STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

June 12, 2008

MEMORANDUM TO: Mr. Terry R Gibson, PE
Division Six Engineer

FROM: Philip S. Harris, III, P.E., Unit Head
Natural Environment Unit
Project Development and Environmental Analysis Branch

SUBJECT: Bladen County, Replace Bridge No.8 over a canal on NC 210; T.I.P. Number B-4029; Federal Aid Project No. BRSTP-210 (6); State Project 8.1421501

Attached are the U.S. Army Corps of Engineers Section 404 Nationwide Permit Number 23 and the N.C. Division of Water Quality Section 401 General Water Quality Certification for the above referenced project. All environmental permits have been received for the construction of this project.

PSH/gyb

Attachment

Cc:

Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design
Dr. David Chang, P.E., Hydraulics
Mr. Randy Garris, P.E. State Contract Officer
Mr. Art McMillan, P.E., Highway Design
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. John F. Sullivan, FHWA
Ms. Beth Harmon, EEP
Mr. Rob Hanson, P.E., PDEA Eastern Region Unit Head
Mr. James J. Rerko, Division Environmental Officer

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

TELEPHONE: 919-733-3141
FAX: 919-715-1501
WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

PROJECT COMMITMENTS

Bladen County
Bridge No. 8 over a canal
on NC 210
Federal Aid Project No. BRSTP-210 (6)
State Project No. 8.1421501
WBS No. 33396.1.1
T.I.P Project No. B-4029

COMMITMENTS DEVELOPED THROUGH PROJECT DEVELOPMENT

There were no special commitments developed during project development for the proposed replacement of bridge No. 8.

COMMITMENTS DEVELOPED THROUGH PERMITTING

In lieu of dewatering for temporary pipe placement, a turbidity curtain is to be placed downstream of the pipe placement area. In the event of a total absence of flow, a turbidity curtain will need to be used upstream as well. Please see email correspondence (dated January 16, 2008) from the Division of Water Quality attached to the 401 certification included in this permit package for more information.

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action ID: 200801240 **TIP No:** B-4029 **State Project No:** 8.1421501 **County:** Bladen

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Applicant: North Carolina Department of Transportation

Address: Gregory J. Thorpe, Ph.D.
Environmental Management Director
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Telephone Number: (910) 733-3141

Size and Location of project (waterway, road name/number, town, etc.): 90 linear feet of 32 feet wide 2- span cored-slab bridge over an unnamed channel to Colley Creek, including 1600 linear feet of temporary on-site detour on NC 210 in Bladen County, North Carolina.

Description of Activity: To replace 61 linear feet of an existing 28 foot wide three-span bridge Number 8 with 90 linear feet of 32 feet wide 2-span cored-slab bridge. Approach fills will require the extension of an existing 36-inch RCP impacting 32 linear feet of stream channel. Traffic will be maintained on 1600 linear feet of temporary on-site detour during construction temporarily impacting 0.17 acres.

Applicable Law:
_X_ Section 404 (Clean Water Act, 33 U.S.C. 1344)
____ Section 10 (River and Harbor Act of 1899)

Authorization:
_23_ Nationwide Permit Number
____ Regional General Permit Number

Your work is authorized by this Regional General (RGP) or Nationwide (NWP) Permit provided it is accomplished in strict accordance with the attached conditions and your submitted plans. If your activity is subject to Section 404 (if Section 404 block above is checked), before beginning work you must also receive a Section 401 water quality certification from the N.C. Division of Environmental Management, telephone (919) 733-1786

Please read and carefully comply with the attached conditions of the RGP or NWP. Any violation of the conditions of the RGP or NWP referenced above may subject the permittee to a stop work order, a restoration order, and/or appropriate legal action.

This Department of the Army RGP or NWP verification does not relieve the permittee of the responsibility to obtain any other required Federal, State, or local approvals/permits. The permittee may need to contact appropriate State and local agencies before beginning work.

This verification and will remain valid until the expiration date identified below unless the nationwide authorization is modified, reissued or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all modifications. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Action ID: 200801240 **TIP No:** B-4029 **State Project No:** 8.1421501 **County:** Bladen

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

If there are any questions regarding this authorization or any of the conditions of the RGP or NWP, please contact the Corps Regulatory Official specified below.

Date 15 May 2008

Expiration Date of Verification 15 May 2011

Corps Regulatory Official Richard K. Spencer **Telephone No.** (910) 251-4172

CF: Brian Wrenn, NCDWQ
Ken Averitte, NCDWQ, Fayetteville Office
Amy James, NCDOT, PDEA
Jim Rerko, NCDOT Div 6

GENERAL PERMIT SPECIAL CONDITIONS

1. Bridge demolition and removal will be accomplished in accordance with "Best Management Practices For Construction and Maintenance Activities, Section 4.6" dated August 2003 and a copy will be provided to the contractor prior to the pre-construction conference.

2. No bridge demolition debris will be intentionally allowed to enter the waterway or wetlands.

3. Sediment and erosion control measures shall be in place prior to any demolition or land clearing activities.

4. Staging areas or the stockpiling of construction material shall not be located in any wetlands.

5. All temporary fill is to be placed on filter fabric and removed from the waterway in its entirety upon completion of the construction.

6. All construction spoil material shall be disposed of on an upland area and shall not be placed in any waterway or wetland.

Action ID Number:SAW 2008-01240
County:Columbus

Permittee: North Carolina Department of Transportation

Date Verification Issued: 15 May 2008

Project Manager: Richard K. Spencer

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT
WILMINGTON REGULATORY FIELD OFFICE
POST OFFICE BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____

Signature of Permittee **Date**

Determination of Jurisdiction:

☐ Based on preliminary information, there appear to be waters of the US including wetlands within theabove described project area. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

☐ There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

☒ There are waters of the US and/or wetlands within the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

☐ The jurisdictional areas within the above described project area have been identified under a previous action. Please reference jurisdictional determination issued ___. Action ID _____

Basis of Jurisdictional Determination: **Based on established OHWM in the unnamed channel (RPW).**

Appeals Information (This information applies only to approved jurisdictional determinations.)

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Division
Attn:Richard K. Spencer, Project Manager,
Wilmington Regulatory Field Office
P.O. Box 1890
Wilmington, North Carolina 28402-1890

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **14 July 2008**.

It is not necessary to submit an RFA form to the District Office if you do not object to the determination in this correspondence.

/s/
Corps Regulatory Official: Richard K. Spencer

Date **05/15/2008** Expiration Date **05/15/2013**

SURVEY PLATS, FIELD SKETCH, WETLAND DELINEATION FORMS, PROJECT PLANS, ETC., MUST BE ATTACHED TO THE FILE COPY OF THIS FORM, IF REQUIRED OR AVAILABLE.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL		
Applicant: North Carolina Department of Transportation	File Number: SAW 2008-01240	Date: 15 Mayl 2008
Attached is:		See Section below
☐ INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
☐ PROFFERED PERMIT (Standard Permit or Letter of permission)		B
☐ PERMIT DENIAL		C
☒ APPROVED JURISDICTIONAL DETERMINATION		D
☐ PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the distict engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, andwaive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 dys of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must bereceived by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact:
Mr. Richard K. Spencer, Regulatory Project Manager U.S. Army Corps of Engineers, Wilmington District Wilmington Regulatory Field Office P.O. Box 1890 Wilmington, North Carolina 228402	Mr. Mike Bell, Administrative Appeal Review Officer CESAD-ET-CO-R U.S. Army Corps of Engineers, South Atlantic Division 60 Forsyth Street, Room 9M15 Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

For appeals on Initial Proffered Permits and approved Jurisdictional Determinations send this form to:

District Engineer, Wilmington Regulatory Division, Attn:Richard K. Spencer, Project Manager, Wilmington Regulatory Field Office, P.O. Box 1890, Wilmington, North Carolina 28402-1890

For Permit denials and Proffered Permits send this form to:

Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Mike Bell, Administrative Appeal Officer, CESAD-ET-CO-R, 60 Forsyth Street, Room 9M15, Atlanta, Georgia 30303-8801

James, Amy E

From: Ken Averitte [Ken.Averitte@ncmail.net]
Sent: Wednesday, January 16, 2008 12:11 PM
To: Amy E. James; James J. Rerko; Spencer, Richard K SAW
Subject: Re: B-4029 and dewatering

Amy,

Jim Rerko and I revisited this site last week. We agreed that it is reasonable to waive the dewatering requirement on this particular job, with the following condition:

1. A turbidity curtain is are to be used downstream of the pipe placement area. If needed, due to the total absence of flow, a similar curtain may be required upstream of the work area as well.
This allowance does not authorize any violation of water quality standards, and is authorized due to the lack of significant flow in the channel.

As the General Certifications for NW 3 and NW 33 require, all fill associated with the temporary pipes is to be removed and natural grade re-established when the project is completed. Jim is going to secure a turbidity meter in order to monitor in-stream turbidity during pipe placement and removal. This information will be useful in making decisions on future waiver requests.

If you have questions, or if I can be of assistance, please advise.
thanks,
Ken

Amy E. James wrote:
> Hi Ken,
>
> If you could consider this request, I'd appreciate it (see below, in
> italics). The project (B-4029) is over an unnamed canal on NC 210 in
> the southeastern corner of Bladen County (the canal is a UT to Colly
> Creek). If you need a map, I could probably fax one to you.
>
> Thanks!
> Amy James
>
> Rob Ridings wrote:
>
>> Amy,
>> Sorry for not getting back to you....I honestly don't recall this
>> email reaching me.
>> Since this is a non-merger and non-IP project in Division 6, Ken
>> Averitte of the Fayetteville Regional Office will actually be our
>> reviewer for this project and the 401 application for it.
>> Basically though our GC's have dewatering as a standard. If Ken
>> agrees with DOT that there is practically no flow in this canal and
>> that installing the temporary pipes will not cause a sediment issue,
>> he has the authority to waiver dewatering for you.
>> Contact him to check and offer to look at it.
>> -Rob
>>
>>
>> Amy E. James wrote:
>>
>>> Hi Rob,
>>>
>>> Back in August I sent you an email about this project but I never
>>> heard anything back--now that I'm preparing the permit application
>>> (let is in September 08) I need your take on this so I know whether
>>> I need to apply for a NW 33. The message is below.

>>>
>>> I had a request from one of our hydro engineers regarding B-4029 in
>>> Bladen County (bridge over an unnamed canal on NC 210) and wanted to
>>> get your guidance. His request is as follows:
>>>
>>> /We are proposing temp pipes (2@72" CSP) for the on-site detour./
>>> /Is there a chance we could eliminate having to dewater for the/
>>> /pipe installation? The site is a canal with an indeterminate/
>>> /drainage area (flat). There is water at the site but little to/
>>> /no active flow. Seems that potential sediment (or sediment/
>>> /plume) would be a non-issue since water is stagnant./
>>>
>>> What is your take on this? If you need any more information, let me
>>> know.
>>> Thanks,
>>> Amy
>>>
>>>
>>> --
>>> Amy E. James
>>> Environmental Specialist
>>> Project Management Group; Eastern Region PDEA Natural Environment
>>> Unit NC Department of Transportation
>>> (919) 715-7216
>>> aejames@dot.state.nc.us
>>>
>>>
> --
> Amy E. James
> Environmental Specialist
> Project Management Group; Eastern Region
> PDEA Natural Environment Unit
> NC Department of Transportation
> (919) 715-7216
> aejames@dot.state.nc.us
>
>

Water Quality Certification N°. 3701

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 23 (APPROVED CATEGORICAL EXCLUSIONS) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

Water Quality Certification Number 3701 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality Regulations in 15A NCAC 2H, Section .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters and wetland areas as described in 33 CFR 330 Appendix A (B) (23) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. The category of activities shall include only Federally-approved Categorical Exclusion projects.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Any proposed fill or substantial modification of wetlands or waters (including streams) under this General Certification requires notification to the Division of Water Quality (the "Division"). Two (2) copies shall be submitted to the Division at the time of notification in accordance with 15A NCAC 2H .0501(a).

If any one (1) of the Conditions of Certification cannot be met, or, if the activities meet any one (1) of the following thresholds, then require *written approval* from the Division of Water Quality (the "Division") is required:

I. Stream and/or buffer impacts:
   a. Stream impacts equal or greater than 40 linear feet.
   b. Any impacts to streams and/or buffers in the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application [in accordance with 15A NCAC 2B .0200]), *unless* the activities are listed as "EXEMPT" from these Rules.

II. Impacts to waters of equal to or greater than one-third (1/3) of an acre.

III. Wetland impacts:
   a. Equal to or greater than one-third (1/3) acre East of Interstate-95.
   b. Equal to or greater than one-tenth (1/10) acre West of Interstate-95.
   c. Any impacts to wetlands adjacent to waters designated as: ORW, SA, WS-I, WS-II, or Trout, or wetlands contiguous to waters designated as a North Carolina or National Wild and Scenic River.
   d. Any impacts to coastal wetlands [15A NCAC 7H .0205)], or Unique Wetlands (UWL) [15A NCAC 2H .0506].

IV. If the activity is associated with or in response to a Notice of Violation or an enforcement action initiated by the Division and/or the Division of Land Resources.

V. Projects with any impacts to streams, wetlands, and/or waters that have received a Notice of Violation from the Division and/or Division of Land Resources.

In accordance with North Carolina General Statute Section 143-215.3D(e), any requirement for written approval for a 401 Water Quality Certification must include the appropriate fee. If a project also requires a CAMA Permit, then one payment to both agencies shall be submitted and will be the higher of the two fees.

Water Quality Certification N°. 3701

Conditions of Certification:

1. No Impacts Beyond those Authorized in the Written Approval or Beyond the Thresholds for use of This Certification

   No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the footprint of the impacts authorized in the written approval or beyond the thresholds allowed for use of this General Certification, including incidental impacts. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control Best Management Practices, shall be performed so that no violations of state water quality standards, statutes, or rules occur.

2. Standard Erosion and Sediment Control Practices

   Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices:

   a. Design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual.* The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
   b. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual.*
   c. Reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.
   d. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times, except for publicly funded linear transportation projects when materials can be accessed offsite in a timely manner.
   e. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNA's), Trout (Tr), SA, WS-I, WS-II, High Quality (HQW), or Outstanding Resource (ORW) waters, then the sediment and erosion control requirements contained within *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) supercede all other sediment and erosion control requirements.

3. No Sediment and Erosion Control Measures in Wetlands or Waters

   Sediment and erosion control measures should not be placed in wetlands or waters outside of the permitted impact areas without prior written approval by the Division. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. All sediment and erosion control devices shall be removed and the natural grade restored within two (2) months of the date that the Division of Land Resources or locally delegated program has released the project.

4. Construction Stormwater Permit NCG010000

   Upon the approval of an Erosion and Sedimentation Control Plan issued by the Division of Land Resources (DLR) or a DLR delegated local erosion and sedimentation control program, an NPDES General stormwater permit (NCG010000) administered by the Division is automatically issued to the project. This General Permit allows stormwater to be discharged during land disturbing construction activities as stipulated by conditions in the permit. If your project is covered by this permit [applicable to construction projects that disturb one (1) or more acres], full compliance with permit conditions including the sedimentation control plan, self-monitoring, record keeping and reporting requirements are required. A copy of this permit and monitoring report forms may be found at *http://h2o.enr.state.nc.us/su/Forms_Documents.htm*.

   NCDOT shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit.

5. Construction Moratoriums and Coordination

   If activities must occur during periods of high biological activity (i.e. sea turtle or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. This condition can be waived through written concurrence on a case-by-case basis upon reasonable justification.

   All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) to lessen impacts on trout, anadromous fish, larval/post-larval fishes and crustaceans, or other aquatic species of concern must be obeyed. This condition can be waived through written concurrence on a case-by-case basis upon reasonable justification.

   Work within the twenty-five (25) designated trout counties or identified state or federal endangered or threatened species habitat shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

6. If concrete is used during the construction, then a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life/fish kills.

7. Riparian Area Protection (Buffer) Rules

   Activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman, or Catawba River Basins (or any other basin with buffer rules), shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0233, .0259, .0250, and .0243, and shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices. All riparian area protection rule requirements, including diffuse flow requirements, must be met.

8. Water Supply Watershed Buffers

   The 100-foot wide (high-density development) or the 30-foot wide vegetative buffer (all other development) shall be maintained adjacent to all perennial waters except for allowances as provided in the Water Supply Watershed Protection Rules [15A NCAC 2B .0212 through .0215].

9. Work in the Dry

   All work in or adjacent to stream waters shall be conducted in a dry work area. Approved best management practices from the most current version of the NC Sediment and Erosion Control Manual, or the NC DOT Construction and Maintenance Activities Manual, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Channel realignments shall be constructed by excavating the new channel from downstream to upstream before connecting it to the existing channel. Exceptions to this condition require submittal to, and approval by, the Division of Water Quality.

10. For all activities requiring re-alignment of streams, a stream relocation plan must be included for written Division approval. Relocated stream designs should include the same dimensions, patterns and profiles as the existing channel (or a stable reference reach if the existing channel is unstable), to the maximum extent practical. The new channel should be constructed in the dry and water shall not be turned into the new channel until the banks are stabilized. Vegetation used for permanent bank stabilization shall be limited to native woody species, and should include establishment of a 30-foot wide wooded and an adjacent 20-foot wide vegetated buffer on both sides of the relocated channel to the maximum extent practical. A transitional phase incorporating appropriate erosion control matting materials and seedling establishment is allowable. Rip-rap, A-Jacks, concrete, gabions or other hard structures may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage. Please note that if the stream relocation is conducted as a stream restoration as defined in the US Army Corps of Engineers Wilmington District, April 2003 *Stream Mitigation Guidelines* (or its subsequent updates), the restored length can be used as compensatory mitigation for the impacts resulting from the relocation.

11. Placement of Culverts and Other Structures in Waters and Wetlands

    The application must include construction plans with cross-sectional details in order to indicate that the current stability of the stream will be maintained or enhanced (i.e., not result in head cuts).

    Culverts required for this project shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. Existing stream dimensions (including the cross section dimensions, pattern, and longitudinal profile) must be maintained above and below locations of each culvert. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life unless otherwise justified and approved by the Division.

    Installation of culverts in wetlands must ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. Additionally, when roadways, causeways or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges must be provided to maintain

the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

Any rip rap required for normal pipe burial and stabilization shall be buried such that the original stream elevation is restored and maintained.

The establishment of native, woody vegetation and other soft stream bank stabilization techniques must be used where practicable instead of rip-rap or other bank hardening methods.

12. Compensatory Mitigation
In accordance with 15A NCAC 2H .0506 (h), compensatory mitigation maybe required for losses of 150 linear feet or more of streams and/or one (1) acre or more of wetlands. For linear, public transportation projects, impacts equal to or exceeding 150 lines feet per stream may require mitigation.

In watersheds classified as: ORW, HQW, Tr, WS-I, and WS-II, compensatory stream mitigation may be required at a 1:1 ratio for not only perennial but also intermittent stream impacts equal to or exceeding 150 feet and that require application and written approval from the Division, unless the project is a linear, publicly-funded transportation project, which has a 150-foot per-stream impact allowance.

Buffer mitigation may be required for any project with Buffer Rules in effect at the time of application for buffer impacts resulting from activities classified as "allowable with mitigation" within the Buffer Rules or require a variance under the Buffer Rules.

A determination of buffer, wetland and stream mitigation requirements shall be made for any General Certification for this Nationwide Permit.

When compensatory mitigation is required for a project, the mitigation plans must be approved by the Division, in writing, before the impacts approved by this Certification occur. The most current design and monitoring protocols from the Division shall be followed and written plans submitted for the Division approval as required in those protocols. Alternately, the Division will accept payment into an in-lieu fee program or mitigation bank. Before any permanent building or structure on site is occupied, the mitigation plan must be implemented and/or constructed or proof of payment to a mitigation bank or in-lieu fee program must be provided to the Division. In the case of public road projects, the mitigation plan must be implemented, before the road is opened to the traveling public whenever practical or at the earliest reasonable time during the construction of the project

13. If an environmental document is required under NEPA or SEPA, then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse.

14. For activities requiring written approval, additional site-specific conditions may be added to the cover letter projects in order to ensure compliance with all applicable water quality and effluent standards.

15. Certificate of Completion

When written authorization is required for use of this certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return the certificate of completion attached to the approval. One copy of the certificate shall be sent to the DWQ Central Office in Raleigh at 1650 Mail Service Center, Raleigh, NC, 27699-1650.

16. This General Certification shall expire three (3) years from the date of issuance of the written approval or on the same day as the expiration date of the corresponding Nationwide and Regional General Permits. In accordance with General Statute 136-44.7B, certifications issued to the NCDOT shall expire only upon expiration of the federal 404 Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. If the construction process for approved activities will overlap the expiration and renewal date of the corresponding 404 Permit and the Corps allows for continued use of the 404 Permit, then the General Certification shall also remain in effect without requiring re-application and re-approval to use this Certification for the specific impacts already approved.

17. The applicant/permittee and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If the Division determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then the Division may reevaluate and modify this General Water Quality Certification.

Non-compliance with or violation of the conditions herein set forth by a specific fill project shall result in revocation of this General Certification for the project and may result in criminal and/or civil penalties.

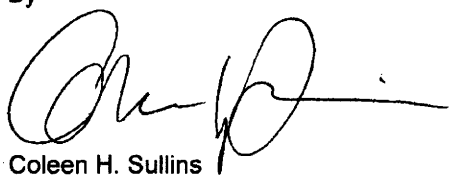
The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity , if it is determined that the project is likely to have a significant adverse effect upon water quality including state or federally listed endangered or threatened aquatic species or degrade the waters so that existing uses of the wetland, stream or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date: November 1, 2007

DIVISION OF WATER QUALITY

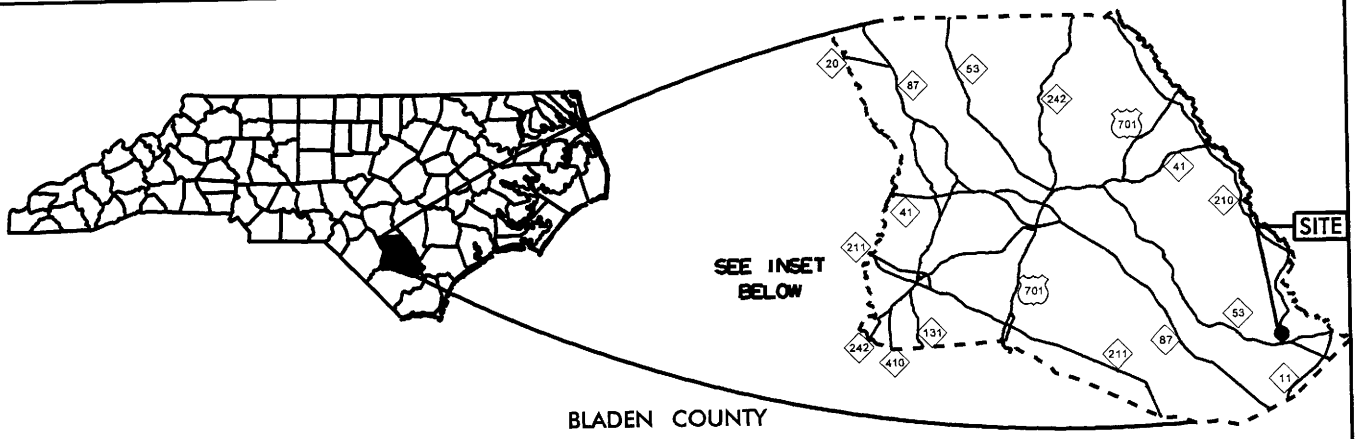
By

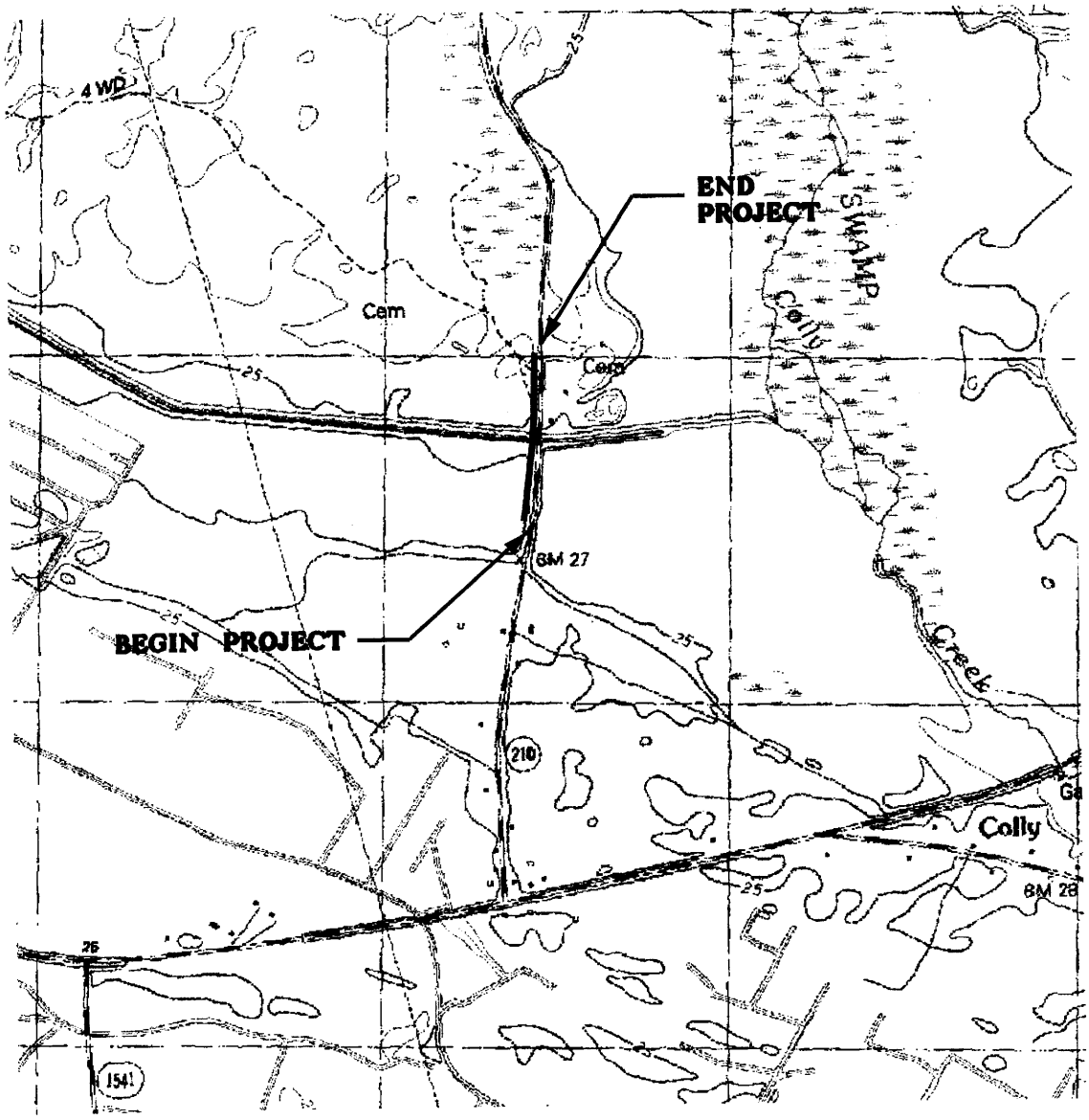


Coleen H. Sullins

Director

History Note: Water Quality Certification (WQC) Number 3701 replaces Water Quality Certification Number 2670 issued on January 21, 1992, WQC Number 2734 issued on May 1 1993, WQC Number 3107 issued on February 11, 1997, WQC Certification Number 3361 issued March 18, 2002, WQC Certification Number 3403 issued March 2003, and WQC Number 3632 issued March 2007. This General Certification is rescinded when the Corps of Engineers re-authorizes Nationwide Permit 23 or when deemed appropriate by the Director of the DWQ.





WETLAND IMPACTS
VICINITY MAP

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

BLADEN COUNTY
PROJECT: 33396.1.1 (B-4029)
BRIDGE NO. 8 ON NC 210
OVER DIVERSON CANEL

SHEET ___ OF ___ **11/20/07**

Permit Drawing

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)
1	13+50 -L-	42" PIPE					0.04	0.01	<0.01	32	16	
2	DET-	42" CSP PIPE		0.07					0.02		85	
3	19+50 -DET-	2 AT 72" CSP PIPE							0.08		97	
TOTALS:			0.00	0.07	0.00	0.00	0.04	0.01	0.10	32	198	

10 SQ FT OF IMPACTS FOR PROPOSED PIERS

< 0.01 acres of Temporary Fill in Wetlands in the Hand Clearing area for erosion control measures.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

BLADEN COUNTY
PROJECT: 33396.1.1 (B-4029)

SHEET January-08

ATN Revised 3/31/05

Permit Drawing
Sheet 2 of 10

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	JAMES R. ROOKS ET UX	24461 E. NC 210 HWY KELLY, NC 28448-0151
2	ETHEL M. SQUIRES	19029 NC 53E KELLY, NC 28448

NCDOT

DIVISION OF HIGHWAYS

BLADEN COUNTY

PROJECT: 8339611 (B-4029)
CONCORD-KANNAPOLIS
BRIDGE NO. 8 ON NC 210
OVER DIVERSON CANAL

SHEET OF 11/20/07

Permit Drawing
Sheet 3 of 10

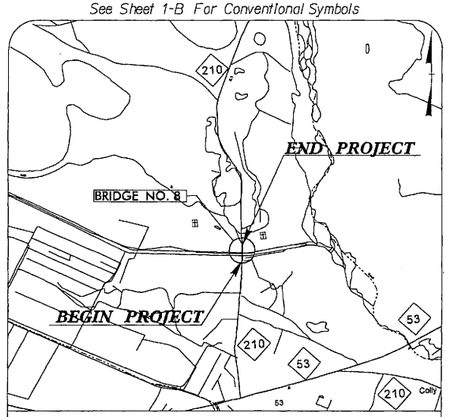
09/08/99

TIP PROJECT: B-4029

CONTRACT:

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

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



VICINITY MAP

(THIS PROJECT IS NOT INCLUDED WITHIN ANY MUNICIPAL BOUNDARIES)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BLADEN COUNTY

LOCATION: BRIDGE NO. 8 ON NC 210 OVER DIVERSON CANAL

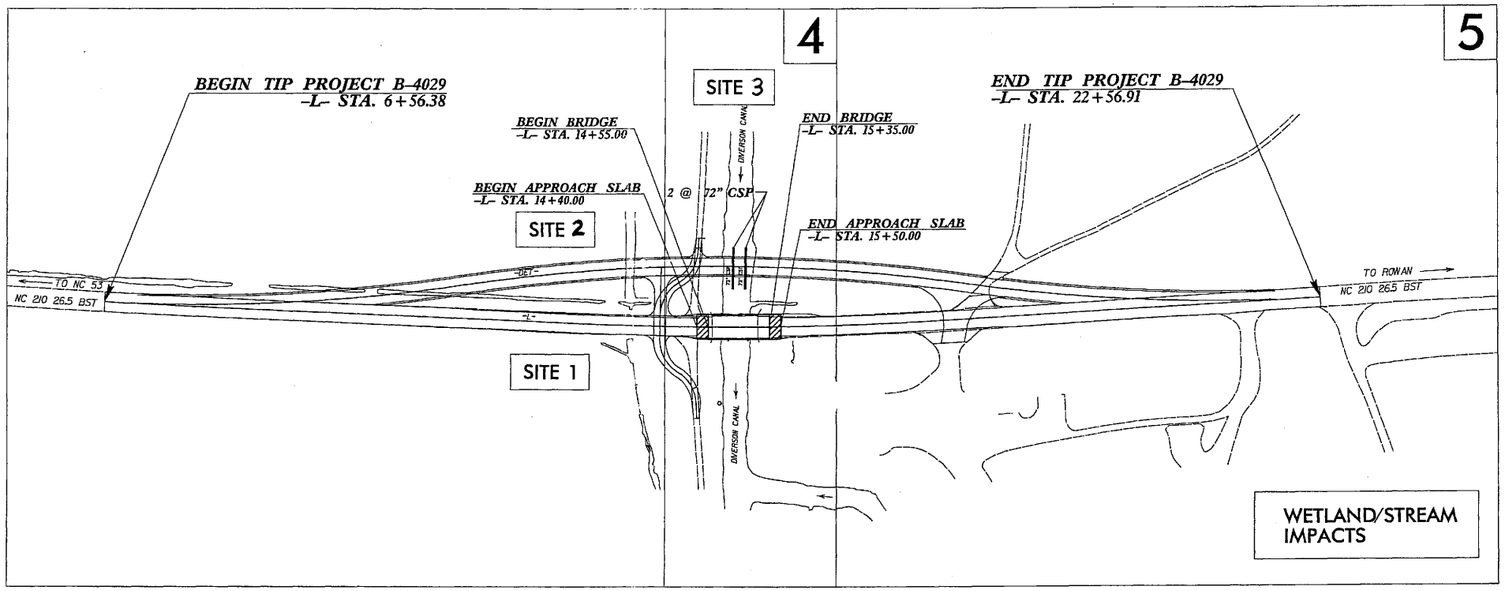
TYPE OF WORK: GRADING, DRAINAGE, PAVING, & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4029	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33396.1.1	BRSTP-210 (6)	PE
33396.2.1	BRSTP-210 (6)	R/W & UTIL.

R/W PLANS

NAD 83/95



NCDOT CONTACT : CATHY HOUSER, P.E.
ROADWAY DESIGN-ENGINEERING COORDINATION

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 2008 = 1083
ADT 2028 = 1691
DHV = 10 %
D = 60%
T = 20% *
V = 60 MPH
* TTST 15% DUAL 5%
FUNC. CLASS = RURAL MAJOR COLLECTOR

PROJECT LENGTH

Length Roadway TIP Project B-4029 = 0.288 Miles
Length Structure TIP Project B-4029 = 0.015 Miles
Total Length TIP Project B-4029 = 0.303 Miles

Prepared In the Office of:
THE LPA GROUP TRANSPORTATION CONSULTANTS
THE LPA GROUP of North Carolina, p.a.
5000 Falls of Neuse Rd., Suite 304
Raleigh, North Carolina 27609

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: SEPTEMBER 21, 2007

LETTING DATE: SEPTEMBER 16, 2008

JEANNE K. RICHTER, P.E.
PROJECT ENGINEER

JODY L. COLE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

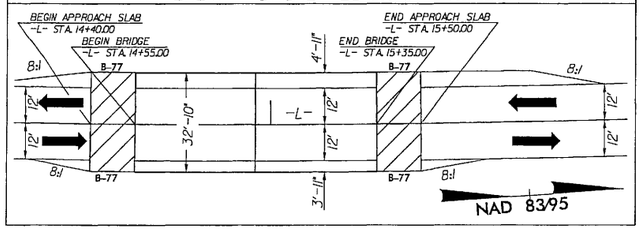
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

Permit Drawing
Sheet 4 of 10

8/17/99

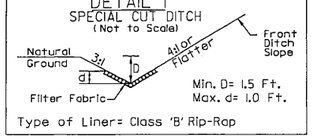
PAVEMENT - BRIDGE RELATIONSHIP SKETCH



PI Sta 15+21.02
Δ = 5° 46' 06.9" (LT)
D = 1° 13' 41.7"
L = 469.66'
T = 235.03'
R = 4,664.88'
DS = 60 MPH
e(max) = .03

-L-
PI Sta 7+72.48
Δ = 0° 42' 48.1" (LT)
D = 0° 18' 26.0"
L = 232.19'
T = 116.10'
R = 18,649.70'
DS = 60 MPH
e(max) = .03

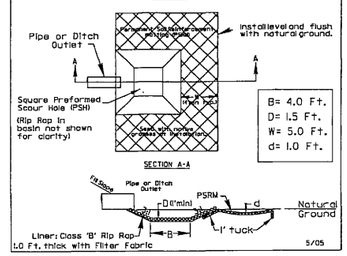
DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)



Type of Liner= Class 'B' Rip-Rap

FROM STA. 14+00.00 TO STA.14+68.00 -L- LT.

DETAIL #2
PREFORMED SCOUR HOLE
-L- STA. 15+83.50 LT.



BM# 2

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

HC HC DENOTES HAND CLEARING

SPECIAL CUT DITCH LINED W/CLASS 'B' RIP RAP STA 14+00 TO STA. 14+68-L- LT SEE DETAIL #1

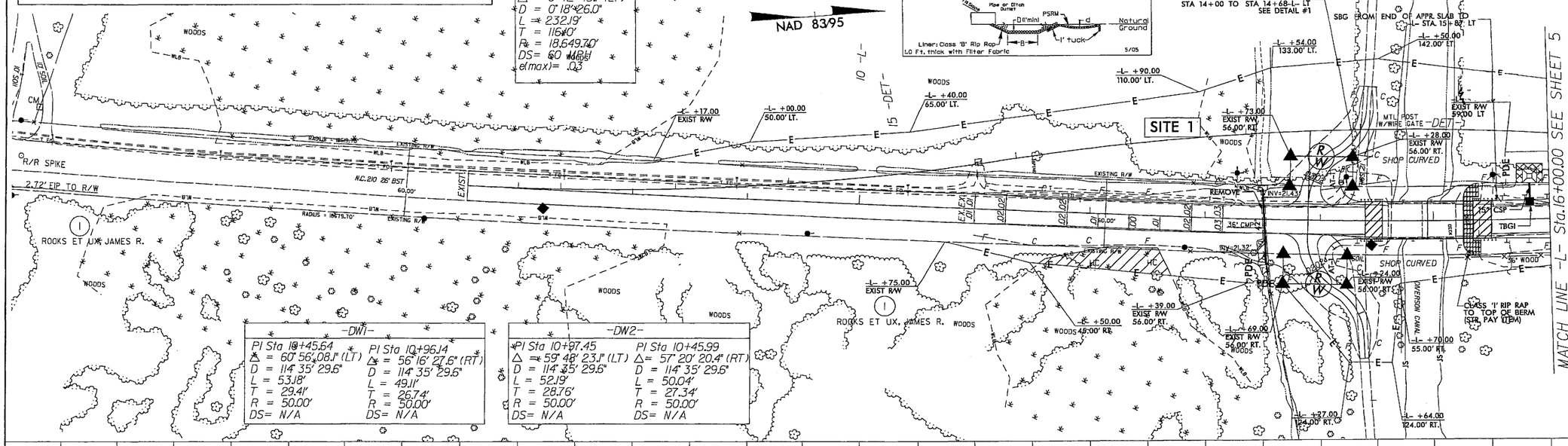
SQUIRES, ETHEL M. (2)

NAD 83/95

ENGLISH

PROJECT REFERENCE NO.	SHEET NO.
B-4029	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-DW1-

PI Sta 18+45.64	PI Sta 10+96.14
Δ = 60° 56' 08.1" (LT)	Δ = 56° 16' 27.6" (RT)
D = 114° 35' 29.6"	D = 114° 35' 29.6"
L = 53.18'	L = 49.11'
T = 29.41'	T = 26.74'
R = 50.00'	R = 50.00'
DS= N/A	DS= N/A

-DW2-

PI Sta 10+97.45	PI Sta 10+45.99
Δ = 59° 48' 23.1" (LT)	Δ = 57° 20' 20.4" (RT)
D = 114° 35' 29.6"	D = 114° 35' 29.6"
L = 52.19'	L = 50.04'
T = 28.76'	T = 27.34'
R = 50.00'	R = 50.00'
DS= N/A	DS= N/A

BM# 1 ELEV. 31.22'
N 262,720.1421 E 2,218,967.4783
R/R SPIKE SET IN 18" PINE
-BL- STA 6+18.43 320' LT

NOTE: BENCH MARK #1 IS LOCATED OUTSIDE OF THE PROJECT LIMITS.

-L-

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= HISTORICAL	
DESIGN FREQUENCY	= N/A	YRS
DESIGN HW ELEVATION	= 25.4	FT
BASE DISCHARGE	= N/A	CFS
BASE FREQUENCY	= N/A	YRS
BASE HW ELEVATION	= N/A	FT
OVERTOPPING DISCHARGE	= + 1,200	CFS
OVERTOPPING FREQUENCY	= + 500	YRS
OVERTOPPING ELEVATION	= 27	FT

BM# 2 ELEV. 26.46'
N 263,945.8062 E 2,218,726.1657
R/R SPIKE SET IN 12" PINE
-BL- STA 18+04.38 368.68 LT
-L- STA 14+32.25 348.25 LT
-DET- STA 19+03.96 268.36 LT

BEGIN TIP PROJECT B-4029
-L- Sta.6+56.38
BEGIN OVERLAY

END OVERLAY
BEGIN GRADE
-L- Sta.11+00.00
ELEV. = 26.35'

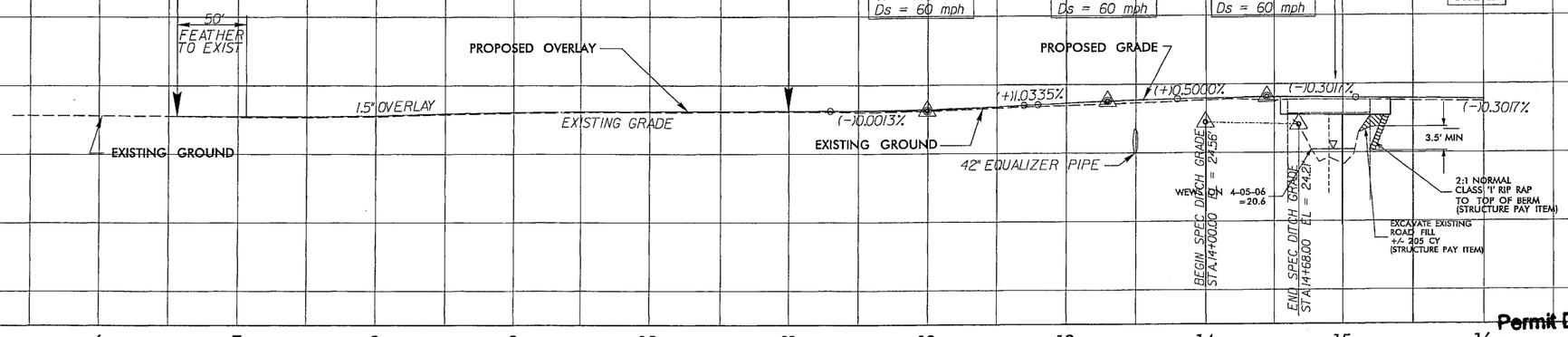
PI = 12+00.00
EL = 26.35'
VC = 150'
K = 145
Ds = 60 mph

PI = 13+30.00
EL = 27.70'
VC = 100'
K = 187
Ds = 60 mph

PI = 14+45.00
EL = 28.27'
VC = 130'
K = 162
Ds = 60 mph

CL STA 14+95.0
80' OAL 21" CORED SLAB
1@45', 1@35'
GP = 28.1

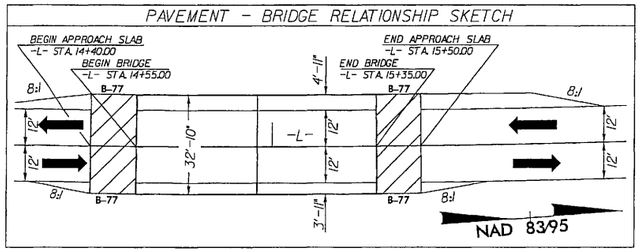
SITE 2



Permit Drawing
Sheet 5 of 10

8/17/99

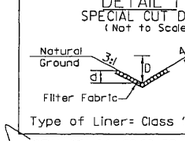
PAVEMENT - BRIDGE RELATIONSHIP SKETCH



PI Sta 15+21.02
Δ = 5° 46' 06.9" (LT)
D = 1° 13' 41.7"
L = 469.66'
T = 235.03'
R = 4,664.88'
DS = 60 MPH
e(max) = .03

PI Sta 7+72.48
Δ = 6° 42' 48.1" (LT)
D = 0° 18' 26.0"
L = 232.19'
T = 116.10'
R = 18,649.70'
DS = 60 MPH
e(max) = .03

DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)

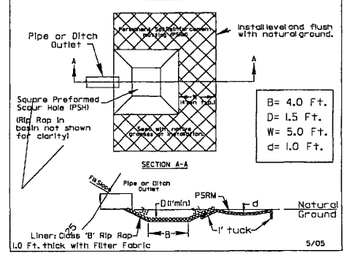


Type of Liner= Class 'B' Rip-Rap

FROM STA. 14+00.00 TO STA.14+68.00 -L- LT.

(2) SOUIRES, ETHEL M.

DETAIL #2
PREFORMED SCOUR HOLE
-L- STA. 15+83.50 LT.
PLAN VIEW



B= 4.0 Ft.
D= 1.5 Ft.
W= 5.0 Ft.
d= 1.0 Ft.

5/05

BM# 2

ENGLISH

S/S DENOTES IMPACTS IN SURFACE WATER

S/S DENOTES TEMPORARY IMPACTS IN SURFACE WATER

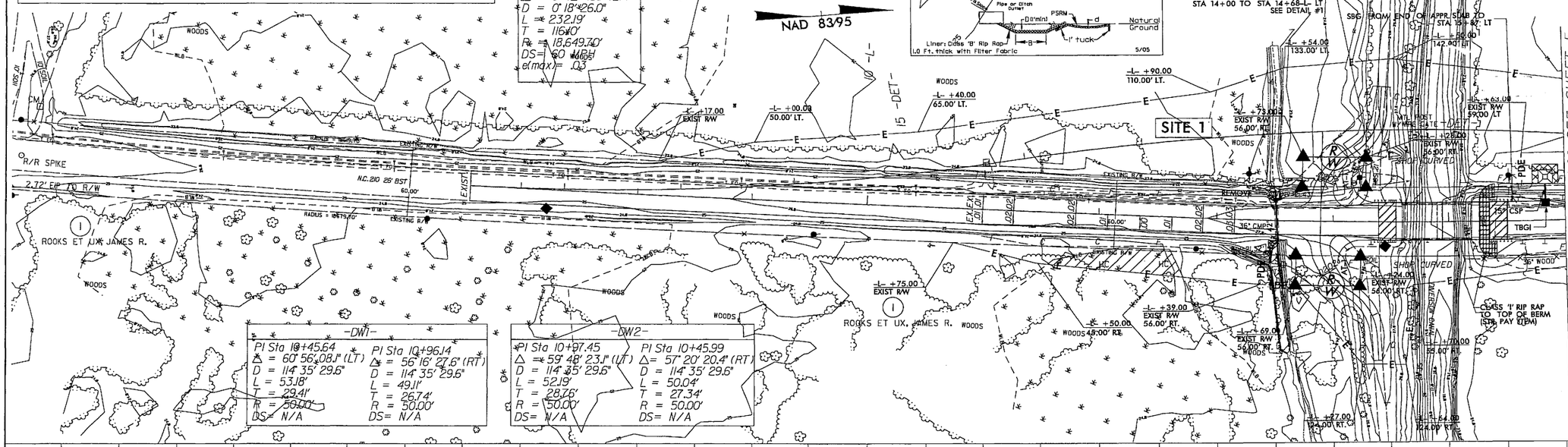
HC/HC DENOTES HAND CLEARING

SPECIAL CUT DITCH LINED W/CLASS 'B' RIP RAP STA 14+00 TO STA 14+68-L- LT SEE DETAIL #1

SBG FROM END OF APPR SLAB TO STA. 15+50 -L- LT

PROJECT REFERENCE NO.	SHEET NO.
B-4029	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-DW1-

PI Sta 10+45.64
Δ = 60° 56' 08.1" (LT)
D = 114° 35' 29.6"
L = 53.18'
T = 29.41'
R = 50.00'
DS = N/A

PI Sta 10+96.14
Δ = 56° 16' 27.6" (RT)
D = 114° 35' 29.6"
L = 49.11'
T = 26.74'
R = 50.00'
DS = N/A

-DW2-

PI Sta 10+97.45
Δ = 59° 48' 23.1" (LT)
D = 114° 35' 29.6"
L = 52.19'
T = 28.76'
R = 50.00'
DS = N/A

PI Sta 10+45.99
Δ = 57° 20' 20.4" (RT)
D = 114° 35' 29.6"
L = 50.04'
T = 27.34'
R = 50.00'
DS = N/A

BM# 1 ELEV. 31.22'
N 262,720.1421 E 2,218,967.4783
R/R SPIKE SET IN 18" PINE
-BL- STA 6+18.43 320' LT

NOTE: BENCH MARK #1 IS LOCATED OUTSIDE OF THE PROJECT LIMITS.

-L-

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= HISTORICAL	
DESIGN FREQUENCY	= N/A	YRS
DESIGN HW ELEVATION	= 25.4	FT
BASE DISCHARGE	= N/A	CFS
BASE FREQUENCY	= N/A	YRS
BASE HW ELEVATION	= N/A	FT
OVERTOPPING DISCHARGE	= + 1,200	CFS
OVERTOPPING FREQUENCY	= + 500	YRS
OVERTOPPING ELEVATION	= 27	FT

BM# 2 ELEV. 26.46'
N 263,945.8062 E 2,218,726.1657
R/R SPIKE SET IN 12" PINE
-BL- STA 18+04.38 368.68 LT
-L- STA 14+32.25 348.25 LT
-DET- STA 19+03.96 268.36 LT

BEGIN TIP PROJECT B-4029
-L- Sta.6+56.38
BEGIN OVERLAY

END OVERLAY
BEGIN GRADE
-L- Sta.11+00.00
ELEV. = 26.35'

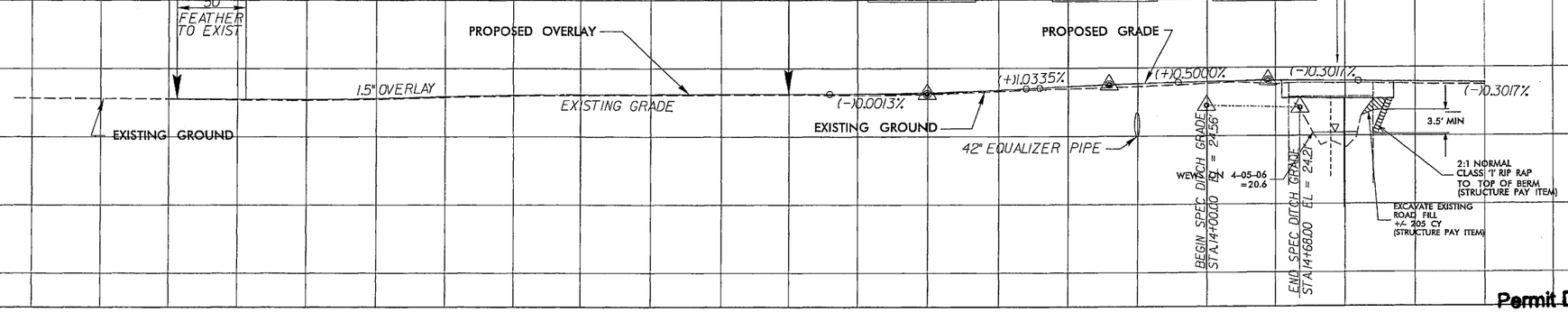
PI = 12+00.00
EL = 26.35'
VC = 150'
K = 145
Ds = 60 mph

PI = 13+30.60
EL = 27.70'
VC = 100'
K = 187
Ds = 60 mph

PI = 14+45.00
EL = 28.27'
VC = 130'
K = 162
Ds = 60 mph

CL STA 14+95.0
80' OAL 21" CORED SLAB
1@45', 1@35'
GP = 28.1

SITE 2



Permit Drawing
Sheet 6 of 10

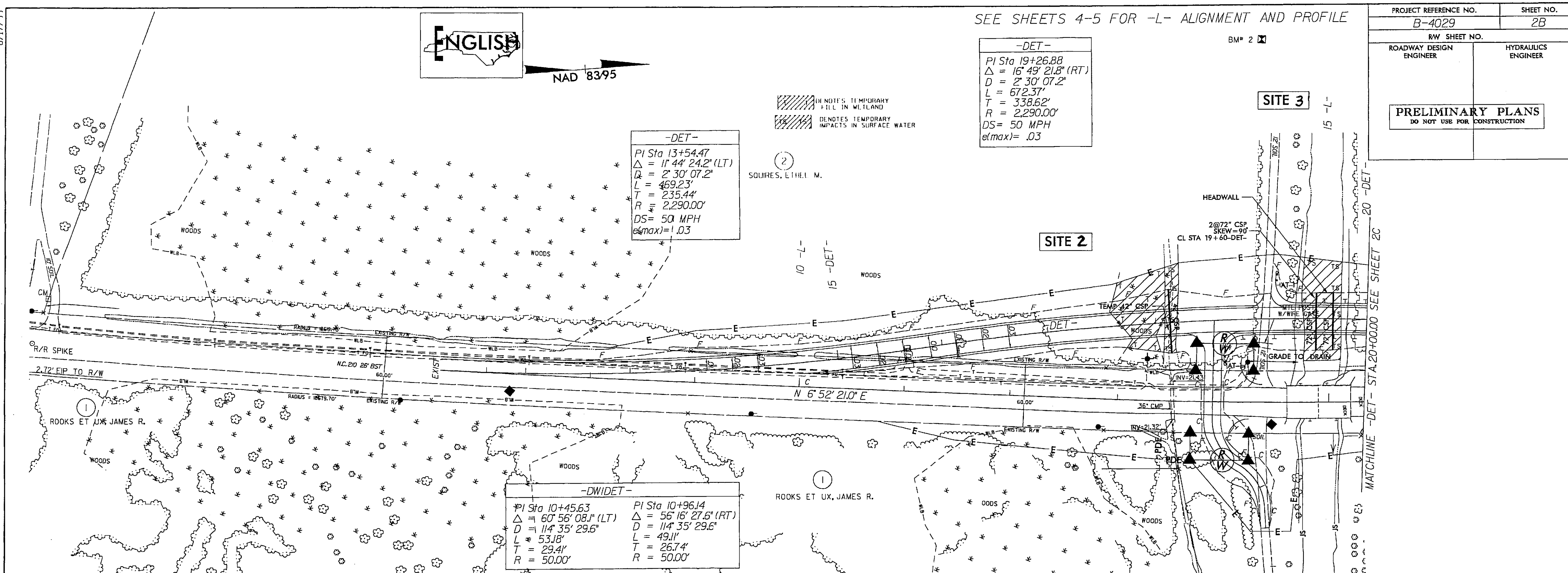
PROJECT REFERENCE NO.	SHEET NO.
B-4029	2B

R/W SHEET NO.

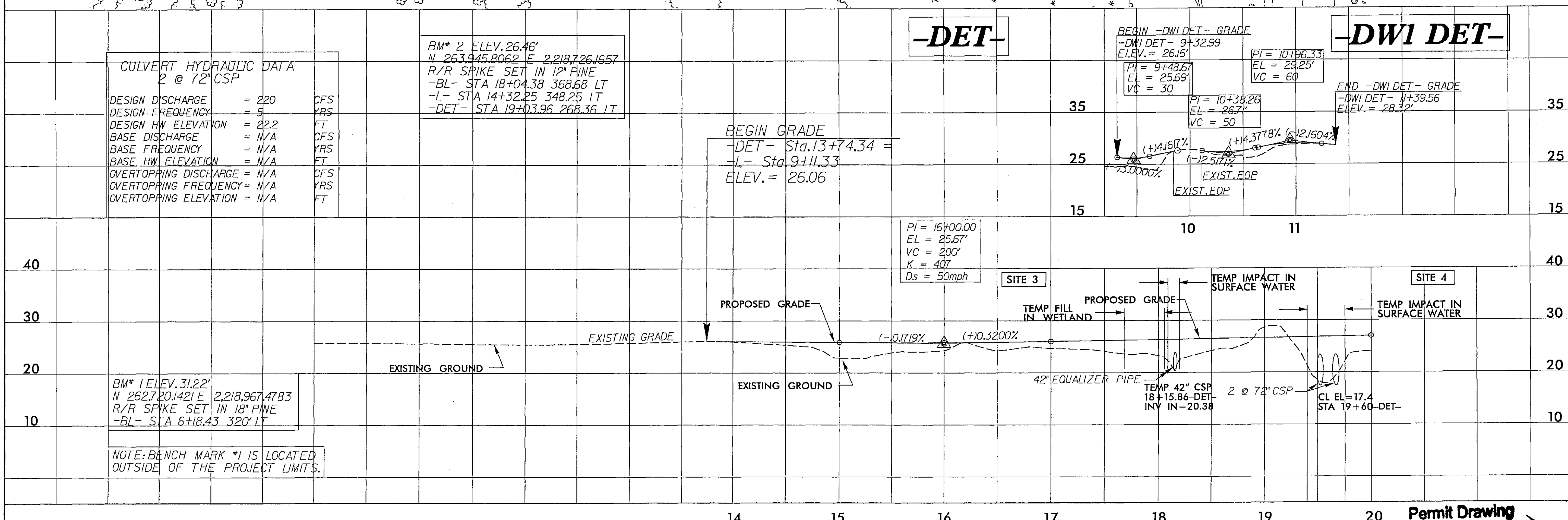
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SEE SHEETS 4-5 FOR -L- ALIGNMENT AND PROFILE



ENGLISH
NAD 83/95
DENOTES TEMPORARY FILL IN WETLAND
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
BM# 2
-DET-
PI Sta 13+54.47
Δ = 11° 44' 24.2" (LT)
D = 2° 30' 07.2"
L = 469.23'
T = 235.44'
R = 2,290.00'
DS= 50 MPH
e(max)= .03
-DET-
PI Sta 19+26.88
Δ = 16° 49' 21.8" (RT)
D = 2° 30' 07.2"
L = 672.37'
T = 338.62'
R = 2,290.00'
DS= 50 MPH
e(max)= .03
SQUIRES, ETHEL M.
WOODS
SITE 2
SITE 3
HEADWALL
2@72" CSP SKEW=90°
CL STA 19+60-DET-
TEMP 42" CSP
GRADE TO DRAIN
R/R SPIKE
2.72' EIP TO R/W
N.C. 210 26' BST
N 6° 52' 21.0" E
36" CMP
ROOKS ET UX, JAMES R.
-DWIDET-
PI Sta 10+45.63
Δ = 60° 56' 08.1" (LT)
D = 114° 35' 29.6"
L = 53.18'
T = 29.41'
R = 50.00'
PI Sta 10+96.14
Δ = 56° 16' 27.6" (RT)
D = 114° 35' 29.6"
L = 49.11'
T = 26.74'
R = 50.00'
MATCHLINE -DET- STA. 20+00.00 SEE SHEET 2C



-DET-
-DW1 DET-
BM# 2 ELEV. 26.46'
N 263,945.8062 E 2,218,726.1657
R/R SPIKE SET IN 12" PINE
-BL- STA 18+04.38 368.68 LT
-L- STA 14+32.25 348.25 LT
-DET- STA 19+03.96 268.36 LT
BEGIN -DWI DET- GRADE
-DWI DET- 9+32.99
ELEV. = 26.16'
PI = 9+48.67
EL = 25.69'
VC = 30
PI = 10+38.26
EL = 26.71'
VC = 50
PI = 10+96.33
EL = 29.25'
VC = 60
END -DWI DET- GRADE
-DWI DET- 11+39.56
ELEV. = 28.32'
(+)4.1617%
(-)3.0000%
(-)2.5171%
(+)4.3778%
(-)2.1604%
EXIST. EOP
BEGIN GRADE
-DET- Sta. 13+74.34 =
-L- Sta 9+11.33
ELEV. = 26.06
PI = 16+00.00
EL = 25.67'
VC = 200'
K = 407
Ds = 50mph
SITE 3
SITE 4
PROPOSED GRADE
EXISTING GRADE
EXISTING GROUND
(-)0.1719%
(+)0.3200%
TEMP FILL IN WETLAND
TEMP IMPACT IN SURFACE WATER
42" EQUALIZER PIPE
TEMP 42" CSP
18+15.86-DET-
INV IN=20.38
2 @ 72" CSP
CL EL=17.4
STA 19+60-DET-
BM# 1 ELEV. 31.22'
N 262,720.1421 E 2,218,967.4783
R/R SPIKE SET IN 18" PINE
-BL- STA 6+18.43 320' LT
NOTE: BENCH MARK #1 IS LOCATED OUTSIDE OF THE PROJECT LIMITS.
40
30
20
10
35
25
15
14
15
16
17
18
19
20

CULVERT HYDRAULIC DATA
2 @ 72" CSP

DESIGN DISCHARGE	= 220	CFS
DESIGN FREQUENCY	= 5	YRS
DESIGN HW ELEVATION	= 22.2	FT
BASE DISCHARGE	= N/A	CFS
BASE FREQUENCY	= N/A	YRS
BASE HW ELEVATION	= N/A	FT
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING FREQUENCY	= N/A	YRS
OVERTOPPING ELEVATION	= N/A	FT

8/17/99

Permit Drawing
Sheet 7 of 10

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4029	2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ENGLISH

NAD '8395

SEE SHEETS 4-5 FOR -L- ALIGNMENT AND PROFILE

BM* 2

-DET-
PI Sta 19+26.88
Δ = 16° 49' 21.8" (RT)
D = 2° 30' 07.2"
L = 672.37'
T = 338.62'
R = 2,290.00'
DS = 50 MPH
e(max) = .03

-DET-
PI Sta 13+54.47
Δ = 11° 44' 24.2" (LT)
D = 2° 30' 07.2"
L = 469.23'
T = 235.44'
R = 2,290.00'
DS = 50 MPH
e(max) = .03

DENOTES TEMPORARY FILL IN WETLAND

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 3

SITE 2

SQUIRES, ETHEL M. (2)

ROOKS ET UX, JAMES R. (1)

HEADWALL

2-72" CSP SKEW = 90°
CL STA 19+60-DET-

TEMP 42" CSP

GRADE TO DRAIN

36" CMP

N 6° 52' 21.0" E

-L-

-DET-

-DET- STA 20+00.00 SEE SHEET 2C

MATCHLINE -DET- STA 20+00.00 SEE SHEET 2C

R/R SPIKE

2.72' EIP TO R/W

NC 210 26' BST

EXIST. R/W

EXISTING R/W

RADIUS = 5679.70'

60.00'

-DWIDET-
PI Sta 10+45.63
Δ = 60° 56' 08.1" (LT)
D = 114° 35' 29.6"
L = 53.18'
T = 29.41'
R = 50.00'

PI Sta 10+96.14
Δ = 56° 16' 27.6" (RT)
D = 114° 35' 29.6"
L = 49.11'
T = 26.74'
R = 50.00'

BM* 2 ELEV. 26.46'
N 263,945.8062 E 2,218,726.1657
R/R SPIKE SET IN 12" PINE
-BL- STA 18+04.38 368.68 LT
-L- STA 14+32.25 348.25 LT
-DET- STA 19+03.96 268.36 LT

CULVERT HYDRAULIC DATA
2 @ 72" CSP

DESIGN DISCHARGE	= 220	CFS
DESIGN FREQUENCY	= 5	YRS
DESIGN HW ELEVATION	= 22.2	FT
BASE DISCHARGE	= N/A	CFS
BASE FREQUENCY	= N/A	YRS
BASE HW ELEVATION	= N/A	FT
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING FREQUENCY	= N/A	YRS
OVERTOPPING ELEVATION	= N/A	FT

BM* 1 ELEV. 31.22'
N 262,720.1421 E 2,218,967.4783
R/R SPIKE SET IN 18" PINE
-BL- STA 6+18.43 320' LT

NOTE: BENCH MARK #1 IS LOCATED OUTSIDE OF THE PROJECT LIMITS.

-DET-

BEGIN GRADE
-DET- Sta. 13+74.34 =
-L- Sta. 9+11.33
ELEV. = 26.06

PI = 16+00.00
EL = 25.67'
VC = 200'
K = 407
Ds = 50mph

PROPOSED GRADE

EXISTING GRADE

EXISTING GROUND

(-)0.7197%

(+)0.3200%

-DWI DET-

BEGIN -DWI DET- GRADE
-DWI DET- 9+32.99
ELEV. = 26.16'

PI = 9+48.67
EL = 25.69'
VC = 30

PI = 10+38.26
EL = 26.74'
VC = 50

PI = 10+96.33
EL = 29.25'
VC = 60

END -DWI DET- GRADE
-DWI DET- 11+39.56
ELEV. = 28.32'

(+)4.1617%

(-)2.5171%

(+)4.3778%

(-)2.1604%

-73.0000%

EXIST. EOP

EXIST. EOP

SITE 3

SITE 4

PROPOSED GRADE

TEMP FILL IN WETLAND

TEMP IMPACT IN SURFACE WATER

TEMP IMPACT IN SURFACE WATER

42" EQUALIZER PIPE

TEMP 42" CSP
18+15.86-DET-
INV IN = 20.38

2 @ 72" CSP

CL EL = 17.4
STA 19+60-DET-

Permit Drawing
Sheet 8 of 10

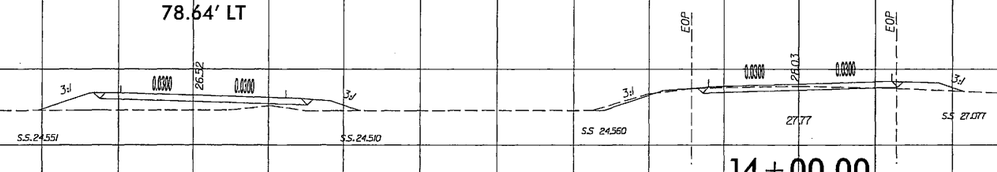
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4029	X-6

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SITE 1

–DET– 18+65.49
78.64' LT



14+00.00

SITE 2

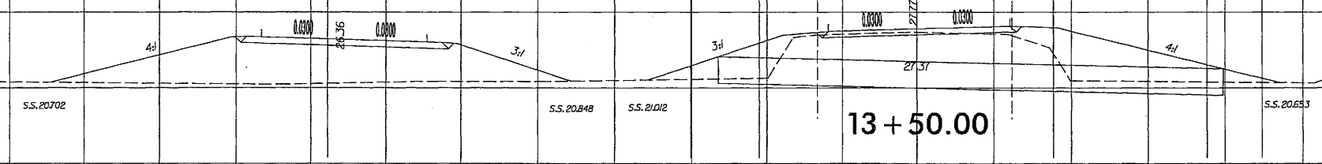
–DET– 18+15.86
75.53' LT

TEMP IMPACT IN SURFACE WATER

IMPACTS IN SURFACE WATER

IMPACT IN SURFACE WATER

TEMP IMPACT IN SURFACE WATER

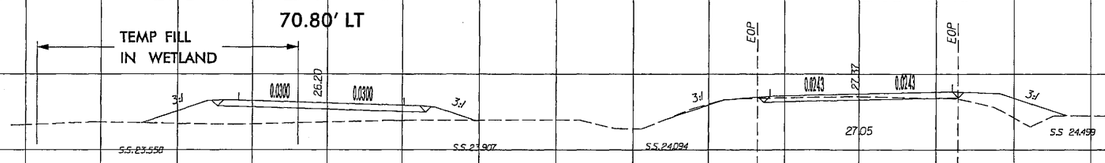


13+50.00

SITE 2

–DET– 17+66.06
70.80' LT

TEMP FILL IN WETLAND



13+00.00

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

Permit Drawing
Sheet 9 of 10

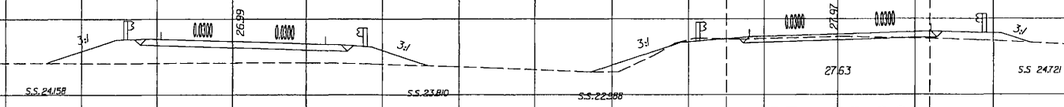
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4029	X-7

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–DET– 20+14.05

78.41' LT



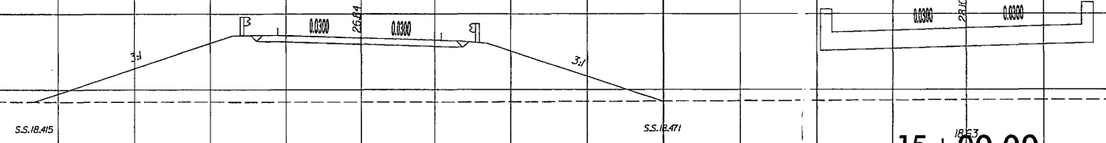
15+50.00

SITE 3

TEMP IMPACT IN SURFACE WATER

–DET– 19+64.51

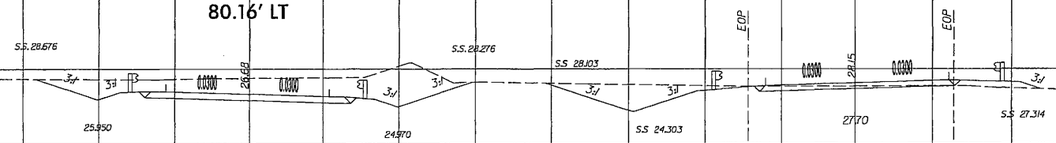
80.08' LT



15+00.00

–DET– 19+15.02

80.16' LT



14+50.00

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