



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 27, 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 Notice of Use** for the proposed Replacement of Bridge No. 2 on SR 1394 Over Coddle Creek in Cabarrus County, NC. State Project No. 8.2664301, Federal Aid Project No. BRSTP-1394 (2), TIP B-4449.

Dear Sir:

Please find enclosed permit drawings and 1/2 size plans for the above referenced project. A Categorical Exclusion was completed for the project on May 11, 2007. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 2 on a new alignment to the south with a new 35.5-foot wide and 185-foot long triple span bridge. There will be 33 linear feet of permanent impacts to surface waters. Traffic will be maintained onsite utilizing the existing bridge during construction of the new bridge.

IMPACTS TO WATERS OF THE UNITED STATES

General Description: The water resource impacted for project B-4449 is Coddle Creek [Index # 13-17-6-(5.5)], and the project lies within the Yadkin River Basin (DWQ sub-basin 03-07-11 and USGS HUC 030400105). The North Carolina Division of Water Quality (DWQ) has assigned a best usage classification to Coddle Creek of C. Neither High Quality Waters (HQW), Water Supplies (WS-I or WS-II), nor Outstanding Resource Waters (ORW) occur within 1.0 mile of the project area. Coddle Creek is not designated as a North Carolina Natural or Scenic River, or as a national Wild and Scenic River. Coddle Creek is not listed on DWQs 303(d) list (2006) of impaired waters in North Carolina due to sedimentation. Nor are there any no other 303(d) streams listed

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

within one mile of the project. Coddle Creek was listed on DWQs 2002 303(d) list as impaired due to urban runoff and sedimentation, but this is superseded by the 2006 listing; therefore, Design Standards in Sensitive Watersheds no longer applies.

Permanent Impacts: The construction of the new bridge will result in 33 linear feet of impacts to surface waters at Site 1 for bank stabilization from the replacement of Bridge No. 2.

Temporary Impacts: There will be no temporary impacts resulting from the construction of this project.

Utilities: There are no impacts to jurisdictional resources due to utilities for this project.

Bridge Demolition: Bridge No. 2 is a four span structure with an overall length of 141 feet, and a clear roadway width of 24 feet. The bridge was constructed in 1954 and consists of a bituminous wearing surface on a steel plank deck with timber caps on timber piles. Bridge No. 2 is structurally deficient and according to federal guidelines is considered to be functionally obsolete. Best Management Practices for Bridge Demolition and Removal will be implemented. No temporary or permanent impacts will result from the removal of the existing bridge or piers.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), Proposed Threatened (PT), 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 lists a total of two federally protected species for Cabarrus County (Table 1). A description of the species and biological conclusions are provided in the referenced CE document. A September 27, 2007 survey for Schweinitz’s Sunflower found no plants. A mussel survey on April 25, 2005 found some habitat for Carolina Heelsplitter in Coddle Creek but found no freshwater mussels.

Table 1. Federally-Protected Species for Cabarrus County

Common Name	Scientific Name	Federal Status	Habitat	Biological Conclusion
Schweinitz’s Sunflower	<i>Helianthus schweinitzii</i>	Endangered	Yes	No Effect
Carolina Heelsplitter	<i>Lasmigona decorata</i>	Endangered	Yes	No Effect

MITIGATION

Avoidance and Minimization: NCDOT has minimized impacts to the fullest extent possible.

- Traffic will be maintained on the existing bridge during construction avoiding additional temporary surface water impacts from an onsite detour.
- The proposed bridge spans the creek avoiding permanent surface impacts from the bridge structure.

- Deck drains will not discharge directly into the Coddle Creek.

Compensatory Mitigation: Construction for this project will impose minimal permanent impacts to jurisdictional waters. There are no HQWs on the project and no loss of Waters of the US from bank stabilization. Therefore, no mitigation is proposed for this project.

PROJECT SCHEDULE

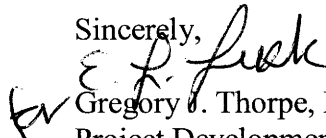
The project is currently scheduled for review on July 1, 2008 and to Let on August 19, 2008.

REGULATORY APPROVALS

Section 404 Permit: It is anticipated that bank stabilization installation along Coddle Creek will be authorized under Section 404 Nationwide Permit 13. Impacts of 33 linear feet of bank stabilization do not constitute a 'loss of water'; therefore, this letter serves as a Notice of Use by NCDOT and written concurrence is not requested.

Section 401 Certification: We anticipate 401 General Certification number 3689 will apply to this project. The NCDOT will adhere to all Water Quality Certification general conditions. Therefore, we are not requesting written concurrence. We are providing two copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their records.

Thank you for your assistance with this project. A copy of this permit application will be posted on the NCDOT Website at <http://207.4.62.65/PDEA/PermApps/>. If you have any questions or need additional information, please contact Jeff Hemphill at (919) 715-1458.

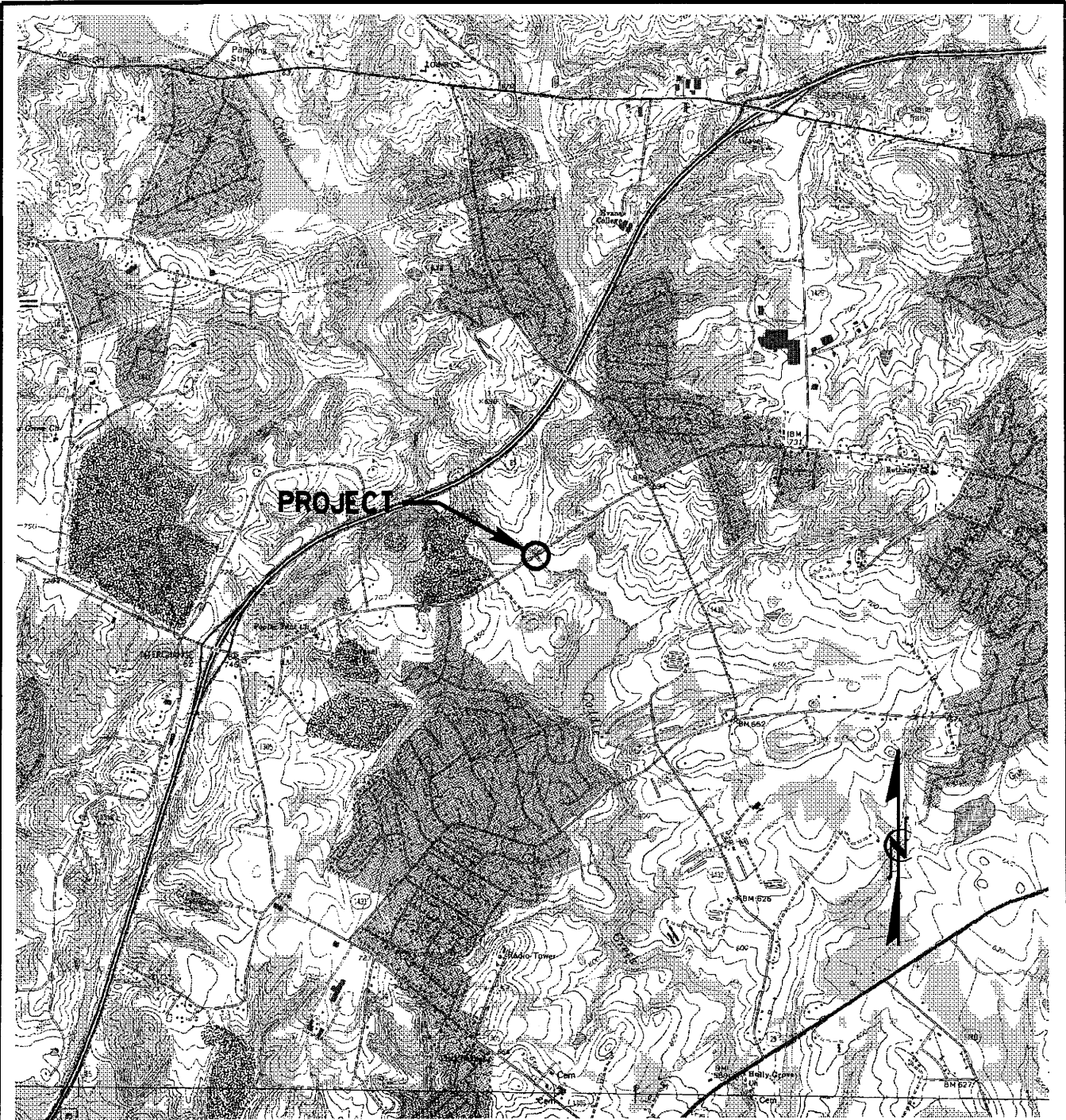
Sincerely,

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

Cc
W/attachment

Mr. Brian Wrenn, NCDWQ (2 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, PE, Division Engineer
Mr. Larry Thompson 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



NOT TO SCALE

TOPO
MAP

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
CABARRUS COUNTY

PROJECT: 33704.1.1 (B-4449)

REPLACE BRIDGE #2
OVER CODDLE CREEK
ON SR 1394

SHEET

OF

Permit Drawing

Sheet 1 of 2

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES	SITE NO.
1	CANNON SCHOOL, INC	5801 POPLAR TENT RD. CONCORD, NC 28027	1
2	ELIZABETH P. COBLE FAMILY LTD PARTNERSHIP	2712 OLD SALISBURY RD. CONCORD, NC 28025	1

NORTH CAROLINA

DIVISION OF HIGHWAYS
CABARRUS COUNTY

PROJECT: 33704.1.1 (B-4449)
REPLACEMENT OF BRIDGE
#2 OVER CODDLE CREEK
ON SR 1394

SHEET

OF

Permit Drawing
Sheet 2 of 7

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS							SURFACE WATER IMPACTS				
			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	19+10 & 19+55 -L- RT	Embankment RR							<0.01			33		
TOTALS:									0.000			33		

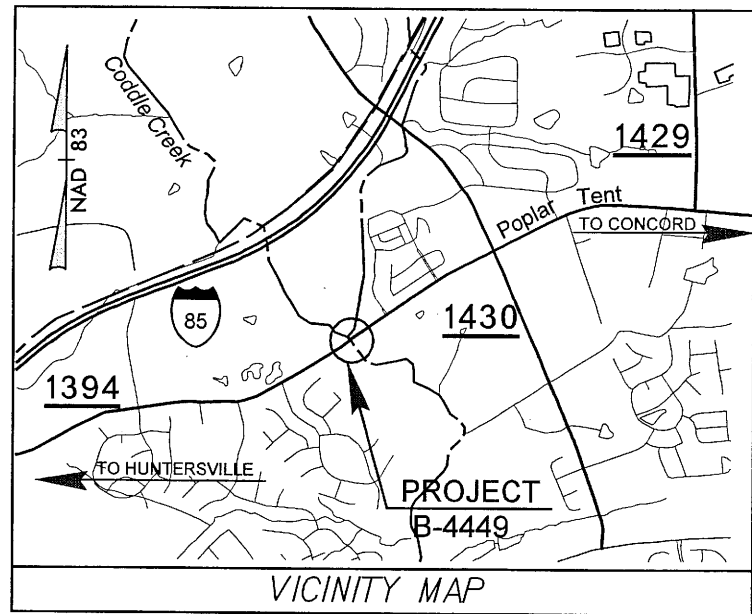
** Per Structures, no temporary or permanent impacts due to construction of proposed or removal of existing bridge and piers.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CABARRUS COUNTY
33704.1.1 (B-4449)

09/28/99

See Sheet 1-A For Index of Sheets



THIS PROJECT IS WITHIN CONCORD MUNICIPAL BOUNDARIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

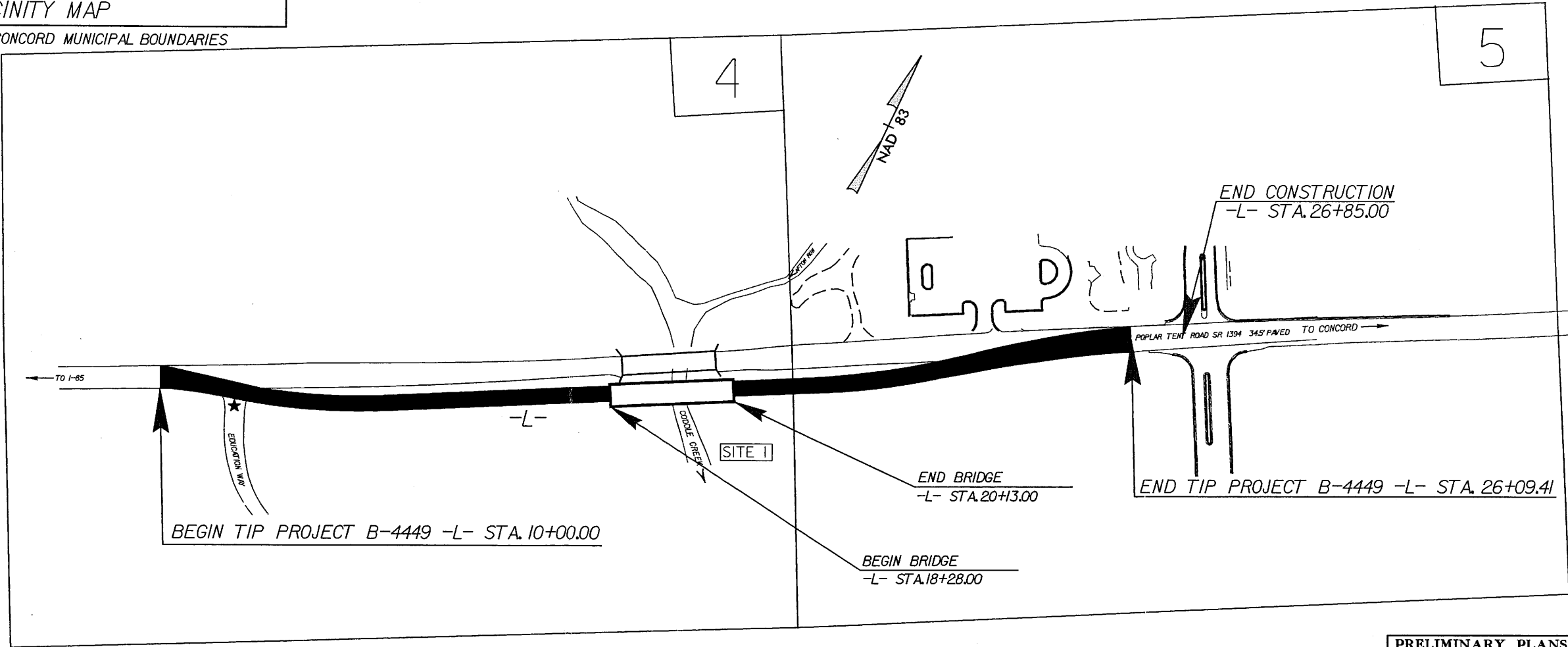
CABARRUS COUNTY

LOCATION: BRIDGE NO. 2 OVER CODDLE CREEK
ON SR 1394 (POPLAR TENT ROAD)

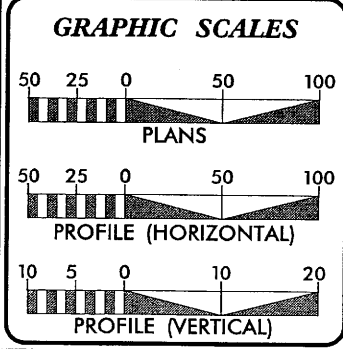
TYPE OF WORK: GRADING, PAVING, DRAINAGE,
SIGNAL AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4449	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33704.1.1	BRSTP-1394(2)	P.E.	
33704.2.1	BRSTP-1394(2)	R/W, UTIL	

CONTRACT: 33704.1.1 TIP PROJECT: B-4449



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2005 =	15,100
ADT 2030 =	29,900
DHV =	10 %
D =	55 %
T =	10 % *
V =	50 MPH
FUNCT. CLASS. =	MAJOR RURAL COLLECTOR
* TTST 4% DUAL 6%	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4449	=	0.270 Miles
LENGTH STRUCTURE TIP PROJECT B-4449	=	0.035 Miles
TOTAL LENGTH OF TIP PROJECT B-4449	=	0.305 Miles

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 17, 2007

LETTING DATE:
AUGUST 19, 2008

G.E. BREW PE
PROJECT ENGINEER

D. WILLIAMS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.


DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

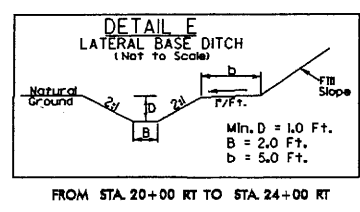
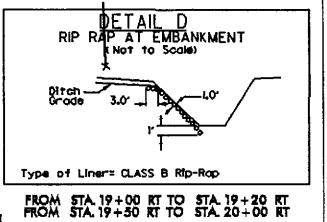
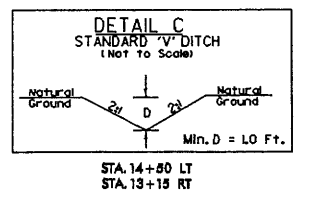
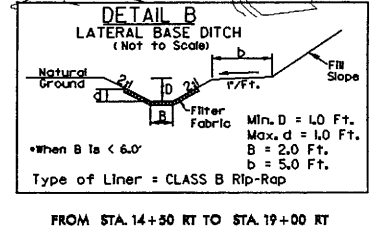
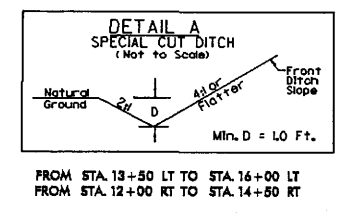
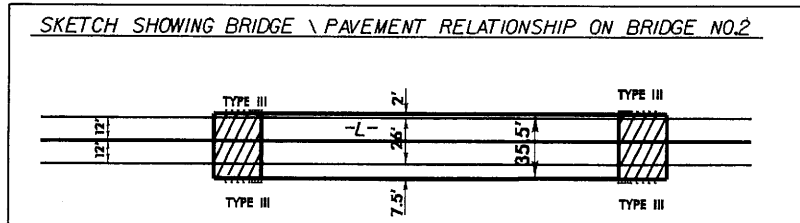
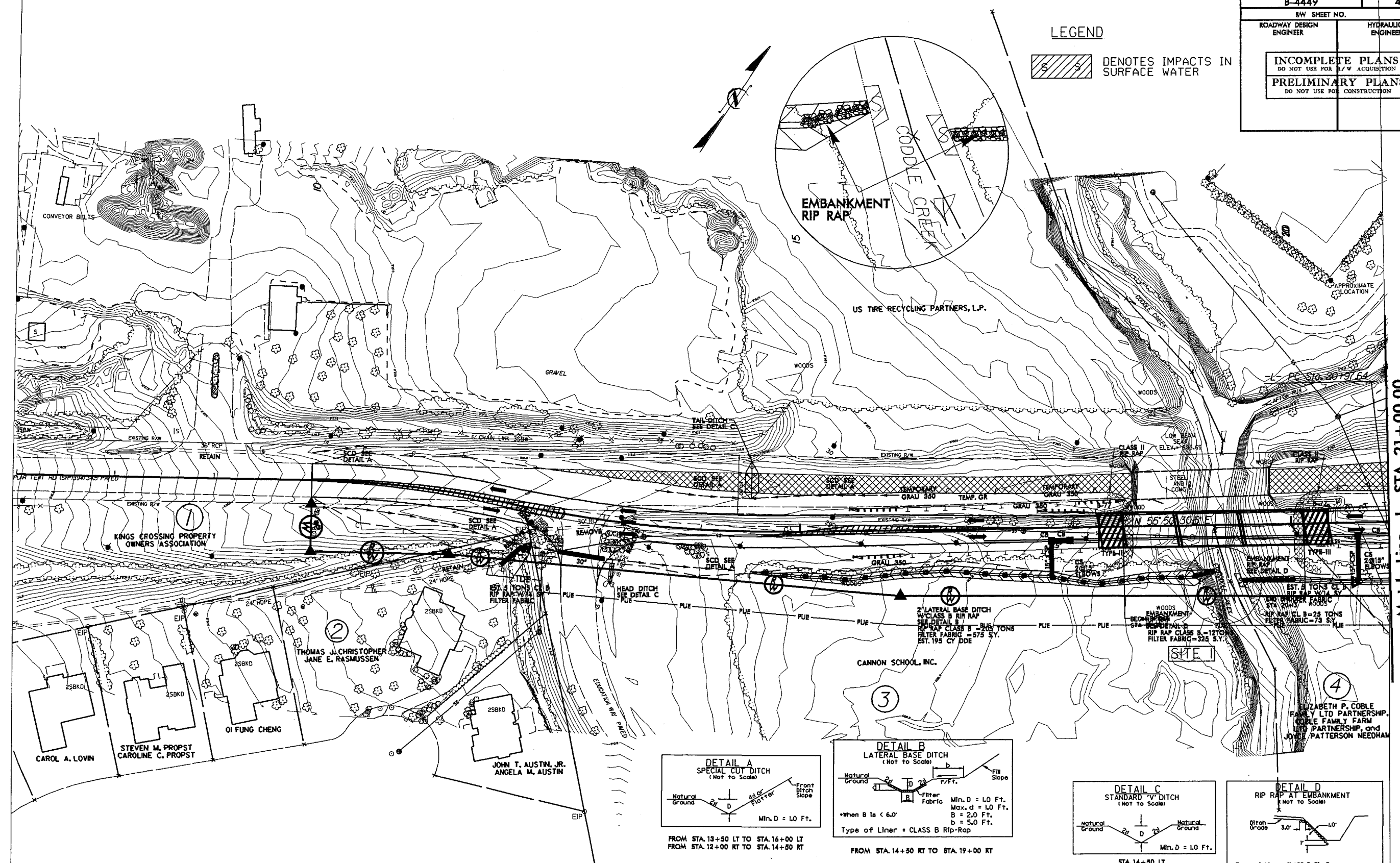
Permit Drawing
Sheet 4 of 7

STATE HIGHWAY DESIGN ENGINEER

10/1/2007 R:\Z\Bridges\B4449\Permits\b-4449_hyl_impacts_tsh.dgn cmyer

PROJECT REFERENCE NO. B-4449	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

LEGEND
 DENOTES IMPACTS IN SURFACE WATER




Permit Drawing
Sheet 5 of 7

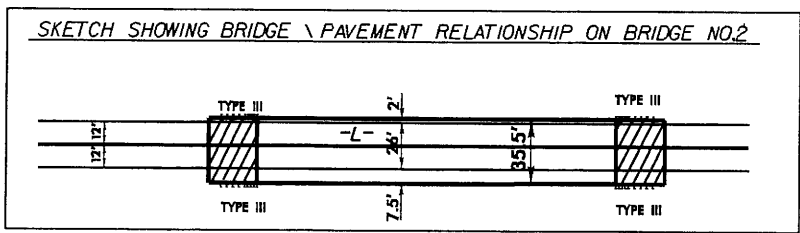
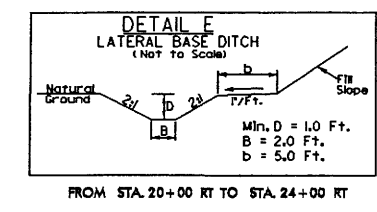
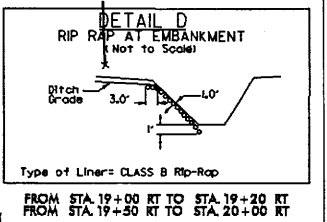
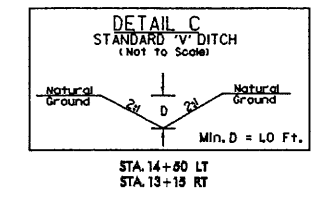
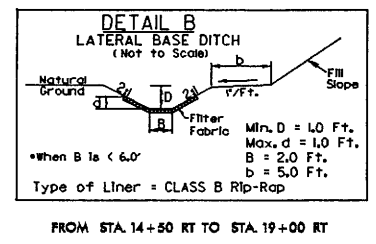
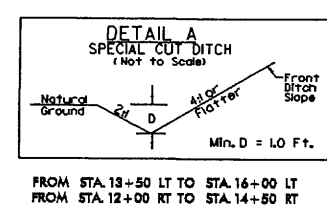
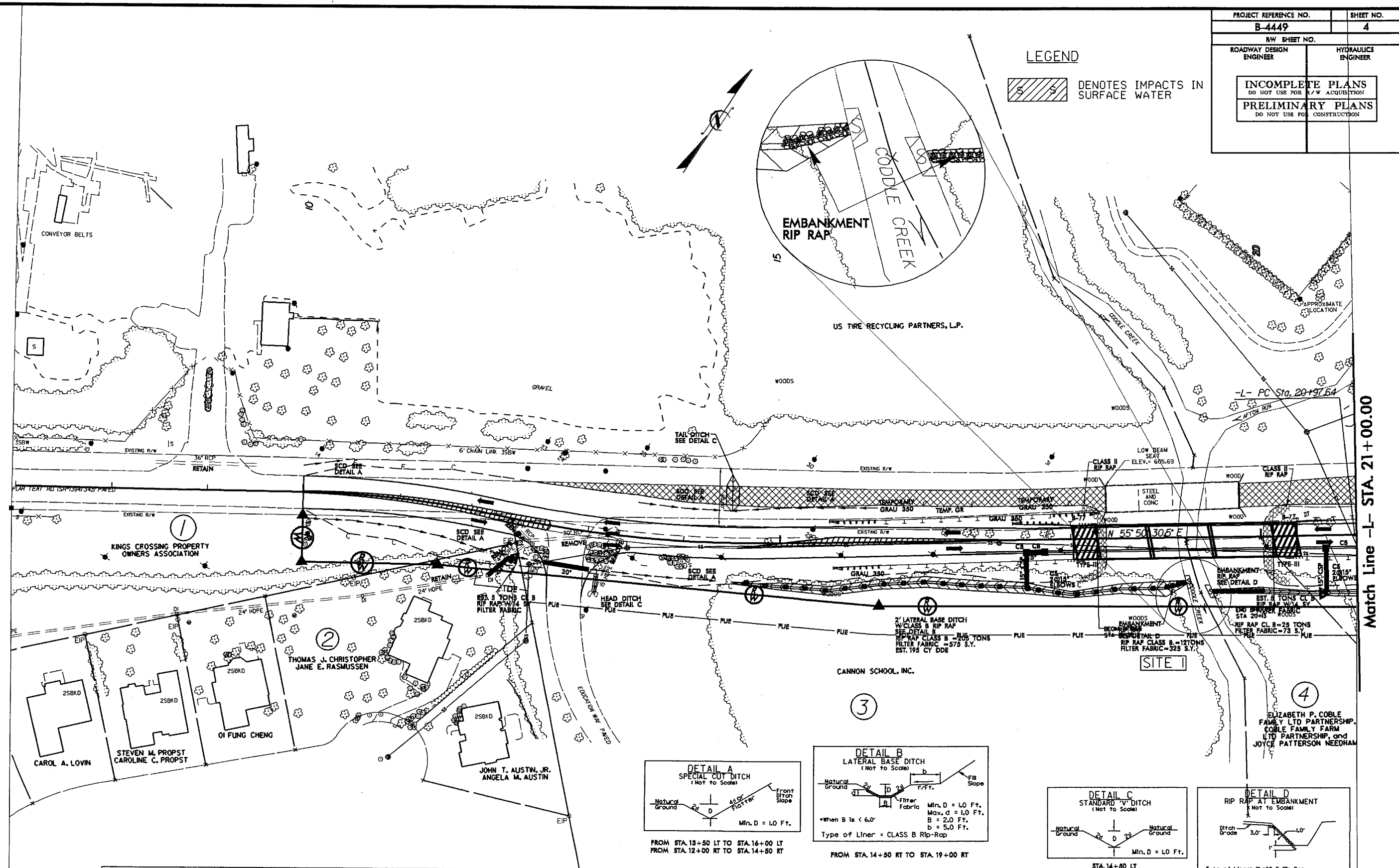
Match Line -L- STA. 21+00.00

REVISIONS

24-JAN-2008 14:40
 F:\drc\augie\p\m\l\4449_p\m_pah4.dgn
 8/17/09

PROJECT REFERENCE NO.	SHEET NO.
B-4449	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

LEGEND
 DENOTES IMPACTS IN SURFACE WATER



Match Line -L- STA. 21+00.00

Permit Drawing
Sheet 6 of 7

8/17/99
 REVISIONS
 24-JAN-2008 14:40
 r:\garage\psh\m\psh\4449-prm-psh4.dgn
 psh4

PROJECT REFERENCE NO. B-4449	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

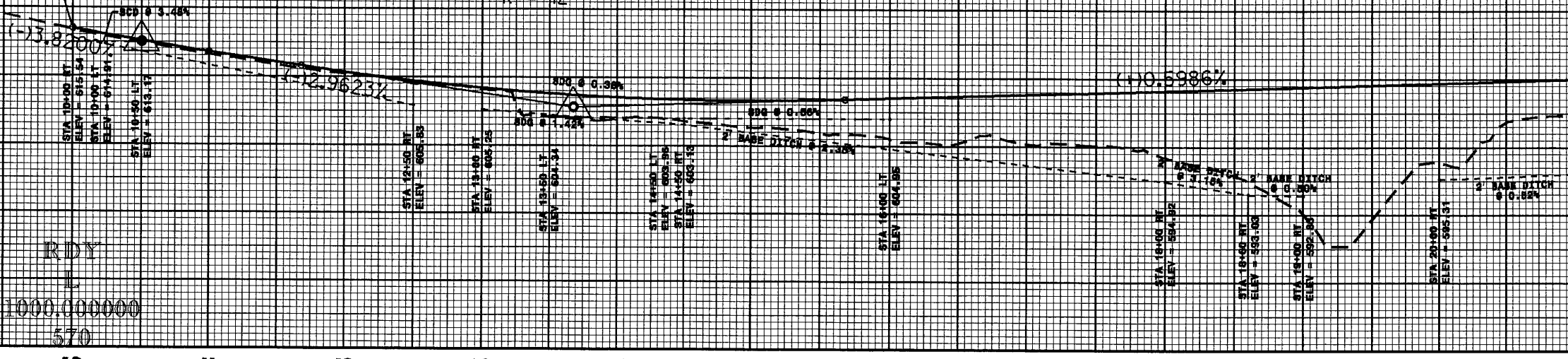
BM #2 L STA 1179.7' LEFT, ELEV. 603.58

BEGIN GRADE
L STA 10+00.00
ELEV. = 616.96'

PI = 10+50.00
EL = 615.05'
VC = 100'
K = 17

PI = 13+68.00
EL = 605.63'
VC = 400'
K = 12

FOR PLANS SEE SHEET 4 & 5



RDY
1000.000000
570

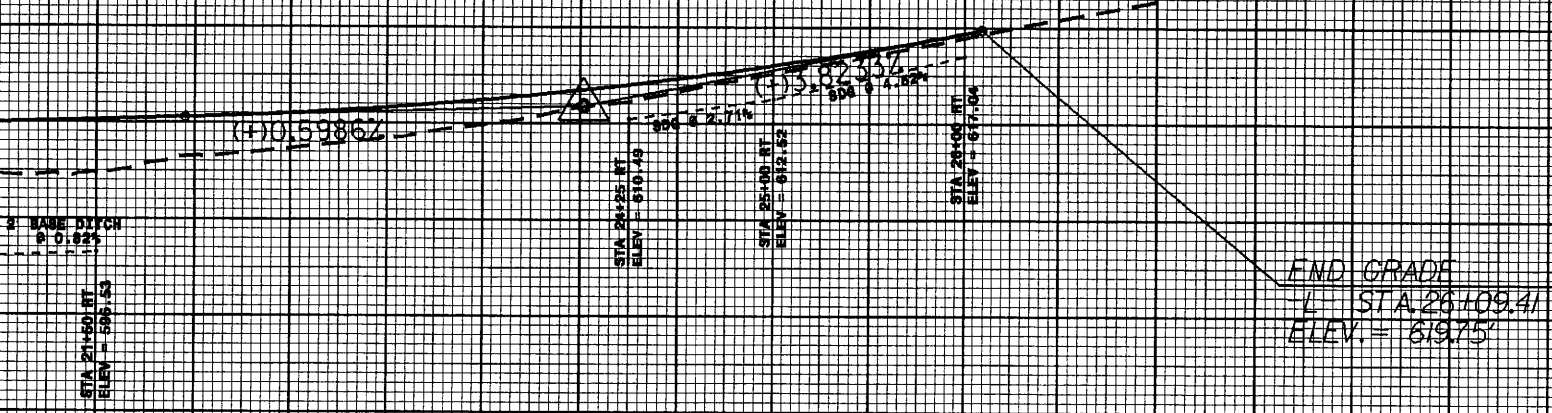
30 11 12 13 14 15 16 17 18 19 20 21

10
NO GAP

-L-

FOR PLANS SEE SHEET 4 & 5

PI = 24+02.00
EL = 611.82'
VC = 414'
K = 128



END GRADE
L STA 26+09.41
ELEV. = 619.75'

21 22 23 24 25 26 27

5/28/99

24-JAN-2008 14:43
F:\drawing\B-4449_rdy_pf1.dgn
User: At 1/22/08 1:24

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4449	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33704.1.1	BRSTP-1394(2)	P.E.	
33704.2.1	BRSTP-1394(2)	R/W, UTIL	

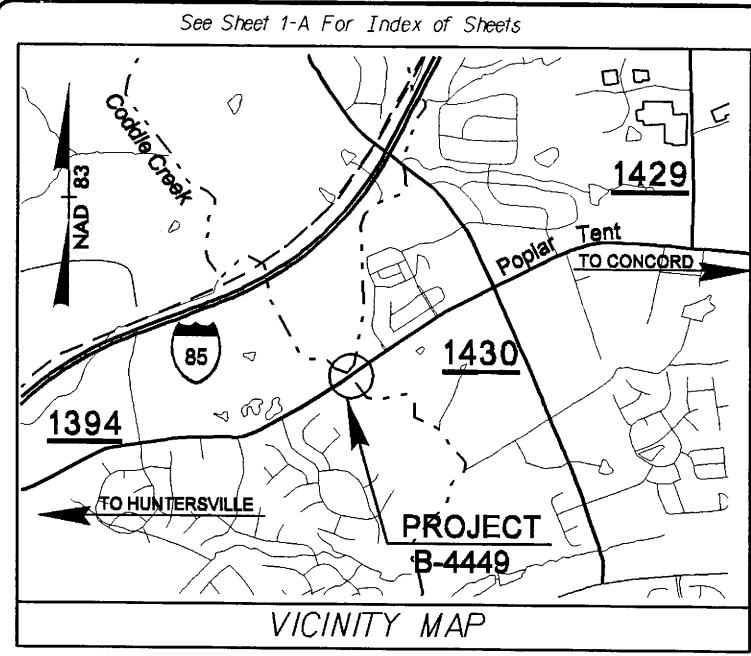


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

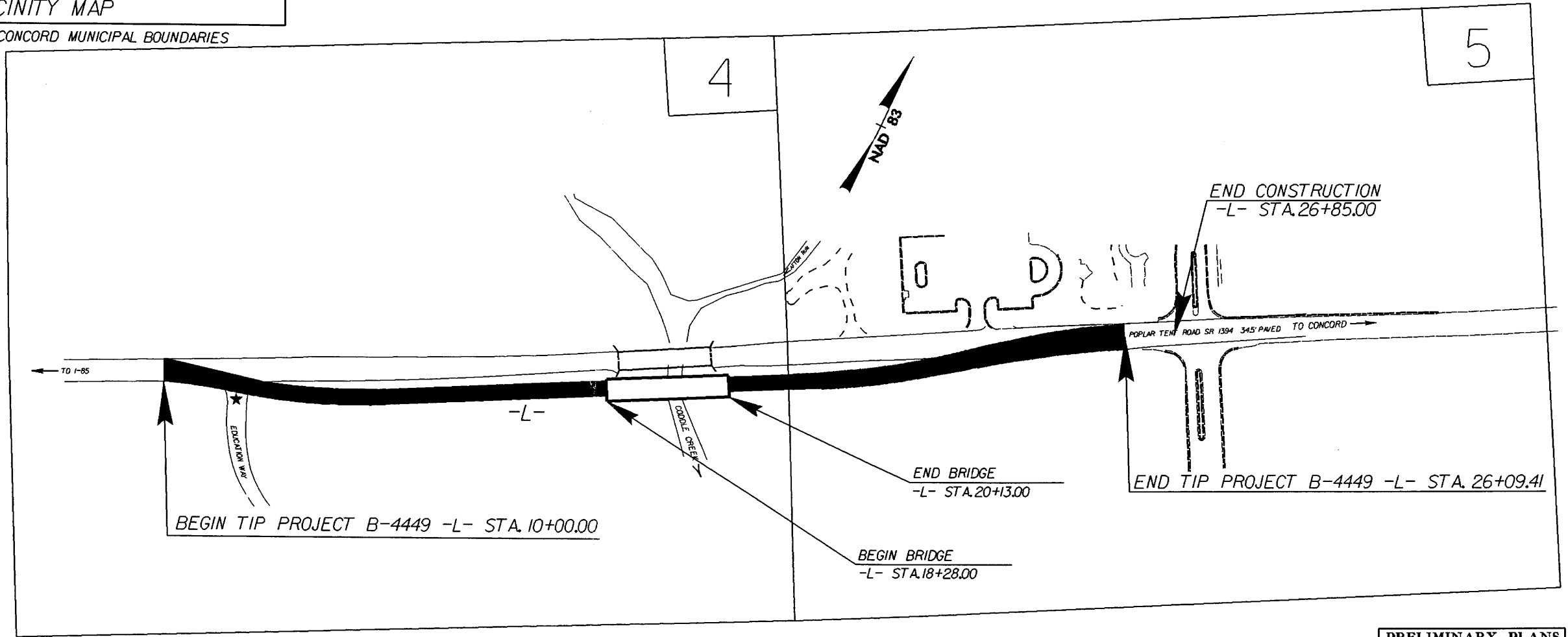
CABARRUS COUNTY

**LOCATION: BRIDGE NO. 2 OVER CODDLE CREEK
ON SR 1394 (POPLAR TENT ROAD)**

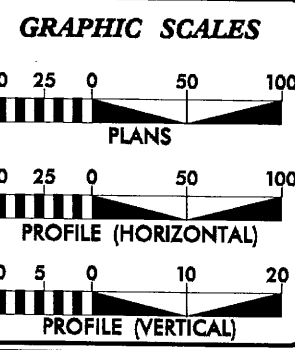
**TYPE OF WORK: GRADING, PAVING, DRAINAGE,
SIGNAL AND STRUCTURE**



THIS PROJECT IS WITHIN CONCORD MUNICIPAL BOUNDARIES



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2005 =	15,100
ADT 2030 =	29,900
DHV =	10 %
D =	55 %
T =	10 %
V =	50 MPH
FUNCT. CLASS. =	MAJOR RURAL COLLECTOR
* TTST 4%	DUAL 6%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4449	=	0.270 Miles
LENGTH STRUCTURE TIP PROJECT B-4449	=	0.035 Miles
TOTAL LENGTH OF TIP PROJECT B-4449	=	0.305 Miles

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 17, 2007

LETTING DATE:
AUGUST 19, 2008

G.E. BREW PE
PROJECT ENGINEER

D. WILLIAMS
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

CONTRACT: 33704.1.1 TIP PROJECT: B-4449

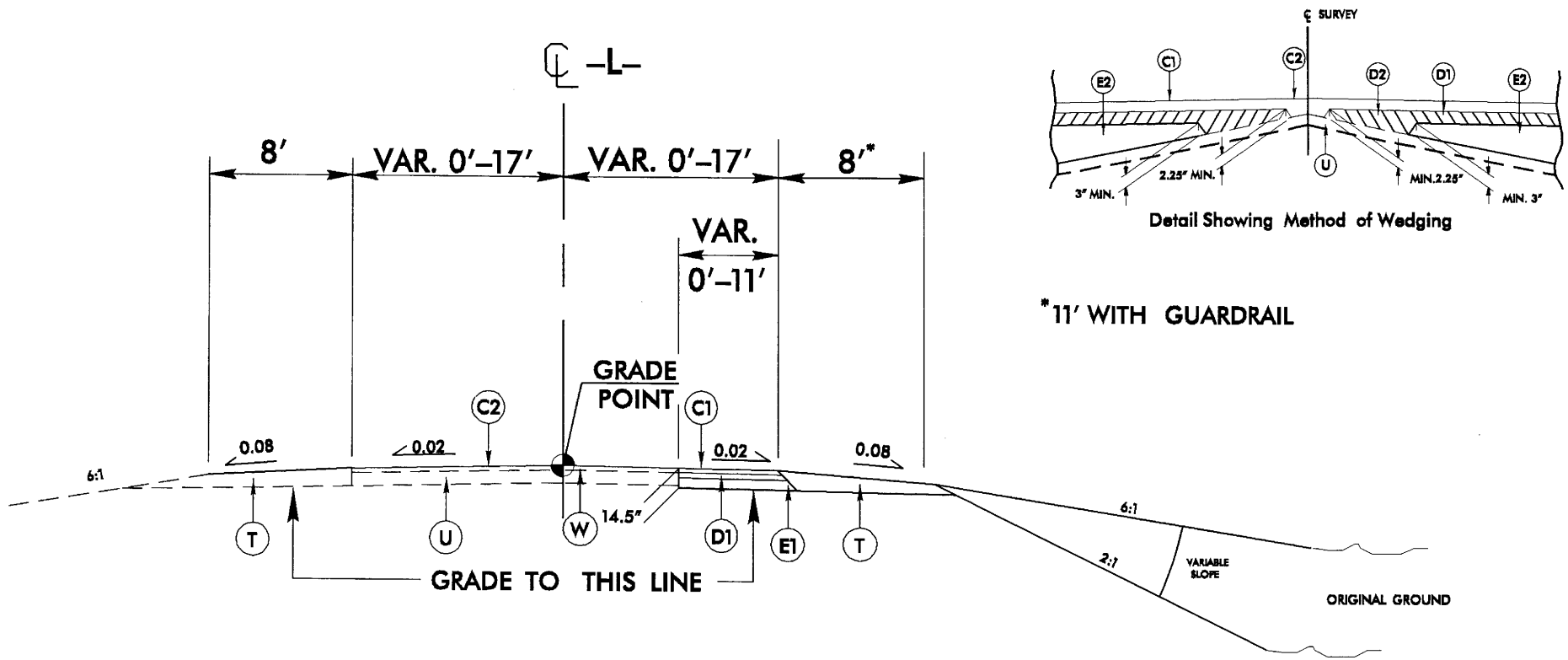
23-JAN-2008 15:28
G:\roadway\proj\1394\1394-4449_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

6/2/91

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5C, AT AN AVERAGE RATE OF 84 LBS. PER SQ. YD.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 89.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 3" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 7.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 855 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0, 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 5 1/2" IN DEPTH.
R1	1'-8" CONCRETE CURB AND GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO.)

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

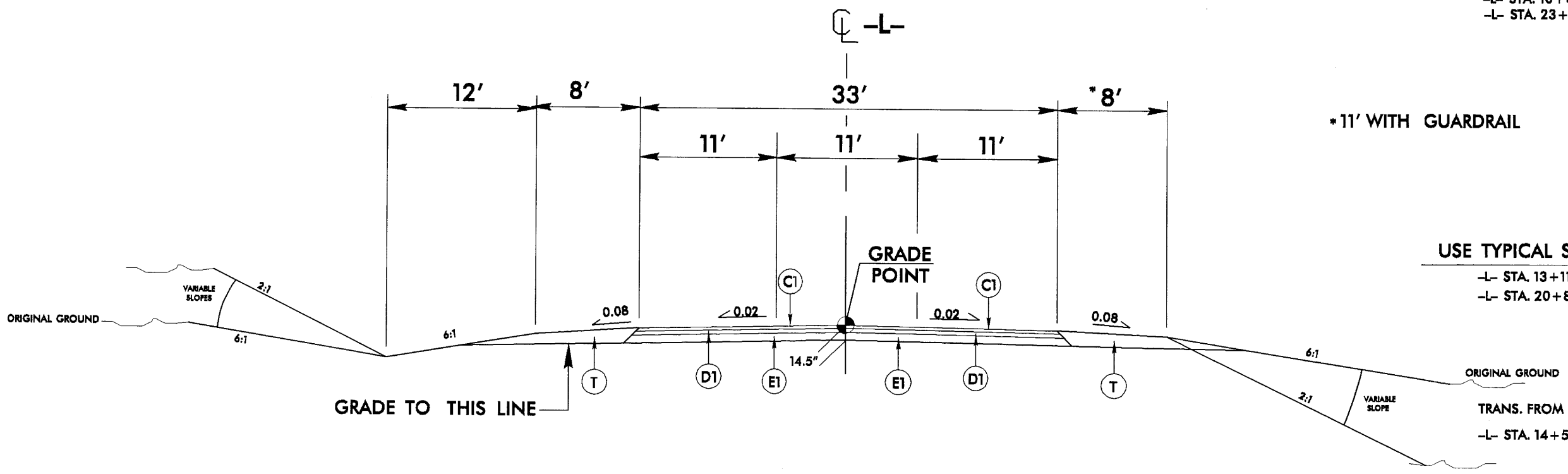
PROJECT REFERENCE NO. B-4449	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	



TYPICAL SECTION 1

USE TYPICAL SECTION NO. 1

-L- STA. 10+00.00 TO 13+11.00
-L- STA. 23+13.00 TO 26+09.41



TYPICAL SECTION 2

USE TYPICAL SECTION NO. 2

-L- STA. 13+11.00 TO 14+56.00
-L- STA. 20+87.00 TO 23+13.00

TRANS. FROM T.S 2 to T.S. 3
-L- STA. 14+56.00 TO -L- STA. 17+53.00

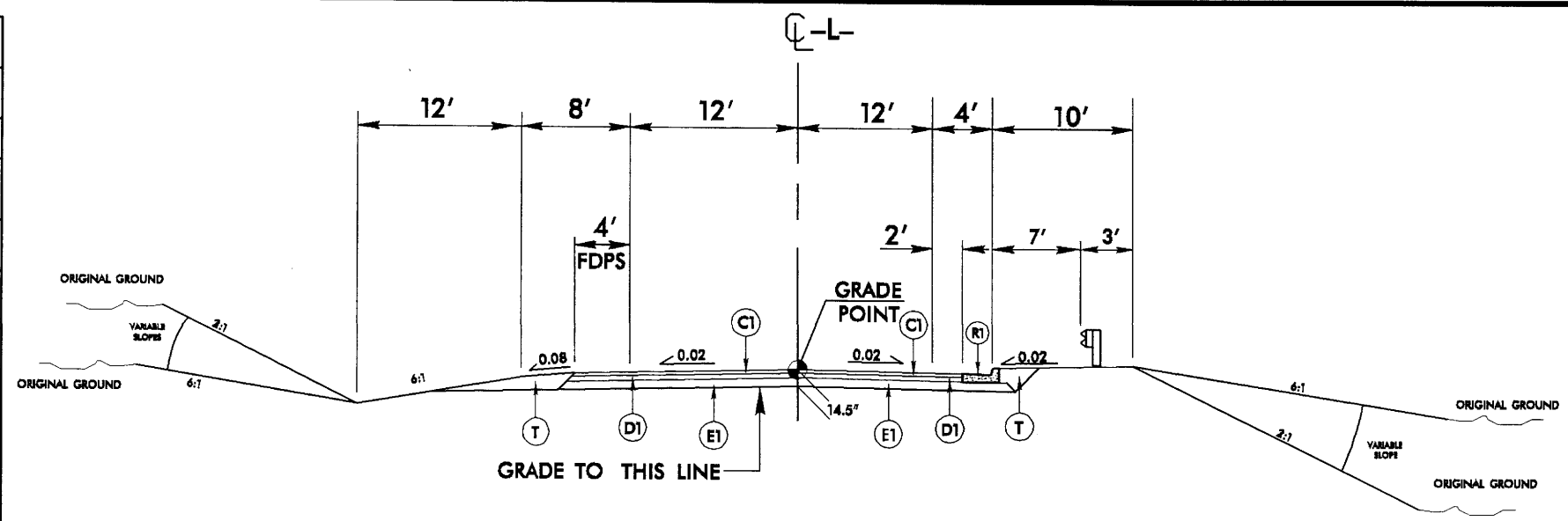
24-JAN-2008 14:29
P:\v\pachy\B-4449_r.dwg-tp.dgn
11/2/2004

6/2/09

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE 80.50, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 80.50, AT AN AVERAGE RATE OF 84 LBS. PER SQ. YD.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE 80.50, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 3" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 7.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.00, AT AN AVERAGE RATE OF 855 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0, 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 5 1/2" IN DEPTH.
R1	1'-6" CONCRETE CURB AND GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO.)

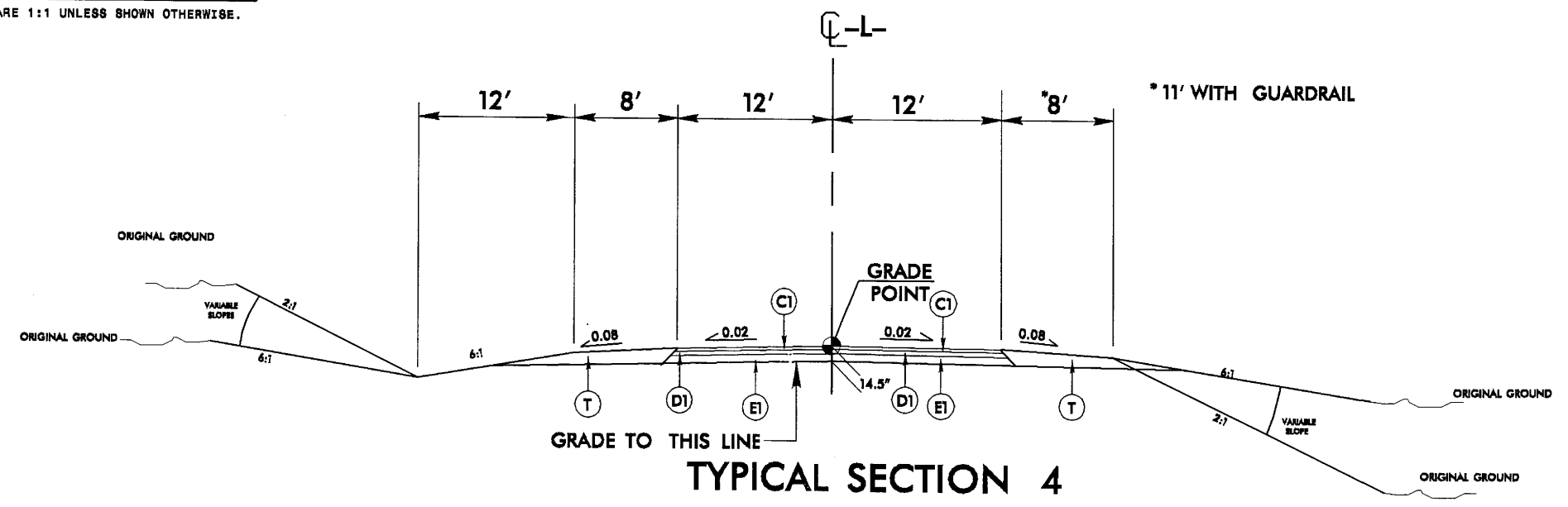
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO. B-4449	SHEET NO. 2A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	



TYPICAL SECTION 3

USE TYPICAL SECTION NO. 3
 -L- STA. 17+53.00 TO 18+28.00 (BEGIN BRIDGE)
 -L- STA. 20+13.00 (END BRIDGE) TO 21+08.00

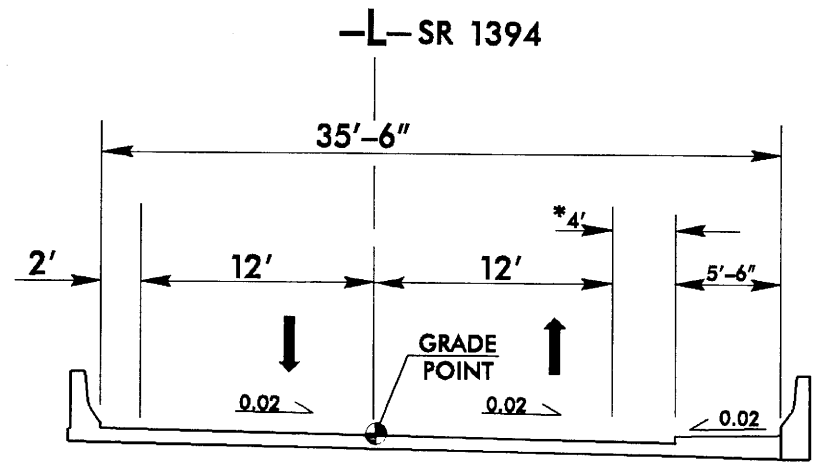


TYPICAL SECTION 4

TRANS. FROM T.S. No. 3 TO T.S. No. 4
 -L- STA. 21+08.00 TO 21+48.00

USE TYPICAL SECTION NO. 4
 -L- STA. 21+48.00 TO 22+66.00

TRANS. FROM T.S. No. 4 TO T.S. No. 1
 -L- STA. 22+66.00 TO 23+27.00



-L- STA. 18+28.00 (BEGIN BRIDGE) TO -L- STA 20+13.00 (END BRIDGE)
 * DRAINAGE REQUIREMENT

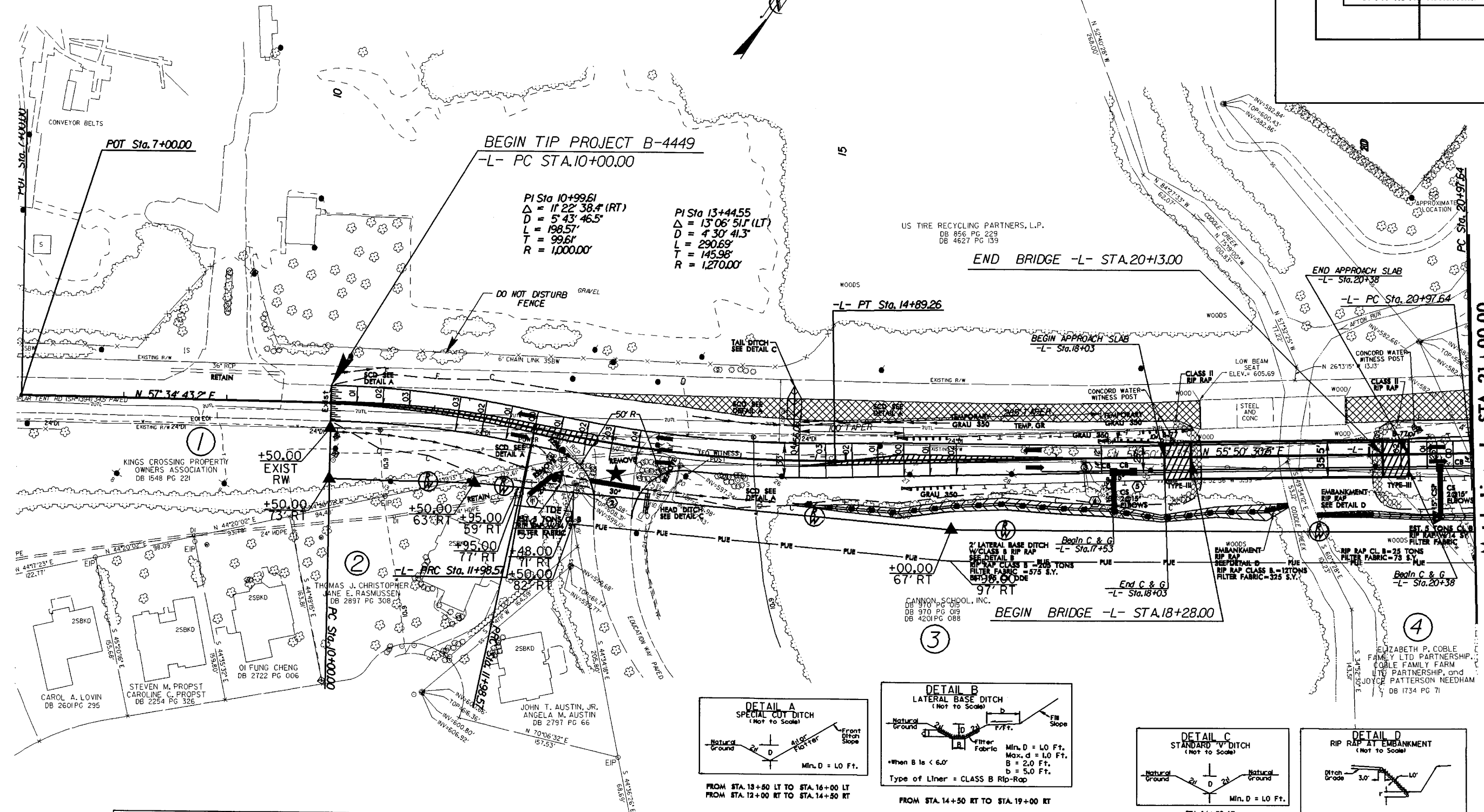
TYPICAL SECTION ON STRUCTURE

24-JAN-2008 14:29 P:\v\pav\pav\4449_r.dwg typ.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4449	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	

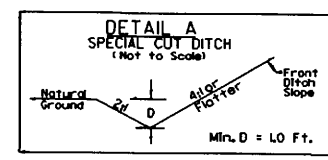
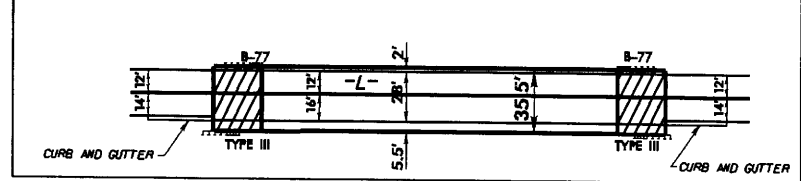
R/W REVISION: ADDED PUE ON THE RIGHT ADJACENT TO THE EXISTING R/W TO REPLACE AN EXISTING SEWER EASEMENT.



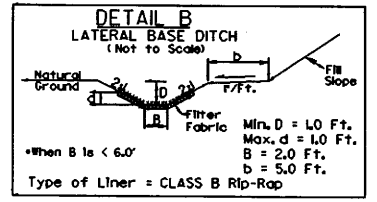
PI Sta 10+99.61
 $\Delta = 11' 22' 38.4''$ (RT)
 $D = 5' 43' 46.5''$
 $L = 198.57'$
 $T = 99.61'$
 $R = 1,000.00'$

PI Sta 13+44.55
 $\Delta = 13' 06' 51.1''$ (LT)
 $D = 4' 30' 41.3''$
 $L = 290.69'$
 $T = 145.98'$
 $R = 1,270.00'$

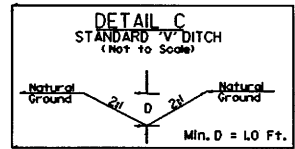
SKETCH SHOWING BRIDGE \ PAVEMENT RELATIONSHIP ON BRIDGE NO.2



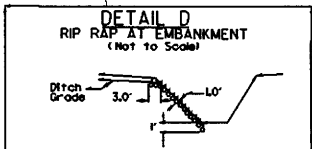
FROM STA. 13+50 LT TO STA. 16+00 LT
 FROM STA. 12+00 RT TO STA. 14+50 RT



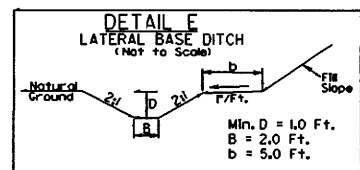
FROM STA. 14+50 RT TO STA. 19+00 RT



FROM STA. 14+50 LT TO STA. 13+15 RT



FROM STA. 19+00 RT TO STA. 19+20 RT
 FROM STA. 19+50 RT TO STA. 20+00 RT



FROM STA. 20+00 RT TO STA. 24+00 RT

-L-

PI Sta 10+99.61
 $\Delta = 11' 22' 38.4''$ (RT)
 $D = 5' 43' 46.5''$
 $L = 198.57'$
 $T = 99.61'$
 $R = 1,000.00'$

PI Sta 13+44.55
 $\Delta = 13' 06' 51.1''$ (LT)
 $D = 4' 30' 41.3''$
 $L = 290.69'$
 $T = 145.98'$
 $R = 1,270.00'$

★ DENOTES TRAFFIC SIGNAL

23-JAN-2008 13:39 -4449_rdy_psh4.dgn

8/17/99

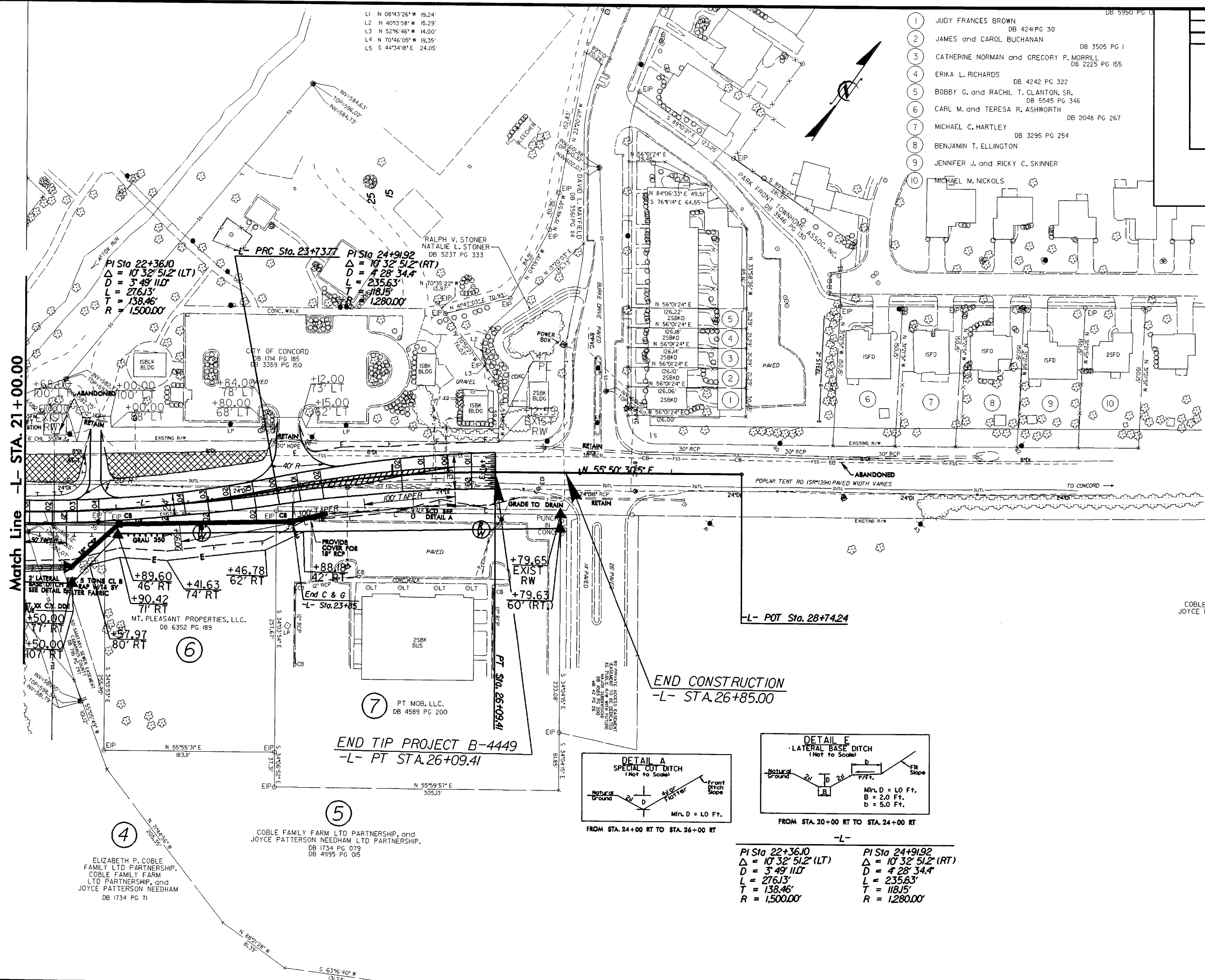
REVISIONS
←←R/W REVISION: ADDED PUE ON THE RIGHT ADJACENT TO THE EXISTING R/W TO REPLACE AN EXISTING SEWER EASEMENT.

L1 N 08°43'26" W 19.24'
L2 N 40°13'58" W 15.29'
L3 N 52°16'46" W 14.00'
L4 N 70°46'05" W 19.35'
L5 S 44°34'18" E 24.05'

- 1 JUDY FRANCES BROWN DB 4241 PG 30
- 2 JAMES and CAROL BUCHANAN DB 3505 PG 1
- 3 CATHERINE NORMAN and GREGORY P. MORRILL DB 2225 PG 155
- 4 ERIKA L. RICHARDS DB 4242 PG 322
- 5 BOBBY G. and RACHIL T. CLANTON, SR. DB 5545 PG 346
- 6 CARL M. and TERESA R. ASHWORTH DB 2048 PG 267
- 7 MICHAEL C. HARTLEY DB 3295 PG 254
- 8 BENJAMIN T. ELLINGTON
- 9 JENNIFER J. and RICKY C. SKINNER
- 10 MICHAEL M. NICKOLS

PROJECT REFERENCE NO. B-4449	SHEET NO. 5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SEE SHEET 6 FOR -L- PROFILE

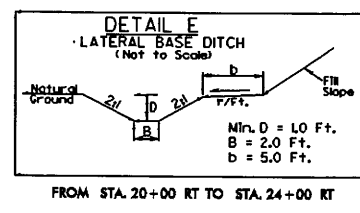
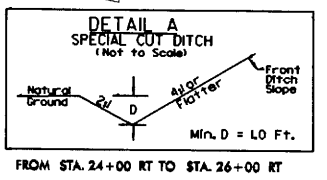


Match Line -L- STA. 21+00.00

END TIP PROJECT B-4449
-L- PT STA. 26+09.41

END CONSTRUCTION
-L- STA. 26+85.00

-L- POT Sta. 28+74.24



-L-

PI Sta 22+36.10 $\Delta = 10' 32' 51.2''$ (LT) $D = 3' 49' 11.0''$ $L = 276.13'$ $T = 138.46'$ $R = 1,500.00'$	PI Sta 24+91.92 $\Delta = 10' 32' 51.2''$ (RT) $D = 4' 28' 34.4''$ $L = 235.63'$ $T = 118.15'$ $R = 1,280.00'$
-------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------

23-JAN-2008 14:48
5:55 PM
C:\PROJECTS\B-4449\rdy-ph5.dgn

4
ELIZABETH P. COBLE
FAMILY LTD PARTNERSHIP,
COBLE FAMILY FARM
LTD PARTNERSHIP, and
JOYCE PATTERSON NEEDHAM
DB 1734 PG 71

5
COBLE FAMILY FARM LTD PARTNERSHIP, and
JOYCE PATTERSON NEEDHAM LTD PARTNERSHIP,
DB 1734 PG 079
DB 4995 PG 015

7
PT MOB, LLC.
DB 4589 PG 200

6
MT. PLEASANT PROPERTIES, LLC.
DB 6352 PG 189

COBLE FAMILY FARM LTD PARTNERSHIP,
JOYCE PATTERSON NEEDHAM LTD PARTNERSHIP,
DB 1734 PG 079
DB 4995 PG 015

PROJECT REFERENCE NO. B-4449	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

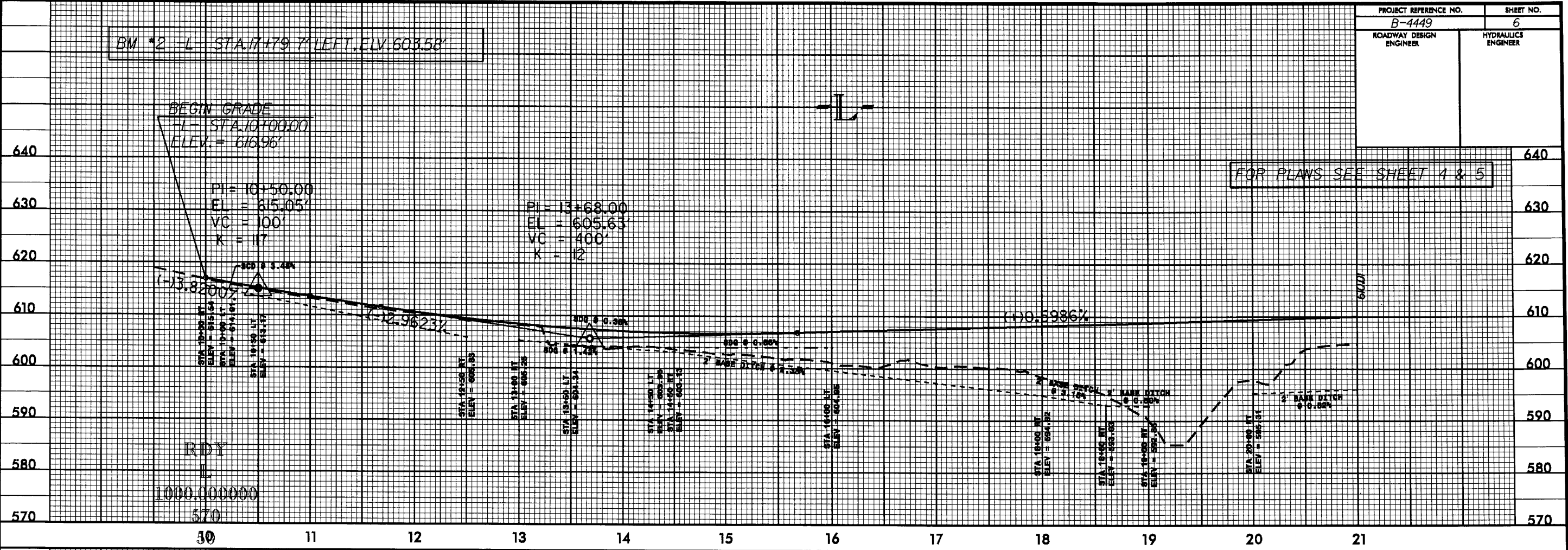
BM #2 -L- STA 1179.7' LEFT, ELEV. 603.58'

BEGIN GRADE
-L- STA 10+00.00
ELEV. = 616.96'

PI = 10+50.00
EL = 615.05'
VC = 100'
K = 17

PI = 13+68.00
EL = 605.63'
VC = 400'
K = 12

FOR PLANS SEE SHEET 4 & 5

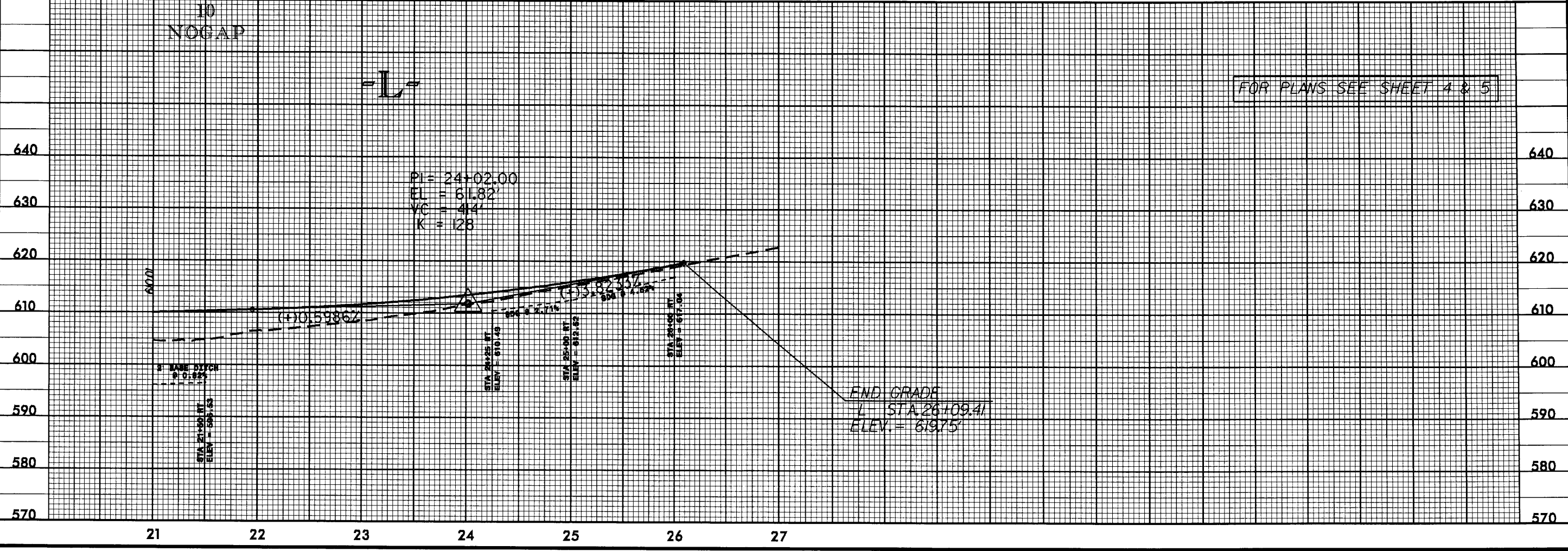


RDY
10
NO GAP

FOR PLANS SEE SHEET 4 & 5

PI = 24+02.00
EL = 611.82'
VC = 414'
K = 128

END GRADE
-L- STA 26+09.41
ELEV. = 619.75'



10
NO GAP

5/28/99

24-JAN-2008 14:45
C:\p000000\B-4449_rdy_pf1.dgn

Cabarrus County
Bridge No. 2 on SR 1394 (Poplar Tent Road)
over Coddle Creek
Federal Aid Project No. BRSTP-1394 (2)
W.B.S. No. 33704.1.1
State Project No. 8.2664301
T.I.P. No. B-4449

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION


FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION


DIVISION OF HIGHWAYS

5/14/07
DATE



Gregory J. Thorpe, PhD,
Environmental Management Director, PDEA

5/24/07
DATE



John F. Sullivan, III, Division Administrator
Federal Highway Administration

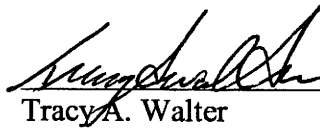
Cabarrus County
Bridge No. 2 on SR 1394 (Poplar Tent Road)
over Coddle Creek
Federal Aid Project No. BRSTP-1394 (2)
W.B.S. No. 33704.1.1
State Project No. 8.2664301
T.I.P. No. B-4449

CATEGORICAL EXCLUSION

Documentation Prepared in
Project Development and Environmental Analysis Branch By:

5/11/07

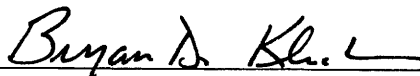
DATE



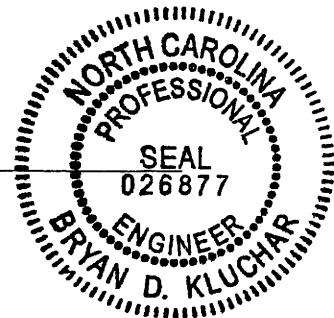
Tracy A. Walter
Project Planning Engineer
Bridge Project Development Unit

5/11/07

DATE



Bryan D. Kluchar, PE
Project Engineer
Bridge Project Development Unit



PROJECT COMMITMENTS:

**Cabarrus County
Bridge No. 2 on SR 1394
Over Coddle Creek
Federal Aid Project No. BRSTP-1394 (2)
State Project No. 8.2664301
W.B.S. No. 33704.1.1
T.I.P. No. B-4449**

Roadside Environmental Unit / Hydraulics Unit

Coddle Creek and its unnamed tributaries are on the 303 (d) list of impaired as impaired for sedimentation. Design standards in Sensitive Watersheds shall apply.

Roadway Design

Bridge No. 2 falls along Cabarrus County's multi-jurisdictional parks and Recreational master plan "Livable Community Blueprint". Allowance should be made for a future ten-foot multi-use path under the bridge.

No additional right of way, including temporary or permanent easements will be purchased from or encroach on the James Dorton Park, located northeast of the existing bridge.

Structure Design

Deck drains will not be allowed to discharge directly into the stream.

Cabarrus County
Bridge No. 2 on SR 1394 (Poplar Tent Road)
over Coddle Creek
Federal Aid Project No. BRSTP-1394 (2)
W.B.S. No. 33704.1.1
State Project No. 8.2664301
T.I.P. No. B-4449

INTRODUCTION: Bridge No. 2 is included in the 2007-2013 approved North Carolina Department of Transportation (NCDOT) Transportation Improvement Program and is eligible for the Federal-Aid Bridge Replacement Program. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

I. PURPOSE AND NEED STATEMENT

NCDOT Bridge Maintenance Unit records indicate Bridge No. 2 has a sufficiency rating of 2.0 out of a possible 100 for a new structure. The bridge is considered structurally deficient and functionally obsolete due to a structural and deck geometry appraisal of 2 out of 9 according to Federal Highway Administration (FHWA) standards and therefore eligible for FHWA's Bridge Replacement Program.

Components of both the steel plate superstructure and timber and steel substructure have experienced an increasing degree of deterioration that can no longer be addressed by routine maintenance activities. The posted weight limit on the bridge is down to 11 tons for single vehicles and 14 tons for truck-tractor semi-trailers. Bridge No. 2 is approaching the end of its useful life. Replacement of the bridge will result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located within the city limits of Concord in Cabarrus County (see Figure 1). Development in the area is industrial and residential in nature.

SR 1394 is classified as a urban minor arterial in the Statewide Functional Classification System and it is not a National Highway System Route. This route is not a designated bicycle route but bicycle usage is common in the area of the adjacent park (James Dorton Park).

In the vicinity of the bridge, SR 1394 is a three lane roadway which tapers to two lanes at the bridge and returns to a three lane after the bridge. Grass shoulders are maintained in the project area (see Figure 3). The roadway grade is in a sag vertical curve through the project area. The existing bridge is on a tangent. The roadway is situated approximately 23.0 feet above the creek bed.

Bridge No. 2 is a four-span structure that consists of a steel plank deck with an asphalt-wearing surface. The end bents and interior bents consist of timber caps on timber piles. The existing bridge (see Figure 3) was constructed in 1954. The overall length of the structure is 141 feet. Crutch bents have recently been installed (early 2007) due to a prompt action notice.

There are no utilities attached to the existing structure, but overhead power lines are located each side of the bridge and a large water line crosses the branch just south of the bridge. Utility impacts are anticipated to be high.

The current traffic volume of 15,700 vehicles per day (VPD) is expected to increase to 29,900 VPD by the year 2030. The projected volume includes four percent truck-tractor semi-trailer (TTST) and six percent dual-tired vehicles (DT). The posted speed limit is 45 miles per hour in the project area. Forty-three school buses cross the bridge daily on their morning and afternoon routes.

There were two accidents reported in the vicinity of Bridge No. 2 during a recent three-year period. Neither of the two accidents were associated with the alignment or geometry of the bridge or its approach roadway.

III. ALTERNATIVES

A. Project Description

The proposed bridge replacement project is to replace a deficient structure for safety and to allow travel through the area. The replacement of Bridge No. 2 was originally being developed as part of the U-3415 widening project, but was removed due to the poor condition of the existing structure. The alternative studied for this project best fits the U-3415 project as it is presently being developed.

B. Reasonable and Feasible Alternatives

One alternative for replacing Bridge No. 2 was studied in detail is described below.

Alternate 1

Alternate 1 involves replacement of the structure along a new roadway alignment to the south of the existing with a new structure approximately 185-foot long. The bridge will be of sufficient width to provide for two 12-foot lanes with 2-foot offset left side and 7.5-foot on right side (including a 5.5 foot sidewalk). The roadway grade of the new structure will be approximately the same as the existing grade.

To tie the new alignment into the existing alignment approach roadways will be required for a distance of approximately 800 feet to the west and 600 feet to the east of the new structure. Traffic will be maintained on-site during the construction period.

C. Alternatives Eliminated From Further Consideration

The “do-nothing” alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by SR 1394.

“Rehabilitation” of the old bridge is not practical due to its age and deteriorated condition. The existing girders have encountered section loss up to full depth in places and can no longer support traffic capacity. The timber substructure requires constant maintenance. The condition of the existing structure has deteriorated to a point that rehabilitation would consist of a complete replacement.

Replacing the existing structure in it’s present location and detouring traffic off-site was found not to be feasible due to the high amount of traffic which travels across the existing bridge.

D. Preferred Alternative

Bridge No. 2 will be replaced along a new alignment as shown in Figure 2. This alternate best fits with the Poplar Tent Road widening project U-3415 presently in the planning stages.

NCDOT Division 10 concurs with the selection of Alternate 1 as the preferred alternate.

IV. ESTIMATED COSTS

The estimated costs, based on 2007 prices, are as follows:

	Alternative 1 Preferred
Structure	\$ 843,000
Roadway Approaches	\$ 1,317,000
Detour Structure and Approaches	- 0 -
Structure Removal	\$ 55,000
Misc. & Mob.	\$ 224,000
Eng. & Contingencies	\$ 361,000
Total Construction Cost	\$ 2,800,000
Right-of-way Costs	\$ 131,000
Utility Costs	\$ 637,000
Total Project Cost	\$ 3,568,000

V. NATURAL ENVIRONMENT

Physical Characteristics

A. Physiography and Soils

The project area includes the Mecklenburg-Iredell and Cullen-Cecil-Hiwassee soil associations. These soil associations are found in southwestern Cabarrus County. The Mecklenburg-Iredell soil association is composed of approximately 44% Mecklenburg soils, 29% Iredell soils, and 27 % soils of minor extent. The minor soils include Poindexter, Enon, Armenia, Chewacla, and Wehadkee soils. The Cullen-Cecil-Hiwassee soil association is composed of approximately 46 % Cullen soils, 28 % Cecil soils, 10 % Hiwassee soils, and 16 % soils of minor extent. The minor soils include Mecklenburg, Enon, Poindexter, Pacolet, and Chewacla soils.

B. Water Resources

The proposed project is located within the Yadkin River Basin, DWQ subbasins 03-07-11 and 03-07-12 (USGS 8-digit Hydrologic Unit 03040105). Subbasin 03-07-11 includes the uppermost reach of the Rocky River watershed, primarily in Cabarrus County. The Rocky River, the largest tributary of the Yadkin River, flows for approximately 25 river miles in this subbasin from its headwaters near Mooresville in Iredell County to its confluence with Irish Buffalo Creek in Cabarrus County. Within this subbasin, the project area crosses Coddle Creek, a major tributary to Rocky River, and Afton Run, a major tributary to Coddle Creek. Both Coddle Creek and Afton Run are mid-sized, somewhat incised streams that receive significant sedimentation from urban runoff. Afton Run drains into Coddle Creek within the project area.

Subbasin 03-07-12 contains the middle portion of the Rocky River watershed and four of its largest tributaries: Irish Buffalo, Dutch Buffalo, Goose, and Crooked Creeks. The middle portion of the Rocky River is approximately 20 miles long. Streams in this subbasin drain the Kannapolis-Concord area of central Cabarrus County.

Surface waters in North Carolina are assigned a best usage classification by the DWQ, which is designed to maintain, protect, and enhance water quality within the state. The best usage classification for Coddle Creek [13-17-6-(5.5)], and Afton Run [13-17-6-6] is Class C. Class C water resources are used for aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. No waters classified as Outstanding Resource Waters (ORW) or Water Supply I (WS-I) waters occur within one mile of the project study area. Coddle Creek, sampled approximately six river miles downstream of the project area, received a Fair and Good-Fair rating, respectively, in 2001 and 1996. Coddle Creek and its unnamed tributaries are on the DWQ Clean Water Act (CWA) Section 303 (d) list of impaired streams due to non-point source pollution resulting from urban runoff and sediment in and around Concord and Kannapolis.

C. Biotic Resources

Two terrestrial communities were identified in the project area: Maintained/Disturbed and Mixed Forest. The Maintained/Disturbed community is the dominant community within the project area. It encompasses habitats that have recently been or are currently impacted by human disturbance, such as maintained roadside right-of-ways and residential and commercial land use property. Because of mowing and periodic clearing, this community is kept in a constant state of early succession.

The Mixed Forest community incorporates both floodplain and upland areas. This community has become heavily fragmented due to residential and commercial development within the project area. Evidence of recent logging is also observed in sections of this community. The mixed forest community exists along floodplains and other low-lying areas.

Jurisdictional Topics

A. Surface Waters and Wetlands

Most of the streams in the project area are well defined with moderate, moderately sloping or steep side slopes. All the streams are considered perennial and had flowing water during the survey period. There are no wetland impacts anticipated within the proposed project area.

B. Permits

In accordance with provisions of Section 404 of the Clean Water Act (33 USC 1344), a Section 404 Nationwide Permit (NWP) 23 from the USACE is likely to be applicable for all impacts to Waters of the United States resulting from the proposed project. A NWP No. 33 may be required if temporary construction including cofferdams, access and dewatering are required for this project. A North Carolina Division of Water Quality (DWQ) Section 401 Water Quality General Certification is required prior to the issuance of the Section 404 NWP 23 and/or NWP 33

C. Federally Protected Species

Plants and animals with a federal classification of Endangered or Threatened are protected under the provisions of Section 7 and Section 9 of the Endangered Species Act of 1973. The United States Fish and Wildlife Service (USFWS) lists two species under federal protection for Cabarrus County as of February 22, 2007. The North Carolina Heritage Program (NHP) has no record of the occurrence of either of these species in the area of the Concord and Kannapolis, 7.5-minute USGS Quad Sheets.

Lasmigona decorata (Carolina heelsplitter)
Endangered

BIOLOGICAL CONCLUSION:

NO EFFECT

A mussel screening was conducted on April 25, 2005 by NCDOT biologists. The Coddle Creek crossing at SR 1394 contains runs, riffles and pool areas with normal and unconsolidated substrate compactness. The substrate above and below the bridge consists of silt, sand, pebble, gravel, and bedrock with medium current. Sand and gravel banks had some erosion and undercutting present. The land use was urban. Coddle Creek is very shallow with 95 percent of the stream less than 2 feet deep. Coddle Creek was 18 feet wide and bank heights were 6 feet. Surveys were conducted, by using batiscope, from approximately 1300 feet downstream to 300 feet upstream of the project crossing. No freshwater mussels were found in 1.0 man-hours of survey time. Asiatic clam was abundant during the survey of Coddle Creek.

Helianthus schweinitzii (Schweinitz's sunflower)
Endangered

BIOLOGICAL CONCLUSION:

NO EFFECT

The NHP database, checked on April 7, 2004, lists no known occurrences of Schweinitz's sunflower within one mile of the project area. Potential habitat for Schweinitz's sunflower is minimal within the project area along roadsides and field edges. A plant by plant survey for Schweinitz's sunflower was conducted in these habitat areas and no individuals were found.

VI. HUMAN ENVIRONMENT

Section 106 Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at Title 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and afford the Advisory Council a reasonable opportunity to comment on such undertakings.

Historic Architecture

The Historic Preservation Office (HPO) reviewed the subject project and determined that no historical architectural resources will be affected (see letter dated July 21, 2006).

Archaeology

The Historic Preservation Office (HPO) reviewed the subject project and determined that no archaeological resources will be affected (see letter dated July 21, 2006).

Community Impacts

No adverse impact on families or communities is anticipated. right-of-way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

No adverse effect on public facilities or services is expected. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

The project is not in conflict with any plan, existing land use, or zoning regulation. No change in land use is expected to result from the construction of the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. All construction will take place along existing alignment. There are no soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project will not involve the direct conversion of farmland acreage within these classifications.

The project will not have a disproportionately high and adverse human health and environmental effect on any minority or low-income population.

Noise & Air Quality

This project is an air quality neutral project in accordance with 40 CFR 93.126. It is not required to be included in the regional emissions analysis (if applicable) and project level CO or PM2.5 analyses are not required. This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative. Therefore, FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. Consequently, this effort is exempt from analysis for MSATs. Any burning of vegetation shall be performed in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) for air quality compliance with 15 NCAC 2D.0520.

Noise levels may increase during project construction; however, these impacts are not expected to be substantial considering the relatively short-term nature of construction noise and the limitation of construction to daytime hours. The transmission loss characteristics of nearby natural elements and man-made structures are believed to be sufficient to moderate the effects of intrusive construction noise.

VII. GENERAL ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of the current North Carolina Department of Transportation standards and specifications.

The proposed project will not require right-of-way acquisition or easement from any land protected under Section 4(f) of the Department of Transportation Act of 1966.

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Environmental Management, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no underground storage tanks or hazardous waste sites in the project area.

Cabarrus County is a participant in the National Flood Insurance Program. There are no practical alternatives to crossing the floodplain area. Any shift in alignment will result in an impact area of about the same magnitude. The proposed project is not anticipated to increase the level or extent of upstream flood potential.

VIII. COORDINATION & AGENCY COMMENTS

NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, NC Department of Natural Resources, U.S. Fish & Wildlife Service, N.C. Wildlife Resource Commission, N.C. Division of Parks & Recreation, North Carolina State Historic Preservation Office, Cabarrus County Planning Department.

The Cabarrus County planning office requested that sidewalks be included on the project. The design includes sidewalk.

No other specific concerns were received for this project.

IX. PUBLIC INVOLVEMENT

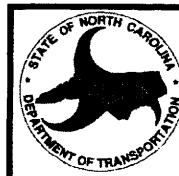
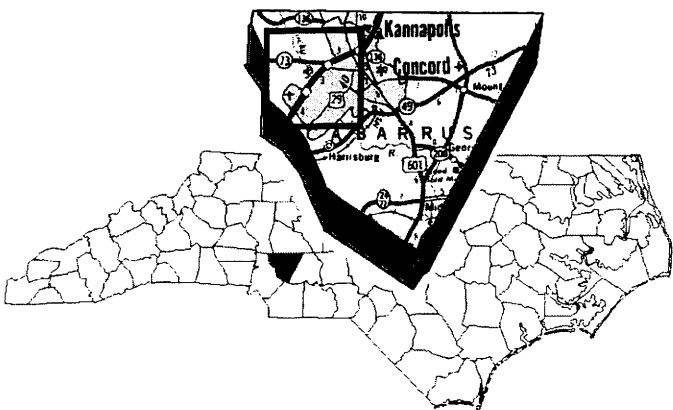
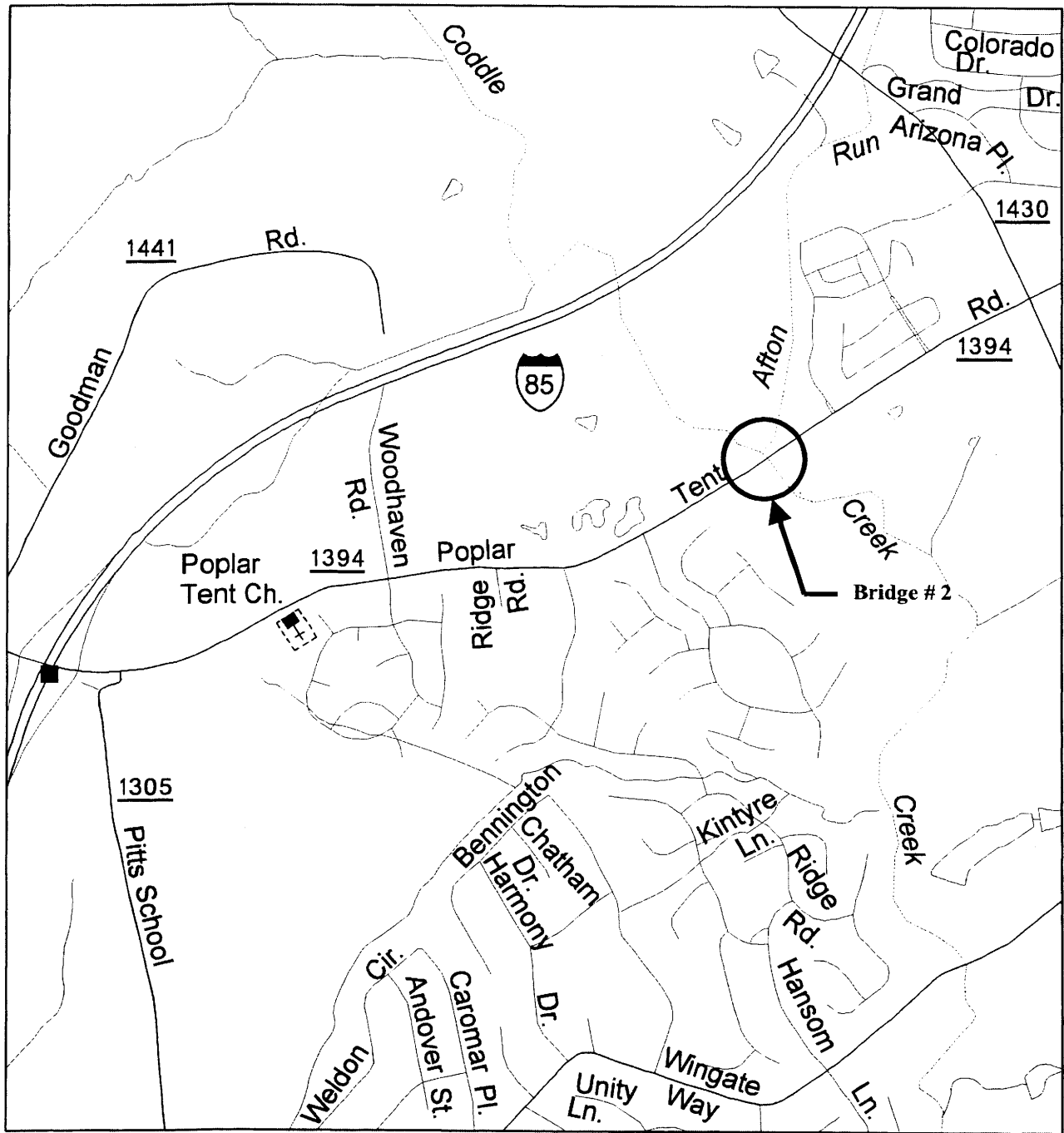
A letter was sent by the Location & Surveys Unit to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

A newsletter has been sent to all those living in the area along SR 1394. General inquiries were received but were more focused on the proposed U-3415 project.

There is not substantial controversy on social, economic, or environmental grounds concerning the project.

X. CONCLUSION

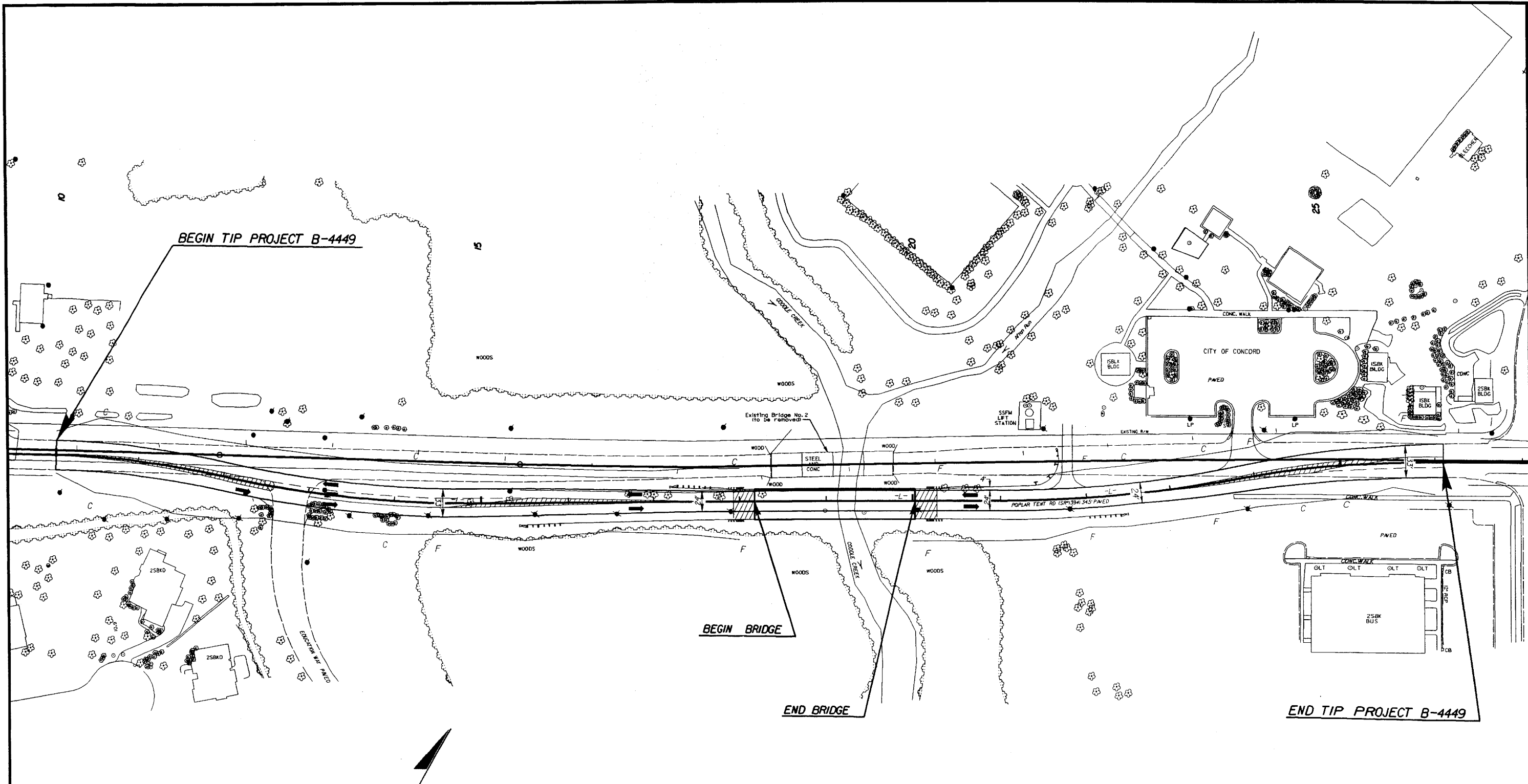
On the basis of the above discussion, it is concluded that no substantial adverse environmental impacts will result from implementation of the project. The project is therefore considered to be a federal "Categorical Exclusion" due to its limited scope and lack of substantial environmental consequences.




NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH

**CABARRUS COUNTY
REPLACE BRIDGE NO. 2 ON SR 1394
OVER CODDLE CREEK
B-4449**

Figure 1




 NORTH CAROLINA DEPARTMENT
 OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT DEVELOPMENT AND
 ENVIRONMENTAL ANALYSIS BRANCH

**CABARRUS COUNTY
 REPLACE BRIDGE NO. 2 ON SR 1394
 OVER CODDLE CREEK
 B-4449**

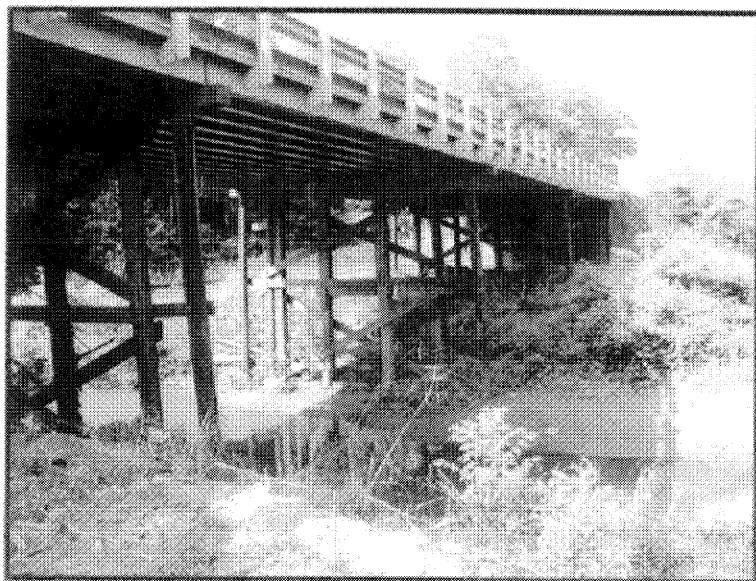
FIGURE 2



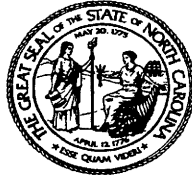
Bridge No. 2
looking Northeast



Bridge No. 2
looking Southwest



Bridge No. 2
Looking South



North Carolina Department of Cultural Resources
State Historic Preservation Office

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

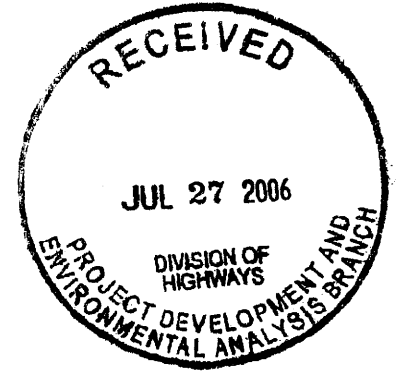
July 21, 2006

MEMORANDUM

TO: Greg Thorpe, Manager
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: Peter Sandbeck *PSS for Peter Sandbeck*

SUBJECT: Replacement of Bridge No. 2 on SR 1349 over Coddle Creek, B-4449, Cabarrus County,
ER 06-1656



Thank you for your letter of June 19, 2006, concerning the above project.

We have conducted a review of the proposed undertaking and are aware of no historic resources that would be affected by the project. Therefore, we have no comment on the undertaking as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763 ext. 246. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Mary Pope Furr
Matt Wilkerson
William T. Goodwin

**Cabarrus County
Bridge No. 2 on SR 1394 (Poplar Tent Road)
over Coddle Creek
Federal Aid Project No. BRSTP-1394 (2)
W.B.S. No. 33704.1.1
State Project No. 8.2664301
T.I.P. No. B-4449**

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION


FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION


DIVISION OF HIGHWAYS

5/14/07
DATE



Gregory J. Thorpe, PhD,
Environmental Management Director, PDEA

5/24/07
DATE



John F. Sullivan, III, Division Administrator
Federal Highway Administration

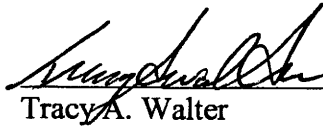
**Cabarrus County
Bridge No. 2 on SR 1394 (Poplar Tent Road)
over Coddle Creek
Federal Aid Project No. BRSTP-1394 (2)
W.B.S. No. 33704.1.1
State Project No. 8.2664301
T.I.P. No. B-4449**

CATEGORICAL EXCLUSION

Documentation Prepared in
Project Development and Environmental Analysis Branch By:

5/11/07

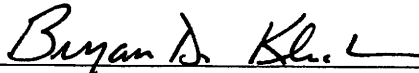
DATE



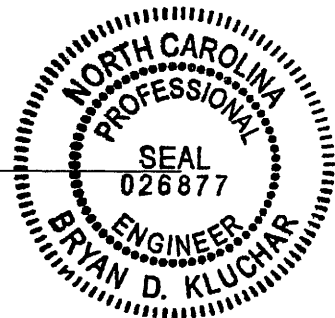
Tracy A. Walter
Project Planning Engineer
Bridge Project Development Unit

5/11/07

DATE



Bryan D. Kluchar, PE
Project Engineer
Bridge Project Development Unit



PROJECT COMMITMENTS:

**Cabarrus County
Bridge No. 2 on SR 1394
Over Coddle Creek
Federal Aid Project No. BRSTP-1394 (2)
State Project No. 8.2664301
W.B.S. No. 33704.1.1
T.I.P. No. B-4449**

Roadside Environmental Unit / Hydraulics Unit

Coddle Creek and its unnamed tributaries are on the 303 (d) list of impaired as impaired for sedimentation. Design standards in Sensitive Watersheds shall apply.

Roadway Design

Bridge No. 2 falls along Cabarrus County's multi-jurisdictional parks and Recreational master plan "Livable Community Blueprint". Allowance should be made for a future ten-foot multi-use path under the bridge.

No additional right of way, including temporary or permanent easements will be purchased from or encroach on the James Dorton Park, located northeast of the existing bridge.

Structure Design

Deck drains will not be allowed to discharge directly into the stream.

Cabarrus County
Bridge No. 2 on SR 1394 (Poplar Tent Road)
over Coddle Creek
Federal Aid Project No. BRSTP-1394 (2)
W.B.S. No. 33704.1.1
State Project No. 8.2664301
T.I.P. No. B-4449

INTRODUCTION: Bridge No. 2 is included in the 2007-2013 approved North Carolina Department of Transportation (NCDOT) Transportation Improvement Program and is eligible for the Federal-Aid Bridge Replacement Program. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

I. PURPOSE AND NEED STATEMENT

NCDOT Bridge Maintenance Unit records indicate Bridge No. 2 has a sufficiency rating of 2.0 out of a possible 100 for a new structure. The bridge is considered structurally deficient and functionally obsolete due to a structural and deck geometry appraisal of 2 out of 9 according to Federal Highway Administration (FHWA) standards and therefore eligible for FHWA's Bridge Replacement Program.

Components of both the steel plate superstructure and timber and steel substructure have experienced an increasing degree of deterioration that can no longer be addressed by routine maintenance activities. The posted weight limit on the bridge is down to 11 tons for single vehicles and 14 tons for truck-tractor semi-trailers. Bridge No. 2 is approaching the end of its useful life. Replacement of the bridge will result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located within the city limits of Concord in Cabarrus County (see Figure 1). Development in the area is industrial and residential in nature.

SR 1394 is classified as a urban minor arterial in the Statewide Functional Classification System and it is not a National Highway System Route. This route is not a designated bicycle route but bicycle usage is common in the area of the adjacent park (James Dorton Park).

In the vicinity of the bridge, SR 1394 is a three lane roadway which tapers to two lanes at the bridge and returns to a three lane after the bridge. Grass shoulders are maintained in the project area (see Figure 3). The roadway grade is in a sag vertical curve through the project area. The existing bridge is on a tangent. The roadway is situated approximately 23.0 feet above the creek bed.

Bridge No. 2 is a four-span structure that consists of a steel plank deck with an asphalt-wearing surface. The end bents and interior bents consist of timber caps on timber piles. The existing bridge (see Figure 3) was constructed in 1954. The overall length of the structure is 141 feet. Crutch bents have recently been installed (early 2007) due to a prompt action notice.

There are no utilities attached to the existing structure, but overhead power lines are located each side of the bridge and a large water line crosses the branch just south of the bridge. Utility impacts are anticipated to be high.

The current traffic volume of 15,700 vehicles per day (VPD) is expected to increase to 29,900 VPD by the year 2030. The projected volume includes four percent truck-tractor semi-trailer (TTST) and six percent dual-tired vehicles (DT). The posted speed limit is 45 miles per hour in the project area. Forty-three school buses cross the bridge daily on their morning and afternoon routes.

There were two accidents reported in the vicinity of Bridge No. 2 during a recent three-year period. Neither of the two accidents were associated with the alignment or geometry of the bridge or its approach roadway.

III. ALTERNATIVES

A. Project Description

The proposed bridge replacement project is to replace a deficient structure for safety and to allow travel through the area. The replacement of Bridge No. 2 was originally being developed as part of the U-3415 widening project, but was removed due to the poor condition of the existing structure. The alternative studied for this project best fits the U-3415 project as it is presently being developed.

B. Reasonable and Feasible Alternatives

One alternative for replacing Bridge No. 2 was studied in detail is described below.

Alternate 1

Alternate 1 involves replacement of the structure along a new roadway alignment to the south of the existing with a new structure approximately 185-foot long. The bridge will be of sufficient width to provide for two 12-foot lanes with 2-foot offset left side and 7.5-foot on right side (including a 5.5 foot sidewalk). The roadway grade of the new structure will be approximately the same as the existing grade.

To tie the new alignment into the existing alignment approach roadways will be required for a distance of approximately 800 feet to the west and 600 feet to the east of the new structure. Traffic will be maintained on-site during the construction period.

C. Alternatives Eliminated From Further Consideration

The “do-nothing” alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by SR 1394.

“Rehabilitation” of the old bridge is not practical due to its age and deteriorated condition. The existing girders have encountered section loss up to full depth in places and can no longer support traffic capacity. The timber substructure requires constant maintenance. The condition of the existing structure has deteriorated to a point that rehabilitation would consist of a complete replacement.

Replacing the existing structure in it’s present location and detouring traffic off-site was found not to be feasible due to the high amount of traffic which travels across the existing bridge.

D. Preferred Alternative

Bridge No. 2 will be replaced along a new alignment as shown in Figure 2. This alternate best fits with the Poplar Tent Road widening project U-3415 presently in the planning stages.

NCDOT Division 10 concurs with the selection of Alternate 1 as the preferred alternate.

IV. ESTIMATED COSTS

The estimated costs, based on 2007 prices, are as follows:

	Alternative 1 Preferred
Structure	\$ 843,000
Roadway Approaches	\$ 1,317,000
Detour Structure and Approaches	- 0 -
Structure Removal	\$ 55,000
Misc. & Mob.	\$ 224,000
Eng. & Contingencies	\$ 361,000
Total Construction Cost	\$ 2,800,000
Right-of-way Costs	\$ 131,000
Utility Costs	\$ 637,000
Total Project Cost	\$ 3,568,000

V. NATURAL ENVIRONMENT

Physical Characteristics

A. Physiography and Soils

The project area includes the Mecklenburg-Iredell and Cullen-Cecil-Hiwassee soil associations. These soil associations are found in southwestern Cabarrus County. The Mecklenburg-Iredell soil association is composed of approximately 44% Mecklenburg soils, 29% Iredell soils, and 27 % soils of minor extent. The minor soils include Poindexter, Enon, Armenia, Chewacla, and Wehadkee soils. The Cullen-Cecil-Hiwassee soil association is composed of approximately 46 % Cullen soils, 28 % Cecil soils, 10 % Hiwassee soils, and 16 % soils of minor extent. The minor soils include Mecklenburg, Enon, Poindexter, Pacolet, and Chewacla soils.

B. Water Resources

The proposed project is located within the Yadkin River Basin, DWQ subbasins 03-07-11 and 03-07-12 (USGS 8-digit Hydrologic Unit 03040105). Subbasin 03-07-11 includes the uppermost reach of the Rocky River watershed, primarily in Cabarrus County. The Rocky River, the largest tributary of the Yadkin River, flows for approximately 25 river miles in this subbasin from its headwaters near Mooresville in Iredell County to its confluence with Irish Buffalo Creek in Cabarrus County. Within this subbasin, the project area crosses Coddle Creek, a major tributary to Rocky River, and Afton Run, a major tributary to Coddle Creek. Both Coddle Creek and Afton Run are mid-sized, somewhat incised streams that receive significant sedimentation from urban runoff. Afton Run drains into Coddle Creek within the project area.

Subbasin 03-07-12 contains the middle portion of the Rocky River watershed and four of its largest tributaries: Irish Buffalo, Dutch Buffalo, Goose, and Crooked Creeks. The middle portion of the Rocky River is approximately 20 miles long. Streams in this subbasin drain the Kannapolis-Concord area of central Cabarrus County.

Surface waters in North Carolina are assigned a best usage classification by the DWQ, which is designed to maintain, protect, and enhance water quality within the state. The best usage classification for Coddle Creek [13-17-6-(5.5)], and Afton Run [13-17-6-6] is Class C. Class C water resources are used for aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. No waters classified as Outstanding Resource Waters (ORW) or Water Supply I (WS-I) waters occur within one mile of the project study area. Coddle Creek, sampled approximately six river miles downstream of the project area, received a Fair and Good-Fair rating, respectively, in 2001 and 1996. Coddle Creek and its unnamed tributaries are on the DWQ Clean Water Act (CWA) Section 303 (d) list of impaired streams due to non-point source pollution resulting from urban runoff and sediment in and around Concord and Kannapolis.

C. Biotic Resources

Two terrestrial communities were identified in the project area: Maintained/Disturbed and Mixed Forest. The Maintained/Disturbed community is the dominant community within the project area. It encompasses habitats that have recently been or are currently impacted by human disturbance, such as maintained roadside right-of-ways and residential and commercial land use property. Because of mowing and periodic clearing, this community is kept in a constant state of early succession.

The Mixed Forest community incorporates both floodplain and upland areas. This community has become heavily fragmented due to residential and commercial development within the project area. Evidence of recent logging is also observed in sections of this community. The mixed forest community exists along floodplains and other low-lying areas.

Jurisdictional Topics

A. Surface Waters and Wetlands

Most of the streams in the project area are well defined with moderate, moderately sloping or steep side slopes. All the streams are considered perennial and had flowing water during the survey period. There are no wetland impacts anticipated within the proposed project area.

B. Permits

In accordance with provisions of Section 404 of the Clean Water Act (33 USC 1344), a Section 404 Nationwide Permit (NWP) 23 from the USACE is likely to be applicable for all impacts to Waters of the United States resulting from the proposed project. A NWP No. 33 may be required if temporary construction including cofferdams, access and dewatering are required for this project. A North Carolina Division of Water Quality (DWQ) Section 401 Water Quality General Certification is required prior to the issuance of the Section 404 NWP 23 and/or NWP 33

C. Federally Protected Species

Plants and animals with a federal classification of Endangered or Threatened are protected under the provisions of Section 7 and Section 9 of the Endangered Species Act of 1973. The United States Fish and Wildlife Service (USFWS) lists two species under federal protection for Cabarrus County as of February 22, 2007. The North Carolina Heritage Program (NHP) has no record of the occurrence of either of these species in the area of the Concord and Kannapolis, 7.5-minute USGS Quad Sheets.

Lasmigona decorata (Carolina heelsplitter)
Endangered

BIOLOGICAL CONCLUSION:

NO EFFECT

A mussel screening was conducted on April 25, 2005 by NCDOT biologists. The Coddle Creek crossing at SR 1394 contains runs, riffles and pool areas with normal and unconsolidated substrate compactness. The substrate above and below the bridge consists of silt, sand, pebble, gravel, and bedrock with medium current. Sand and gravel banks had some erosion and undercutting present. The land use was urban. Coddle Creek is very shallow with 95 percent of the stream less than 2 feet deep. Coddle Creek was 18 feet wide and bank heights were 6 feet. Surveys were conducted, by using batiscope, from approximately 1300 feet downstream to 300 feet upstream of the project crossing. No freshwater mussels were found in 1.0 man-hours of survey time. Asiatic clam was abundant during the survey of Coddle Creek.

Helianthus schweinitzii (Schweinitz's sunflower)
Endangered

BIOLOGICAL CONCLUSION:

NO EFFECT

The NHP database, checked on April 7, 2004, lists no known occurrences of Schweinitz's sunflower within one mile of the project area. Potential habitat for Schweinitz's sunflower is minimal within the project area along roadsides and field edges. A plant by plant survey for Schweinitz's sunflower was conducted in these habitat areas and no individuals were found.

VI. HUMAN ENVIRONMENT

Section 106 Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at Title 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and afford the Advisory Council a reasonable opportunity to comment on such undertakings.

Historic Architecture

The Historic Preservation Office (HPO) reviewed the subject project and determined that no historical architectural resources will be affected (see letter dated July 21, 2006).

Archaeology

The Historic Preservation Office (HPO) reviewed the subject project and determined that no archaeological resources will be affected (see letter dated July 21, 2006).

Community Impacts

No adverse impact on families or communities is anticipated. right-of-way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

No adverse effect on public facilities or services is expected. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

The project is not in conflict with any plan, existing land use, or zoning regulation. No change in land use is expected to result from the construction of the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. All construction will take place along existing alignment. There are no soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project will not involve the direct conversion of farmland acreage within these classifications.

The project will not have a disproportionately high and adverse human health and environmental effect on any minority or low-income population.

Noise & Air Quality

This project is an air quality neutral project in accordance with 40 CFR 93.126. It is not required to be included in the regional emissions analysis (if applicable) and project level CO or PM2.5 analyses are not required. This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative. Therefore, FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. Consequently, this effort is exempt from analysis for MSATs. Any burning of vegetation shall be performed in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) for air quality compliance with 15 NCAC 2D.0520.

Noise levels may increase during project construction; however, these impacts are not expected to be substantial considering the relatively short-term nature of construction noise and the limitation of construction to daytime hours. The transmission loss characteristics of nearby natural elements and man-made structures are believed to be sufficient to moderate the effects of intrusive construction noise.

VII. GENERAL ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of the current North Carolina Department of Transportation standards and specifications.

The proposed project will not require right-of-way acquisition or easement from any land protected under Section 4(f) of the Department of Transportation Act of 1966.

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Environmental Management, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no underground storage tanks or hazardous waste sites in the project area.

Cabarrus County is a participant in the National Flood Insurance Program. There are no practical alternatives to crossing the floodplain area. Any shift in alignment will result in an impact area of about the same magnitude. The proposed project is not anticipated to increase the level or extent of upstream flood potential.

VIII. COORDINATION & AGENCY COMMENTS

NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, NC Department of Natural Resources, U.S. Fish & Wildlife Service, N.C. Wildlife Resource Commission, N.C. Division of Parks & Recreation, North Carolina State Historic Preservation Office, Cabarrus County Planning Department.

The Cabarrus County planning office requested that sidewalks be included on the project. The design includes sidewalk.

No other specific concerns were received for this project.

IX. PUBLIC INVOLVEMENT

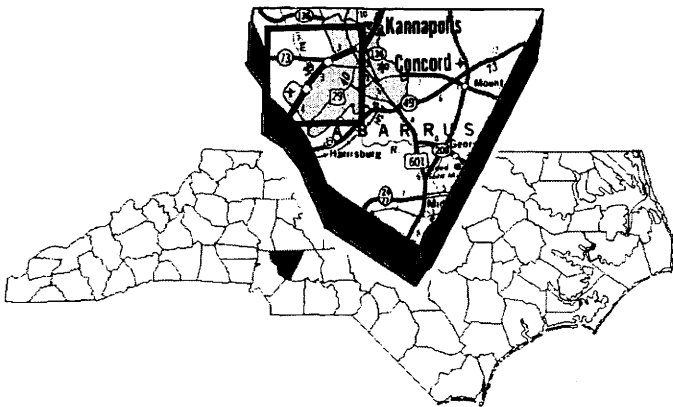
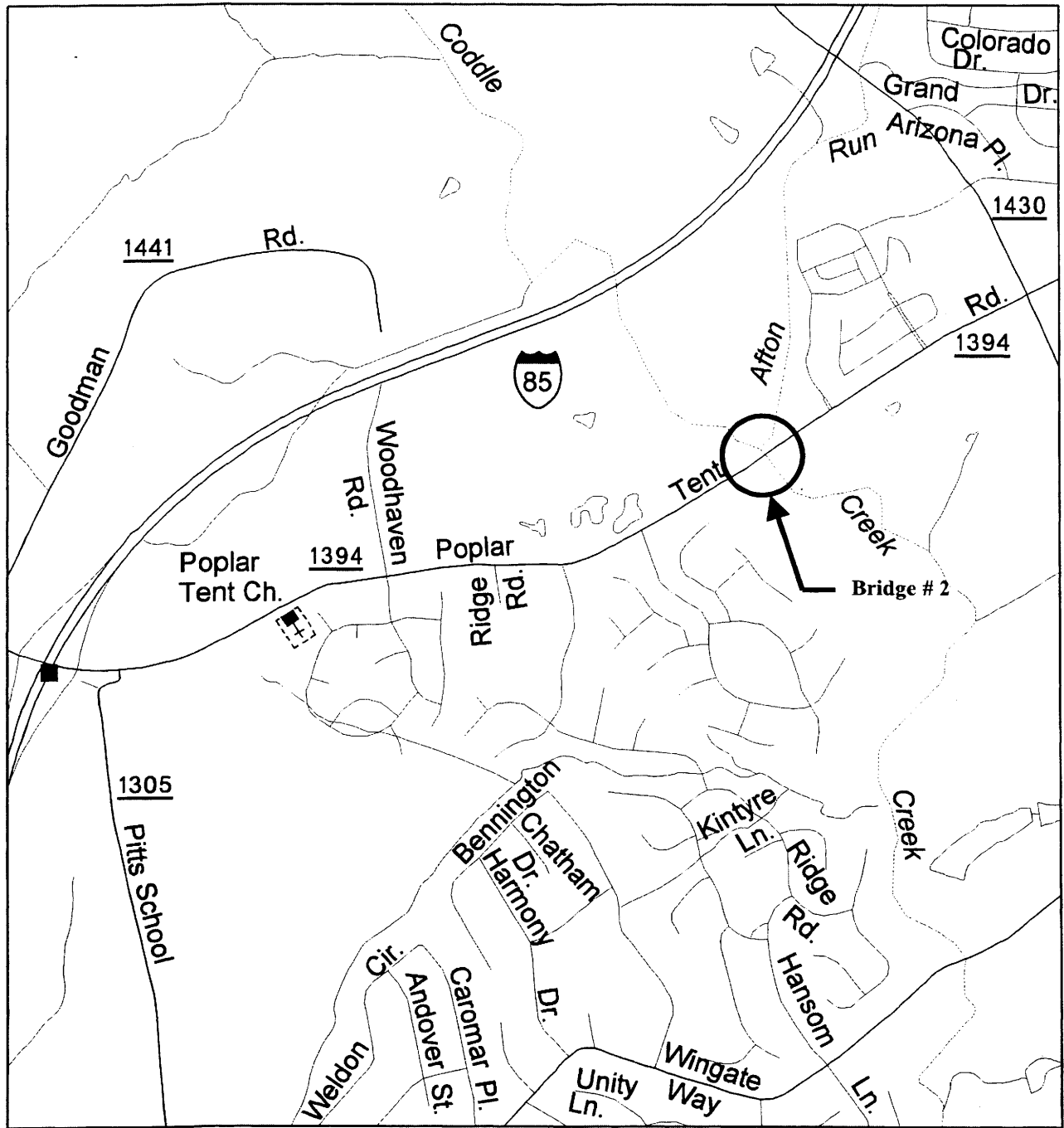
A letter was sent by the Location & Surveys Unit to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

A newsletter has been sent to all those living in the area along SR 1394. General inquiries were received but were more focused on the proposed U-3415 project.

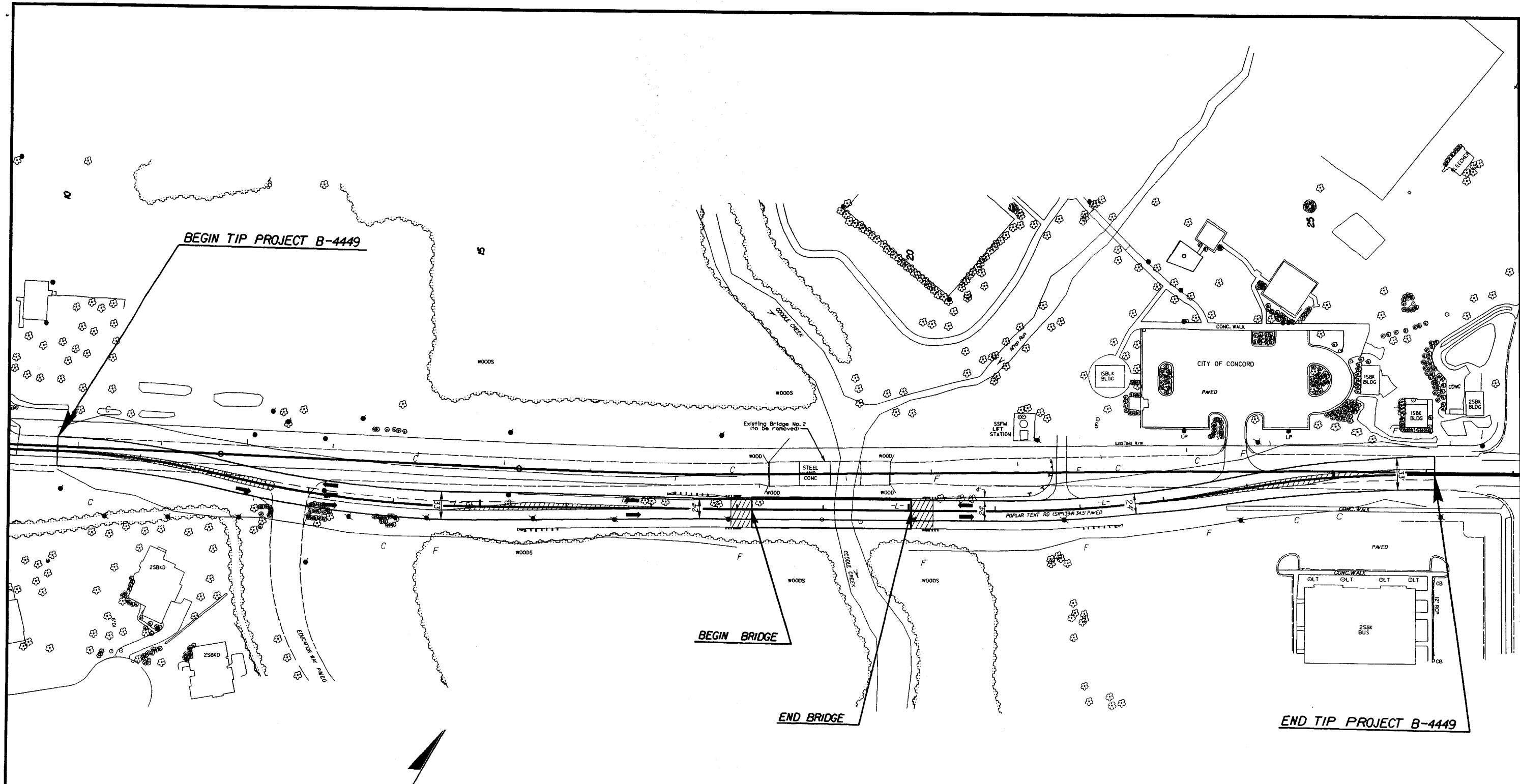
There is not substantial controversy on social, economic, or environmental grounds concerning the project.

X. CONCLUSION

On the basis of the above discussion, it is concluded that no substantial adverse environmental impacts will result from implementation of the project. The project is therefore considered to be a federal "Categorical Exclusion" due to its limited scope and lack of substantial environmental consequences.



	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH</p>
<p>CABARRUS COUNTY REPLACE BRIDGE NO. 2 ON SR 1394 OVER CODDLE CREEK B-4449</p>	
<p>Figure 1</p>	



END TIP PROJECT B-4449



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

CABARRUS COUNTY
REPLACE BRIDGE NO. 2 ON SR 1394
OVER CODDLE CREEK
B-4449

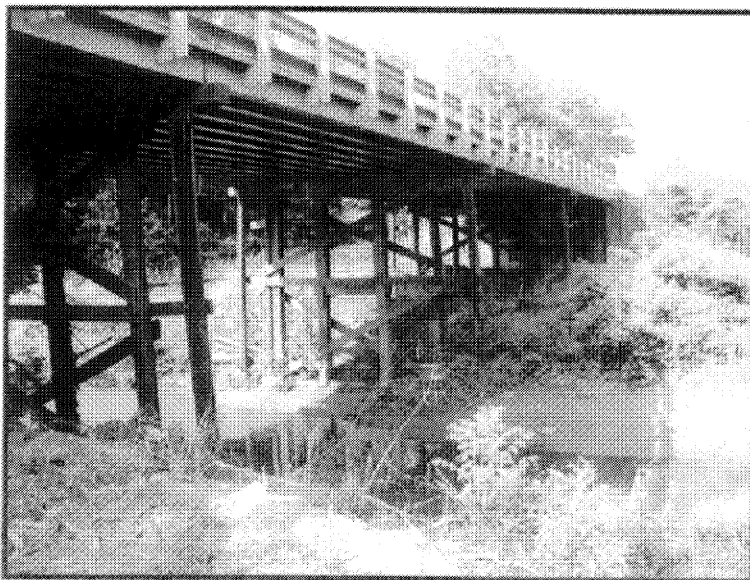
FIGURE 2



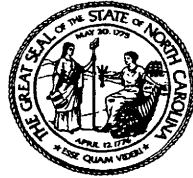
Bridge No. 2
looking Northeast



Bridge No. 2
looking Southwest



Bridge No. 2
Looking South



North Carolina Department of Cultural Resources
State Historic Preservation Office

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

July 21, 2006

MEMORANDUM

TO: Greg Thorpe, Manager
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: Peter Sandbeck *PJS for Peter Sandbeck*

SUBJECT: Replacement of Bridge No. 2 on SR 1349 over Coddle Creek, B-4449, Cabarrus County,
ER 06-1656



Thank you for your letter of June 19, 2006, concerning the above project.

We have conducted a review of the proposed undertaking and are aware of no historic resources that would be affected by the project. Therefore, we have no comment on the undertaking as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763 ext. 246. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Mary Pope Furr
Matt Wilkerson
William T. Goodwin

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919) 733-4763/733-8653
RESTORATION	515 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919) 733-6547/715-4801
SURVEY & PLANNING	515 N. Blount Street, Raleigh, NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919) 733-6545/715-4801