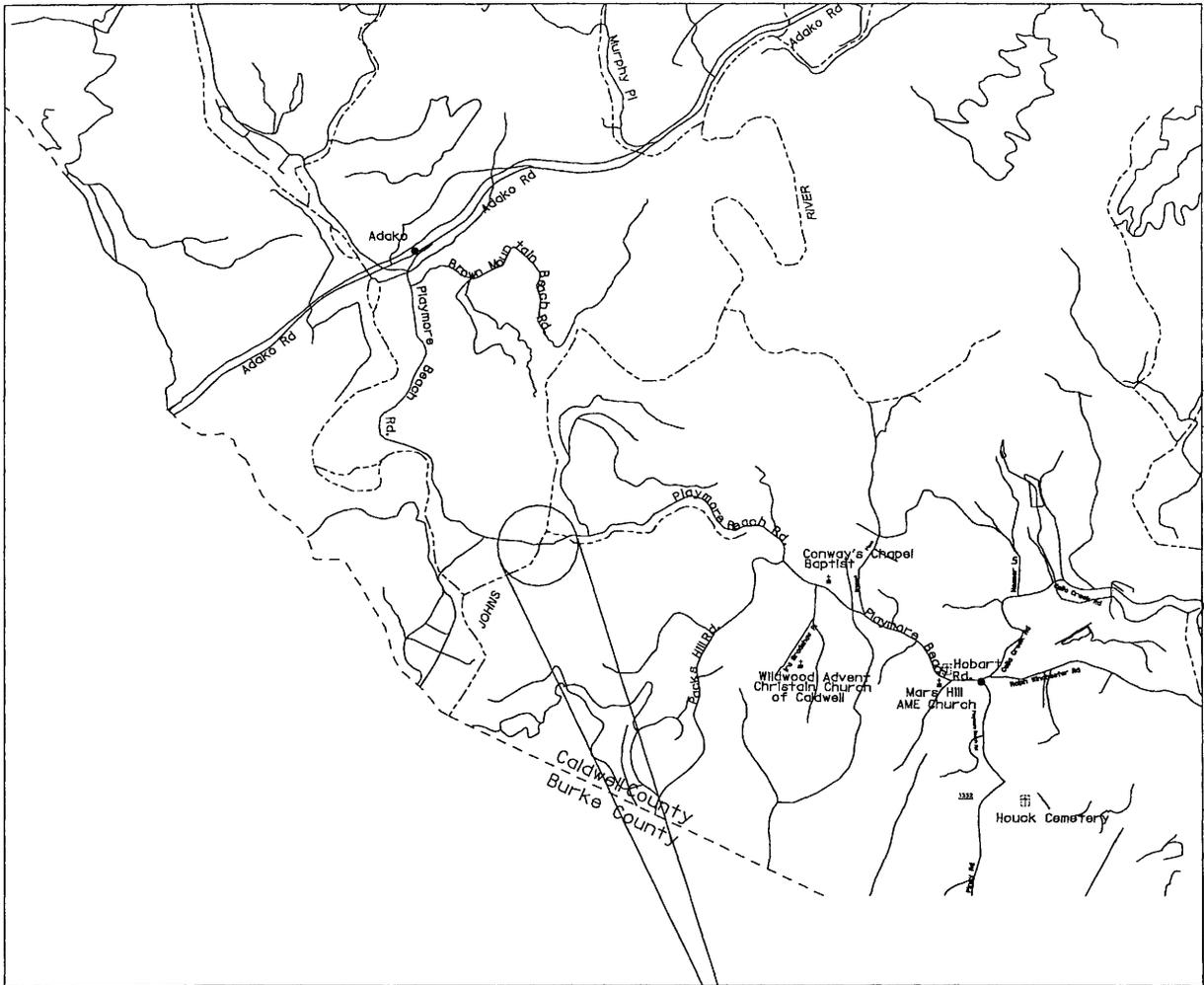
NORTH CAROLINA



VICINITY MAP

NCDOT
DIVISION OF HIGHWAYS
CALDWELL COUNTY
PROJECT: 33172.1.1 (B-3624)
BRIDGE NO.190 OVER
JOHNS RIVER
ON SR 1328

SITE MAP



SITE

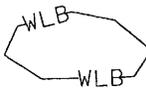
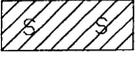
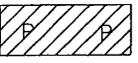
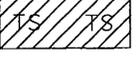
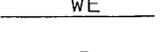
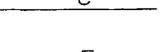
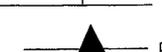
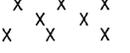
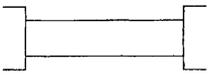
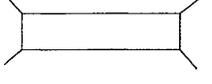
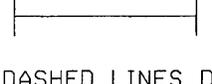
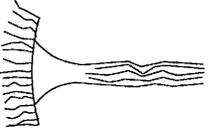
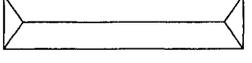
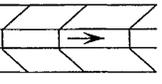


NCDOT
DIVISION OF HIGHWAYS
CALDWELL COUNTY
PROJECT: 33172.1.1 (B-3624)
BRIDGE NO. 190 OVER
JOHNS RIVER
ON SR 1328

SHEET 2 OF 10

6/23/08

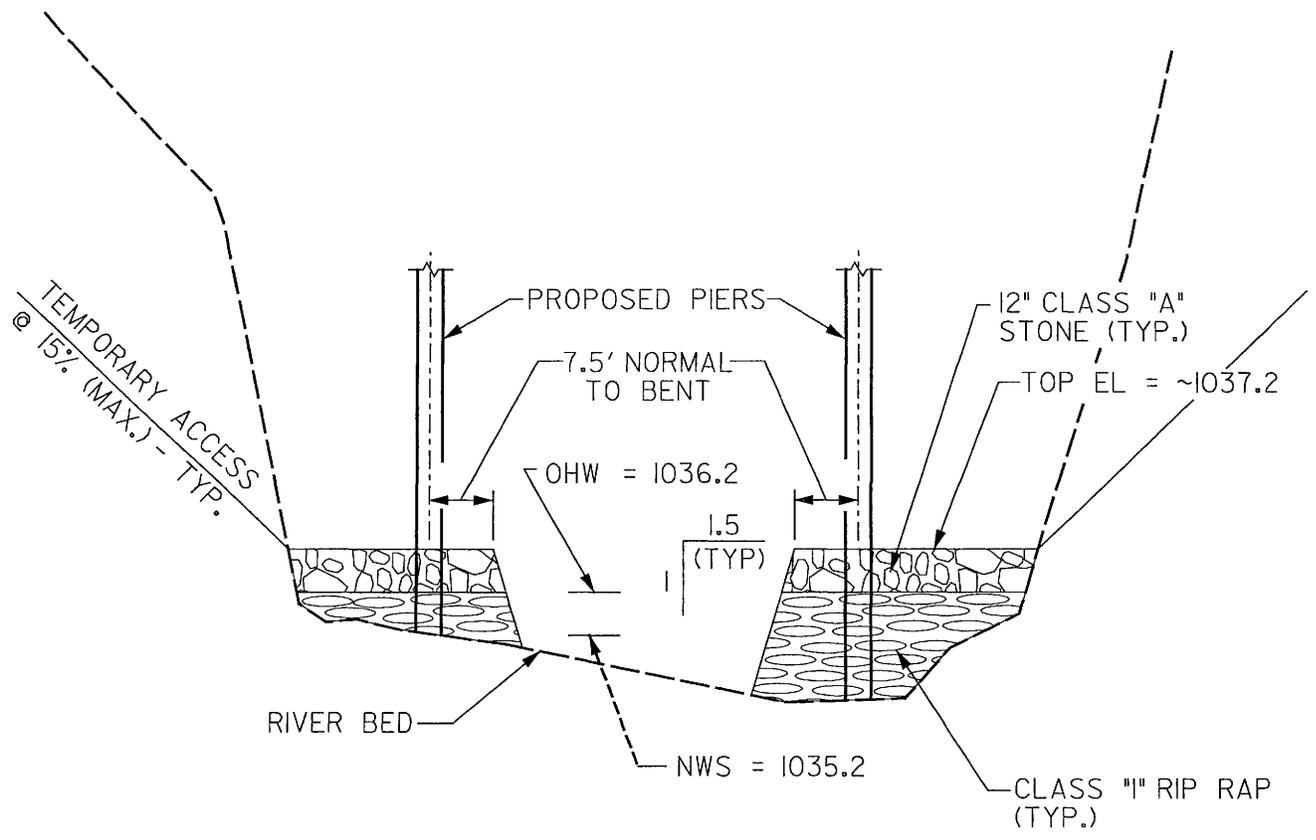
WETLAND LEGEND

<p>— WLB — WETLAND BOUNDARY</p> <p> WETLAND</p> <p> DENOTES FILL IN WETLAND</p> <p> DENOTES PERMANENT SURFACE WATER IMPACT</p> <p> DENOTES PERMANENT SURFACE WATER IMPACT (POND)</p> <p> DENOTES TEMPORARY FILL IN WETLAND</p> <p> DENOTES EXCAVATION IN WETLAND</p> <p> DENOTES TEMPORARY SURFACE WATER IMPACT</p> <p> DENOTES MECHANIZED CLEARING</p> <p>→ → FLOW DIRECTION</p> <p> TOP OF BANK</p> <p> EDGE OF WATER</p> <p> PROP. LIMIT OF CUT</p> <p> PROP. LIMIT OF FILL</p> <p> PROP. RIGHT OF WAY</p> <p>— NG — NATURAL GROUND</p> <p>— PL — PROPERTY LINE</p> <p>— TDE — TEMP. DRAINAGE EASEMENT</p> <p>— PDE — PERMANENT DRAINAGE EASEMENT</p> <p>— EAB — EXIST. ENDANGERED ANIMAL BOUNDARY</p> <p>— EPB — EXIST. ENDANGERED PLANT BOUNDARY</p> <p> WATER SURFACE</p> <p> LIVE STAKES</p> <p> BOULDER</p> <p>— COIR FIBER ROLLS</p>	<p> PROPOSED BRIDGE</p> <p> PROPOSED BOX CULVERT</p> <p> PROPOSED PIPE CULVERT 12"-48" PIPES 54" PIPES & ABOVE</p> <p>(DASHED LINES DENOTE EXISTING STRUCTURES)</p> <p> SINGLE TREE</p> <p>— WOODS LINE</p> <p> DRAINAGE INLET</p> <p> ROOTWAD</p> <p> RIP RAP</p> <p> ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE</p> <p> PREFORMED SCOUR HOLE</p> <p> LEVEL SPREADER (LS)</p> <p> DITCH / GRASS SWALE</p>
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NCDOT
DIVISION OF HIGHWAYS
CALDWELL COUNTY
PROJECT: 33172.1.1 (B-3624)
BRIDGE NO. 190 OVER
JOHNS RIVER
ON SR 1328

6/23/2008 12:14:46 PM R:\Hydro\callos\dgm\bermits\sur-face water\B3624_fly_d_gpm_wet_tsh.dgn

DETAIL OF CAUSEWAY FOR PROPOSED BRIDGE



VOLUME AND AREA OF TEMPORARY FILL (CLASS "1" RIP RAP) BELOW OHW
AREA = 0.05 Ac
VOLUME = 120 CY

NCDOT
 DIVISION OF HIGHWAYS
 CALDWELL COUNTY
 PROJECT: 33172.1.1 (B-3624)
 BRIDGE 190 OVER
 JOHNS RIVER
 ON SR 1328



6/23/2008 1:54:46 PM R:\Hydro\causes\vgm\permits\surFace water\B3624_Hyd_brm-tempew.dgn

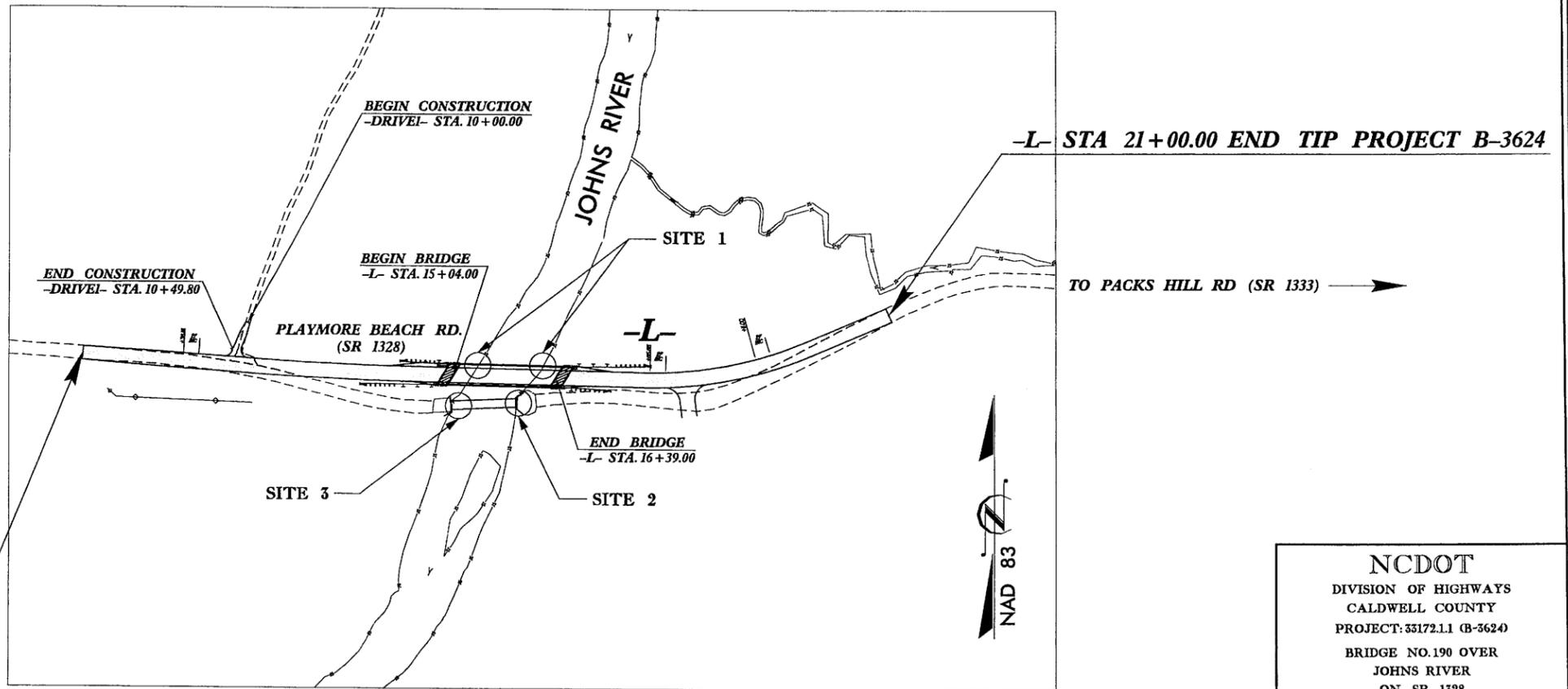
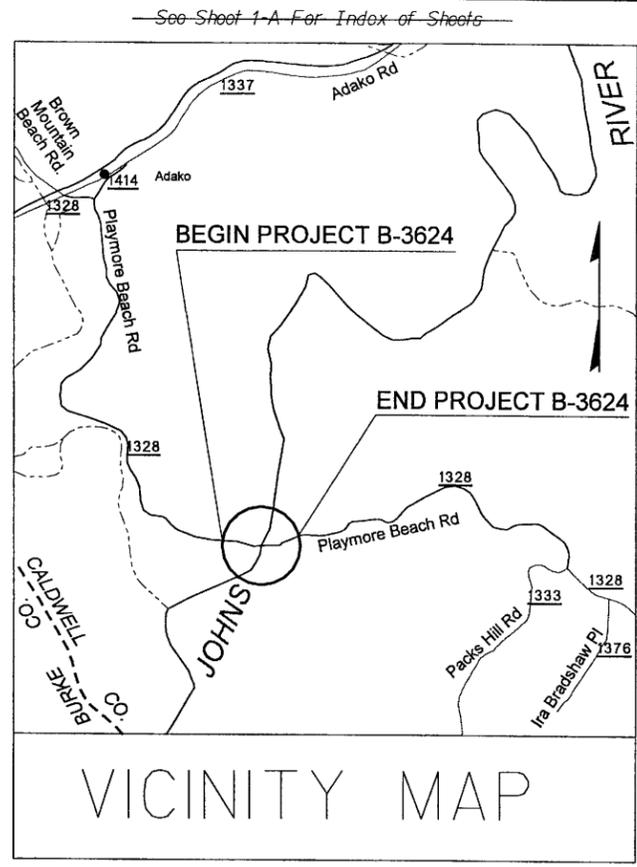
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3624	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33172.1.1	BRZ-1328(4)	P.E.	
33172.2.1	BRZ-1328(4)	RW, UTIL	



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
CALDWELL COUNTY

LOCATION: BRIDGE No. 190 OVER JOHNS RIVER ON SR 1328

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE



-L- STA 10+00.00 BEGIN TIP PROJECT B-3624

NAD 83

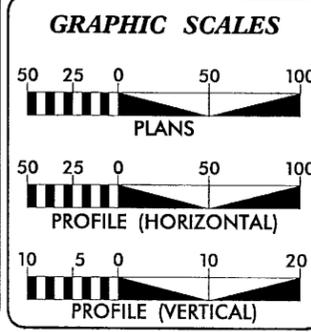
NCDOT
DIVISION OF HIGHWAYS
CALDWELL COUNTY
PROJECT: 33172.1.1 (B-3624)
BRIDGE NO. 190 OVER
JOHNS RIVER
ON SR 1328
SHEET 7 OF 10 6/23/08

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
THIS PROJECT IS NOT WITHIN MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TIP PROJECT: B-3624

CONTRACT:



DESIGN DATA

ADT 2008 =	277
ADT 2028 =	662
DHV =	12 %
D =	60 %
T =	3 % *
V =	40 MPH
FUNC CLASS =	LOCAL
* TTST 1	DUAL 2

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-3624 =	0.182 MILES
LENGTH OF STRUCTURE TIP PROJECT B-3624 =	0.026 MILES
TOTAL LENGTH OF TIP PROJECT B-3624 =	0.208 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 21, 2007

LETTING DATE:
SEPTEMBER 16, 2008

TONY HOUSER, PE
PROJECT ENGINEER

JASON TALLEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

SIGNATURE: _____

SIGNATURE: _____

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

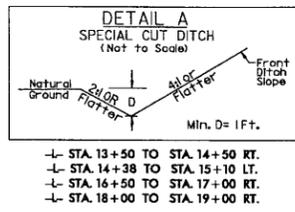
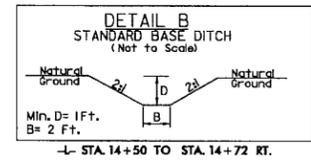
STATE HIGHWAY DESIGN ENGINEER

6/23/2008 R:\Hydraulics\dgn\permits\surface water\b3624_hyd.prm.tsh.dgn K&A Associates, P.C.

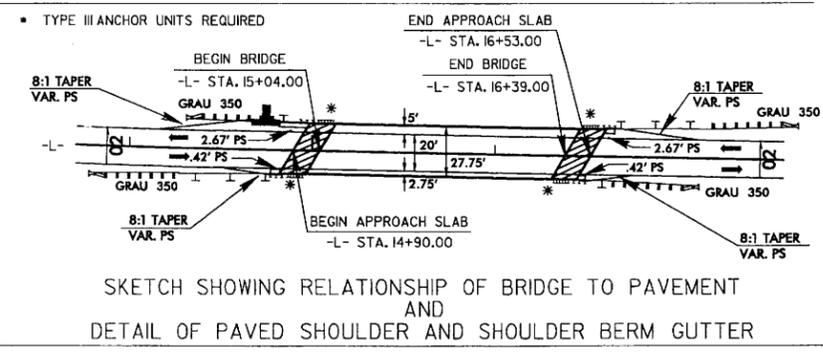
8/17/99

KO & ASSOCIATES, P.C.
Consulting Engineers
1011 SCHAUER DR., SUITE 202 RALEIGH, N.C. 27606
(919) 853-6566

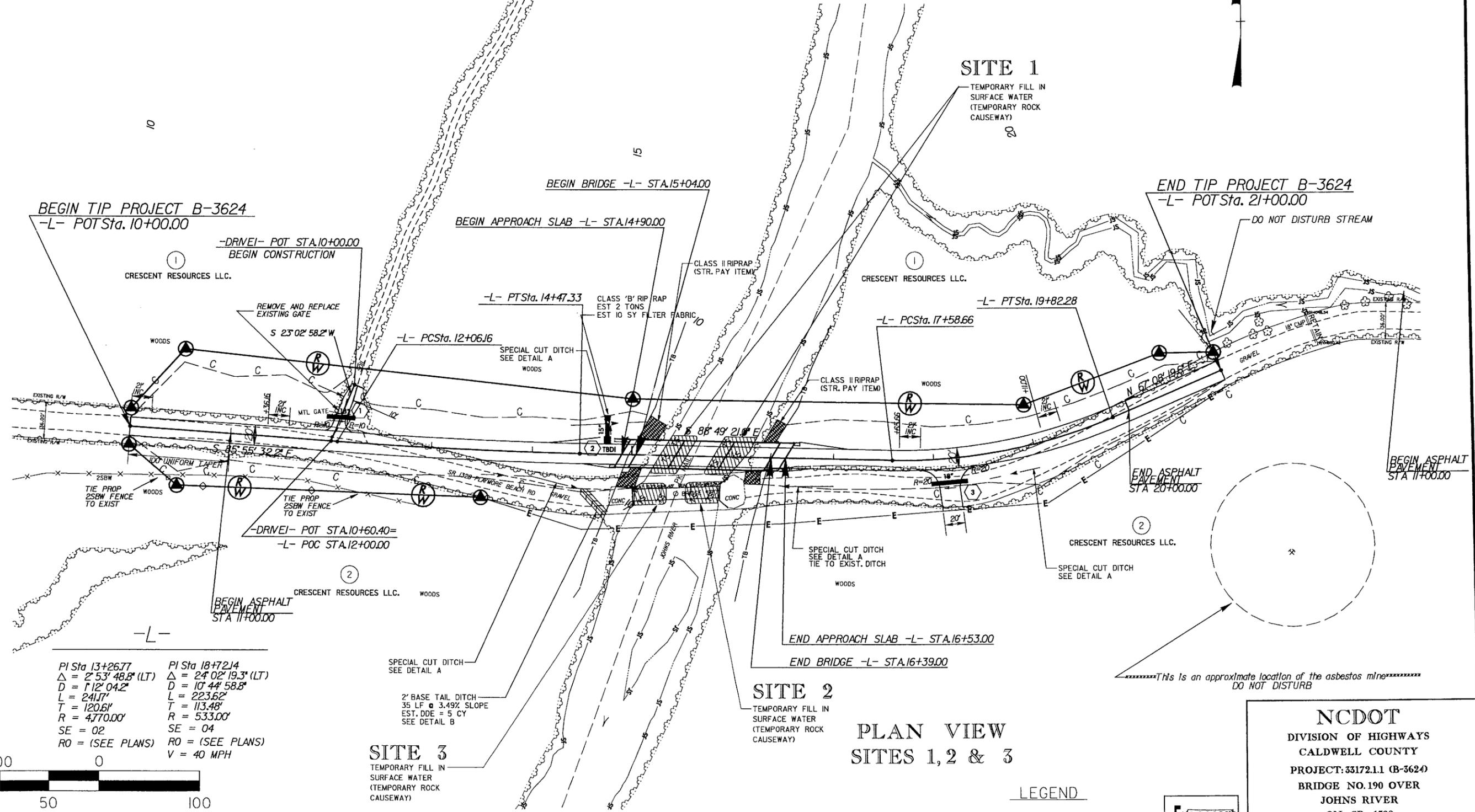
PROJECT REFERENCE NO. B-3624	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



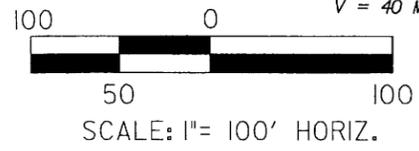
USE SHOULDER BERM GUTTER AT THE FOLLOWING LOCATIONS:
 -L- STA. 14+77.89 TO -L- STA. 14+84.14 RT
 -L- STA. 14+82.50 TO -L- STA. 15+00.38 LT
 -L- STA. 16+44.14 TO -L- STA. 16+50.39 RT
 -L- STA. 16+60.16 TO -L- STA. 16+66.41 LT



REVISIONS



PI Sta 13+26.77 Δ = 2° 53' 48.8" (LT) D = 112' 04.2" L = 241.7' T = 120.6' R = 4770.00' SE = 02 RO = (SEE PLANS)	PI Sta 18+72.14 Δ = 2° 02' 19.3" (LT) D = 10' 44' 58.8" L = 223.62' T = 113.48' R = 533.00' SE = 04 RO = (SEE PLANS) V = 40 MPH
---	---



SITE 3
TEMPORARY FILL IN SURFACE WATER (TEMPORARY ROCK CAUSEWAY)

SITE 2
TEMPORARY FILL IN SURFACE WATER (TEMPORARY ROCK CAUSEWAY)

**PLAN VIEW
SITES 1, 2 & 3**

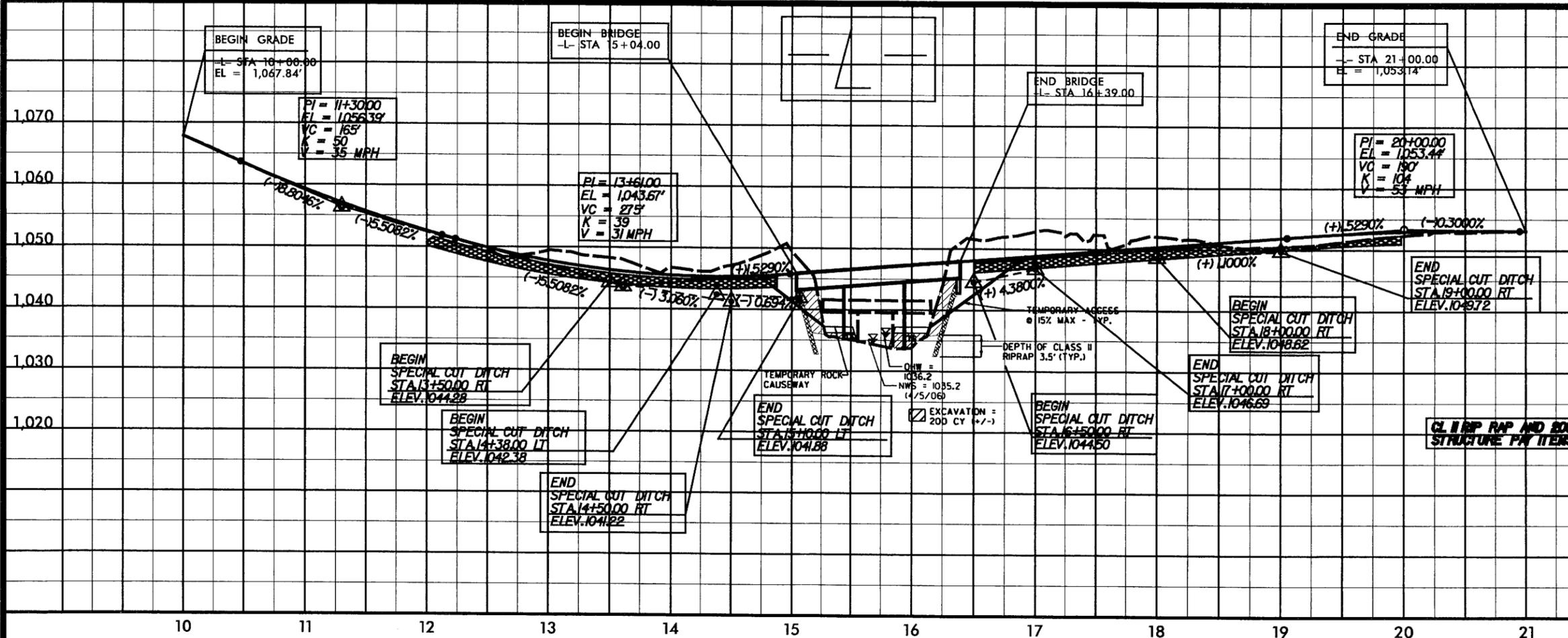
LEGEND
 DENOTES TEMPORARY SURFACE WATER IMPACT



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DIVISION OF HIGHWAYS
CALDWELL COUNTY
PROJECT: 33172.1.1 (B-3624)
BRIDGE NO. 190 OVER
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5/28/99
 6/23/2008
 C:\Users\permita\My Documents\Projects\Surface\water\B3624_hyd.prm.plt.psh05.dgn

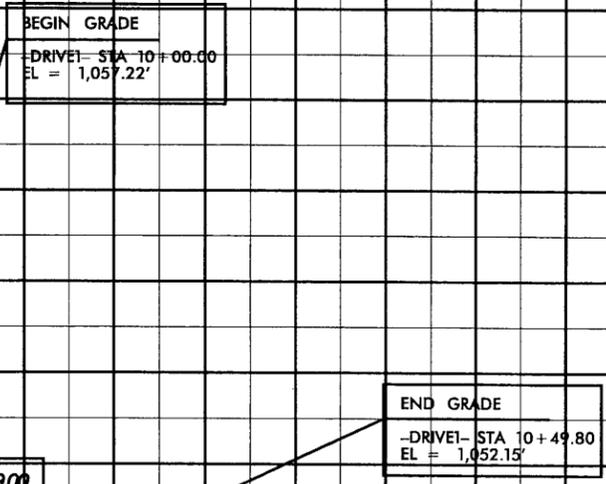
PROJECT REFERENCE NO. B-3624	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----
UNDERCUT	-----

-DRIVEI-

STRUCTURE HYDRAULIC DATA		
DRAINAGE AREA	= 114	SQ MI
DESIGN DISCHARGE	= 3900	CFS
DESIGN FREQUENCY	= 2	YRS
DESIGN HW ELEVATION	= 1044.0	FT
BASE DISCHARGE	= 18000	CFS
BASE HW ELEVATION	= 1055.5	FT
OVERTOPPING DISCHARGE	= 6721	CFS
OVERTOPPING FREQUENCY	= 5+	YRS
OVERTOPPING ELEVATION	= 1046.0	FT



LEGEND	
	DENOTES TEMPORARY SURFACE WATER IMPACT

NCDOT
 DIVISION OF HIGHWAYS
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SHEET 10 OF 10
 6/23/08