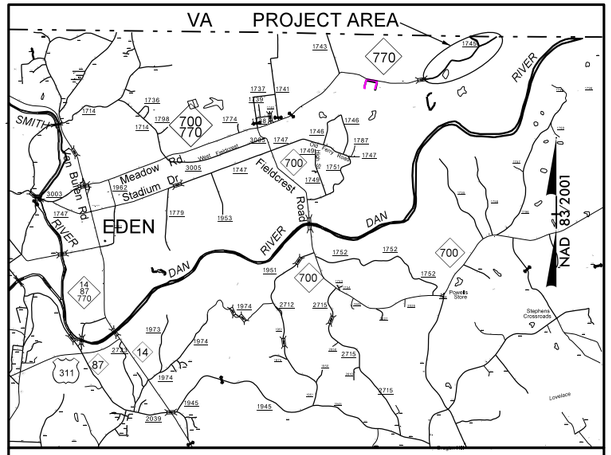
09/08/99

TIP PROJECT: 44239

CONTRACT: DG00280

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

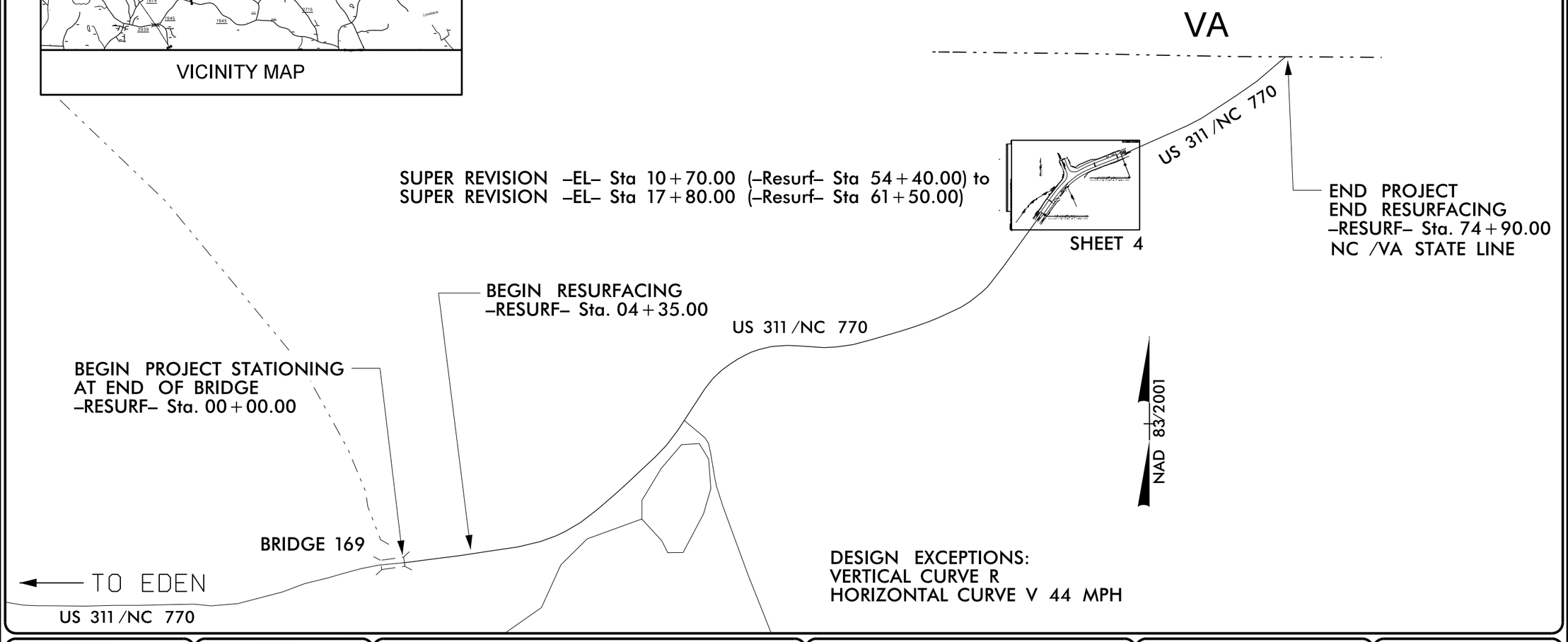
ROCKINGHAM

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	44239	1	22

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
44239		PE
44239		R /W
44239		CONST.
2016CPT.07.14.10791		CONST.

LOCATION: US 311 /NC 770 – FROM 435' NORTH OF BRIDGE # 169 TO THE VIRGINA STATE LINE.

TYPE OF WORK: GRADING, PAVING, EROSION CONTROL, AND PAVEMENT MARKINGS



GRAPHIC SCALES

30 15 0 30 60
PLANS

5 2.5 0 5 10
PROFILE (HORIZONTAL)

5 2.5 0 5 10
PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = 2,500
ADT 2026 = 3,532

V = 55 MPH (POSTED)
* TTST = 5 DUAL 5
FUNC CLASS =
MAJOR COLLECTOR

PROJECT LENGTH

RESURF.: FROM BRIDGE TO SUPER REVISION	=	0.95 MI.
SUPER REVISION	=	0.14 MI.
RESURF.: END SUPER REVISION TO VA STATE LINE	=	0.25 MI.
TOTAL PROJECT LENGTH	=	1.34 MILES

LENGTH MEASURED USING –RESURF– STA.

Prepared In the Office of:

DIVISION OF HIGHWAYS

1584 YANCEYVILLE ST., GREENSBORO, NC 27405

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:
2016

C.B. SMITHERMAN P.E.
PROJECT ENGINEER

J.C. REIMAKOSKI
PROJECT DESIGN ENGINEER

DIVISION DESIGN ENGINEER

12/30/2015

NORTH CAROLINA PROFESSIONAL SEAL 030995 ENGINEER CHARLES B. SMITHERMAN

DocuSigned by:
Charles B. Smitherman
EA7926E3CDA446A...
P.E.
SIGNATURE:

30-DEC-2015 12:31
S:\DDC\5-Rockingham\44239_US 311(770) from Va Line to Bridge\Roadway\Proj\Attempt2_Vertical_Align_10_20_15\44239_Rdy_tsh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
44239	1-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS

INDEX OF SHEETS

SHEET NUMBER	SHEET TITLE
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
2 THRU 2C	PAVEMENT SCHEDULE, TYPICAL SECTIONS, WEDGING DETAILS, AND WORKZONE SIGNING
3	SUMMARY OF QUANTITIES
4	PLAN SHEET
5	PROFILE SHEET
EC-1 THRU EC-4	EROSION CONTROL PLANS
X-1 THRU X-6	CROSS-SECTIONS

GENERAL NOTES:

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

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 II.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04
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 560.01

SIDE ROADS:
THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

SUBSURFACE PLANS:
NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-17-2012 REV. 10-30-2012

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	
200.02	Method of Clearing - Method II
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 11 - WORK ZONE TRAFFIC CONTROL	
1101.01	Work Zone Warning Signs
1101.02	Temporary Lane Closures
1101.04	Temporary Shoulder Closures
1101.11	Traffic Control Design Tables
1110.01	Stationary Work Zone Signs
1110.01	Portable Work Zone Signs
1115.01	Flashing Arronw Boards
1130.01	Drums
1135.01	Cones
1150.01	Flagging Devices
1165.01	Work Vehicle Lighting Systems and TMA Delination
1180.01	Skinny Drum
DIVISION 12 - PAVEMENT MARKINGS, MARKERS AND DELINEATION	
1205.01	Pavement Markings - Line Types and Offsets
1205.02	Pavement Markings - Two-Lane and Multi-Lane Roadways
1205.04	Pavement Markings - Intersections
1250.01	Raised Pavement Markers - Installation Spacing
1253.01	Raised Pavement Markers - Snowplowable

15-DEC-2015 15:00
V8i Line: R:\Bridge\Roadway\Proj\Attempt2_Vertical_Align_10.20.15\44239_Rdy_psh_1A.dgn
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09/08/09

PROJECT REFERENCE NO.	SHEET NO.
44239	1B

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- 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 Wheel Chair Ramp — WCR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

SURVEY DATA SHEET

PROJECT REFERENCE NO.	SHEET NO.
44239	2
DIVISION DESIGN ENGINEER	

NORTH CAROLINA PROFESSIONAL SEAL 030995 CHRISTOPHER B. SMITHERMAN

12/17/2015

DocuSigned by: Chris Smitherman
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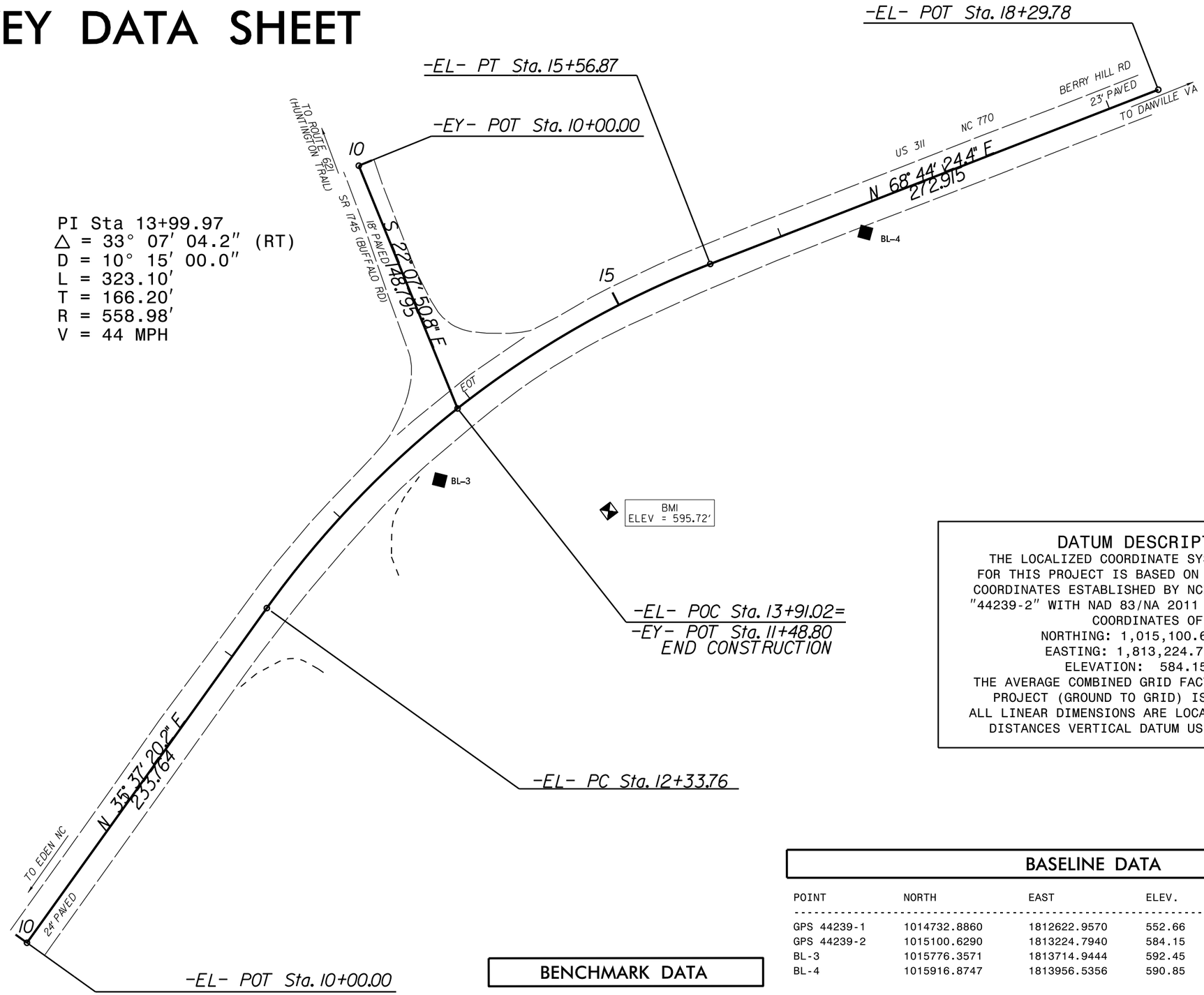
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PI Sta 13+99.97
△ = 33° 07′ 04.2″ (RT)
D = 10° 15′ 00.0″
L = 323.10′
T = 166.20′
R = 558.98′
V = 44 MPH

30′ 0′ 30′ 60′
15′
(ENGLISH)

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "44239-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF:
NORTHING: 1,015,100.6290(ft)
EASTING: 1,813,224.7940(ft)
ELEVATION: 584.15(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999898277
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88.

BASELINE DATA

POINT	NORTH	EAST	ELEV.	EL STATION	OFFSET
GPS 44239-1	1014732.8860	1812622.9570	552.66	OUTSIDE PROJECT LIMITS	
GPS 44239-2	1015100.6290	1813224.7940	584.15	OUTSIDE PROJECT LIMITS	
BL-3	1015776.3571	1813714.9444	592.45	13+56.35	24.66′ RT
BL-4	1015916.8747	1813956.5356	590.85	16+45.37	15.29′ RT

POINT	NORTH	EAST	ELEV.	EY STATION	OFFSET
BY-5	1016060.5070	1813667.6776	591.63	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

BM1 ELEVATION = 595.72′
N 1015759 E 1813811
BL STATION 21+14.00 63′ RIGHT
RR SPIKE IN ROOT OF 15" WHITE OAK

REVISIONS

8/17/99

15-DEC-2015 13:48
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PROJECT REFERENCE NO.	SHEET NO.
44239	2A

DIVISION DESIGN ENGINEER

12/30/2015

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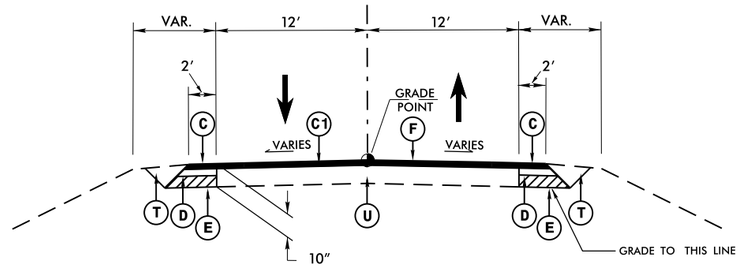
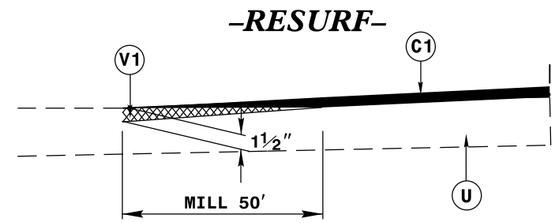


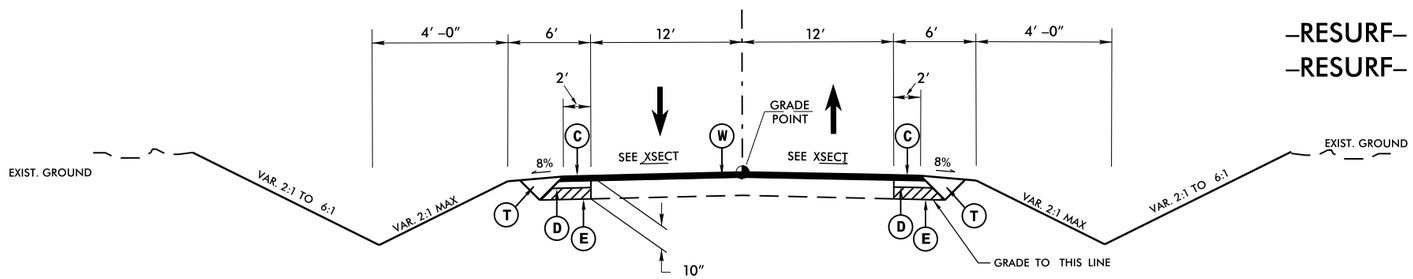
TYPICAL SECTION NO. 1

–RESURF– STA. 04+35.00 TO –RESURF– STA. 54+40.00
–RESURF– STA. 61+50.00 TO –RESURF– STA. 74+90.00



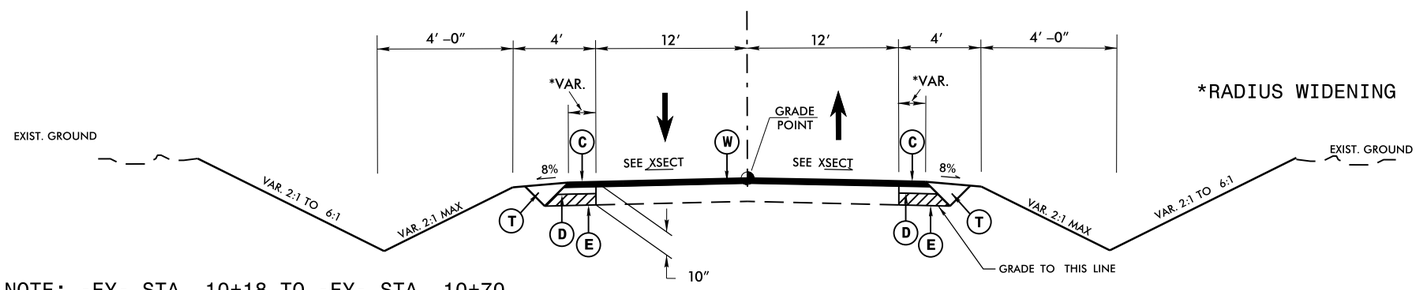
INCIDENTAL MILLING DETAIL

–RESURF– STA. 04+35.00 TO –RESURF– STA. 04+85.00
–RESURF– STA. 74+40.00 TO –RESURF– STA. 74+90.00



TYPICAL SECTION NO. 2

–EL– STA. 10+70.00 TO –EL– STA. 17+80.00

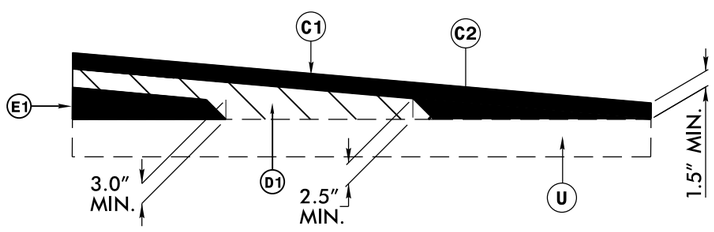


*RADIUS WIDENING

NOTE: -EY- STA. 10+18 TO -EY- STA. 10+70
-OVERLAY WITH MINIMAL OR NO
SHOULDER WORK.

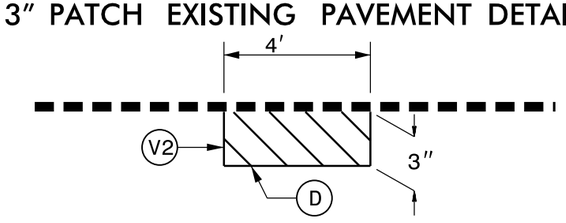
TYPICAL SECTION NO. 3

–EY– STA. 10+18.00 TO –EY– STA. 11+20.00



WEDGING DETAIL

3″ PATCH EXISTING PAVEMENT DETAIL



MILL EXISTING ASPHALT PAVEMENT 3″ IN DEPTH AND FILL WITH INTERMEDIATE COURSE, TYPE I19.0B AT LOCATIONS AS DIRECTED BY THE ENGINEER.

PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

C	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS.
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 TO EXCEED 1½″ IN DEPTH.
D	PROP. APPROX. 3″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D1	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.
E	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5.5″ IN DEPTH.
F	AST MAT COAT, #78 STONE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	MILLING 0 - 1½″ DEPTH.
V2	MILLING 3″ DEPTH.
W	WEDGING.

REVISIONS

8/17/99

30-DEC-2015 12:26
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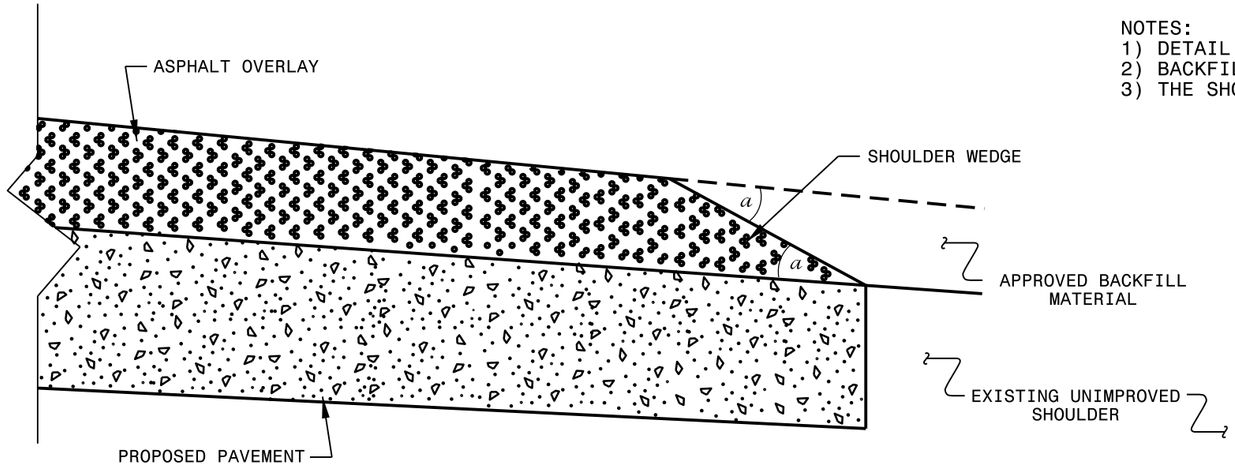
$$$$USERNAME$$$$

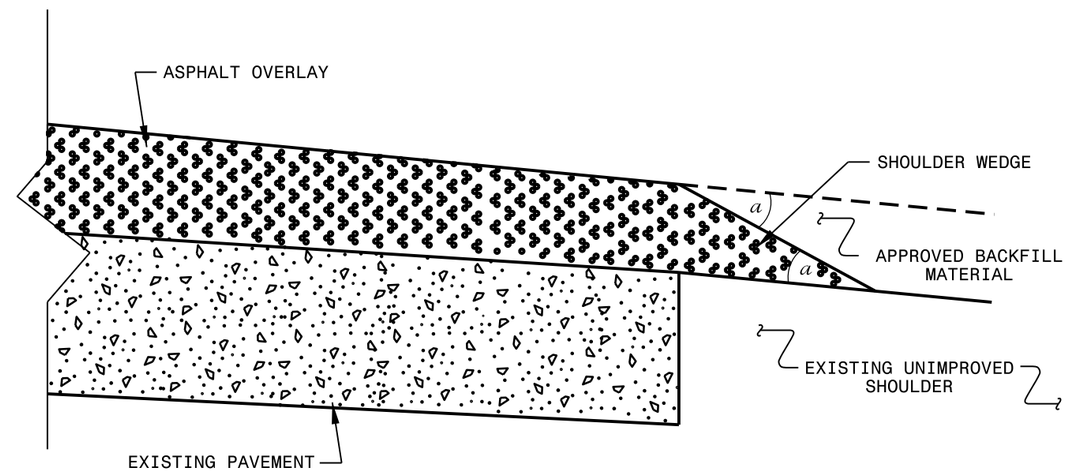
PROJECT REFERENCE NO.	SHEET NO.
44239	2B

NOTES:
1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



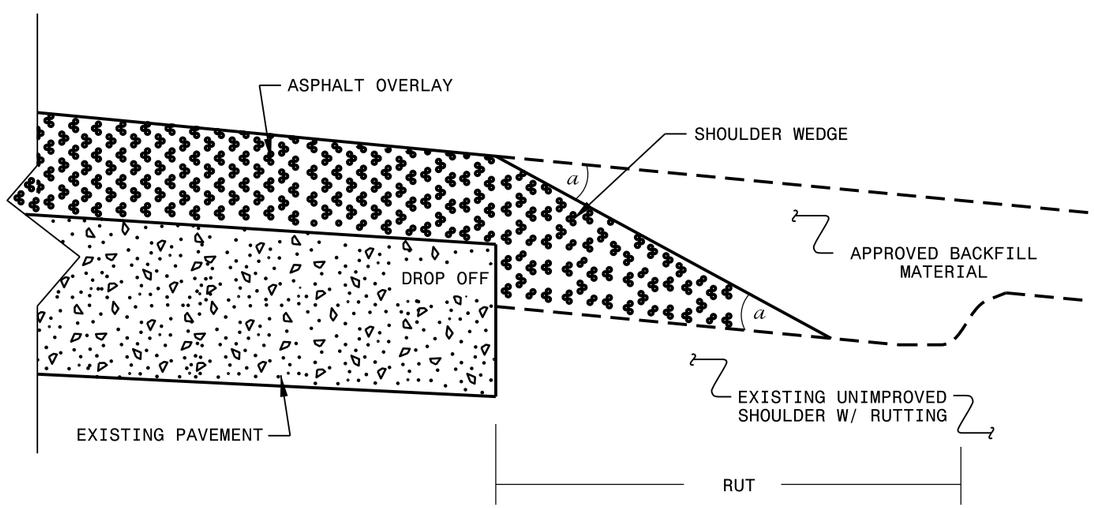
SHOULDER WEDGE DETAIL

(Resurfacing Projects w/Widening or with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/NO Widening)



SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SHOULDER WEDGE DETAILS

ORIGINAL BY:	T.SPELL	DATE:	7-19-11
MODIFIED BY:		DATE:	10/16/12
CHECKED BY:		DATE:	
FILE SPEC.:	s:usr/details/stand/shoulderwedgedetail.dgn		

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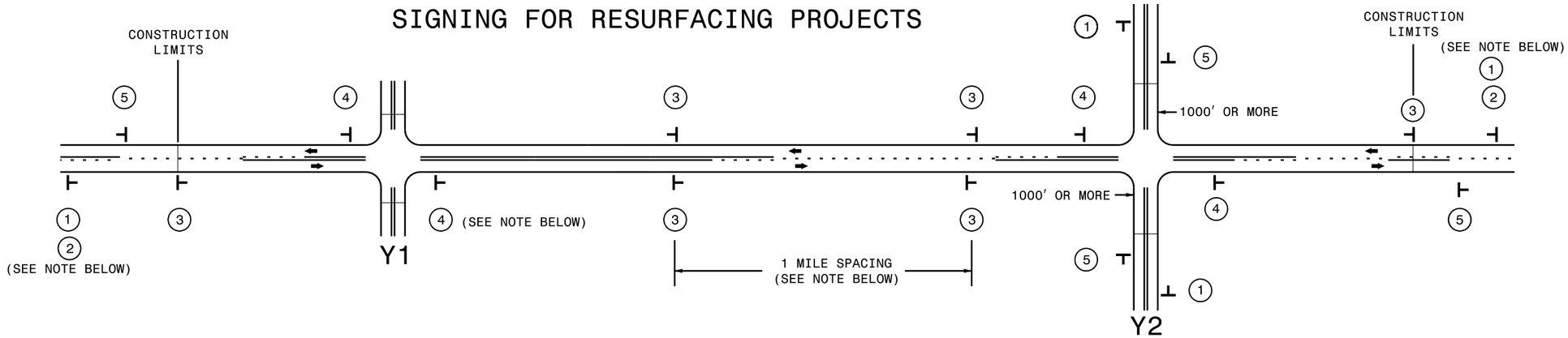
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
44239	2C

SIGNING FOR RESURFACING PROJECTS



LEGEND

⊢ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1	ROAD WORK AHEAD W20-1 48″ X 48″	PLACE 1000′ PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000′ ALONG -Y- LINE.
2	NEXT XX MILES W7-3aP 24″ X 18″	#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER.(NO FRACTIONAL OR DECIMAL NUMBERS)
3	LOW/SOFT SHOULDER SP 13107 48″ X 48″	PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET ½ MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.
4	ROAD UNDER CONST SP 13106 48″ X 48″	THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500′ +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500′ OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.
5	END ROAD WORK G20-2 A 48″ X 24″	PLACE 500′ FOLLOWING THE END OF CONSTRUCTION LIMITS.

-Y- LINE SIGNING

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

1) LESS THAN 1000′ OF RESURFACING ALONG -Y- LINE
2) SUBDIVISION ROADS
3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

ROAD WORK AHEAD
W20-1
48″ X 48″

PLACED 500′ IN ADVANCE OF FLAGGER.

W20-7 A
48″ X 48″

PLACED 250′ IN ADVANCE OF FLAGGER.

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

RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS

15-DEC-2015 13:50
S:\DDC\5-Rockingham\44239_US 311(770) from Va Line to Bridge\Roadway\Proj\Attempt2_Vertical_Align_10_20_15\44239_rdy_PSH2C.dgn
$$$$USERNAME$$$$

PROJECT NO.	SHEET NO.	TOTAL NO.
44239, 2016CPT.07.14.10791	3	22

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	GRADING LS	INCIDEN-TAL STONE BASE TONS	INCIDEN-TAL MILLING SY	ASPHALT CONC BASE COURSE, TYPE B25.0B TONS	ASPHALT CONC INTER-MEDIATE COURSE, TYPE I19.0B TONS	ASPHALT CONC SURFACE COURSE, TYPE S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TON	PATCH-ING EXISTING PAVE-MENT (3") TON	ASPHALT SURFACE TREAT-MENT, MAT COAT, #78M STONE SY	EMULSION FOR ASPHALT SURFACE TREATMENT GAL	FLOW-ABLE FILL CY	ADJUST-MENT OF MAN-HOLES EA	TEMPO-RARY SILT FENCE LF	STONE FOR EROSION CONTROL, CLASS B TON	SEDI-MENT CONTROL STONE TON	TEMPO-RARY MULCHING ACR	SEED FOR TEMPO-RARY SEEDING LB	FERTIL-IZER FOR TEMPO-RARY SEED-ING TON	SILT EXCA-VATION CY	MATTING FOR EROSION CONTROL SY	1/4" HARD WARE CLOTH LF	WATTLE LF	POLYAC RYLAMIDE (PAM) LB	SEED-ING & MULCH-ING AC	MOW-ING ACR	SEED FOR REPAIR SEED-ING LB	FERTILIZER FOR REPAIR SEEDING TON	SEED FOR SUPPLEMENTAL SEEDING LB	FERTILIZER TOPDRESS-ING TON	SPECIAL-IZED HAND MOWING MHR
44239	Rockingham	1	US 311 (NC 770)	435 ft FROM BRIDGE # 169 TO CURVE 1 (BUFFALO RD CURVE)	1	0.95	24		50	267	550	404	193	55	80.00	18,330	4,771			200.00									100.00		2.50						
TOTAL FOR MAP NO. 1						**0.95**			**50**	**267**	**550**	**404**	**193**	**55**	**80.00**	**18,330**	**4,771**			**200.00**									**100.00**		**2.50**						
44239	Rockingham	2	US 311 (CURVE 1 REALIGNMENT)	CURVE 1 (BUFFALO RD CURVE)	2	0.14	24	1.00	50		670	320	176	55				1.10	1	550.00	190	45	0.50	100	0.50	75	540	50		25	0.50	0.5	50	0.25	50	0.50	5
TOTAL FOR MAP NO. 2						**0.14**		**1.00**	**50**		**670**	**320**	**176**	**55**				**1.10**	**1**	**550.00**	**190**	**45**	**0.50**	**100**	**0.50**	**75**	**540**	**50**		**25**	**0.50**	**0.5**	**50**	**0.25**	**50**	**0.50**	**5**
44239	Rockingham	3	US 311 (NC 770)	END OF CURVE 1 (BUFFALO RD CURVE) TO END OF PROJECT (NC/VA STATE LINE)	1	0.25	24				145	107	51	15			1,278																				
TOTAL FOR MAP NO. 3						**0.25**					**145**	**107**	**51**	**15**			**1,278**																				
TOTAL FOR PROJ NO. 44239						**1.34**		**1.00**	**100**	**267**	**1,365**	**831**	**420**	**125**	**80.00**	**18,330**	**6,049**	**1.10**	**1**	**750.00**	**190**	**45**	**0.50**	**100**	**0.50**	**75**	**540**	**50**	**100.00**	**25**	**3.00**	**0.5**	**50**	**0.25**	**50**	**0.50**	**5**
2016CPT.07.14.10791	Rockingham	1,2,3	US 311 (NC 770)	435 ft FROM BRIDGE #169 TO VA STATE LINE	1,2	1.34	24						1,852	111																							
TOTAL FOR MAP NO. 1 and 2 and 3						**1.34**							**1,852**	**111**																							
TOTAL FOR PROJ NO. 2016CPT.07.14.10791						**1.34**							**1,852**	**111**																							
GRAND TOTAL						**1.34**		**1.00**	**100**	**267**	**1,365**	**831**	**2,272**	**236**	**80.00**	**18,330**	**6,049**	**1.10**	**1**	**750.00**	**190**	**45**	**0.50**	**100**	**0.50**	**75**	**540**	**50**	**100.00**	**25**	**3.00**	**0.5**	**50**	**0.25**	**50**	**0.50**	**5**

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH	WIDTH	4399000000-N TEMPORARY TRAFFIC CONTROL LS	4688000000-E 6" X 90 M WHITE THERMO LF	4690000000-E 6" X 120 M YELLOW THERMO LF	4810000000-E 4" WHITE PAINT LF	4810000000-E 4" YELLOW PAINT LF	4905000000-N SNOWPLOWABLE PAVEMENT MARKERS EA
44239	Rockingham	1	US 311 (NC 770)	435 ft FROM BRIDGE # 169 TO CURVE 1 (BUFFALO RD CURVE)	1	0.95	24		10,045	10,045			88
TOTAL FOR MAP NO. 1						**0.95**			**10,045**	**10,045**			**88**
44239	Rockingham	2	US 311 (CURVE 1 REALIGNMENT)	CURVE 1 (BUFFALO RD CURVE)	2	0.14	24	1.00	1,615	1,615	1,615	1,615	
TOTAL FOR MAP NO. 2						**0.14**		**1**	**1,615**	**1,615**	**1,615**	**1,615**	
44239	Rockingham	3	US 311 (NC 770)	END OF CURVE 1 (BUFFALO RD CURVE) TO END OF PROJECT (NC/VA STATE LINE)	1	0.25	24		2,640	2,640			
TOTAL FOR MAP NO. 3						**0.25**			**2,640**	**2,640**			
TOTAL FOR PROJ NO. 44239						**1.34**		**1**	**14,300**	**14,300**	**1,615**	**1,615**	**88**
											3,230		
2016CPT.07.14.10791	Rockingham	1,2,3	US 311 (NC 770)	435 ft FROM BRIDGE #169 TO VA STATE LINE	1,2	1.34	24						
TOTAL FOR MAP NO. 1 and 2 and 3						**1.34**							
TOTAL FOR PROJ NO. 2016CPT.07.14.10791						**1.34**							
GRAND TOTAL						**1.34**		**1**	**14,300**	**14,300**	**1,615**	**1,615**	**88**
											3,230		

PROJECT REFERENCE NO.	SHEET NO.
44239	4

DIVISION DESIGN ENGINEER

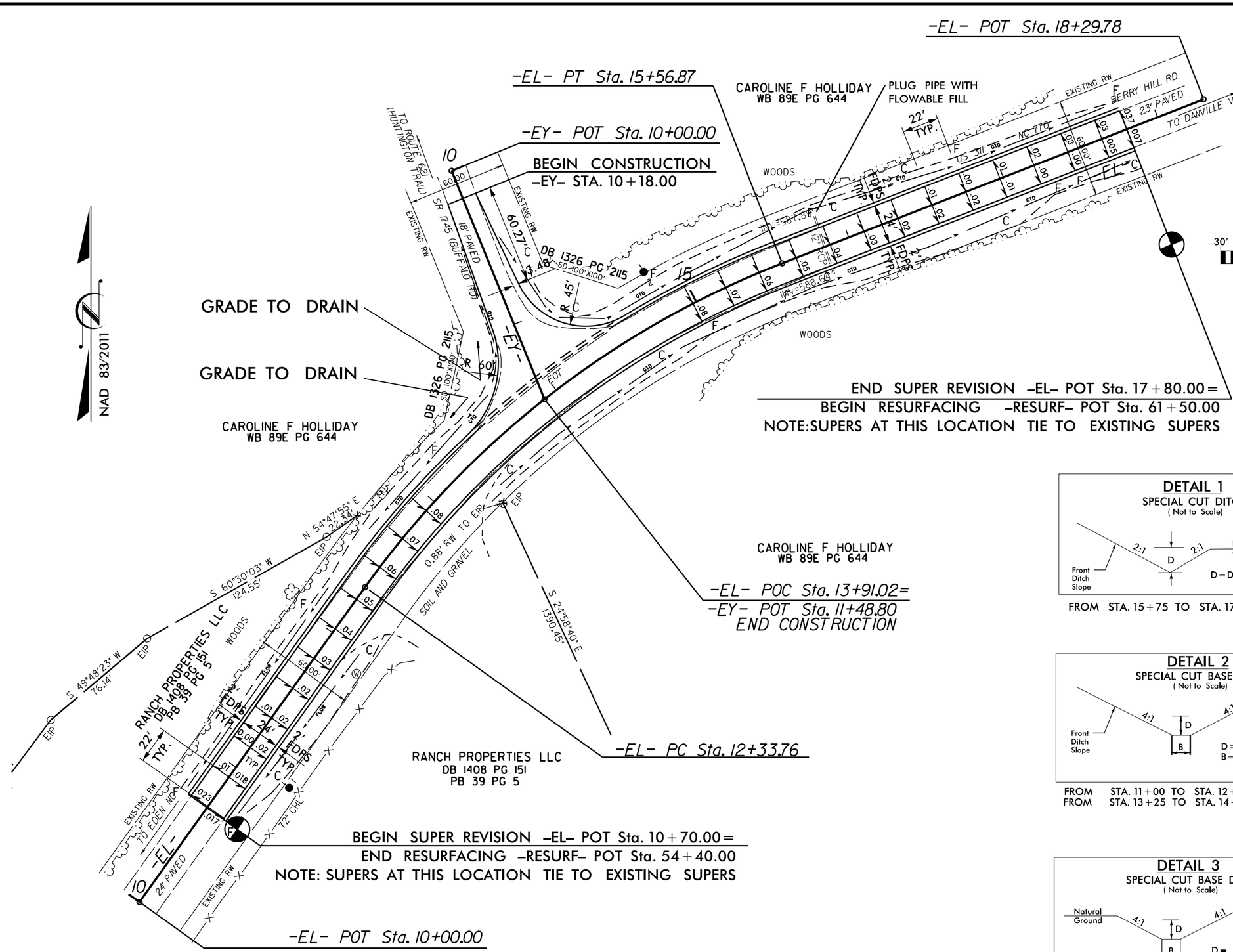
NORTH CAROLINA PROFESSIONAL SEAL 030995 ENGINEER CHRISTOPHER B. SMITHERMAN

DocuSigned by: Christopher B. Smitherman

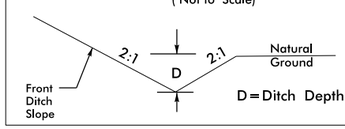
EA7926E3CDA446A...

12/17/2015

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

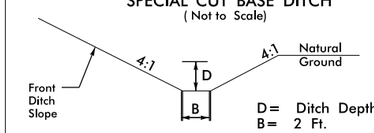


DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)



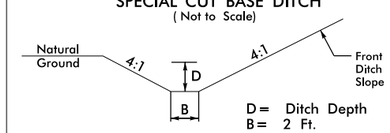
FROM STA. 15+75 TO STA. 17+00 -EL- RT

DETAIL 2
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM STA. 11+00 TO STA. 12+25 -EL- RT
FROM STA. 13+25 TO STA. 14+75 -EL- RT

DETAIL 3
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM STA. 10+70 TO STA. 11+10 -EY- LT

REVISIONS

8/17/99

15-DEC-2015 13:48
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
44239	5

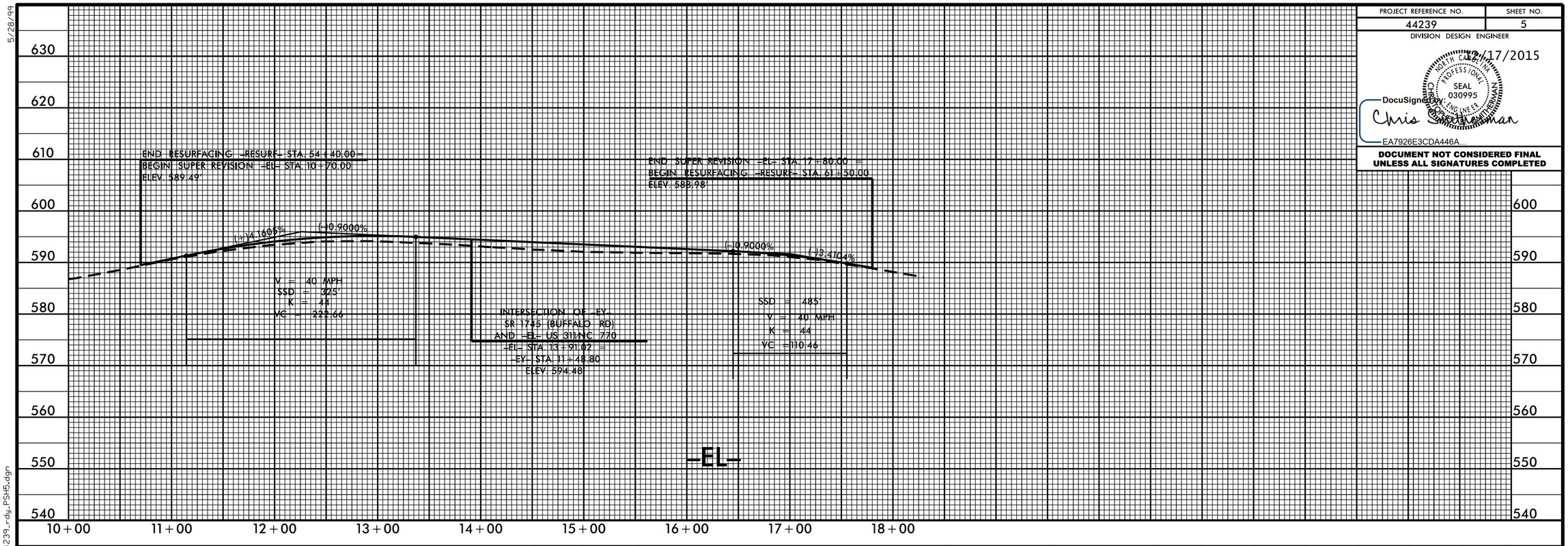
DIVISION DESIGN ENGINEER

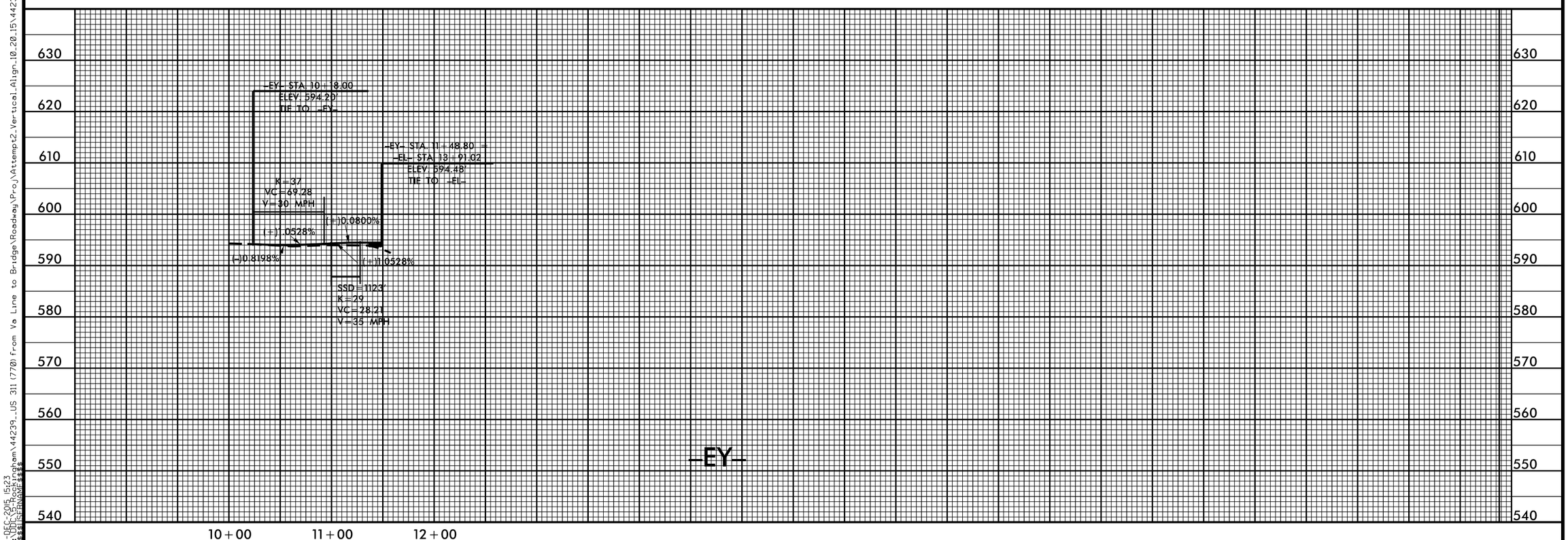
12/17/2015

SEAL 030995

DocuSigned by:
Chris Smith
EA7926E3CDA446A...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





5/28/99
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PROJECT: 44239

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	44239	EC-1	22

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44239		PE
44239		R /W
44239		CONST.
2016CPT.07.14.10791		CONST.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

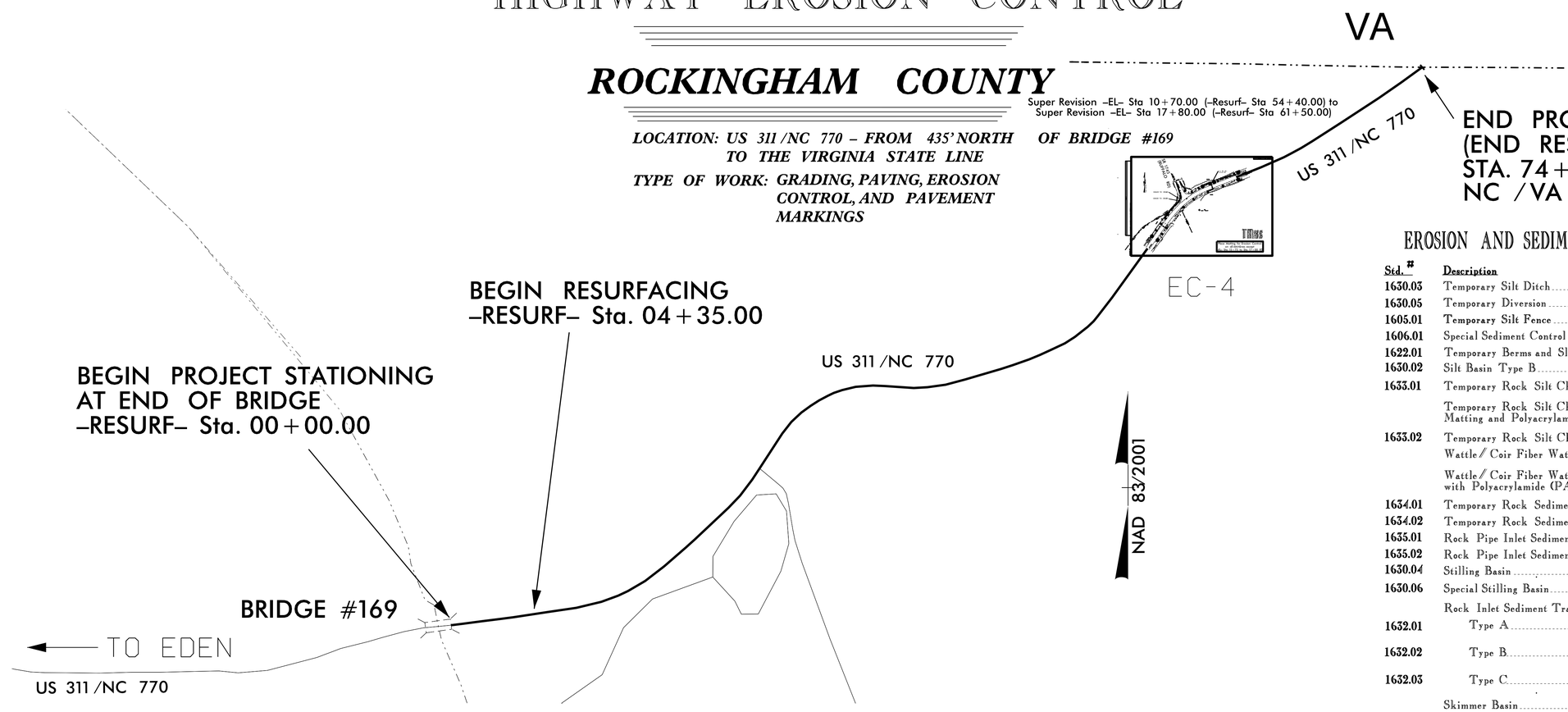
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

ROCKINGHAM COUNTY

LOCATION: US 311 /NC 770 – FROM 435' NORTH OF BRIDGE #169 TO THE VIRGINIA STATE LINE

TYPE OF WORK: GRADING, PAVING, EROSION CONTROL, AND PAVEMENT MARKINGS

Super Revision –EL– Sta 10+70.00 (–Resurf– Sta 54+40.00) to Super Revision –EL– Sta 17+80.00 (–Resurf– Sta 61+50.00)



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	RW 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	

GRAPHIC SCALES

30 15 0 30 60
PLANS

5 2.5 0 5 10
PROFILE (HORIZONTAL)

5 2.5 0 5 10
PROFILE (VERTICAL)

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:

DIVISION OF HIGHWAYS

1584 YANCEYVILLE ST.
GREENSBORO, NC 27405

2012 STANDARD SPECIFICATIONS

Designed by:

CHAD REIMAKOSKI — *NAME*
3677 — *LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

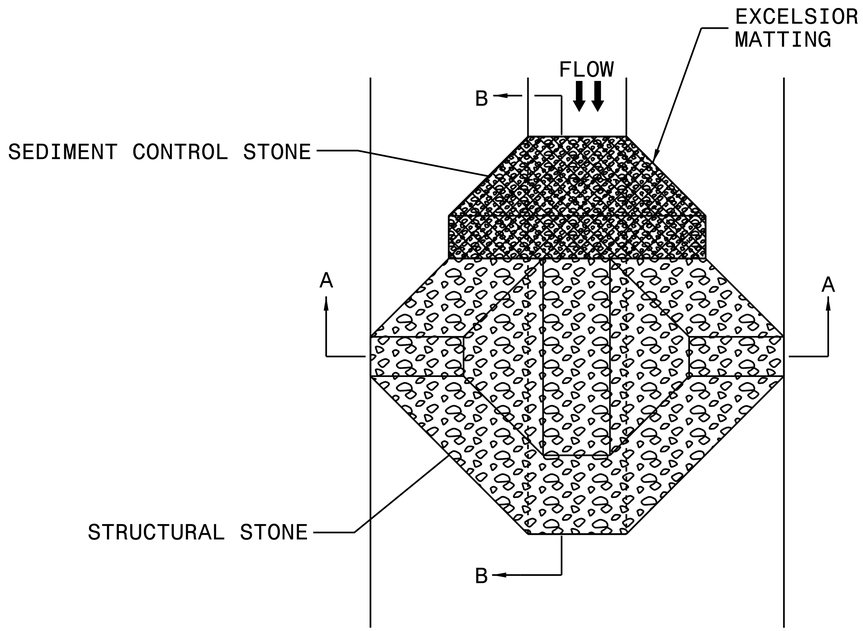
The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

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		

(7701) From: VA 14th St. Bridge\Environmental\Erosion Control Docs\44239_EC.dgn, tshudgn
jeremiskell 04-JAN-2016 14:00
BY DATE 10/21/16

PROJECT REFERENCE NO.	SHEET NO.
44239	EC-2

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



PLAN

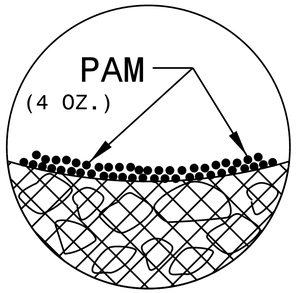
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

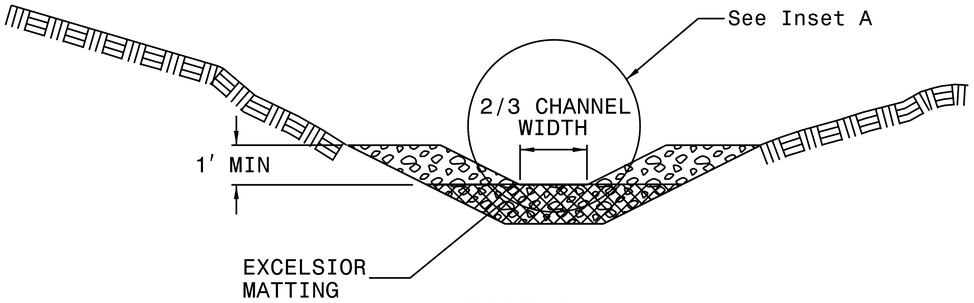
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

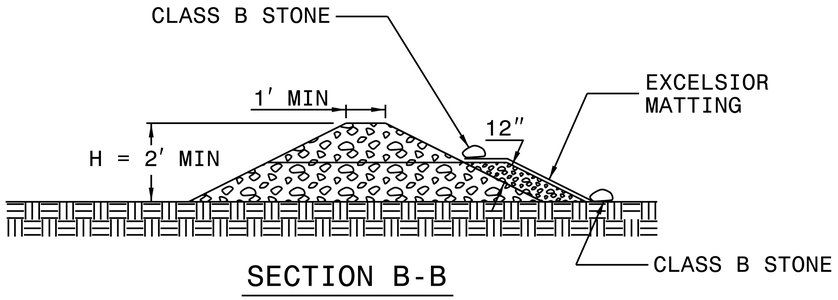
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

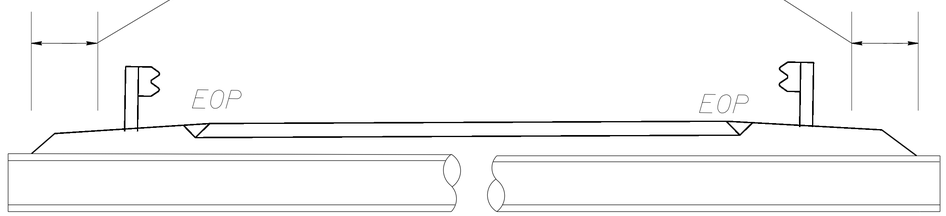
PROJECT REFERENCE NO.	SHEET NO.
44239	EC - 2B

NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

EROSION CONTROL DETAIL

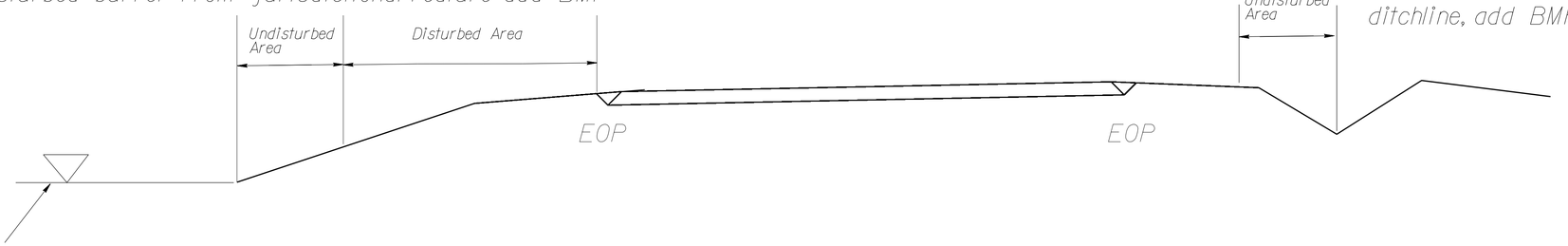
< 5' - 10' Undisturbed buffer add BMP



Pipe/Culvert

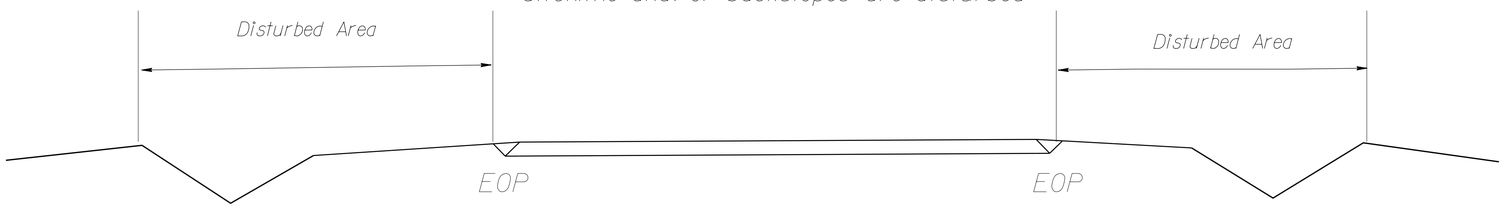
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP

< 5' - 10' Undisturbed buffer from ditchline, add BMP

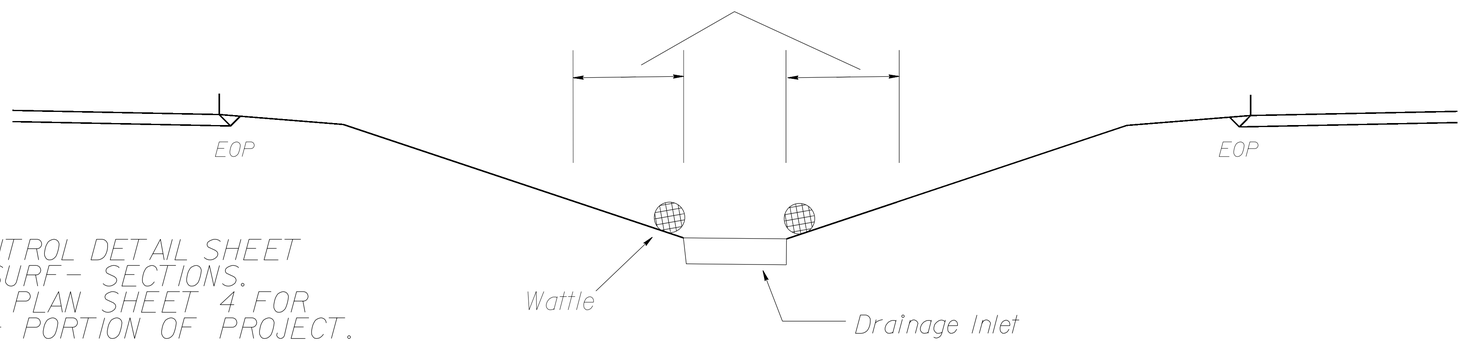


Jurisdictional Feature

Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed



< 5' - 10' Undisturbed buffer from inlet, add wattle



NOTE: THIS EROSION CONTROL DETAIL SHEET TO BE USED FOR -RESURF- SECTIONS. USE ERSOSION CONTROL PLAN SHEET 4 FOR THE -SUPER REVISION- PORTION OF PROJECT.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
44239	EC-3

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	-EL-	10+70	12+25	LT	80
4	-EL-	14+75	15+25	LT	20
4	-EL-	17+15	17+65	LT	25
4	-EL-	10+70	12+25	RT	175
4	-EL-	13+25	14+75	RT	140
4	-EY-	10+70	11+20	LT	35
	ADDITIONAL MATTING TO BE INSTALLED				0
				TOTAL	475
				SAY	500

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

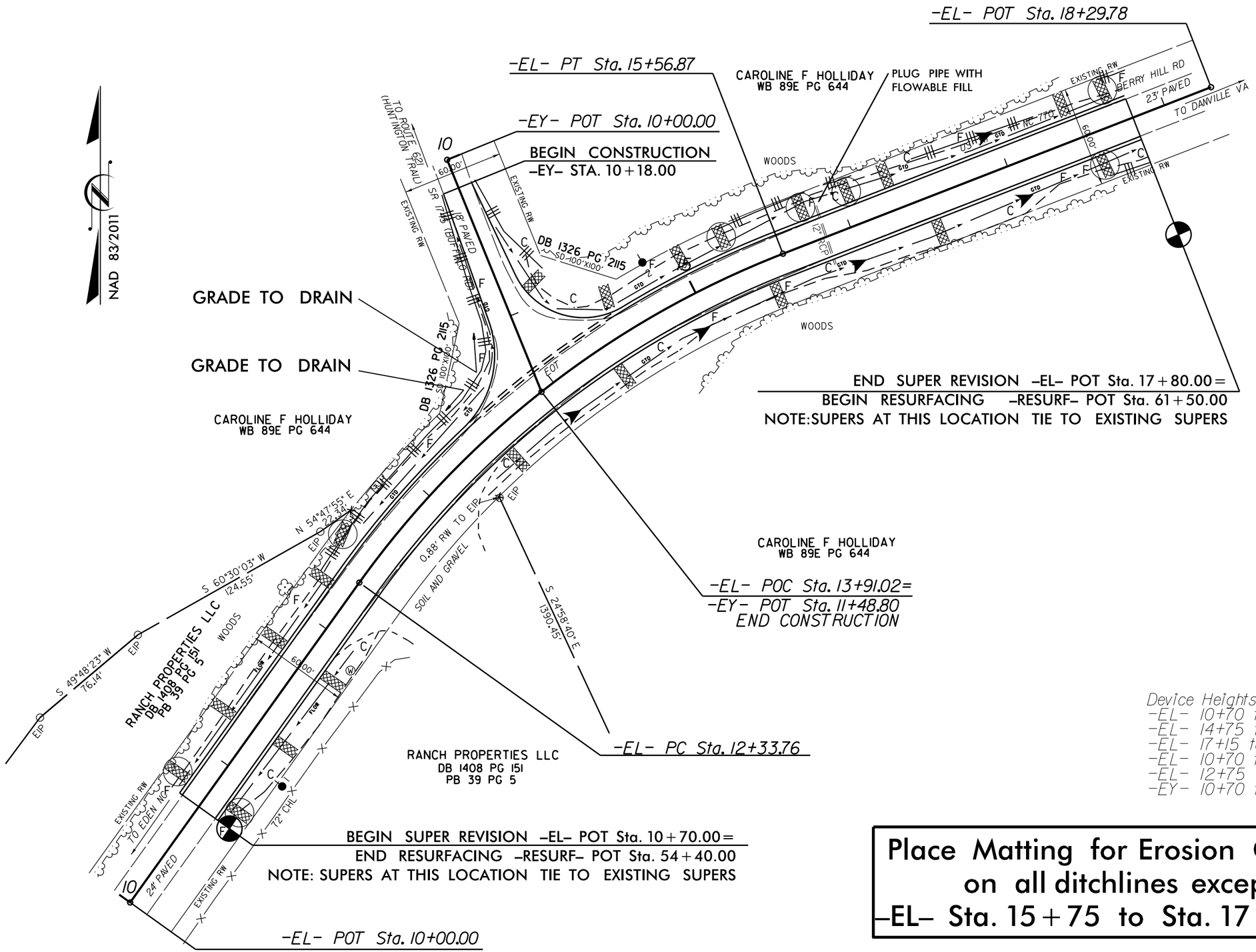
PROJECT REFERENCE NO.	SHEET NO.
44239	EC-3A

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.
44239	EC-4



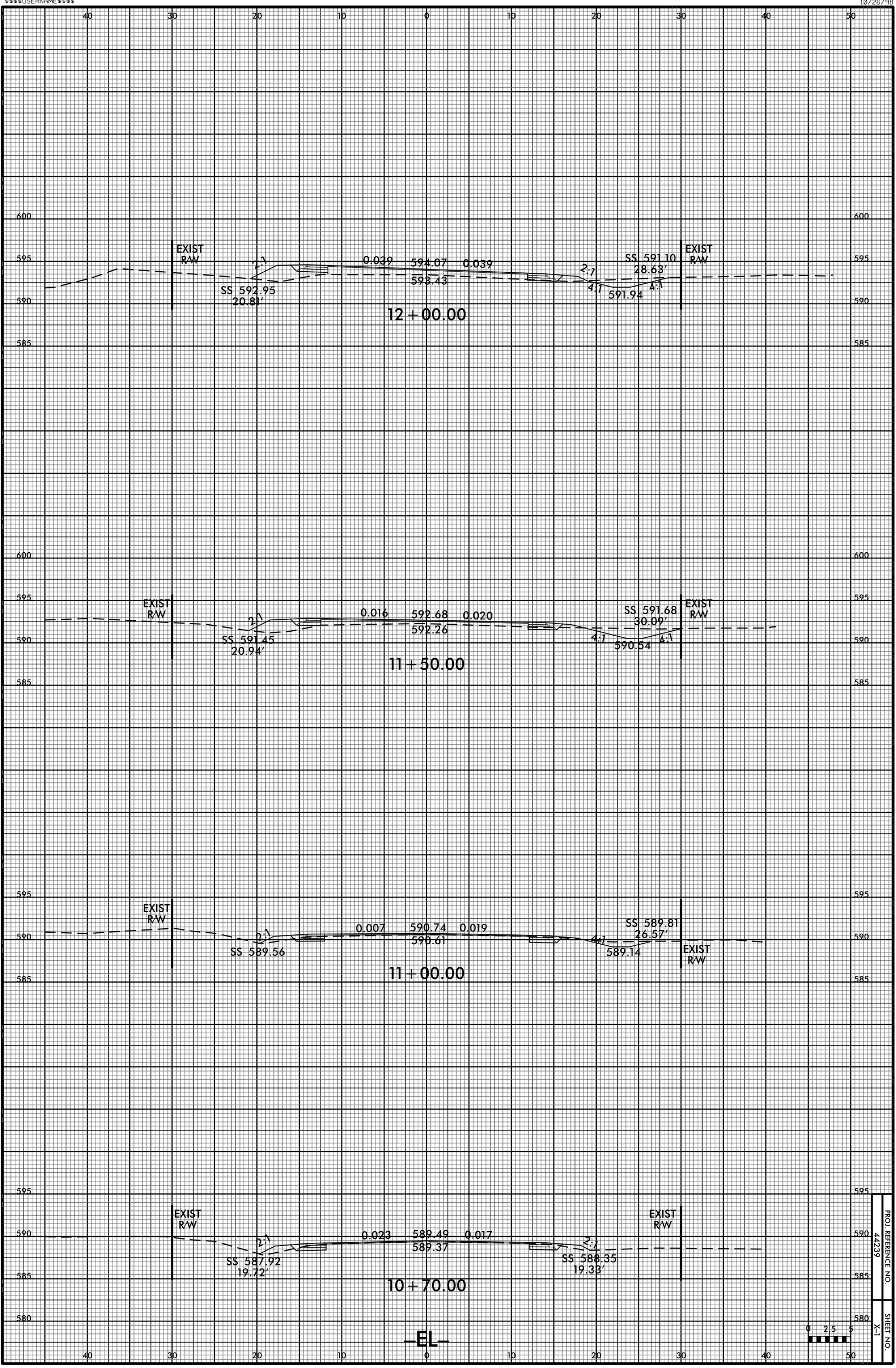
Device Heights:
-EL- 10+70 to 12+25 1.00'
-EL- 14+75 to 16+50 0.75'
-EL- 17+15 to 17+80 1.00'
-EL- 10+70 to 12+25 1.00'
-EL- 12+75 to 17+50 0.75'
-EY- 10+70 to 11+20 0.50'

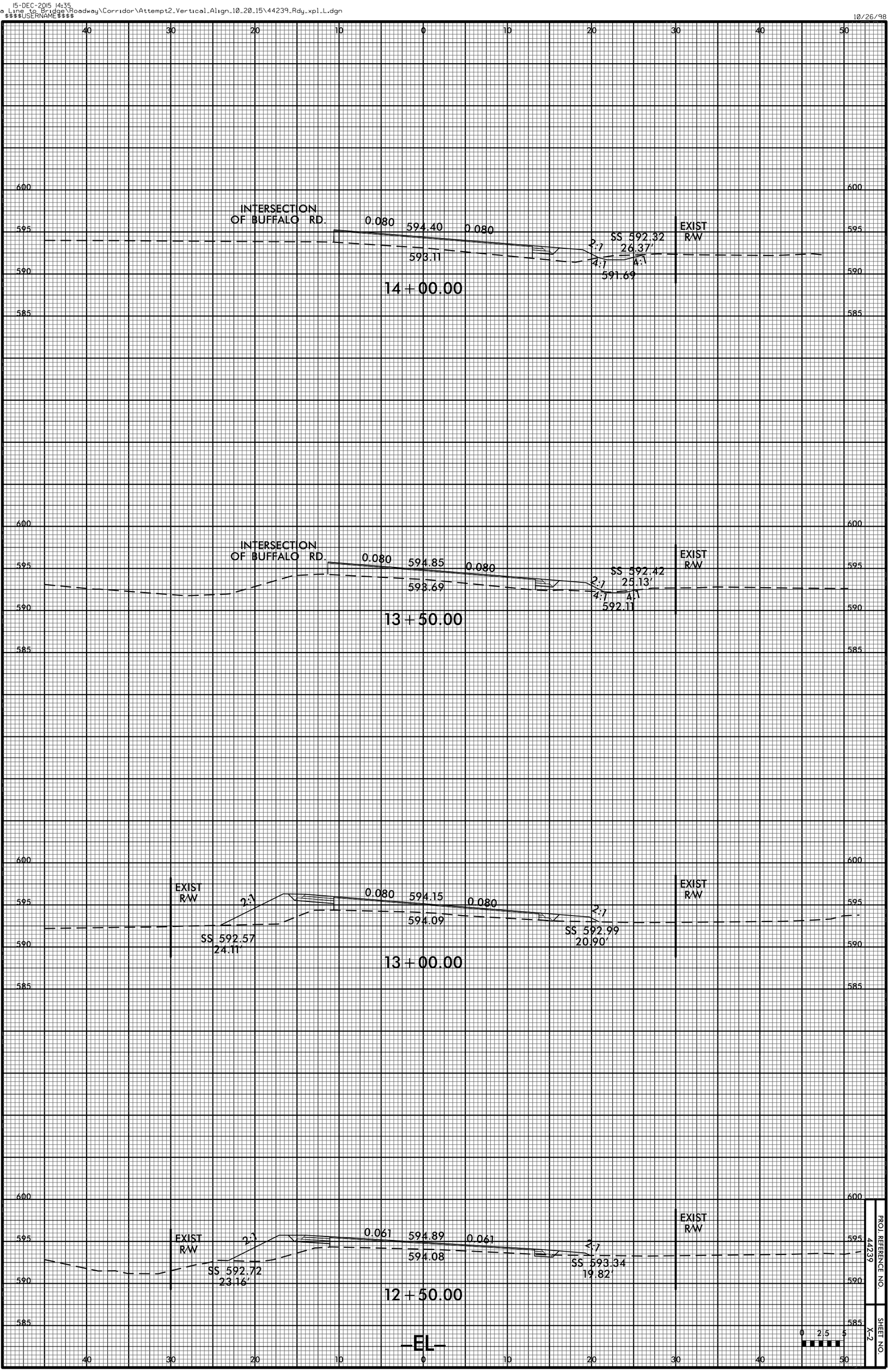
Place Matting for Erosion Control on all ditchlines except -EL- Sta. 15+75 to Sta. 17+00 RT

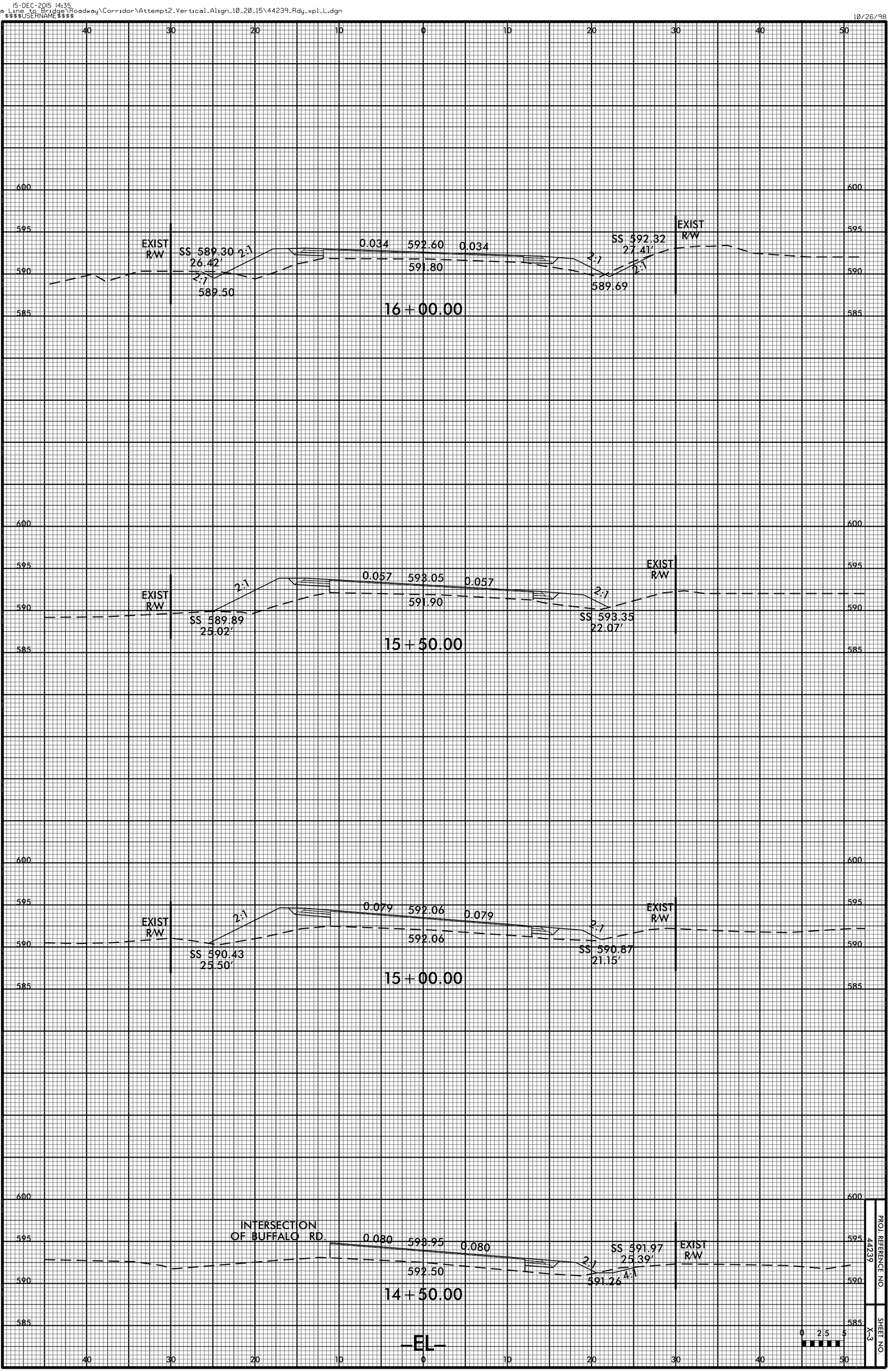
REVISIONS

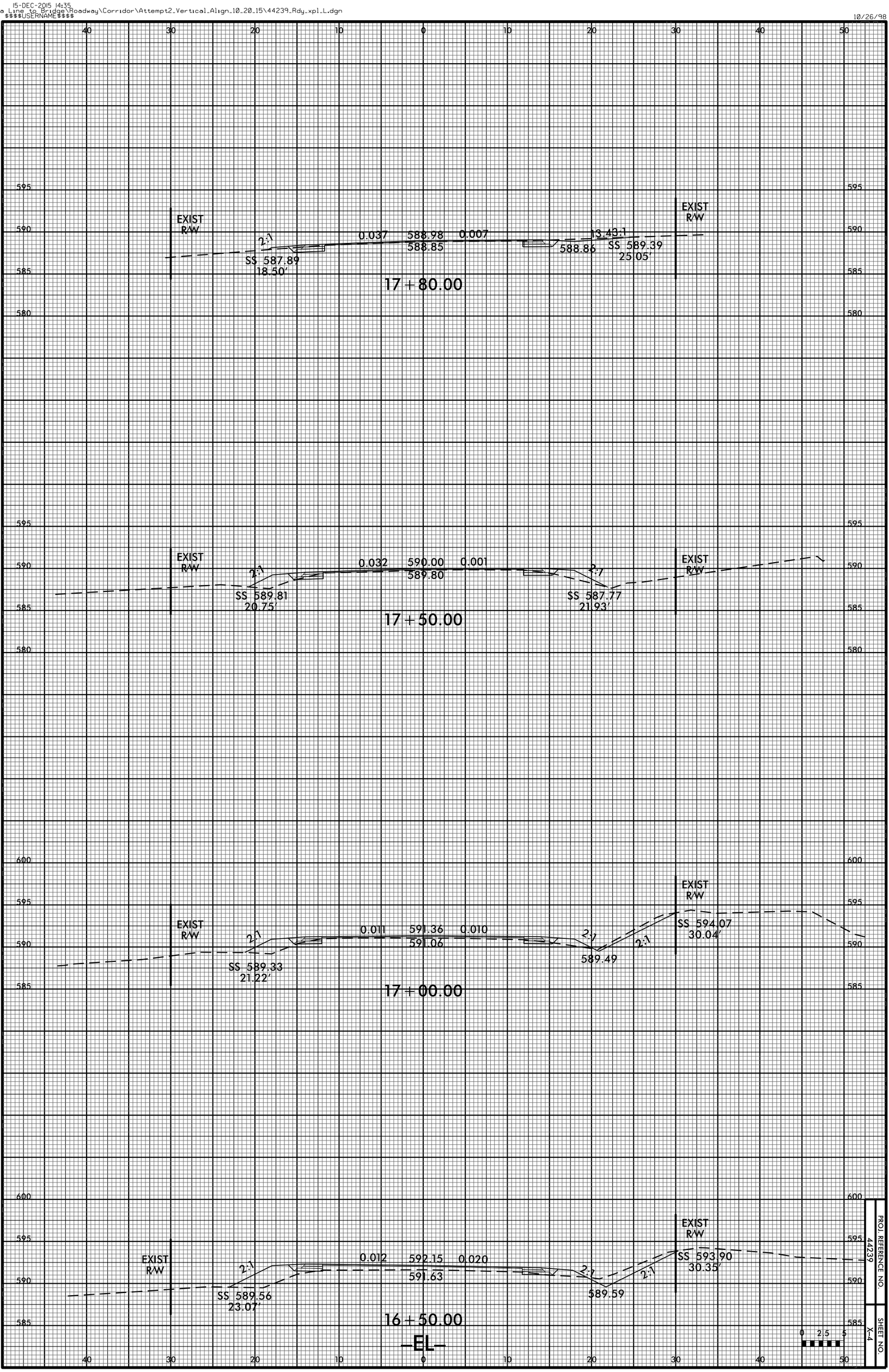
8/17/99

15-DEC-2015 14:04
S:\DOC\5-Rockingham\44239_US 311 (770) from 7a Line to Bridge\Environmental\Erosion Control Docs\44239_EC_dsn_psh4.dgn
$$$$USERNAME$$$$


EXIST R/W
2:1
0.039
594.07
0.039
598.43
SS 592.95
20.81'
SS 591.10
28.63'
591.94
4:1
12+00.00
EXIST R/W
2:1
0.016
592.68
0.020
592.26
SS 591.45
20.94'
SS 591.68
30.09'
590.54
4:1
11+50.00
EXIST R/W
2:1
0.007
590.74
0.019
590.61
SS 589.56
SS 589.81
26.57'
589.14
4:1
11+00.00
EXIST R/W
2:1
0.023
589.49
0.017
589.37
SS 587.92
19.72'
SS 588.35
19.33'
10+70.00
-EL-
0 2.5 5
PROJ. REFERENCE NO.
44239
SHEET NO.
X-1


INTERSECTION
OF BUFFALO RD.
0.080
594.40
0.080
593.11
SS 592.32
26.37'
2:1
4:1
4:1
591.69
EXIST
R/W
14+00.00
INTERSECTION
OF BUFFALO RD.
0.080
594.85
0.080
593.69
SS 592.42
25.13'
2:1
4:1
4:1
592.11
EXIST
R/W
13+50.00
EXIST
R/W
2:1
0.080
594.15
0.080
594.09
2:1
SS 592.57
24.11'
SS 592.99
20.90'
EXIST
R/W
13+00.00
EXIST
R/W
2:1
0.061
594.89
0.061
594.08
2:1
SS 592.72
23.16'
SS 593.34
19.82'
EXIST
R/W
12+50.00
-EL-
0 2.5 5
PROJ. REFERENCE NO.
44239
SHEET NO.
X-2

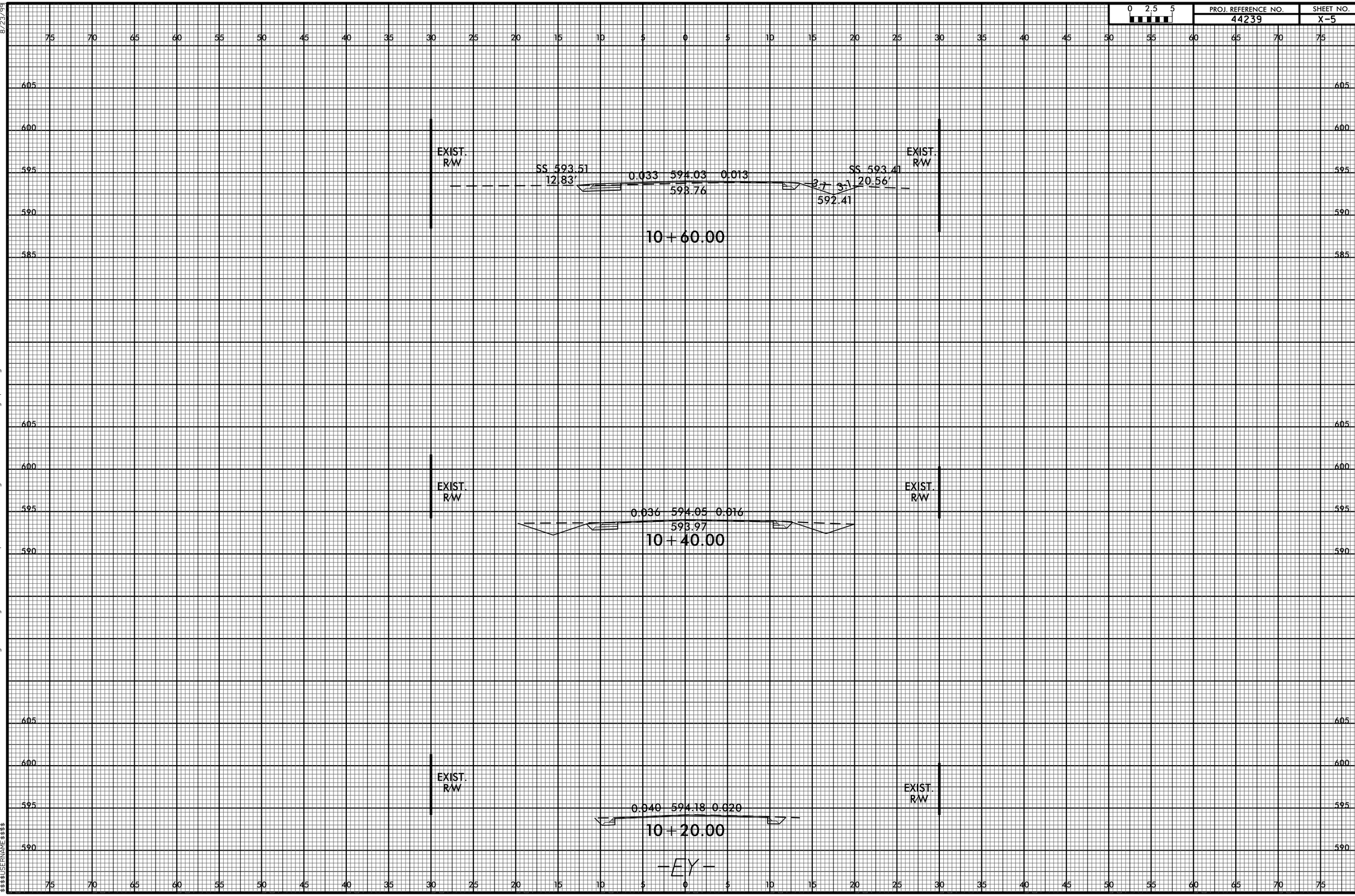

EXIST R/W
SS 589.30
26.42'
2:1
2:1
589.50
0.034
592.60
0.034
591.80
2:1
2:1
SS 592.32
27.41'
589.69
EXIST R/W
16+00.00
EXIST R/W
2:1
SS 589.89
25.02'
0.057
593.05
0.057
591.90
2:1
SS 593.35
22.07'
EXIST R/W
15+50.00
EXIST R/W
2:1
SS 590.43
25.50'
0.079
592.06
0.079
592.06
2:1
SS 590.87
21.15'
EXIST R/W
15+00.00
INTERSECTION
OF BUFFALO RD.
0.080
593.95
0.080
592.50
2:1
591.26
4:1
SS 591.97
25.39'
EXIST R/W
14+50.00
-EL-
600
595
590
585
40
30
20
10
0
10
20
30
40
50
0 2.5 5
PROJ. REFERENCE NO.
44239
SHEET NO.
X-3



PROJ. REFERENCE NO.
44239

SHEET NO.
X-4

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	44239	X-5



8/23/99
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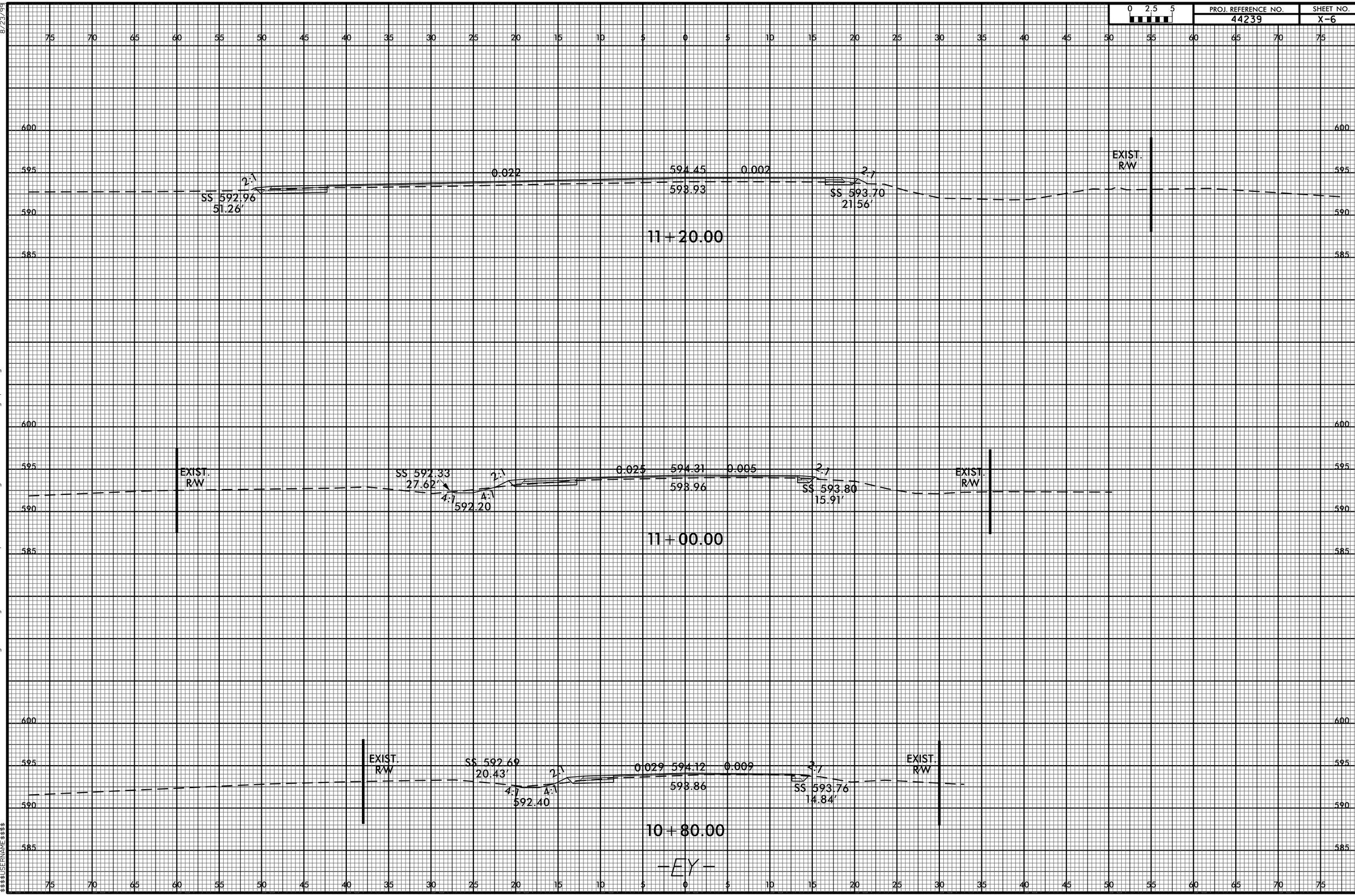
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
44239	X-6



8/23/99

15-DEC-2015 15:46
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