STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

August 25, 2006

Stormwater Section
Division of Water Quality
943 Washington Square Mall
Washington, North Carolina 27889

Attention: Ms. Amy Franklin

Dear Madam:

Subject: **Stormwater Permit Application** for the proposed replacement of Bridge 4 over Tulls Creek on SR 1222 (Tulls Creek Rd.) in Currituck County. Federal Aid Project No. BRZ-1222(2), State Project No. 8.2040301, TIP No. B-2950, Debit WBS Element 32773.1.1 $420.

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 4 over Tulls Creek on SR 1222 in Currituck County. Currituck County falls under the jurisdiction of the Coastal Area Management Act (CAMA). The NCDOT will be applying for a Clean Water Act (CWA) §404 USACE Nationwide Permit, and a North Carolina CWA §401Water Quality Certification.

Please find enclosed a stormwater permit application form, stormwater management plan, one copy of the project plans, and the permit application fee of $420.00. Please review this project for authorization by your section of NCDWQ.

If you have any questions regarding this project or need additional information, please feel free to contact Mr. Andrew Nottingham, P.E. of the NCDOT Hydraulics Unit at (919) 250-4100, or Mr. Chris Manley of NCDOT Project Development and Environmental Analysis Branch at (919) 715-1487.

Sincerely,

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

cc: Dr. David Chang, P.E., Hydraulics
Mr. Bill Biddlecome, USACE
Mr. Brian Wrenn NCDWQ
Ms. Cathy Brittingham, NCDCM
Ms. Stacy Baldwin, P.E., PDEA
File B-2950

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.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

OFFICE USE ONLY		
Date Received	Fee Paid	Permit Number

State of North Carolina
Department of Environment and Natural Resources
Division of Water Quality

STORMWATER MANAGEMENT PERMIT APPLICATION FORM

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION LINEAR ROADWAY PROJECT

This form may be photocopied for use as an original.

DWQ Stormwater Management Plan Review:
A complete stormwater management plan submittal includes this application form, a supplement form for each BMP proposed (see Section V), design calculations, and plans and specifications showing all road and BMP details.

I. PROJECT INFORMATION

NCDOT Project Number: 32773.1.1 (B-2950) County: Currituck

Project Name: Bridge No. 4 over Tulls Creek on SR 1222 (Tulls Creek Road).

Project Location: SR 1222 (Tulls Creek Road) between SR 1110 and SR 1104

Contact Person: _____ Phone: _____ Fax: _____

Receiving Stream Name: Tull Bay River Basin: Pasquotank Class: C Sw

Proposed linear feet of project: 2993 feet

Proposed Structural BMP and Road Station *(attach a list of station and BMP type if more room is needed)*:

No structural BMPs used on this project

Type of proposed project: *(check all that apply)*:

☐ New ☐Widening ☒2 lane* ☐4 lane* ☒Curb and Gutter ☒Bridge Replacement

☐Other *(Describe)* _____

** 2 lane and 4 lane imply that roadside ditches are used unless Curb and Gutter is also checked.*

II. REQUIRED ITEMS CHECKLIST

Initial in the space provided below to indicate the following design requirements have been met and supporting documentation is attached. Supporting documentation shall, at a minimum, consist of a brief narrative description including (1) the scope of the project, (2) how the items below are met, (3) how the proposed best management practices minimize water quality impacts, and (4) any significant constraints and/or justification for not meeting a, b, c and d to the maximum extent practicable.

Designer's Initials

SRM a. The amount of impervious surface has been minimized as much as possible.

SRM b. The runoff from the impervious areas has been diverted away from surface waters as much as possible.

SRM c. Best Management Practices are employed which minimize water quality impacts.

SRM d. Vegetated roadside ditches are 3:1 slope or flatter.

III. OPERATION AND MAINTENANCE AGREEMENT

I acknowledge and agree by my initials below that the North Carolina Department of Transportation is responsible for the implementation of the four maintenance items listed. I agree to notify DWQ of any operational problems with the BMP's that would impact water quality or prior to making any changes to the system or responsible party.

Maintenance Engineer's Initials

SDB a. BMP's shall be inspected and maintained in good working order.

SDB b. Eroded areas shall be repaired and reseeded as needed.

SDB c. Stormwater collection systems, including piping, inlets, and outlets, shall be maintained to insure proper functioning.

Maintenance Engineer's Name: Sterling D. Burke

Title: Division Maint. Eng

IV. APPLICATION CERTIFICATION

I, *(print or type name)* Elizabeth L. Lusk of NCDOT Branch, certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans and that the proposed project complies with the requirements of 15A NCAC 2H .1000.

Title: Environmental Supervisor

Address:

Signature: E. L. Lusk Date: 8-25-06

V. SUPPLEMENT FORMS

The applicable state stormwater management permit supplement form(s) listed below must be submitted for each BMP specified for this project. Contact the Stormwater and General Permits Unit at (919) 733-5083 for the status and availability of these forms.

Form SWU-102	Wet Detention Basin Supplement
Form SWU-103	Infiltration Basin Supplement
Form SWU-104	Low Density Supplement
Form SWU-105	Curb Outlet System Supplement
Form SWU-106	Off-Site System Supplement
Form SWU-107	Underground Infiltration Trench Supplement
Form SWU-108	Neuse River Basin Supplement
Form SWU-109	Innovative Best Management Practice Supplement
Form SWU-110	Extended Dry Detention Basin Supplement

NCDOT Project 32773.1.1 (B-2950) Date: June 1, 2006
Currituck County
Bridge No. 4 over Tulls Creek on SR 1222 (Tulls Creek Road)
Hydraulics Project Manager: Andrew Nottingham, PE

STORMWATER MANAGEMENT PLAN

PROJECT DESCRIPTION

The NC Department of Transportation proposes to replace bridge no. 4 with a bridge. SR 1222 is a rural minor collector and runs more or less east to west in the vicinity of the project. The existing roadway cross section consists of an 18' wide two-lane paved roadway with shoulders that vary from one to four feet wide. The existing bridge is 236' long. It consists of seven spans, the longest of which is 35'. The proposed bridge will be 300' long, consisting of 5 spans at 60' each. The span arrangement will allow for top-down construction.

To obtain a better vertical site distance crossing the bridge, approximately 4' of fill will be required along 250'of the roadway just west of the bridge. Similarly, approximately 3' of fill will be required along 300' of the roadway just east of the bridge. A retaining wall will be used to contain the west roadway approach fill to the point where it ties back to the existing grade. The crest of the roadway vertical curve is approximately midway of the bridge.

There will be no deck drains on the proposed bridge. Storm water will be collected from the west end of the bridge deck by a curb and gutter system with curb inlets. Curb and gutter is required because of the retaining wall. The drainage system will then carry storm water approximately 420 feet from the end of the bridge along the roadway to an outlet in a coastal marsh. The outlet velocity of the 18" pipe will be 1.5 feet per second, and a rip rap pad will be used to prevent scour.

Storm water will be collected from the east end of the bridge deck by a curb and gutter system with curb inlets. Curb and gutter is required on the east end of the bridge to prevent erosion of the fill slopes and roadway shoulder. The drainage system will then carry storm water approximately 200 feet from the end of the bridge along the roadway to an outlet in a constructed grass swale. The outlet velocity of the 18" pipe will be 1.2 feet per second, and a rip rap pad will be used to prevent scour.

The project encompasses 6.0 acres inside the highway right of way. The existing impervious area is 1.29 acres and the proposed impervious area is 1.91 acres. The existing bridge deck area is 6610 square feet and the proposed bridge deck area is 9900 square feet.

Beyond the curb and gutter system west of the bridge, the proposed roadway will consist of a two-lane paved roadway section with grassed shoulders and fill slopes. Beyond the curb and gutter system east of the bridge, the proposed roadway will consist of a two-lane paved roadway section with grassed shoulders and ditches. An existing cross-pipe will be replaced approximately 300' east of the bridge.

Traffic will be detoured off-site during the bridge construction.

NCDOT Project 32773.1.1 (B-2950) Date: June 1, 2006
Currituck County
Bridge No. 4 over Tulls Creek on SR 1222 (Tulls Creek Road)
Hydraulics Project Manager: Andrew Nottingham, PE

ENVIRONMENTAL DESCRIPTION

The surrounding land use consists of marshland, rural, residential, and agricultural. The project area is located in the Pasquotank River Basin where Tulls Creek enters Tull Bay. The surrounding terrain is generally flat to very flat. The natural ground elevation at the site is approximately 3' NGVD. The water depth at the site is approximately 15' in the center of the channel. The best usage classification is Class B, Sw, and Primary Nursery area. No watershed critical areas, HQW, or ORW waters are located within one mile of the project site.

BEST MANAGEMENT PRACTICES

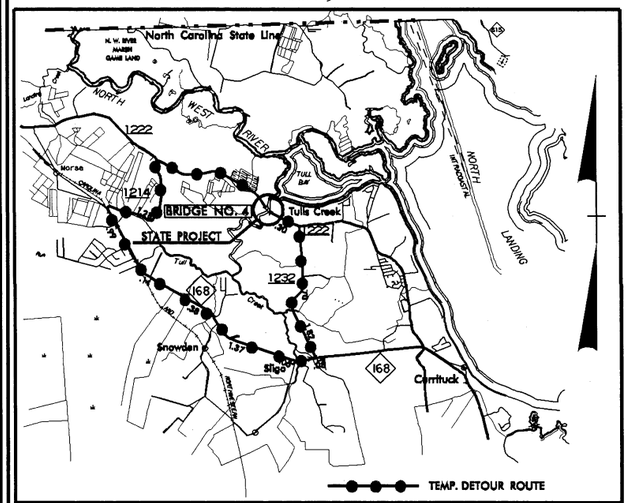
- The bridge replacement will be accomplished with a road closure that will minimize construction time and on-site impacts.
- The roadway typical section is a fill section with slopes no steeper than 3:1.
- To prevent erosion, a curb and gutter system will be used on the west approach along the retaining wall section. Similarly, curb and gutter will be used along the east approach to prevent erosion of the shoulder and fill slope due to the steep banking of the pavement in the curved roadway section.
- There will be no deck drains on the proposed bridge.
- Storm water runoff from the bridge deck will be directed to a coastal marsh on the west end of the bridge and to a grass swale on the east end of the bridge .
- Placement of rip rap around the east bridge abutment and the retaining wall around the west abutment will control erosion from storm event scour.

09/08/99

TIP PROJECT: B-2950

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Plan Sheet Symbols
See Sheet 1-C For Survey Control Sheet



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CURRITUCK COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2950	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
32773.1.1	BRZ-1222(2)	P.E.
32773.2.1	BRZ-1222(2)	ROW & UTIL

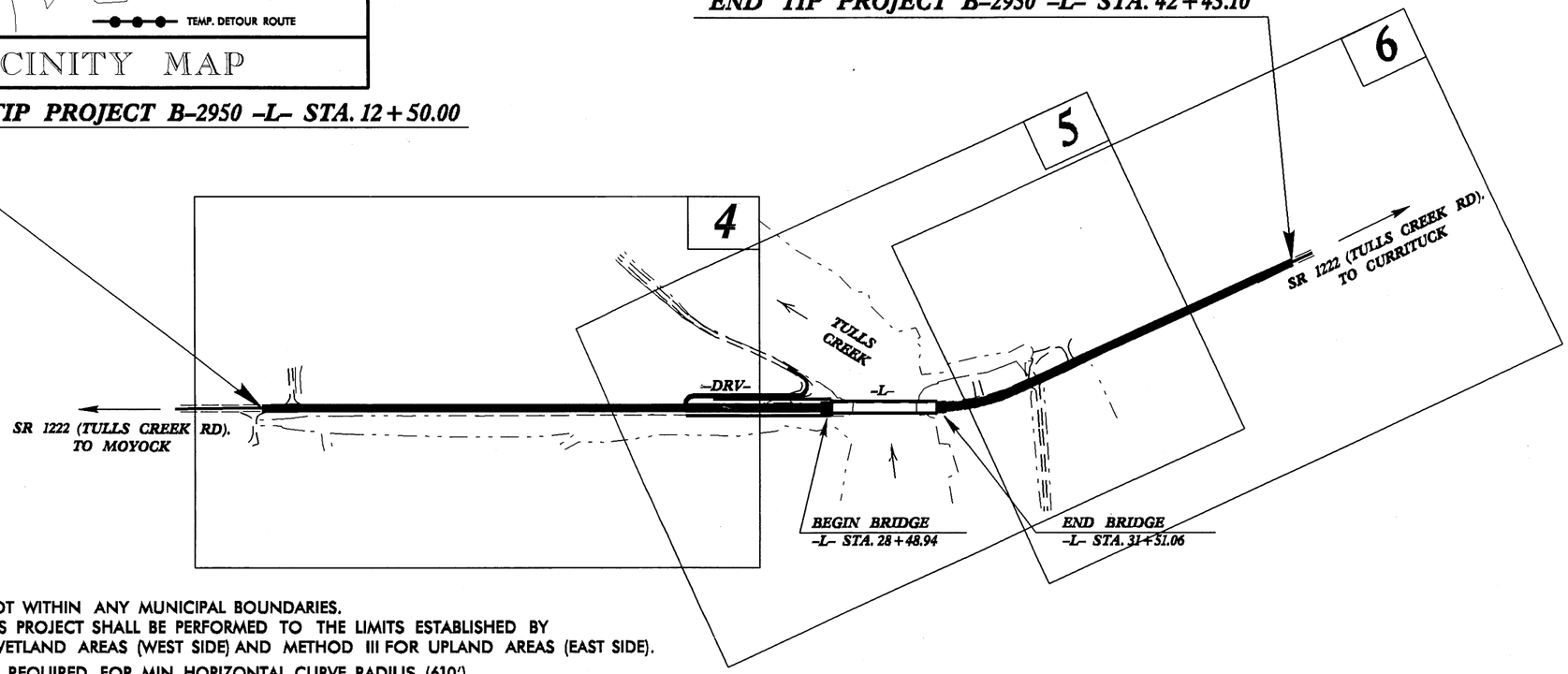
LOCATION: BRIDGE NO. 4 OVER TULLS CREEK ON SR 1222

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

NAD 83

BEG TIP PROJECT B-2950 -L- STA. 12+50.00

END TIP PROJECT B-2950 -L- STA. 42+43.10



1. THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II FOR WETLAND AREAS (WEST SIDE) AND METHOD III FOR UPLAND AREAS (EAST SIDE).

★ DESIGN EXCEPTIONS REQUIRED FOR MIN. HORIZONTAL CURVE RADIUS (610') AND HORIZONTAL STOPPING SIGHT DISTANCE (308').

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2007 = 4428
ADT 2027 = 8508
DHV = 14%
D = 60%
T = 5% *
V = 50 MPH ★
RURAL COLLECTOR
* TTST 2% + DUAL 3%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-2950 = 0.510 MI
LENGTH STRUCTURE TIP PROJECT B-2950 = 0.057 MI
TOTAL LENGTH TIP PROJECT B-2950 = 0.567 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 16, 2006

LETTING DATE: JUNE 19, 2007

GARY LOVERING, PE
PROJECT ENGINEER

ANTHONY C. WEST
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

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PROJECT REFERENCE NO.	SHEET NO.
B-2950	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

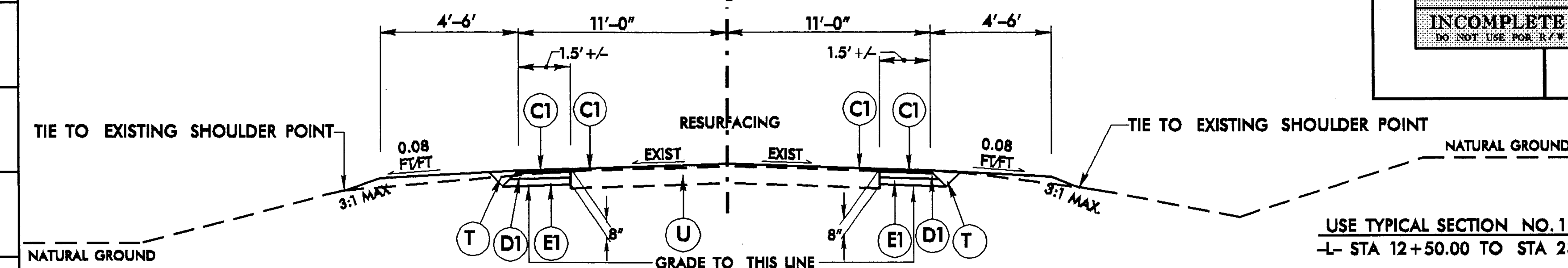
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

FINAL PAVEMENT SCHEDULE

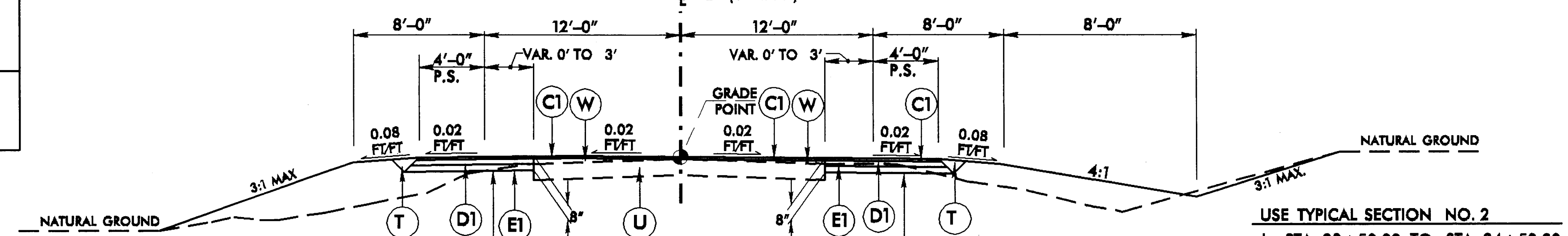
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2¼" IN DEPTH OR GREATER THAN 4" 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.
J	PROP. 6" AGGREGATE BASE COURSE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT. SEE STANDARD WEDGING DETAIL

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



TYPICAL SECTION NO.1

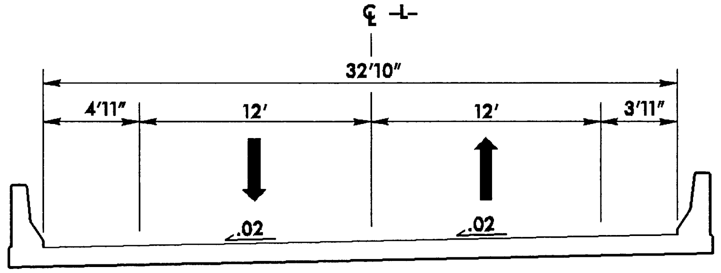
USE TYPICAL SECTION NO. 1
-L- STA 12+50.00 TO STA 23+50



TYPICAL SECTION NO.2

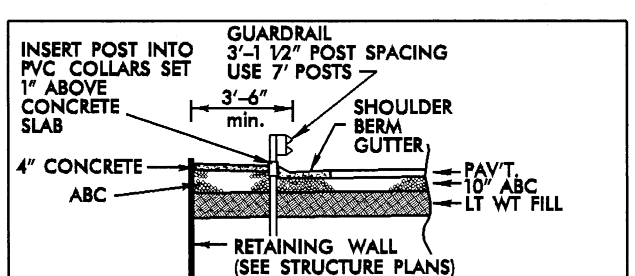
USE TYPICAL SECTION NO. 2
-L- STA 23+50.00 TO STA 24+50.00
-L- STA 35+00.00 TO STA 42+43.10

NOTE: SEE TYPICAL SECTION NO. 3 FOR RETAINING WALL LOCATION

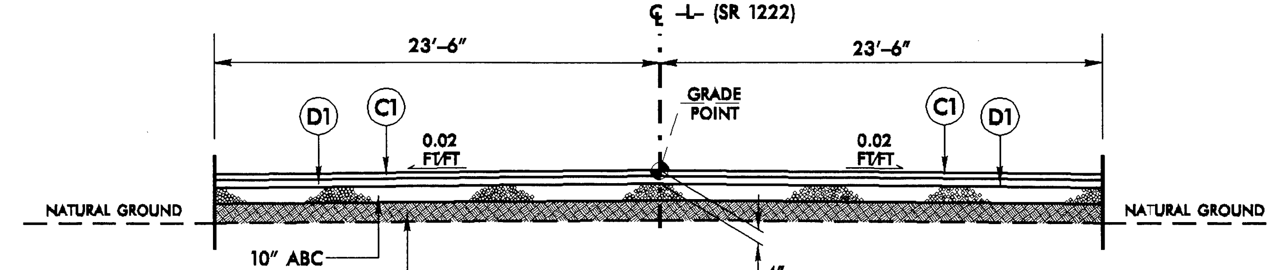


BRIDGE TYPICAL

-L- STA. STA 28+48.94
TO -L- STA 31+51.06



** INSET A **
USE INSET A WITH TYPICAL SECTION NO. 3



PROPOSED RETAINING WALL
-L- STA 25+25 TO STA 28+52 LT
** SEE INSET A **

TYPICAL SECTION NO.3

PROPOSED RETAINING WALL
-L- STA 24+50 TO 28+52 RT
** SEE INSET A **

USE TYPICAL SECTION NO. 3
-L- STA 24+50.00 TO STA 28+48.94 (BEG. BRIDGE)

NOTE: SEE SHT 2- FOR DETAILS OF LIGHTWEIGHT EMBANKMENT

LIGHTWEIGHT EMBANKMENT LIMITS
-L- STA 25+25 TO BEG. BRIDGE

6/2/99

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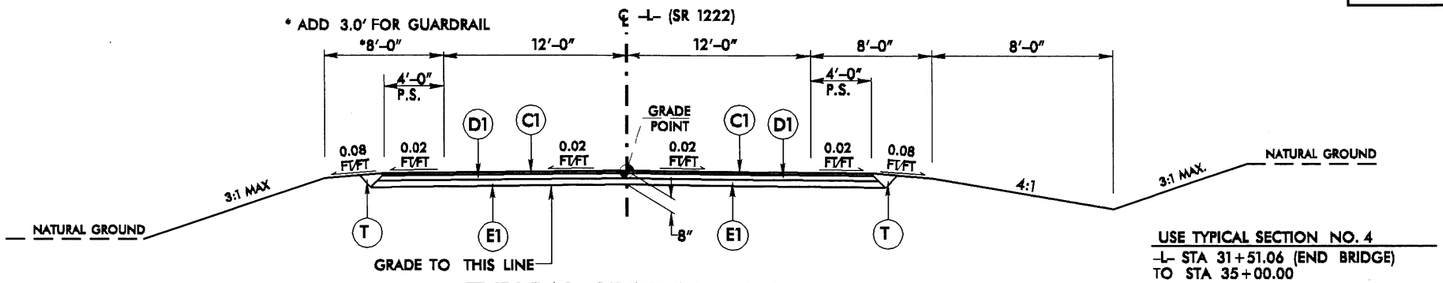
PROJECT REFERENCE NO.	SHEET NO.
B-2950	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

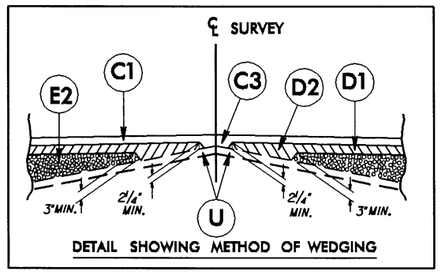
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

C1	1½" S9.5B
C2	VAR S9.5B
D1	2½" I19.0B
D2	VAR I19.0B
E1	4" B25.0B
E2	VAR B25.0B
J	6" ABC
T	EARTH
U	EXIST
W	WEDGE

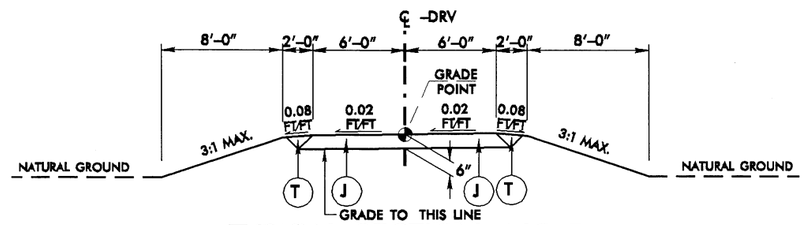


TYPICAL SECTION NO.4

USE TYPICAL SECTION NO. 4
-L- STA 31+51.06 (END BRIDGE)
TO STA 35+00.00



DETAIL SHOWING METHOD OF WEDGING



TYPICAL SECTION NO.5

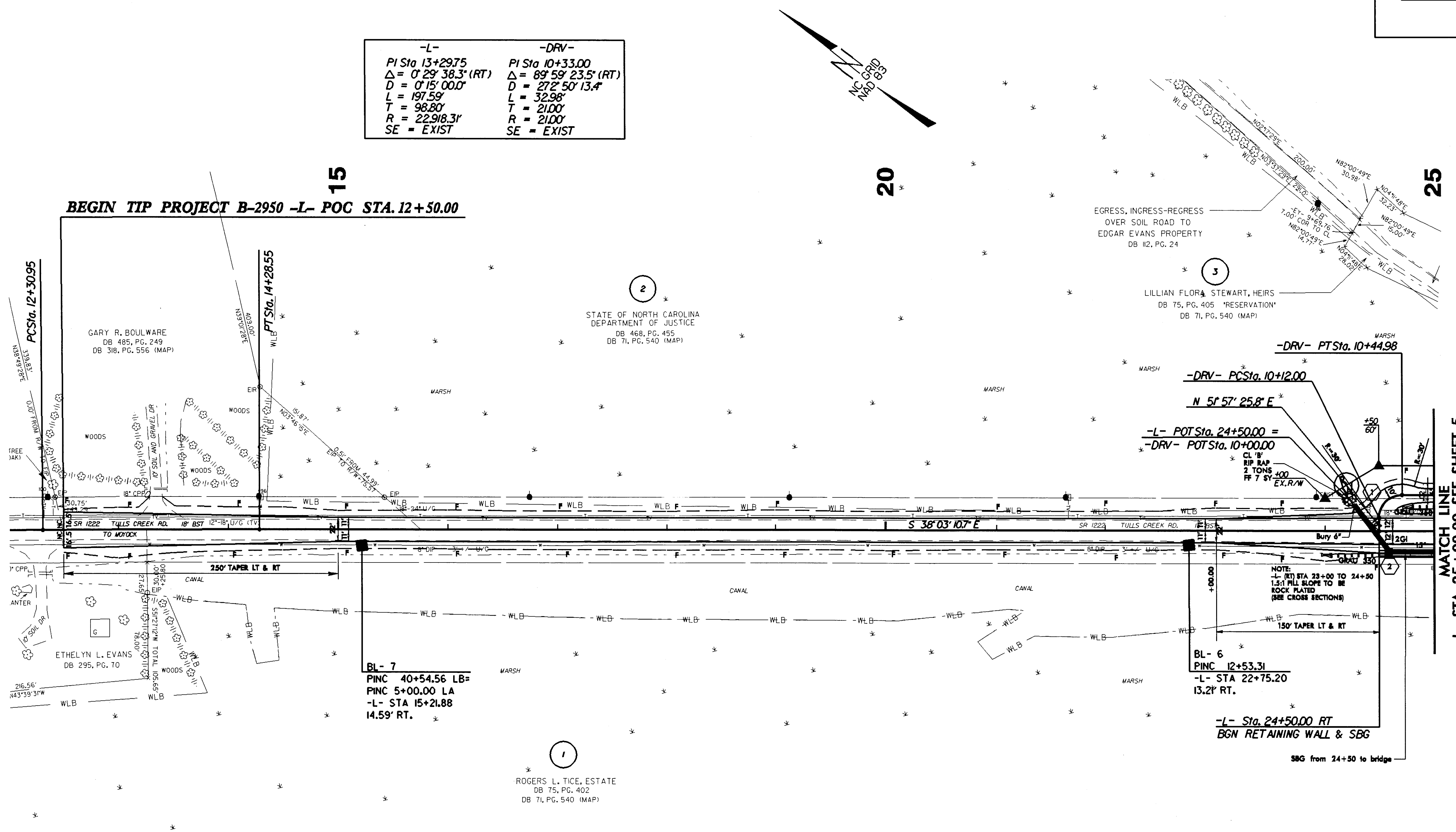
USE TYPICAL SECTION NO. 5
-DRV- STA 10+12.00 TO STA 13+75.00

PROJECT REFERENCE NO.	SHEET NO.
B-2950	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

-L-	-DRV-
PI Sta 13+29.75	PI Sta 10+33.00
Δ = 0° 29' 38.3" (RT)	Δ = 89° 59' 23.5" (RT)
D = 0° 15' 00.0"	D = 272° 50' 13.4"
L = 197.59'	L = 32.98'
T = 98.80'	T = 21.00'
R = 22,918.31'	R = 21.00'
SE = EXIST	SE = EXIST



BEGIN TIP PROJECT B-2950 -L- POC STA. 12+50.00
15
20
25
NC GRID NAD 83
PCSta. 12+30.95
PT Sta. 14+28.55
GARY R. BOULWARE
DB 485, PG. 249
DB 318, PG. 556 (MAP)
STATE OF NORTH CAROLINA
DEPARTMENT OF JUSTICE
DB 468, PG. 455
DB 71, PG. 540 (MAP)
EGRESS, INGRESS-REGRESS
OVER SOIL ROAD TO
EDGAR EVANS PROPERTY
DB 112, PG. 24
LILLIAN FLORA STEWART, HEIRS
DB 75, PG. 405 'RESERVATION'
DB 71, PG. 540 (MAP)
-DRV- PT Sta. 10+44.98
-DRV- PCSta. 10+12.00
N 51° 57' 25.8" E
-L- POT Sta. 24+50.00 =
-DRV- POT Sta. 10+00.00
SR 1222 TULLS CREEK RD.
TO MOYOCK
S 38° 03' 10.7" E
250' TAPER LT & RT
150' TAPER LT & RT
NOTE:
-L- (RT) STA 23+00 TO 24+50
1.5:1 FILL SLOPE TO BE
ROCK PLATED
(SEE CROSS SECTIONS)
BL- 7
PINC 40+54.56 LB=
PINC 5+00.00 LA
-L- STA 15+21.88
14.59' RT.
BL- 6
PINC 12+53.31
-L- STA 22+75.20
13.21' RT.
-L- Sta. 24+50.00 RT
BGN RETAINING WALL & SBG
SBG from 24+50 to bridge
ETHELYN L. EVANS
DB 295, PG. 70
ROGERS L. TICE, ESTATE
DB 75, PG. 402
DB 71, PG. 540 (MAP)
MATCH LINE
-L- STA. 25+00.00 SEE SHEET 5
WOODS
MARSH
CANAL
WLB

P.S. = PAVED SHOULDER

FOR -L- & -DRV- PROFILES SEE SHEET 7 & 8

DESIGN EXCEPTION REQUIRED FOR MIN. HORIZONTAL CURVE RADIUS (610') AND HORIZONTAL STOPPING SIGHT DISTANCE (308').

7/2/99

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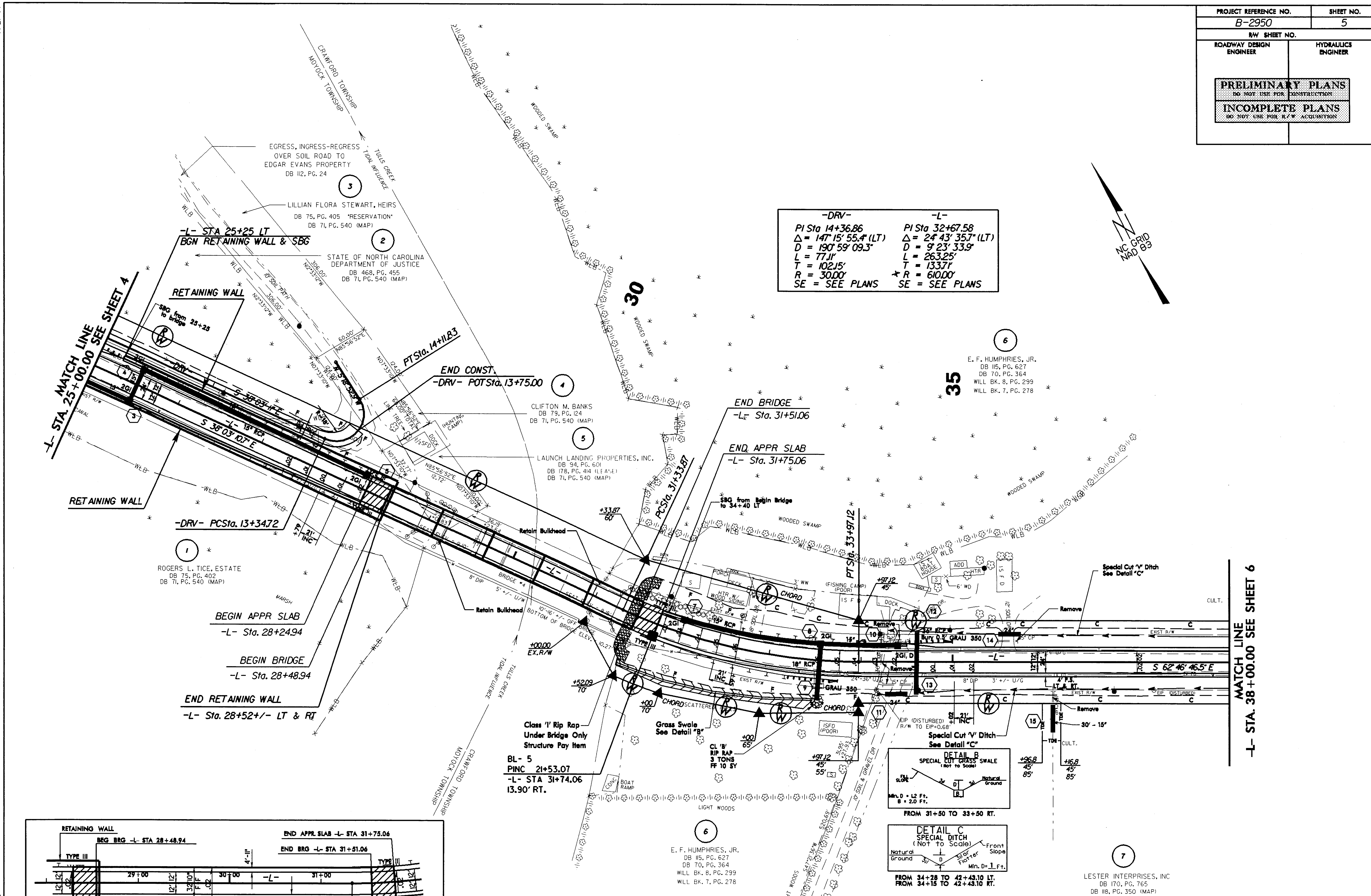
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-2950	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



NC GRID NAD 83
-DRV-
PI Sta 14+36.86
Δ = 147° 15' 55.4" (LT)
D = 190° 59' 09.3"
L = 77.11'
T = 102.15'
R = 30.00'
SE = SEE PLANS
-L-
PI Sta 32+67.58
Δ = 24° 43' 35.7" (LT)
D = 9° 23' 33.9"
L = 263.25'
T = 133.71'
★ R = 610.00'
SE = SEE PLANS
MATCH LINE -L- STA. 25+00.00 SEE SHEET 4
MATCH LINE -L- STA. 38+00.00 SEE SHEET 6
-L- STA 25+25 LT BGN RETAINING WALL & SBG
RETAINING WALL
SBG from 25+25 to bridge
EGRESS, INGRESS-REGRESS OVER SOIL ROAD TO EDGAR EVANS PROPERTY DB 112, PG. 24
LILLIAN FLORA STEWART, HEIRS DB 75, PG. 405 "RESERVATION" DB 71, PG. 540 (MAP)
STATE OF NORTH CAROLINA DEPARTMENT OF JUSTICE DB 468, PG. 455 DB 71, PG. 540 (MAP)
CRAWFORD TOWNSHIP
MOYOCK TOWNSHIP
TULLS CREEK TIDAL INFLUENCE
WOODED SWAMP
PT Sta. 14+11.83
END CONST. -DRV- POT Sta. 13+75.00
CLIFTON M. BANKS DB 79, PG. 124 DB 71, PG. 540 (MAP)
LAUNCH LANDING PROPERTIES, INC. DB 94, PG. 601 DB 178, PG. 414 (LEASE) DB 71, PG. 540 (MAP)
S 38° 03' 10.7" E
RETAINING WALL
-DRV- PC Sta. 13+34.72
ROGERS L. TICE, ESTATE DB 75, PG. 402 DB 71, PG. 540 (MAP)
BEGIN APPR SLAB -L- Sta. 28+24.94
BEGIN BRIDGE -L- Sta. 28+48.94
END RETAINING WALL -L- Sta. 28+52+/- LT & RT
Retain Bulkhead
END BRIDGE -L- Sta. 31+51.06
END APPR SLAB -L- Sta. 31+75.06
PC Sta. 31+33.87
PT Sta. 33+97.12
SBG from Begin Bridge to 34+40 LT
E. F. HUMPHRIES, JR. DB 115, PG. 627 DB 70, PG. 364 WILL BK. 8, PG. 299 WILL BK. 7, PG. 278
S 62° 46' 46.5" E
Special Cut 'V' Ditch See Detail "C"
Remove
Class 'I' Rip Rap Under Bridge Only Structure Pay Item
Grass Swale See Detail "B"
CL 'B' RIP RAP 3 TONS FF 10 SY
BL- 5 PINC 21+53.07 -L- STA 31+74.06 13.90' RT.
BOAT RAMP
LIGHT WOODS
DETAIL B SPECIAL CUT GRASS SWALE (Not to Scale)
Min. D = 1.2 Ft. B = 2.0 Ft.
FROM 31+50 TO 33+50 RT.
DETAIL C SPECIAL DITCH (Not to Scale)
Natural Ground
Front Slope
Min. D= 1 Ft.
FROM 34+28 TO 42+43.10 LT.
FROM 34+15 TO 42+43.10 RT.
LESTER INTERPRISES, INC DB 170, PG. 765 DB 118, PG. 350 (MAP) DB 142, PG. 58 (MAP)
RETAINING WALL
BEG BRG -L- STA 28+48.94
END APPR. SLAB -L- STA 31+75.06
END BRG -L- STA 31+51.06
TYPE III
BEG APPR. SLAB -L- STA 28+24.94
-L- PC STA 31+33.87
SKETCH OF PAVEMENT IN RELATION TO BRIDGE WIDTH

P.S. = PAVED SHOULDER

FOR -L- & -DRV- PROFILES SEE SHEET 7 & 8

★ DESIGN EXCEPTION REQUIRED FOR MIN. HORIZONTAL CURVE RADIUS (610') AND HORIZONTAL STOPPING SIGHT DISTANCE (308').

12-JUN-2006 13:45
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7/2/99

7/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-2950	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

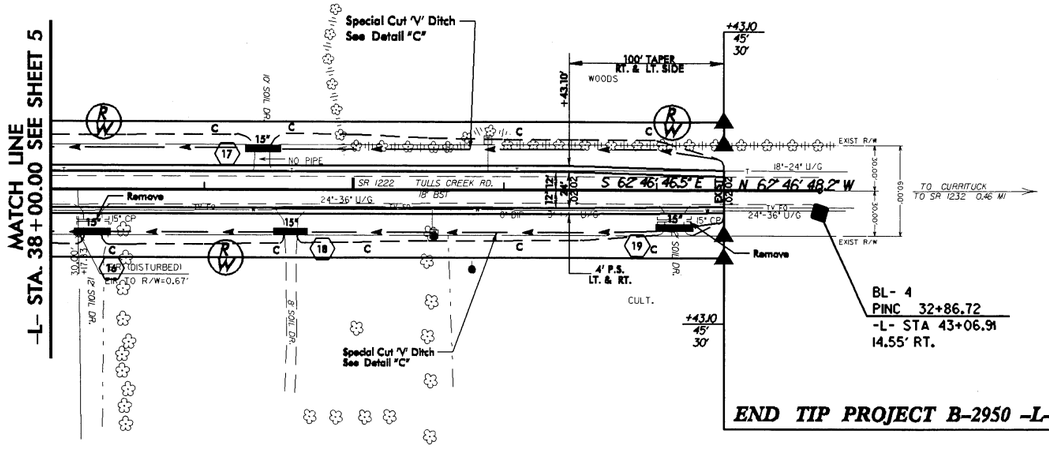
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NC GRID
NAD 83

6

E. F. HUMPHRIES, JR.
DB 115, PG. 627
DB 70, PG. 364
WILL BK. 8, PG. 299
WILL BK. 7, PG. 278



7

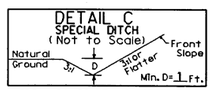
LESTER INTERPRISES, INC
DB 170, PG. 765
DB 118, PG. 350 (MAP)
DB 142, PG. 58 (MAP)

8

ELMER M. WALKER
DB 112, PG. 540
DB 352, PG. 666

671.73'
S26°30'50"W

DETAIL C
SPECIAL DITCH
(Not to Scale)



FROM 34+28 TO 42+43.10 LT.
FROM 34+15 TO 42+43.10 RT.

P.S. = PAVED SHOULDER

FOR -L- PROFILE SEE SHEETS 7 & 8

* DESIGN EXCEPTION REQUIRED FOR MIN. HORIZONTAL CURVE RADIUS (610') AND HORIZONTAL STOPPING SIGHT DISTANCE (308').

12-JUN-2006 14:15
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PROJECT REFERENCE NO.	SHEET NO.
B-2950	7

ROADWAY DESIGN ENGINEER

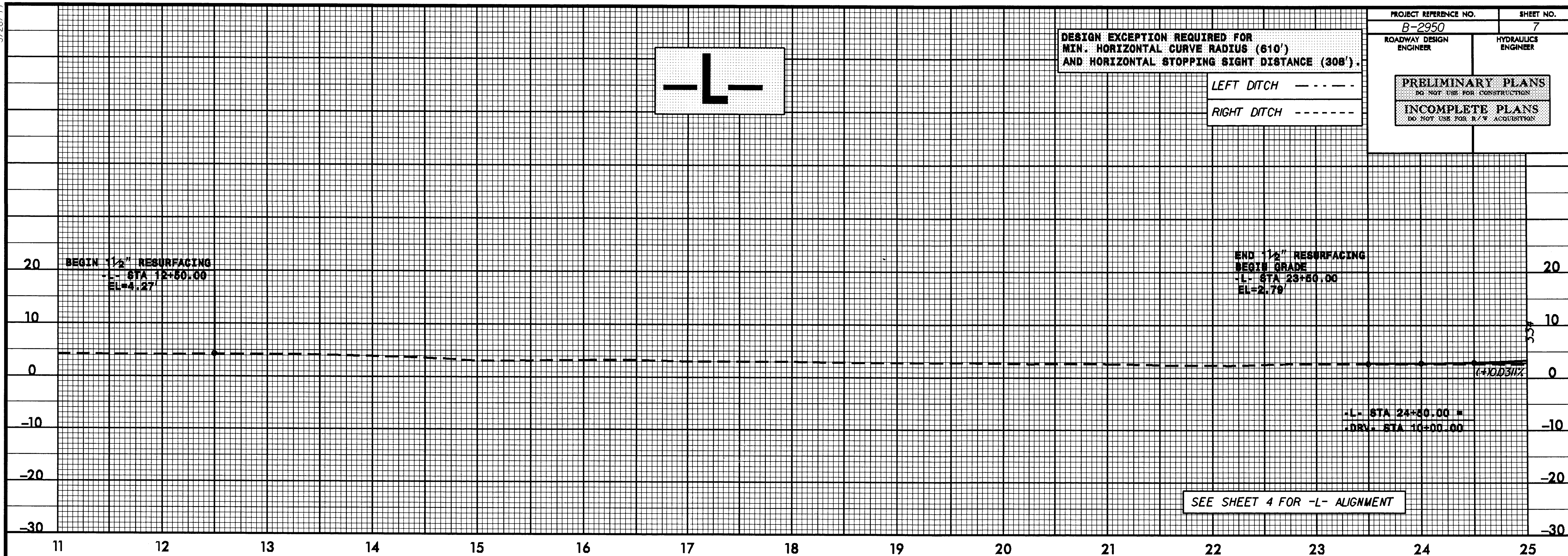
HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

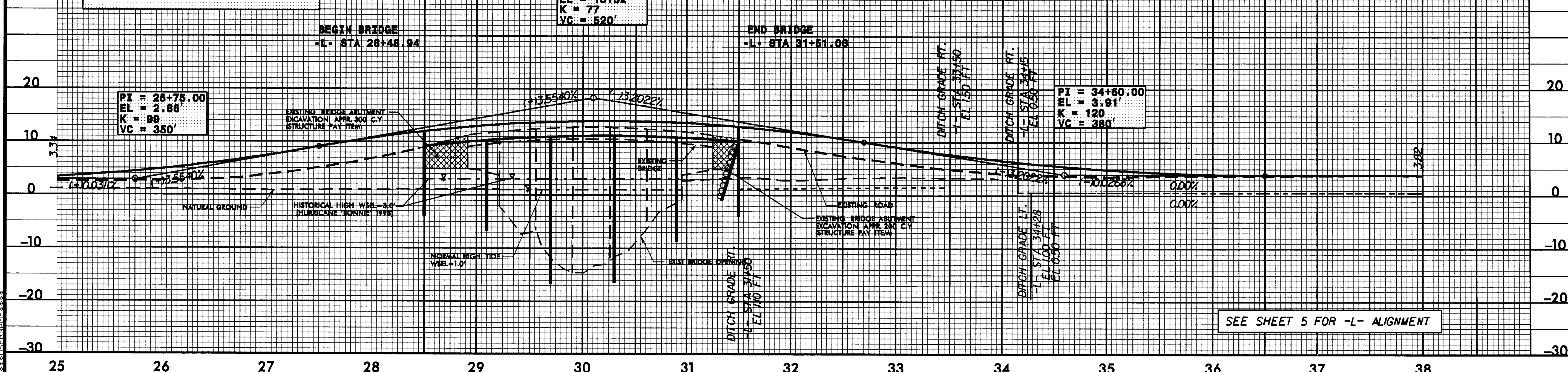
DESIGN EXCEPTION REQUIRED FOR
MIN. HORIZONTAL CURVE RADIUS (610')
AND HORIZONTAL STOPPING SIGHT DISTANCE (308').

LEFT DITCH — - - —
RIGHT DITCH - - - - - - -



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	N/A
DESIGN FREQUENCY	=	10 YRS
DESIGN HW ELEVATION	=	3.0 FT
BASE DISCHARGE	=	N/A
BASE FREQUENCY	=	100 YRS
BASE HW ELEVATION	=	6.3 FT
OVERTOPPING DISCHARGE	=	N/A
OVERTOPPING FREQUENCY	=	10+ YRS
OVERTOPPING ELEVATION	=	4.3 FT



5/28/99

12-JUN-2006 13:46

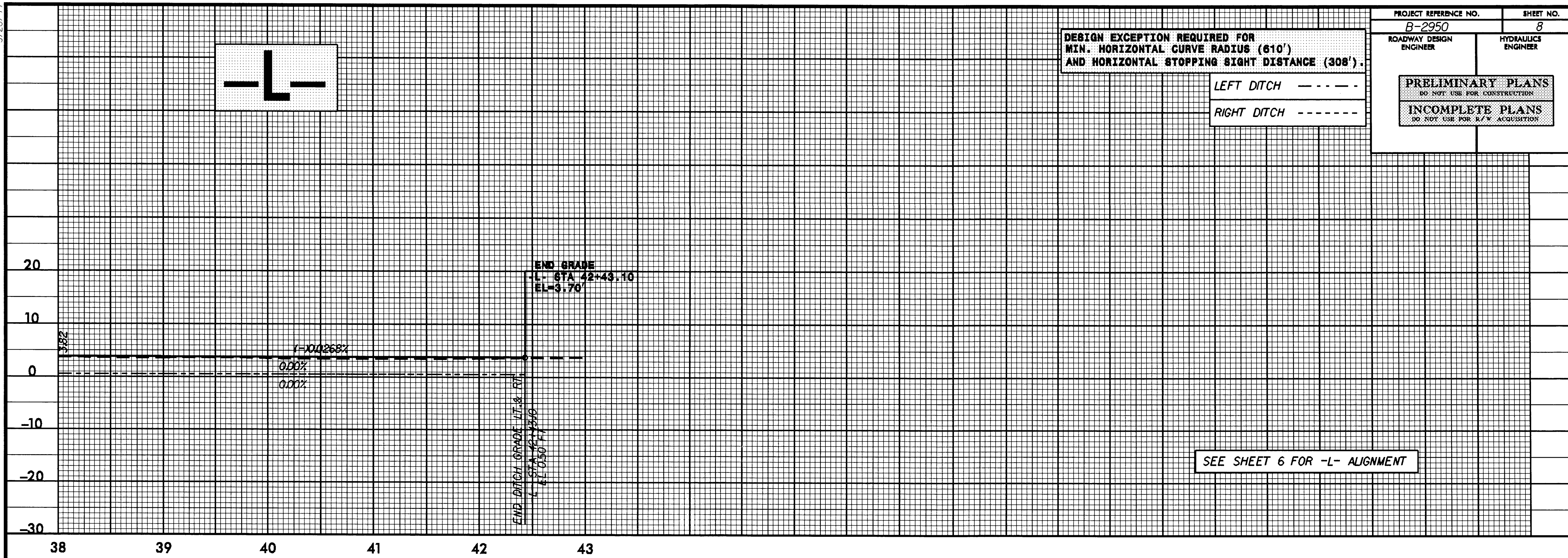
PROJECT REFERENCE NO.	SHEET NO.
B-2950	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

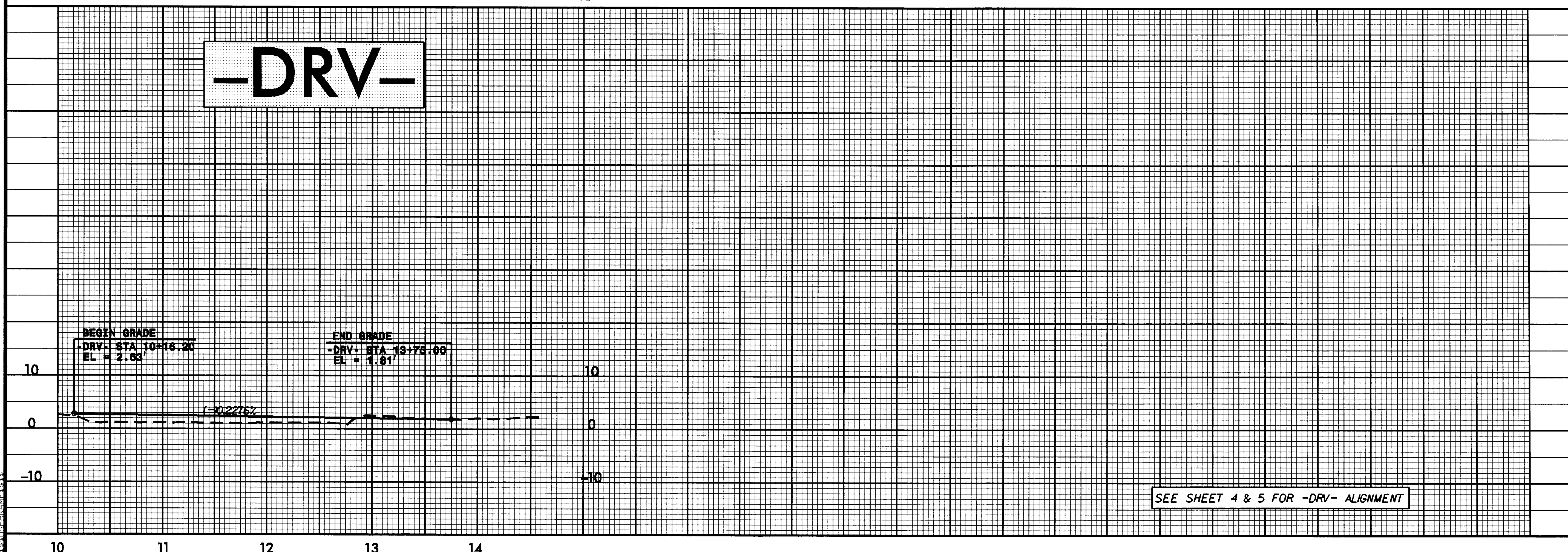
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DESIGN EXCEPTION REQUIRED FOR
MIN. HORIZONTAL CURVE RADIUS (610')
AND HORIZONTAL STOPPING SIGHT DISTANCE (308').

LEFT DITCH — - - —
RIGHT DITCH - - - - - - -



SEE SHEET 6 FOR -L- ALIGNMENT



SEE SHEET 4 & 5 FOR -DRV- ALIGNMENT

5/28/99

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8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-2950	X-1

13+50.00

4.05

13+00.00

4.20

BEGIN 1-1/2" RESURFACING

4.14

BEGIN TIP PROJECT B-2950 -L- STA 12+50.00

12+50.00

4.08

12+00.00

4.11

11+50.00

4.15

11+00.00

4.18

10+50.00

4.19

10+00.00

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

12-JUN-2006 13:47
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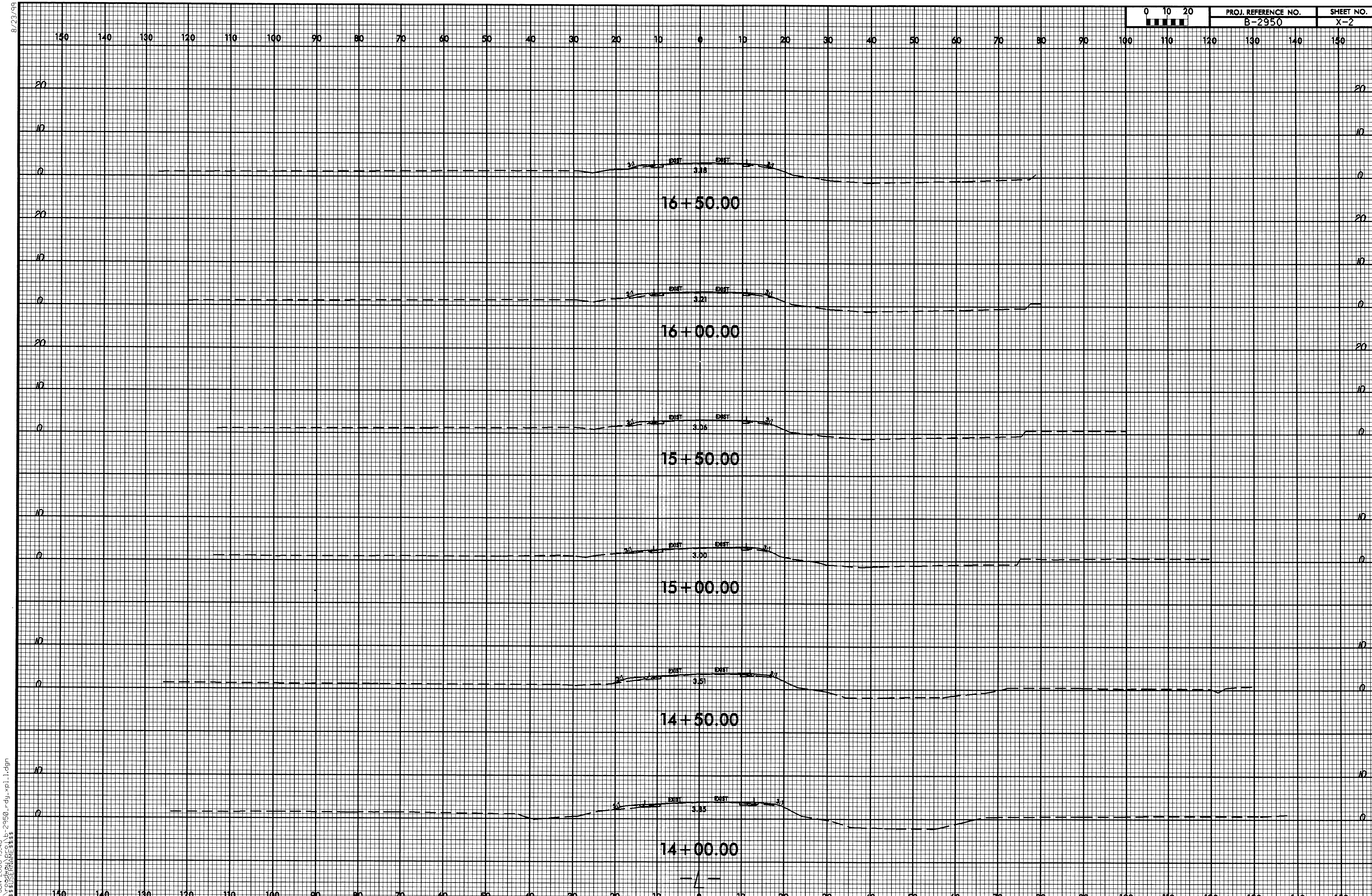
$$$$DGNAME$$$$ b-2950_rdy_xpl_1.dgn

8/23/99



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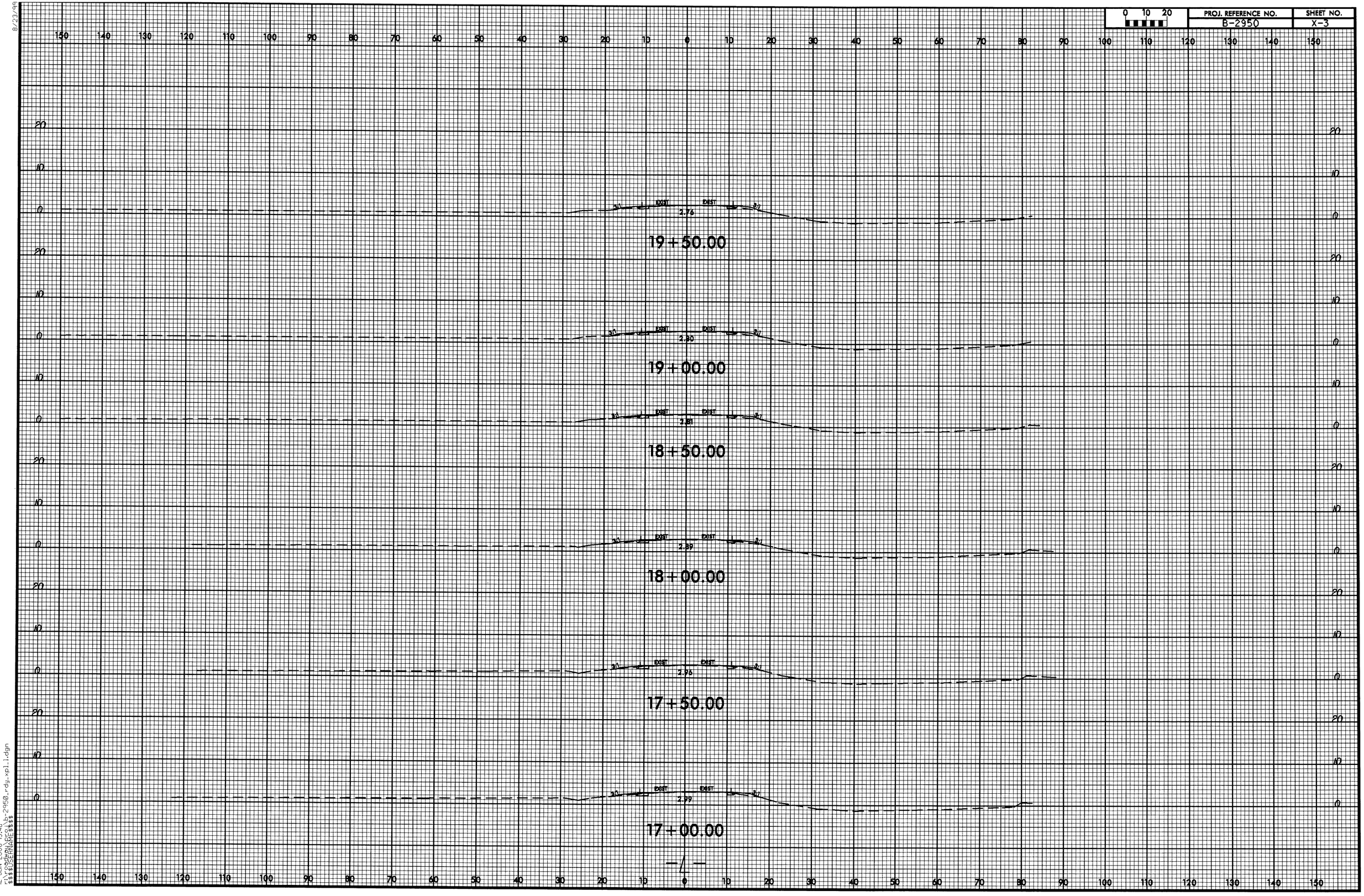
8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-2950	X-3



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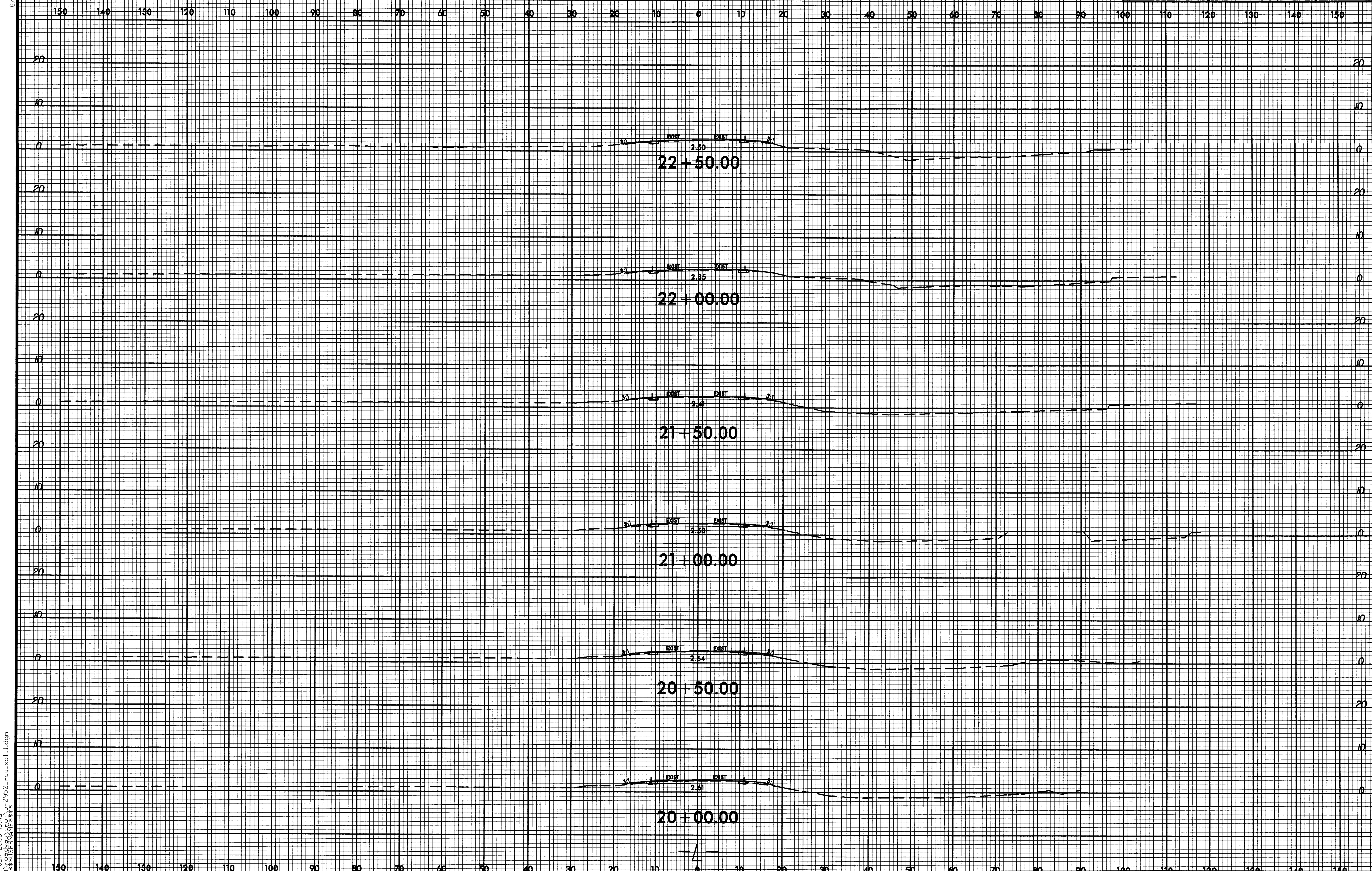
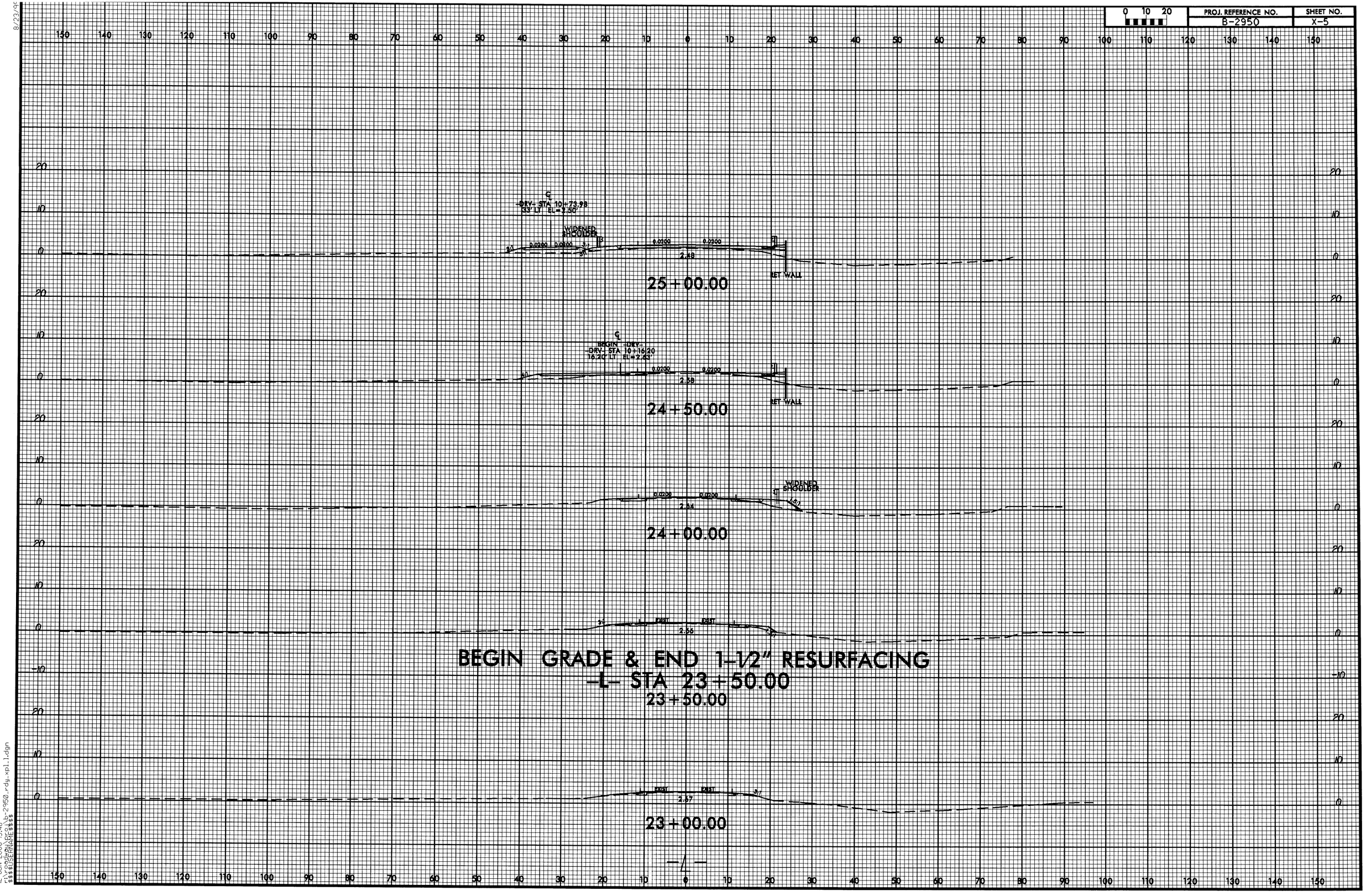
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-2950	X-4

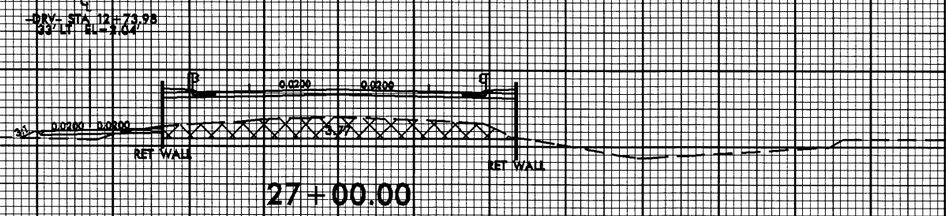




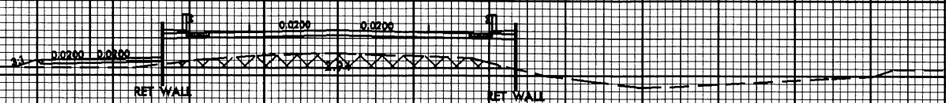
8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-2950	X-6

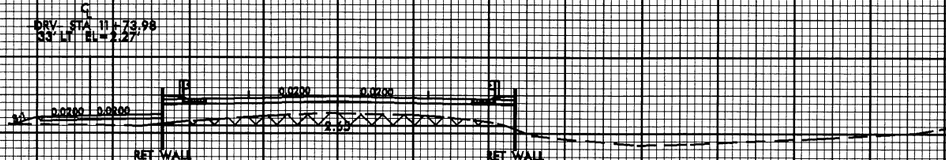
ROADWAY UNDERCUT EXCAVATION



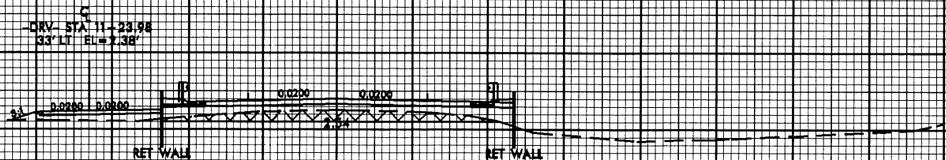
27+00.00



26+50.00



26+00.00



25+50.00

12-JUN-2006 13:49
$$$$USERNAME$$$$

8/23/99

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-2950	X-7

ROADWAY UNDERCUT EXCAVATION

0.0200 0.0200

7.37

29+50.00

0.0200 0.0200

5.11

29+00.00

0.0200 0.0200

8.75

BEGIN BRIDGE
-L- STA 28+48.94

28+50.00

0.0200 0.0200

4.82

RET WALL RET WALL

28+00.00

-DRV- STA 13+23.93
33' LT EL= 1.93'

0.0200 0.0200 0.0200 0.0200

RET WALL RET WALL

27+50.00

-L-

12-JUN-2006 13:49
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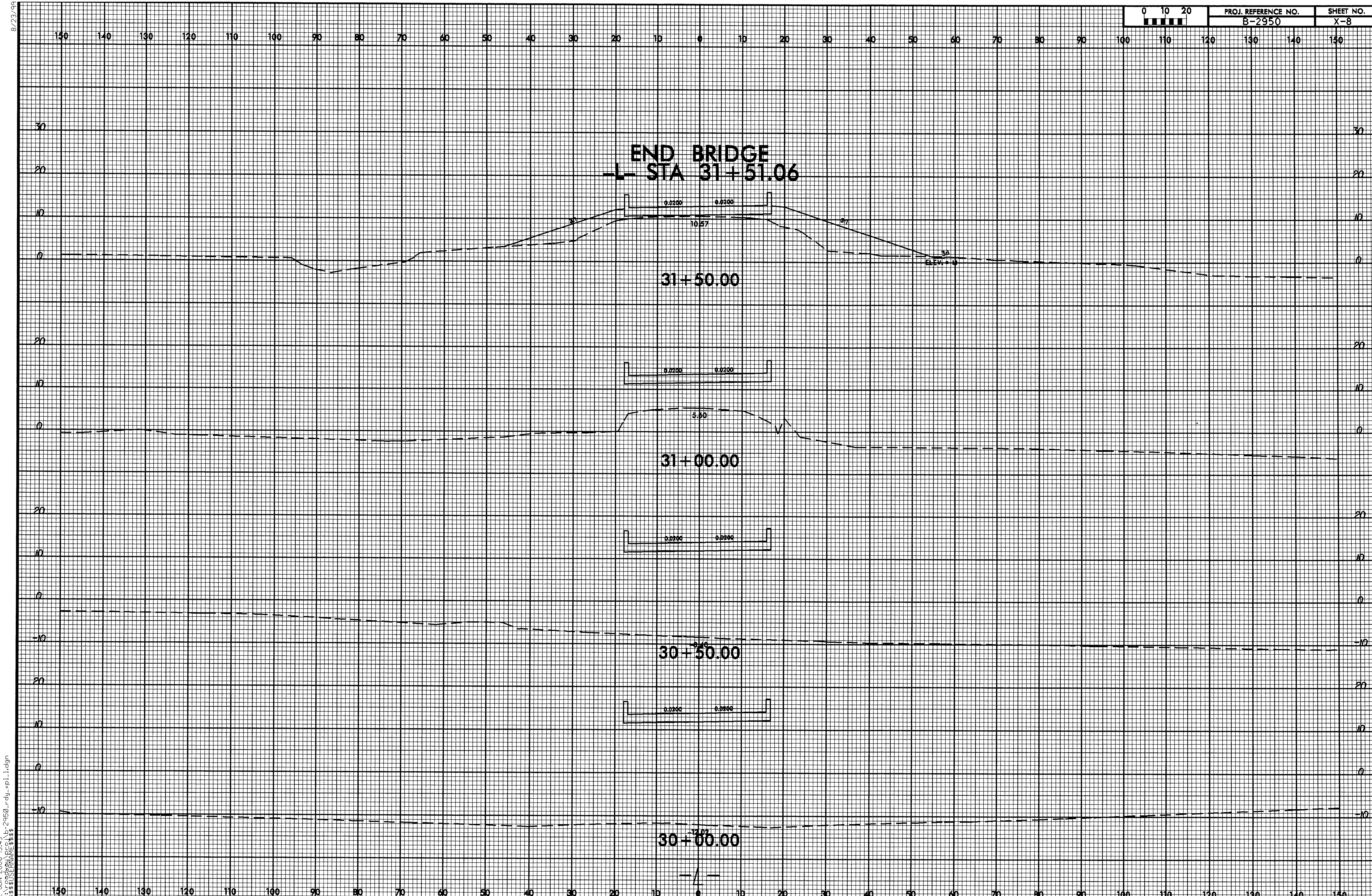
PROJ. REFERENCE NO.	SHEET NO.
B-2950	X-8



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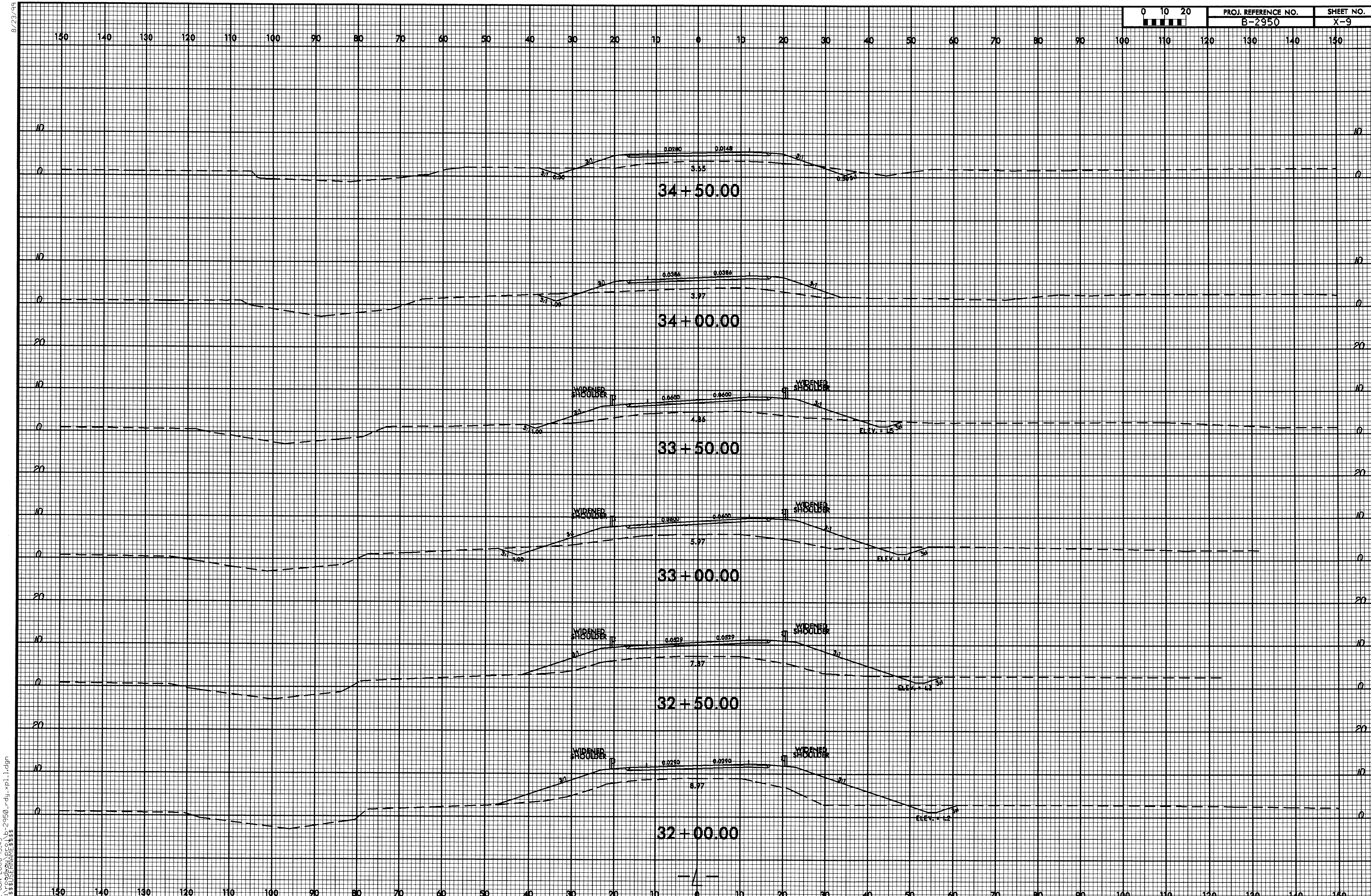

8/23/99

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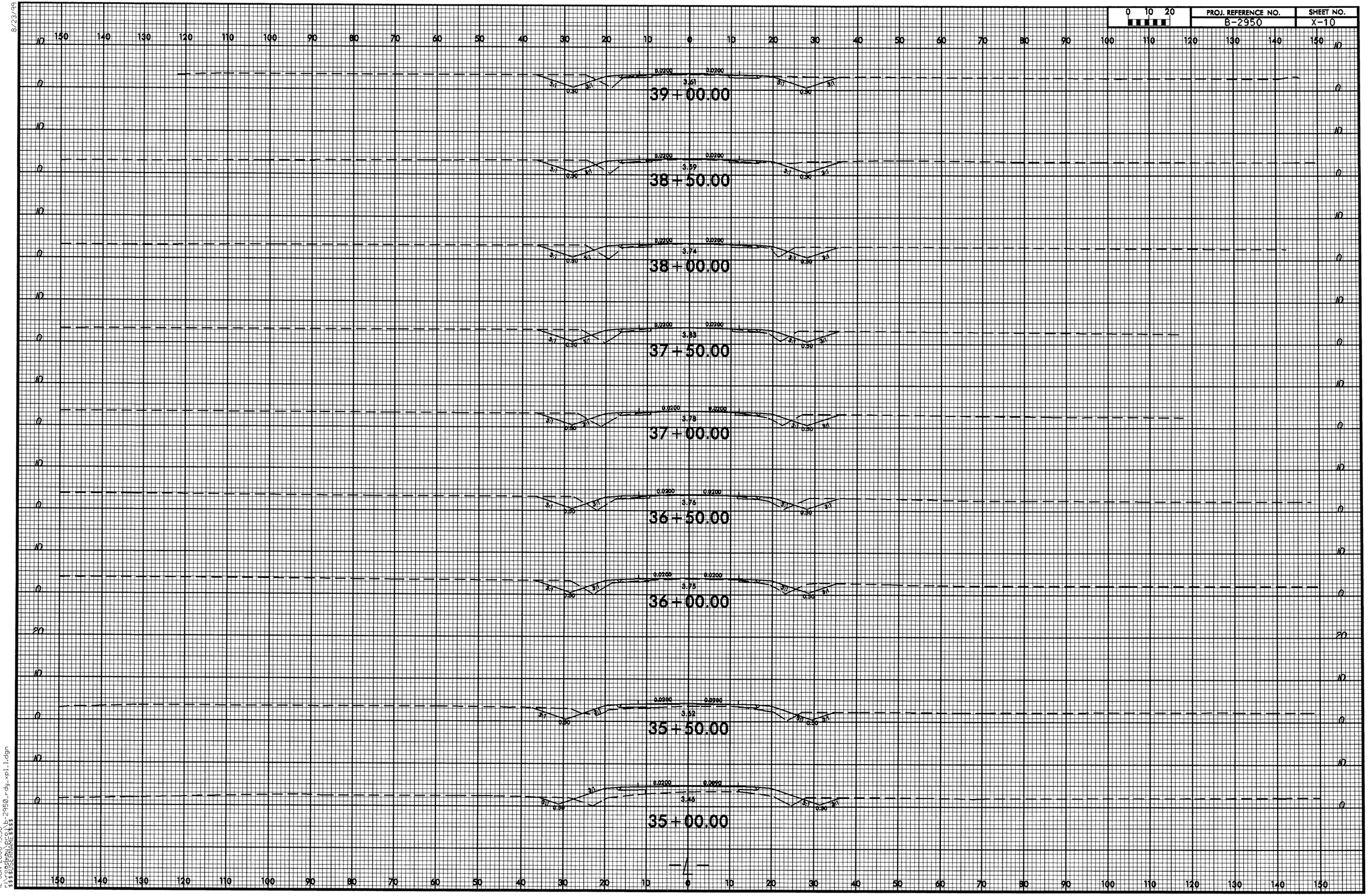
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-2950	X-10



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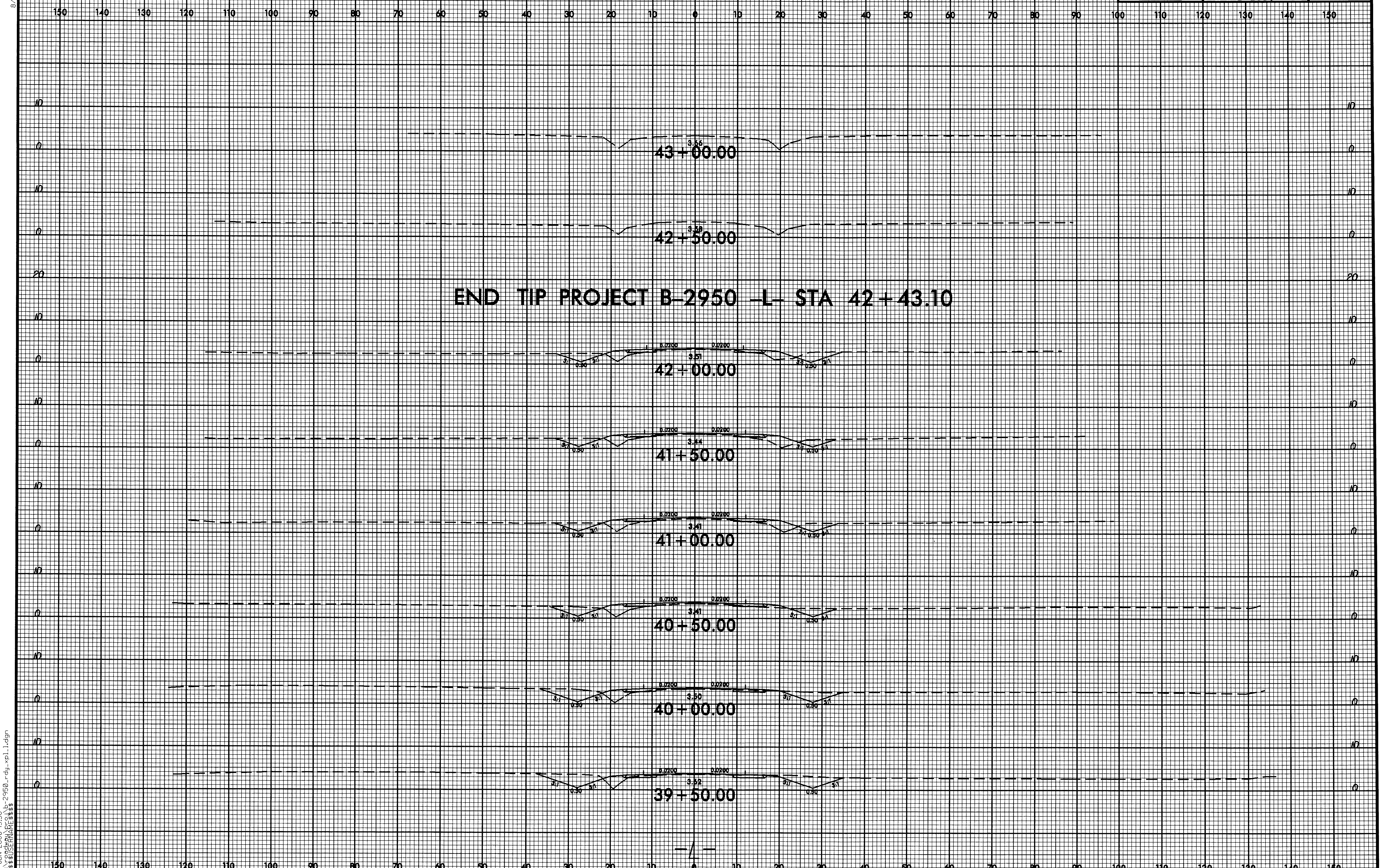
B-2950	X-11



8/23/99

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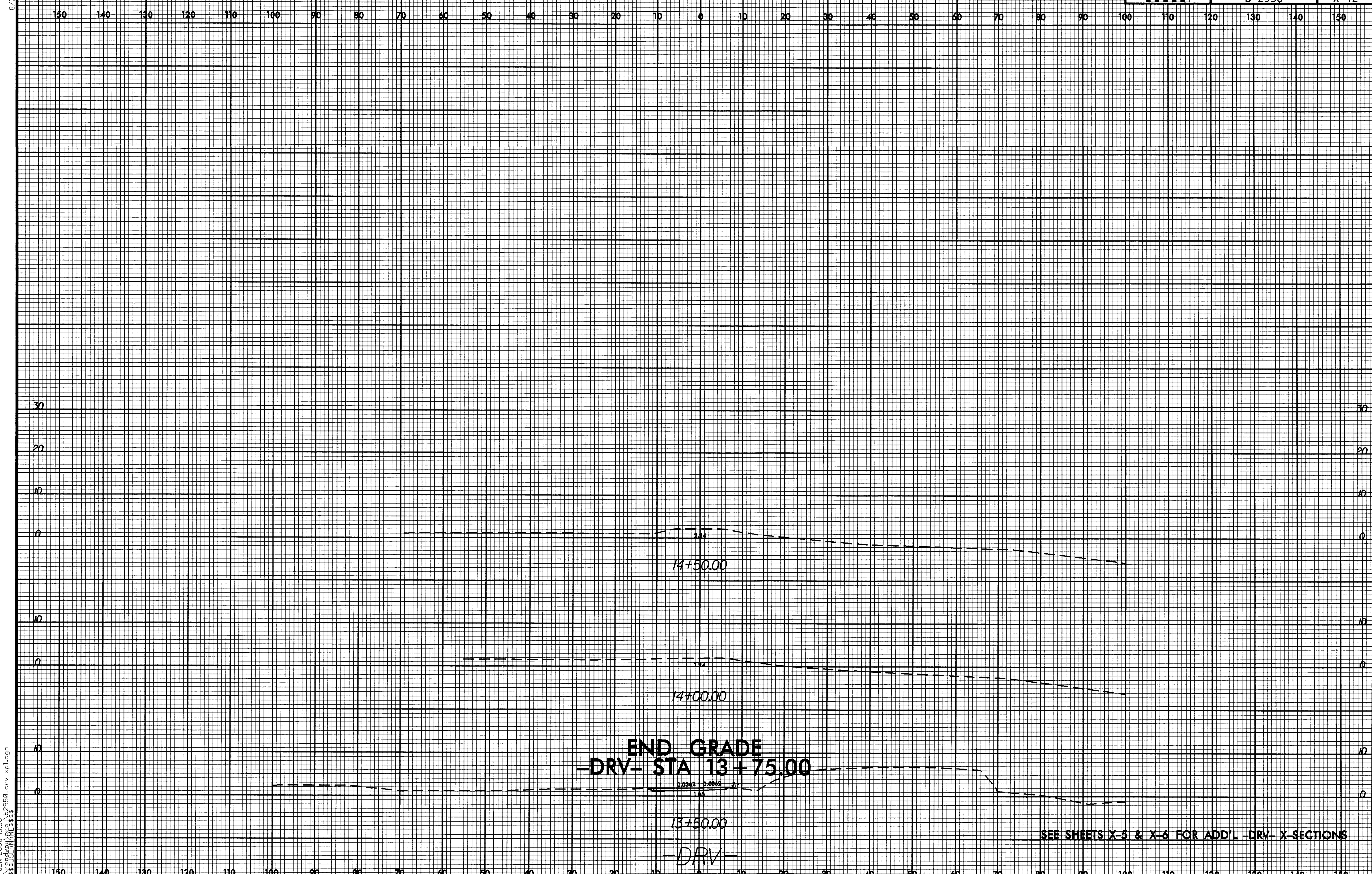
PROJ. REFERENCE NO.	SHEET NO.
B-2950	X-12



8/23/99

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