STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

March 17, 2008

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

ATTENTION: Mr. Steve Lund
NCDOT Coordinator

SUBJECT: **Nationwide Permit 13, 23 and 33 Applications** for the proposed replacement of Bridge No. 120 over Scaly Bark Creek on SR 1963 (St. Martin Road) in Stanly County. NCDOT Division 10, Federal Aid Project No. BRZ-1963(2), State Project No. 8.2681901, TIP No. B-4279, $240.00 Debit work order 8.1970801, WBS Element 33619.1.1.

Dear Sir:

Please see the enclosed Pre-Construction Notification, permit drawings, and design plans for the subject project. A Rapanos jurisdictional determination form is to be completed by the project consultant. A Categorical Exclusion (May 2006) and Right of Way Consultation (August 2007) were completed for this project and distributed shortly thereafter. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace the 31-foot Bridge No. 120 with a 3-barrel (10-foot x 9-foot) reinforced concrete box culvert. The new structure will be built on the same alignment as the existing bridge. During construction, traffic will be routed to an offsite detour. There will be 145 feet of permanent impacts to Scaly Bark Creek due to the placement of the box culvert and the use of rip rap for bank stabilization. There will be an additional 0.07 acre of permanent impact to an adjacent wetland due to excavation and mechanized clearing.

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

IMPACTS TO WATERS OF THE UNITED STATES

General Description: Scaly Bark Creek and an adjacent wetland are the jurisdictional resources within the project area. These water resources are located in the Yadkin/Pee Dee River Basin (subbasin 03-07-13, Hydrological Cataloguing Unit 03040105). The North Carolina Division of Water Quality (NCDWQ) index number for Scaly Bark Creek is 13-17-31-2. Scaly Bark Creek is classified by the Division of Water Quality as a **C** water body. Neither High Quality Waters (HQW), Water Supplies (WS-I or WS-II), Outstanding Resource Waters (ORW) nor waters listed on the 2006 303(d) list occur in the project area or within 1.0 mile downstream of waters in the project area. The average baseflow width of the Scaly Bark Creek is approximately 10 feet. Average depth is approximately 0.5 - 1 foot.

Permanent Impacts: There will be a total of 145 feet of permanent stream impacts to Scaly Bark Creek (Site 2). The placement of the box culvert will cause 68 feet of permanent impacts. The placement of rip rap for bank stabilization on the downstream side of the culvert and where two ditches tie into Scaly Bark Creek upstream of the culvert will account for 77 feet of permanent impact. Rip rap will be placed only on the bank and will not enter the stream. An additional 0.07 acre of permanent impact will occur to an adjacent wetland due to excavation and mechanized clearing (Site 1).

Temporary Impacts: There will be <0.01 acre of temporary impact to Scaly Bark Creek due to dewatering during the installation of the culvert.

Bridge Demolition: Bridge No. 120 has a timber deck on continuous I-beams supported by a substructure consisting of end bents, timber caps, posts, sills, and timber bulkheads. Bridge No. 120 will be removed without appreciable fill in "Waters of the United States".

Utility Impacts: There will be no impacts to jurisdictional waters due to utilities.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications of Endangered, Threatened, Proposed Endangered and Proposed Threatened are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 31, 2008 the United States Fish and Wildlife Service (USFWS) list 1 species under federal protection for Stanly County (Table 1). A survey for Schweinitz's sunflower was conducted on August 30, 2007 and no specimens were observed. The NC Natural Heritage database of rare species and unique habitats was reviewed in February 2008. There is no documentation of federally listed species or unique habitats occurring within 1 mile of the project area.

Table 1. Federally Protected Species for Stanly County.

Common Name	Scientific Name	Federal Status	Habitat	Biological Conclusion
Schweinitz's sunflower	*Helianthus schweinitzii*	E	Yes	No Effect

Bald Eagle and Golden Eagle Protection Act

The bald eagle (*Haliaeetus leucocephalus*) was removed from the list of threatened and endangered species on July 9, 2007. However, the species still requires federal protection under the Bald and Golden Eagle Protection Act. Habitat for the bald eagle primarily consists of mature forest in close proximity to large bodies of open water for foraging. Large, dominant trees are utilized for nesting sites, typically within 1.0 mile of open water. Suitable habitat for bald eagle does not exist in the project study area. A review of the NHP database on February 11, 2008 revealed no known incidents of bald eagle within five miles of the project study area.

MITIGATION

Avoidance and Minimization:
Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the United States". The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. The following minimization measures were incorporated as part of the project design:

- Best Management Practices will be followed for this project as outlined in "NCDOT's Best Management Practices for Construction and Maintenance Activities".
- Traffic will be routed to an offsite detour.
- 2:1 slopes will be utilized to reduce impact to the wetland adjacent to the roadway.
- Stormwater will be controlled from the structure and adjacent road.
- The outside barrels will have 2-foot sills designed to function only during high flow events.
- The culvert will be buried one foot below stream bed to allow natural stream sediment to develop and allow fish passage.
- Baffles will be placed in the center barrel of the culvert to control water velocity.

Compensatory Mitigation:
The 77 feet of permanent stream impacts to Scaly Bark Creek due to bank stabilization does not constitute a "loss of Waters of the U.S." and therefore does not require mitigation. There will be 68 feet of permanent stream impacts to Scaly Bark Creek due to the installation of a box culvert. There will an additional 0.07 acre of permanent impacts to a wetland adjacent to Scaly Bark Creek due to permanent fill and mechanized clearing. No mitigation is proposed for these activities due to the minimal impacts, and no special aquatic classifications for this system.

PROJECT SCHEDULE

The project schedule calls for an October 21, 2008 Let date with a date of availability on December 2, 2008. The review date for the project is September 2, 2008.

REGULATORY APPROVALS

Section 404 Permit: NCDOT requests that the placement of the box culvert, permanent fill in a wetland and mechanized clearing in a wetland be authorized under the Nationwide Permit No. 23 (Approved Categorical Exclusion). NCDOT requests that the use of rip rap for bank stabilization to Scaly Bark Creek be authorized under the Nationwide Permit No. 13 (Bank Stabilization). NCDOT requests that the temporary dewatering of Scaly Bark Creek be authorized under the Nationwide Permit No. 33 (Temporary Construction Access and Dewatering).

Section 401 Permit: We anticipate 401 General Certification numbers 3688, 3689, and 3701 will apply to this project. NCDOT is hereby requesting written concurrence from the Division of Water Quality. We are submitting 5 copies of this permit application for your records.

Thank you for your assistance with this project. If you have any questions or need additional information please contact Jason Dilday at jldilday@dot.state.nc.us or (919) 715-5535. The application will be posted at http://207.4.62.65/PDEA/PermApps/.

Sincerely,

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

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. Greg Perfetti, P.E., Structure Design
- Mr. Victor Barbour, P.E., Project Services Unit
- Mr. Mark Staley, Roadside Environmental
- Mr. Barry Moose, P.E. (Div. 10), Division Engineer
- Mr. Larry Thompson (Div. 10), DEO
- Mr. Jay Bennett, P.E., Roadway Design
- Mr. Majed Alghandour, P. E., Programming and TIP
- Mr. Art McMillan, P.E., Highway Design
- Mr. Scott McLendon, USACE, Wilmington
- Mr. Vicent Rhea, P.E., PDEA Project Planning Engineer

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

2. Nationwide, Regional or General Permit Number(s) Requested: Nationwide 13, 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
   _____
   _____
   _____
   Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794
   E-mail Address: jldilday@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: Bridge 120 over Scaly Bark Creek on SR 1963 (St. Martin Road)

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4279

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

4. Location
   County: Stanly Nearest Town: Albemarle
   Subdivision name (include phase/lot number): N/A
   Directions to site (include road numbers/names, landmarks, etc.): SR 1963, St. Martin Road

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): 35'18'46' °N -80'14'07 °W

6. Property size (acres): N/A

7. Name of nearest receiving body of water: Scaly Bark Creek

8. River Basin: Yadkin/Pee Dee River Basin
   (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: Residential and minor agriculture communities.

10. Describe the overall project in detail, including the type of equipment to be used: Bridge No. 120 will be replaced with a 68 foot, 3-barrel culvert using standard bridge demolition and construction equipment. The outside barrels will contain 2-foot sills designed to function only during high flow events.

11. Explain the purpose of the proposed work: Bridge No. 120 is proposed for replacement due to its strctural sufficiency rating of 32.4 out of a possible 100 for a new structure. The bridge is considered functionally obsolete and structurally deficient according to FHWA standards.

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. 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: 145 feet of permanent stream impacts to Scaly Bark Creek, 68 feet due to the placement of a box culvert and 77 feet due to the placement of rip rap for streambank stabilization. There will be 29 feet of temporary impact to Scaly Bark Creek due to the culvert placement due to stream management during installation (Site 2). There will be 0.02 acre of permanent fill in a wetland and 0.05 acre of mechanical clearing in a wetland (Site 1).

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)
Site 1	Permanent fill	Forested/scrub-shrub	Yes	69	0.02
Site 1	Mechanical clearing	Forested/scrub-shrub	Yes	69	0.05
Total Wetland Impact (acres)					0.07

3. List the total acreage (estimated) of all existing wetlands on the property: 0.25 acre

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 2	Scaly Bark Creek	Perm	Perennial	10 ft	145	0.03
Site 2	Scaly Bark Creek	Temp	Perennial	10 ft	29	<0.01
Total Permanent Stream Impact (by length and acreage)					145	0.03

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)
No Impacts				
Total Open Water Impact (acres)				0

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

Stream Impact (acres):	<0.01 (temp) 0.03 (permanent)
Wetland Impact (acres):	0.07
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	<0.01 (temp) 0.10 (permanent)
Total Stream Impact (linear feet):	29 (temp) 145 (permanent)

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.Traffic will be placed on a temporary offsite detour. NCDOT Best Management Practices will be implemented during all phases of construction and demolition. Flow will be directed through the center barrel of culvert to mimic natural flow. The center barrel will contain baffles to control the velocity of the water. The outside barrels will contain 2-foot sills so as to only be available during high flow events. Culvert will be buried one foot below stream bed to allow natural stream sediment to develop.

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/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.
   There is 145 feet of permanent stream impact to Scaly Bark Creek. 77 feet of this impact is due to bank stabilization and not considered a loss of "waters of the U.S." 0.07 acre of

permanent impact will occur to an adjacent wetland. Mitigation is not proposed for this project due to the minimal impacts and no special aquatic classification for this system.

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): 0
   Amount of buffer mitigation requested (square feet): 0
   Amount of Riparian wetland mitigation requested (acres): 0
   Amount of Non-riparian wetland mitigation requested (acres): 0
   Amount of Coastal wetland mitigation requested (acres): 0

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. N/A

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. Stormwater will be controlled from the structure and adjacent road.

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)

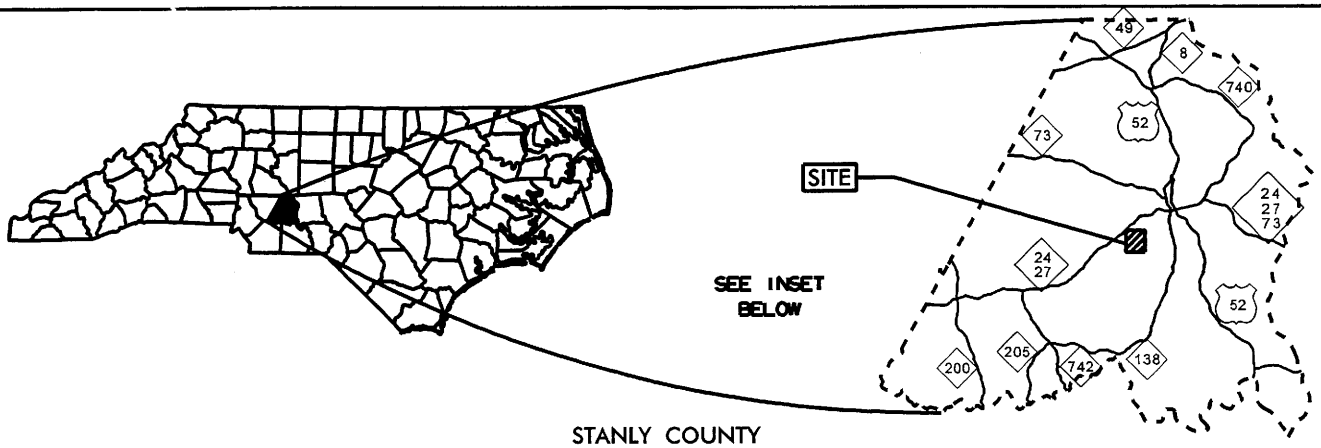
Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes ☐ No ☒
If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina 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: This project is limited to a bridge replacement. No indirect or cumulative impacts are anticipated.

XV. Other Circumstances (Optional):

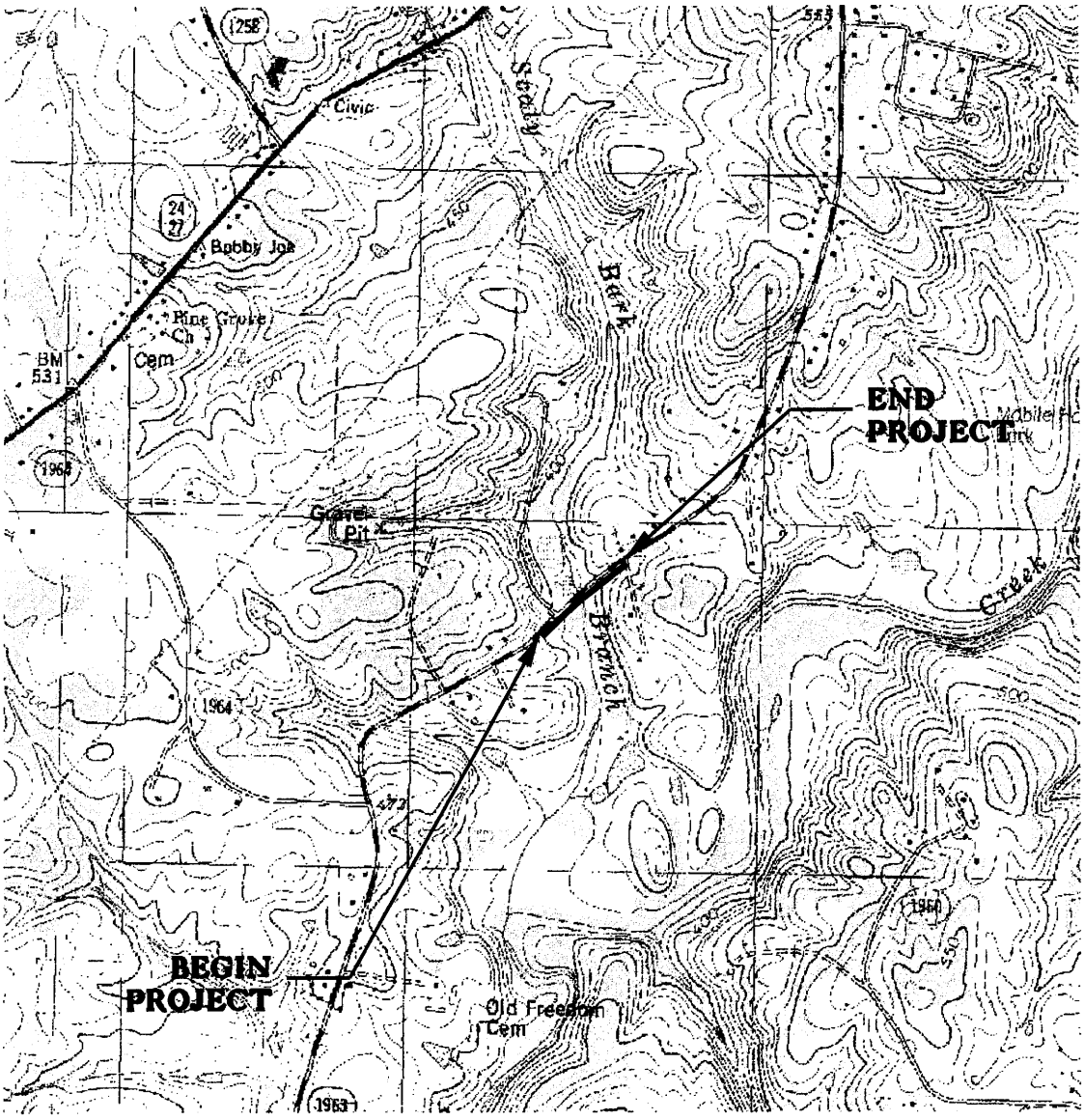
It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g.,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

E. L. Lusk 3-17-08

Applicant/Agent's Signature **Date**
(Agent's signature is valid only if an authorization letter from the applicant is provided.)



STANLY COUNTY



WETLAND/STREAM IMPACTS

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

STANLY COUNTY

PROJECT: 33619.1.1 (B-4279)
BRIDGE NO. 120 ON SR 1963
(ST. MARTIN RD) OVER
SCALY BARK CREEK

SHEET 1 **OF** 8

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	LORAN T. AND SELMA R. SMITH	ADDRESSES
2	ODELL RUSSELL	ADDRESSES
3	CLARA S. HATHCOCK	ADDRESSES
4	ODUS P. AND GERALDINE F. BURLESON	ADDRESSES

NCDOT
DIVISION OF HIGHWAYS
STANLY COUNTY

PROJECT: 33619.1.1 (B-4279)
BRIDGE NO. 120 ON SR 1963
(ST. MARTIN RD.) OVER
SCALY BARK CREEK

IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size	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)	Exist. Chan. Impacts Permanent (ft)	Exist. Chan Impacts Temp. (ft)	Natural Stream Design (ft)
1	13+19/14+46 -L- RT		0.02			0.05						
2	15+45 -L-	Culvert						0.01	<0.01	68	29	
2	15+45 -L-	Bank Stabilization						0.02		77		
TOTALS:			0.02	0.00	0.00	0.05	0.00	0.03	<0.01	145	**29**	0

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
STANLY COUNTY
B-4279
WBS - 33619.1.1

02/12/08

09/08/99

TIP PROJECT: B-4279

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)

●—●—● OFFSITE DETOUR

** DESIGN EXCEPTION FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STANLY COUNTY

LOCATION: BRIDGE NO. 120 ON SR 1963 (ST. MARTIN ROAD) OVER SCALY BARK CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND CULVERT

Permit Drawing
Sheet 4 of 8

STATE	STATE PROJECT REFERENCE NO.		SHEET NO.	TOTAL SHEETS
N.C.	B-4279		1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION		
33619.1.1	BRZ-1963 (2)	PE		
33619.2.1	BRZ-1963 (2)	R/W & UTIL.		

R/W PLANS

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

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

WETLAND/STREAM IMPACTS

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 = 3,649
ADT 2028 = 5,649
DHV = 10 %
D = 60 %
T = 5 % *
**V = 60 MPH
* TTST 2% + DUALS 3%
FUNC. CLASS = RURAL MINOR COLLECTOR

PROJECT LENGTH

Length Roadway Tip Project B-4279 = 0.130 Miles
Length Structure Tip Project B-4279 = 0.006 Miles
Total Length Tip Project B-4279 = 0.136 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:
OCT 19, 2007

LETTING DATE:
OCT 21, 2008

JEANNE K. RICHTER P.E.
PROJECT ENGINEER

JODY L. COLE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

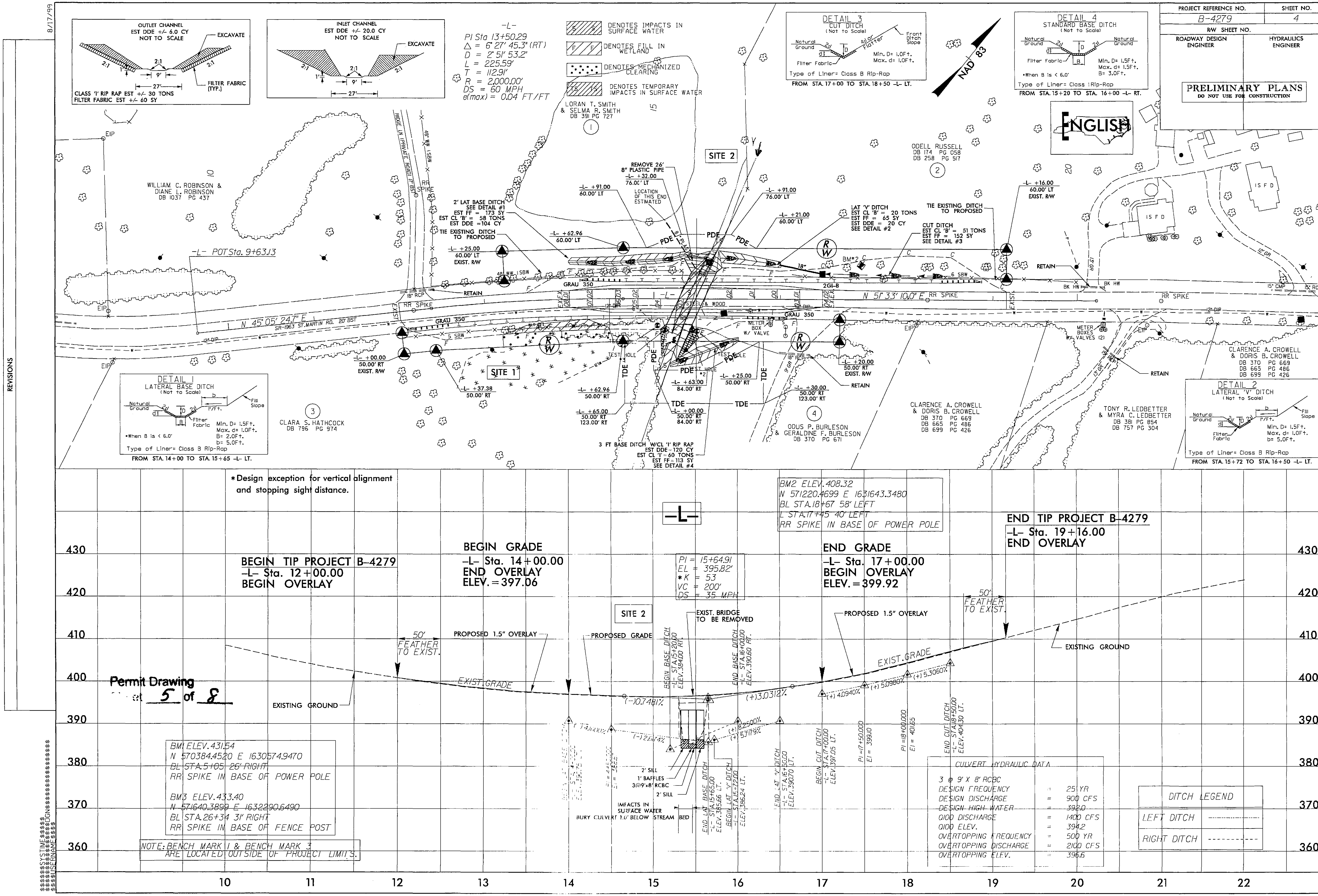
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.


8/17/99
PROJECT REFERENCE NO. B-4279
SHEET NO. 4
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
ENGLISH
NAD 83
REVISIONS
OUTLET CHANNEL
EST DDE +/- 6.0 CY
NOT TO SCALE
EXCAVATE
FILTER FABRIC (TYP.)
CLASS 'I' RIP RAP EST +/- 30 TONS
FILTER FABRIC EST +/- 60 SY
INLET CHANNEL
EST DDE +/- 20.0 CY
NOT TO SCALE
-L-
PI Sta 13+50.29
Δ = 6° 27' 45.3" (RT)
D = 2° 51' 53.2"
L = 225.59'
T = 112.91'
R = 2,000.00'
DS = 60 MPH
e(max) = 0.04 FT/FT
DENOTES IMPACTS IN SURFACE WATER
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DETAIL 3
CUT DITCH
(Not to Scale)
Type of Liner= Class B Rip-Rap
FROM STA. 17+00 TO STA. 18+50 -L- LT.
DETAIL 4
STANDARD BASE DITCH
(Not to Scale)
Type of Liner= Class 1 Rip-Rap
FROM STA. 15+20 TO STA. 16+00 -L- RT.
LORAN T. SMITH & SELMA R. SMITH
DB 391 PG 727
WILLIAM C. ROBINSON & DIANE L. ROBINSON
DB 1037 PG 437
ODELL RUSSELL
DB 174 PG 058
DB 258 PG 517
SITE 2
SITE 1
-L- POT Sta. 9+63.13
N 45° 05' 24.7" E
SR-1963 ST. MARTIN RD. 20' BST
N 51° 33' 10.0" E
CLARA S. HATHCOCK
DB 796 PG 974
ODUS P. BURLESON & GERALDINE F. BURLESON
DB 370 PG 671
CLARENCE A. CROWELL & DORIS B. CROWELL
DB 370 PG 669
DB 665 PG 486
DB 699 PG 426
TONY R. LEDBETTER & MYRA C. LEDBETTER
DB 381 PG 854
DB 757 PG 304
DETAIL 1
LATERAL BASE DITCH
(Not to Scale)
Type of Liner= Class B Rip-Rap
FROM STA. 14+00 TO STA. 15+65 -L- LT.
DETAIL 2
LATERAL 'V' DITCH
(Not to Scale)
Type of Liner= Class B Rip-Rap
FROM STA. 15+72 TO STA. 16+50 -L- LT.
3 FT BASE DITCH W/CL 'I' RIP RAP
EST DDE = 120 CY
EST CL 'I' = 60 TONS
EST FF = 113 SY
SEE DETAIL #4
*Design exception for vertical alignment and stopping sight distance.
-L-
BM2 ELEV. 408.32
N 571220.4699 E 1631643.3480
BL STA. 18+67 58' LEFT
L STA. 17+45 40' LEFT
RR SPIKE IN BASE OF POWER POLE
END TIP PROJECT B-4279
-L- Sta. 19+16.00
END OVERLAY
BEGIN TIP PROJECT B-4279
-L- Sta. 12+00.00
BEGIN OVERLAY
BEGIN GRADE
-L- Sta. 14+00.00
END OVERLAY
ELEV. = 397.06
PI = 15+64.91
EL = 395.82'
*K = 53
VC = 200'
DS = 35 MPH
END GRADE
-L- Sta. 17+00.00
BEGIN OVERLAY
ELEV. = 399.92
SITE 2
EXIST. BRIDGE TO BE REMOVED
PROPOSED 1.5" OVERLAY
PROPOSED GRADE
EXIST. GRADE
EXISTING GROUND
50' FEATHER TO EXIST.
(-)0.7481%
(+)3.0312%
Permit Drawing
Sheet 5 of 8
BM1 ELEV. 431.54
N 570384.4520 E 1630574.9470
BL STA. 5+05 26' RIGHT
RR SPIKE IN BASE OF POWER POLE
BM3 ELEV. 433.40
N 571640.3899 E 1632290.6490
BL STA. 26+34 31' RIGHT
RR SPIKE IN BASE OF FENCE POST
NOTE: BENCH MARK 1 & BENCH MARK 3 ARE LOCATED OUTSIDE OF PROJECT LIMITS.
2' SILL
1' BAFFLES
3@9'x8' RCBC
IMPACTS IN SURFACE WATER
BURY CULVERT 1.0' BELOW STREAM BED
CULVERT HYDRAULIC DATA
3 @ 9' X 8' RCBC
DESIGN FREQUENCY = 25 YR
DESIGN DISCHARGE = 900 CFS
DESIGN HIGH WATER = 392.0
Q100 DISCHARGE = 1400 CFS
Q100 ELEV. = 394.2
OVERTOPPING FREQUENCY = 500 YR
OVERTOPPING DISCHARGE = 2100 CFS
OVERTOPPING ELEV. = 396.6
DITCH LEGEND
LEFT DITCH
RIGHT DITCH
430
420
410
400
390
380
370
360
10
11
12
13
14
15
16
17
18
19
20
21
22

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
B-4279	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ENGLISH

OUTLET CHANNEL
EST DDE +/- 6.0 CY
NOT TO SCALE

INLET CHANNEL
EST DDE +/- 20.0 CY
NOT TO SCALE

CLASS 'I' RIP RAP EST +/- 30 TONS
FILTER FABRIC EST +/- 60 SY

-L-
PI Sta 13+50.29
Δ = 6° 27' 45.3" (RT)
D = 2.51° (53.2')
T = 226.59
L = 451.29
R = 2300.00
DS = 60 MPH
emax) = .004 FT/FT

DENOTES IMPACTS IN SURFACE WATER
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DETAIL 1
LATERAL BASE DITCH
(Not To Scale)
*When B is > 6.0'
Type of Liner= Class B Rip-Rap
FROM STA. 14+00 TO STA. 15+65 -L- LT.

DETAIL 2
LATERAL 'V' DITCH
(Not To Scale)
Type of Liner= Class B Rip-Rap
FROM STA. 15+72 TO STA. 16+50 -L- LT.

DETAIL 3
CUT DITCH
(Not To Scale)
Type of Liner= Class B Rip-Rap
FROM STA. 17+00 TO STA. 18+50 -L- LT.

DETAIL 4
STANDARD BASE DITCH
(Not To Scale)
*When B is < 6.0'
Type of Liner= Class I Rip-Rap
FROM STA. 15+20 TO STA. 16+00 -L- RT.

SITE 1
SITE 2

LORAN T. SMITH & SELMA R. SMITH DB 391 PG 727 (1)
WILLIAM C. ROBINSON & DIANE L. ROBINSON DB 1037 PG 437
CLARA S. HATHCOCK DB 796 PG 974 (3)
ODELL RUSSELL DB 174 PG 658 DB 298 PG 517 (2)
ODUS P. BURLESON & GERALDINE F. BURLESON DB 370 PG 671 (4)
CLARENCE A. CROWELL & DORIS B. CROWELL DB 370 PG 669 DB 665 PG 486 DB 699 PG 426
ANTONY R. BEDBETTER & MYRA L. BEDBETTER DB 381 PG 854 DB 757 PG 304

-L- PI Sta 9+63.63
N 45° 05' 24.7" E
SR 1963 ST. MARTIN RD. 80' RW
N 51° 33' 10.0" E

REMOVE 26' 8" PLASTIC PIPE -L- +32.00 76.00' LT
LOCATION OF THIS END ESTIMATED
2' LAT. BASE DITCH SEE DETAIL #1 EST CL 'B' = 172 SY EST FF = 58 TONS EST DDE = 104 CY
TIE EXISTING DITCH TO PROPOSED
-L- +25.00 60.00' LT EXIST. R/W
-L- +62.96 60.00' LT
-L- +91.00 60.00' LT
-L- +27.00 60.00' LT
LAT. 'V' DITCH EST CL 'B' = 20 TONS EST FF = 55 SY EST DDE = 26 CY SEE DETAIL #2
CUT DITCH EST CL 'B' = 51 TONS EST FF = 152 SY SEE DETAIL #3
-L- +16.00 60.00' LT EXIST. R/W
-L- +00.00 50.00' RT EXIST. R/W
-L- +37.38 50.00' RT
-L- +62.96 50.00' RT
-L- +65.00 50.00' RT 123.00' RT
-L- +63.00 84.00' RT *2
-L- +25.00 50.00' RT
-L- +00.00 84.00' RT TDE
-L- +20.00 50.00' RT EXIST. R/W
-L- +30.00 50.00' RT 123.00' RT
3 FT BASE DITCH W/CL 'I' RIP RAP EST DDE = 120 CY EST CL 'I' = 60 TONS EST FF = 113 SY SEE DETAIL #4

RETAIN
RR SPIKE
GRAU 350
6 SBW
48" WW
18" RCP
12" DIP
METER BOXES & VALVES (2)
METER BOX W/ VALVE
TEST HOLE
PDE
TDE
RW
BM2
BM3

*Design exception for vertical alignment and stopping sight distance.

BEGIN TIP PROJECT B-4279
-L- Sta. 12+00.00
BEGIN OVERLAY

BEGIN GRADE
-L- Sta. 14+00.00
END OVERLAY
ELEV. = 397.06

END GRADE
-L- Sta. 17+00.00
BEGIN OVERLAY
ELEV. = 399.92

END TIP PROJECT B-4279
-L- Sta. 19+16.00
END OVERLAY

PI = 15+64.91
EL = 395.82'
*K = 53
VC = 200'
DS = 35 MPH

BM2 ELEV. 408.32
N 571220.4699 E 1631643.3480
BL STA. 18+67 58' LEFT
L STA. 17+45 40' LEFT
RR SPIKE IN BASE OF POWER POLE

BM1 ELEV. 431.54
N 570384.4520 E 1630574.9470
BL STA. 5+05 26' RIGHT
RR SPIKE IN BASE OF POWER POLE

BM3 ELEV. 433.40
N 571640.3899 E 1632290.6490
BL STA. 26+34 31' RIGHT
RR SPIKE IN BASE OF FENCE POST

NOTE: BENCH MARK 1 & BENCH MARK 3 ARE LOCATED OUTSIDE OF PROJECT LIMITS.

50' FEATHER TO EXIST.
PROPOSED 1.5" OVERLAY
PROPOSED GRADE
EXIST. GRADE
EXISTING GROUND
(-)10.7481%
(-)4.1600%
(-)2.6174%
(+)13.0312%
(+)4.0940%
(+)5.0986%
(+)5.3060%
(+)2.2500%
(+)5.1178%

SITE 2
EXIST. BRIDGE TO BE REMOVED
BEGIN BASE DITCH -L- STA.15+20.00 RT. ELEV.384.00
END BASE DITCH -L- STA.16+00.00 RT. ELEV.390.60
BEGIN LAT. 'V' DITCH -L- STA.15+65.00 ELEV.392.75
END LAT. BASE DITCH -L- STA.15+65.00 ELEV.385.66 LT.
BEGIN LAT. 'V' DITCH -L- STA.15+72.00 ELEV.386.24 LT.
END LAT. 'V' DITCH -L- STA.16+50.00 ELEV.390.70 LT.
BEGIN CUT DITCH -L- STA.17+00.00 ELEV.391.05 LT.
PI =17+50.000 EI = 399.10
PI =18+00.000 EI = 401.65
END CUT DITCH -L- STA.18+50.00 ELEV.404.30 LT.
2' SILL
1' BAFFLES
3@9'x8' RCBC
2' SILL
IMPACTS IN SURFACE WATER
BURY CULVERT 1.0' BELOW STREAM BED

CULVERT HYDRAULIC DATA
3 @ 9' X 8' RCBC
DESIGN FREQUENCY = 25 YR
DESIGN DISCHARGE = 900 CFS
DESIGN HIGH WATER = 392.0
Q100 DISCHARGE = 1400 CFS
Q100 ELEV. = 394.2
OVERTOPPING FREQUENCY = 500 YR
OVERTOPPING DISCHARGE = 2100 CFS
OVERTOPPING ELEV. = 396.6

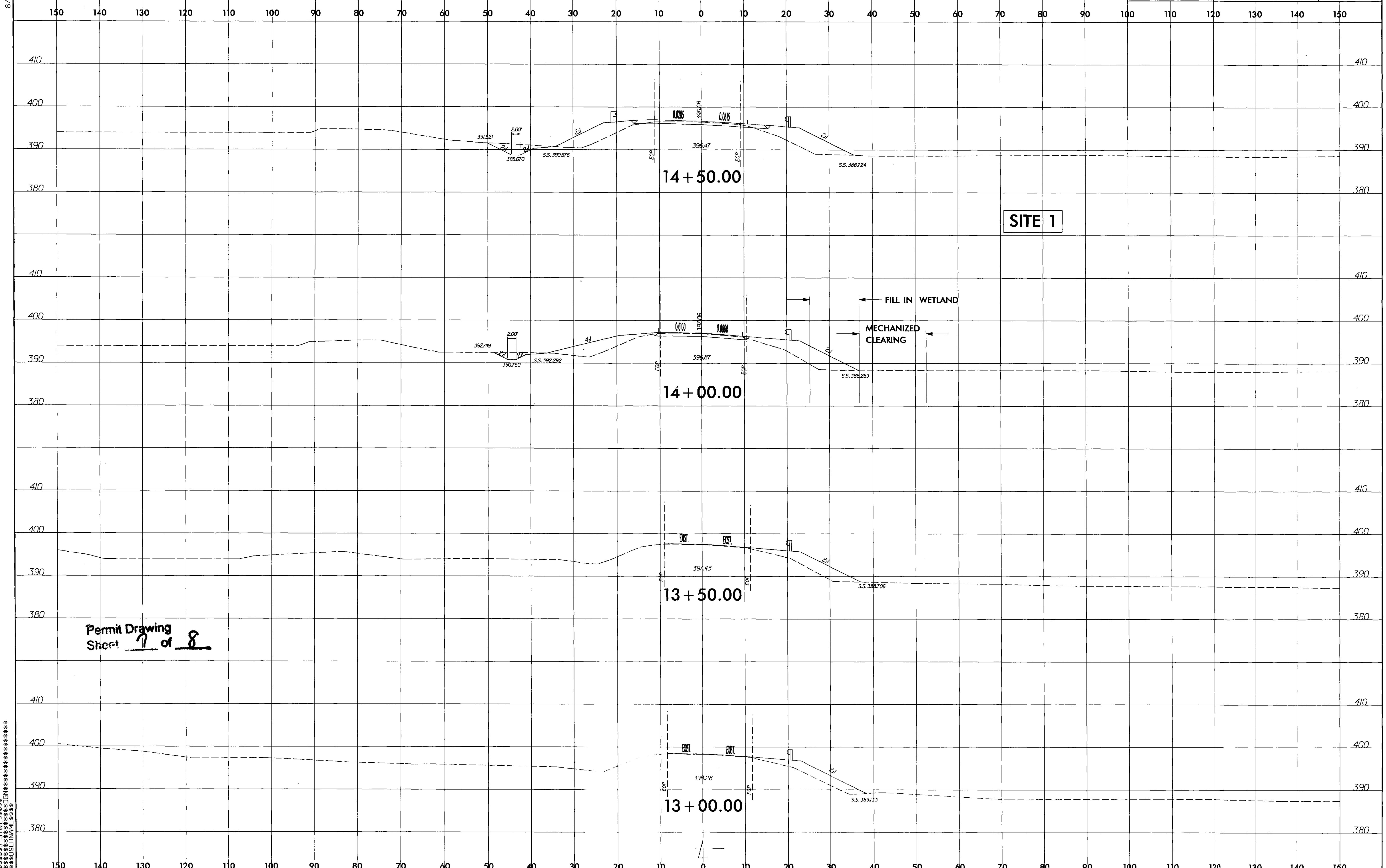
DITCH LEGEND
LEFT DITCH
RIGHT DITCH

Permit Drawing Sheet 6 of 8

10 11 12 13 14 15 16 17 18 19 20 21 22
360 370 380 390 400 410 420 430

$$$$SYSTIME$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-4279	X-3



Permit Drawing
Sheet 7 of 8

PROJ. REFERENCE NO.	SHEET NO.
B-4279	X-4

8/23/99

SITE 2

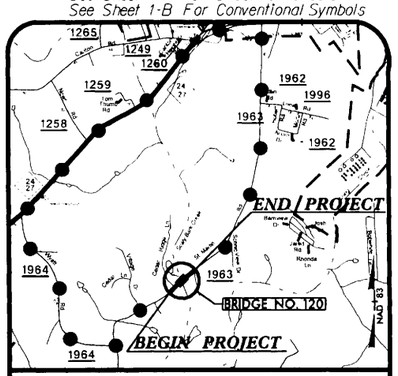
Permit Drawing
Sheet 8 of 8

03/08/99

TIP PROJECT: B-4279

CONTRACT:

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)

OFFSITE DETOUR

** DESIGN EXCEPTION FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STANLY COUNTY

LOCATION: BRIDGE NO. 120 OVER SCALY BARK CREEK ON SR 1963 (ST. MARTIN RD.)

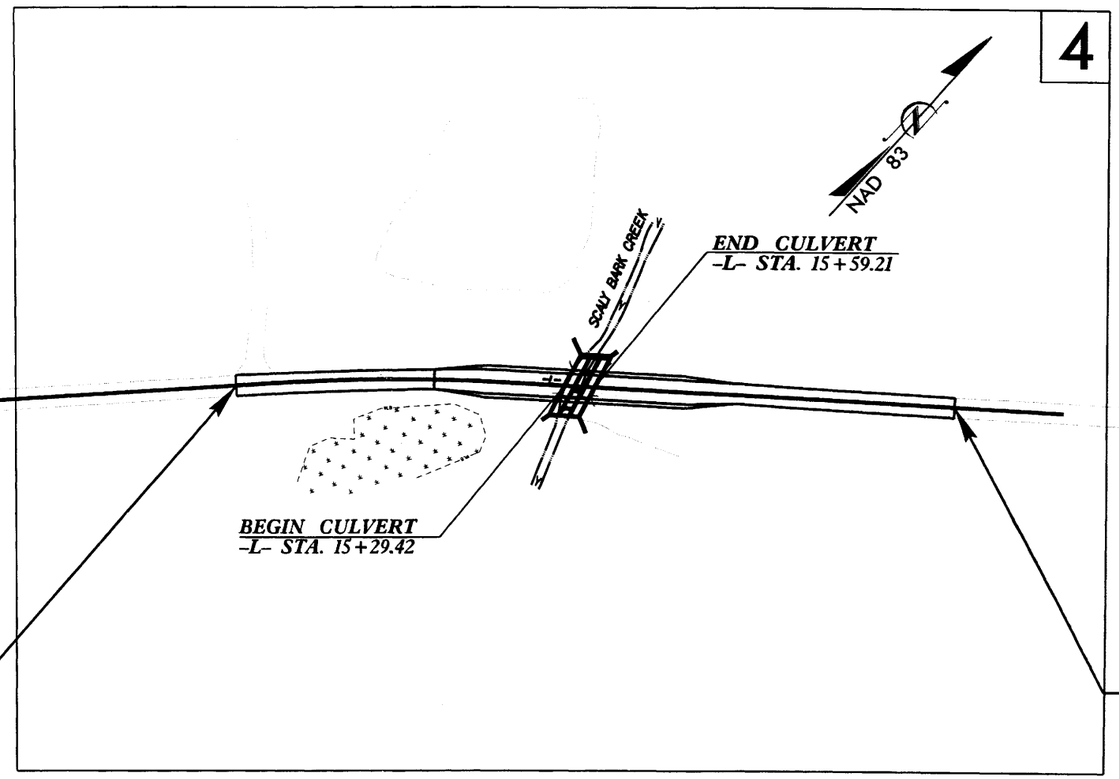
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND CULVERT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4279	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33619.1.1	BRZ-1963 (2)	PE
33619.2.1	BRZ-1963 (2)	R/W & UTIL.

R/W PLANS

4



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

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

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 = 3,649
ADT 2028 = 5,649
DHV = 10 %
D = 60 %
T = 5 % *
**V = 60 MPH
* TTST 2% + DUALS 3%
FUNC. CLASS = RURAL MINOR COLLECTOR

PROJECT LENGTH

Length Roadway Tip Project B-4279 = 0.130 Miles
Length Structure Tip Project B-4279 = 0.006 Miles
Total Length Tip Project B-4279 = 0.136 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:
OCT 19, 2007

LETTING DATE:
OCT 21, 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

P.E.
STATE HIGHWAY DESIGN ENGINEER

29-NOV-2007 11:00
I:\Projects\NCDOT\Bridge Group 46 FinalDesign\B4279\Roadway\Proj\b4279_rdy_tsh.dgn
peaucla AT LPA30660

3/15/06

PROJECT REFERENCE NO.	SHEET NO.
B-4279	1-B

Note: Not to Scale

S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 23
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Proposed Wheel Chair Ramp Curb Cut — WCC
- Curb Cut for Future Wheel Chair Ramp — CCFR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

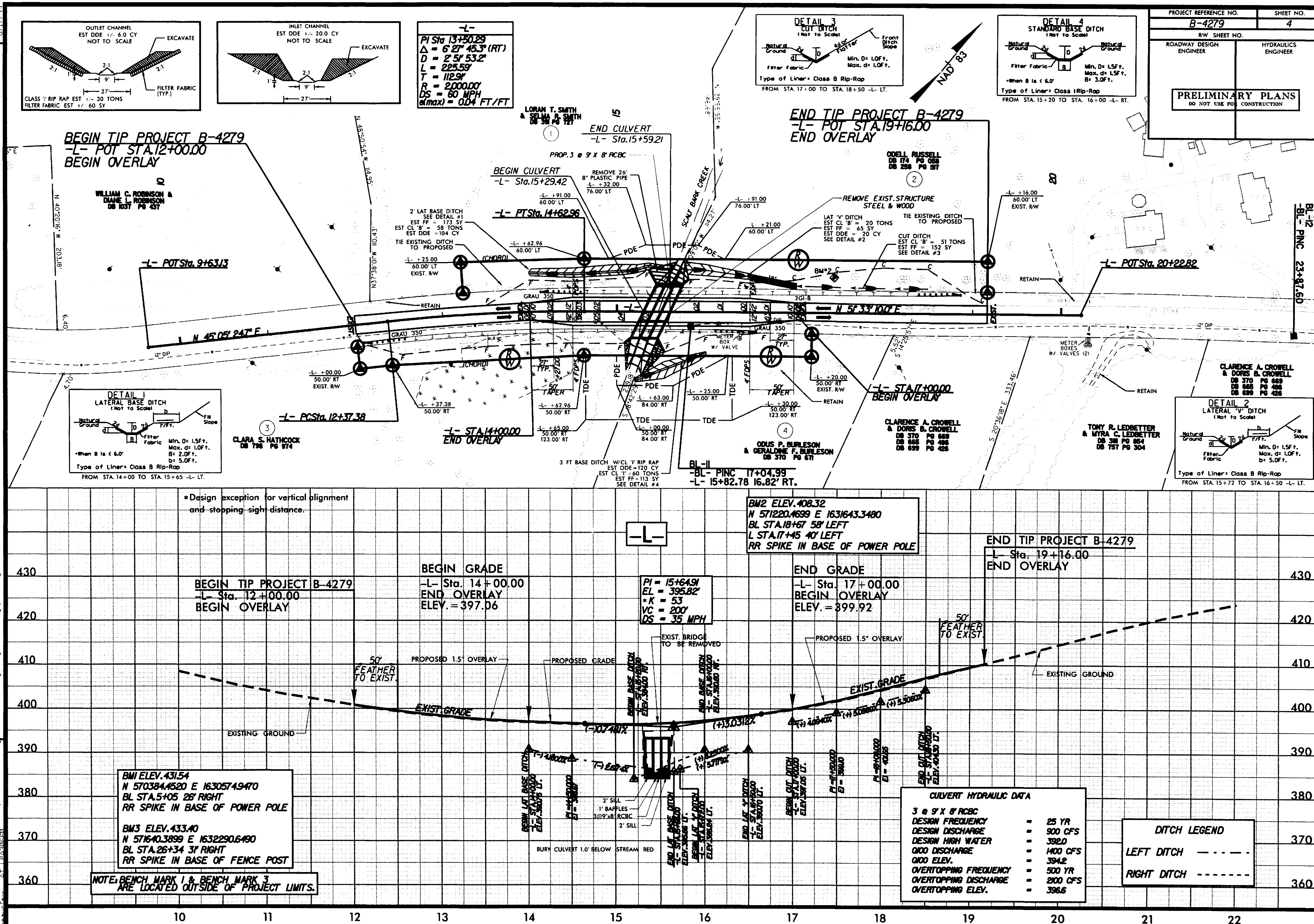
- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

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

MISCELLANEOUS:

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


PROJECT REFERENCE NO. B-4279
SHEET NO. 4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
OUTLET CHANNEL EST DDE +/- 6.0 CY NOT TO SCALE
EXCAVATE
FILTER FABRIC (TYP.)
CLASS 'I' RIP RAP EST +/- 30 TONS
FILTER FABRIC EST +/- 60 SY
INLET CHANNEL EST DDE +/- 20.0 CY NOT TO SCALE
-L-
PI Sta 13+50.29
Δ = 6° 27' 45.3" (RT)
D = 2° 51' 53.2"
L = 225.59'
T = 112.91'
R = 2,000.00'
DS = 60 MPH
e(max) = 0.04 FT/FT
DETAIL 3
CUT DITCH
Type of Liner= Class B Rip-Rap
FROM STA. 17+00 TO STA. 18+50 -L- LT.
NAD 83
DETAIL 4
STANDARD BASE DITCH
Type of Liner= Class I Rip-Rap
FROM STA. 15+20 TO STA. 16+00 -L- RT.
BEGIN TIP PROJECT B-4279
-L- POT STA.12+00.00
BEGIN OVERLAY
END TIP PROJECT B-4279
-L- POT STA.19+16.00
END OVERLAY
LORAN T. SMITH & SELMA B. SMITH
END CULVERT -L- Sta.15+59.21
PROP. 3 @ 9' X 8' RCBC
BEGIN CULVERT -L- Sta.15+29.42
SCALY BARK CREEK
WILLIAM C. ROBINSON & DIANE L. ROBINSON DB 1037 PG 437
-L- PT Sta. 14+62.96
-L- POT Sta. 9+63.13
-L- POT Sta. 20+22.82
REMOVE EXIST. STRUCTURE STEEL & WOOD
ODELL RUSSELL DB 174 PG 058 DB 256 PG 517
N 45°05' 24.7" E
N 51°33' 10.0" E
-L- PC Sta. 12+37.38
-L- STA.14+00.00 END OVERLAY
-L- STA.17+00.00 BEGIN OVERLAY
CLARA S. HATHCOCK DB 796 PG 974
ODUS P. BURLESON & GERALDINE F. BURLESON DB 370 PG 671
CLARENCE A. CROWELL & DORIS B. CROWELL DB 370 PG 669 DB 665 PG 486 DB 699 PG 426
TONY R. LEDBETTER & MYRA C. LEDBETTER DB 381 PG 854 DB 757 PG 304
BL-11 -BL- PINC 17+04.99
-L- 15+82.78 16.82' RT.
-BL-12 -BL- PINC 23+87.60
DETAIL 1
LATERAL BASE DITCH
Type of Liner= Class B Rip-Rap
FROM STA. 14+00 TO STA. 15+65 -L- LT.
DETAIL 2
LATERAL 'V' DITCH
Type of Liner= Class B Rip-Rap
FROM STA. 15+72 TO STA. 16+50 -L- LT.
REVISIONS
*Design exception for vertical alignment and stopping sight distance.
-L-
BM2 ELEV. 408.32
N 571220.4699 E 1631643.3480
BL STA.18+67 58' LEFT
L STA.17+45 40' LEFT
RR SPIKE IN BASE OF POWER POLE
BEGIN TIP PROJECT B-4279
-L- Sta. 12+00.00
BEGIN OVERLAY
BEGIN GRADE
-L- Sta. 14+00.00
END OVERLAY
ELEV. = 397.06
PI = 15+64.91
EL = 395.82'
*K = 53
VC = 200'
DS = 35 MPH
END GRADE
-L- Sta. 17+00.00
BEGIN OVERLAY
ELEV. = 399.92
END TIP PROJECT B-4279
-L- Sta. 19+16.00
END OVERLAY
EXIST. BRIDGE TO BE REMOVED
PROPOSED 1.5" OVERLAY
PROPOSED GRADE
EXIST. GRADE
EXISTING GROUND
50' FEATHER TO EXIST.
(-)0.7481%
(+)3.0312%
BMI ELEV. 431.54
N 570384.4520 E 1630574.9470
BL STA.5+05 26' RIGHT
RR SPIKE IN BASE OF POWER POLE
BM3 ELEV. 433.40
N 571640.3899 E 1632290.6490
BL STA.26+34 31' RIGHT
RR SPIKE IN BASE OF FENCE POST
NOTE: BENCH MARK 1 & BENCH MARK 3 ARE LOCATED OUTSIDE OF PROJECT LIMITS.
2' SILL
1' BAFFLES
3@9'x8' RCBC
BURY CULVERT 1.0' BELOW STREAM BED
CULVERT HYDRAULIC DATA
3 @ 9' X 8' RCBC
DESIGN FREQUENCY = 25 YR
DESIGN DISCHARGE = 900 CFS
DESIGN HIGH WATER = 392.0
Q100 DISCHARGE = 1400 CFS
Q100 ELEV. = 394.2
OVERTOPPING FREQUENCY = 500 YR
OVERTOPPING DISCHARGE = 2100 CFS
OVERTOPPING ELEV. = 396.6
DITCH LEGEND
LEFT DITCH
RIGHT DITCH
430
420
410
400
390
380
370
360
10
11
12
13
14
15
16
17
18
19
20
21
22
8/17/99
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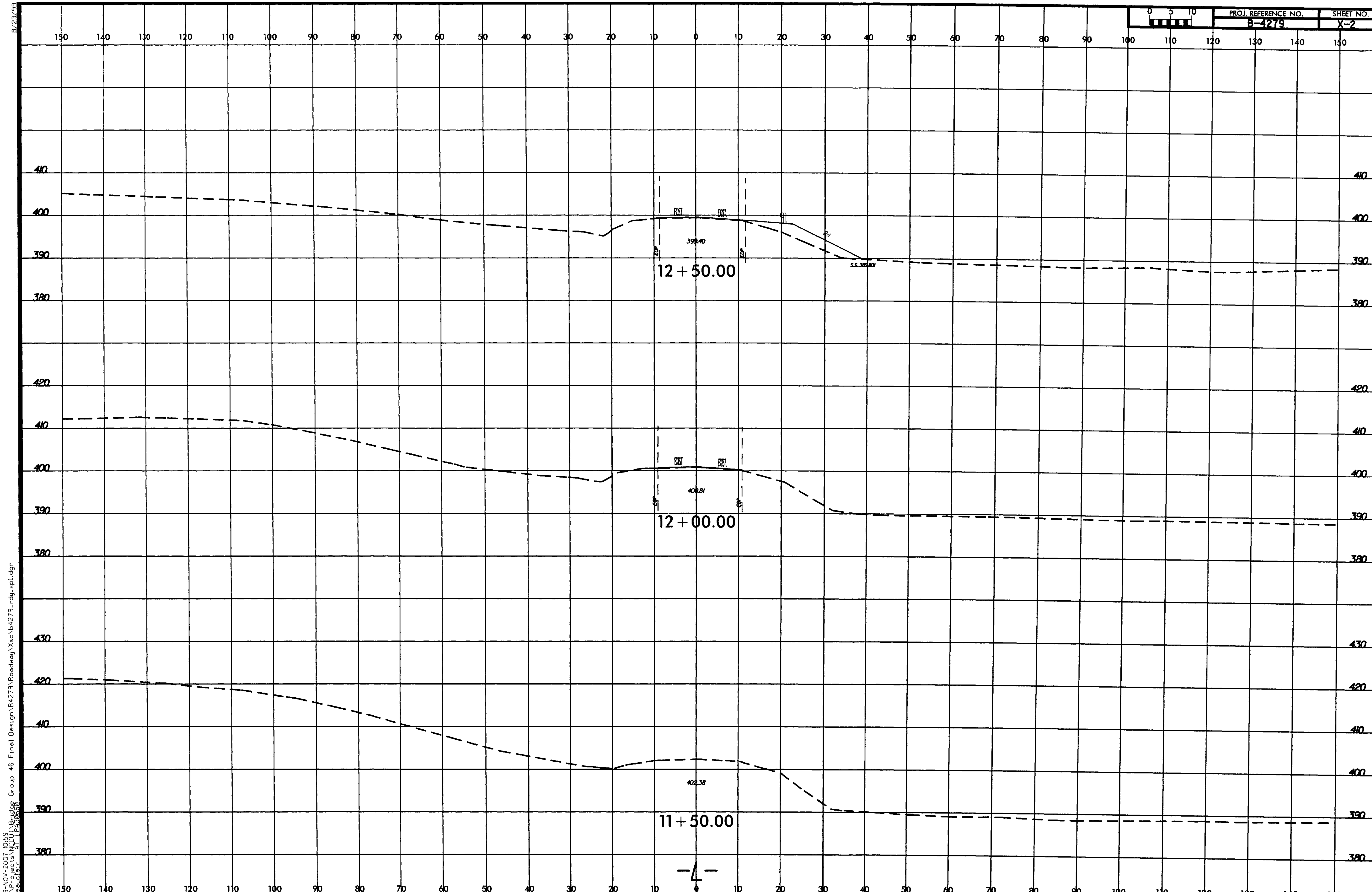
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B-4279
SHEET NO.
X-2
0 5 10
12 + 50.00
EXIST.
399.40
S.S. 389.80
12 + 00.00
400.81
11 + 50.00
402.38
410
400
390
380
420
430
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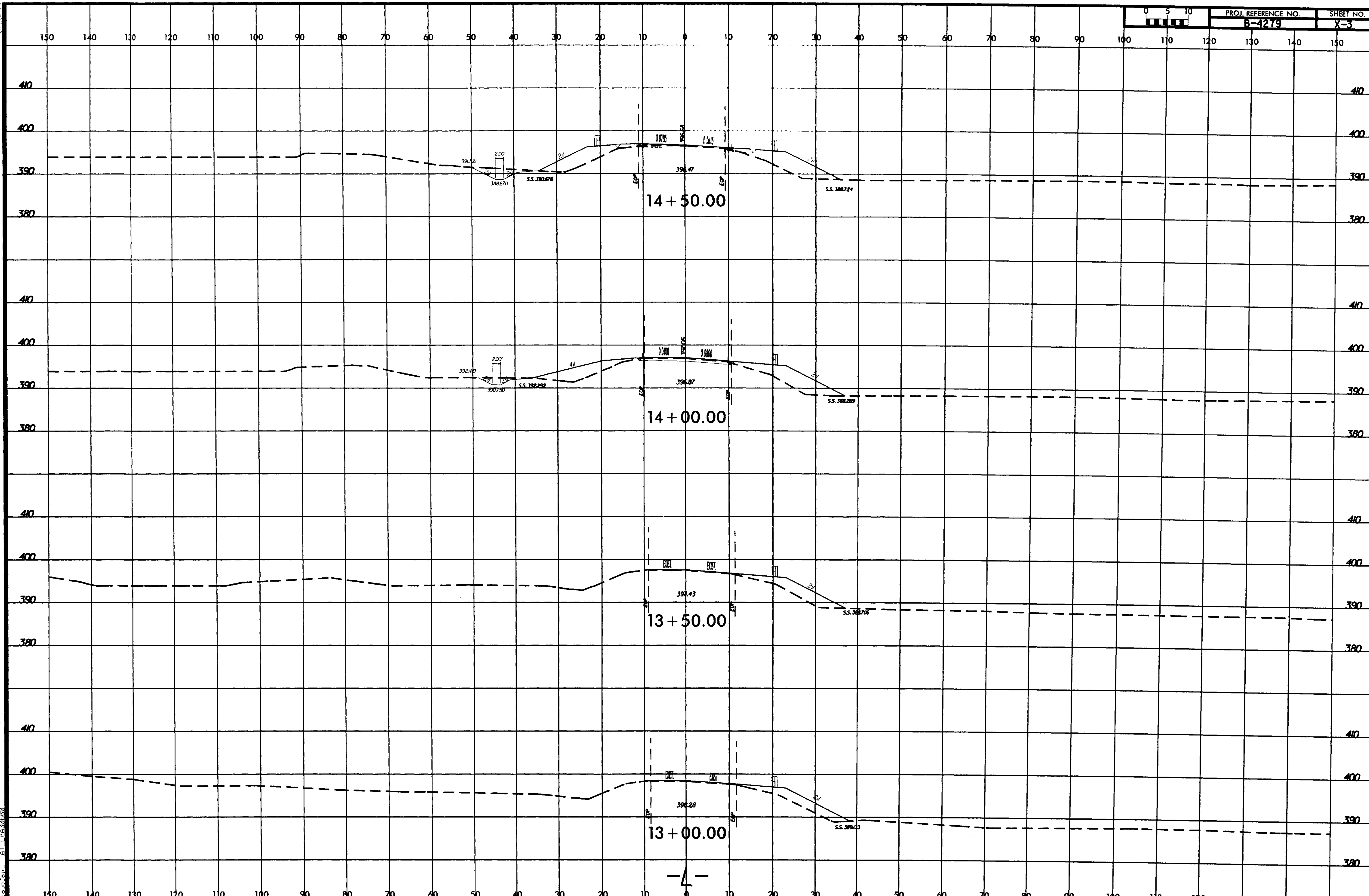

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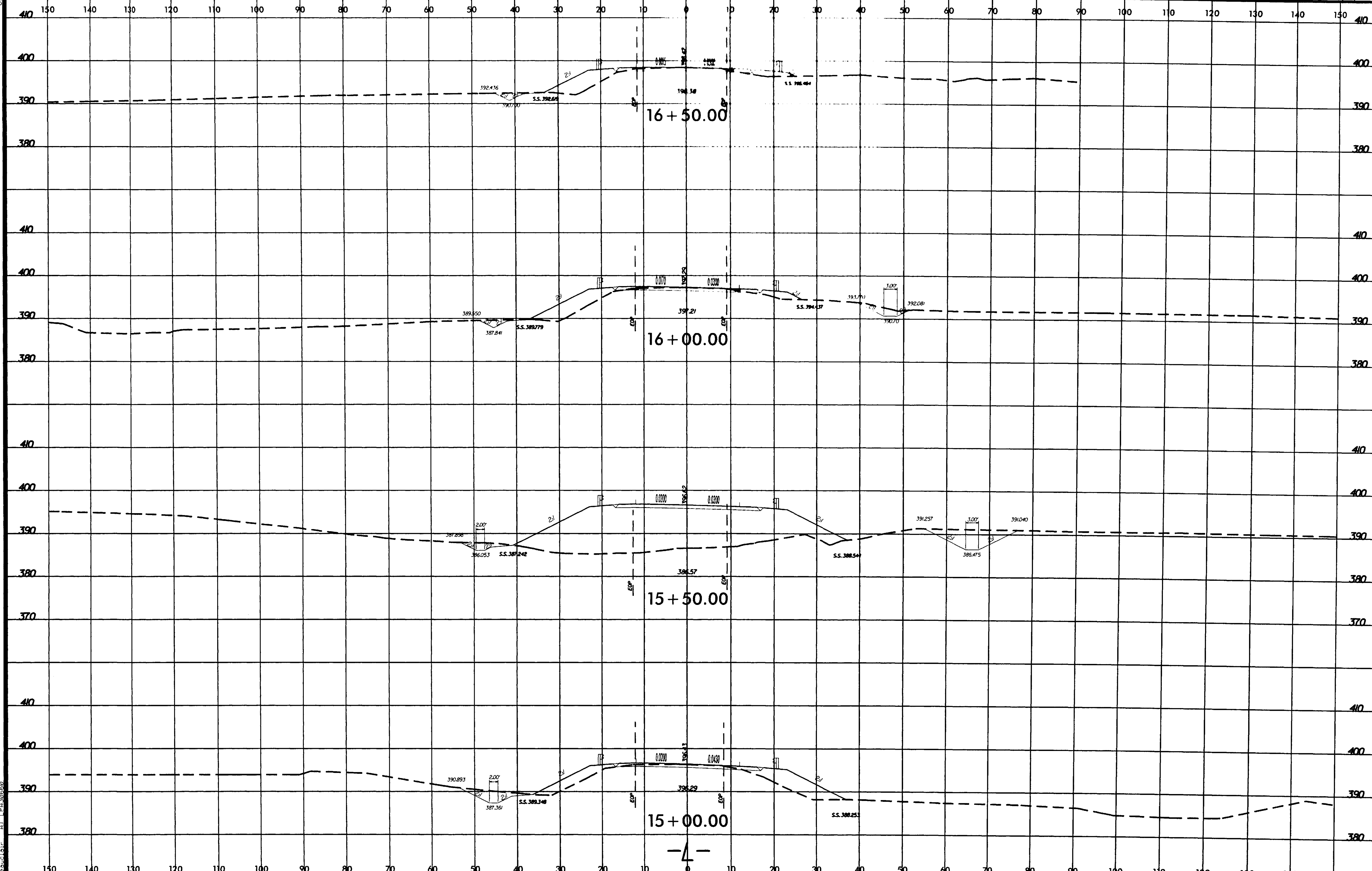

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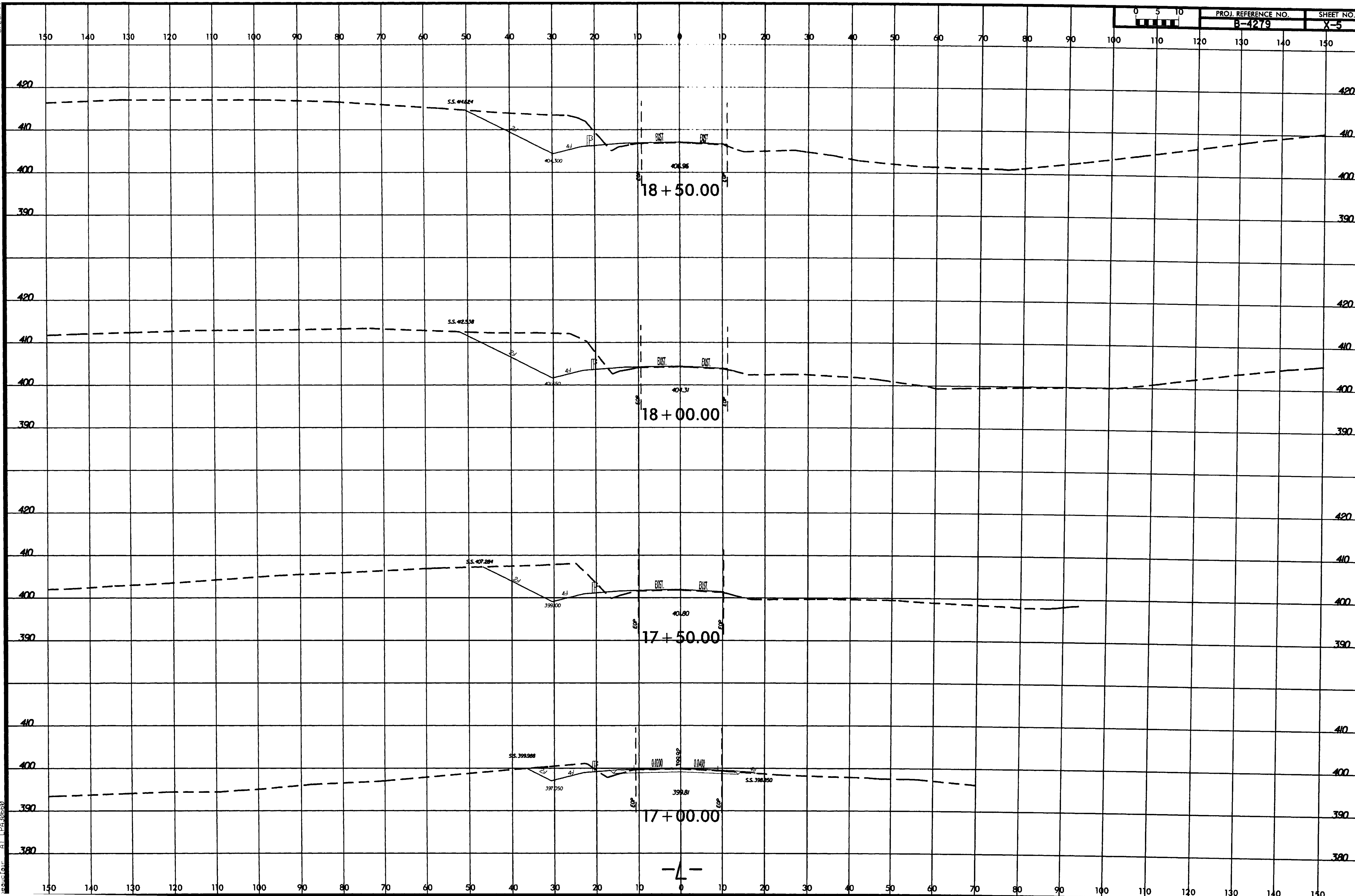

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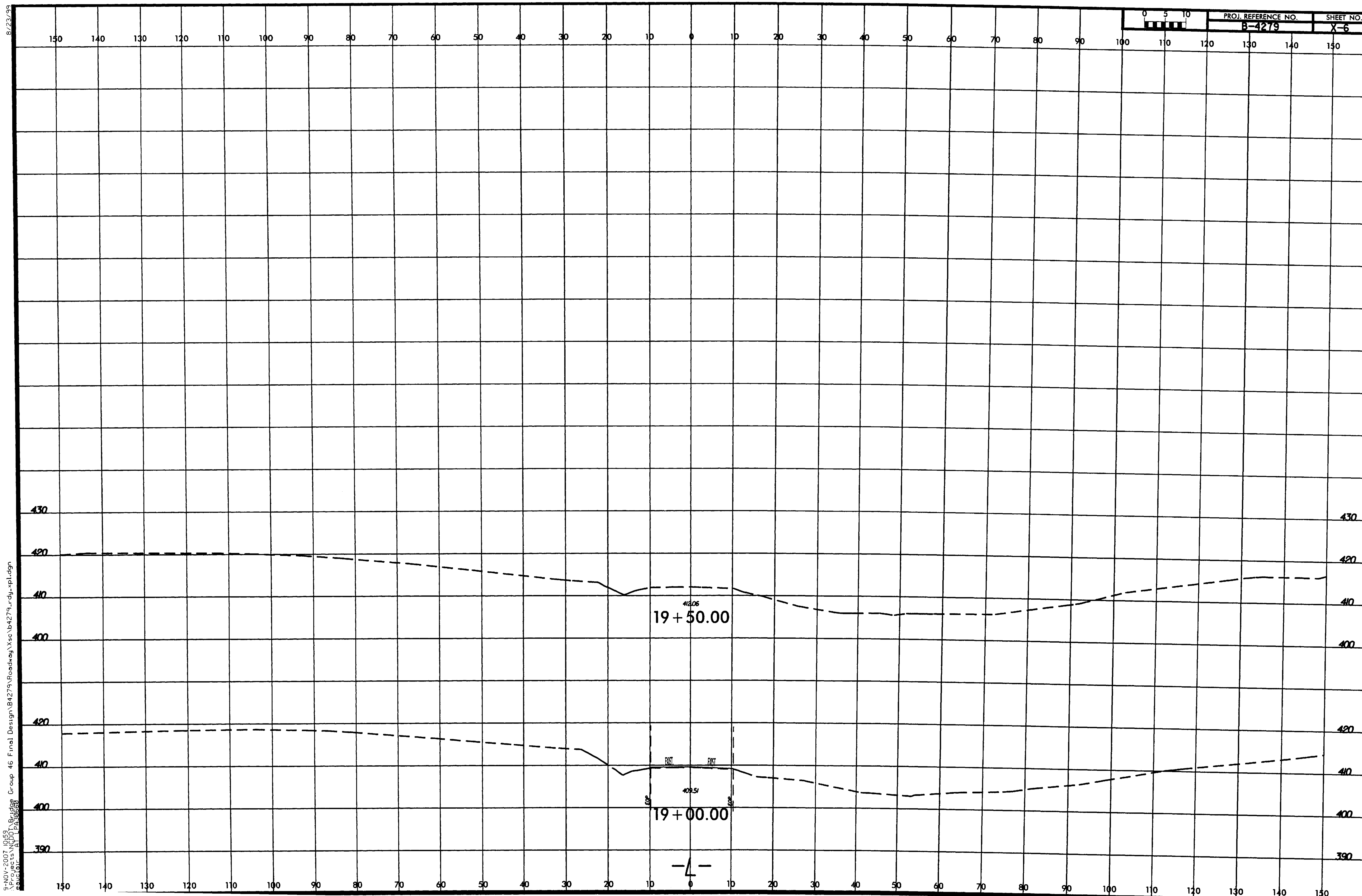
PROJ. REFERENCE NO.	SHEET NO.
B-4279	X-6



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