STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

October 7, 2008

N. C. Dept. of Environment and Natural Resources
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

Attention: Mr. Stephen Lane
NCDOT Coordinator

Dear Sir:

Subject: **CAMA General Permit Application** for the proposed replacement of Bridge No. 90 over Tranter's Creek on SR 1414 / SR 1556, in Beaufort & Pitt Counties. Federal Aid Project No. BRZ-1414(2), TIP No. B-4022. Debit $400.00 from WBS 33389.1.1.

Reference: CAMA General Permit No. 49070

The North Carolina Division of Coastal Management issued CAMA General Permit No. 49070 for the above referenced project on November 6, 2007. This permit will expire November 6, 2008. The North Carolina Department of Transportation (NCDOT) hereby reapplies for a CAMA General Permit.

Please find enclosed the permit drawings, landowner receipts, MP forms for CAMA General Application, and half-size plan sheets for the above referenced project. The NCDOT proposes to replace existing Bridge No. 90 on SR 1414 / SR 1556 over Tranter's Creek in Beaufort & Pitt Counties. The project involves replacement of the existing bridge structure with a 220-foot box beam bridge at approximately the same location and roadway elevation of the existing structure using top-down construction. There will be 0.04 acre of permanent impacts to wetlands adjacent to Tranter's Creek. Traffic will be detoured off-site along surrounding roads, during construction.

Copies of the Section 404 and 401 permits and this permit application are posted on the NCDOT website at: http://www.doh.dot.state.nc.us/preconstruct/pe/neu/permit.html

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

Thank you for your time and assistance with this project. Please contact Tyler Stanton at tstanton@ncdot.gov or (919) 715-1439 if you have any questions or need additional information.

Sincerely,

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

Enclosures (5)

CC:
W/o attachment (see website for attachments)
Mr. William Wescott, USACE
Mr. Brian Wrenn, NCDWQ
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. C. E. Lassiter, P.E., Division Engineer
Mr. Jay Johnson, Environmental Officer
Mr. Scott McLendon, USACE, Wilmington
Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
Mr. Ron Sechler, NMFS
Ms. Anne Deaton, NCDMF
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Ms. Beth Harmon, EEP
Mr. Todd Jones, NCDOT External Audit Branch
Mr. John Williams, PE, PDEA

Form DCM MP-2

EXCAVATION and FILL

(Except for bridges and culverts)

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

Describe below the purpose of proposed excavation and/or fill activities. **All values should be given in feet.**

	Access Channel (NLW or NWL)	Canal	Boat Basin	Boat Ramp	Rock Groin	Rock Breakwater	Other (excluding shoreline stabilization)
Length							
Width							
Avg. Existing Depth					NA	NA	
Final Project Depth					NA	NA	

1. EXCAVATION

☒ *This section not applicable*

a. Amount of material to be excavated from below NHW or NWL in cubic yards.

b. Type of material to be excavated.

c. (i) Does the area to be excavated include coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW ____ ☐SAV ____ ☐SB ____

☐WL ____ ☐None

(ii) Describe the purpose of the excavation in these areas:

d. High-ground excavation in cubic yards.

2. DISPOSAL OF EXCAVATED MATERIAL

☒ *This section not applicable*

a. Location of disposal area.

b. Dimensions of disposal area.

c. (i) Do you claim title to disposal area?

☐Yes ☐No ☐NA

(ii) If no, attach a letter granting permission from the owner.

d. (i) Will a disposal area be available for future maintenance?

☐Yes ☐No ☐NA

(ii) If yes, where?

e. (i) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW ____ ☐SAV ____ ☐SB ____

☐WL ____ ☐None

(ii) Describe the purpose of disposal in these areas:

f. (i) Does the disposal include any area in the water?

☐Yes ☐No ☐NA

(ii) If yes, how much water area is affected?

3. SHORELINE STABILIZATION

☐ *This section not applicable*

(If development is a wood groin, use MP-4 – Structures)

a. Type of shoreline stabilization:
☐Bulkhead ☒Riprap ☐Breakwater/Sill ☐Other: _____

b. Length: 115 ft on west side and 135 ft on east side
Width: 10 ft to 25 ft

c. Average distance waterward of NHW or NWL: 20 ft

d. Maximum distance waterward of NHW or NWL: 35 ft

e. Type of stabilization material:
Class II Riprap with a midrange size of 14 inches will be placed on bridge spill through slope at each Bridge abutment end.

f. (i) Has there been shoreline erosion during preceding 12 months?
☐Yes ☒No ☐NA
(ii) If yes, state amount of erosion and source of erosion amount information.

g. Number of square feet of fill to be placed below water level.
Bulkhead backfill _____ Riprap N/A
Breakwater/Sill _____ Other _____

h. Type of fill material.
Riprap

i. Source of fill material.
local quarry

4. OTHER FILL ACTIVITIES
(Excluding Shoreline Stabilization)

☒*This section not applicable*

a. (i) Will fill material be brought to the site? ☐Yes ☐No ☐NA
If yes,
(ii) Amount of material to be placed in the water _____
(iii) Dimensions of fill area _____
(iv) Purpose of fill

b. (i) Will fill material be placed in coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
☐CW _____ ☐SAV _____ ☐SB _____
☐WL _____ ☐None
(ii) Describe the purpose of the fill in these areas:

5. GENERAL

a. How will excavated or fill material be kept on site and erosion controlled?
By temporary stockpile on existing road. NCDOT's erosion and sediment control policies apply.

b. What type of construction equipment will be used (e.g., dragline, backhoe, or hydraulic dredge)?
Crane, grading equipment (backhoe, bull dozer etc.)

c. (i) Will navigational aids be required as a result of the project?
☐Yes ☒No ☐NA
(ii) If yes, explain what type and how they will be implemented.

d. (i) Will wetlands be crossed in transporting equipment to project site? ☐Yes ☒No ☐NA
(ii) If yes, explain steps that will be taken to avoid or minimize environmental impacts.

E. L. Lush
Applicant Signature

Date
10.7.08

Project Name
B-4022

Applicant Name

Form DCM MP-5

BRIDGES and CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. BRIDGES

☐ *This section not applicable*

a. Is the proposed bridge:
☐Commercial ☒Public/Government ☐Private/Community

b. Water body to be crossed by bridge:
Tranter's Creek

c. Type of bridge (construction material):
Concrete Box Beam

d. Water depth at the proposed crossing at NLW or NWL:
14'

e. (i) Will proposed bridge replace an existing bridge? ☒Yes ☐No
If yes,
(ii) Length of existing bridge: 175'
(iii) Width of existing bridge: 24'
(iv) Navigation clearance underneath existing bridge: 7.5'
(v) Will all, or a part of, the existing bridge be removed?
(Explain) All will be removed

f. (i) Will proposed bridge replace an existing culvert? ☐Yes ☒No
If yes,
(ii) Length of existing culvert: _____
(iii) Width of existing culvert: _____
(iv) Height of the top of the existing culvert above the NHW or NWL: _____
(v) Will all, or a part of, the existing culvert be removed?
(Explain)

g. Length of proposed bridge: 220'

h. Width of proposed bridge: 30'

i. Will the proposed bridge affect existing water flow? ☐Yes ☒No
If yes, explain:

j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? ☒Yes ☐No
If yes, explain: Height increases 0.5'. Three piers in the water will replace four existing piers in water.

k. Navigation clearance underneath proposed bridge: 8'

l. Have you contacted the U.S. Coast Guard concerning their approval? ☐Yes ☒No
If yes, explain:

m. Will the proposed bridge cross wetlands containing no navigable waters? ☐Yes ☒No
If yes, explain:

n. Height of proposed bridge above wetlands: 11'

2. CULVERTS

☒ *This section not applicable*

a. Number of culverts proposed: _____

b. Water body in which the culvert is to be placed:

< Form continues on back>

c. Type of culvert (construction material):

d. (i) Will proposed culvert replace an existing bridge? ☐Yes ☐No

If yes,

(ii) Length of existing bridge: _____

(iii) Width of existing bridge: _____

(iv) Navigation clearance underneath existing bridge: _____

(v) Will all, or a part of, the existing bridge be removed? (Explain)

_____

_____

_____

e. (i) Will proposed culvert replace an existing culvert? ☐Yes ☐No

If yes,

(ii) Length of existing culvert(s): _____

(iii) Width of existing culvert(s): _____

(iv) Height of the top of the existing culvert above the NHW or NWL: _____

(v) Will all, or a part of, the existing culvert be removed? (Explain)

_____

_____

_____

f. Length of proposed culvert: _____

g. Width of proposed culvert: _____

h. Height of the top of the proposed culvert above the NHW or NWL.

_____

i. Depth of culvert to be buried below existing bottom contour.

_____

j. Will the proposed culvert affect navigation by reducing or increasing the existing navigable opening? ☐Yes ☐No

If yes, explain:

_____

_____

_____

k. Will the proposed culvert affect existing water flow? ☐Yes ☐No

If yes, explain:

_____

_____

_____

3. EXCAVATION and FILL

☐*This section not applicable*

a. (i) Will the placement of the proposed bridge or culvert require any excavation below the NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be excavated: _____

(iii) Avg. width of area to be excavated: _____

(iv) Avg. depth of area to be excavated: _____

(v) Amount of material to be excavated in cubic yards: _____

b. (i) Will the placement of the proposed bridge or culvert require any excavation within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW _____ ☐SAV _____ ☐SB _____

☐WL _____ ☒None

(ii) Describe the purpose of the excavation in these areas:

_____

_____

_____

c. (i) Will the placement of the proposed bridge or culvert require any high-ground excavation? ☒Yes ☐No

If yes,

(ii) Avg. length of area to be excavated: 50'

(iii) Avg. width of area to be excavated: 50'

(iv) Avg. depth of area to be excavated: 5'

(v) Amount of material to be excavated in cubic yards: 465 cubic yards

d. If the placement of the bridge or culvert involves any excavation, please complete the following:

(i) Location of the spoil disposal area: to be determined by contractor

(ii) Dimensions of the spoil disposal area: to be determined by contractor

(iii) Do you claim title to the disposal area? ☐Yes ☒No *(If no, attach a letter granting permission from the owner.)*

(iv) Will the disposal area be available for future maintenance? ☐Yes ☒No

(v) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAVs), other wetlands (WL), or shell bottom (SB)?

☐CW ☐SAV ☐WL ☐SB ☒None

If any boxes are checked, give dimensions if different from (ii) above.

(vi) Does the disposal area include any area below the NHW or NWL? ? ☐Yes ☒No

If yes, give dimensions if different from (ii) above.

e. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed below NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be filled: _____

(iii) Avg. width of area to be filled: _____

(iv) Purpose of fill:

f. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW _____ ☐SAV _____ ☐SB _____

☒WL 245' ☐None

(ii) Describe the purpose of the excavation in these areas:

roadway approaches for additional safety

g. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed on high-ground? ☒Yes ☐No

If yes,

(ii) Avg. length of area to be filled: 575'

(iii) Avg. width of area to be filled: 45'

(iv) Purpose of fill: Roadway

4. GENERAL

a. Will the proposed project require the relocation of any existing utility lines? ☐Yes ☒No

If yes, explain:

If this portion of the proposed project has already received approval from local authorities, please attach a copy of the approval or certification.

b. Will the proposed project require the construction of any temporary detour structures? ☐Yes ☒No

If yes, explain:

< Form continues on back>

c. Will the proposed project require any work channels? ☐Yes ☒No

If yes, complete Form DCM-MP-2.

d. How will excavated or fill material be kept on site and erosion controlled?

NCDOT's Sediment and Erosion Control practices will apply.

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?

Heavy highway construction equipment

f. Will wetlands be crossed in transporting equipment to project site? ☐Yes ☒No

If yes, explain steps that will be taken to avoid or minimize environmental impacts.

g. Will the placement of the proposed bridge or culvert require any shoreline stabilization? ☐Yes ☒No

If yes, complete form MP-2, Section 3 for Shoreline Stabilization only.

10.7.08

Date

B-4022

Project Name

Applicant Name

E. L. Lusk

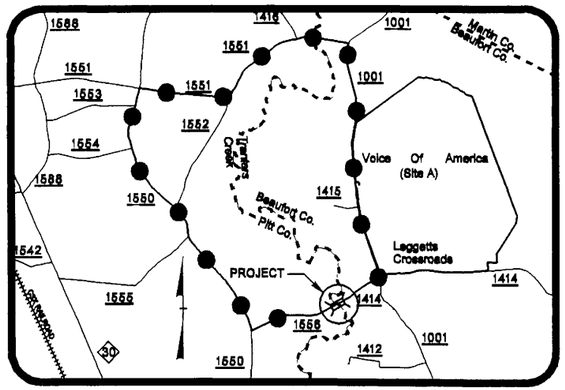
Applicant Signature

09/08/99

TIP PROJECT: B-4022

CONTRACT: C201496

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



VICINITY MAP

DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PITT & BEAUFORT COUNTY

LOCATION: BRIDGE NO. 90 OVER TRANTERS CREEK ON SR 1414 & SR 1556

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

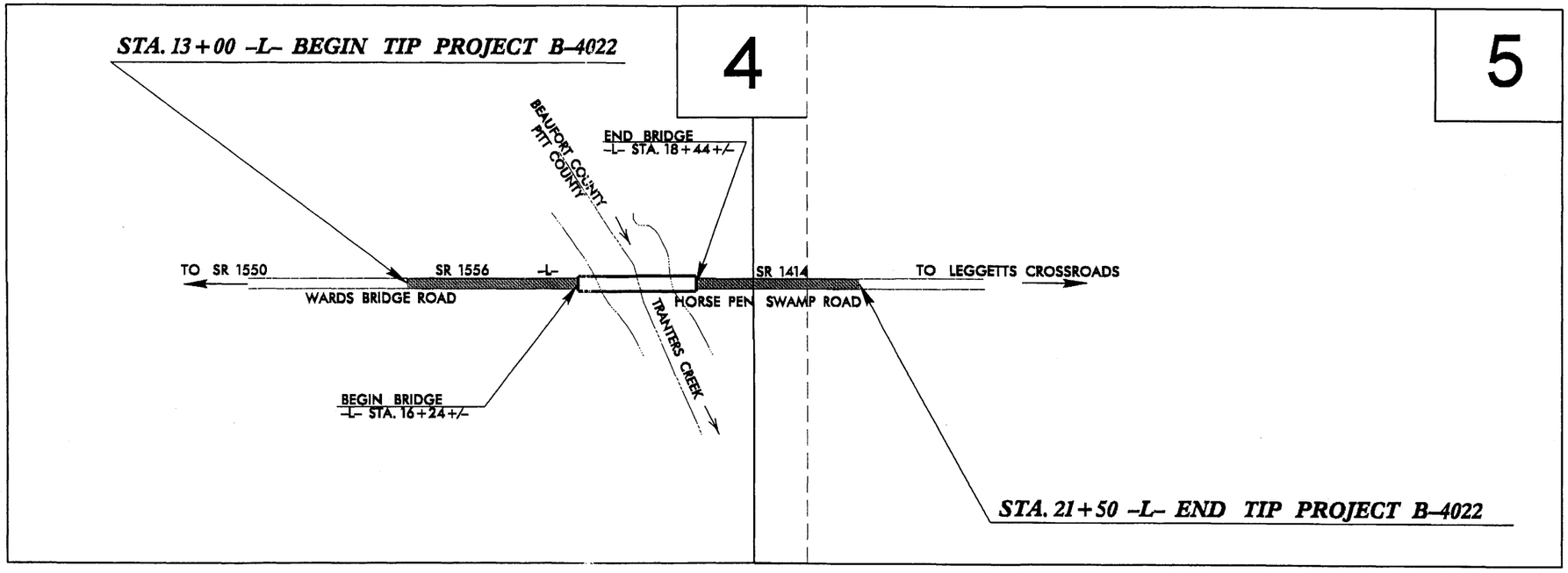
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4022	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33389.1.1	BRZ-1414(2)	PE
33389.2.1	BRZ-1414(2)	R /W, UTILITIES

NAD 83/95

Permit Drawing
Sheet 1 of 6

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

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 2006	=	452
ADT 2026	=	713
DHV	=	10 %
D	=	60 %
T	=	3 % *
V	=	60 MPH

* TTST = 1% DUAL = 2%
FUNC. CLASS = RURAL LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4022	=	0.119 MILES
LENGTH STRUCTURE TIP PROJECT B-4022	=	0.042 MILES
TOTAL LENGTH TIP PROJECT B-4022	=	0.161 MILES

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

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 3, 2005

LETTING DATE: JUNE 20, 2006

GARY LOVERING, PE
PROJECT ENGINEER

RON McCOLLUM, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER P.E.

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

9-SEP-2005 13:04
i:\Roadway\Proj\B-4022_rdy_tsh.dgn
morgan AT HY221528

8/17/99

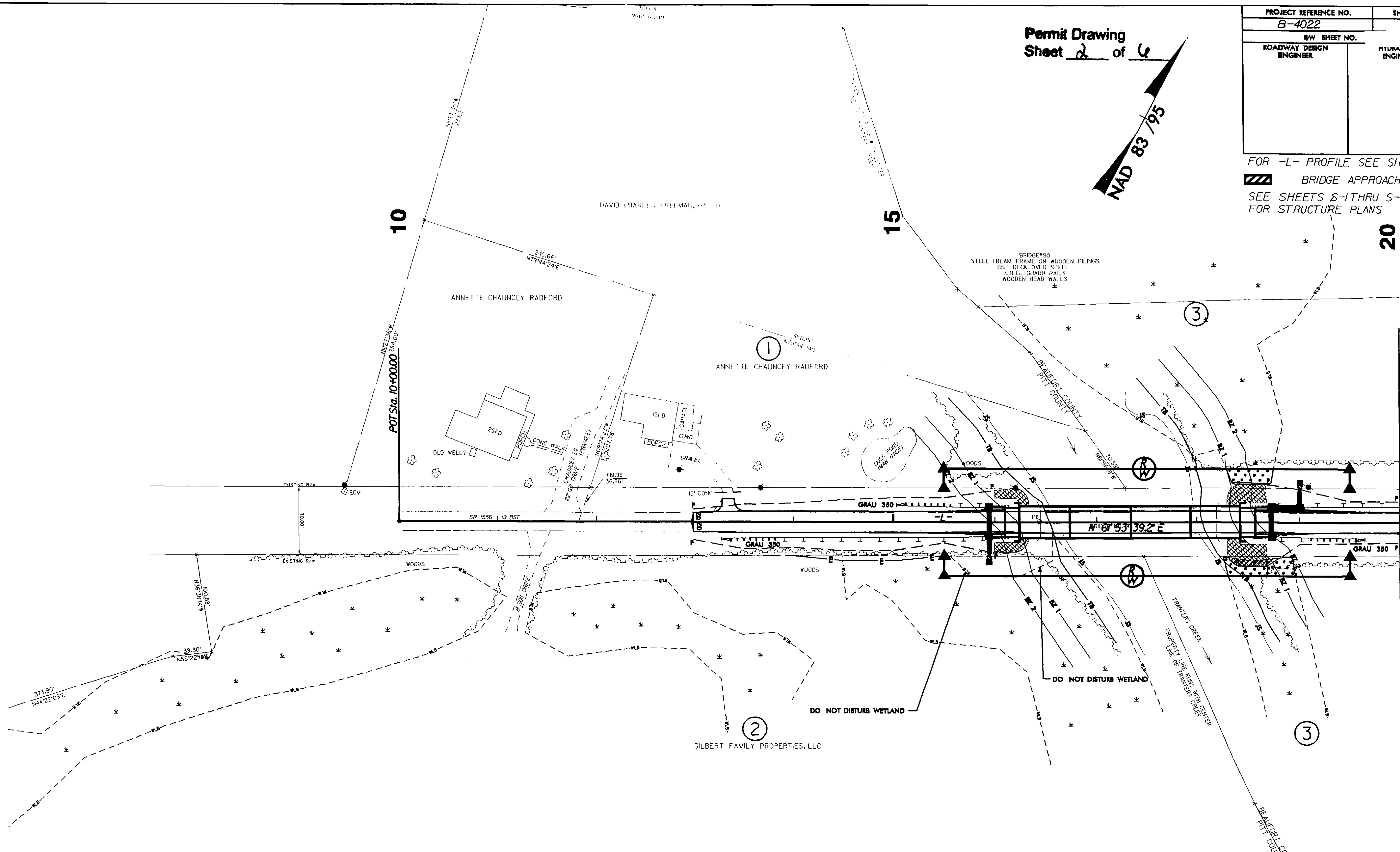
PROJECT REFERENCE NO.	SHEET NO.
B-4022	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

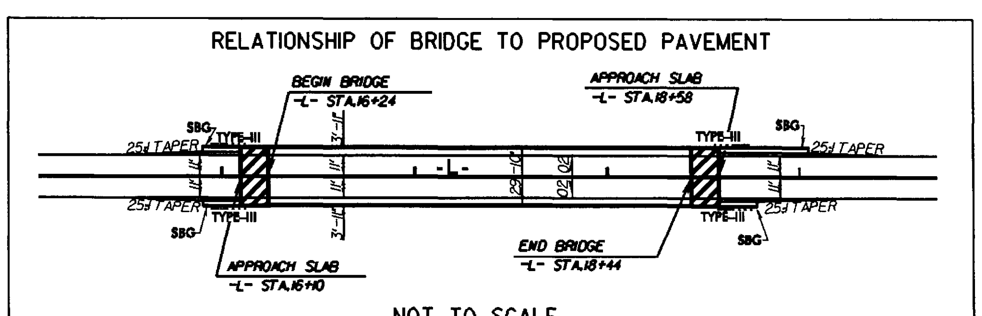
Permit Drawing
Sheet 2 of 6

FOR -L- PROFILE SEE SHEET 6

BRIDGE APPROACH SLAB

SEE SHEETS S-1 THRU S-?
FOR STRUCTURE PLANS





WETLAND IMPACTS

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

REVISIONS

07-OCT-2005 13:27
r:\hydraulics\b-4022_hyd_wet_psh04.dgn
smorgan AT HY22162B

PROJECT REFERENCE NO.	SHEET NO.
B-4022	6

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

Permit Drawing
Sheet 3 of 6

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

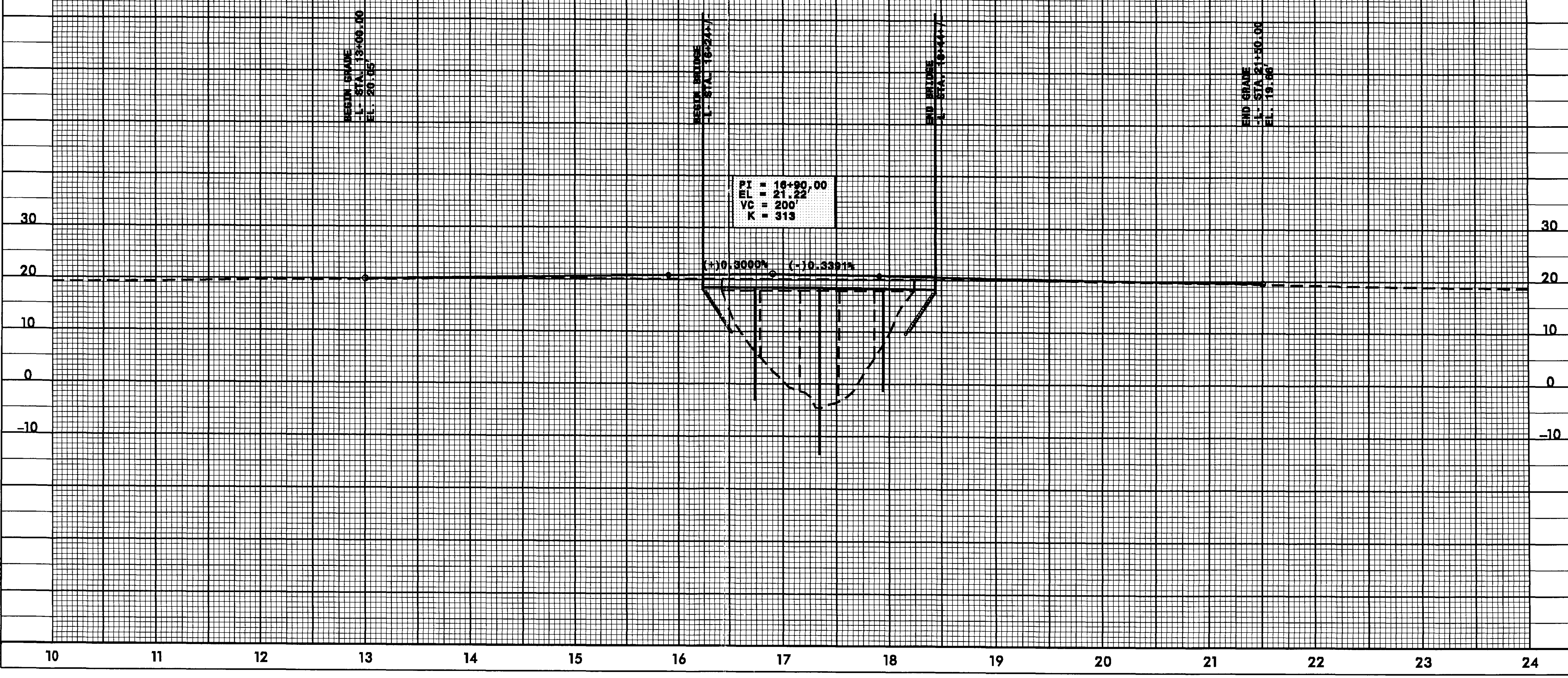
-L-

BM #1 RR SPIKE SET IN 36" OAK
92' RIGHT OF -L- STA 16+73
ELEV.= 14.87'

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 6400 CFS
DESIGN FREQUENCY	25 YRS
DESIGN HW ELEVATION	= 18.1 FT
BASE DISCHARGE	= 9300 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 20.8 FT
OVERTOPPING DISCHARGE	= 7800 CFS
OVERTOPPING FREQUENCY	= 50 YRS
OVERTOPPING ELEVATION	= 19.5 FT
EST. NORM. W.S. ELEV.	= 10.5 FT
DATE OF SURVEY	= 02-20-03
W.S. ELEVATION AT DATE OF SURVEY	= 12.6 FT

PROFILE VIEW



5/14/99

18-AUG-2005 16:14
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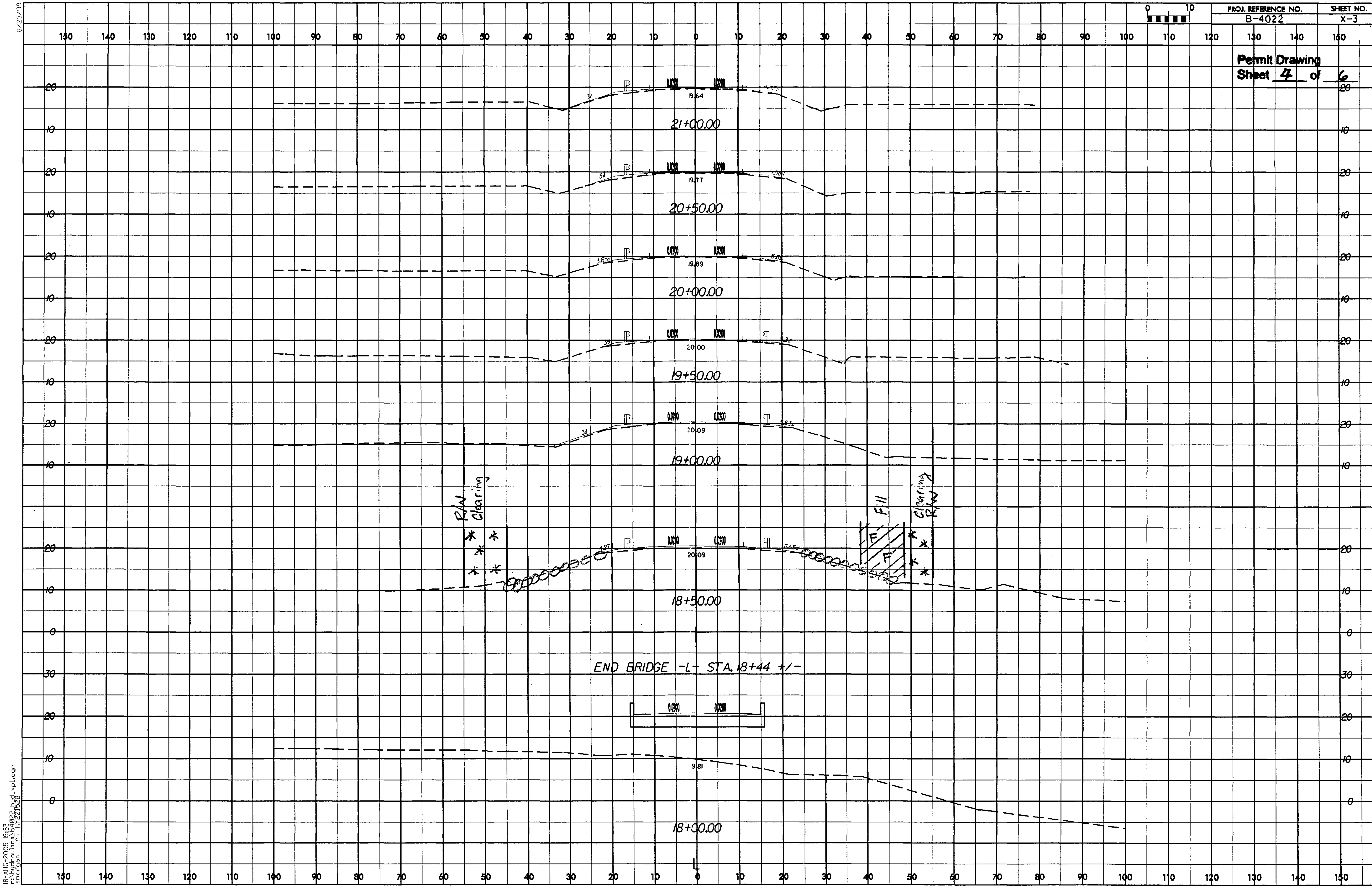

PROJ. REFERENCE NO.
B-4022
SHEET NO.
X-3
Permit Drawing
Sheet 4 of 6
21+00.00
19.64
20+50.00
19.77
20+00.00
19.89
19+50.00
20.00
19+00.00
20.09
R/W
Clearing
Fill
Clearing
R/W
18+50.00
20.09
END BRIDGE -L- STA. 18+44 +/-
9.81
18+00.00
8/23/99
18-AUG-2005 15:53
smorgan

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	16+24/18+43	220' BRIDGE	0.006			0.034						
TOTALS:			0.006			0.034						

Note: There is an overlap with buffer impacts as follows:
232 sq. ft. fill in BZ1; 479 sq. ft. clearjng in BZ1; 305 sq. ft. clearing in BZ2.

RECEIVED
OCT 14 2005
OFFICE OF NATURAL ENVIRONMENT

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

BEAUFORT/PITT
PROJECT:33389.1.1 (B4022)

SHEET 10/7/2005

ATN Revised 3/31/05

Permit Drawing
Sheet 5 of 6

PROPERTY OWNERS

Annette Chauncey Radford
4287 Wards Bridge Rd. Greenville NC 27834

Gilbert Family Properties., LLC
108 Longmeadow Rd. Greenville NC 27834

Susan Edwards Bailey Thomas
4209 Glen Laurel Drive Raleigh NC 27612

Permit Drawing
Sheet 6 of 6

NCDOT
DIVISION OF HIGHWAYS
BEAUFORT / PITT COUNTY
PROJECT: 33389.1.1 (B-4022)
PERMIT DRAWINGS FOR
BRIDGE #90 ON SR1414
OVER TRANTER'S CREEK

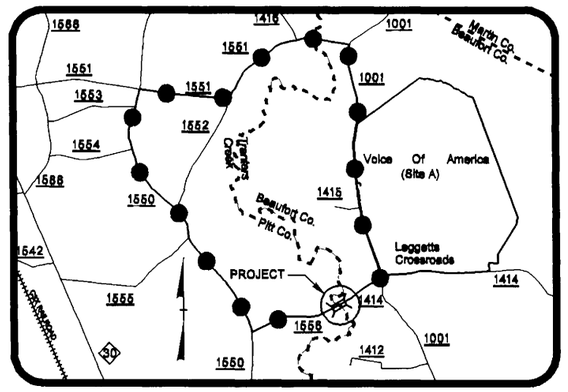
SHEET OF 8/12/05

09/08/99

TIP PROJECT: B-4022

CONTRACT: C201496

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



VICINITY MAP

DETOUR ROUTE

STATE OF NORTH CAROLINA
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PITT & BEAUFORT COUNTY

STATE	STATE PR. ECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
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STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
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LOCATION: BRIDGE NO. 90 OVER TRANTERS CREEK ON SR 1414 & SR 1556

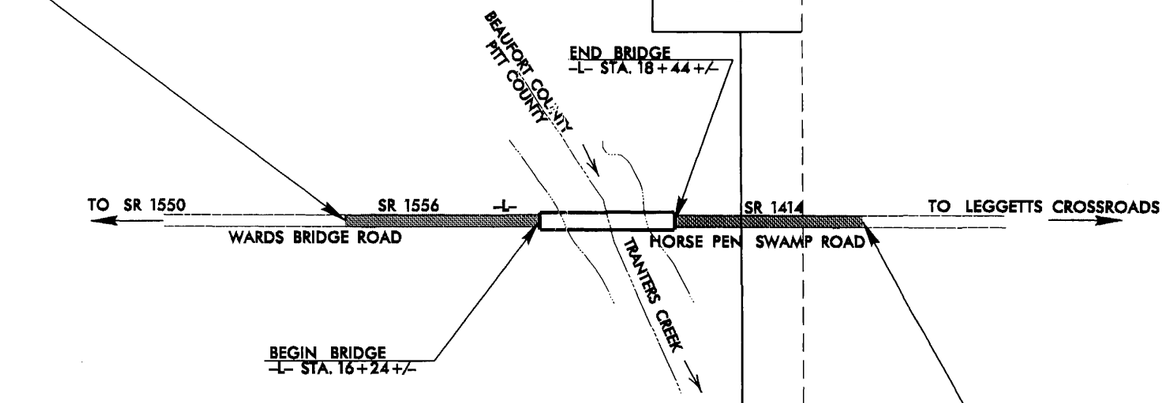
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

NAD 83 /95

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

STA. 13+00 –L– BEGIN TIP PROJECT B-4022

4



5

STA. 21+50 –L– END TIP PROJECT B-4022

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

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 2006 = 452
ADT 2026 = 713
DHV = 10 %
D = 60 %
T = 3 % *
V = 60 MPH
* TTST =1% DUAL =2%
FUNC. CLASS = RURAL LOCAL

PROJECT LENGTH

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HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER P.E.

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

29-SEP-2005 13:04
s:\Roadway PT 01\B-4022_rdy_tsh.dgn
smorgan AT H/22528

PROJECT REFERENCE NO.	SHEET NO.
B-4022	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 — EPM
- 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 High Quality Wetland Boundary — HQ 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
- River Basin Buffer — RBB
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Guage — 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
- Proposed Right of Way Line with Iron Pin and Cap Marker
- Proposed Right of Way Line with Concrete or Granite Marker
- Existing Control of Access
- Proposed Control of Access
- Existing Easement Line — E
- Proposed Temporary Construction Easement — TE
- 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
- 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 — ROADWAY DESIGN ENGINEER — 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 — TV
- 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

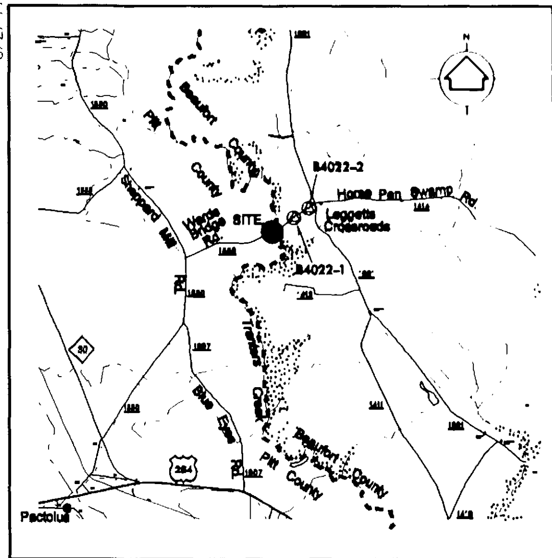
SANITARY SEWER:

- 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 — ?U/L
- 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.

SURVEY CONTROL SHEET B-4022



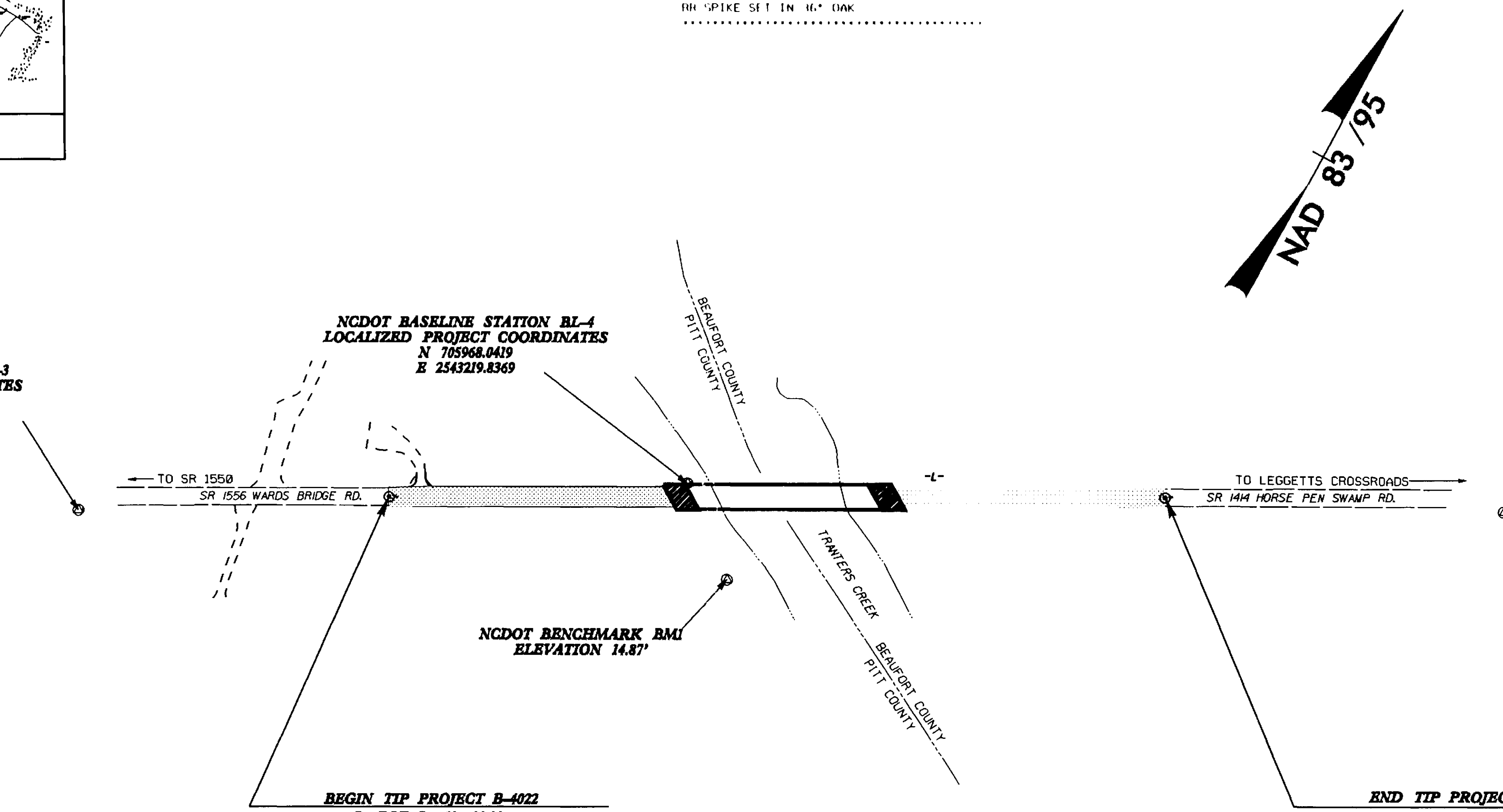
VICINITY MAP
(NOT TO SCALE)

CONTROL DATA

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	BL-3	705625.0711	2542644.0195	10.48	OUTSIDE PROJECT LIMITS	
4	BL-4	705968.0419	2543219.8369	15.69	16+29.60	15.66 LT
5	BL-5	706357.6935	2544015.0900	10.17	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

BM1 ELEVATION - 14.87
N 705893 E 2543809
L STATION 16+73 92' RIGHT
RR SPIKE SET IN 36" OAK



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4022-1"
WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF
NORTHING: 707010.6170(ft) EASTING: 2544860.4030(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99990472
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4022-1" TO -L- STATION 13+00.00 IS
S 57°47'51.9" W 2273.6802(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:

HTTP:\WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT

FILE: b4022_ls_control_040812.txt

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

⊚ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING USER SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

6/2/99

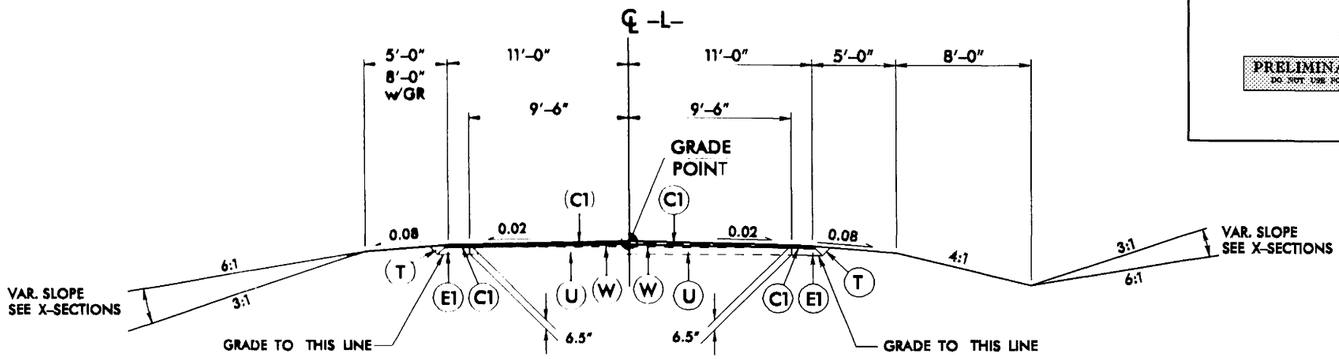
PAVEMENT SCHEDULE
FINAL DESIGN

C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO.	SHEET NO.
B-4022	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

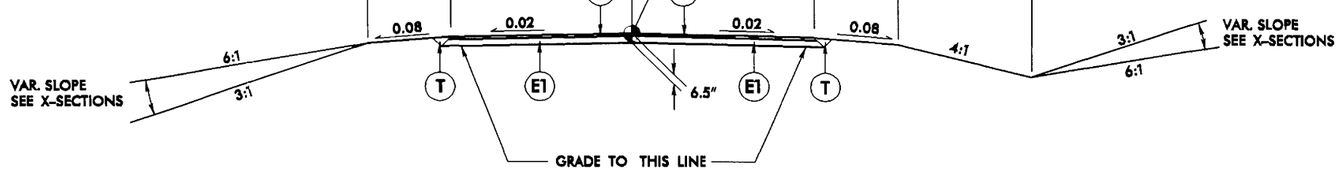
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

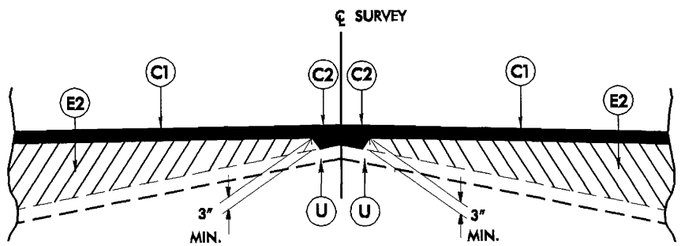
-L- STA. 13+00 TO -L- STA. 15+74
-L- STA. 18+94 TO -L- STA. 21+50



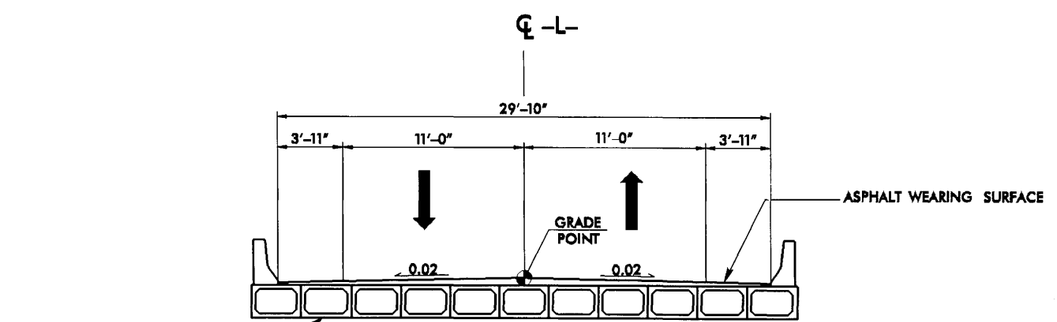
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- STA. 15+74 TO -L- STA. 16+24 +/- (BEG. BRIDGE)
-L- STA. 18+44+/- (END BRIDGE) TO -L- STA. 18+94



Wedging Detail



TYPICAL SECTION ON STRUCTURE

USE TYPICAL SECTION ON STRUCTURE

-L- STA. 16+24+/- TO -L- STA. 18+44+/-

COMPUTED BY: YOLANDE ANORD	DATE: 11-10-04
CHECKED BY: RON McCOLLUM	DATE: 12-14-04

PROJECT REFERENCE NO.	SHEET NO.
B-4022	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".

SUMMARY OF SHOULDER BERM GUTTER

LINE	STATION TO STATION	LOCATION	LENGTH FT.
-L-	15+90 TO 16+10	LT	20'
-L-	15+90 TO 16+10	RT	20'
-L-	18+58 TO 19+05	LT	47'
-L-	18+58 TO 18+78	RT	20'
	PROJECT TOTAL		107'
	SAY		110'

SUMMARY OF PAVEMENT REMOVAL

IN SQUARE YARDS

LINE	STATION TO STATION	LOCATION	ASPHALT REMOVAL
-L-	15+74 TO 16+45	RT & LT	189
-L-	18+20 TO 18+94	RT & LT	166
	PROJECT TOTAL		325
	SAY		330

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	TOTAL UNCLASS. EXCAV.		UNDERCUT	EMBANKMENT +%	BORROW	TOTAL WASTE
-L- 13+00 TO 16+24 (BEGIN BRIDGE)	5			108	103	
SUBTOTAL	5			108	103	
-L- 18+44 (END BRIDGE) TO 21+50	9			113	104	
SUBTOTAL	9			113	104	
PROJECT SUBTOTALS	14			221	207	
EST 5% TO REPLACE TOPSOIL ON BORROW PIT					10	
PROJECT TOTALS	14				217	
SAY	20				220	

UNDERCUT = 200 CUBIC YARDS

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	TRAFFIC BEARING DROP INLET STD. 840.35	FLOWABLE FILL MATERIAL C.Y.	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
-L- 15+94.10	LT	1		20.2	17.4																								1				1	1						SEE STD. 820.04
		1	2		17.4	16.4			32'																															
-L- 15+94.10	RT	2		20.2	16.4																								1				1	1						SEE STD. 820.04
		2	3		16.4	15.6											20'																			2-15"				
-L- 18+73.90	RT	4		20.2	17.4																								1				1	1						SEE STD. 820.04
		4	5		17.4	17.1			32'																															
-L- 18+73.90	LT	5		20.2	17.1																								1				1	1						SEE STD. 820.04
		5	6		17.1	16.8			28'																															
-L- 19+00.00	LT	6		20.1	15.5																								1				1	1						SEE STD. 820.04
		6	7		15.5	14.5											20'																			2-15"				
PROJECT TOTAL									92'								40'												5				5	5		4-15"				

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	III	GRAU 350	M-350	TEMP GRAU 350	TERMINAL SECTIONS	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
-L-	15+05.75	16-12.00	LEFT	106.25'			16+12 (BR)		3.92'	8.00'		87.50'		1.75'		1	1													
-L-	18+56.00	21+37.25	LEFT	281.25'			18+56 (BR)		5.00'	8.00'	50.00'		1.00'			1	1													
-L-	13+30.75	16-12.00	RIGHT	281.25'			16+12 (BR)		5.00'	8.00'	50.00'		1.00'			1	1													
-L-	18+56.00	19+62.25	RIGHT	106.25'			18+56 (BR)		3.92'	8.00'		87.50'		1.75'		1	1													
			SUBTOTAL	775.00'																										
		LESS ANCHOR DEDUCTIONS																												
		GRAU 350	4 @ 50.00' =	-200.00'																										
		TYPE III	4 @ 18.75' =	-75.00'																										
			TOTAL	500'												4	4													
			SAY	500'																										

ADDITIONAL GUARDRAIL POSTS = 5

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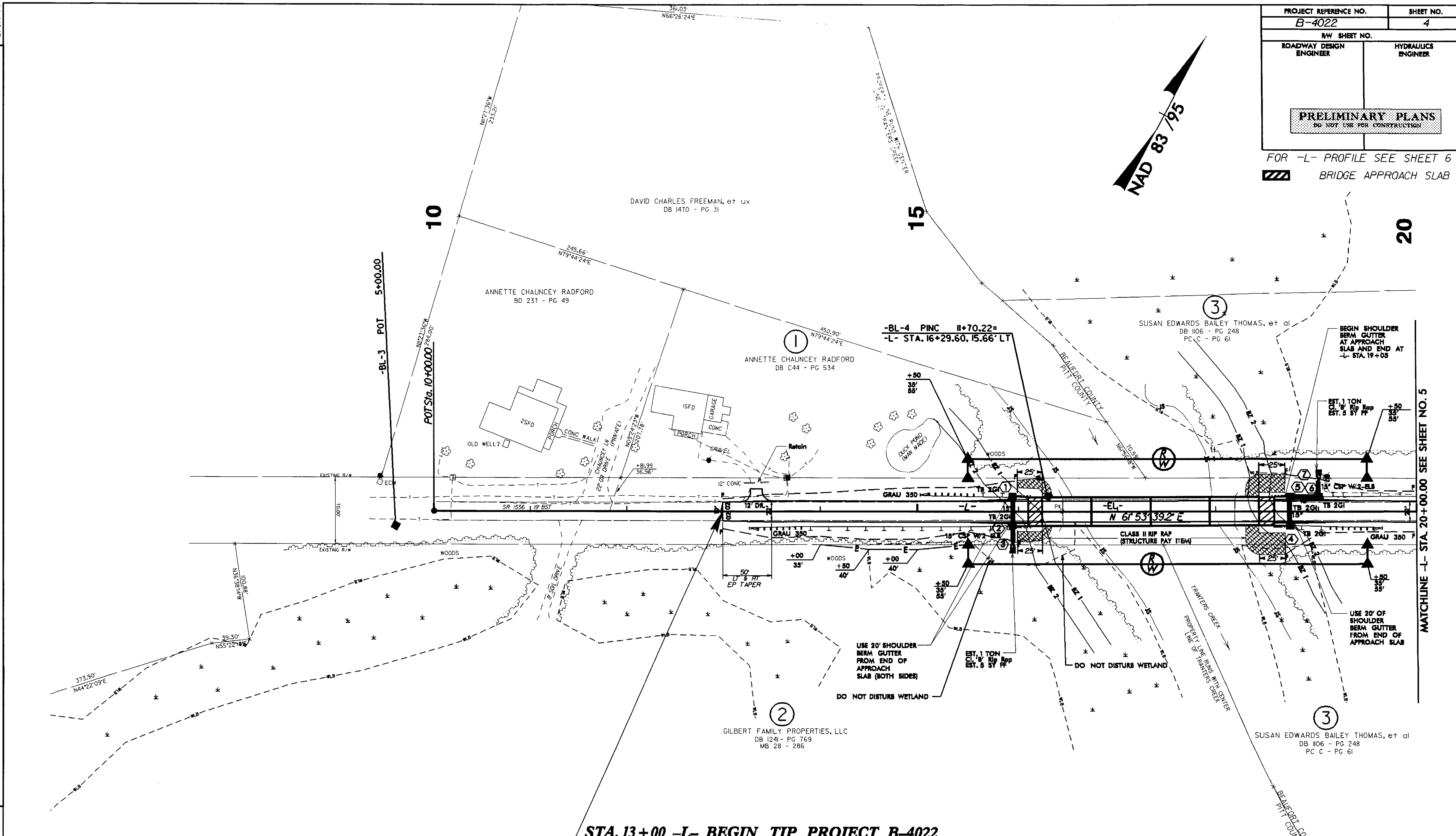
PROJECT REFERENCE NO.	SHEET NO.
B-4022	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

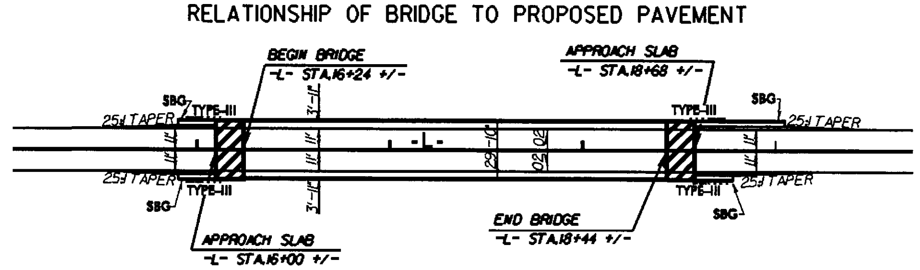
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 6

BRIDGE APPROACH SLAB



RELATIONSHIP OF BRIDGE TO PROPOSED PAVEMENT



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REVISIONS

8/17/99

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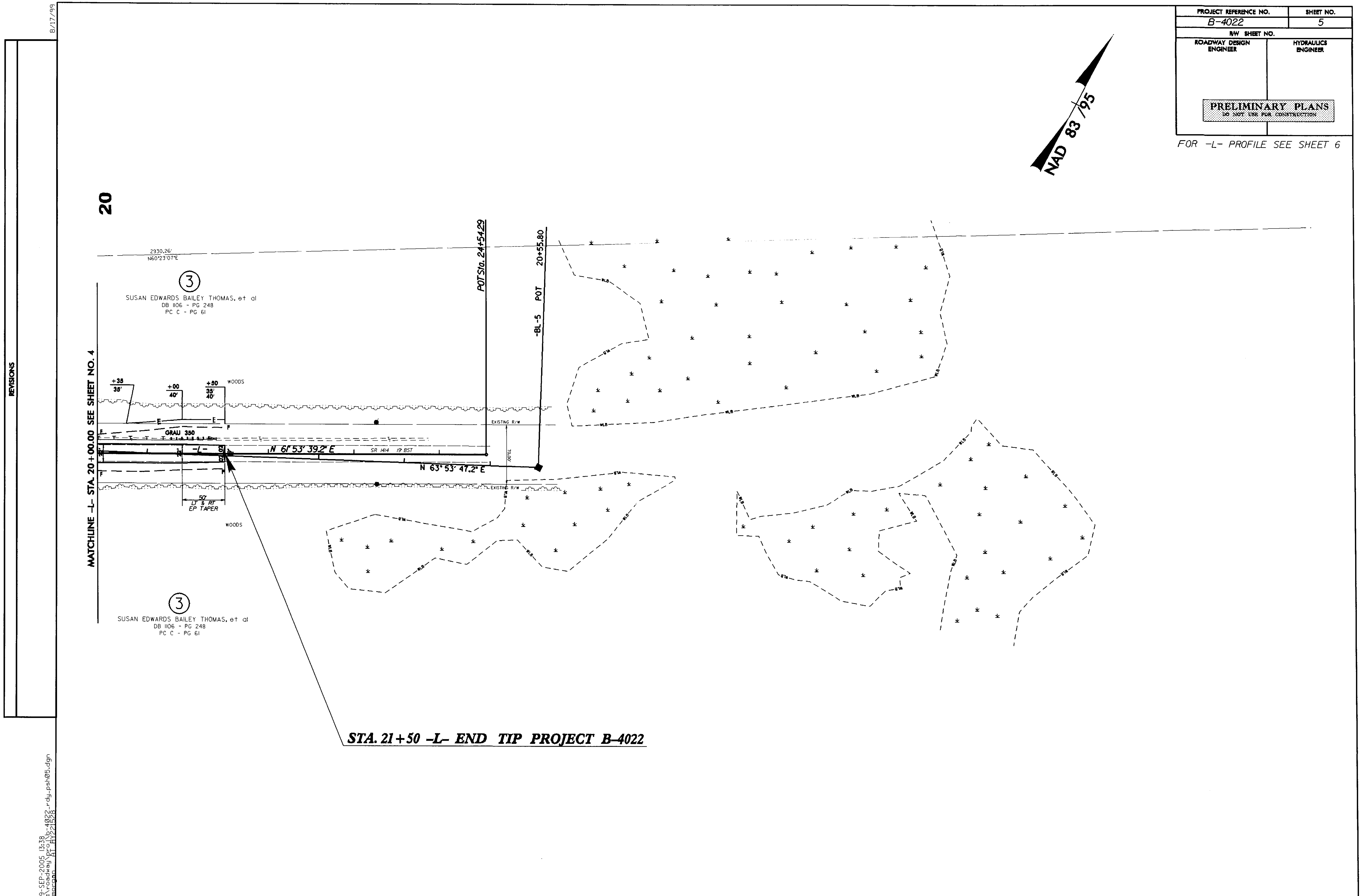

PROJECT REFERENCE NO.
SHEET NO.
B-4022
5
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
FOR -L- PROFILE SEE SHEET 6
NAD 83/95
20
2930.26'
N60°23'07"E
3
SUSAN EDWARDS BAILEY THOMAS, et al
DB 1106 - PG 248
PC C - PG 61
POT Sta. 24+54.29
-BL-5 POT 20+55.80
MATCHLINE -L- STA. 20+00.00 SEE SHEET NO. 4
WOODS
GRAU 350
EXISTING R/W
N 61°53' 39.2" E
SR 1414 19' BST
N 63°53' 47.2" E
50'
LT & RT
EP TAPER
STA. 21+50 -L- END TIP PROJECT B-4022
8/17/99
REVISIONS
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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4022	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	6400 CFS
DESIGN FREQUENCY	=	25 YRS
DESIGN HW ELEVATION	=	18.1 FT
BASE DISCHARGE	=	9300 CFS
BASE FREQUENCY	=	100 YRS
BASE HW ELEVATION	=	20.8 FT
OVERTOPPING DISCHARGE	=	7800 CFS
OVERTOPPING FREQUENCY	=	50 YRS
OVERTOPPING ELEVATION	=	19.5 FT
EST. NORM. W.S. ELEV.	=	10.5 FT
DATE OF SURVEY	=	02-20-03
W.S. ELEVATION AT DATE OF SURVEY	=	12.6 FT

-L-

BM #1 RR SPIKE SET IN 36" OAK
92' RIGHT OF -L- STA 16+73
ELEV. = 14.81'

BEGIN GRADE
-L- STA. 13+00.00
EL. 26.05'

BEGIN BRIDGE
-L- STA. 16+24.77

END BRIDGE
-L- STA. 16+44.77

END GRADE
-L- STA. 21+50.00
EL. 19.86'

PI = 16+90.00
EL = 21.22'
VC = 200'
K = 313

(+)0.3000%

(-)0.3301%

30
20
10
0
-10

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

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smorgan AT HY2\2528

8/23/99

0 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4022	X-1

15+50.00

15+00.00

14+50.00

14+00.00

13+50.00

13+00.00

BEGIN PROJECT -L- STA. 13+00

12+50.00

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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smorgan

8/23/99

0 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4022	X-2

17+50.00

17+00.00

16+50.00

BEGIN BRIDGE -L- STA. 16+24 +/-

16+00.00

-L-

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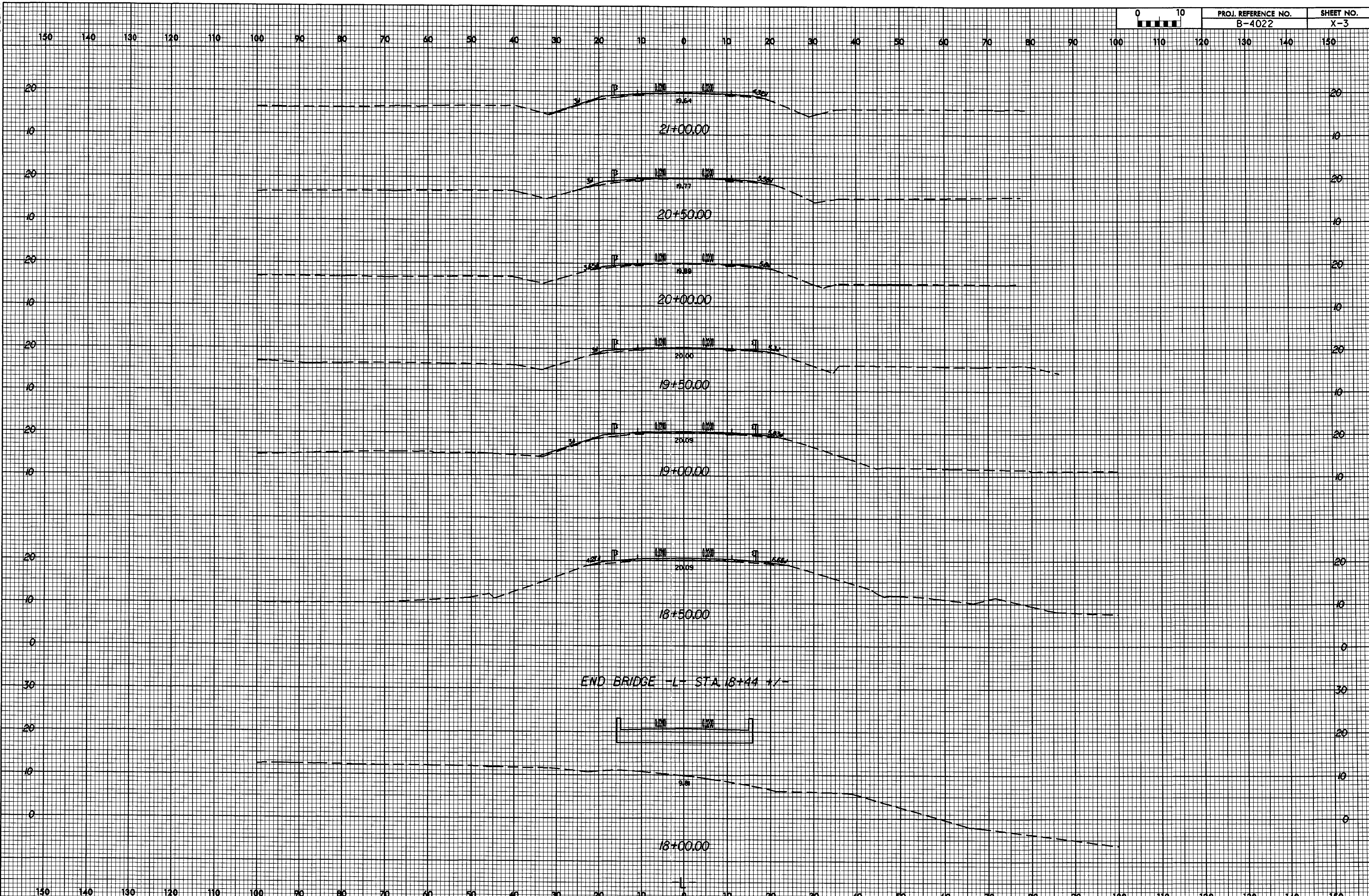
smorgan
Active HY221528

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
B-4022	X-3



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smorgan AT HY221528

8/23/99

0 10

PROJ. REFERENCE NO.	SHEET NO.
B-4022	X-4

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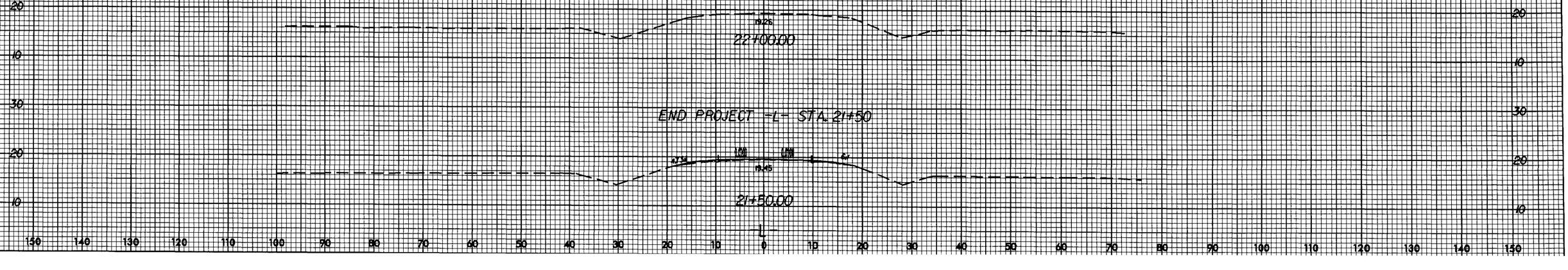

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