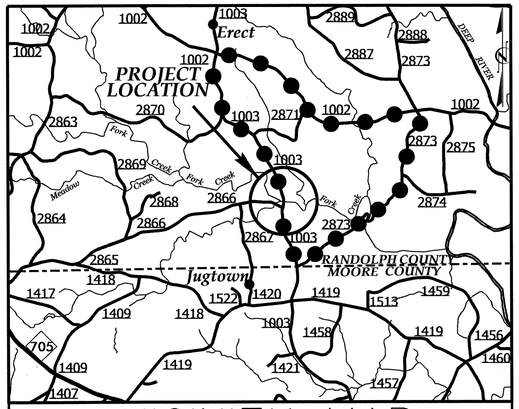
09/08/99

TIP PROJECT: B-4608

CONTRACT: C203410

See Sheet 1-A For Index of Sheets



VICINITY MAP
OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RANDOLPH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4608	1	

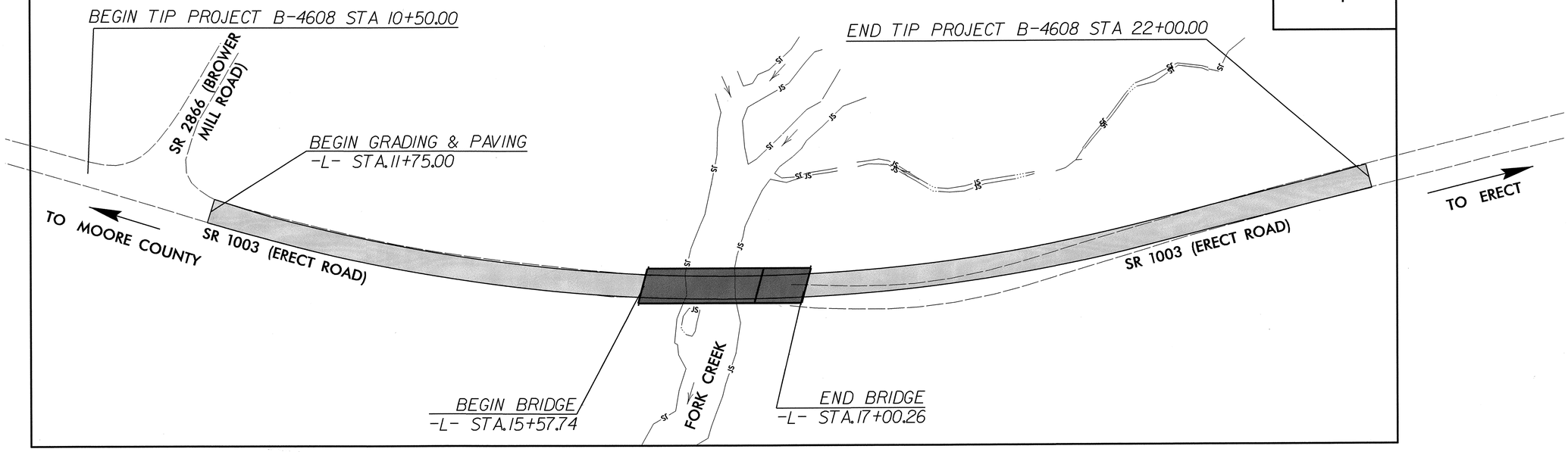
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
38433.1.2	BRZ-1003(118)	PE
38433.2.1	BRZ-1003(118)	ROW
38433.2.U1	BRZ-1003(118)	UTILITIES
38433.3.FD1	BRZ-1003(118)	CONSTRUCTION

LOCATION: BRIDGE No. 208 ON SR 1003 (ERECT ROAD) OVER FORK CREEK

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

4

NAD 83/CORS 96



DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K FACTOR, NIGHTTIME VERTICAL CURVE SSD AND HORIZONTAL SSD

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 2012 = 600 vpd
ADT 2040 = 800 vpd
K = 13 %
D = 70 %
T = 7 % *
V = 50 MPH

* TTST 1% DUAL 6%
FUNC CLASS =
MINOR COLLECTOR
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4608 = 0.191 mi
LENGTH OF STRUCTURE TIP PROJECT B-4608 = 0.027 mi
TOTAL LENGTH OF TIP PROJECT B-4608 = 0.218 mi

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
August 15, 2013

LETTING DATE:
June 17, 2014

JAMES A. SPEER, PE
PROJECT ENGINEER

JOHN LANSFORD, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14482 ENGINEER JOSEPH W. SUMMERFORD

SIGNATURE: 4/2/14

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 15435 ENGINEER JOHN C. LANSFORD

SIGNATURE: 3/19/14

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION · STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

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PROJECT REFERENCE NO.	SHEET NO.
B-4608	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 15435 ENGINEER JOHN C. LANSFORD

3/19/14

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
3-A	LIST OF PIPES, ENDWALLS, ETC (FOR PIPES 48" & UNDER) SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND PAVEMENT REMOVAL SUMMARY, AND SHOULDER BERM SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TCP-1 THRU TCP-3	TRAFFIC CONTROL PLANS
PMP-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLAN
SIGN-1 THRU SIGN-2	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-11	CROSS-SECTIONS
S-1 THRU S-27	STRUCTURE PLANS

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE Randolph EMC, Power, & Randolph

TMC, Telephone

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

8/17/99

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04/16/11

PROJECT REFERENCE NO.	SHEET NO.
B-4608	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

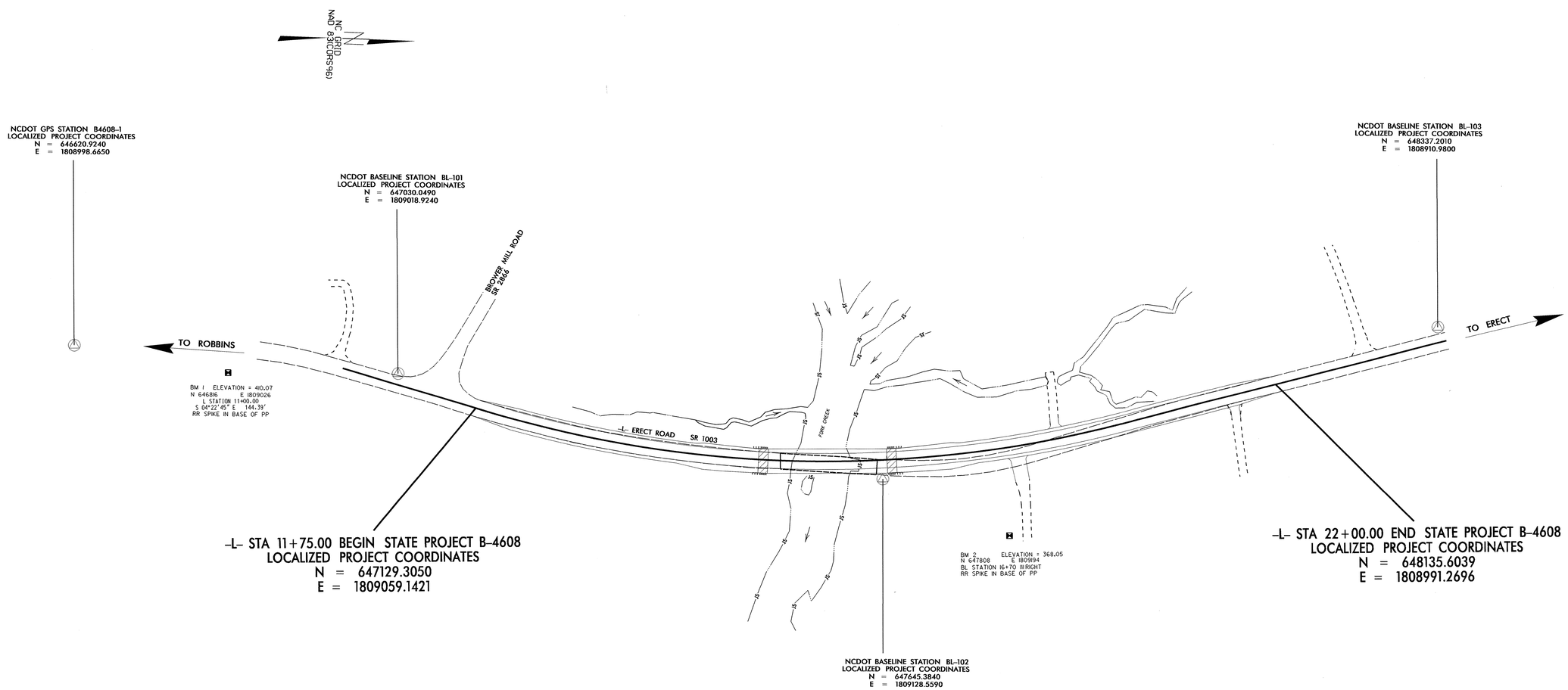
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

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

PROJECT REFERENCE NO.	SHEET NO.
B-4608	1C
Location and Surveys	

SURVEY CONTROL SHEET B-4608



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4608-2"
WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF
NORTHING: 645206.9805(ft) EASTING: 1809123.9834(ft)
ELEVATION: 463.083(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986757
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4608-2" TO -L- STATION 11+75.00 IS
N 01° 55' 54.8" W 1923.418'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP://WWW.NCDOT.ORG/DOI/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

THE FILES TO BE FOUND ARE AS FOLLOWS:
B4608_LS_CONTROL.TXT

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

© INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B4608-1	646620.9240	1808998.6650	416.97	OUTSIDE PROJECT LIMITS	
101	BL-101	647030.0490	1809018.9240	398.45	10+68.81	13.87 LT
102	BL-102	647645.3840	1809128.5590	363.41	16+93.68	23.88 RT
103	BL-103	648337.2010	1808910.9800	368.95	24+16.11	19.57 LT

BM1 ELEVATION = 410.07
N 646816 E 1809026
L STATION 11+00.00
S 04°22'45" E DIST 144.39
RR SPIKE IN BASE OF PP

BM2 ELEVATION = 368.05
N 647808 E 1809194
L STATION 16+40.00 110 RIGHT
RR SPIKE IN BASE OF PP

NOTE: DRAWING NOT TO SCALE

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
B-4608	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

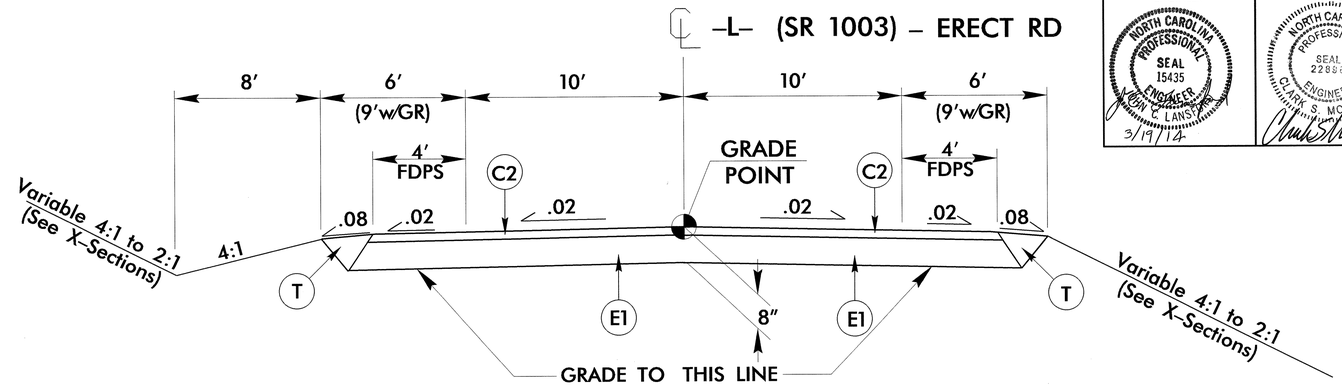
NORTH CAROLINA PROFESSIONAL SEAL 15435 ENGINEER — JOHN C. LANSFORD — 3/19/14

NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER — CLARK S. MORRISON — 3/17/14

PAVEMENT SCHEDULE

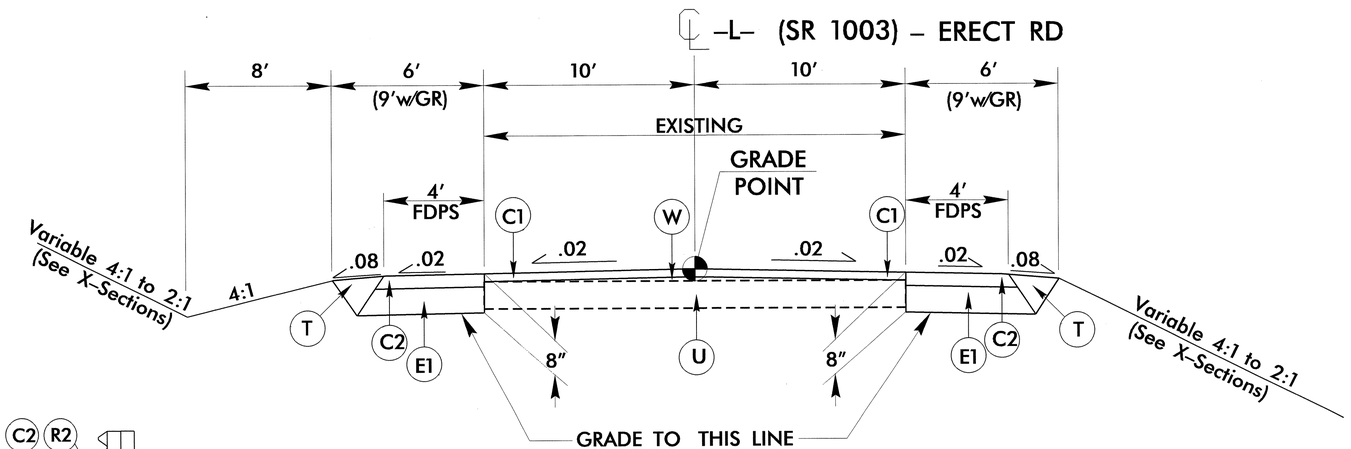
C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 5 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 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.
R1	PROP. SHOULDER BERM GUTTER.
R2	PROP. SHOULDER BERM CURB
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	PROP. VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED.



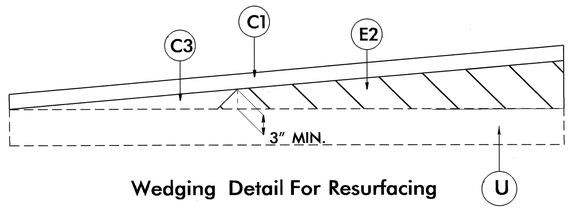
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 11+75.00 TO -L- STA. 15+57.74 (BRIDGE)
-L- STA. 17+00.26 (BRIDGE) TO -L- STA. 21+00.00

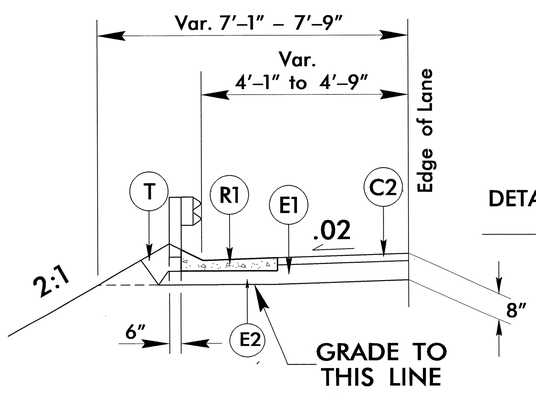


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- STA. 21+00.00 TO -L- STA. 22+00.00

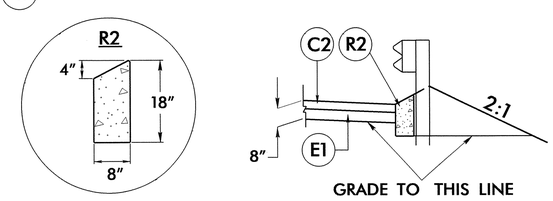


Wedging Detail For Resurfacing



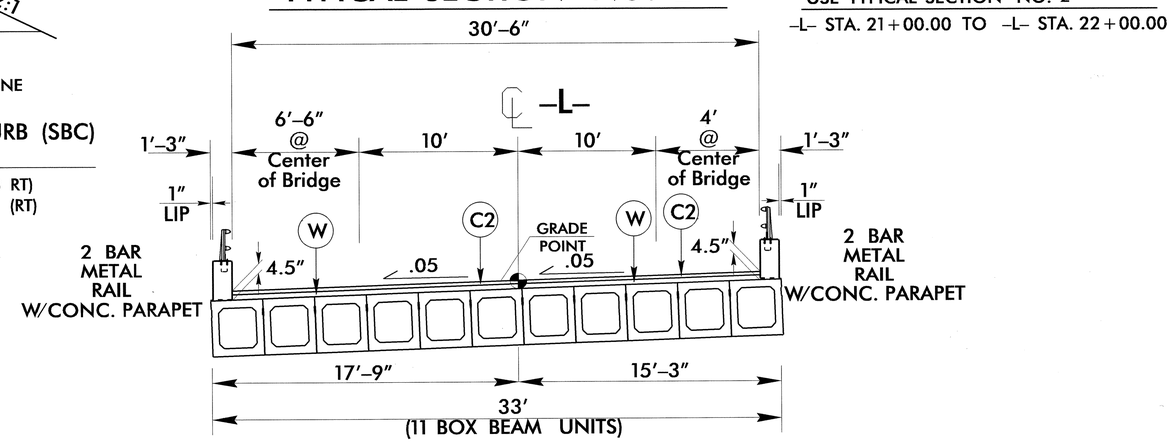
-L- STA. 15+34 TO -L- STA. 15+50 +/- (BEGIN APPROACH SLAB) (LT)
-L- STA. 17+16 +/- (END APPROACH SLAB) TO -L- STA. 17+41 (LT)

TYPICAL SECTION OF PAVED SHOULDER AND SHOULDER BERM GUTTER AT GUARDRAIL LOCATIONS



DETAIL SHOWING SPECIAL SHOULDER BERM CURB (SBC) ON TOP OF SUBGRADE

-L- STA. 15+39 TO -L- STA. 15+44 +/- (APP. SLAB RT)
-L- STA. 17+06 +/- (APP. SLAB) TO -L- STA. 17+11 (RT)



TYPICAL SECTION NO. 3

BRIDGE TYPICAL SECTION

SR 1003 (ERECT RD) IS A CONNECTOR ROUTE BETWEEN BICYCLE ROUTE #6, THE PIEDMONT SPUR, AND BICYCLE ROUTES IN MOORE COUNTY

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12/06/07

COMPUTED BY: J. A. WOODARD	DATE: 4/25/13
CHECKED BY: JCL	DATE: 2/19/14

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4608	3-A

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

SUMMARY OF EARTHWORK

(IN CUBIC YARDS)

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-L- 11+75.00	-L- 15+57.74 (BRG)	1080	353		727
	SUBTOTAL:	1080	353		727
-L- 17+00.26 (BRG)	-L- 22+00.00	508	613	227	
	SUBTOTAL:	508	613	227	
PROJECT TOTAL:		1588	1088	227	727
				0	
LOSS DUE TO CLEARING AND GRUBBING		-50			-50
WASTE IN LIEU OF BORROW				-227	-227
GRAND TOTALS:		1538	1088	0	450
SAY:		1550			
CONTINGENCY UNDERCUT = 400 CY					
DDE = 50 CY					

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L-	11+75.00	15+50.00	CL	882			
-L-	16+86.00	21+00.00	CL	758			
-L-	15+50.00	15+66.00	CL		34		
-L-	16+88.00	18+50.00	CL		208		
			TOTAL:	1640	242		
			SAY:	1650	250		

Note: Approximate quantities only. Unclassified Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading'.

SHOULDER BERM SUMMARY

SURVEY LINE	STATION	STATION	LENGTH SBG	LENGTH SBC
-L- RT	15+39	15+44 (APPR. SLAB)		5'
-L- LT	15+34	15+50 (APPR. SLAB)	16'	
-L- RT	17+06 (APPR. SLAB)	17+11		5'
-L- LT	17+16 (APPR. SLAB)	17+41	25'	
		TOTAL:	41'	10'
		SAY:	45'	10'

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

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"
STATION															
14+75.00	RT		0401	372.21'	367.21'										
15+18.54	RT	0401	0402		367.21'	358.00'			92'						
17+36.00	LT		0403	364.38'	359.38'										
17+35.75	LT	0403	0404		359.38'	356.00'			20'						
18+64.32	RT		0405												
19+17.26	LT		0406												
20+63.83	CL	0407	0408		362.60'	364.53'									
21+39.44	RT		0409												
TOTAL									112'						

STATION	C.S. PIPE (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	24"	30" .079	30"	36" .079	36"	42" .109	42"	48" .109	48"
14+75.00													
15+18.54													
17+36.00													
17+35.75													
18+64.32													
19+17.26													
20+63.83													
21+39.44													
TOTAL													

STATION	CLASS IV R.C. PIPE (UNLESS OTHERWISE NOTED) 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	
14+75.00														1							
15+18.54																					
17+36.00														1							
17+35.75																					
18+64.32										32'											
19+17.26									24'												
20+63.83				68'																	
21+39.44										28'											
TOTAL				68'					24'	60'				2							

STATION	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	T.B.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	T.B.G.I. STD 840.35	J.B. STD. 840.31 OR 840.32							DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
14+75.00				1				1														
15+18.54																		2-15"				
17+36.00									1	1												
17+35.75																		2-15"				
18+64.32																					28'	
19+17.26																					19'	
20+63.83																						
21+39.44																					21'	
TOTAL				1				1	1	1								4-15"			68'	

ABBREVIATIONS

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

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

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	SHOP CURVED	DOUBLE FACED	WARRANT POINT APPROACH END	TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	TRAILING END	W APPROACH END	TRAILING END	ANCHORS TYPE III	XI	GRAU 350	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
-L-	14+81.13	15+62.38	LT	81.25'				15+62.38 (BRIDGE)	6'	9'		62.5'		1.25'	1		1													
-L-	14+74.93	15+55.64	RT	81.25'			15+55.64 (BRIDGE)		6'	9'	62.5'		1.25'		1		1													
-L-	17+03.87	17+85.12	LT	81.25'			17+03.87 (BRIDGE)		6'	9'	62.5'		1.25'		1		1													
-L-	17+12.81	17+94.06	RT	81.25'				17+12.81 (BRIDGE)	6'	9'		62.5'		1.25'	1		1													
		SUBTOTAL		325'											4		4													
4-TYPE III @ 18.75'		ANCHOR DEDUCTION		-275'																										
4-TYPE 350 @ 50'																														
		PROJECT TOTAL		50'											4		4													
		SAY		62.5'				ADDITIONAL GUARDRAIL POSTS		5 EACH																				

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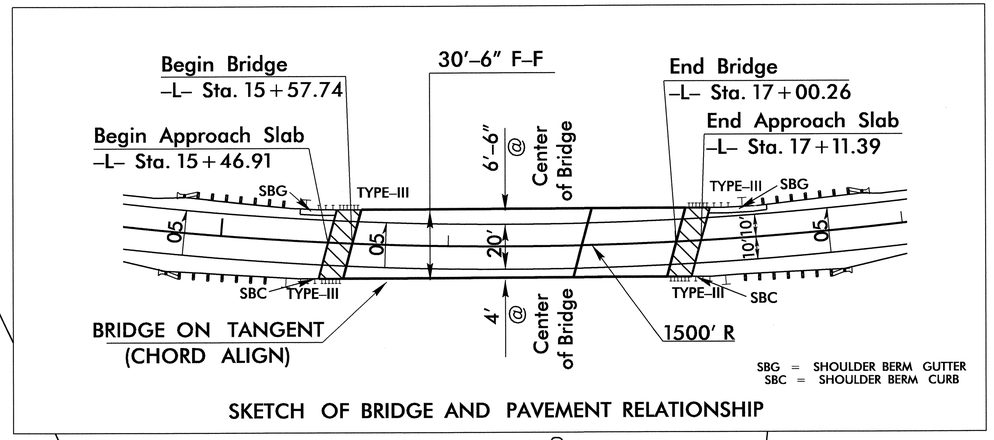
PROJECT REFERENCE NO.	SHEET NO.
B-4608	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

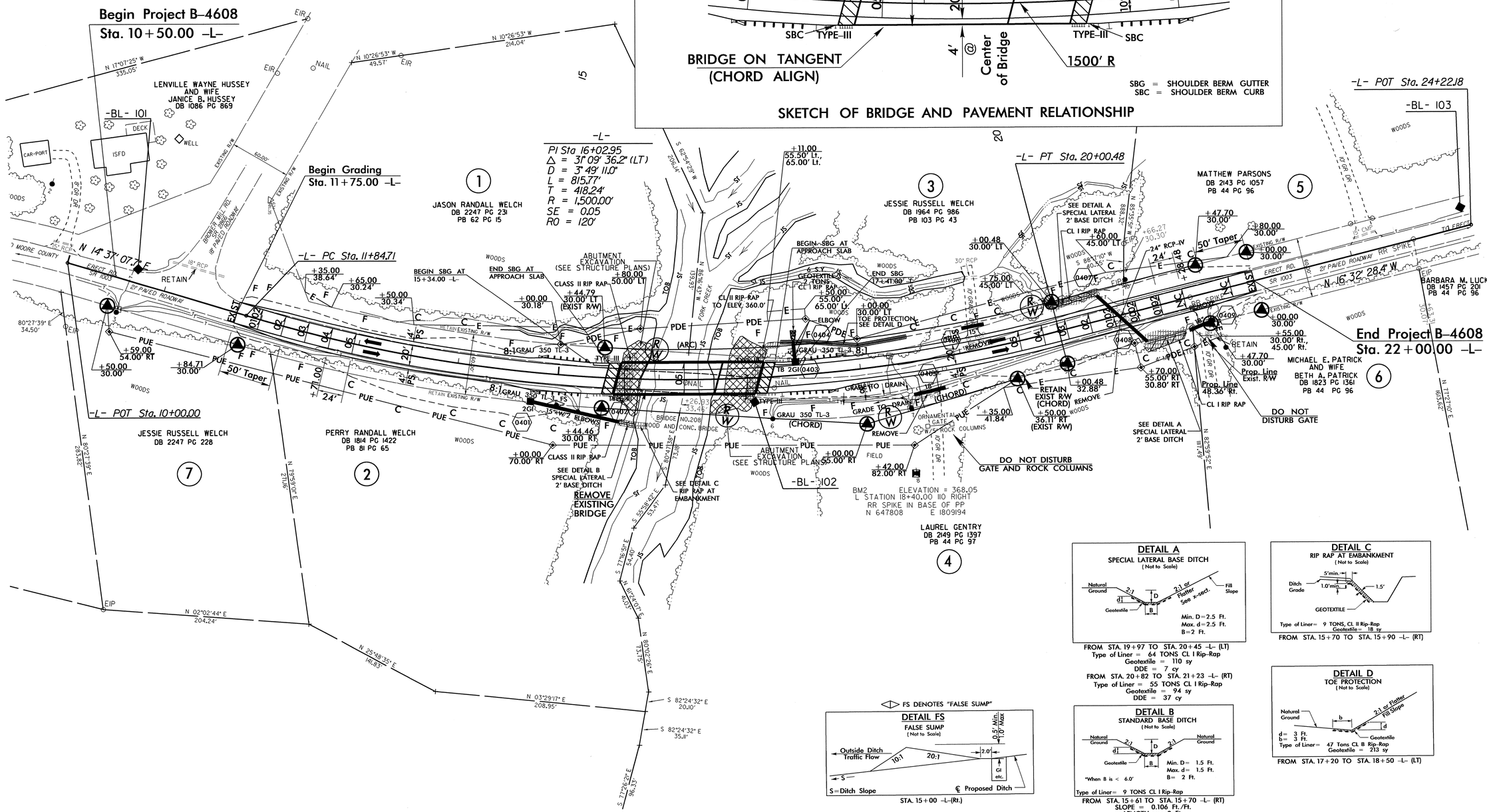
NORTH CAROLINA PROFESSIONAL SEAL 15435 ENGINEER JOHN C. LANSFORD 3/19/14

NORTH CAROLINA PROFESSIONAL SEAL 14482 ENGINEER JOSEPH W. DARNELLSON 4/2/14

NAD 83/CORS 96



SKETCH OF BRIDGE AND PAVEMENT RELATIONSHIP



DESIGN EXCEPTION REQUIRED FOR HORIZONTAL SSD FOR SB TRAFFIC APPROACHING BRIDGE

FS DENOTES "FALSE SUMP"

STA. 15+00 -L-(Rt.)

FROM STA. 19+97 TO STA. 20+45 -L- (LT)
Type of Liner = 64 TONS CL I Rip-Rap
Geotextile = 110 sy
DDE = 7 cy
FROM STA. 20+82 TO STA. 21+23 -L- (RT)
Type of Liner = 55 TONS CL I Rip-Rap
Geotextile = 94 sy
DDE = 37 cy

Type of Liner= 9 TONS CL I Rip-Rap
FROM STA. 15+61 TO STA. 15+70 -L- (RT)
SLOPE = 0.106 Ft./Ft.
LENGTH = 9 Ft.
GEOTEXTILE = 16 sy
DDE = 3 cy

Type of Liner= 9 TONS, CL II Rip-Rap
Geotextile= 18 sy
FROM STA. 15+70 TO STA. 15+90 -L- (RT)

d= 3 Ft.
b= 3 Ft.
Type of Liner= 47 Tons CL B Rip-Rap
Geotextile = 213 sy
FROM STA. 17+20 TO STA. 18+50 -L- (LT)

SEE SHEET 5 FOR -L- PROFILE

SEE SHEETS S-1 THRU S-27 FOR STRUCTURE PLANS

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
B-4608	5

ROADWAY DESIGN ENGINEER

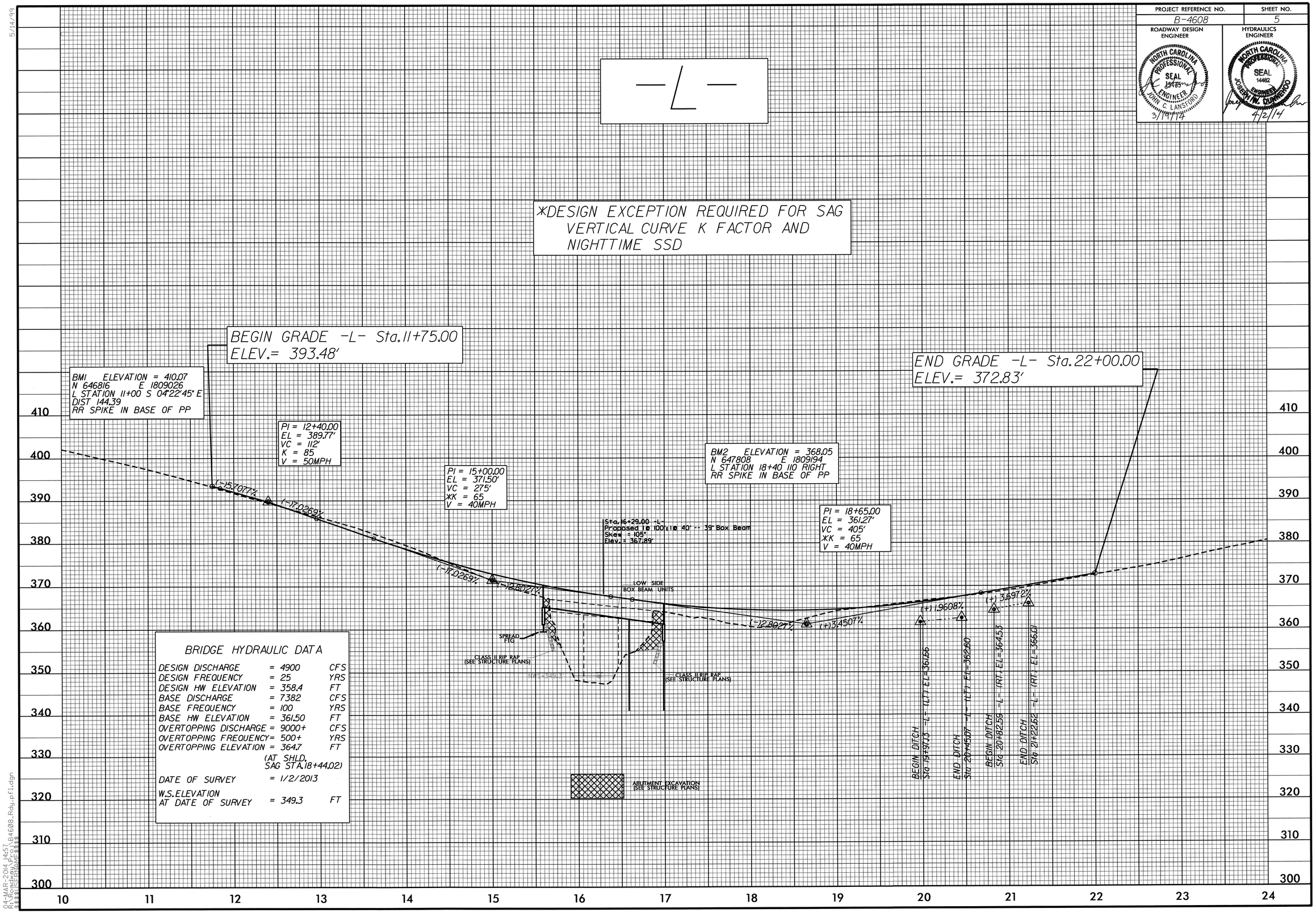
NORTH CAROLINA PROFESSIONAL SEAL 13485 ENGINEER JOHN C. LANSFORD

3/14/14

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14482 ENGINEER JOSEPH W. CUNNINGHAM

4/2/14



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 4900	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 358.4	FT
BASE DISCHARGE	= 7382	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 361.50	FT
OVERTOPPING DISCHARGE	= 9000+	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 364.7 (AT SHLD, SAG STA.18+44.02)	FT
DATE OF SURVEY	= 1/2/2013	
W.S.ELEVATION AT DATE OF SURVEY	= 349.3	FT

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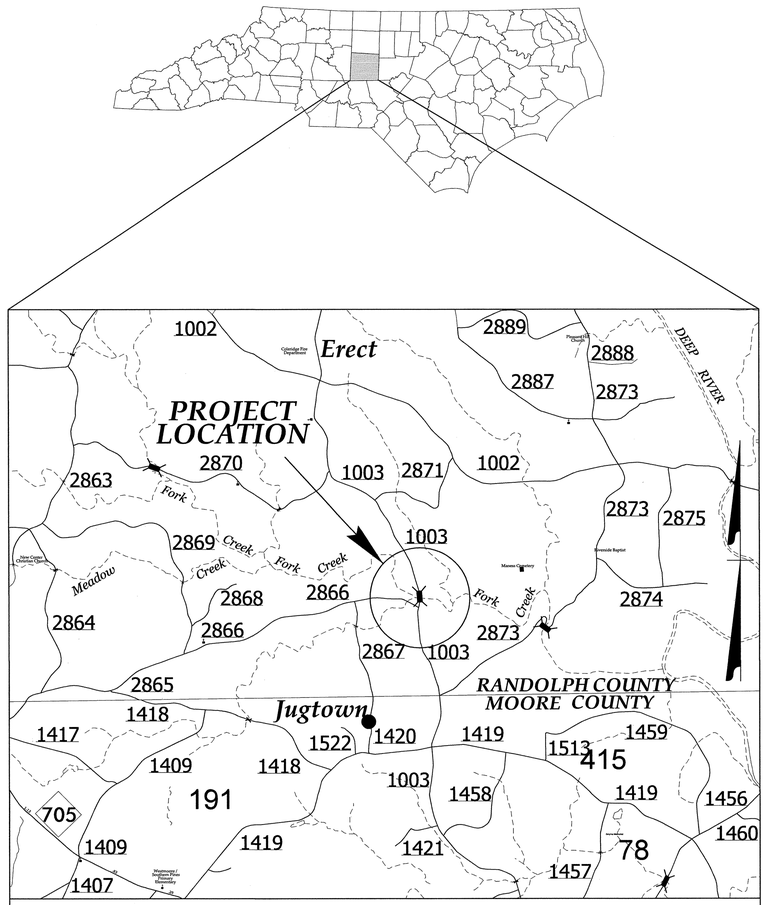
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

RANDOLPH COUNTY



VICINITY MAP

OFFSITE DETOUR

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: MANAGEMENT STRATEGIES, GENERAL NOTES AND PHASING
TMP-2	SPECIAL SIGN DESIGN
TMP-3	OFFSITE DETOUR ROUTE AND BARRICADE PLACEMENT

SHEET NO.
TMP-1

B-4608

TIP PROJECT:

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. — STATE TRAFFIC MANAGEMENT ENGINEER
J. ISHAK, P.E. — TRAFFIC CONTROL PROJECT ENGINEER
TRAFFIC CONTROL PROJECT DESIGN ENGINEER
G. MAZE — TRAFFIC CONTROL DESIGN ENGINEER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

APPROVED:
DATE:
SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK
1/30/2014

1/30/2014
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PROJ. REFERENCE NO.	SHEET NO.
B-4608	TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- USER DEFINED (IF NEEDED)
- USER DEFINED (IF NEEDED)

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK

1-30-2014

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

1/30/2014
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PROJ. REFERENCE NO.	SHEET NO.
B-4608	TMP-1B

MANAGEMENT STRATEGIES

DURING CONSTRUCTION OF PROPOSED STRUCTURE BRIDGE No.208 OVER FORK CREEK, SR 1003 (ERECT RD.) WILL BE CLOSED TO THROUGH TRAFFIC. LOCAL TRAFFIC ON ERECT RD TRAFFIC WILL BE MAINTAINED, USING AN OFFSITE DETOUR.

ACCESS TO ALL RESIDENCES AND BUSINESSES WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AT ALL TIMES.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

A) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

B) INSTALL ADVANCED WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

E) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

F) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

G) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

PHASING

STEP 1:
USING RSD 1101.03, SHEET 1 OF 9, SHEETS TMP-2 AND TMP-3, INSTALL DETOUR SIGNS, PLACE TYPE III BARRICADES TO CLOSE SR 1003 (ERECT RD.) TO THROUGH TRAFFIC, AND DETOUR TRAFFIC OFFSITE.

STEP 2:
AWAY FROM TRAFFIC, COMPLETE THE FOLLOWING:
(SEE ROADWAY AND STRUCTURE PLANS).

1) REMOVE EXISTING STRUCTURE No.208, AND CONSTRUCT THE PROPOSED STRUCTURE FROM -L- STA.15+57+/- TO -L- STA.17+00+/-.

2) CONSTRUCT PROPOSED ROADWAY UP TO AND INCLUDING FINAL LAYER OF SURFACE COURSE.

3) USING FINAL PAVEMENT PLAN, PLACE FINAL PAVEMENT AND MARKERS AND TIE TO EXISTING PAVEMENT MARKINGS.

STEP 3:
REMOVE ALL TRAFFIC CONTROL DEVICES AND DETOUR SIGNING, AND OPEN SR 1003 (ERECT RD.) TO TRAFFIC IN TWO-LANE, TWO-WAY PATTERN.

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK

1-30-2014

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATION PLAN

1/30/2014
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PROJ. REFERENCE NO.	SHEET NO.
B-4608	TMP-2

SIGN NUMBER: WORKZONE
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 3'-0"
HEIGHT: 1'-0"
TOTAL AREA: 3.0 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.38"
WIDTH: 0.5"
RADII: 1.5"

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

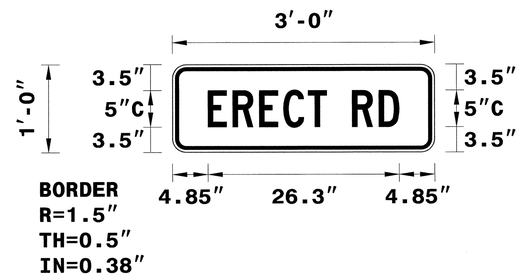
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: S.JOHNS
PROJECT ID: B-4608
CHECKED BY: S.KUNZ
DIV: 8
DATE: Jul 08, 2013

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

		E	R	E	C	T		R	D																		Series/Size Text Length
																											C 2000
	4.9	3.4	3.6	3.3	3.4	2.6	3.5	3.7	2.8	4.9																	26.3

FILENAME: B-4608_WZSgn Design

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: DATE: 4/27/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

1/27/2014
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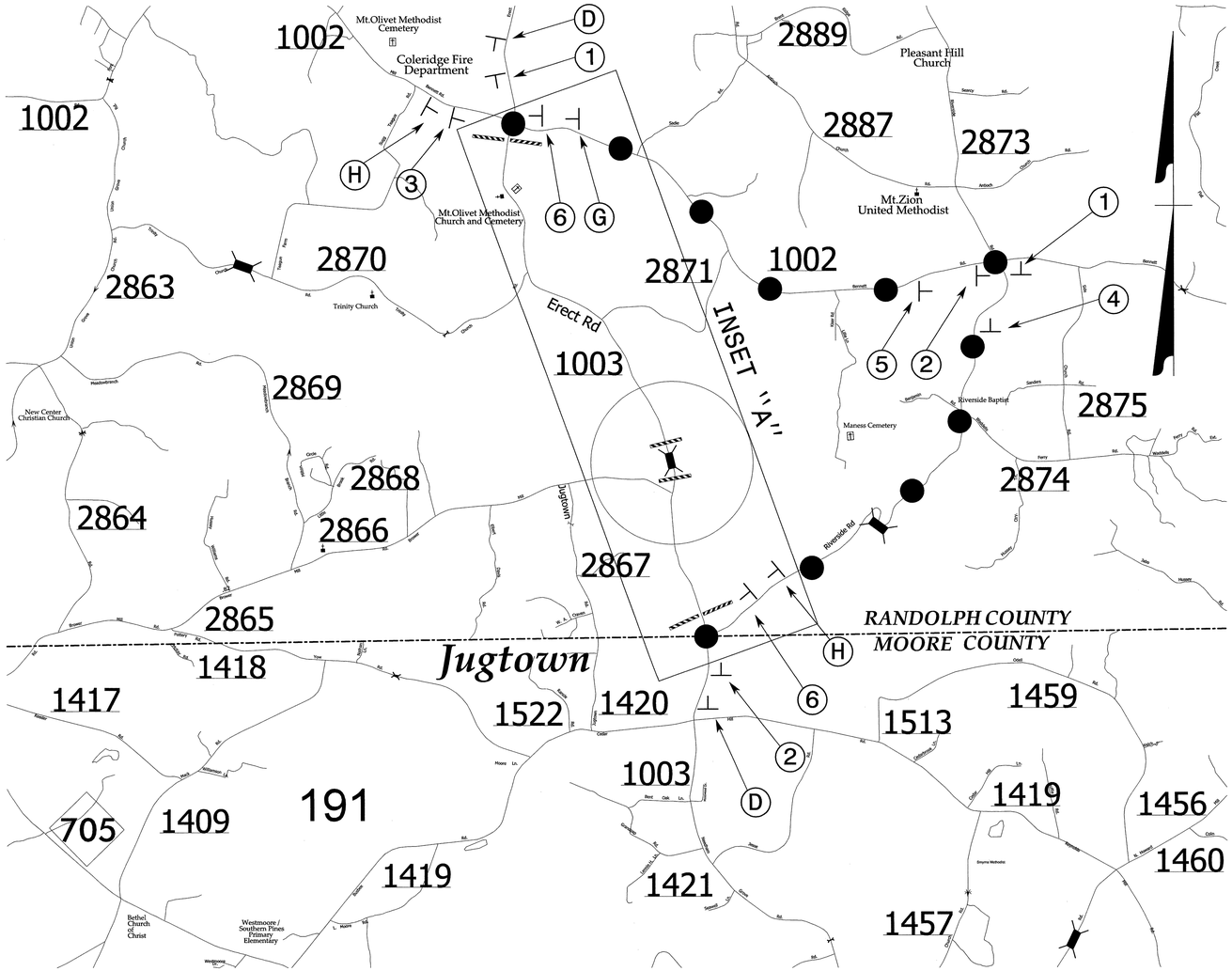
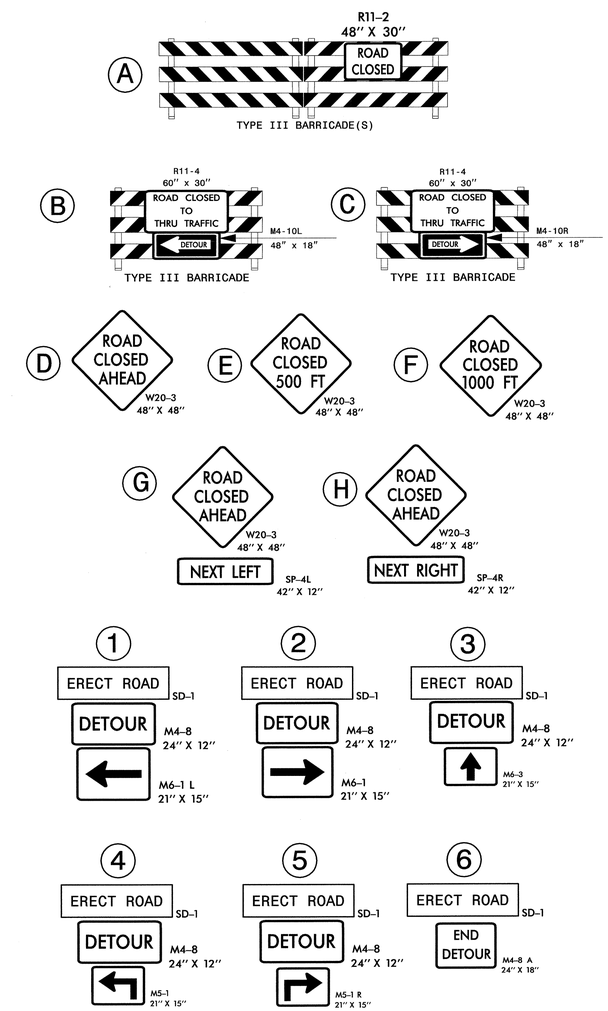
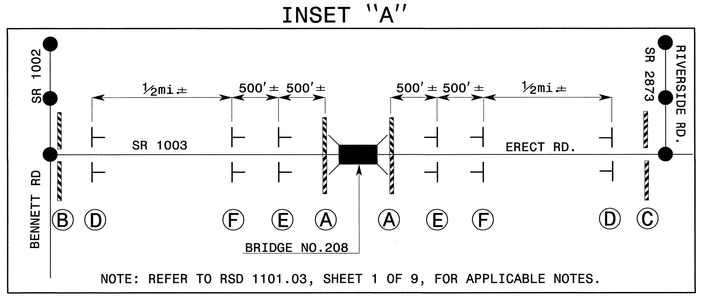
PROJ. REFERENCE NO.	SHEET NO.
B-4608	TMP-3





INSET "A"



NOTE: REFER TO RSD 1101.03, SHEET 1 OF 9, FOR APPLICABLE NOTES.

DETOUR ROUTE

NOTES:
1. REFER TO ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9 FOR SIGN DISTANCES.
2. SEE SHEET TMP-2 FOR THE SPECIAL SIGN DESIGN.
3. ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.

APPROVED: DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK

1-30-2014

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

OFFSITE DETOUR ROUTE AND BARRICADE PLACEMENT

1/30/2014
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TIP NO.	SHEET NO.
B-4608	PMP-1

APPROVED: 3/3/14

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
RANDOLPH COUNTY

LOCATION: BRIDGE No. 208 ON SR 1003 (ERECT ROAD) OVER FORK CREEK

T.I.P.: B-4608

CONTRACT: C203410

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
	PAINT (4")
PI	YELLOW DOUBLE CENTER
PA	WHITE EDGELINE

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL	PAINT	NONE

B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

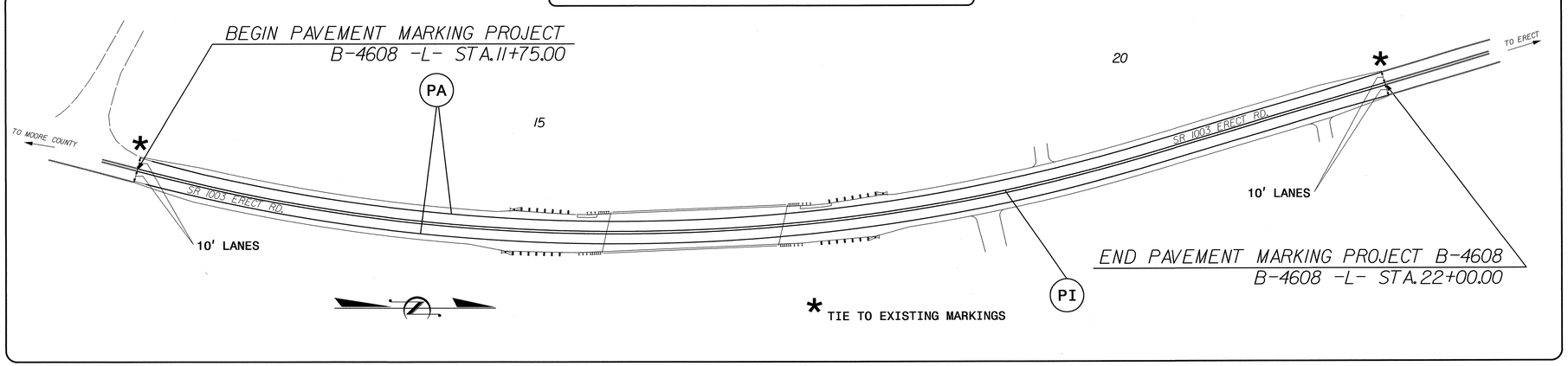
C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

D) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

E) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

F) MARKERS ARE TO BE PLACED ACCORDING TO THE ROADWAY STANDARD DRAWINGS.

PAVEMENT MARKING DETAIL



PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

SUSAN B. KUNZ — SIGNING & DELINEATION REGIONAL ENGINEER

STACEY W. JOHNS — SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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sjohns AT TE274911

TIP PROJECT: B-4608

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4608	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

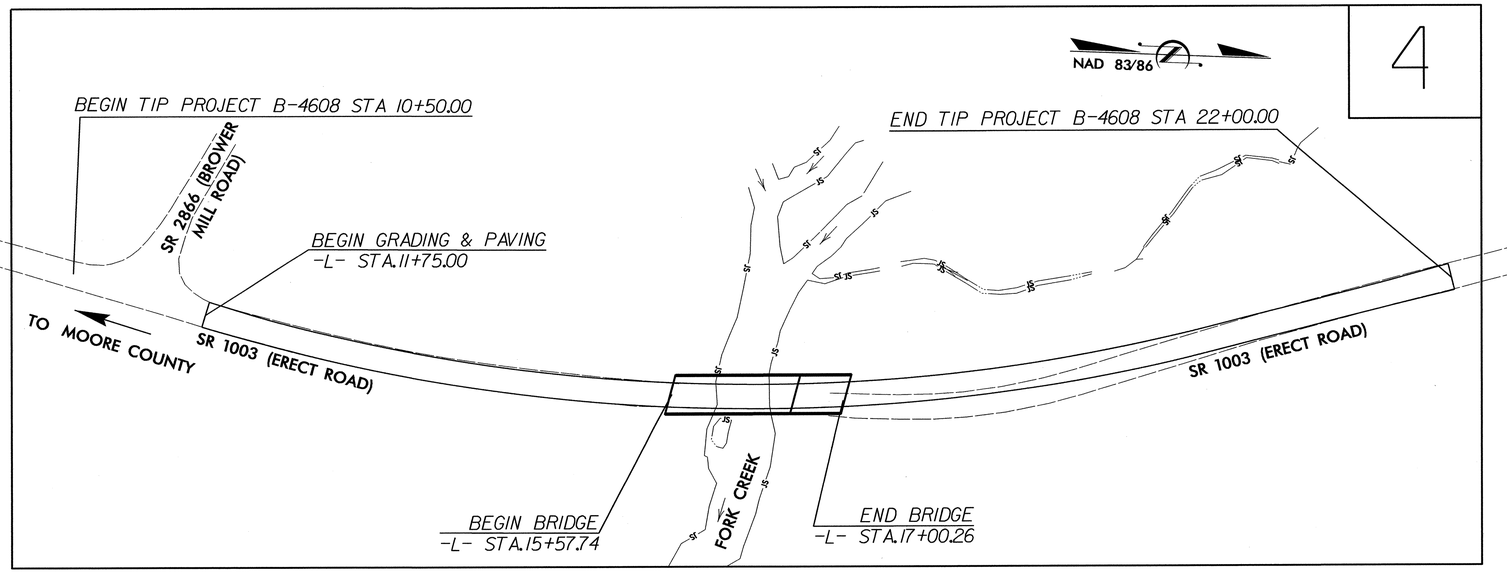
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

RANDOLPH COUNTY

LOCATION: BRIDGE No. 208 ON SR 1003 (ERECT ROAD) OVER FORK CREEK

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



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	EW CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

GRAPHIC SCALE

0 PLANS

0 PROFILE (HORIZONTAL)

0 PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

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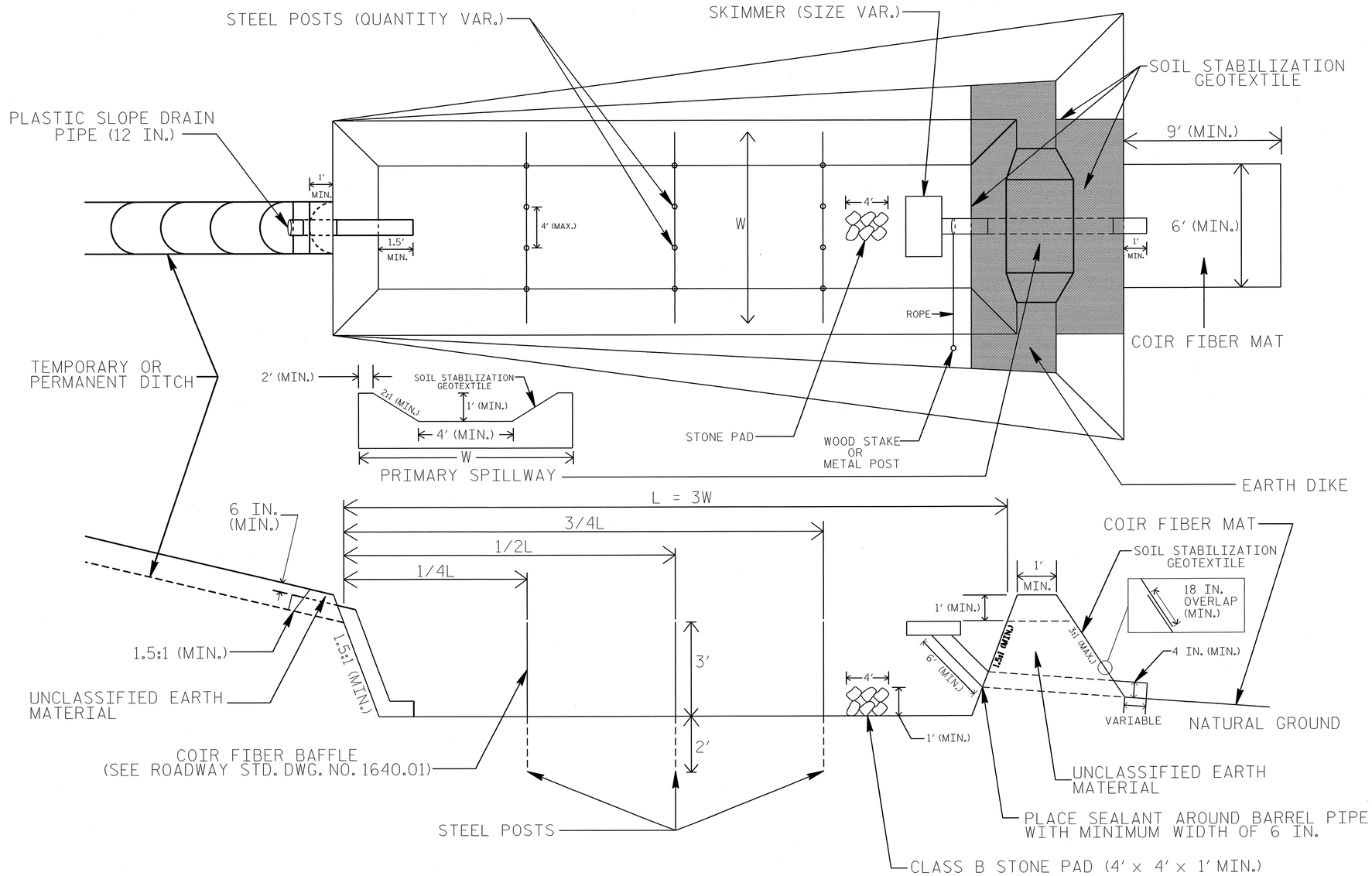
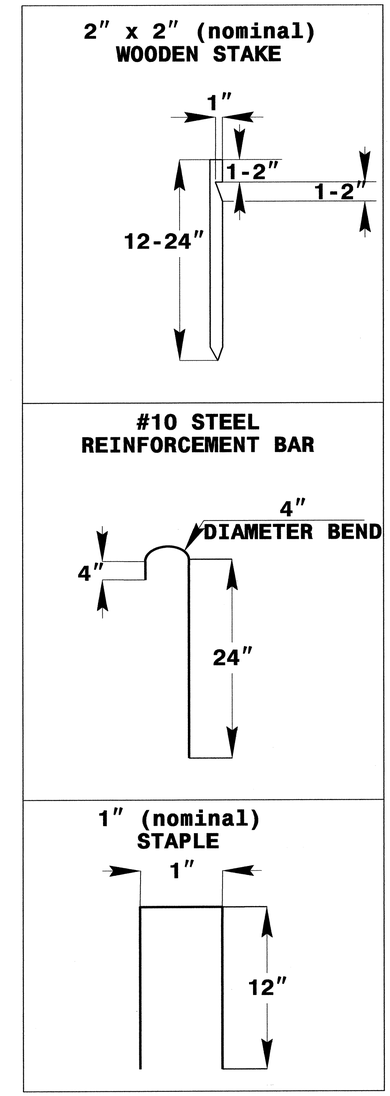
PROJECT REFERENCE NO.	SHEET NO.
B-4608	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL





COIR FIBER MAT ANCHOR OPTIONS

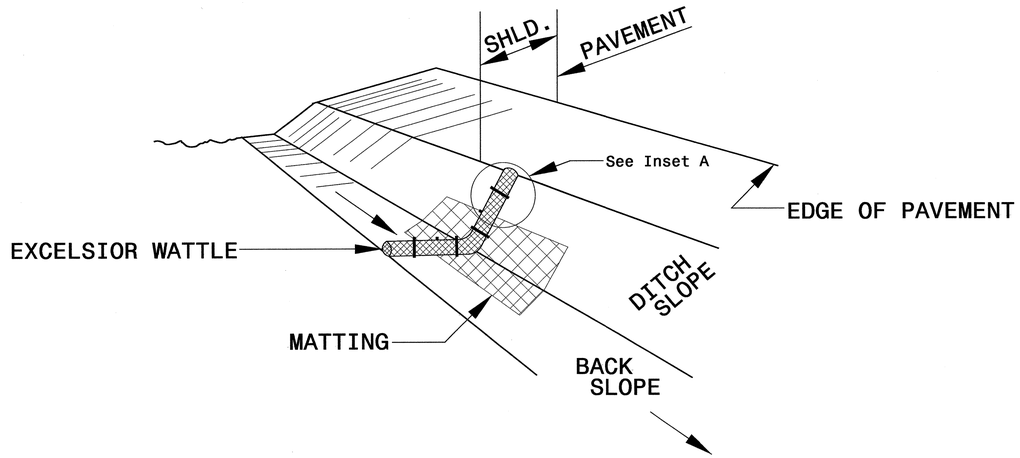
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING Q/0.4, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

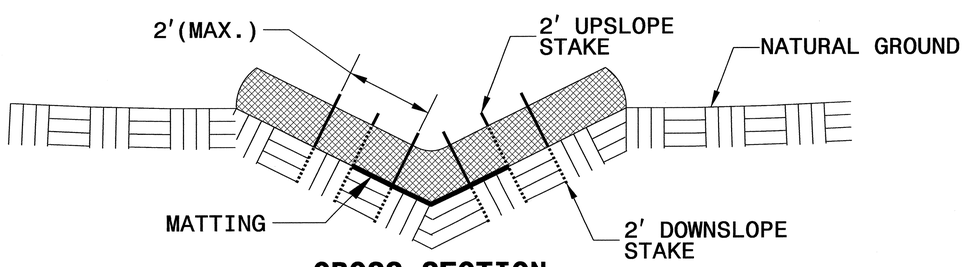
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4608	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

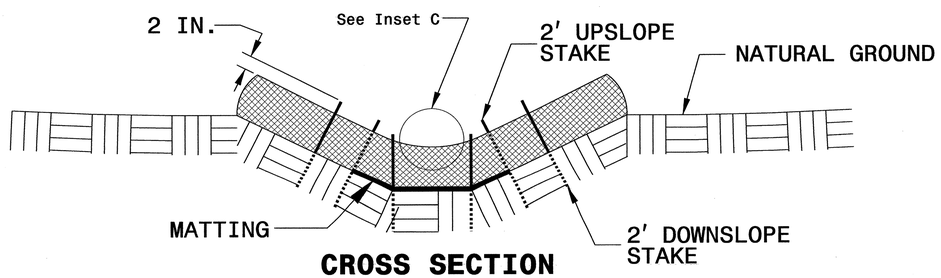
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

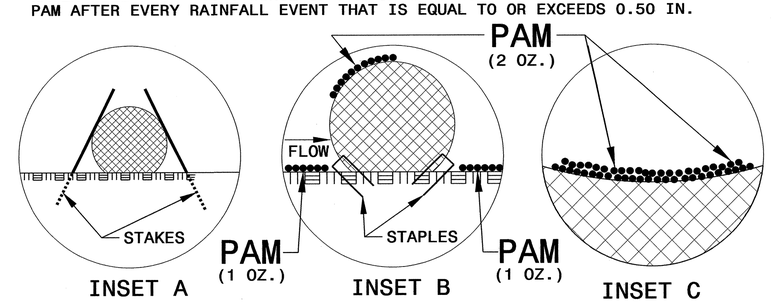
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

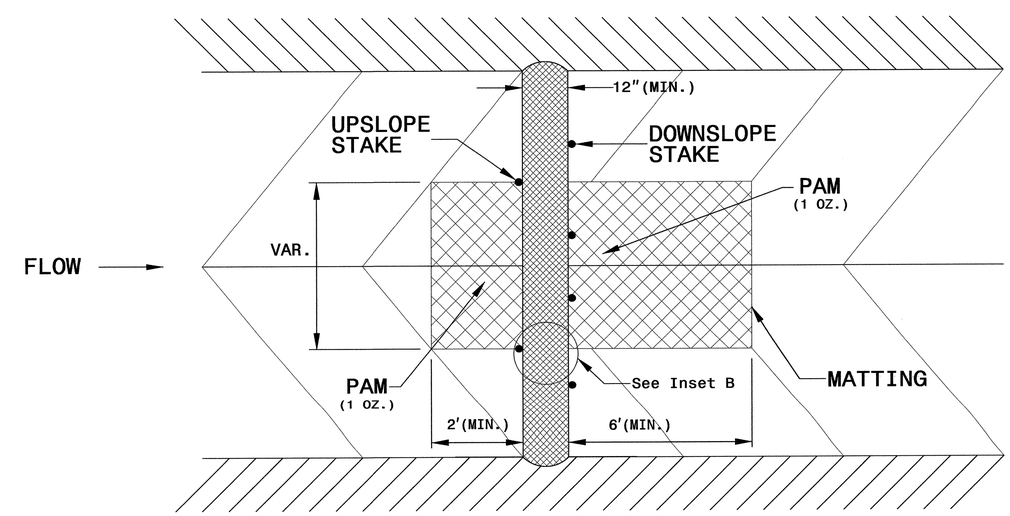
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

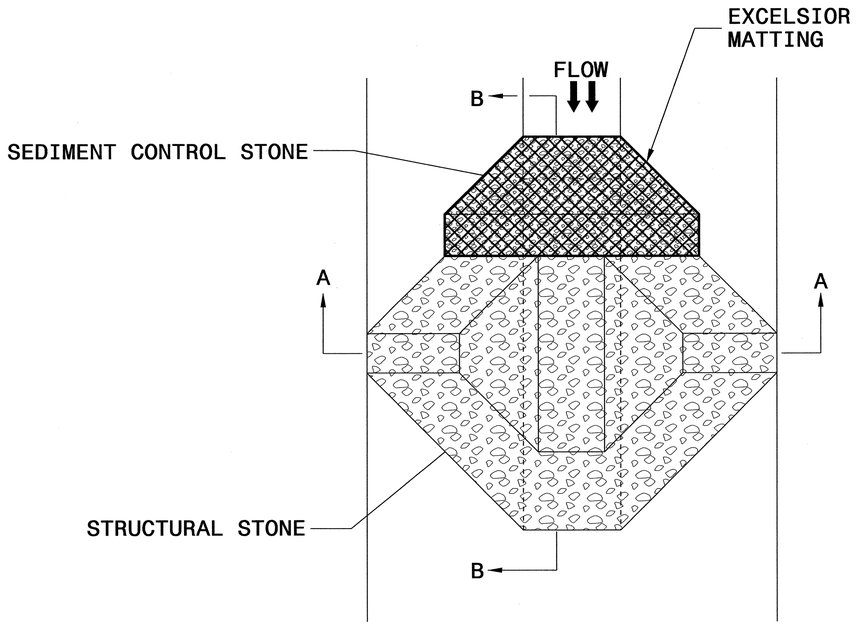




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4608	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



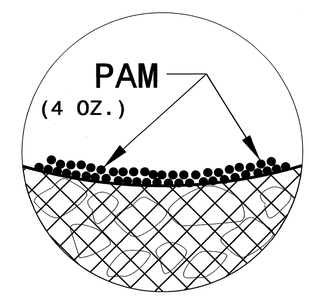
PLAN

NOTES

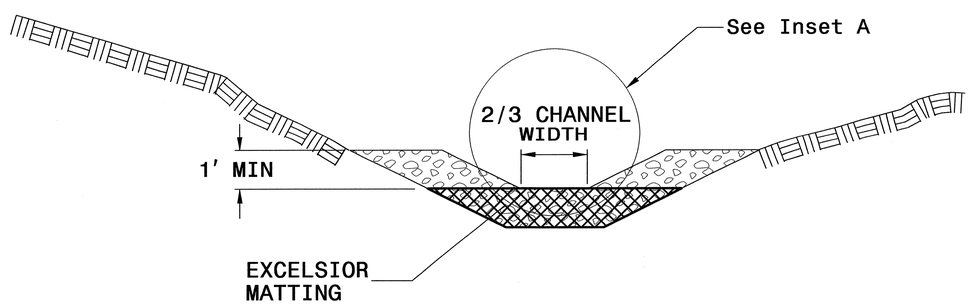
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

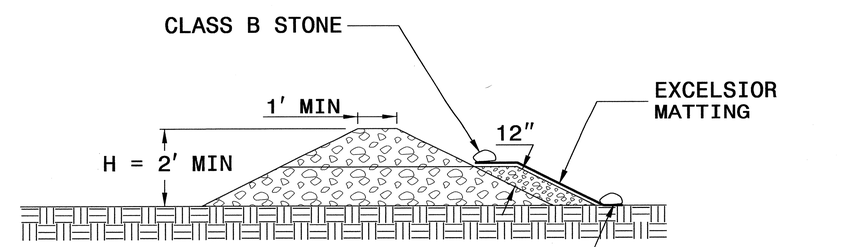
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4608	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	19+00	20+75	RT	185
4	-L-	19+50	20+00.48	LT	50
4	-L-	20+00.48	20+37.5	LT	45
4	-L-	20+62.5	21+50	LT	130
4	-L-	20+87.5	21+12.5	RT	65
			SUBTOTAL		475
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					4,500
				TOTAL	4,975
				SAY	5,000

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	13+00	15+00	RT	280
4	-L-	20+75	20+87.5	RT	15
			SUBTOTAL		295
		ADDITIONAL PSRM TO BE INSTALLED			0
				TOTAL	295
				SAY	300

PROJECT REFERENCE NO.	SHEET NO.
B-4608	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

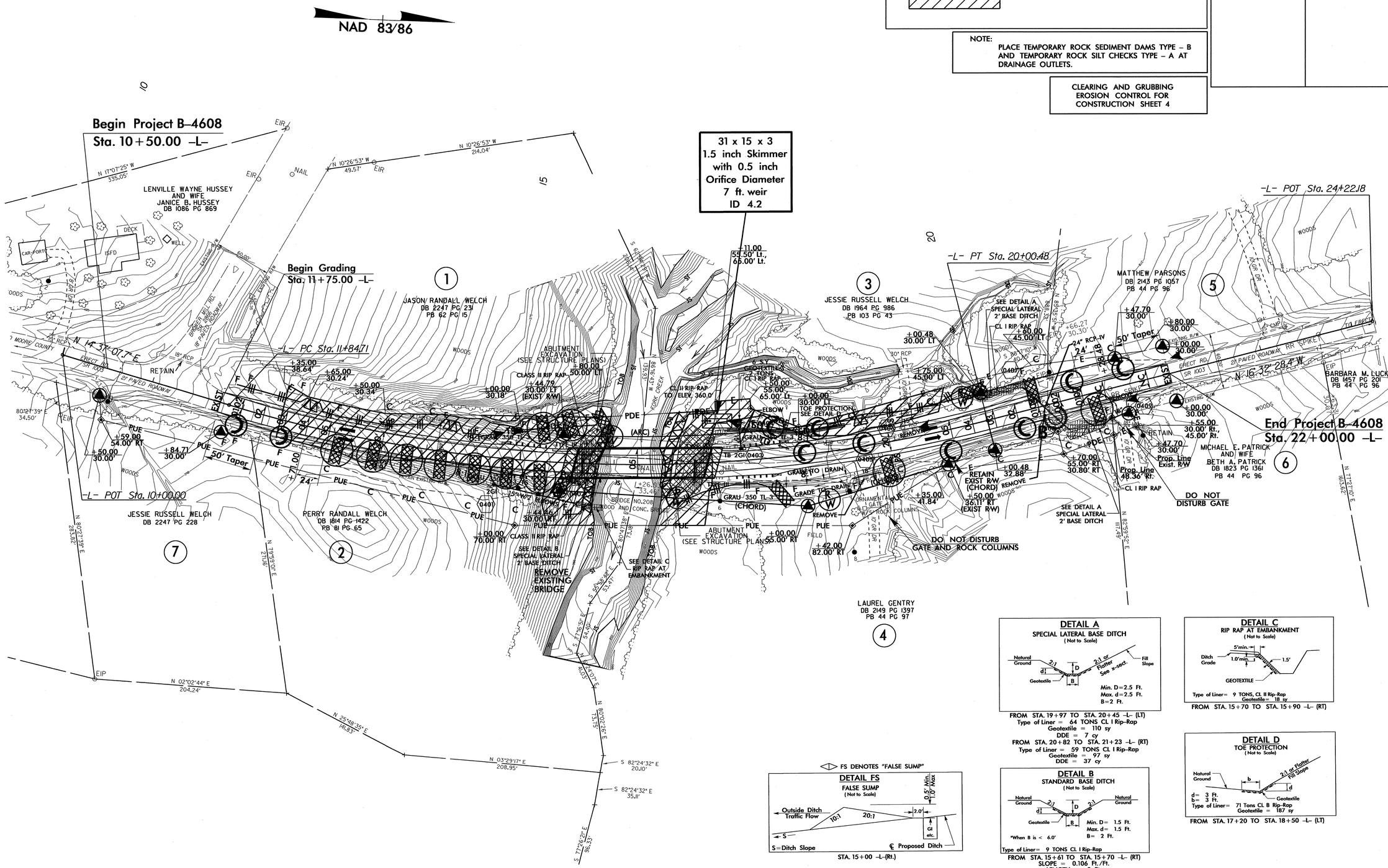
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
B-4608	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

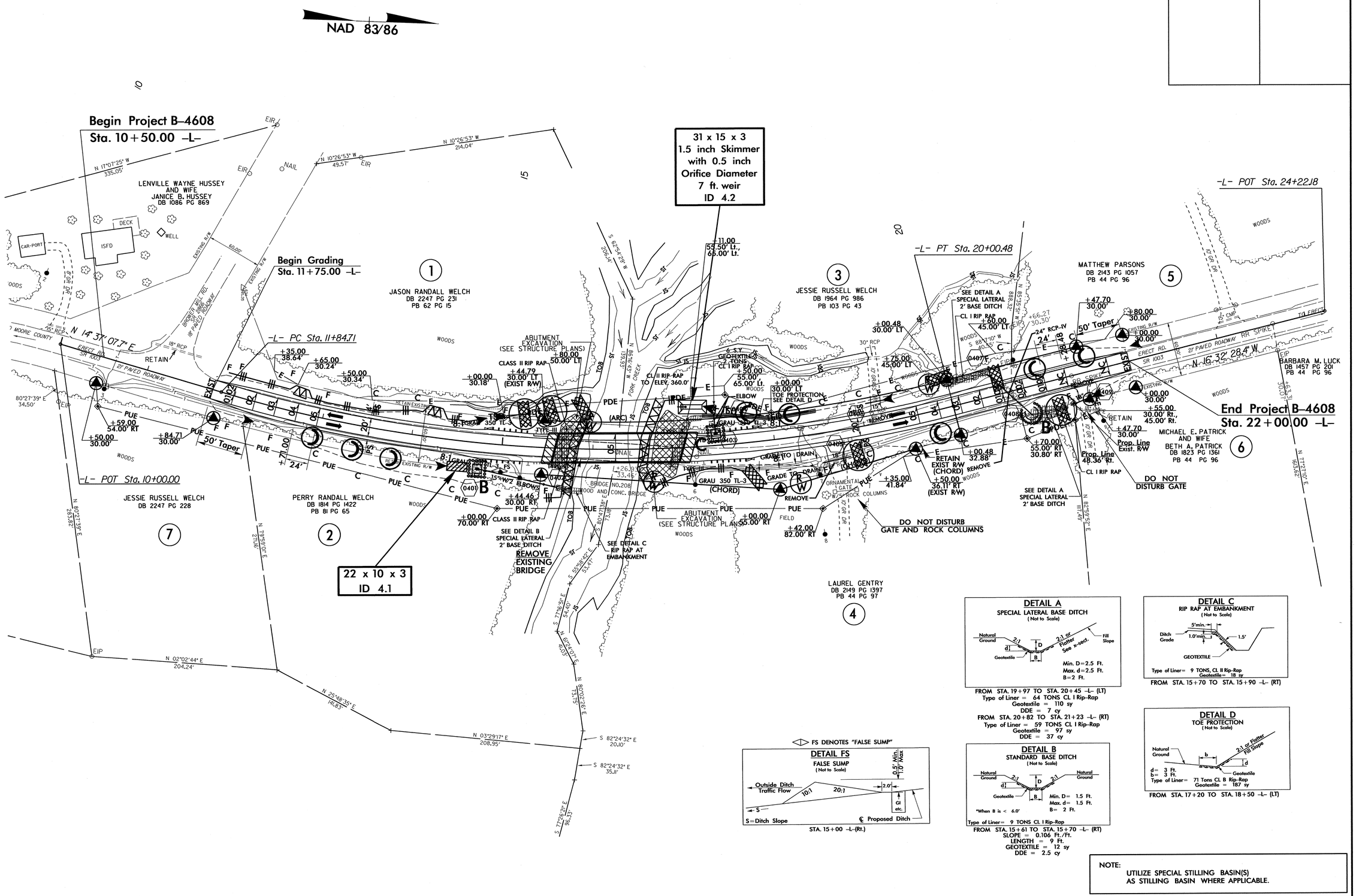
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4


NAD 83/86
Begin Project B-4608
Sta. 10+50.00 -L-
Begin Grading
Sta. 11+75.00 -L-
31 x 15 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
7 ft. weir
ID 4.2
-L- POT Sta. 10+00.00
-L- PC Sta. 11+84.71
-L- PT Sta. 20+00.48
-L- POT Sta. 24+22.18
End Project B-4608
Sta. 22+00.00 -L-
LENVILLE WAYNE HUSSEY AND WIFE JANICE B. HUSSEY DB 1086 PG 869
JASON RANDALL WELCH DB 2247 PG 231 PB 62 PG 15
JESSIE RUSSELL WELCH DB 1964 PG 986 PB 103 PG 43
MATTHEW PARSONS DB 2143 PG 1057 PB 44 PG 96
BARBARA M. LUCK DB 1457 PG 201 PB 44 PG 96
MICHAEL E. PATRICK AND WIFE BETH A. PATRICK DB 1823 PG 1361 PB 44 PG 96
JESSIE RUSSELL WELCH DB 2247 PG 228
PERRY RANDALL WELCH DB 1814 PG 1422 PB 81 PG 65
LAUREL GENTRY DB 2149 PG 1397 PB 44 PG 97
DO NOT DISTURB GATE AND ROCK COLUMNS
REMOVE EXISTING BRIDGE
SEE DETAIL A SPECIAL LATERAL 2' BASE DITCH
SEE DETAIL B SPECIAL LATERAL 2' BASE DITCH
SEE DETAIL C RIP RAP AT EMBANKMENT
ABUTMENT EXCAVATION (SEE STRUCTURE PLANS)
CLASS II RIP RAP
CL I RIP RAP TO ELEV. 360.0'
TOE PROTECTION SEE DETAIL D
GEOTEXTILE 4 TONS
RETAIN EXIST R/W (CHORD)
REMOVE
DO NOT DISTURB GATE
50' Taper
24' PAVED ROADWAY
N 14°37'07" E
N 16°32'28" W
N 10°26'53" W 214.04'
N 17°07'25" W 335.05'
N 02°02'44" E 204.24'
N 25°18'35" E 141.83'
N 03°29'17" E 208.95'
S 82°24'32" E 20.10'
S 82°24'32" E 35.11'
S 77°26'21" E 96.33'
N 80°20'26" E 73.15'
N 19°59'07" E 21.16'
N 80°27'59" E 283.82'
N 77°17'10" E 163.52'
N 82°59'52" E 111.49'
S 80°27'39" E 34.50'
S 38°17'10" W 40.25'
S 65°58'38" E 53.41'
S 76°16'51" E 54.40'
S 80°47'38" E 37.18'
S 80°47'38" E 37.03'
S 80°47'38" E 13.07'
S 80°47'38" E 13.19'
S 80°47'38" E 13.33'
S 80°47'38" E 13.47'
S 80°47'38" E 13.61'
S 80°47'38" E 13.75'
S 80°47'38" E 13.89'
S 80°47'38" E 14.03'
S 80°47'38" E 14.17'
S 80°47'38" E 14.31'
S 80°47'38" E 14.45'
S 80°47'38" E

PROJECT REFERENCE NO.	SHEET NO.
B-4608	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE:
UTILIZE SPECIAL STILLING BASIN(S)
AS STILLING BASIN WHERE APPLICABLE.

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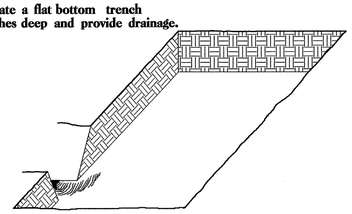
PROJECT REFERENCE NO.	SHEET NO.
B-4608	RF-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANTING DETAILS

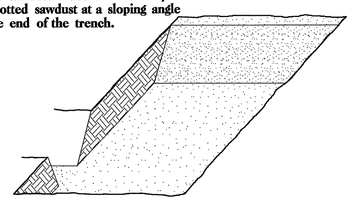
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

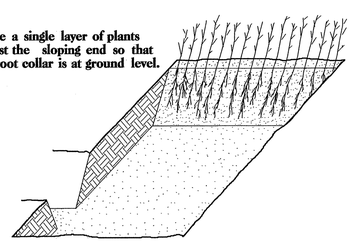
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



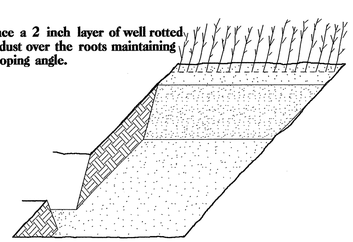
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

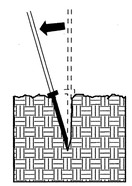


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

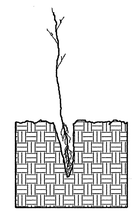


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

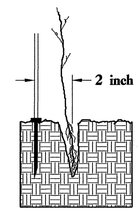
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



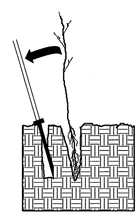
1. Insert planting bar as shown and pull handle toward planter.



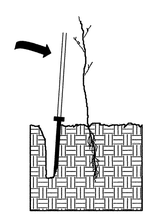
2. Remove planting bar and place seedling at correct depth.



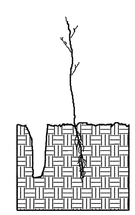
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

30% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR
30% LIRIODENDRON TULIPIFERA	YELLOW POPLAR	12 in - 18 in BR
40% QUERCUS ALBA	WHITE OAK	12 in - 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

T.I.P.: B-4608

CONTRACT: C203410

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
B-4608	SIGN-1

APPROVED: RWK
DATE: 3/3/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

SIGNING PLAN
RANDOLPH COUNTY

LOCATION: BRIDGE No. 208 ON SR 1003 (ERECT ROAD) OVER FORK CREEK

GENERAL NOTES

- SIGNS FURNISHED BY STATE
- ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- SIGNING PLANS DO NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING. SEE TRAFFIC CONTROL PLANS
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	61	L.F.
4096000000	904	SIGN ERECTION, TYPE D	2	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	8	EA.

SIGN NUMBER: 301,302
TYPE: D
QUANTITY: 2

SIGN WIDTH: 3'-0"
HEIGHT: 2'-0"
TOTAL AREA: 6.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 3"

NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

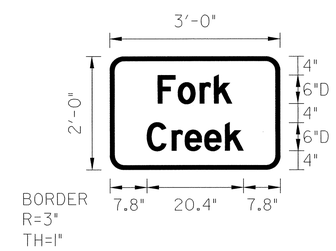
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

DESIGN BY: S.JOHNS
PROJECT ID: B-4608
CHECKED BY: S.KUNZ
DIV: 8
DATE: Jan 21, 2014



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																												Series/Size Text Length
		F	o	r	k																							D 2000
	10.1	4.3	4.6	3	3.8	10.1																						15.7
		C	r	e	e	k																						D 2000
	7.8	5.3	2.8	4.1	4.4	3.8	7.8																					20.4

FILENAME: SignDesign

NORTH CAROLINA D.O.T. SIGN DETAIL

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

SUSAN B. KUNZ — SIGNING & DELINEATION REGIONAL ENGINEER

STACEY W. JOHNS — SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT NOTES

1	DISPOSAL OF SIGN SYSTEM, U-CHANNEL

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET, SIGN DESIGN, NOTES
SIGN-2	SIGN DETAIL SHEET

24-FEB-2014 10:56
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sjohns AT TE274911

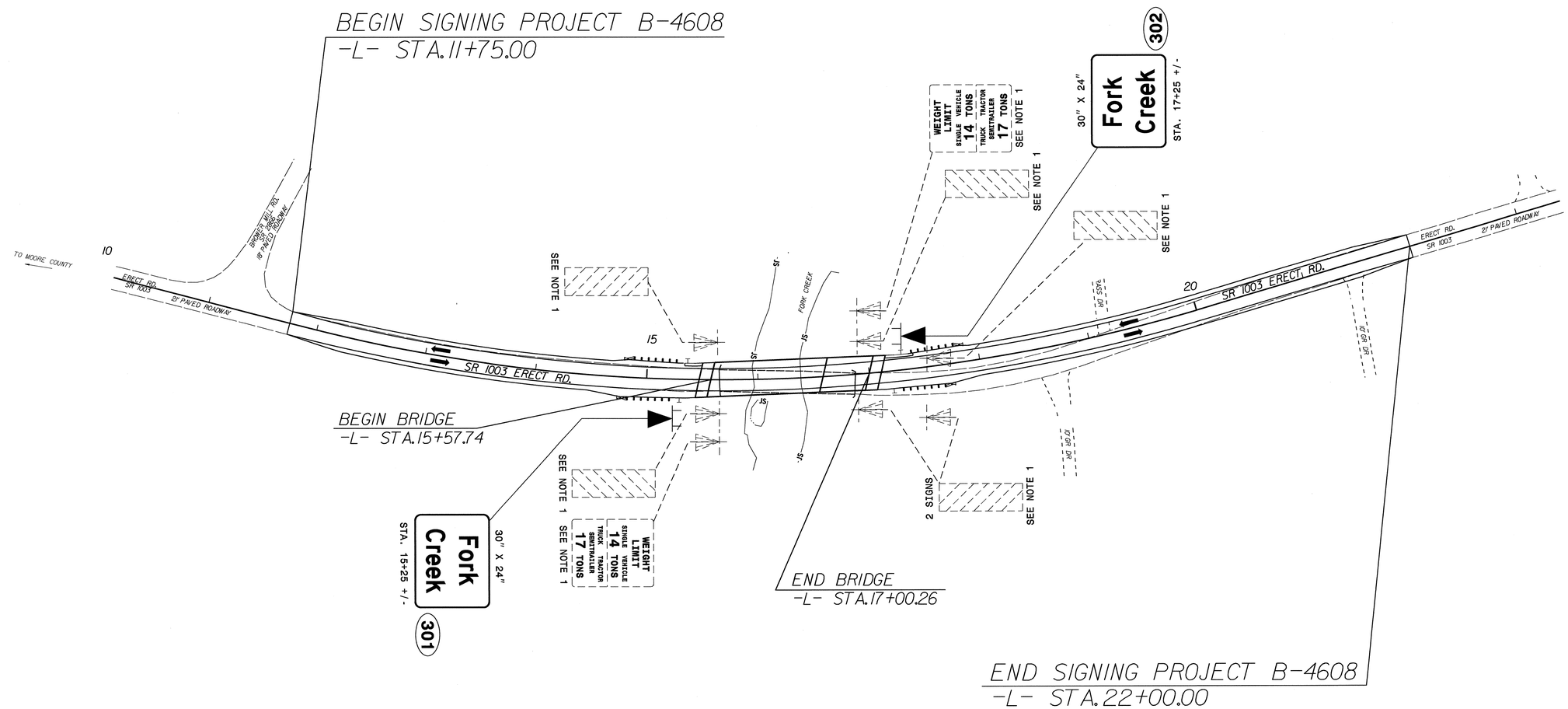
TIP NO.	SHEET NO.
B-4608	SIGN-2

APPROVED: [signature]

DATE: 3/3/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING



PROJECT NOTES

1	DISPOSAL OF SIGN SYSTEM, U-CHANNEL

SIGN DETAIL SHEET

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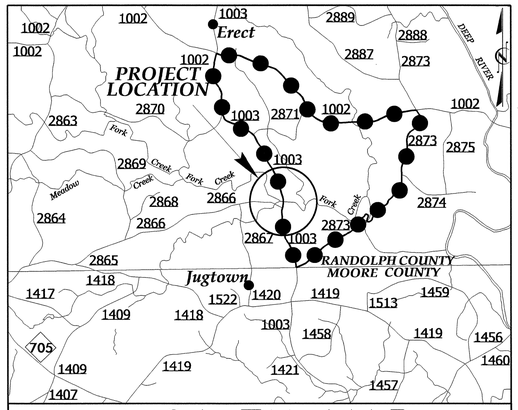
sjohns AT TE274911

TIP PROJECT: B-4608

See Sheet 1-A For Index of Sheets



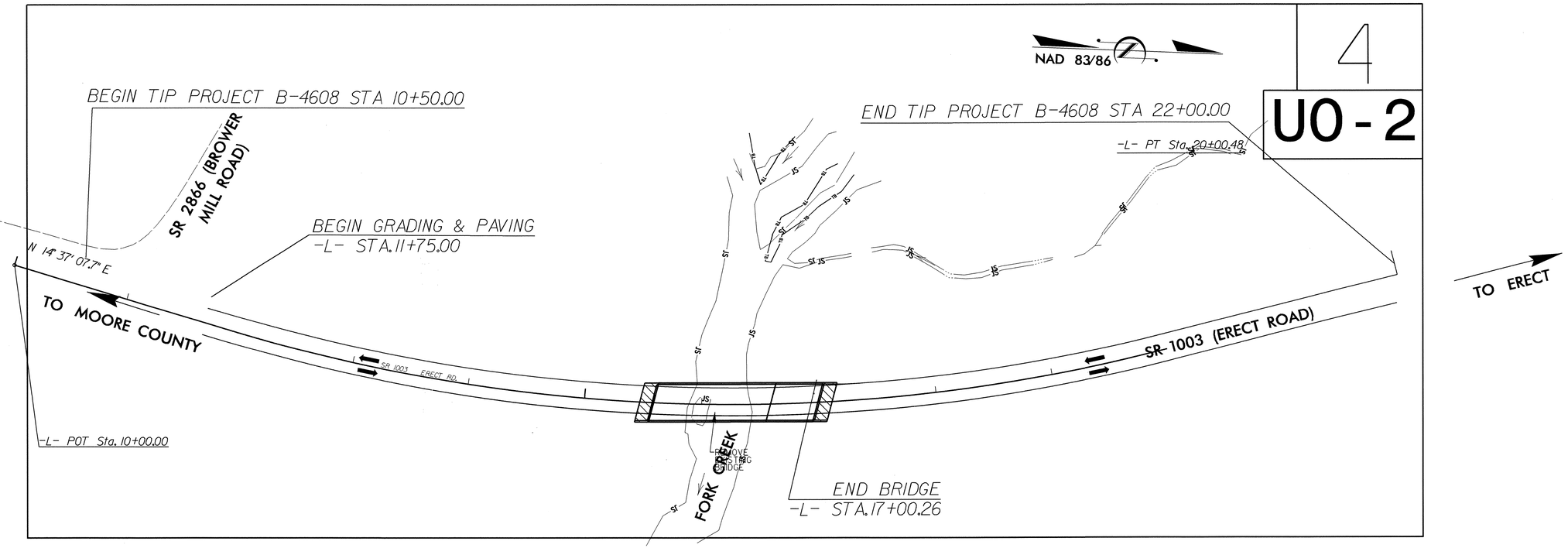
T.I.P. NO.	SHEET NO.
B-4608	UO-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
RANDOLPH COUNTY

LOCATION: BRIDGE No. 208 ON SR 1003 (ERECT ROAD)

TYPE OF WORK: UTILITIES



METHOD OF CLEARING III.
THIS PROJECT IS NOT WITHIN THE LIMITS OF ANY MUNICIPALITY.
DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K FACTOR AND NIGHTTIME VERTICAL CURVE SSD.

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT

(A) Randolph EMC, Power
(B) Randolph TMC, Telephone

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING
1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. — UTILITIES SECTION ENGINEER
Steve McKee, P.E. — UTILITIES SQUAD LEADER PROJECT ENGINEER
Jamshid Hafshejani — UTILITIES PROJECT DESIGNER

03-MAR-2014 13:36
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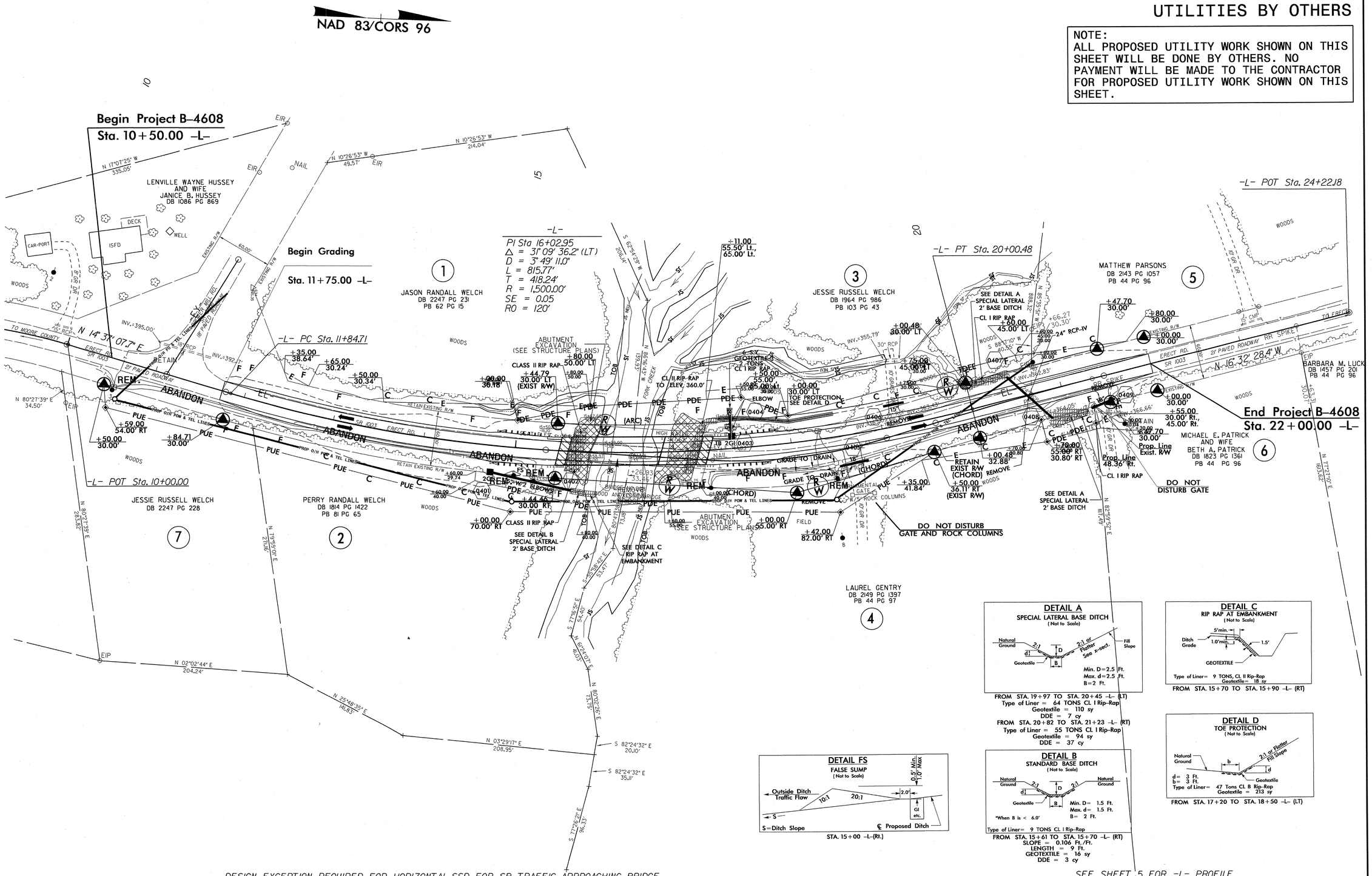
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4608	U0-2

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.



DETAIL A
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, B, Geotextile, 2:1 or Flatter See x-sect., Fill Slope

Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 2 Ft.

FROM STA. 19+97 TO STA. 20+45 -L- (LT)
Type of Liner = 64 TONS CL I Rip-Rap
Geotextile = 110 sy
DDE = 7 cy
FROM STA. 20+82 TO STA. 21+23 -L- (RT)
Type of Liner = 55 TONS CL I Rip-Rap
Geotextile = 94 sy
DDE = 37 cy

DETAIL C
RIP RAP AT EMBANKMENT
(Not to Scale)

5' min., Ditch Grade, 1.0' min., 1.5', GEOTEXTILE

Type of Liner = 9 TONS, CL II Rip-Rap
Geotextile = 18 sy

FROM STA. 15+70 TO STA. 15+90 -L- (RT)

DETAIL FS
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 10:1, 20:1, 2.0', 0.5' Min. 1.0' Max., GI etc., S, ℄ Proposed Ditch

S = Ditch Slope

STA. 15+00 -L-(Rt.)

DETAIL B
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, B, Geotextile

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2 Ft.

*When B is < 6.0'

Type of Liner = 9 TONS CL I Rip-Rap

FROM STA. 15+61 TO STA. 15+70 -L- (RT)
SLOPE = 0.106 Ft./Ft.
LENGTH = 9 Ft.
GEOTEXTILE = 16 sy
DDE = 3 cy

DETAIL D
TOE PROTECTION
(Not to Scale)

Natural Ground, b, 2:1 or Flatter Fill Slope, d, Geotextile

d = 3 Ft.
b = 3 Ft.
Type of Liner = 47 Tons CL B Rip-Rap
Geotextile = 213 sy

FROM STA. 17+20 TO STA. 18+50 -L- (LT)

5/14/99

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PROJ. REFERENCE NO.	SHEET NO.
B-4608	X-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+75.00	0	0
11+84.71	5	1
12+00.00	14	4
12+50.00	44	13
13+00.00	96	4
13+50.00	191	0
14+00.00	272	0
14+50.00	250	2
14+65.00	53	2
14+75.00	35	5
14+85.00	34	8
14+90.86	16	6
15+00.00	21	12
15+50.00	49	190
15+57.74	0	47
Begin Bridge		
End Bridge		
17+00.26	0	0
17+50.00	0	238
18+00.00	2	203
18+50.00	13	100
19+00.00	46	18
19+17.00	29	0
19+50.00	72	0
20+00.48	124	1
20+50.00	102	10
21+00.00	55	24
21+50.00	41	17
22+00.00	24	2

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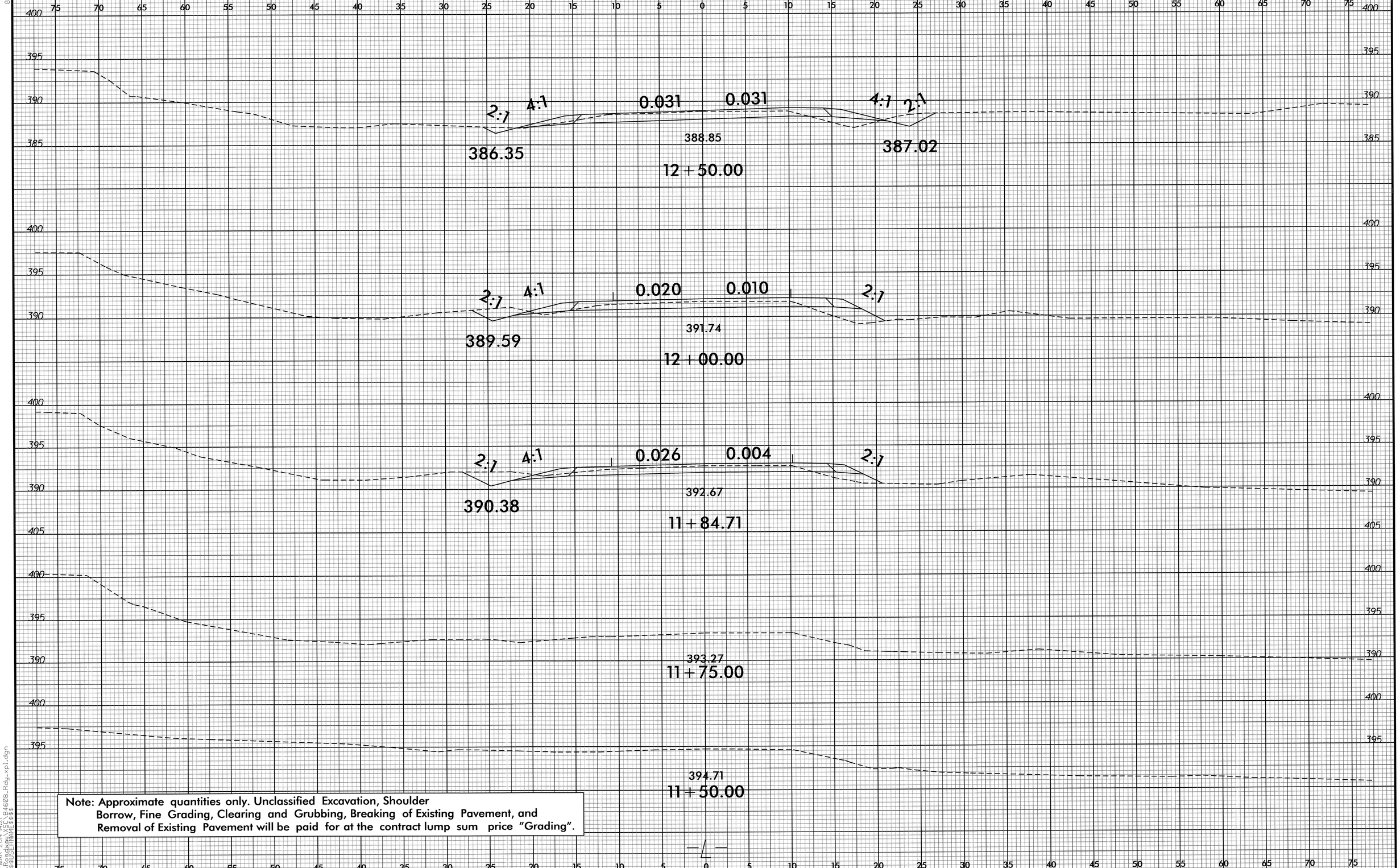
	B-4608	X-2



Note: Approximate quantities only. Unclassified Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price "Grading".

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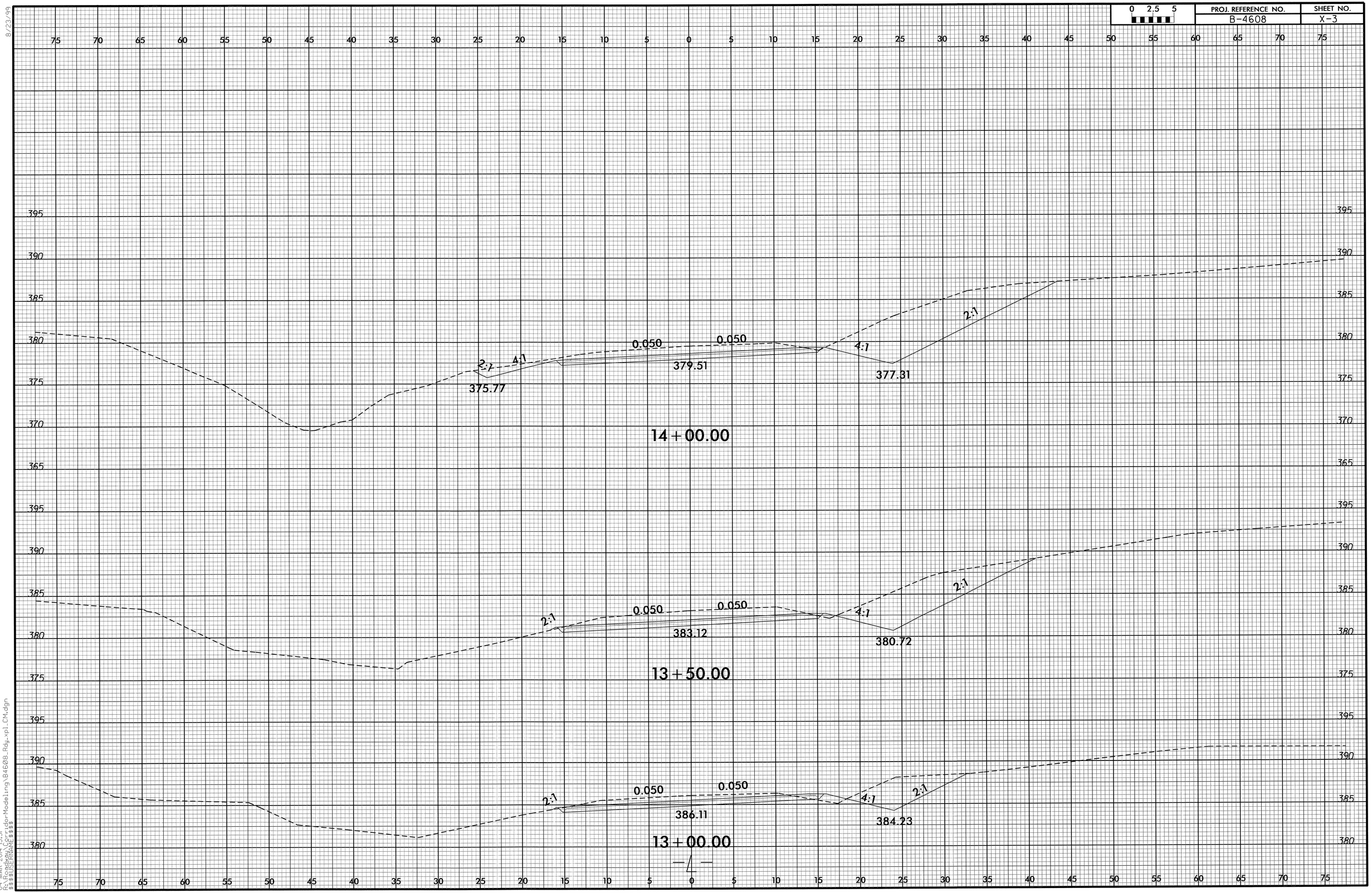

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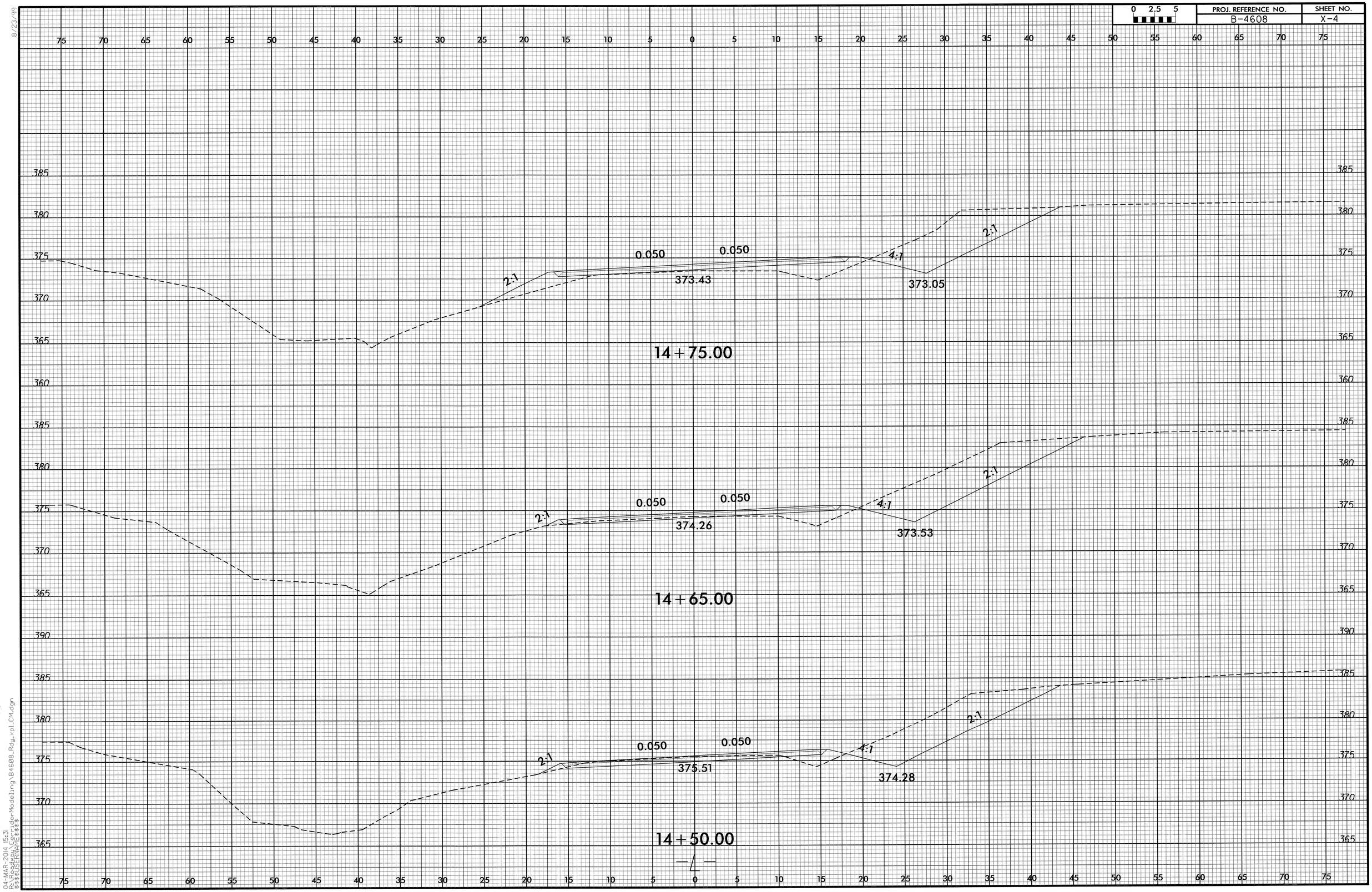

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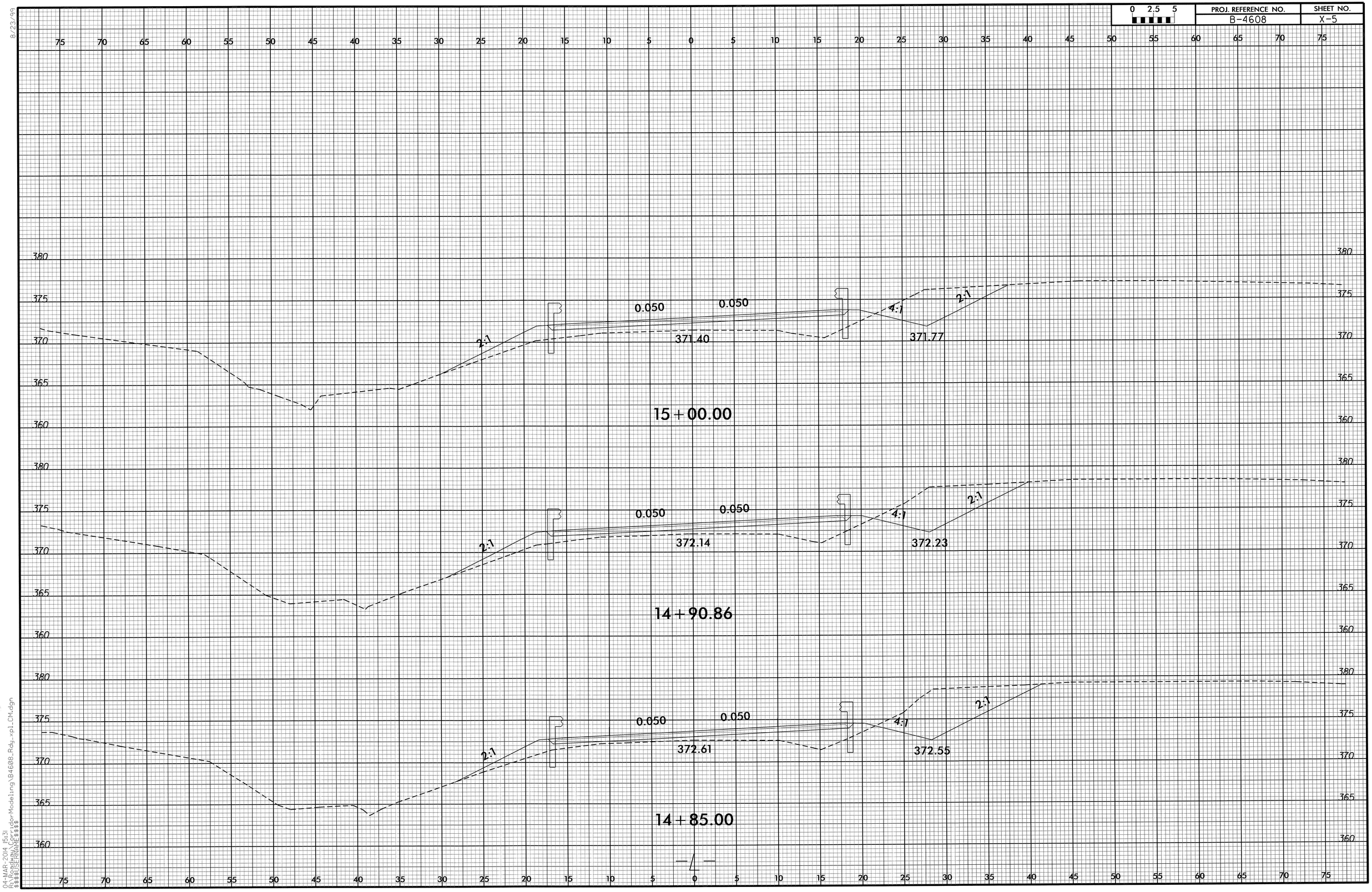

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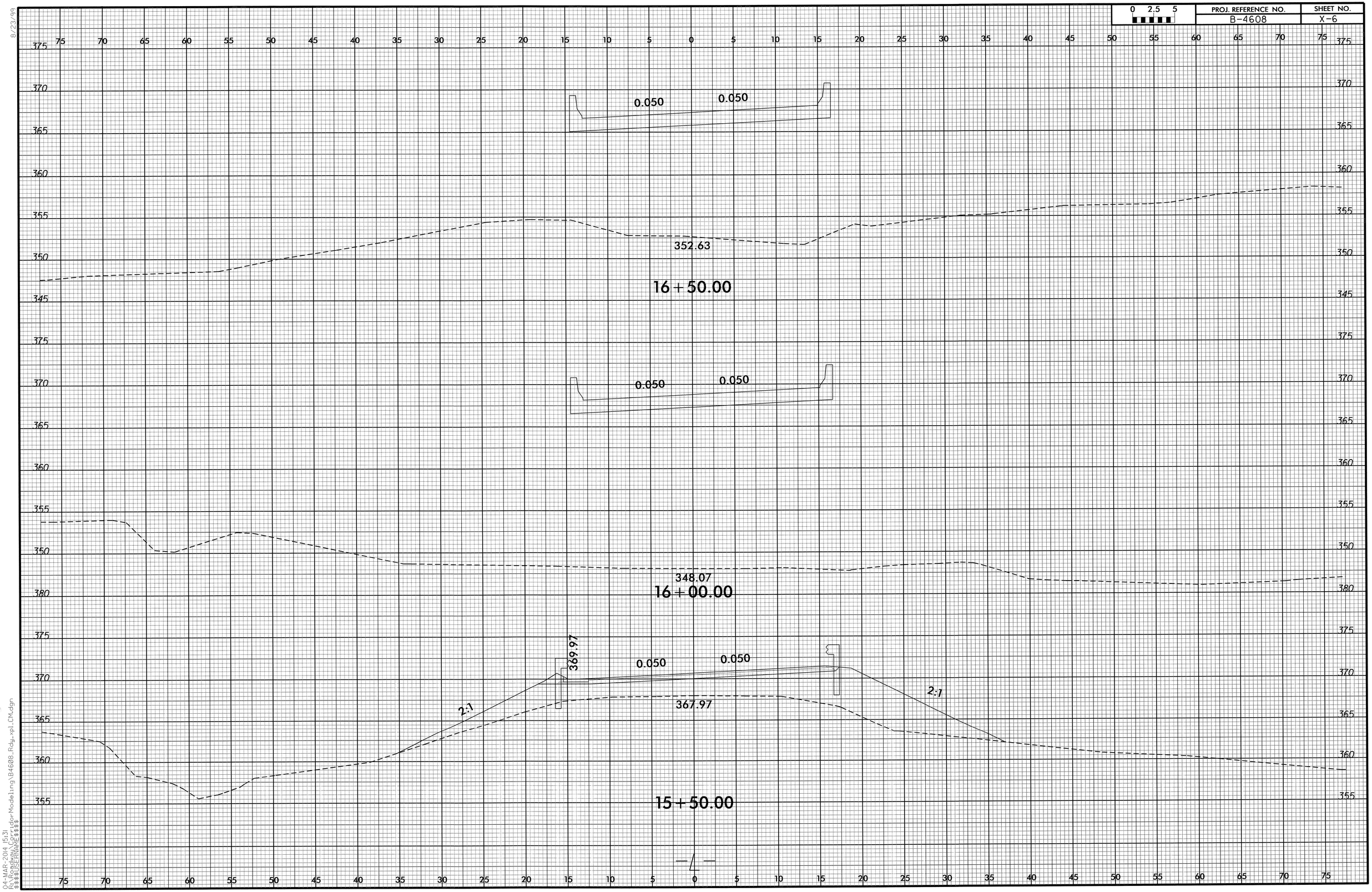

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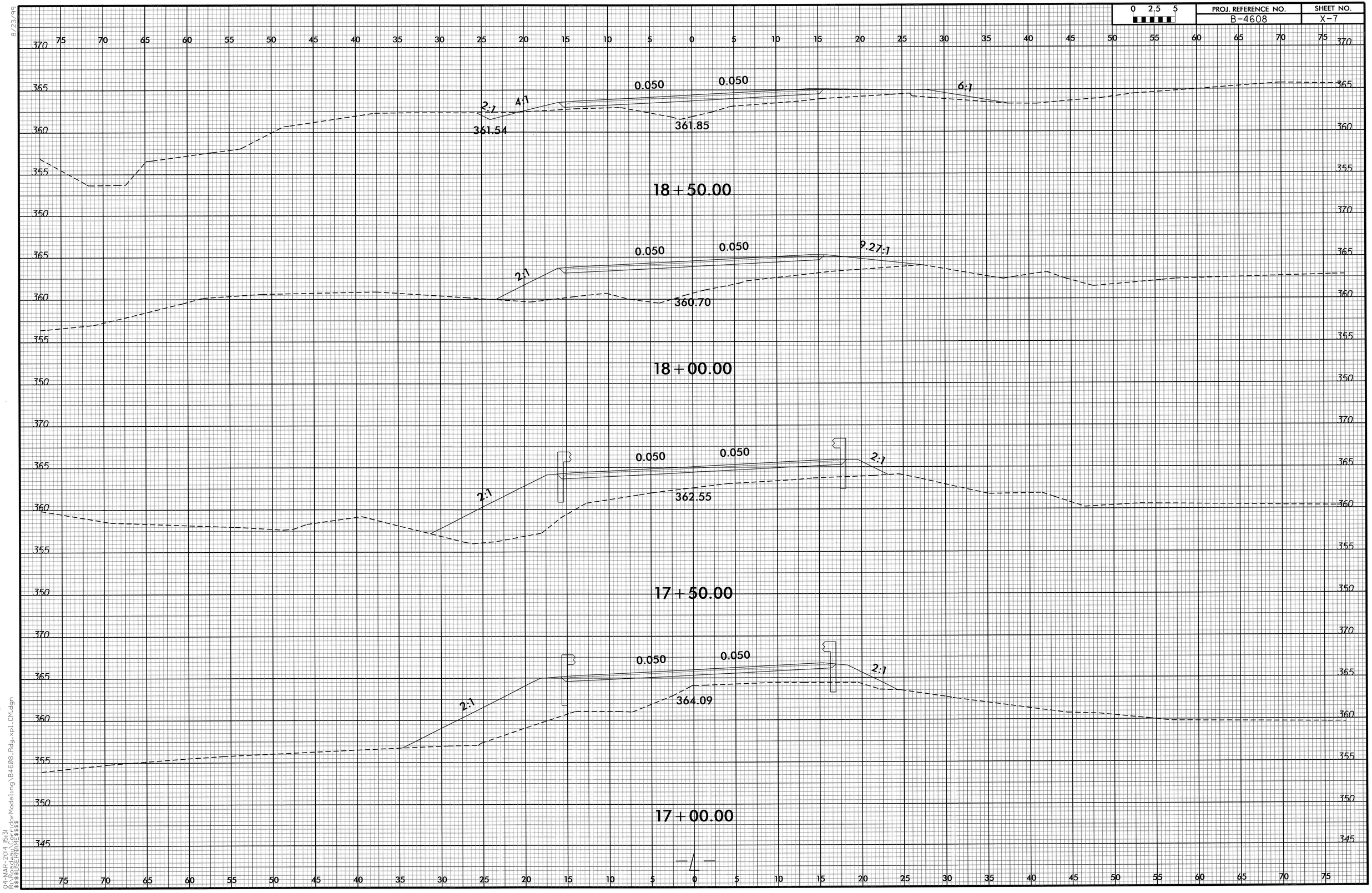

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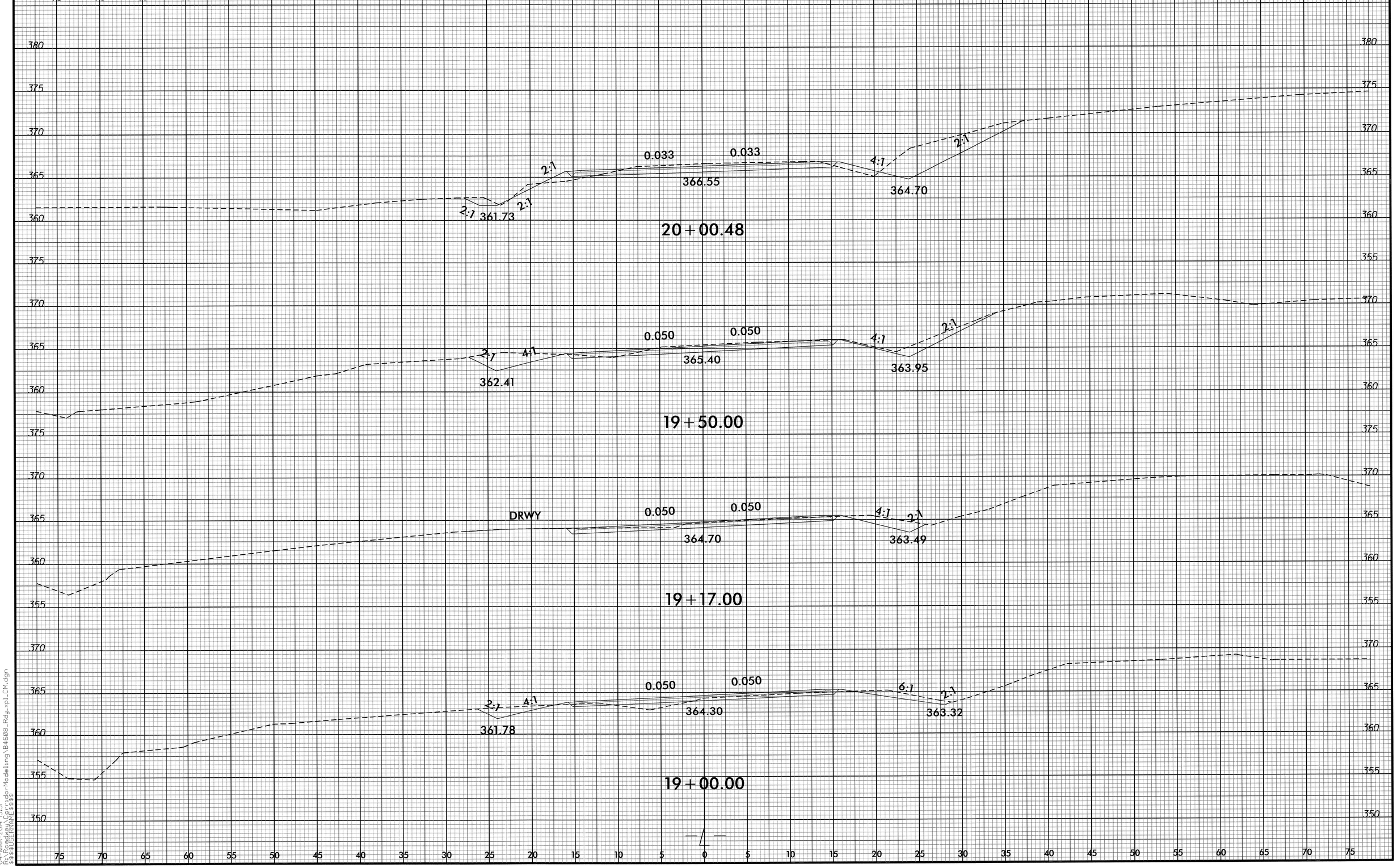

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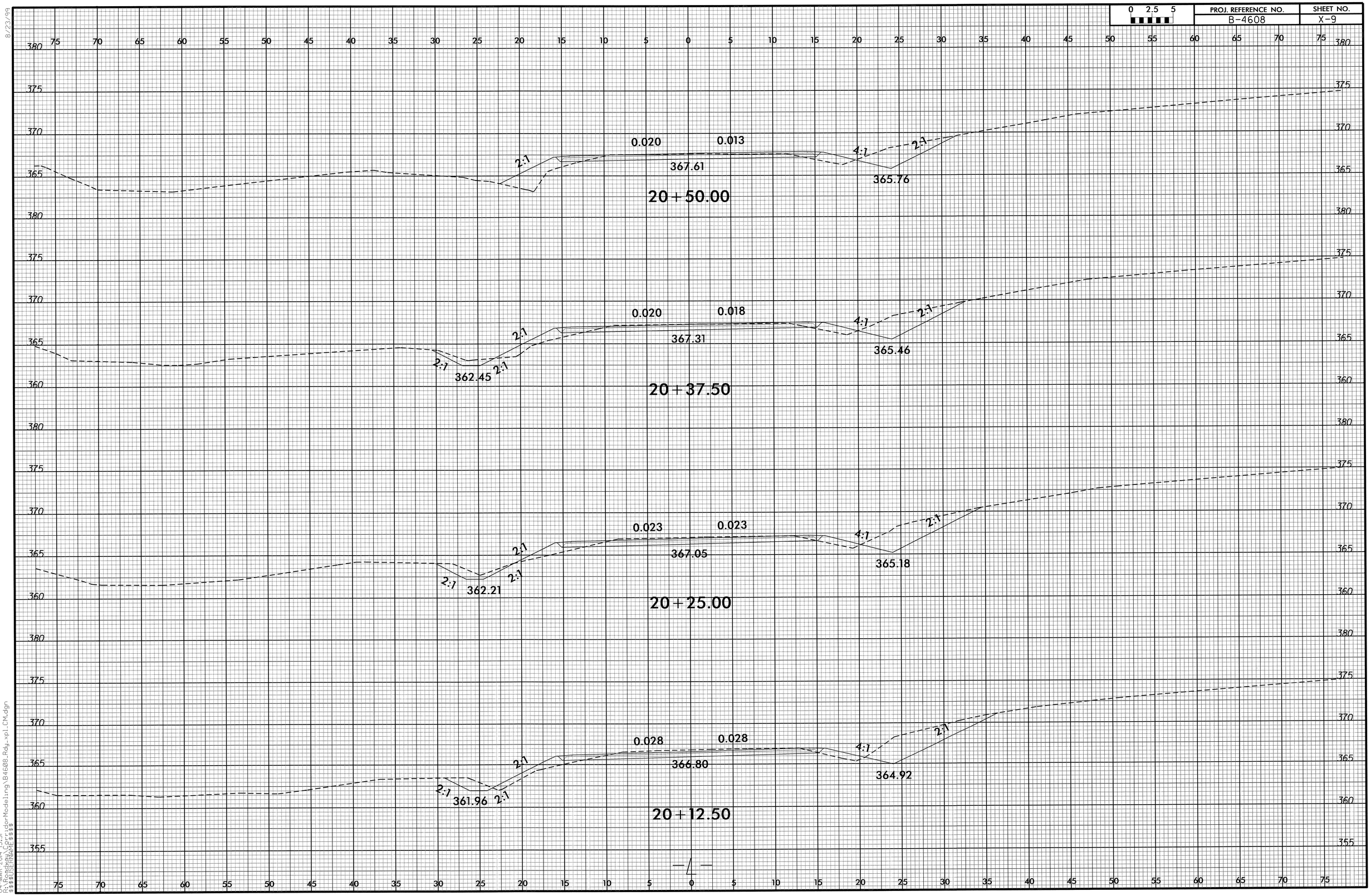

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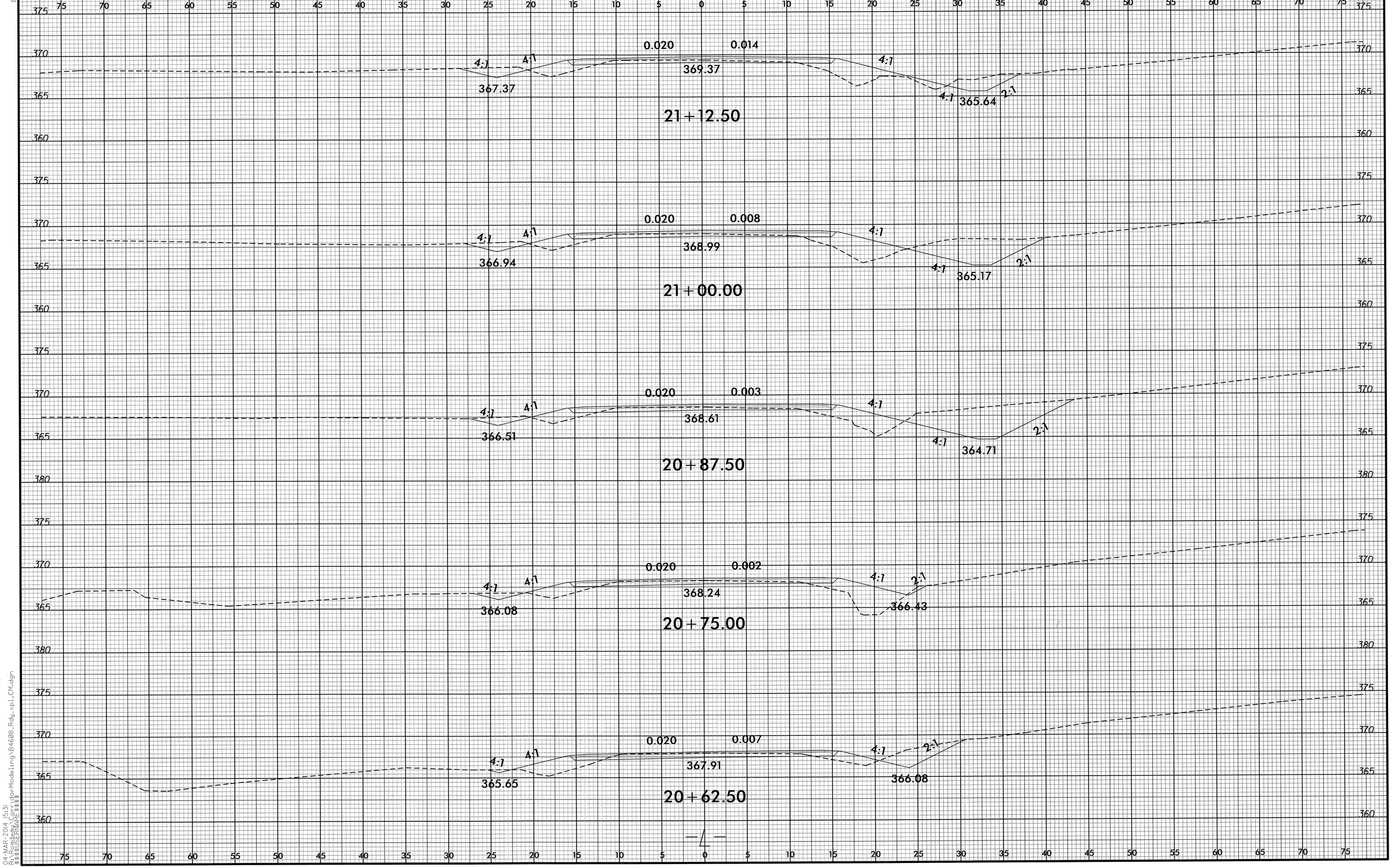

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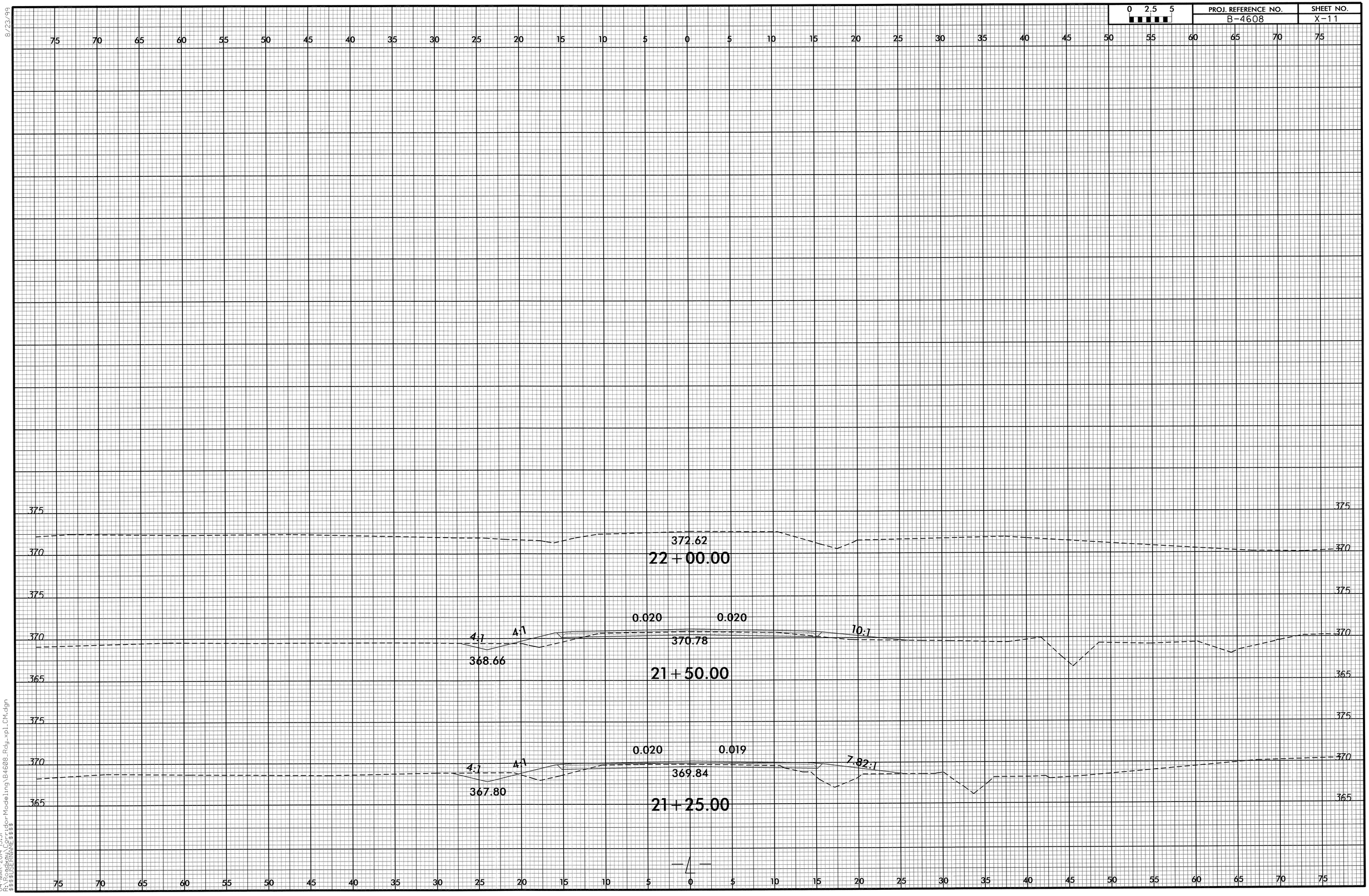

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