



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

October 10, 2003

U. S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1890
Wilmington, NC 28402-1890

ATTENTION: Mr. David Timpy
NCDOT Coordinator

SUBJECT: Nationwide Permit Application 23 and 33 for the proposed replacement of Bridge No. 204 over Northeast Cape Fear River in Duplin County, Division 3. Federal Aid No. BRZ-1827(3), State Project No. 8.2241701; TIP No. B-3449.

Dear Sir:

Please find enclosed three copies of the CE document along with a PCN form, project site map, permit drawings, and roadway design plan sheets. Bridge No. 204 will be replaced with a new bridge on new alignment while maintaining traffic on the existing structure. The proposed project involves replacing the existing 240 foot bridge with a prestressed girder bridge approximately 306 feet in length.

PROPOSED IMPACTS

Bridge Demolition:

Best Management Practices for Bridge Demolition and Removal will be followed. Therefore the Bridge No. 204 will be removed without debris dropping into waters of the United States.

Wetlands:

No jurisdictional wetlands will be impacted by the proposed project.

Permanent Surface Water Impacts:

Northeast Cape Fear River [DWQ Index No. 18-74 (25.5)] Class C;Sw,HQW will be impacted by the proposed project. Construction of the proposed project will result in 0.0014 acre of permanent surface water fill due to the installation of replacement bridge bents. There will be two bents, with six 30" pipe piles per bent.

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

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Temporary Surface Water Impacts:

A temporary work bridge (depicted on the attached drawings) will also be necessary for construction. The resulting temporary impacts associated with temporary bents in the river is expected to be minimal, not to exceed 0.01 acre of surface water fill.

Restoration Plan: The temporary fill will consist of bents in the river. No permanent fill will result from the subject activity. Following construction of the temporary work bridge, the construction of permanent bridge will be completed. Once the temporary work bridge is no longer needed, all material used in the construction of the temporary work bridge will be removed. Reference elevations are available for the area of proposed construction of the temporary work bridge. The temporary impact area associated with the work bridge is expected to recover naturally, since the natural streambed and plant material will not be removed. The NCDOT does not propose any additional planting in this area.

Schedule: The project schedule calls for a let date of April 20, 2004 with an estimated date of availability of approximately 41 days later. It is expected that the contractor will choose to start construction of the temporary work bridge shortly after the end of the anadromous fish spawning moratorium of February 1 – June 15. The temporary surface water fill resulting from the construction of the temporary work bridge will probably be in place for less than twelve (12) months.

Removal and Disposal Plan: After the temporary work bridge is no longer needed, all temporary work bridge material will become the property of the contractor. The contractor will be required to submit a reclamation plan for the removal of and disposal of all materials off-site at an upland location.

FEDERALLY PROTECTED SPECIES

As of January 29, 2003, the United States Fish and Wildlife Service lists two federally protected species for Duplin County: American alligator and red-cockaded woodpecker. Since the environmental document was completed no species have been added or removed from this list. Species characteristics, distribution and habitat details are presented in the 2001 Categorical Exclusion. A biological conclusion is not required for the American alligator, since T(S/A) species are not afforded full protection under the ESA. A biological conclusion of “No Effect” was rendered for the red-cockaded woodpecker based lack of suitable habitat. The biological conclusion for this species remains valid. No impacts to federally protected species will occur from the construction of the proposed project.

SUMMARY

It is anticipated that the construction of the temporary work bridge will be authorized under Section 404 Nationwide Permit 33 (Temporary Construction Access and Dewatering). Therefore, the NCDOT is requesting the issuance of a Nationwide Permit 33 authorizing construction of the temporary work bridge. All other aspects of this

project are being processed by the Federal Highway Administration as a programmatic "Categorical Exclusion" in accordance with 23 CFR § 771.115(b). The NCDOT requests that these activities be authorized by a Nationwide Permit 23 (FR number 10, pages 2020-2095; January 15, 2002). We anticipate a 401 General Certification numbers 3403 and 3366 will apply to this project. In accordance with 15A NCAC 2H .0501(a) we are providing two copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for their records.

Thank you for your assistance with this project. If you have any questions or need additional information please call Ms. Heather Montague at (919) 715-1456.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregory J. Thorpe". The signature is stylized and includes a horizontal line at the end.

Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

GJT/hwm

w/attachment

Mr. John Dorney, Division of Water Quality
Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
Mr. Greg Perfetti, P.E., Structure Design

w/o attachment

Mr. David Franklin, USACE, Wilmington
Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Ms. Debbie Barbour, P.E., Highway Design
Mr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. H. Allen Pope, P.E., Division 3 Engineer
Mr. Mason Herndon, DIV 3 Environmental Officer
Ms. Stacy Harris, P.E., PDEA Project Planning Engineer

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:

- Section 404 Permit Riparian or Watershed Buffer Rules
- Section 10 Permit Isolated Wetland Permit from DWQ
- 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: NW 23 and 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 Wetlands Restoration Program (NCWRP) is proposed for mitigation of impacts (verify availability with NCWRP prior to submittal of PCN), 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: NCDOT Project Development & Environmental Analysis Branch

Mailing Address: North Carolina Department of Transportation

Project Dev & Environmental Analysis Branch

Attention: Gregory J. Thorpe, Ph.D.

1548 Mail Service Center

Raleigh, NC 27699-1548

Telephone Number: (919) 733-3141 Fax Number: (919) 733-9747

E-mail Address: _____

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: BRIDGE 204 OVER NORTHEAST CAPE FEAR RIVER ON SR 1827
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-3449
3. Property Identification Number (Tax PIN): _____
4. Location
County: Duplin Nearest Town: Sloan
Subdivision name (include phase/lot number): _____
Directions to site (include road numbers, landmarks, etc.): _____
Exit 385 from I-40 near Wallace, Take Hwy 41 north away from Wallace, take first paved right onto Deep Bottom Rd (SR 1827) to crossing of the NE Cape Fear River.
5. Site coordinates, if available (UTM or Lat/Long): 34° 47' 02"N, 77° 50' 17"W
(Note – If project is linear, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
6. Property size (acres): approx. 8 eight acres with the new alignment
7. Nearest body of water (stream/river/sound/ocean/lake): North East Cape Fear River
8. River Basin: Cape Fear
(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: Existing land uses include maintained and forested communities. The area has a mixture of residential and woodland landuse. SR 1827 runs through the project with Bridge No. 204 serving residential uses.

10. Describe the overall project in detail, including the type of equipment to be used: _____
Bridge No. 204 will be replaced on new location with a new bridge using heavy duty
construction equipment.

11. Explain the purpose of the proposed work: _____
To replace inadequate bridge.

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.

N/A

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.

N/A

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. The applicant must also provide justification for these impacts in Section VII below. All proposed impacts, permanent and temporary, must be listed herein, and must be clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) must 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: temporary surface water fill will result from the use of a work bridge.

2. Individually list wetland impacts below:

Wetland Impact Site Number (indicate on map)	Type of Impact*	Area of Impact (acres)	Located within 100-year Floodplain** (yes/no)	Distance to Nearest Stream (linear feet)	Type of Wetland***
N/A	N/A	N/A	N/A	N/A	N/A

* List each impact separately and identify temporary impacts. 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.

** 100-Year floodplains are identified through the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM), or FEMA-approved local floodplain maps. Maps are available through the FEMA Map Service Center at 1-800-358-9616, or online at <http://www.fema.gov>.

*** List a wetland type that best describes wetland to be impacted (e.g., freshwater/saltwater marsh, forested wetland, beaver pond, Carolina Bay, bog, etc.) Indicate if wetland is isolated (determination of isolation to be made by USACE only).

List the total acreage (estimated) of all existing wetlands on the property: N/A

Total area of wetland impact proposed: N/A

3. Individually list all intermittent and perennial stream impacts below:

Stream Impact Site Number (indicate on map)	Type of Impact*	Length of Impact (linear feet)	Stream Name**	Average Width of Stream Before Impact	Perennial or Intermittent? (please specify)
N/A	N/A	N/A	N/A	N/A	N/A

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: culverts and associated rip-rap, dams (separately list impacts due to both structure and flooding), relocation (include linear feet before and after, and net loss/gain), stabilization activities (cement wall, rip-rap, crib wall, 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.

** Stream names can be found on USGS topographic maps. If a stream has no name, list as UT (unnamed tributary) to the nearest downstream named stream into which it flows. USGS maps are available through the USGS at 1-800-358-9616, or online at www.usgs.gov. Several internet sites also allow direct download and printing of USGS maps (e.g., www.topozone.com, www.mapquest.com, etc.).

Cumulative impacts (linear distance in feet) to all streams on site: N/A

4. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.) below:

Open Water Impact Site Number (indicate on map)	Type of Impact*	Area of Impact (acres)	Name of Waterbody (if applicable)	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)
replacement bridge	permanent	0.0014	Northeast Cape Fear River	River
work bridge	temporary	less than 0.01	Northeast Cape Fear River	River

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: fill, excavation, dredging, flooding, drainage, bulkheads, etc.

5. 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.): N/A

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

Size of watershed draining to pond: N/A Expected pond surface area: N/A

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.

Limiting the number of bents to two, reduces the surface water impacts.

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 March 9, 2000, 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 NCWRP 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/ncwetlands/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.

N/A

2. Mitigation may also be made by payment into the North Carolina Wetlands Restoration Program (NCWRP). Please note it is the applicant’s responsibility to contact the NCWRP at (919) 733-5208 to determine availability and to request written approval of mitigation prior to submittal of a PCN. For additional information regarding the application process for the NCWRP, check the NCWRP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCWRP is proposed, please check the appropriate box on page three and provide the following information:

Amount of stream mitigation requested (linear feet): N/A
Amount of buffer mitigation requested (square feet): N/A
Amount of Riparian wetland mitigation requested (acres): N/A
Amount of Non-riparian wetland mitigation requested (acres): N/A
Amount of Coastal wetland mitigation requested (acres): N/A

IX. Environmental Documentation (required by DWQ)

Does the project involve an expenditure of public (federal/state) funds or the use of public (federal/state) land?

Yes No

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

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.

Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify _____)?

Yes No If you answered "yes", provide the following information:

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	N/A	1.5	
Total	N/A		

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

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

N/A

XI. Stormwater (required by DWQ)

Describe impervious acreage (both 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.

N/A

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

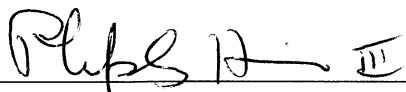
Is this an after-the-fact permit application?

Yes No

XIV. 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).

N/A



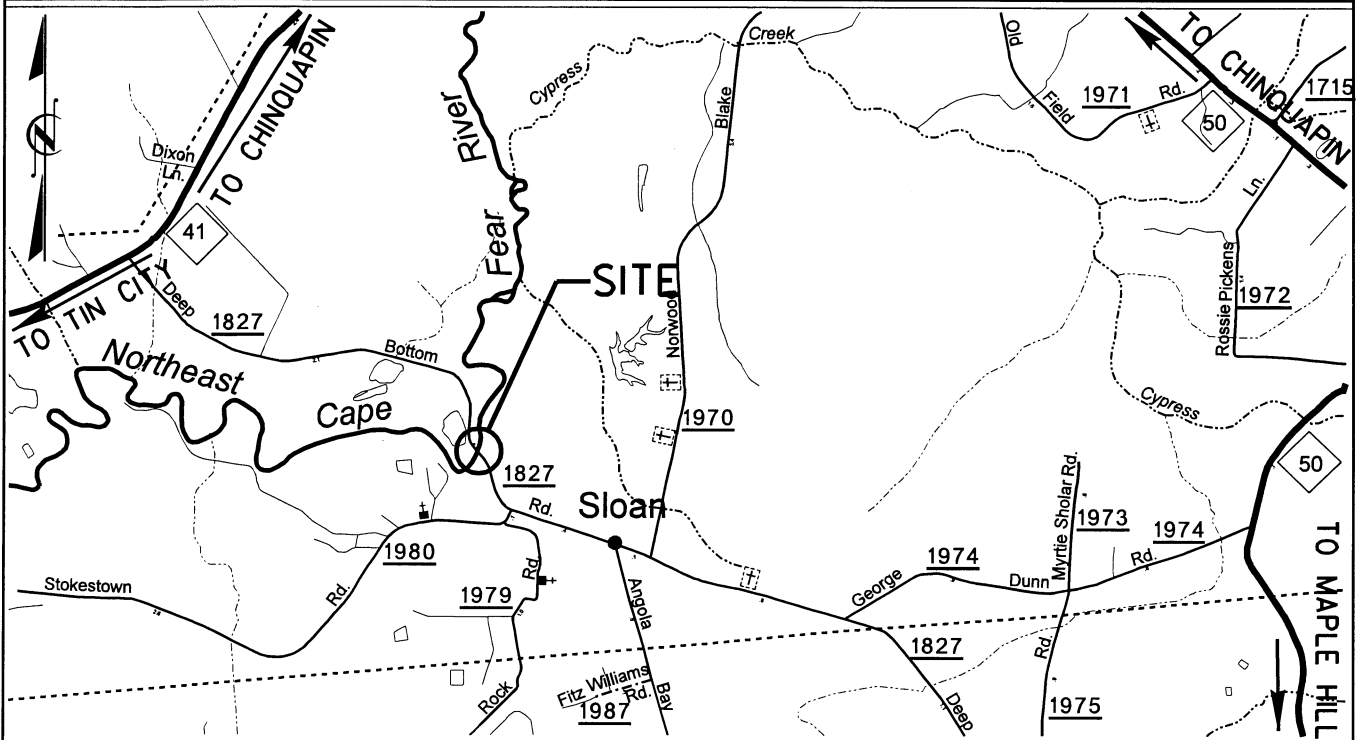
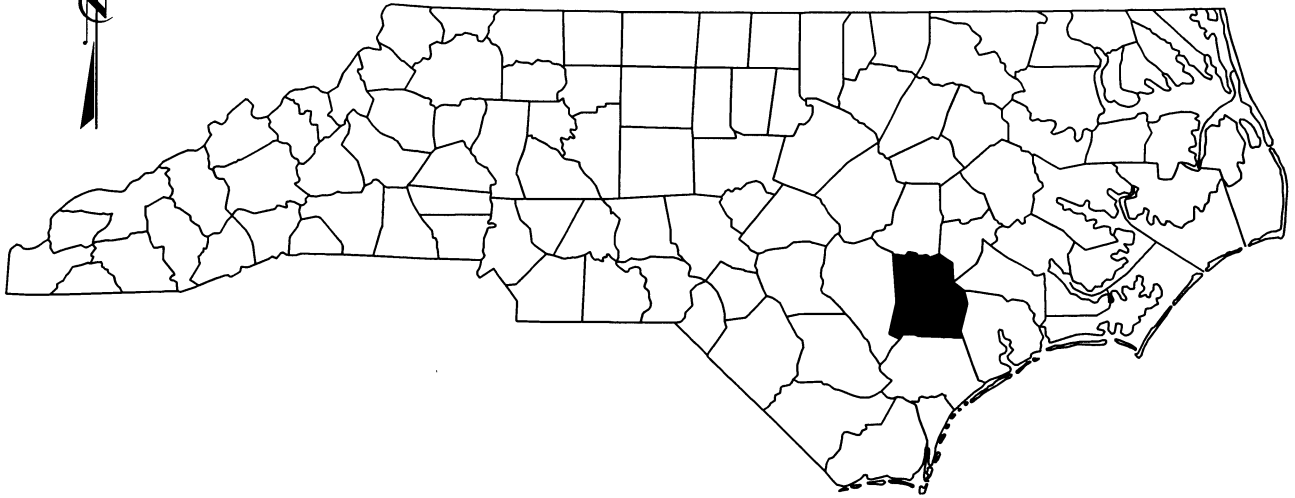
Applicant/Agent's Signature

10/13/03

Date

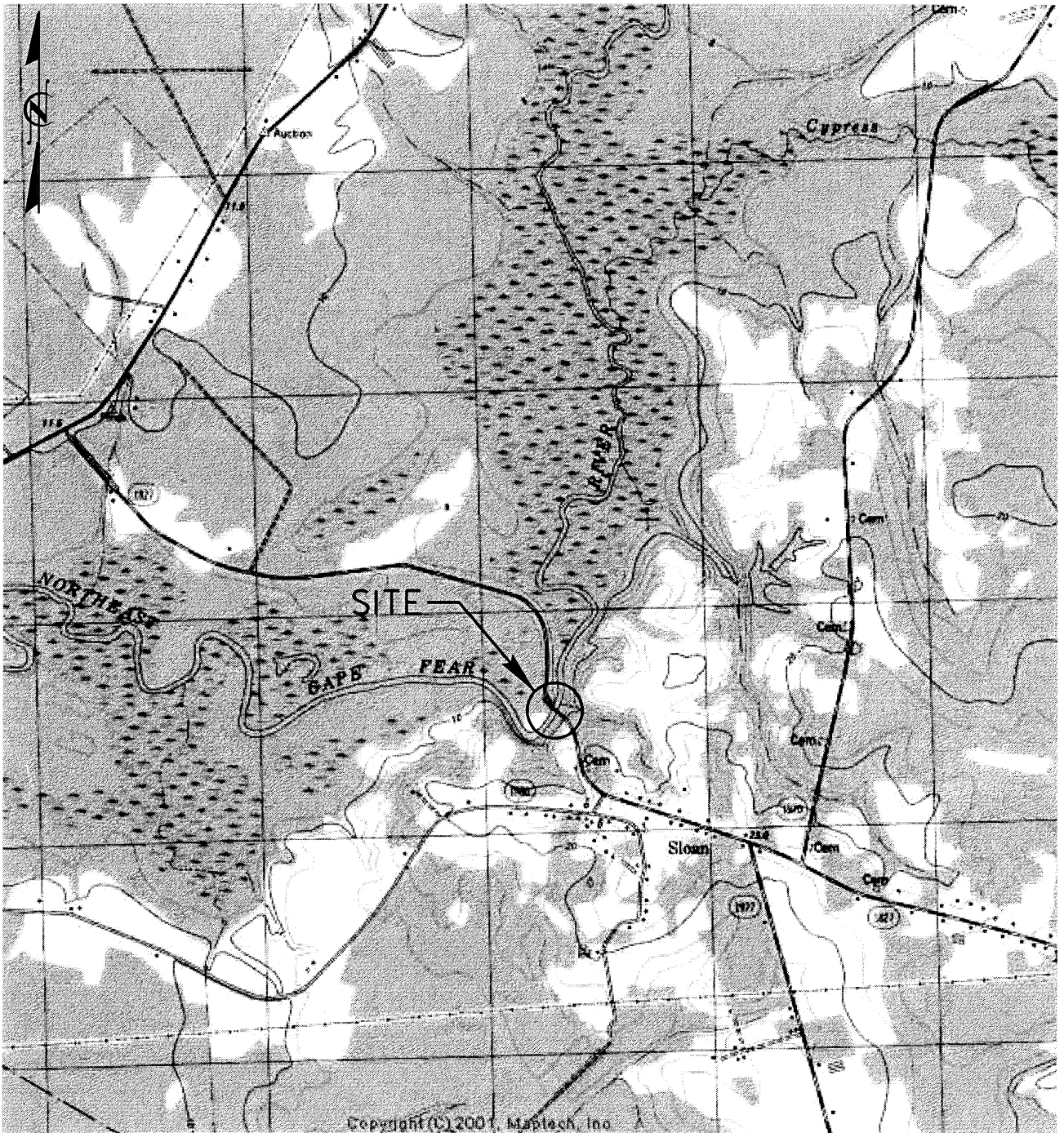
(Agent's signature is valid only if an authorization letter from the applicant is provided.)

NORTH CAROLINA



VICINITY MAPS

NCDOT
DIVISION OF HIGHWAYS
DUPLIN COUNTY
PROJECT: 8.2241701 (B-3449)
BRIDGE NO. 204 OVER
NE CAPE FEAR RIVER
ON SR 1827

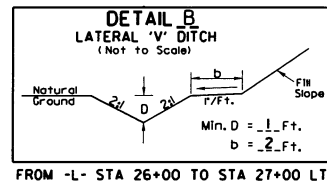
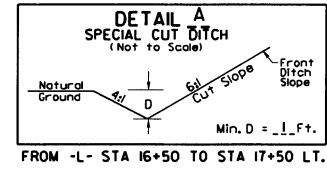


NCDOT
DIVISION OF HIGHWAYS
DUPLIN COUNTY
PROJECT: 8.2241701 (B-3449)
BRIDGE NO. 204 OVER
NE CAPE FEAR RIVER
ON SR 1827

PROJECT REFERENCE NO.	SHEET NO.
B-3449	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR R/W ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MCDOT FOR MONUMENT "B3449-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 38031857(11) EASTING: 23474044(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99991128 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3449-1" TO -L- STATION 15+71.76 IS S 5° 21' 21.80" E DISTANCE 1923.37 FEET ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

-L- **-L-**
 PI Sta 23+01.52 PI Sta 30+26.89
 $\Delta = 41^\circ 21' 53.7"$ (LT) $\Delta = 18^\circ 24' 00.8"$ (RT)
 D = 4' 00" 00.0" D = 4' 00" 00.0"
 L = 1034.12' L = 460.01'
 T = 540.76' T = 232.00'
 R = 1,132.39' R = 1,432.39'
 Inc=27' Inc=27'
 SE=06 SE=06

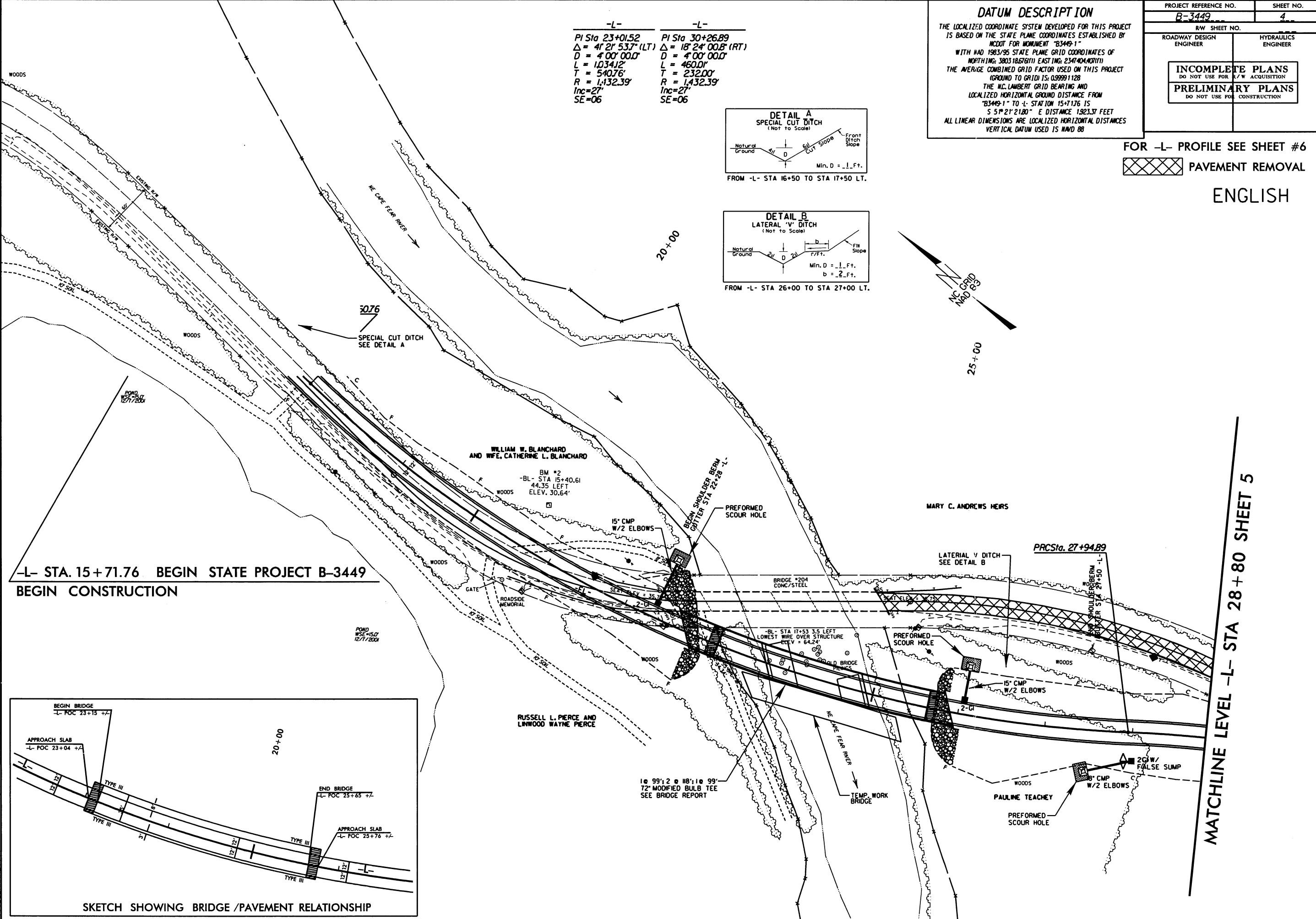


FOR -L- PROFILE SEE SHEET #6

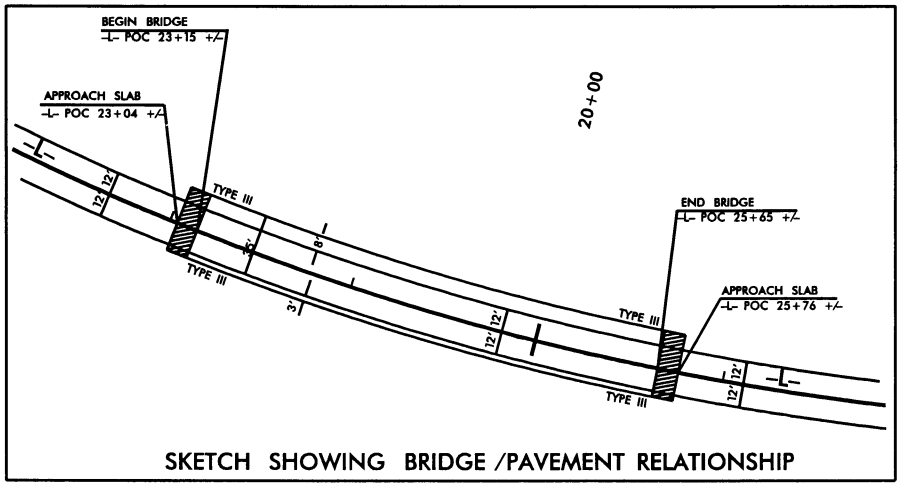
PAVEMENT REMOVAL
ENGLISH

8/17/99

REVISIONS



-L- STA. 15+71.76 BEGIN STATE PROJECT B-3449
 BEGIN CONSTRUCTION



\$\$\$\$SYTIME\$\$\$\$
 \$\$\$SYTIME\$\$\$\$

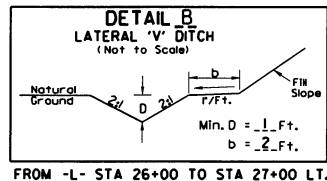
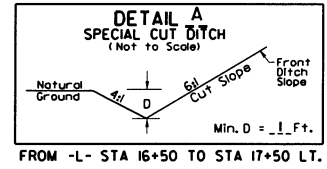
MATCHLINE LEVEL -L- STA 28+80 SHEET 5

PROJECT REFERENCE NO. B-3449	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NC DOT FOR MONUMENT "B3449-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 38031867(11) EASTING: 23474041(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99991128 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3449-1" TO L- STATION 15+71.76 IS 5° 5' 21" 21.80" E DISTANCE 1923.37 FEET ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAD 88

-L-
 PI Sta 23+01.52
 $\Delta = 41' 21" 53.7$ (LT)
 $D = 4' 00" 00.0$
 $L = 1034.12$
 $T = 5+10.76$
 $R = 1,432.39$
 $Inc = 27'$
 $SE = 06$

-L-
 PI Sta 30+26.89
 $\Delta = 18' 24" 00.8$ (RT)
 $D = 4' 00" 00.0$
 $L = 460.01$
 $T = 232.00$
 $R = 1,432.39$
 $Inc = 27'$
 $SE = 06$

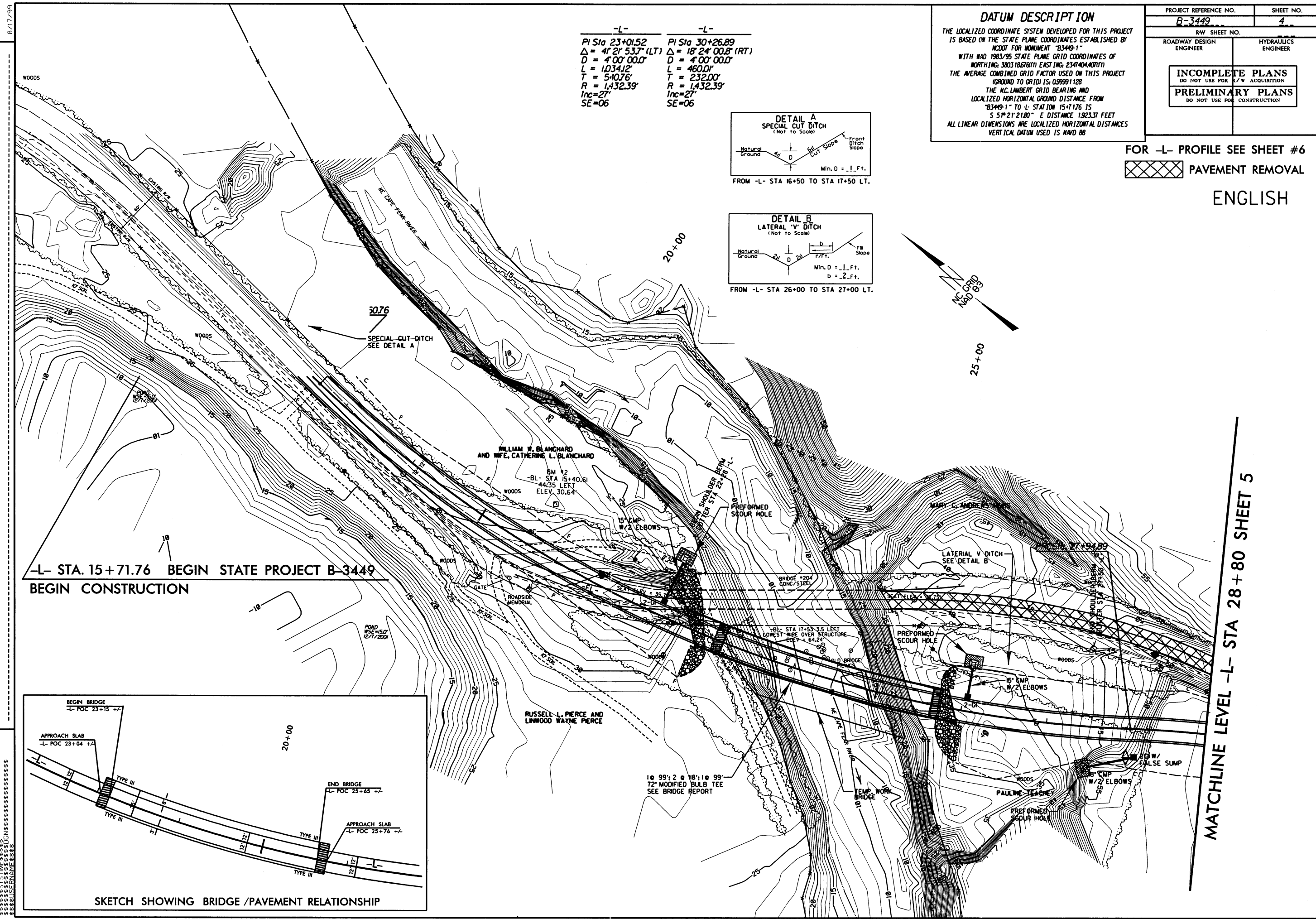


FOR -L- PROFILE SEE SHEET #6

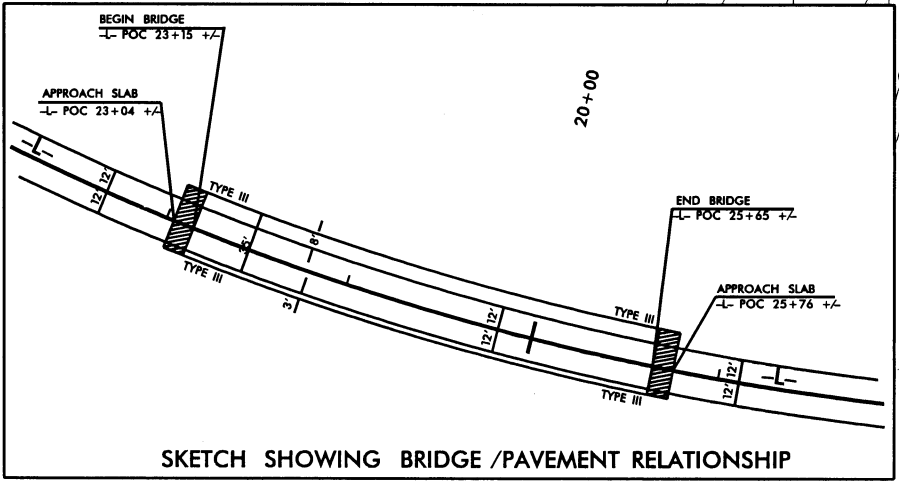
PAVEMENT REMOVAL

ENGLISH

REVISIONS



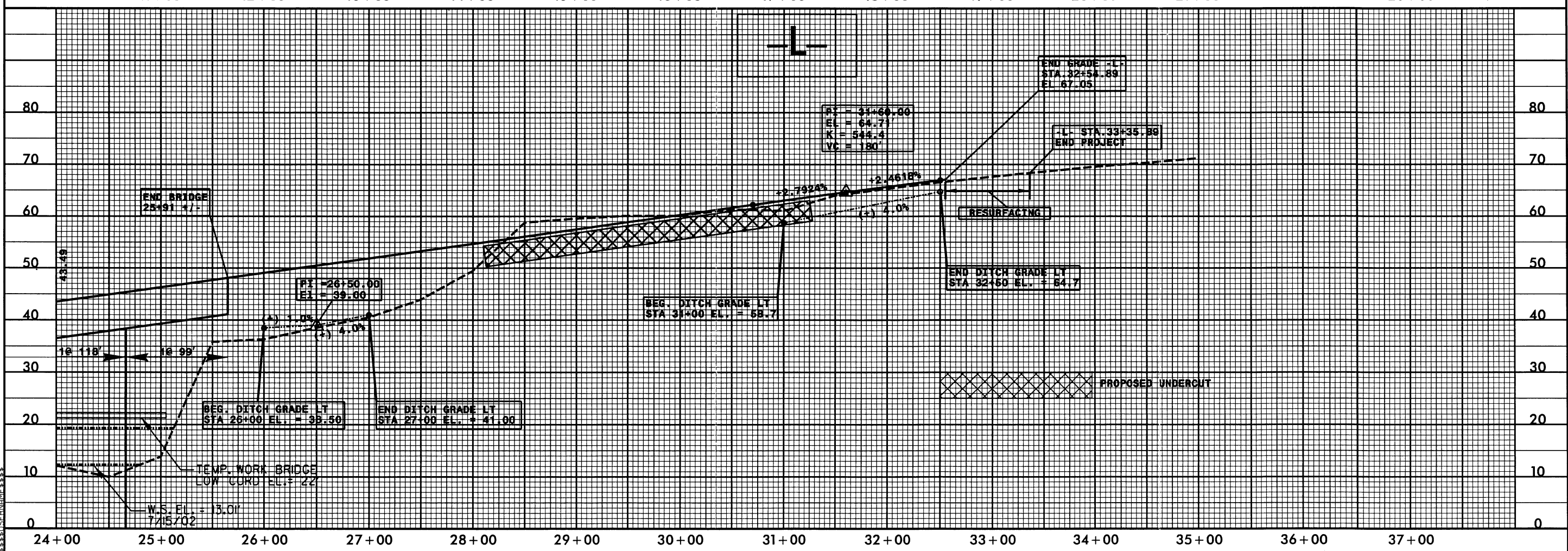
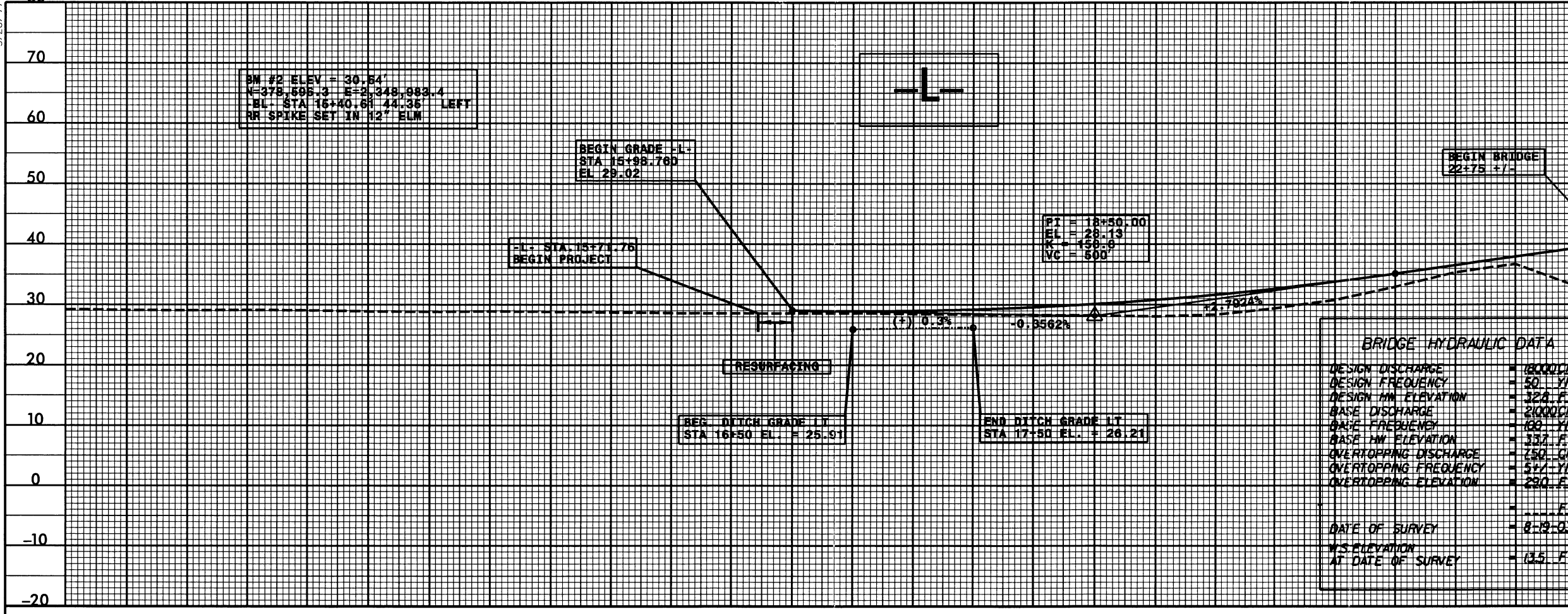
-L- STA. 15+71.76 BEGIN STATE PROJECT B-3449
BEGIN CONSTRUCTION



MATCHLINE LEVEL -L- STA 28+80 SHEET 5

8/17/99

5/28/99



SYTIME\$\$\$\$
CONNS\$\$\$\$
USFRMNT\$\$\$\$