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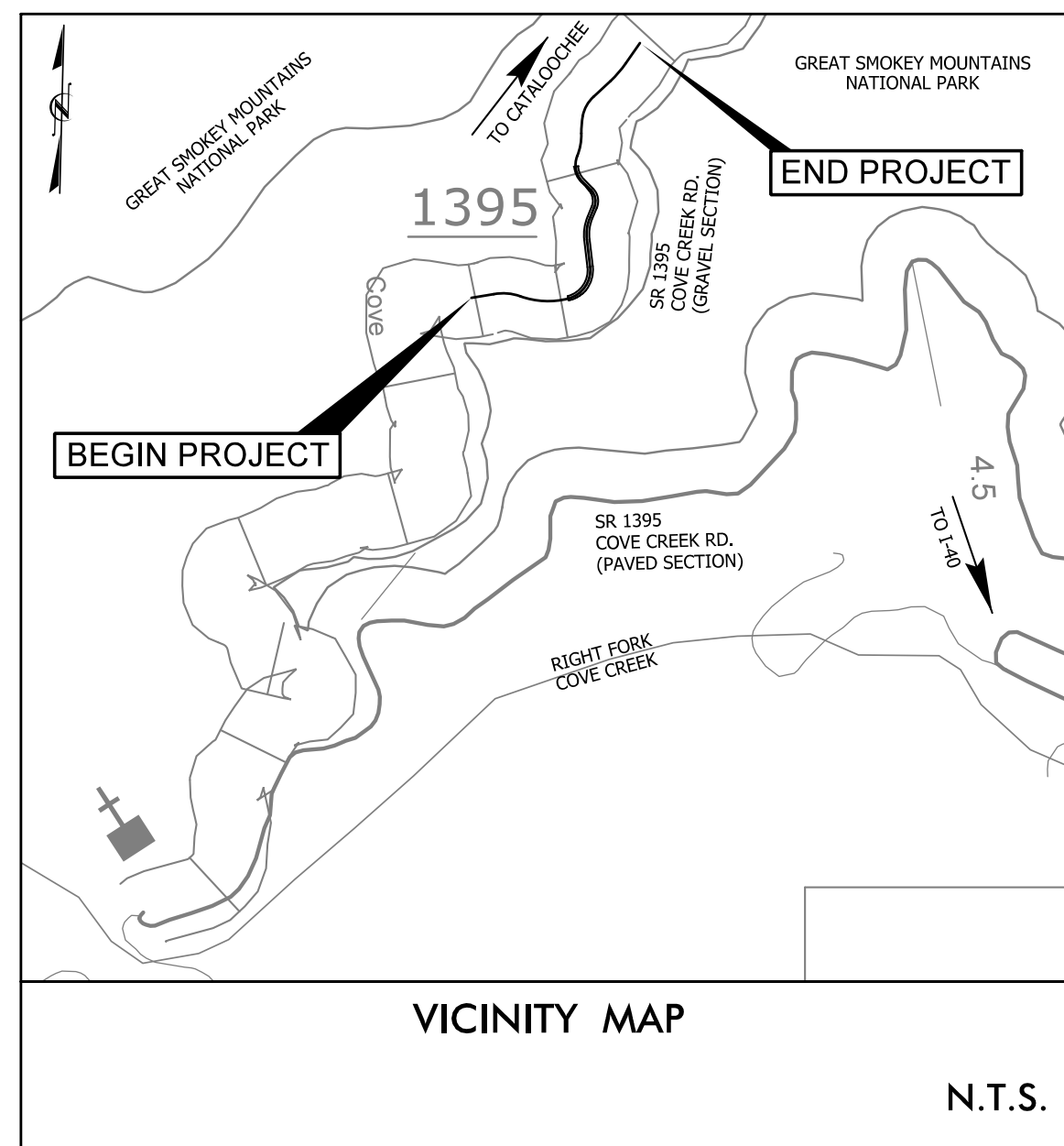
09/08/19

12/12/2019 11:18:36 AM SR R-5864 Slide Repair\VR-5864\Roadway\Proj\VR5864\_rdy\_TSH\_title-sheet.dgn Ban

**TIP PROJECT: R-5864**

**CONTRACT: DN00689**

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Standard Symbology Sheet



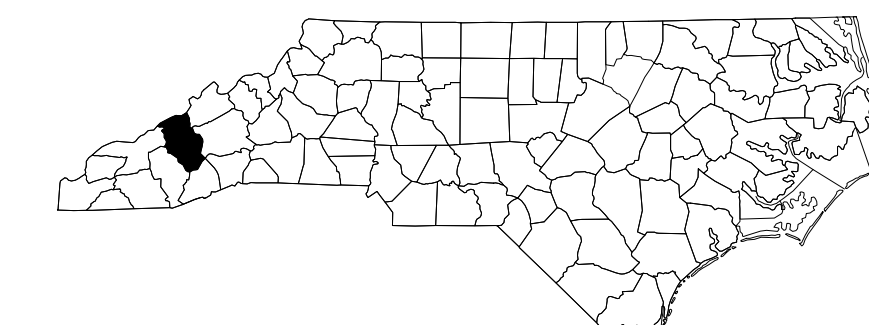
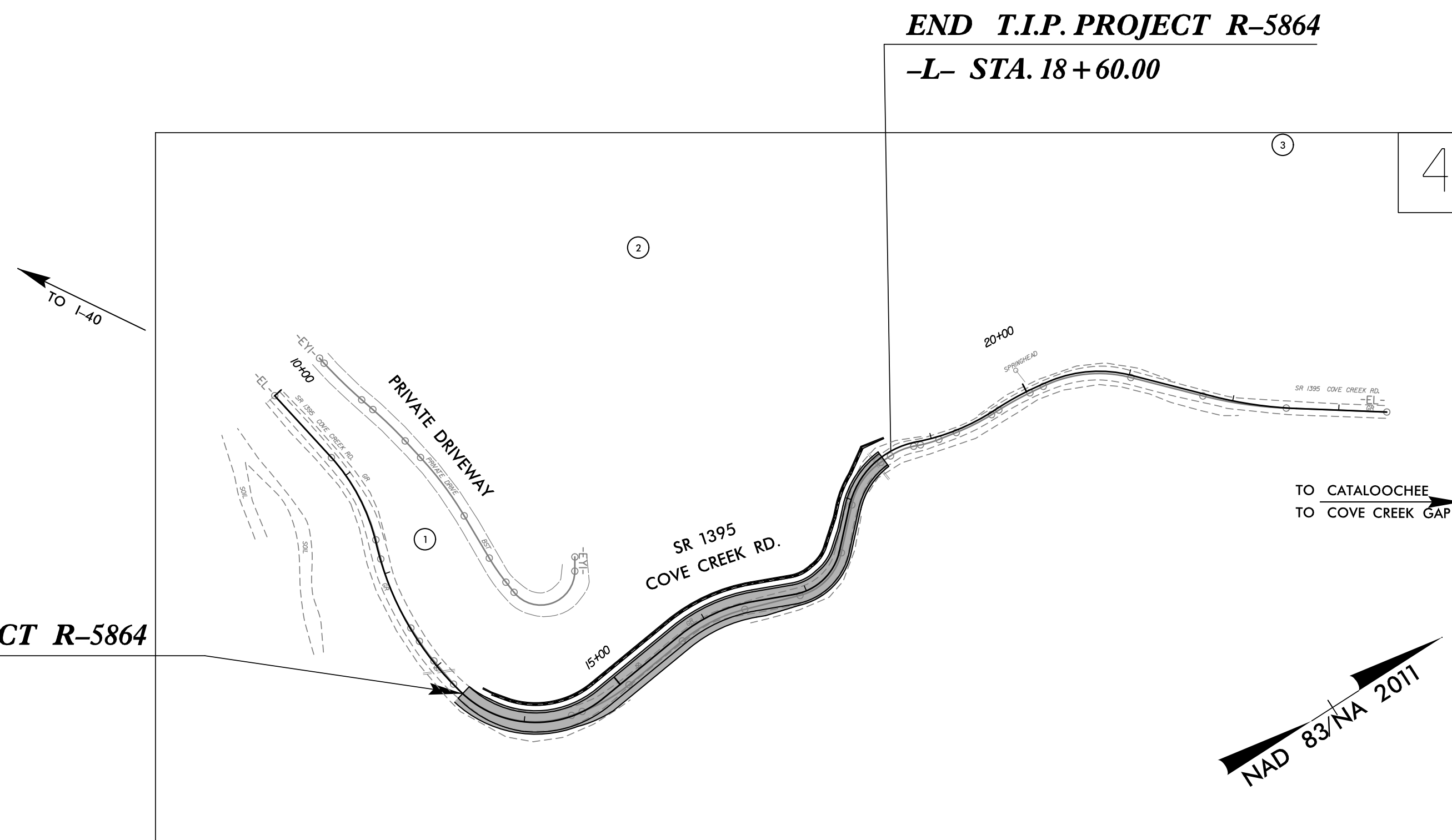
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**HAYWOOD COUNTY**

**LOCATION: SR 1395 (COVE CREEK ROAD), SOUTH OF COVE CREEK GAP  
IN THE GREAT SMOKEY MOUNTAINS NATIONAL PARK**

**TYPE OF WORK: GRADING, DRAINAGE, RETAINING WALLS**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5864	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
DN00689			
47627.1.1	N/A	PE	
47627.2.1	N/A	RIGHT-OF-WAY	
47624.3.1	N/A	CONSTRUCTION	



**CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
THIS PROJECT IS LOCATED IN AN UNINCORPORATED AREA IN HAYWOOD COUNTY**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

<p><b>GRAPHIC SCALES</b></p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p><b>DESIGN DATA</b></p> <p>ADT = N/A ADT = N/A K = N/A % D = N/A % T = N/A % * V = 15 MPH * TTST = N/A DUAL N/A FUNC CLASS = LOCAL GRAVEL ROAD</p>	<p><b>PROJECT LENGTH</b></p> <p>LENGTH OF ROADWAY TIP PROJECT R-5864 = 0.099 MI. LENGTH OF STRUCTURES TIP PROJECT R-5864 = N/A TOTAL LENGTH OF TIP PROJECT R-5864 = 0.099 MI.</p> <p>NCDOT CONTACT: <u>KENNETH MCDOWELL</u> PROJECT ENGINEER - DIVISION 14</p>	<p>Prepared In the Office of: 1001 MOREHEAD SQUARE DRIVE SUITE 610 CHARLOTTE, NC 28203 NC LIC. NO. F-0165</p> <p><b>wsp</b></p> <p>FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION</p> <p>2018 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: <u>CHARLES W. HEAFNER, P.E.</u> MARCH 13, 2019 PROJECT ENGINEER</p> <p>LETTING DATE: <u>THEARA BAN, P.E.</u> JANUARY 14, 2020 PROJECT DESIGN ENGINEER</p>	<p><b>HYDRAULICS ENGINEER</b></p> <p>DocuSigned by: <u>Charles Heafner</u> 56032E95C450464... P.E. 032312 12/12/2019</p> <p><b>ROADWAY DESIGN ENGINEER</b></p> <p>DocuSigned by: <u>Theara Ban</u> 042559... P.E. 042559 12/12/2019</p>	
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**INDEX OF SHEETS**

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL PLAN SHEET SYMBOLS
2A-1 THRU 2A-2	TYPICAL SECTIONS AND DETAILS
2C-1	CHAIN-LINK FENCE ON RETAINING WALL DETAIL
2D-1	EXTRA DEPTH DROP INLET DETAIL
3B-1	MISCELLANEOUS SUMMARIES (EARTHWORK)
3D-1	DRAINAGE SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
X-0 THRU X-28	CROSS-SECTIONS
RW01 THRU RW04	SURVEY CONTROL AND ROW SHEETS
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
W-1 THRU W-2	RETAINING WALL PLANS

**GENERAL NOTES**

**GRADING:**

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED OR FUTURE 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. 225.05 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

**UTILITIES:**

UTILITY OWNERS ON THIS PROJECT ARE:

HAYWOOD EMC, 376 GRINDSTONE PL, WAYNESVILLE, NC 28785

AT&T, 1408 PATTON AVE, ASHEVILLE, NC 28806

**RIGHT-OF-WAY MARKERS:**

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

**ROCK**

ROCK IS ANTICIPATED ON THE ENTIRE PROJECT. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

**STANDARD DRAWINGS**

2018 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, 2018 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  
 225.02 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

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  
 840.18 Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe  
 840.24 Frames and Narrow Slot Sag Grates  
 840.29 Frames and Narrow Slot Flat Grates  
 857.01 Precast Reinforced Concrete Barrier - 41" Single Faced  
 866.01 Chain Link Fence - 4', 5' and 6' High Fence  
 876.01 Rip Rap in Channels  
 876.02 Guide for Rip Rap at Pipe Outlets  
 876.03 Drainage Ditches with Class 'A' Rip Rap  
 876.04 Drainage Ditches with Class 'B' Rip Rap

PROJECT REFERENCE NO.	SHEET NO.
R-5864	1-A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

# 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
Computed Property Corner	-----
Property Monument	□ EDM
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
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
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	☠-S-☠
Potential Contamination Area: Soil	??-S-??
Known Contamination Area: Water	☠-W-☠
Potential Contamination Area: Water	??-W-??
Contaminated Site: Known or Potential	☠??

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
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	-----
False Sump	-----

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

Note: Not to Scale

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

## RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	⊠
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	----- R/W
New Right of Way Line with Pin and Cap	----- R/W ▲
New Right of Way Line with Concrete or Granite RW Marker	----- R/W ▲
New Control of Access Line with Concrete CA Marker	----- C/A
Existing Control of Access	----- C/A
New Control of Access	----- C/A
Existing Easement Line	----- E
New Temporary Construction Easement	----- E
New Temporary Drainage Easement	----- TDE
New Permanent Drainage Easement	----- PDE
New Permanent Drainage / Utility Easement	----- DUE
New Permanent Utility Easement	----- PUE
New Temporary Utility Easement	----- TUE
New Aerial Utility Easement	----- AUE

## 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	⊙
Storm Sewer	----- S

## UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊙
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	○
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

## TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊙
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	○
U/G Telephone Cable LOS B (S.U.E.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

## WATER:

Water Manhole	⊙
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	----- W
U/G Water Line LOS C (S.U.E.*)	----- W
U/G Water Line LOS D (S.U.E.*)	----- W
Above Ground Water Line	----- A/G Water

## TV:

TV Pedestal	⊠
TV Tower	⊗
U/G TV Cable Hand Hole	○
U/G TV Cable LOS B (S.U.E.*)	----- TV
U/G TV Cable LOS C (S.U.E.*)	----- TV
U/G TV Cable LOS D (S.U.E.*)	----- TV
U/G Fiber Optic Cable LOS B (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS C (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS D (S.U.E.*)	----- TV FO

## GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	----- G
U/G Gas Line LOS C (S.U.E.*)	----- G
U/G Gas Line LOS D (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
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

## MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊠
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	----- 7UTL
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊠
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

5/14/09

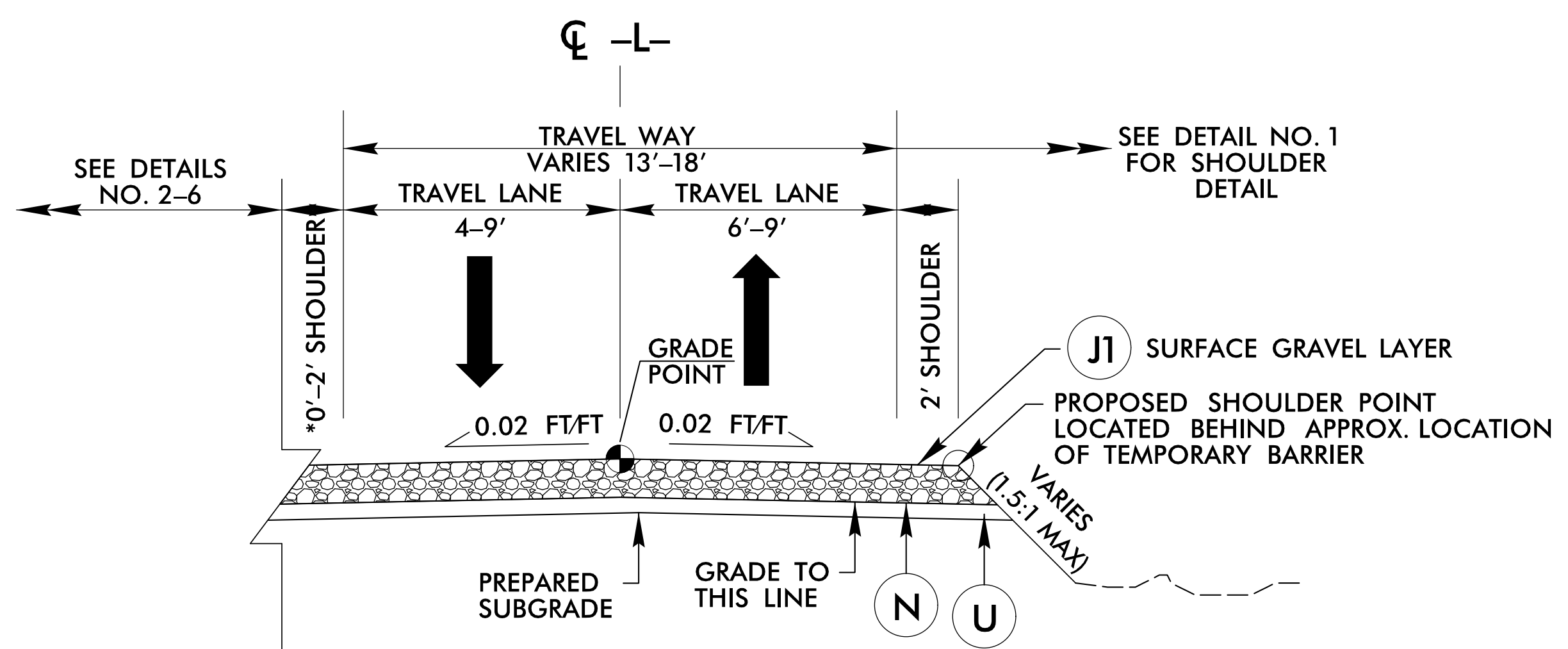
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

PRELIMINARY PAVEMENT SCHEDULE	
J1	INCIDENTAL STONE BASE
N	GEOTEXTILE DRAINAGE LAYER
R1	REINFORCED SINGLE FACED CONCRETE BARRIER.
U	EXISTING GRAVEL.

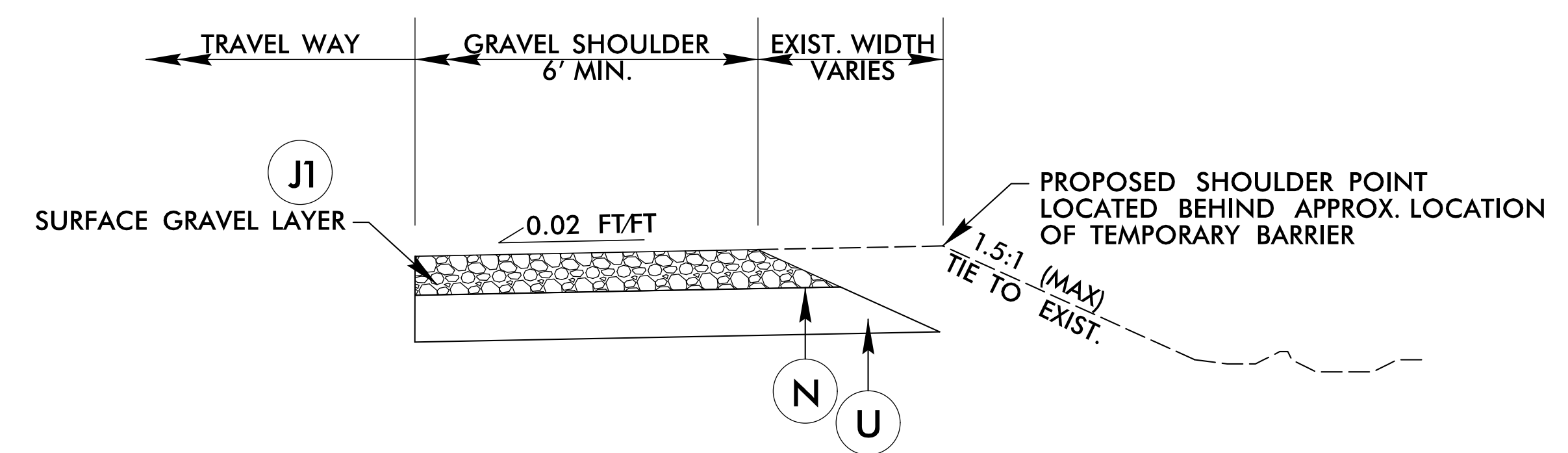
# R-5864 SR 1395 COVE CREEK RD TYPICAL SECTIONS

PRELIMINARY AND FINAL PAVEMENT DESIGN TO BE PROVIDED BY NCDOT

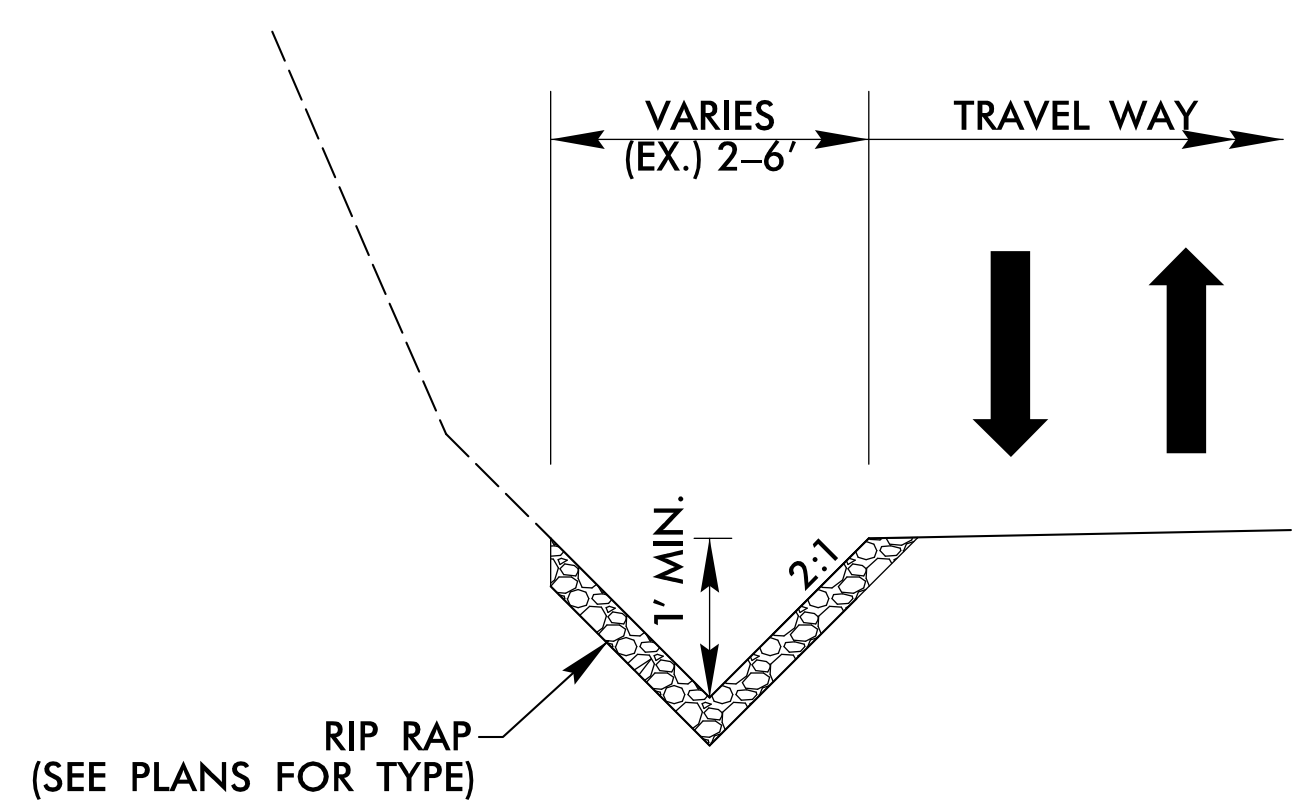
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p><b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b></p>	



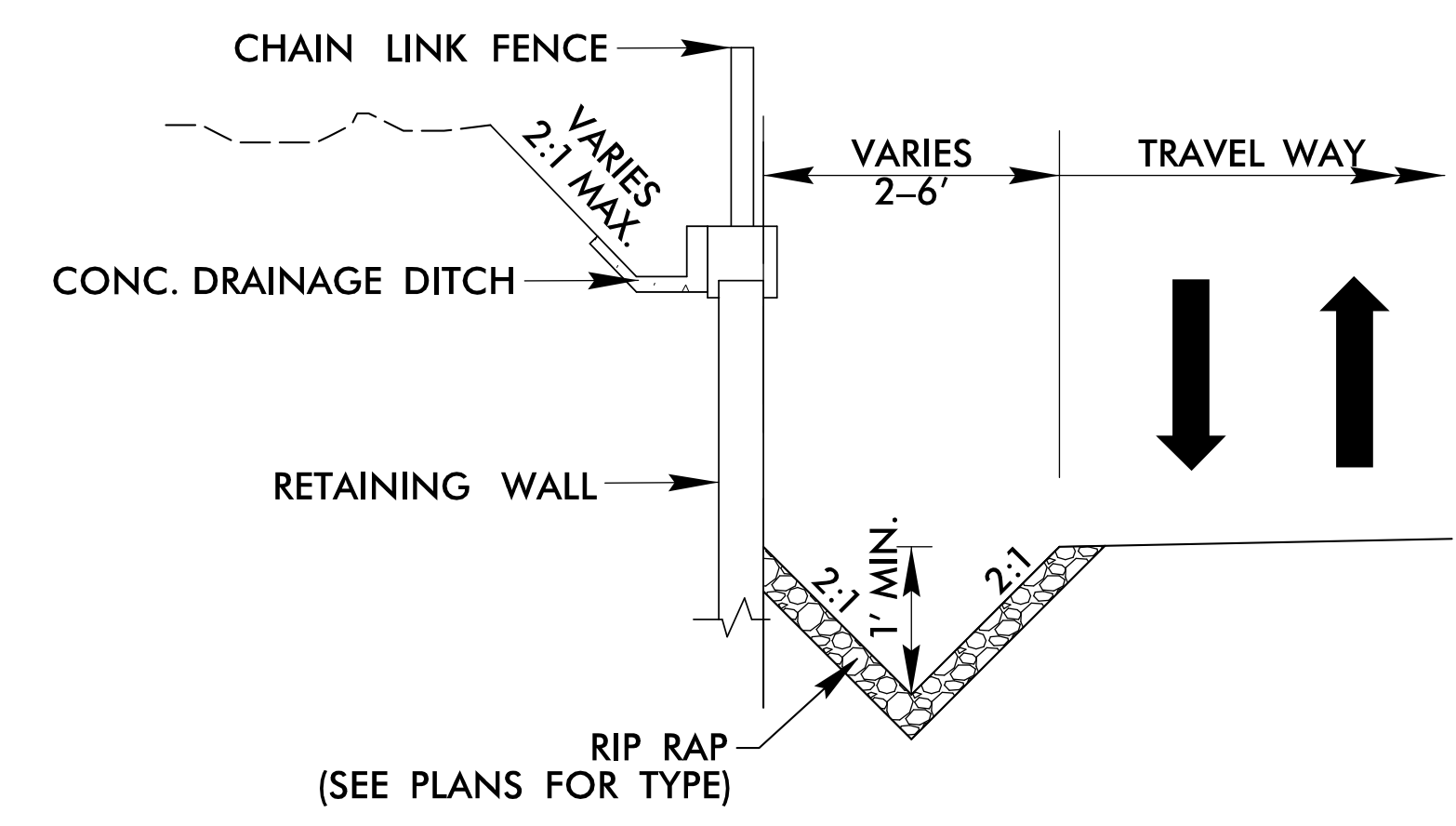
**TYPICAL SECTION NO. 1**  
 -L- STA. 13+35.50 TO STA. 18+50.00  
 \* LEFT SIDE SHOULDER TAPER  
 -L- STA. 13+35.50 TO STA. 13+60.00



**DETAIL NO. 1**  
 SHOULDER DETAIL AT SLIDE AREA  
 -L- STA. 14+79.69 RT TO STA. 16+58.29 RT  
 (APPROX. LOCATION OF SLIDE AREA)

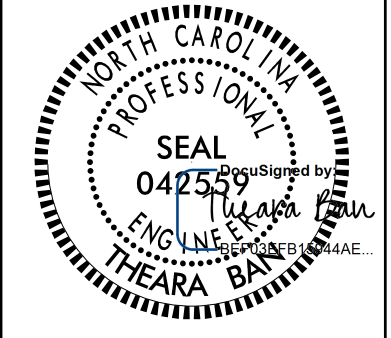


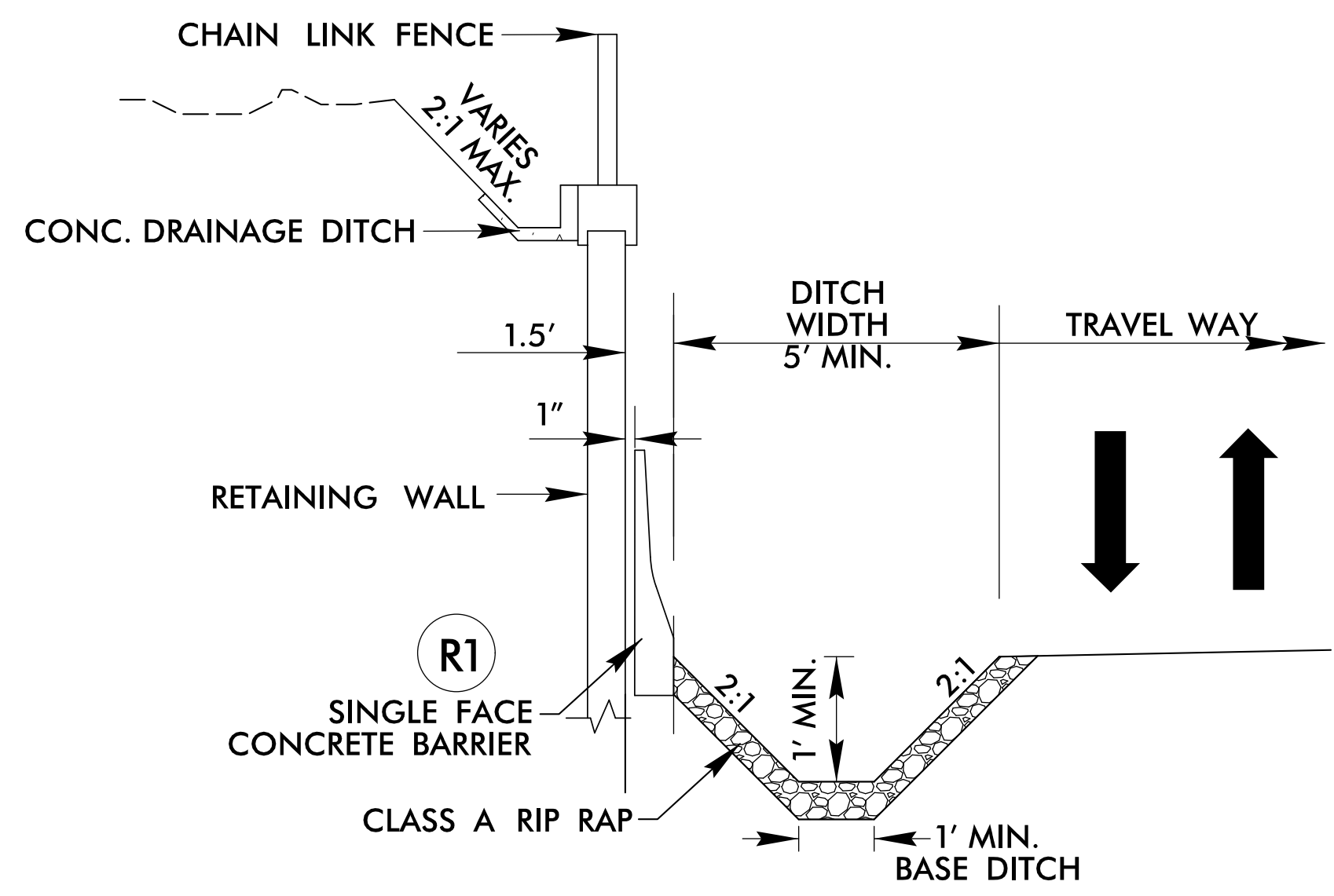
**DETAIL NO. 2**  
 DITCH TRANSITION FROM EXISTING DITCH  
 -L- STA. 13+35.50 TO STA. 13+48.15



**DETAIL NO. 3**  
 ROADSIDE DITCH DETAIL (WALL W/O BARRIER)  
 -L- STA. 13+48.15 TO STA. 13+60.00

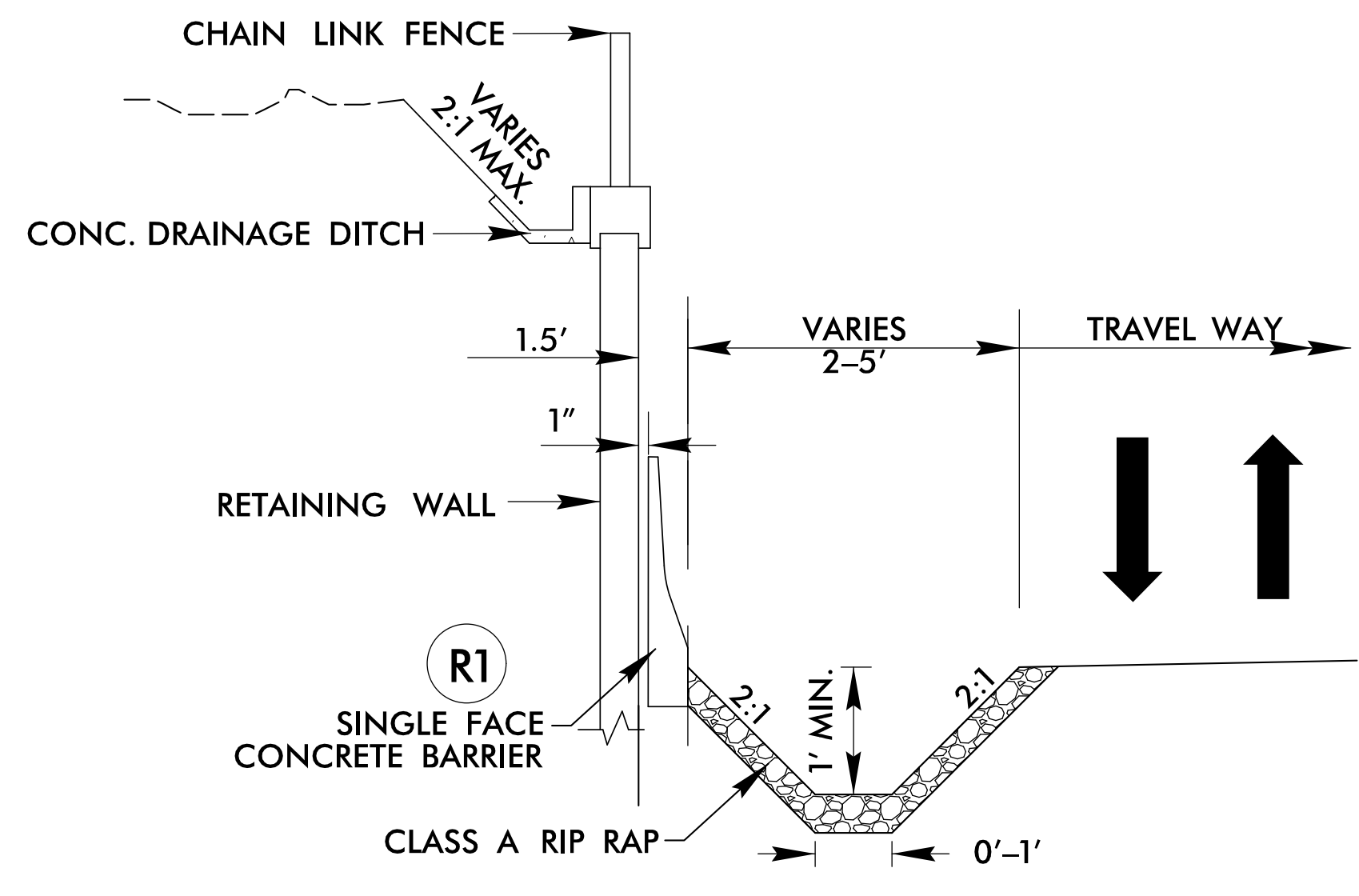
7/1/2019 864 Slide Repair-R-5864-Roadway-Proj-RS864\_rdy\_tjpb.dgn

PROJECT REFERENCE NO. R-5864	SHEET NO. 2A-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
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**DETAIL NO. 4**  
**ROADSIDE DITCH DETAIL WITH WALL & BARRIER**

-L- STA. 13+80.00 TO STA. 17+60.00

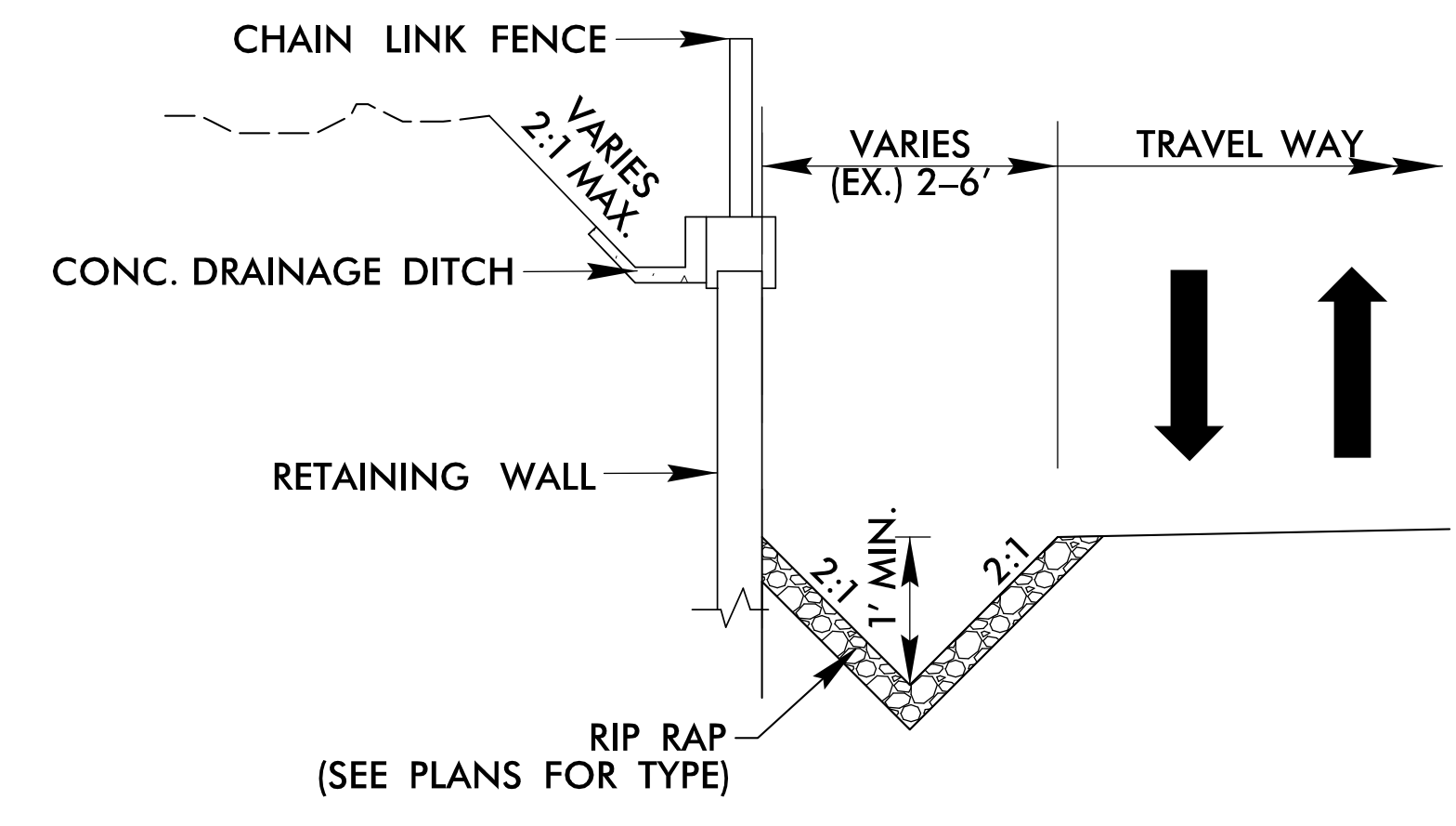


**DETAIL NO. 5**  
**V-DITCH DETAIL**

-L- STA. 13+60.00 TO STA. 13+80.00  
-L- STA. 17+60.00 TO STA. 18+43.00

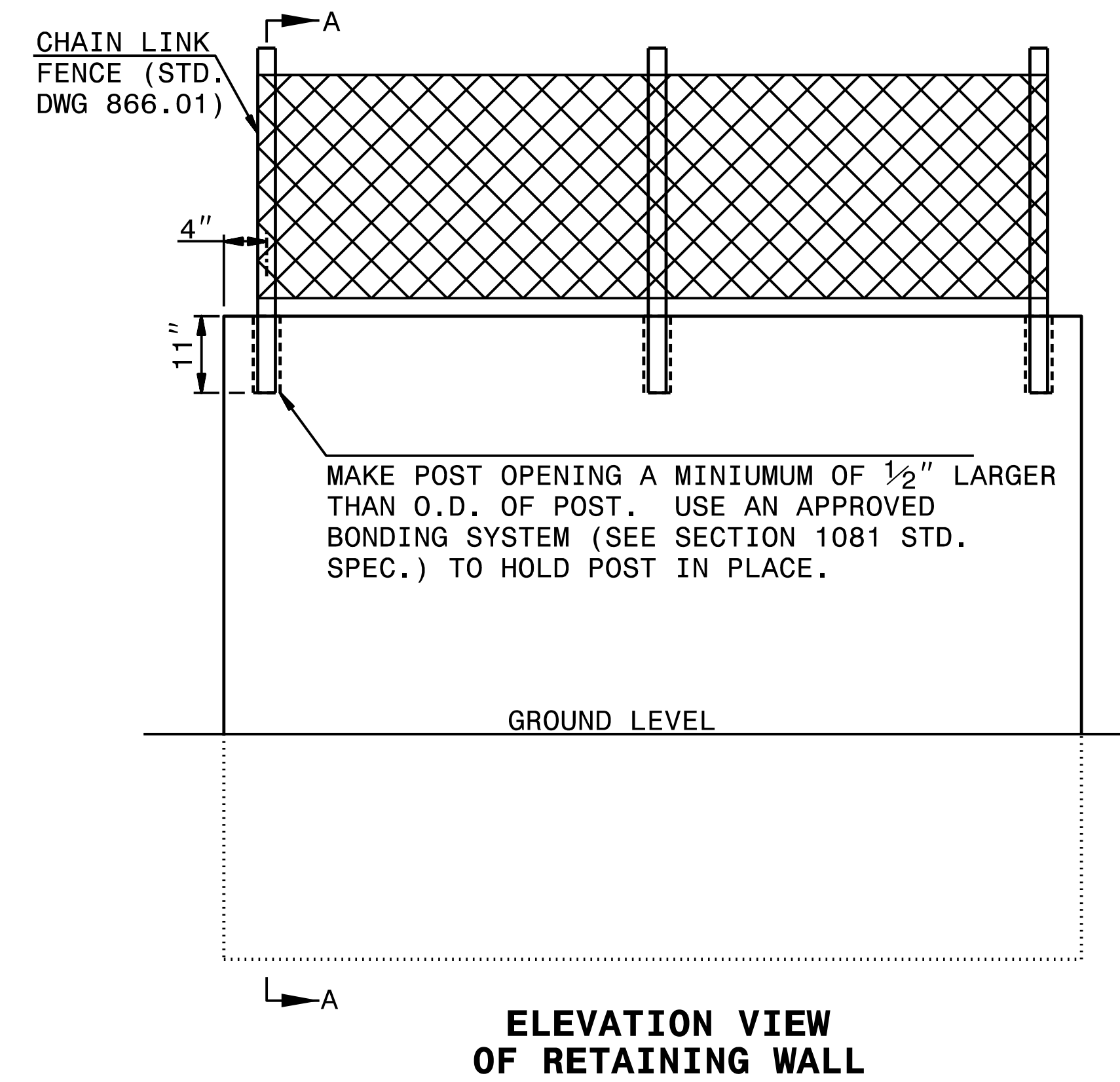
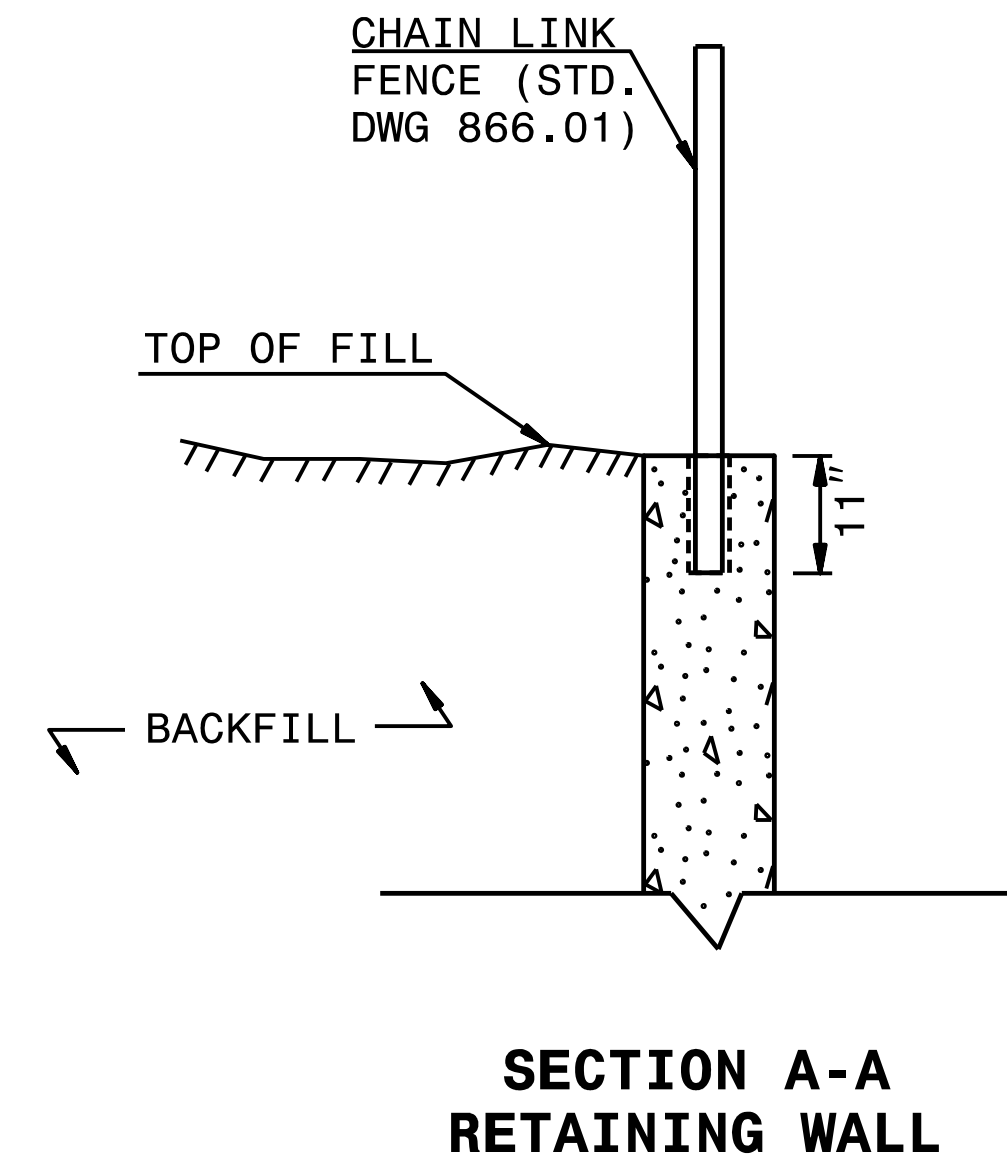
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

J1	INCIDENTAL STONE BASE
N	GEOTEXTILE DRAINAGE LAYER
R1	REINFORCED SINGLE FACED CONCRETE BARRIER.
U	EXISTING GRAVEL



**DETAIL NO. 6**  
**TRANSITION TO EXISTING ROADSIDE DITCH DETAIL**

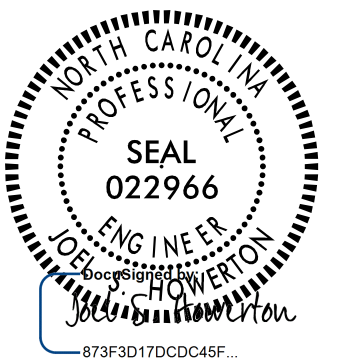
-L- STA. 18+43.00 TO STA. 18+60.00



EMBED CHAIN LINK FENCE 11" INTO PROPOSED WALL IN A SLEEVE OR BLOCKOUT WITH EPOXY OR CONCRETE GROUT ANCHORING SYSTEM. PRE-MEASURE AND CENTER THE PROPOSED FENCE ON TOP OF WALL FOR POST SPACINGS. IFF DRILLING THE HOLES FOR POSTS, USE A ROTARY DRILL TO DRILL HOLES IN THE CONCRETE. NO IMPACT DRILLS WILL BE ALLOWED, TO ELIMINATE ANY POSSIBILITY OF STRUCTURAL DAMAGES TO THE PROPOSED WALL.

\$\$\$  
 SCHEMATIC  
 CANCELLED  
 \$\$\$

07-01-2019



**DOCUMENT NOT CONSIDERED FINAL  
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**CONTRACT STANDARDS  
AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**CHAIN LINK FENCE ON  
RETAINING WALL**

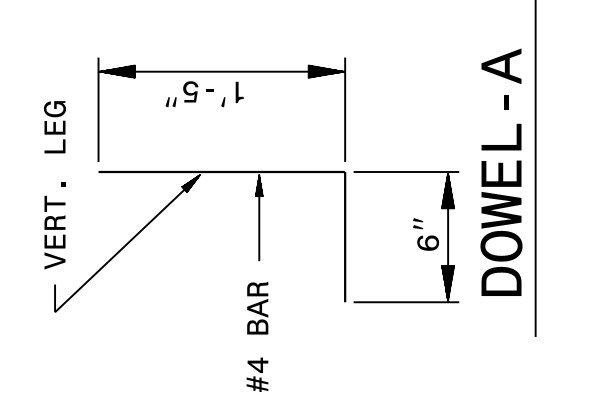
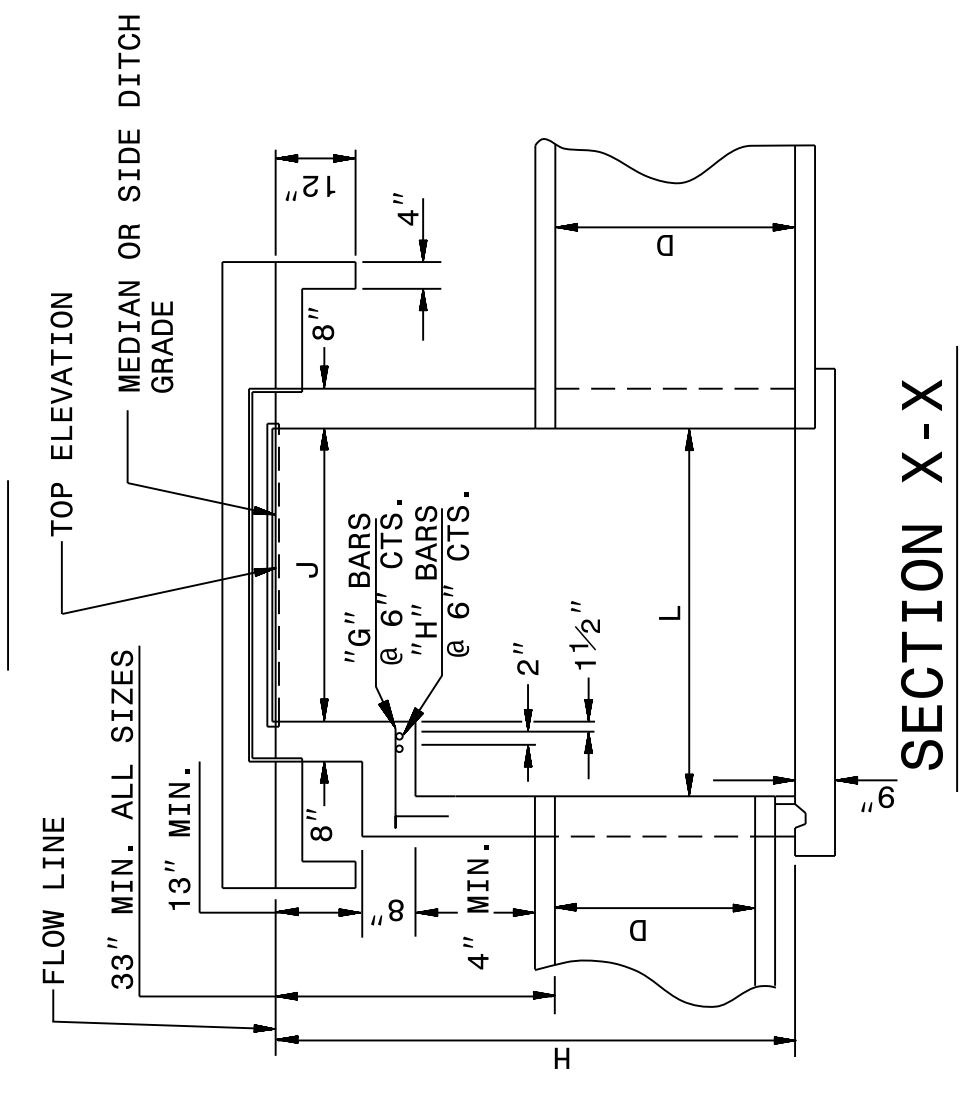
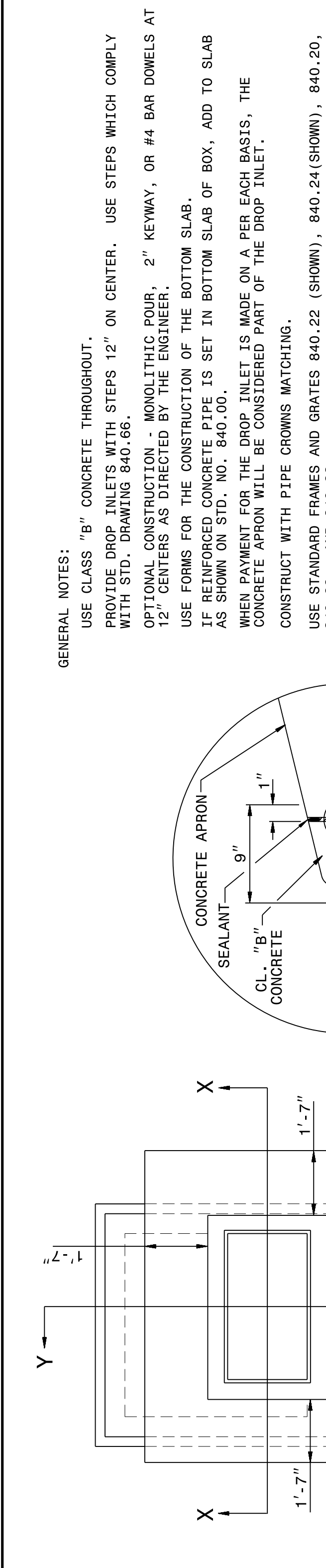
ORIGINAL BY: _____	DATE: _____
MODIFIED BY: K.A. KEMPF	DATE: SEP. 2017
CHECKED BY: _____	DATE: _____
FILE SPEC.: usr/details/jhowerton/chain link on retaining wall.dgn	

01-MAR-2018 07:39 S:\Contracts\Special Details\stand\840d17 Extra Depth 2GI.dgn J:\over ton AT USD-292595

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

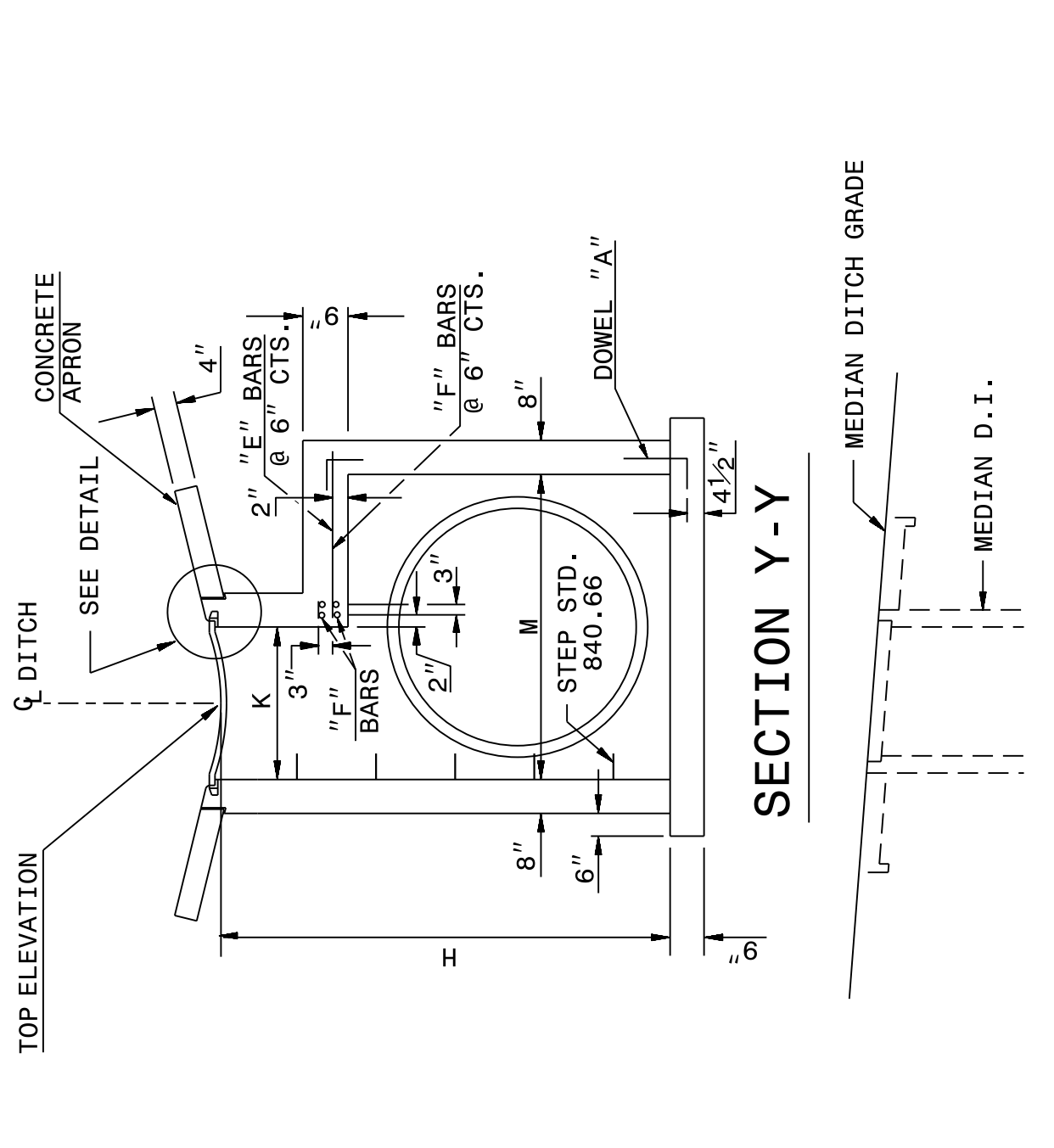
ENGLISH DETAIL DRAWING FOR  
**CONCRETE MEDIAN DROP INLET TYPE 'A'**  
EXTRA DEPTH OVER 12' TO 25'  
12" THRU 72" PIPE

SHEET 1 OF 2  
**840D17**



**GENERAL NOTES:**

- USE CLASS "B" CONCRETE THROUGHOUT.
- PROVIDE DROP INLETS WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
- OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
- USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
- IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
- WHEN PAYMENT FOR THE DROP INLET IS MADE ON A PER EACH BASIS, THE CONCRETE APRON WILL BE CONSIDERED PART OF THE DROP INLET.
- CONSTRUCT WITH PIPE CROWNS MATCHING.
- USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24 (SHOWN), 840.20, 840.29, AND 840.33.
- SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.
- CHAMFER ALL EXPOSED CORNERS 1".
- DRAWING NOT TO SCALE.
- MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 25 FEET.



STATE OF NORTH CAROLINA  
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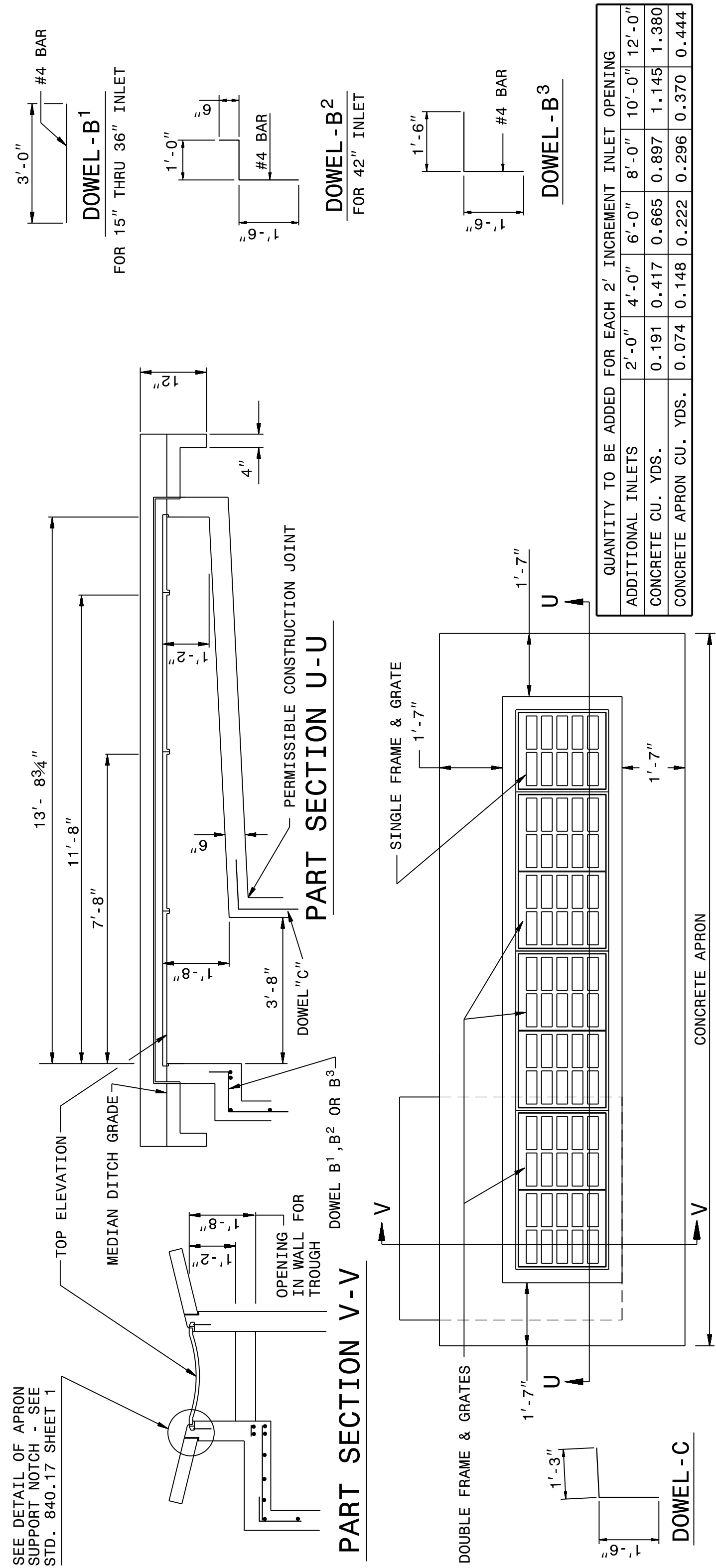
ENGLISH DETAIL DRAWING FOR  
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SHEET 1 OF 2  
**840D17**

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**CONCRETE MEDIAN DROP INLET TYPE 'A'**  
EXTRA DEPTH OVER 12' TO 25'  
12" THRU 72" PIPE

SHEET 2 OF 2  
**840D17**



QUANTITY TO BE ADDED FOR EACH 2' INCREMENT INLET OPENING

ADDITIONAL INLETS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"
CONCRETE CU. YDS.	0.191	0.417	0.665	0.897	1.145	1.380
CONCRETE APRON CU. YDS.	0.074	0.148	0.222	0.296	0.370	0.444

DIMENSIONS OF BOX AND PIPE		REINFORCING STEEL - NO. 4 BARS								CU YDS CONC. IN BOX		DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	SPAN	WIDTH	HEIGHT	BARS E	BARS F	BARS G	BARS H	TOTAL SLAB	H PER FT	APRON	TOTAL
D	J	K	L	M	H	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
12"	3'-8"	2'-0"	3'-8"	2'-0"	3'-9"	—	—	—	—	0.362	0.926	0.247	0.395
15"	3'-8"	2'-0"	3'-8"	2'-0"	4'-0"	—	—	—	—	0.362	0.988	0.247	0.395
18"	—	—	—	—	4'-3"	—	—	—	—	0.362	1.050	0.247	0.395
24"	—	—	—	—	4'-9"	8	1'-5"	6	4'-9"	27	0.444	1.362	0.278
30"	—	—	—	—	5'-3"	8	2'-0"	7	4'-9"	33	0.502	1.644	0.288
36"	—	—	—	—	5'-9"	8	2'-5"	8	4'-11"	47	0.560	1.931	0.321
42"	—	—	—	—	6'-3"	10	3'-1"	9	5'-7"	67	0.704	2.500	0.370
48"	—	—	—	—	6'-9"	11	3'-7"	10	6'-1"	87	0.823	3.013	0.407
54"	—	—	—	—	7'-3"	12	4'-1"	11	6'-7"	107	0.951	3.589	0.444
60"	—	—	—	—	7'-9"	13	4'-9"	12	7'-3"	135	1.311	4.539	0.494
66"	—	—	—	—	8'-3"	14	5'-4"	14	7'-10"	188	1.136	5.061	0.537
72"	—	—	—	—	8'-9"	15	5'-11"	15	8'-5"	199	1.500	5.860	0.560

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

**SEE PLATE FOR TITLE**

ORIGINAL BY: 2002 STD.840.1 DATE:  
MODIFIED BY: K.A. KEMPF DATE: 07-06-09  
CHECKED BY: DATE:  
FILE SPEC.: /stand/840d17 Extra Depth 2GI.dgn



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



5/14/19  
 COMPUTED BY: TB DATE: 6/10/2019  
 CHECKED BY: DG DATE: 6/10/2019

STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. <i>R-5864</i>		SHEET NO. <i>3B-1</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>		

**SUMMARY OF EARTHWORK**

Station	Uncl. Exc.	Embt
L_Alt2	(cu. yd.)	(cu. yd.)
13+40.00	0	0
13+60.00	10	1
13+80.00	12	3
14+00.00	18	4
14+20.00	24	4
14+40.00	27	6
14+60.00	32	7
14+80.00	43	6
15+00.00	67	6
15+20.00	103	4
15+40.00	131	2
15+60.00	131	2
15+80.00	131	2
16+00.00	137	3
16+20.00	131	5
16+40.00	124	3
16+60.00	118	2
16+80.00	104	3
17+00.00	83	7
17+20.00	79	6
17+40.00	78	1
17+60.00	66	1
17+80.00	52	2
18+00.00	39	4
18+20.00	29	4
18+40.00	29	3
18+60.00	24	1

**SUMMARY OF EARTHWORK**


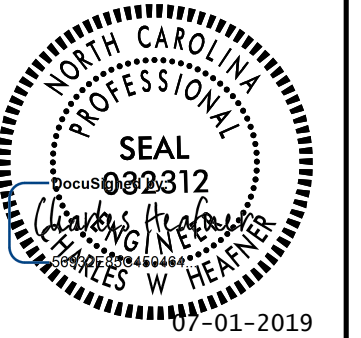
STATION	STATION	UNCL. EXCAV. (CY)	EMBANK. +15% (CY)	BORROW (CY)	WASTE (CY)
13 + 40 -L-	18 + 60 -L-	1,822	106		1,822
GRAND TOTALS:		1,822	106		1,822
SAY:		1,830			

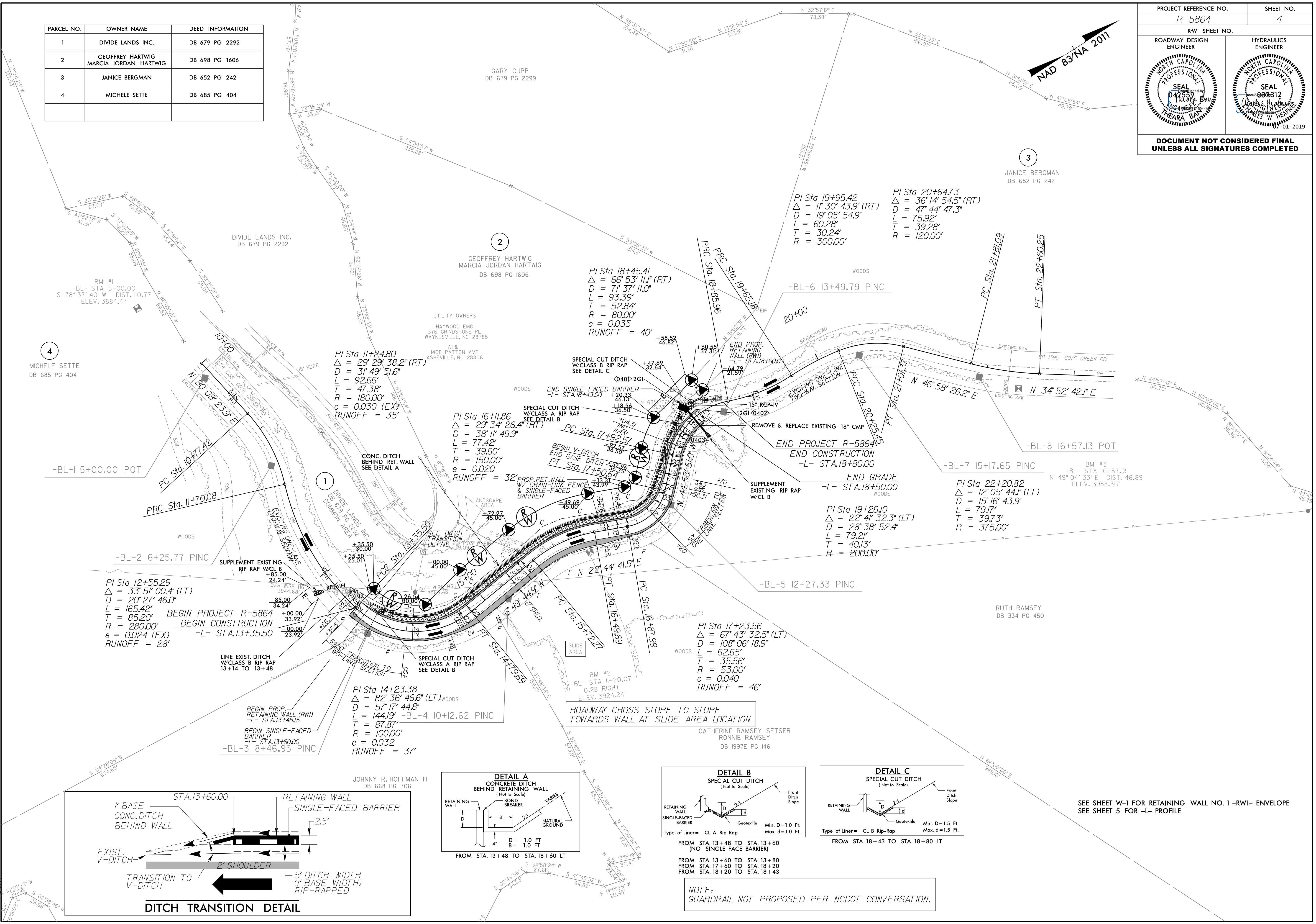
NOTE:  
 APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

7/1/2019  
 s:\R-5864\Roadway\Estimate\Row\Earthwork\RS5864\_rdy\_EW\_Summary.dgn  
 10



PARCEL NO.	OWNER NAME	DEED INFORMATION
1	DIVIDE LANDS INC.	DB 679 PG 2292
2	GEOFFREY HARTWIG MARCIA JORDAN HARTWIG	DB 698 PG 1606
3	JANICE BERGMAN	DB 652 PG 242
4	MICHELE SETTE	DB 685 PG 404

PROJECT REFERENCE NO. <b>R-5864</b>	SHEET NO. <b>4</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



**PI Sta 11+24.80**  
 $\Delta = 29^{\circ} 29' 38.2''$  (RT)  
 $D = 31^{\circ} 49' 51.6''$   
 $L = 92.66'$   
 $T = 47.38'$   
 $R = 180.00'$   
 $e = 0.030$  (EX)  
**RUNOFF = 35'**

**PI Sta 12+55.29**  
 $\Delta = 33^{\circ} 51' 00.4''$  (LT)  
 $D = 20^{\circ} 27' 46.0''$   
 $L = 165.42'$   
 $T = 85.20'$   
 $R = 280.00'$   
 $e = 0.024$  (EX)  
**RUNOFF = 28'**

**PI Sta 14+23.38**  
 $\Delta = 82^{\circ} 36' 46.6''$  (LT)  
 $D = 57^{\circ} 17' 44.8''$   
 $L = 144.19'$   
 $T = 87.87'$   
 $R = 100.00'$   
 $e = 0.032$   
**RUNOFF = 37'**

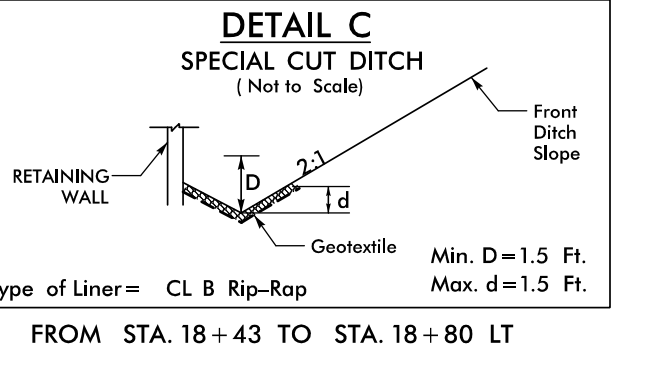
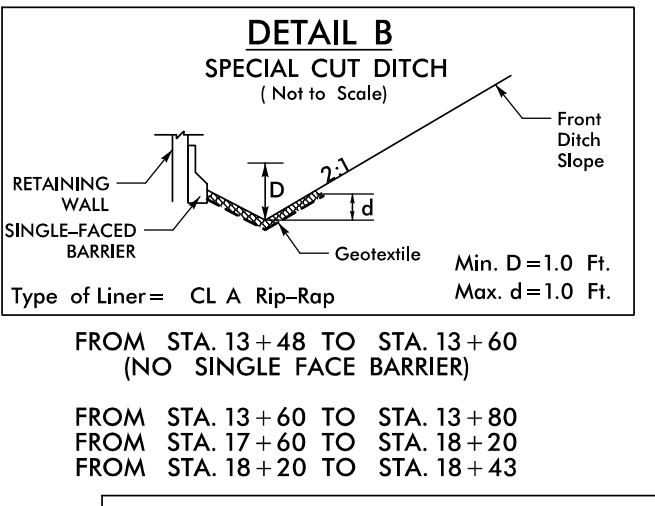
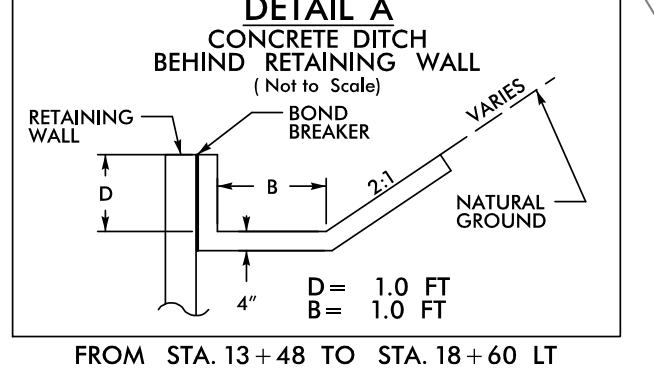
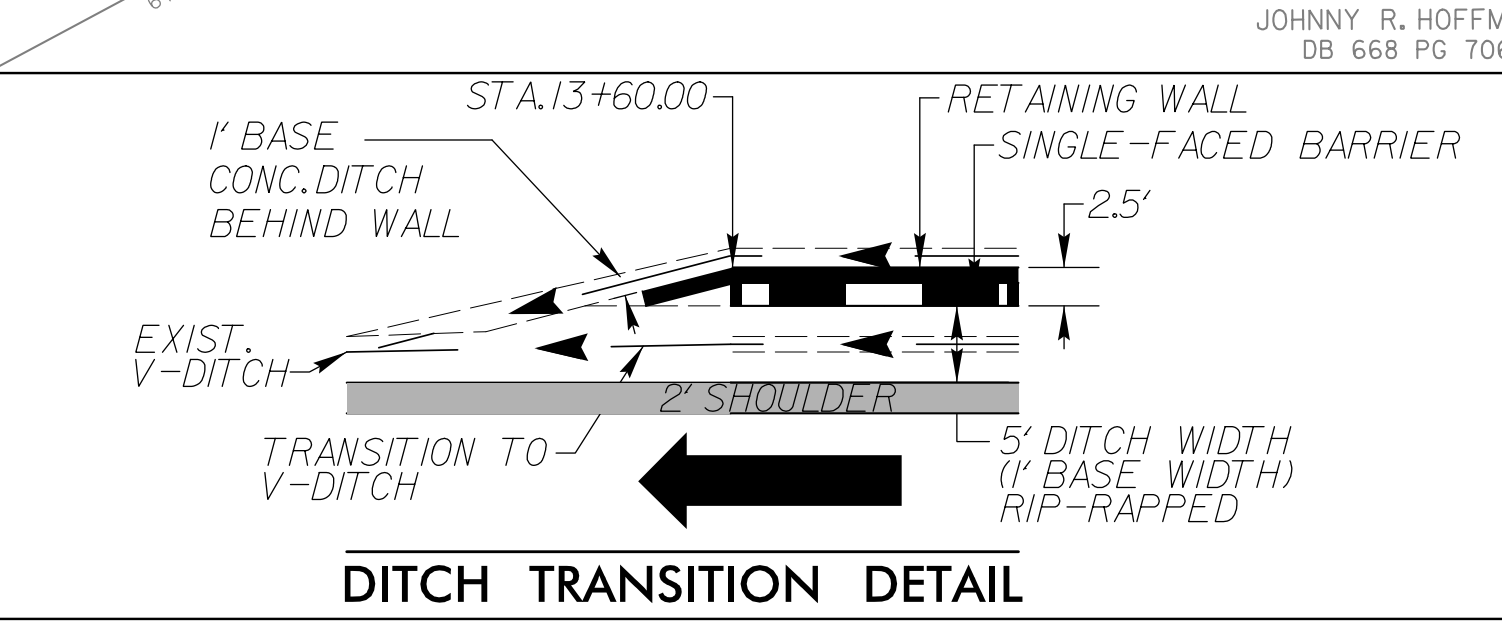
**PI Sta 16+11.86**  
 $\Delta = 29^{\circ} 34' 26.4''$  (RT)  
 $D = 38^{\circ} 11' 49.9''$   
 $L = 77.42'$   
 $T = 39.60'$   
 $R = 150.00'$   
 $e = 0.020$   
**RUNOFF = 32'**

**PI Sta 18+45.41**  
 $\Delta = 66^{\circ} 53' 11.1''$  (RT)  
 $D = 71^{\circ} 37' 11.0''$   
 $L = 93.39'$   
 $T = 52.84'$   
 $R = 80.00'$   
 $e = 0.035$   
**RUNOFF = 40'**

**PI Sta 19+95.42**  
 $\Delta = 11^{\circ} 30' 43.9''$  (RT)  
 $D = 19^{\circ} 05' 54.9''$   
 $L = 60.28'$   
 $T = 30.24'$   
 $R = 300.00'$

**PI Sta 20+64.73**  
 $\Delta = 36^{\circ} 14' 54.5''$  (RT)  
 $D = 47^{\circ} 44' 47.3''$   
 $L = 75.92'$   
 $T = 39.28'$   
 $R = 120.00'$

**PI Sta 22+20.82**  
 $\Delta = 12^{\circ} 05' 44.1''$  (LT)  
 $D = 15^{\circ} 16' 43.9''$   
 $L = 79.17'$   
 $T = 39.73'$   
 $R = 375.00'$



**NOTE:** GUARDRAIL NOT PROPOSED PER NCDOT CONVERSATION.

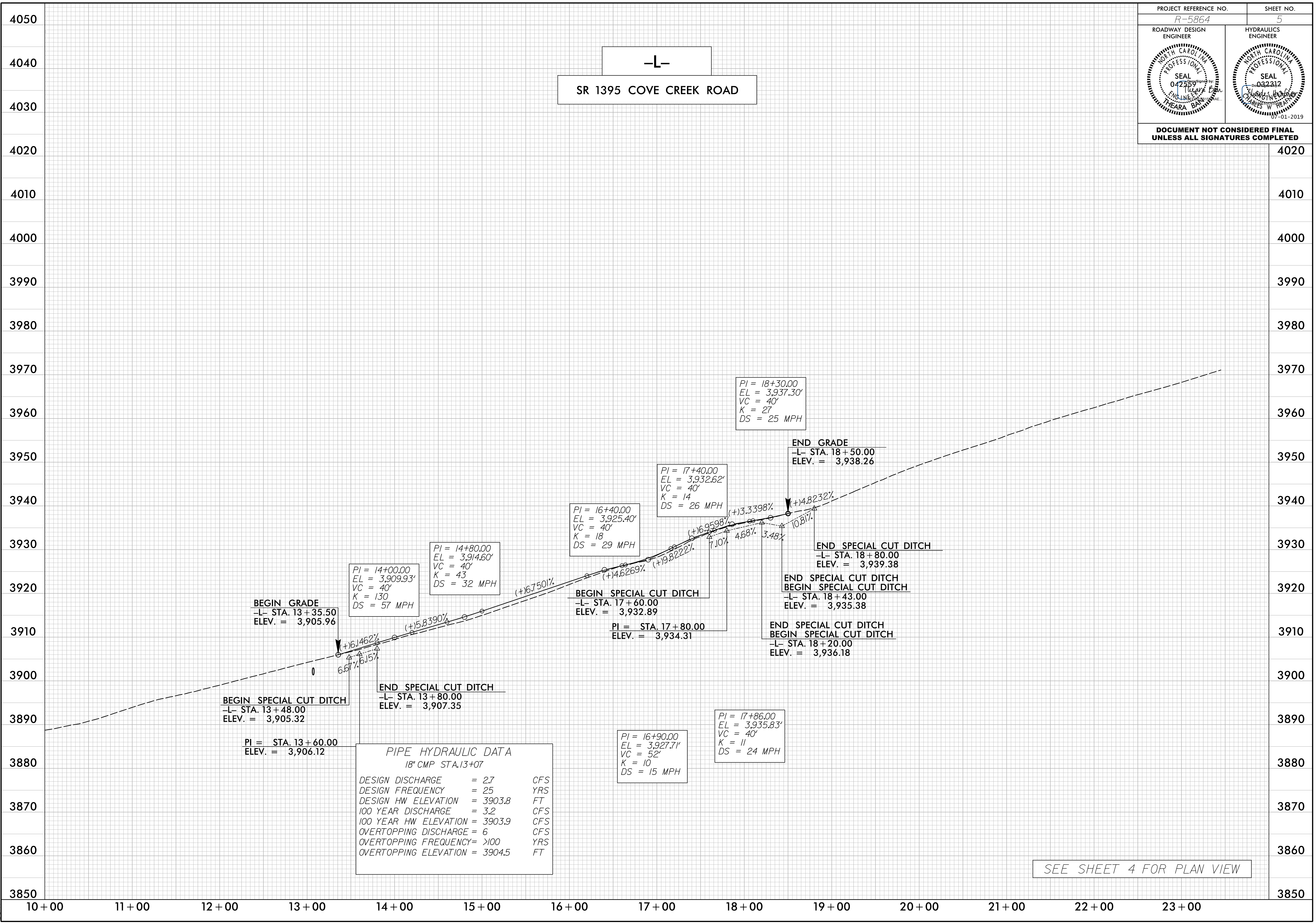
SEE SHEET W-1 FOR RETAINING WALL NO. 1 -RW1- ENVELOPE  
SEE SHEET 5 FOR -L- PROFILE

7/1/2019 R:\Roadway\Proj\NR5864\_rdy\_psh\04\_e1.t3.dgn  
 Slide Repair R-5864 Roadway\Proj\NR5864\_rdy\_psh\04\_e1.t3.dgn

5/14/99

PROJECT REFERENCE NO. R-5864	SHEET NO. 5
ROADWAY DESIGN ENGINEER THEARA BAI	HYDRAULICS ENGINEER CHARLES W. HELM
SEAL 042559	SEAL 032312
DATE 05/14/99	DATE 05/14/99
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I:\K2019\188360SR R-5864 Slide Repair\R-5864\_Roadway\Proj\R5864\_rdy\_pf105\_e1.t3.dgn



SEE SHEET 4 FOR PLAN VIEW

09/06/19

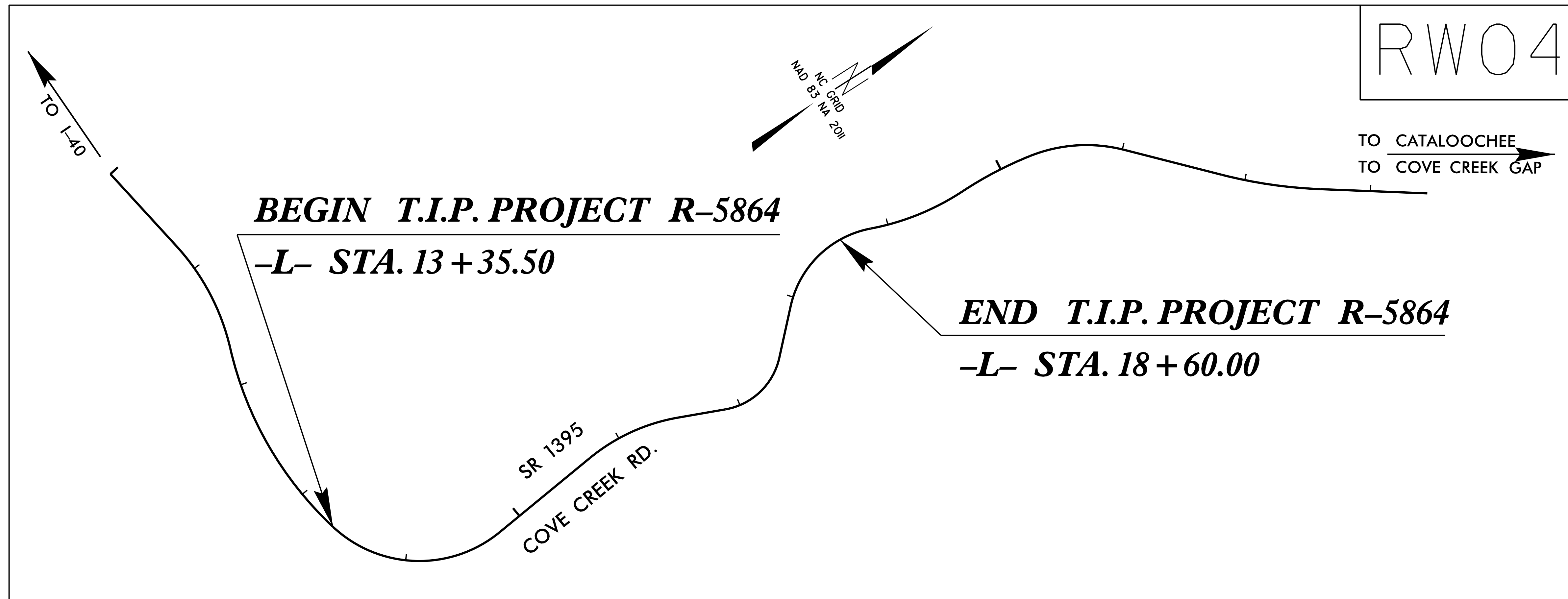
**TIP PROJECT: R-5864**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5864	RW01	

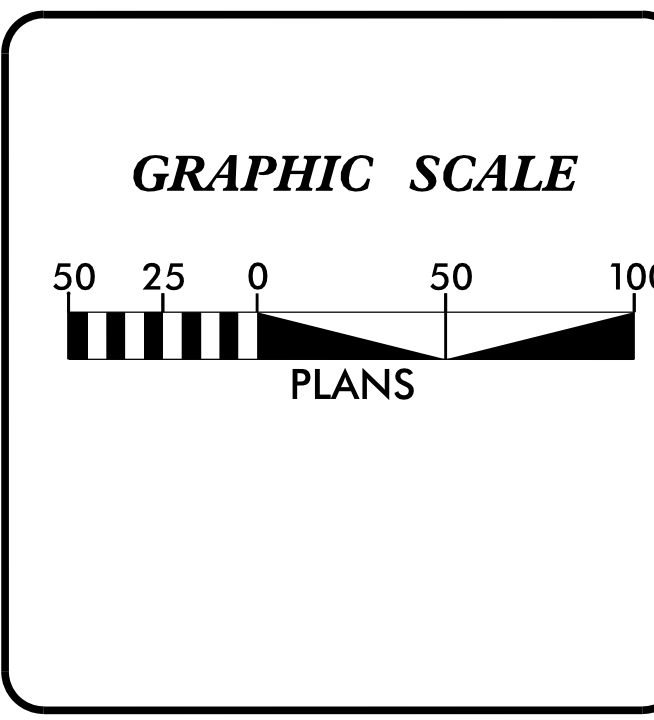
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES,  
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

**HAYWOOD COUNTY**



\$\$\$\$\$ SYSTEM \$\$\$\$\$\$  
\$\$\$\$\$ DDN \$\$\$\$\$\$  
\$\$\$\$\$ USERNAME \$\$\$\$\$\$



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "SR 1395 G102" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 708,617,969(ft) EASTING: 798,081,299(ft) ELEVATION: 3,980.63(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9997079896

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "SR 1395 G102" TO -L- STATION 13+35.50 IS S 26°56'28.8" W 1,042.35(ft)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

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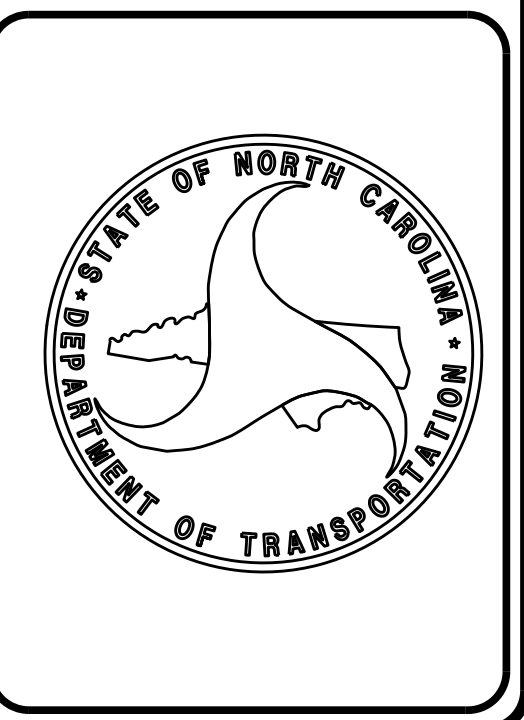
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: \_\_\_\_\_ LETTING DATE: \_\_\_\_\_

PROFESSIONAL LAND SURVEYOR

DocuSigned by:  
*Brian Barwatt*  
SIGNATURE: \_\_\_\_\_

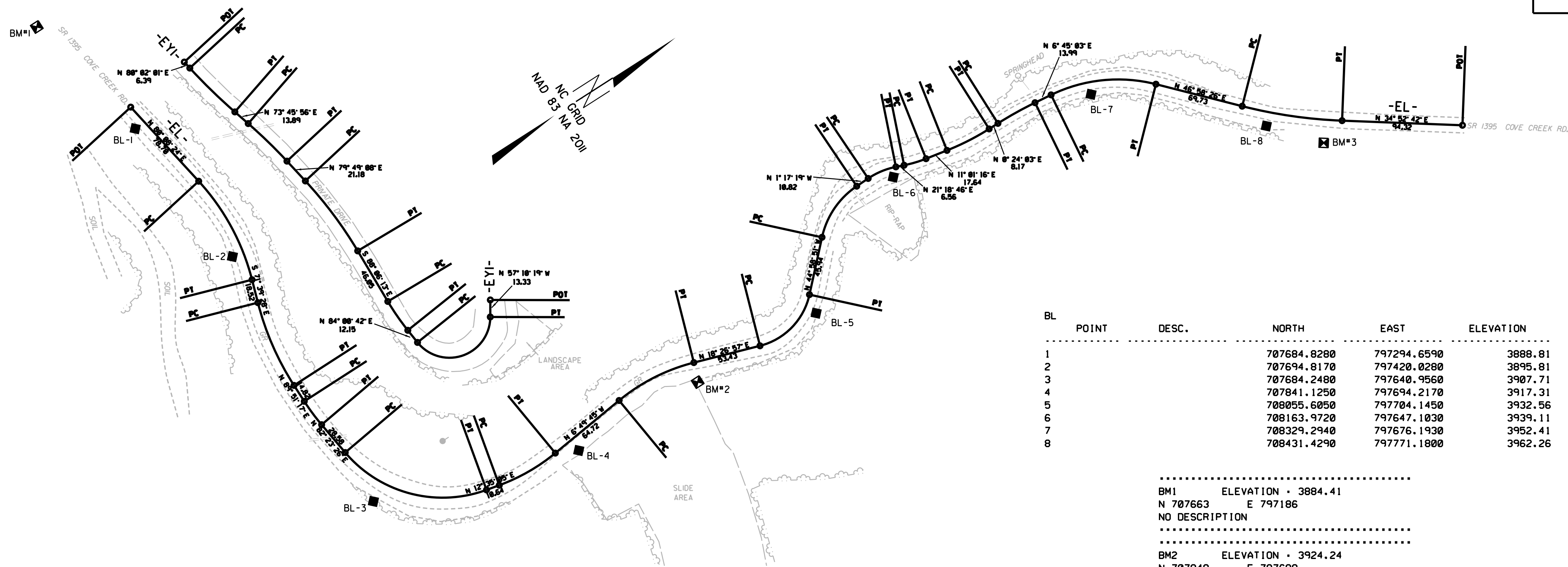
5/6/2019  
Date: \_\_\_\_\_



# SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. R-5864	SHEET NO. RW02C-1
<b>Location and Surveys</b>	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVA, NC 28779	



BL POINT	DESC.	NORTH	EAST	ELEVATION
1		707684.8280	797294.6590	3888.81
2		707694.8170	797420.0280	3895.81
3		707684.2480	797640.9560	3907.71
4		707841.1250	797694.2170	3917.31
5		708055.6050	797704.1450	3932.56
6		708163.9720	797647.1030	3939.11
7		708329.2940	797676.1930	3952.41
8		708431.4290	797771.1800	3962.26

.....  
 BM1 ELEVATION = 3884.41  
 N 707663 E 797186  
 NO DESCRIPTION  
 .....  
 BM2 ELEVATION = 3924.24  
 N 707948 E 797699  
 NO DESCRIPTION  
 .....  
 BM3 ELEVATION = 3958.36  
 N 708462 E 797807  
 NO DESCRIPTION  
 .....

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	707690.996	797278.602	N 80°08'23.9" E	78.70					
LINE									
PC	707704.473	797356.142	S 85°45'32.1" E	87.71	28°12'07.9"(RT)	31°49'51.6"	88.60	45.22	180.00
CURVE									
PT	707697.986	797443.610	S 71°39'28.2" E	18.52					
LINE									
PC	707692.158	797461.188	S 80°54'05.6" E	70.68	18°29'15.0"(LT)	26°02'36.7"	70.99	35.80	220.00
CURVE									
PT	707680.982	797530.979	N 89°51'16.9" E	14.82					
LINE									
PC	707681.019	797545.798	N 86°07'21.6" E	22.78	07°27'50.4"(LT)	32°44'25.6"	22.80	11.41	175.00
CURVE									
PT	707682.560	797568.528	N 82°23'26.4" E	28.58					
LINE									
PC	707686.344	797596.855	N 47°29'15.9" E	114.44	69°48'21.1"(LT)	57°17'44.8"	121.83	69.77	100.00
CURVE									
PT	707763.675	797681.211	N 12°35'05.3" E	10.64					
LINE									
PC	707774.063	797683.530	N 02°52'40.2" E	50.58	19°24'50.2"(LT)	38°11'49.9"	50.83	25.66	150.00
CURVE									
PT	707824.582	797686.069	N 06°49'44.9" W	64.72					
LINE									
PC	707888.839	797678.374	N 05°48'36.3" E	65.64	25°16'42.4"(RT)	38°11'49.9"	66.18	33.64	150.00
CURVE									
PT	707954.145	797685.019	N 18°26'57.5" E	53.43					
LINE									
PC	708004.825	797701.926	N 13°15'56.7" W	55.72	63°25'48.5"(LT)	108°06'18.9"	58.67	32.75	53.00
CURVE									
PT	708059.061	797689.139	N 44°58'51.0" W	45.94					
LINE									
PC	708091.557	797656.665	N 23°08'04.8" W	48.38	43°41'32.4"(RT)	88°08'50.5"	49.57	26.06	65.00
CURVE									
PT	708135.042	797637.659	N 01°17'18.6" W	10.82					
LINE									
PC	708146.857	797637.416	N 10°00'43.8" E	23.51	22°36'04.7"(RT)	95°29'34.7"	23.67	11.99	60.00
CURVE									
PT	708170.013	797641.504	N 21°18'46.1" E	6.56					
LINE									
PC	708176.122	797643.887	N 16°10'01.1" E	17.94	10°17'30.0"(LT)	57°17'44.8"	17.96	9.01	100.00
CURVE									
PT	708193.351	797648.882	N 11°01'16.2" E	17.64					
LINE									
PC	708210.662	797652.254	N 05°42'39.4" E	37.02	10°37'13.5"(LT)	28°38'52.4"	37.07	18.59	200.00
CURVE									
PT	708247.497	797655.937	N 00°24'02.6" E	8.17					
LINE									
PC	708255.665	797655.995	N 03°34'33.0" E	33.23	06°21'00.8"(RT)	19°05'54.9"	33.25	16.64	300.00
CURVE									
PT	708288.833	797658.067	N 06°45'03.4" E	13.99					
LINE									
PC	708302.728	797659.712	N 26°51'44.8" E	82.52	40°13'22.8"(RT)	47°44'47.3"	84.24	43.94	120.00
CURVE									
PT	708376.347	797697.000	N 46°58'26.2" E	69.73					
LINE									
PC	708423.923	797747.973	N 40°55'34.2" E	79.02	12°05'44.1"(LT)	15°16'43.9"	79.17	39.73	375.00
CURVE									
PT	708483.626	797799.737	N 34°52'42.1" E	94.32					
LINE									
POT	708561.006	797853.675							

EYI POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	707745.337	797271.556	N 80°02'00.9" E	6.39					
LINE									
PC	707746.443	797277.849	N 76°53'58.4" E	49.20	06°16'05.0"(LT)	12°43'56.6"	49.23	24.64	450.00
CURVE									
PT	707757.596	797325.773	N 73°45'55.9" E	13.89					
LINE									
PC	707761.480	797339.113	N 76°47'32.1" E	42.24	06°03'12.6"(RT)	14°19'26.2"	42.26	21.15	400.00
CURVE									
PT	707771.132	797380.237	N 79°49'08.4" E	21.18					
LINE									
PC	707774.876	797401.088	N 85°51'27.6" E	68.38	12°04'38.4"(RT)	17°37'46.1"	68.51	34.38	325.00
CURVE									
PT	707779.815	797469.289	S 88°06'13.2" E	46.05					
LINE									
PC	707778.292	797515.316	N 87°57'14.3" E	27.50	07°53'04.9"(LT)	28°38'52.4"	27.52	13.78	200.00
CURVE									
PT	707779.273	797542.799	N 84°00'41.9" E	12.15					
LINE									
PC	707780.541	797554.878	N 13°25'11.2" E	60.36	141°11'01.2"(LT)	179°02'57.5"	78.85	90.83	32.00
CURVE									
PT	707839.256	797568.888	N 57°10'19.4" W	13.33					
LINE									
POT	707846.481	797557.687							

**NOTES:**

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

# PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
R-5864	RW02D-1
<b>Location and Surveys</b>	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVA, NC 28779	

REVISIONS

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	707690.9955	797278.6024
PC	10+77.42	707704.2536	797354.8817
PRC	11+70.08	707696.4469	797446.1869
PCC	13+35.50	707688.7420	797609.0323
PT	14+79.69	707797.5705	797683.7647
PC	15+72.27	707889.4886	797672.7568
PT	16+49.69	707965.3192	797683.3572
PC	16+87.99	708000.6414	797698.1653
PT	17+50.64	708058.5969	797686.7760
PC	17+92.57	708088.2593	797657.1335
PRC	18+85.96	708174.6552	797639.4970
PRC	19+65.18	708252.0168	797653.9182
PCC	20+25.45	708311.9669	797659.1309
PT	21+01.37	708377.3597	797695.1548
PC	21+81.09	708431.7531	797753.4314
PT	22+60.25	708491.4558	797805.1953
POT	23+45.03	708561.0059	797853.6751


**NOTES:**

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATINO REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

C:\MAY\_2016\_14\41-5864\RW\_Sheets\To\_Send\1-5864-1-1.dgn  
 6/2/09  
 AT 15:14:27

6/2/19

# RIGHT OF WAY CONTROL SHEET

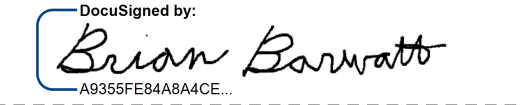
PROJECT REFERENCE NO. R-5864	SHEET NO. RW03E-1
<b>Location and Surveys</b>	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVIA, NC 28779	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Brian Barwatt, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 6th day of May, 2019.


L-4727  
 Professional Land Surveyor      PLS #      Seal

### ROW MARKER IRON PIN AND CAP - E

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+35.50	-30.00	707717.8233	797601.6649
L	13+35.50	-25.01	707712.9836	797602.8910
L	14+26.54	-30.00	707757.6315	797648.6092
L	15+00.00	-45.00	707812.3849	797636.6690
L	15+72.27	-45.00	707884.1377	797628.0760
L	16+49.69	-45.00	707982.7175	797641.8566
L	17+13.31	-43.99	708021.8600	797658.2663
L	17+57.96	-36.35	708038.0765	797655.8868
L	17+92.57	-36.50	708062.4585	797631.3154
L	18+18.56	-36.50	708093.0642	797609.3431
L	18+47.69	-32.64	708133.9970	797601.6020
L	18+60.55	-37.31	708152.3891	797596.6594
L	18+64.79	-21.59	708156.7346	797612.8298


**NOTES:**

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

REVISIONS

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 AT 15:14:27  
 bbarwatt



PROJECT REFERENCE NO. R-5864	SHEET NO. RW04
<b>Location and Surveys</b>	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVA, NC 28779	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Brian Barwatt, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. Also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

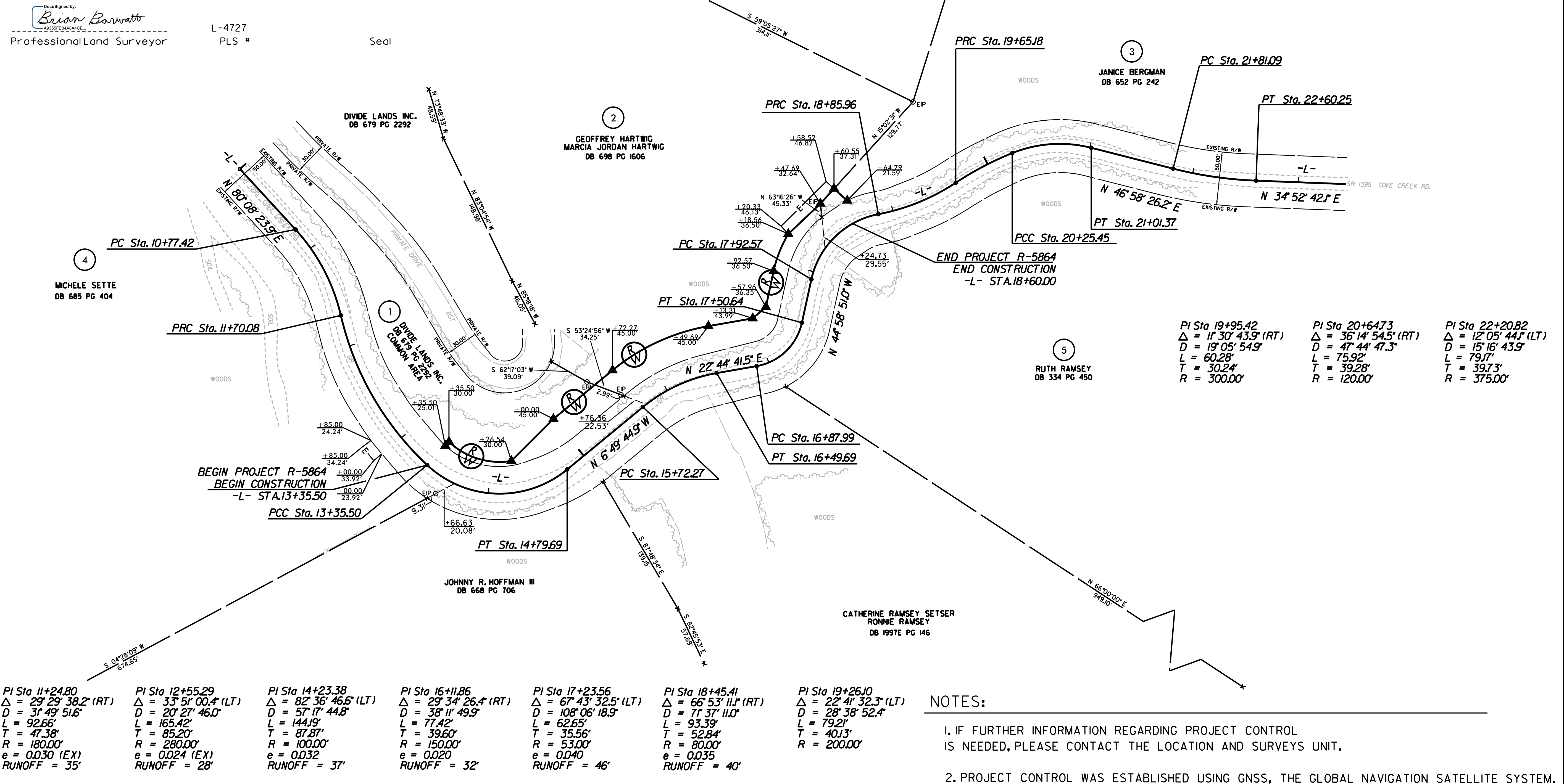
Witness my original signature, registration number and seal this 6th day of May, 2019.

DocuSigned by:  
*Brian Barwatt*  
Professional Land Surveyor

L-4727  
PLS #

Seal

REVISIONS



PI Sta 19+95.42 Δ = 11° 30' 43.9" (RT) D = 19° 05' 54.9" L = 60.28' T = 30.24' R = 300.00'	PI Sta 20+64.73 Δ = 36° 14' 54.5" (RT) D = 47° 44' 47.3" L = 75.92' T = 39.28' R = 120.00'	PI Sta 22+20.82 Δ = 12° 05' 44.1" (LT) D = 15° 16' 43.9" L = 79.17' T = 39.73' R = 375.00'
-----------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------

PI Sta 11+24.80 Δ = 29° 29' 38.2" (RT) D = 31° 49' 51.6" L = 92.66' T = 47.38' R = 180.00' e = 0.030 (EX) RUNOFF = 35'	PI Sta 12+55.29 Δ = 33° 51' 00.4" (LT) D = 20° 27' 46.0" L = 165.42' T = 85.20' R = 280.00' e = 0.024 (EX) RUNOFF = 28'	PI Sta 14+23.38 Δ = 82° 36' 46.6" (LT) D = 57° 17' 44.8" L = 144.19' T = 87.87' R = 100.00' e = 0.032 RUNOFF = 37'	PI Sta 16+11.86 Δ = 29° 34' 26.4" (RT) D = 38° 06' 49.9" L = 77.42' T = 39.60' R = 150.00' e = 0.020 RUNOFF = 32'	PI Sta 17+23.56 Δ = 67° 43' 32.5" (LT) D = 108° 06' 18.9" L = 62.65' T = 35.56' R = 53.00' e = 0.040 RUNOFF = 46'	PI Sta 18+45.41 Δ = 66° 53' 11.1" (RT) D = 71° 37' 11.0" L = 93.39' T = 52.84' R = 80.00' e = 0.035 RUNOFF = 40'	PI Sta 19+26.10 Δ = 22° 41' 32.3" (LT) D = 28° 38' 52.4" L = 79.21' T = 40.13' R = 200.00'
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**NOTES:**

- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

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bbarwatt



# 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 JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1180.01	SKINNY DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

# LEGEND

## GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.



WORK AREA

## TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM
- 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

7/2/2019 11:18:36:05R R-5864 Slide Repair\R-5864\TrafficControl\TCP\R-5864\_TMP\_SHEET\_2.dgn

APPROVED: DATE: 07-03-2019			PREPARED BY 
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			<b>TRAFFIC CONTROL PLANS ROADWAY STANDARD DRAWINGS &amp; LEGEND</b>

### 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 UNDESIRABLE 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.

#### LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.  
WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

#### PAVEMENT EDGE DROP OFF REQUIREMENTS

- F) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:  
  
BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.  
  
BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.  
  
BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- G) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

#### TRAFFIC PATTERN ALTERATIONS

- H) GSMNP AND NCDOT'S COMMUNICATION OFFICE SHOULD COORDINATE PUBLIC NOTIFICATION OUTREACH.
- I) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.
- J) THE CONTRACTOR WILL NOTIFY HAYWOOD COUNTY NC EMS AND COCKE COUNTY TN EMS 48 HOURS PRIOR TO CLOSING COVE CREEK ROAD.
- K) THE CONTRACTOR WILL VERIFY COORDINATION BETWEEN NCDOT PROJECT MANAGEMENT AND NCDOT BRIDGE MANAGEMENT TO ENSURE THE CLOSURE OF COVE CREEK ROAD WILL NOT REQUIRE ADDITIONAL TRAFFIC CONTROL FOR BRIDGE PROJECTS.

#### SIGNING

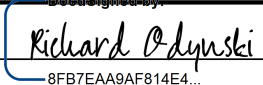
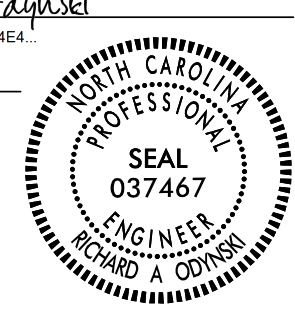


- L) CONTRACTOR TO PLACE CHANGEABLE MESSAGE SIGN AT BOTH ENDS OF CLOSURE TWO WEEKS PRIOR TO CLOSURE.
- M) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

### PHASING NOTES

ICT #1: COVE CREEK RD MAY BE CLOSED FROM FEBRUARY 10, 2020 TO MAY 20, 2020. SEE SPECIAL PROVISIONS FOR MORE INFORMATION AND LIQUIDATED DAMAGES.

- STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS ON ALL ROADS ACCORDING TO ROADWAY STANDARD DRAWING NO. 1101.01 WHERE WORK WILL BE OCCURRING NO MORE THAN THREE DAYS PRIOR TO BEGINNING CONSTRUCTION.
- STEP 2: USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 14, CONSTRUCT ROADWAY IMPROVEMENTS BEFORE ROAD CLOSURE, AS NEEDED.
- STEP 3: USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, INSTALL ROAD CLOSURE SIGNS FOR COVE CREEK RD.
- STEP 4: REMOVE ROAD CLOSURE DEVICES AND SIGNS ONCE CONSTRUCTION IS COMPLETE.

12/12/2019  
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Bart

APPROVED:  DATE: 12/12/2019			PREPARED BY   <b>TRAFFIC CONTROL PLANS</b> GENERAL NOTES AND WRITTEN PHASING
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

**TIP PROJECT: R-5864**

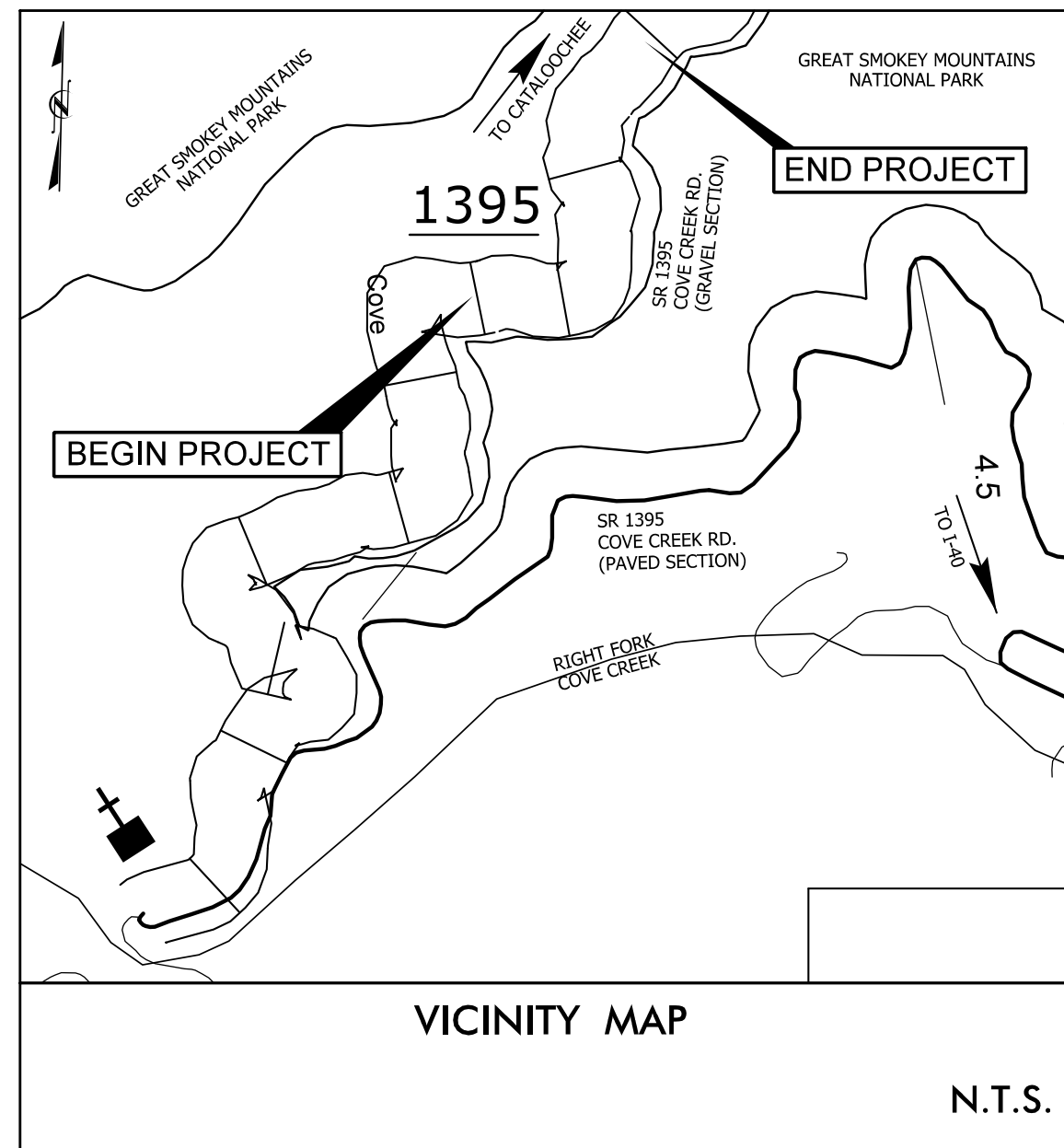
**CONTRACT: DN00689**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

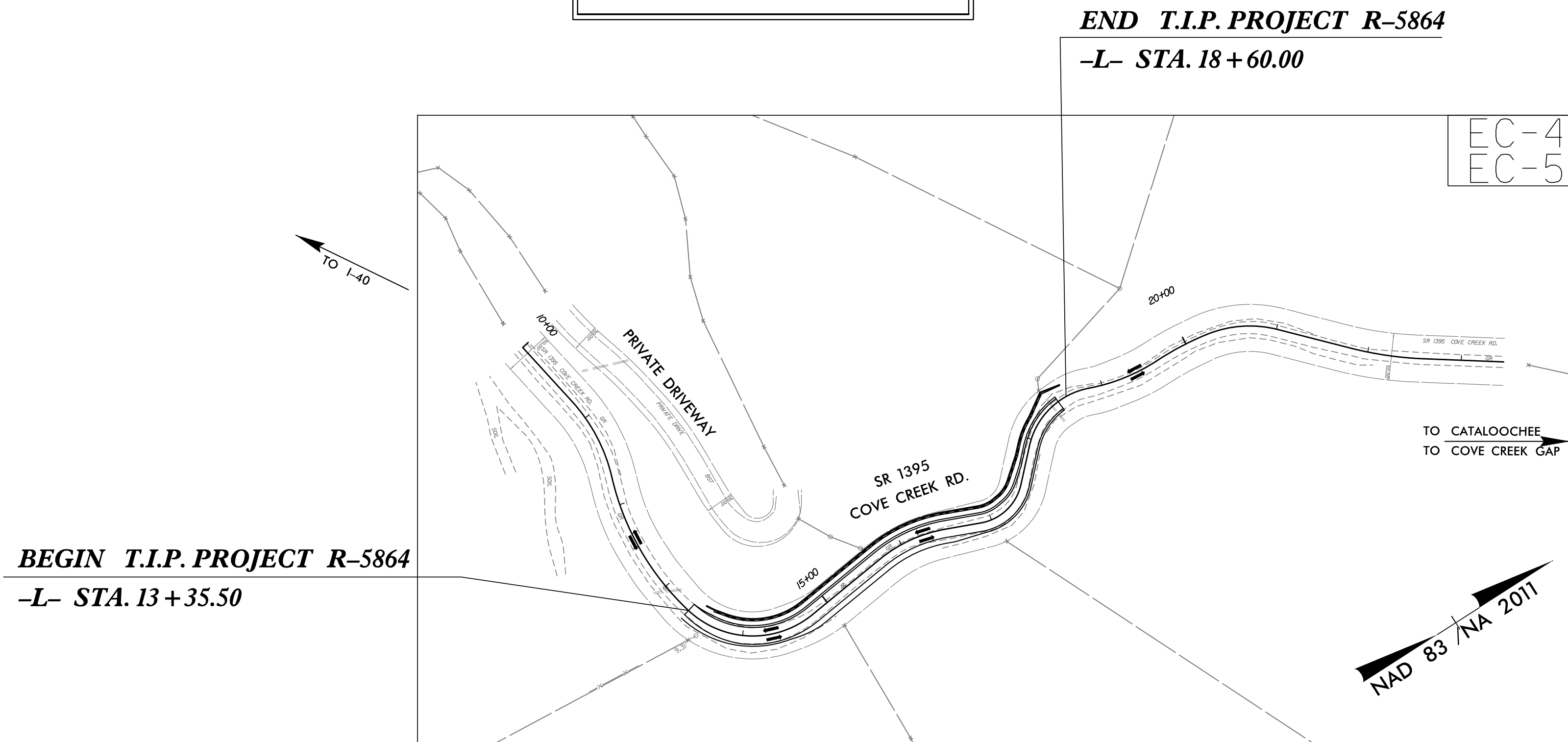
**HAYWOOD COUNTY**

PLAN FOR PROPOSED  
**HIGHWAY EROSION CONTROL**

**LOCATION: SR 1395 (COVE CREEK ROAD), SOUTH OF COVE CREEK GAP  
IN THE GREAT SMOKEY MOUNTAINS NATIONAL PARK**



FINAL EROSION  
CONTROL PLANS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5864	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
DN00689	N/A		
47627.1.1	N/A	PE	
47627.2.1	N/A	RIGHT-OF-WAY	
47624.3.1	N/A	CONSTRUCTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

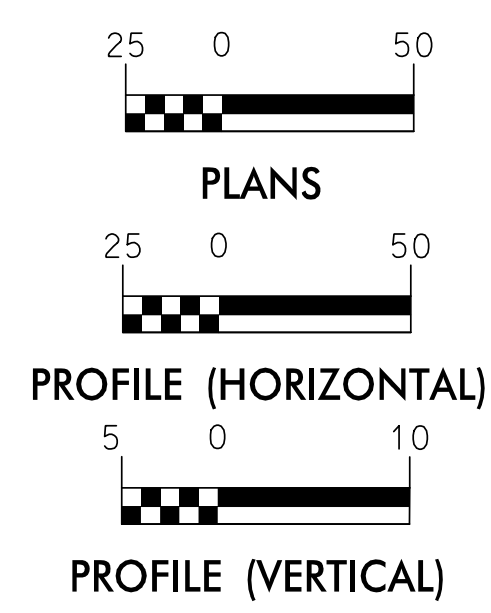
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	▲▲▲
1622.01	Temporary Berms and Slope Drains	—
1630.02	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
1633.02	Temporary Rock Silt Check Type-B	▨
	Wattle / Coir Fiber Wattle	—
	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 CONTAINS  
EROSION CONTROL PLANS  
FOR FINAL PHASE OF  
CONSTRUCTION.**

**THIS PROJECT HAS  
BEEN DESIGNED TO  
SENSITIVE WATERSHED  
STANDARDS.**

**GRAPHIC SCALE**



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE DECEMBER 1, 2018 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared In the Office of:  
**wsp**  
1001 MOREHEAD SQUARE DRIVE  
SUITE 610  
CHARLOTTE, NC 28203  
NC LIC. NO. F-0165  
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Designed by:  
**CHARLES W. HEAFNER, PE** 3440  
NAME LEVEL III CERTIFICATION NO.

Reviewed In the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611

2018 STANDARD SPECIFICATIONS

Reviewed by:  
**REID WHITEHEAD, PE**

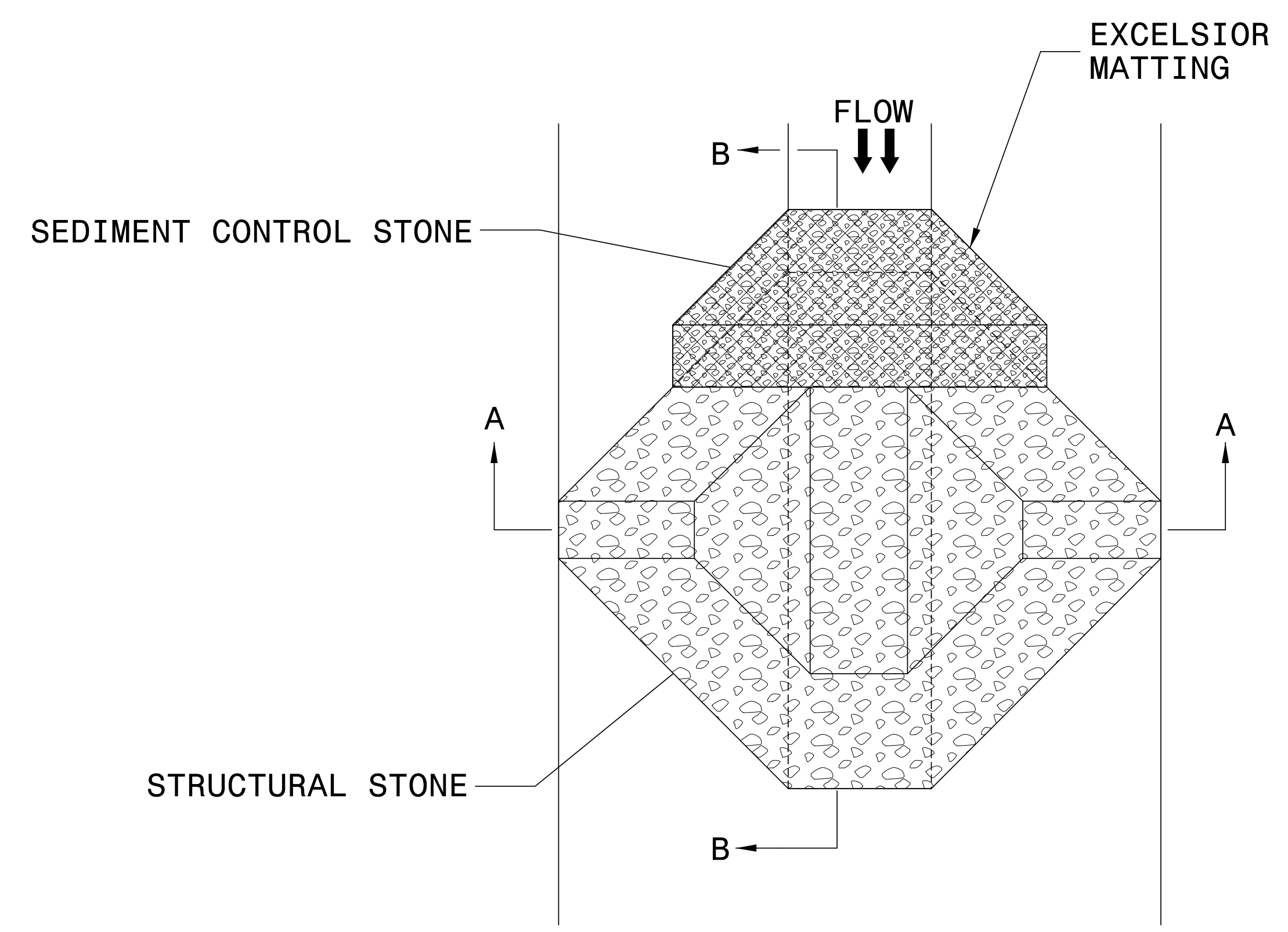
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision 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	

PROJECT REFERENCE NO. <i>R-5864</i>	SHEET NO. <i>EC-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN

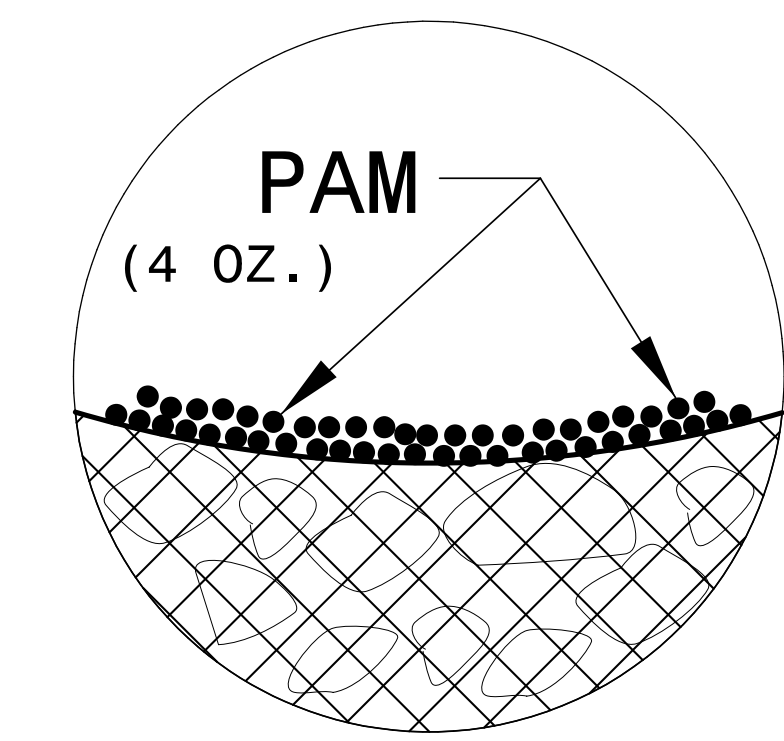
**NOTES:**

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

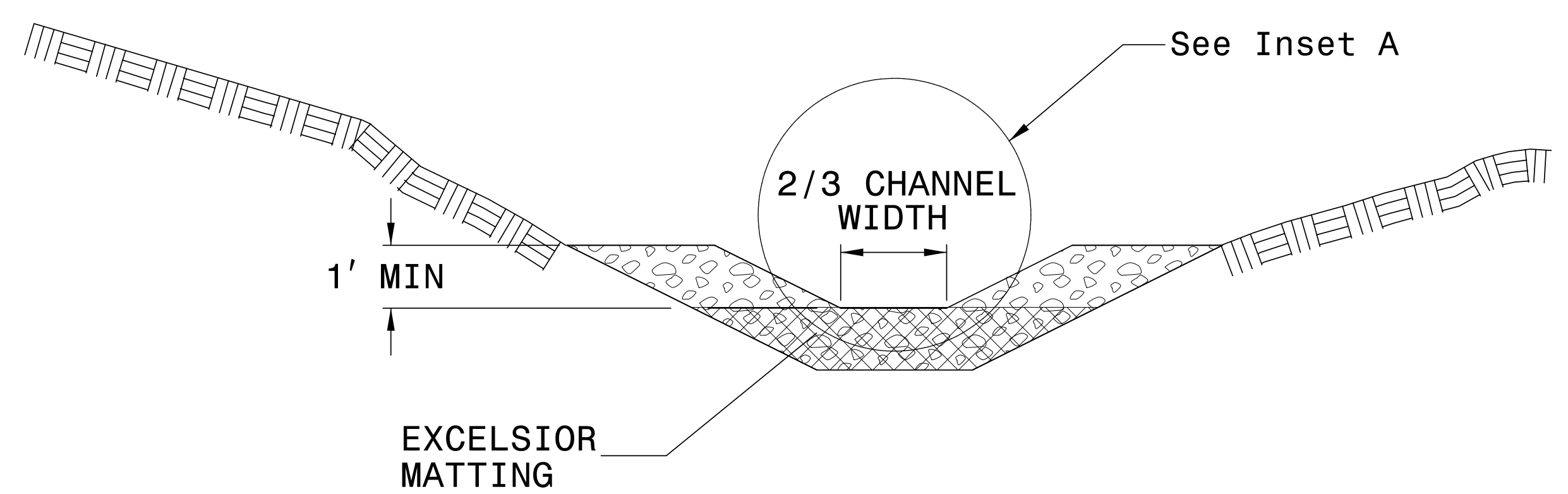
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

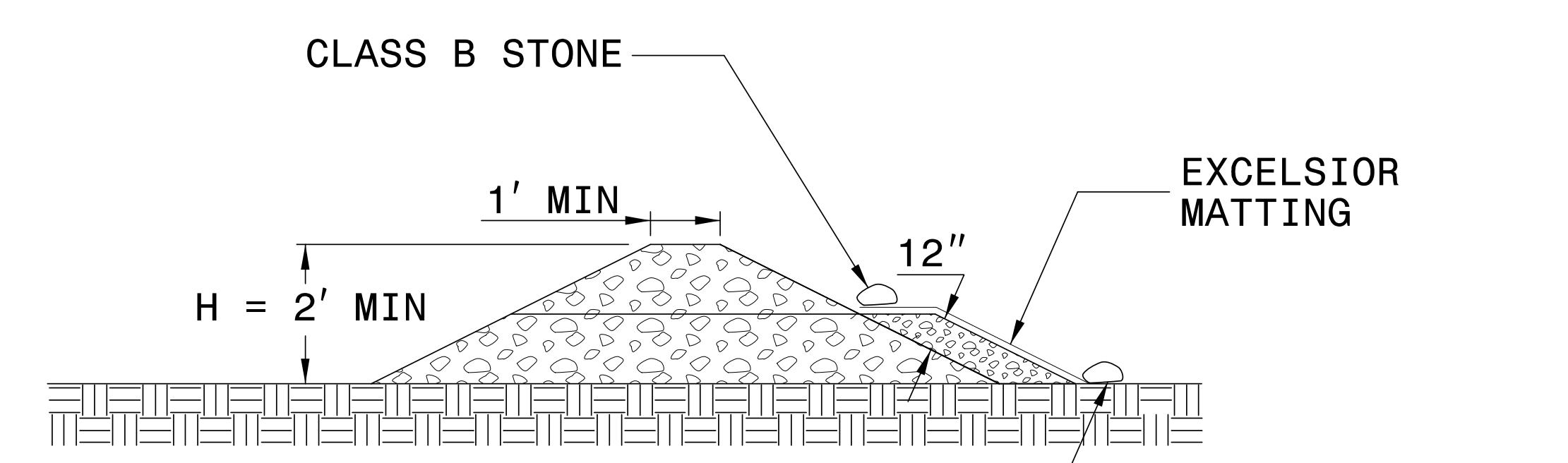
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A

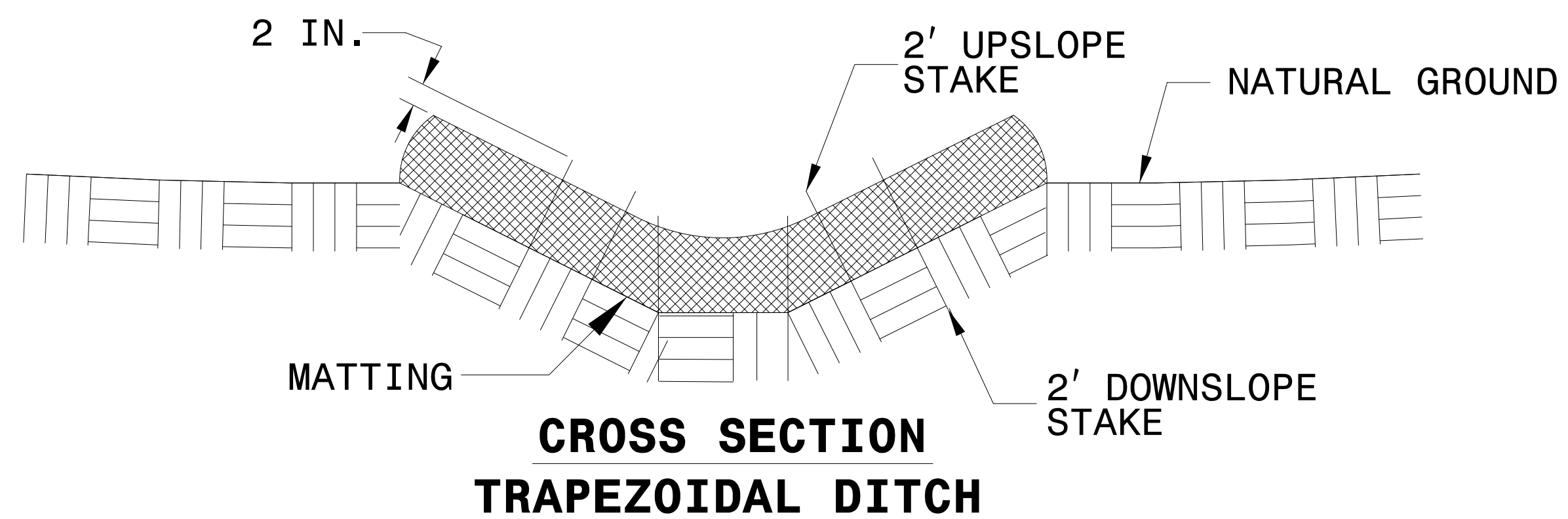
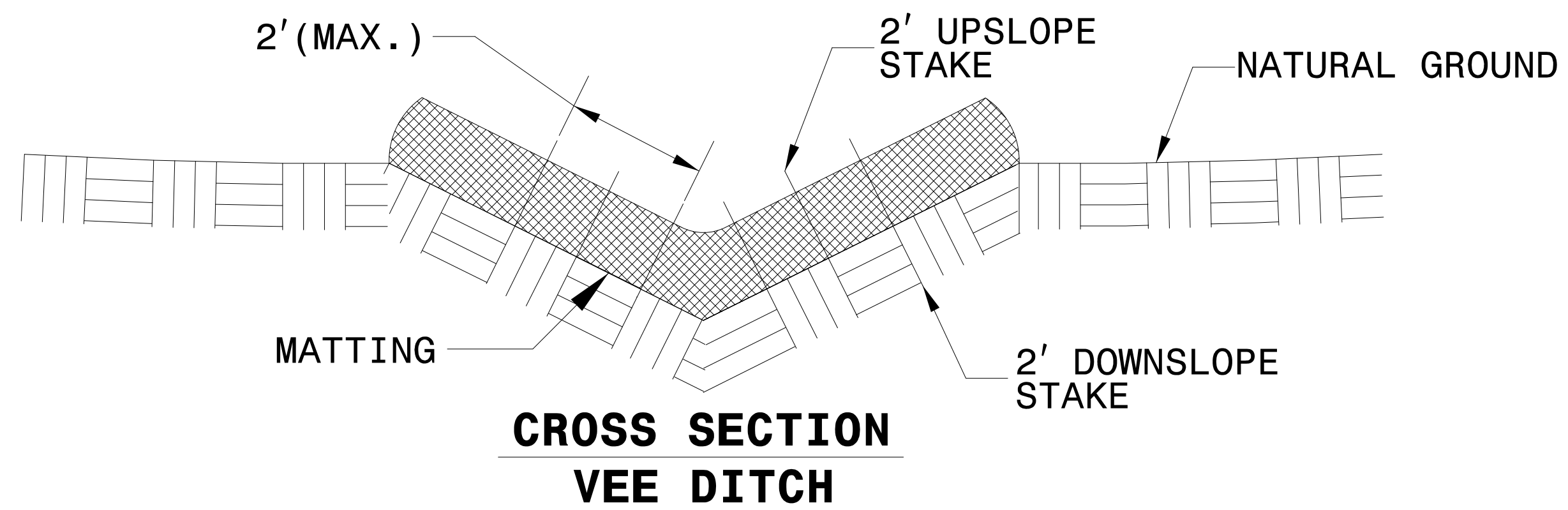
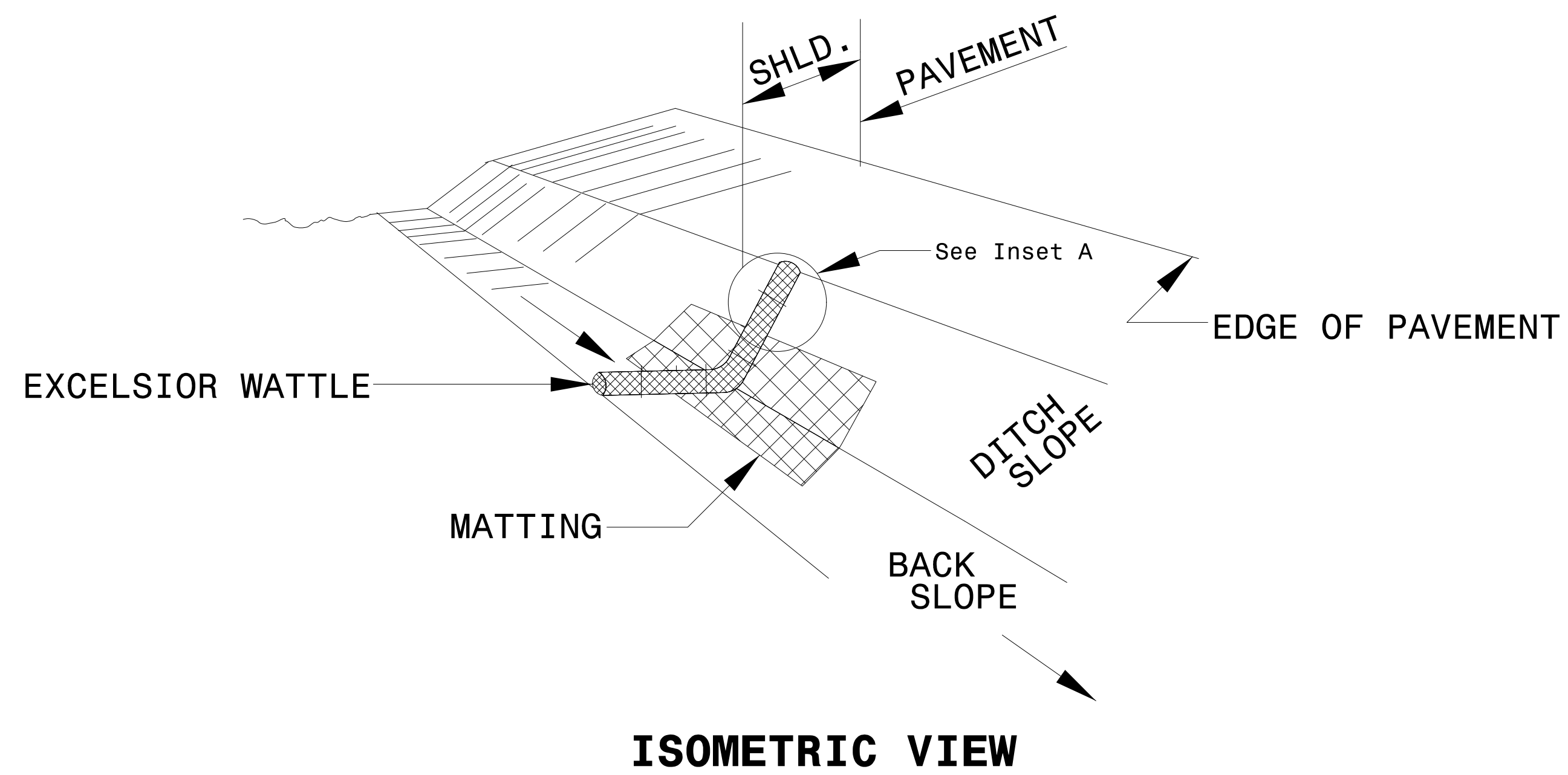


SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO. <i>R-5864</i>	SHEET NO. <i>EC-2A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# WATTLE DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

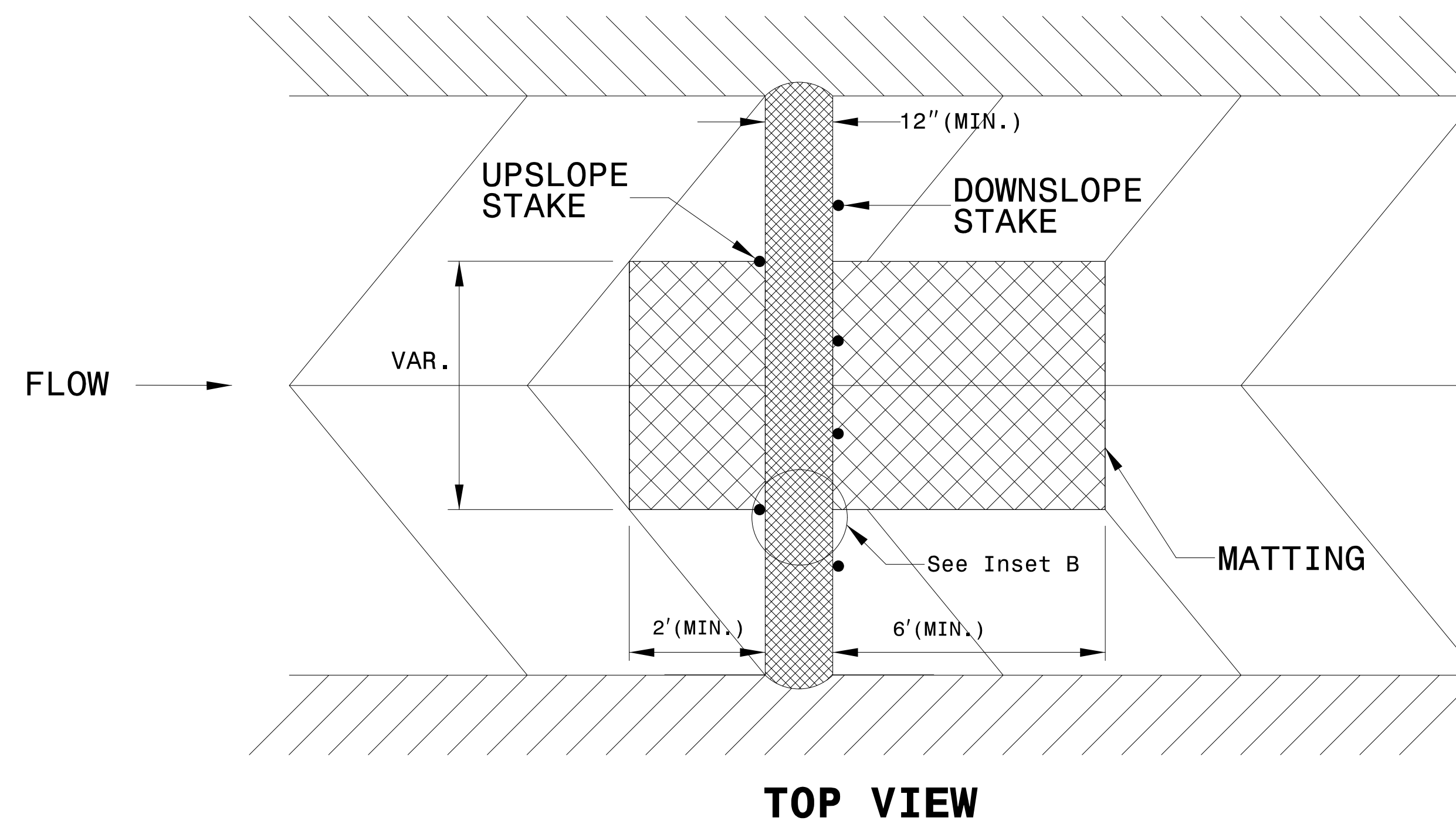
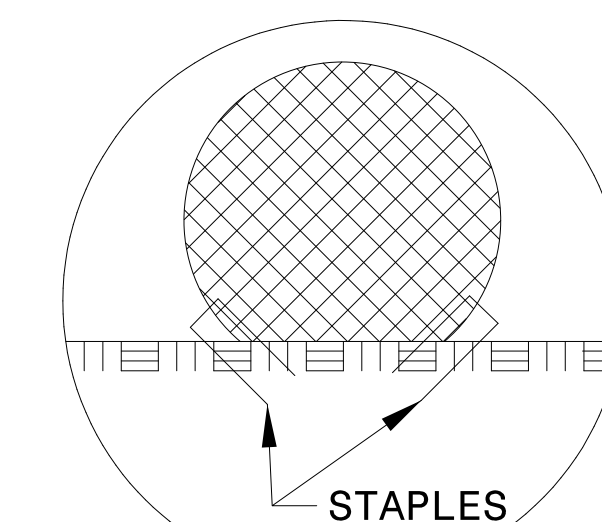
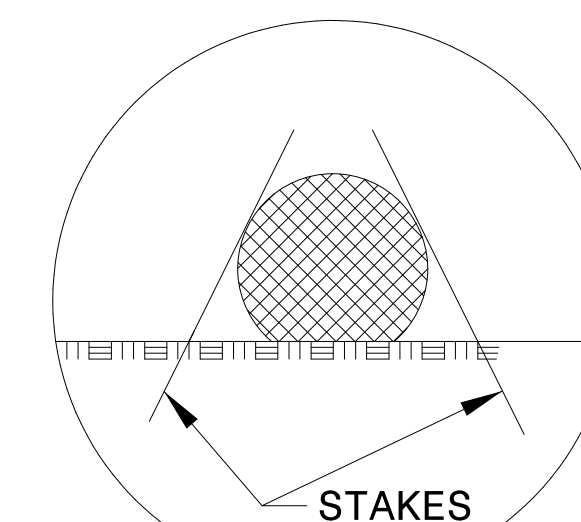
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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.



DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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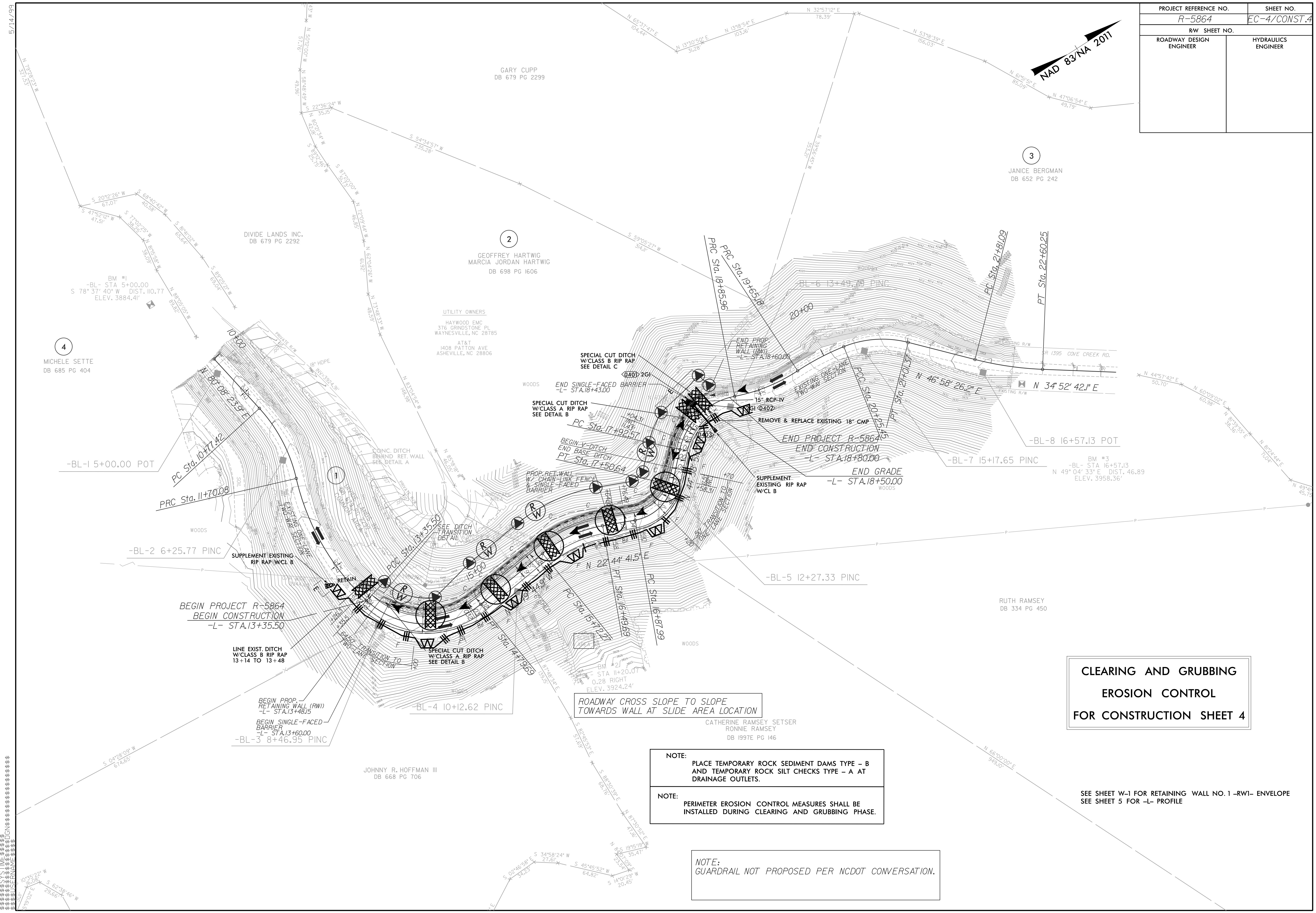
PROJECT REFERENCE NO. <i>R-5864</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ***SOIL STABILIZATION TIMEFRAMES***

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
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.	
R-5864		EC-4/CONST.4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



5.14.199

4  
MICHELE SETTE  
DB 685 PG 404

DIVIDE LANDS INC.  
DB 679 PG 2292

2  
GEOFFREY HARTWIG  
MARCIA JORDAN HARTWIG  
DB 698 PG 1606

UTILITY OWNERS  
HAYWOOD EMC  
376 GRINDSTONE PL  
WAYNESVILLE, NC 28785  
AT&T  
1408 PATTON AVE  
ASHEVILLE, NC 28806

3  
JANICE BERGMAN  
DB 652 PG 242

RUTH RAMSEY  
DB 334 PG 450

JOHNNY R. HOFFMAN III  
DB 668 PG 706

CATHERINE RAMSEY SETSER  
RONNIE RAMSEY  
DB 1997E PG 146

**CLEARING AND GRUBBING  
EROSION CONTROL  
FOR CONSTRUCTION SHEET 4**

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

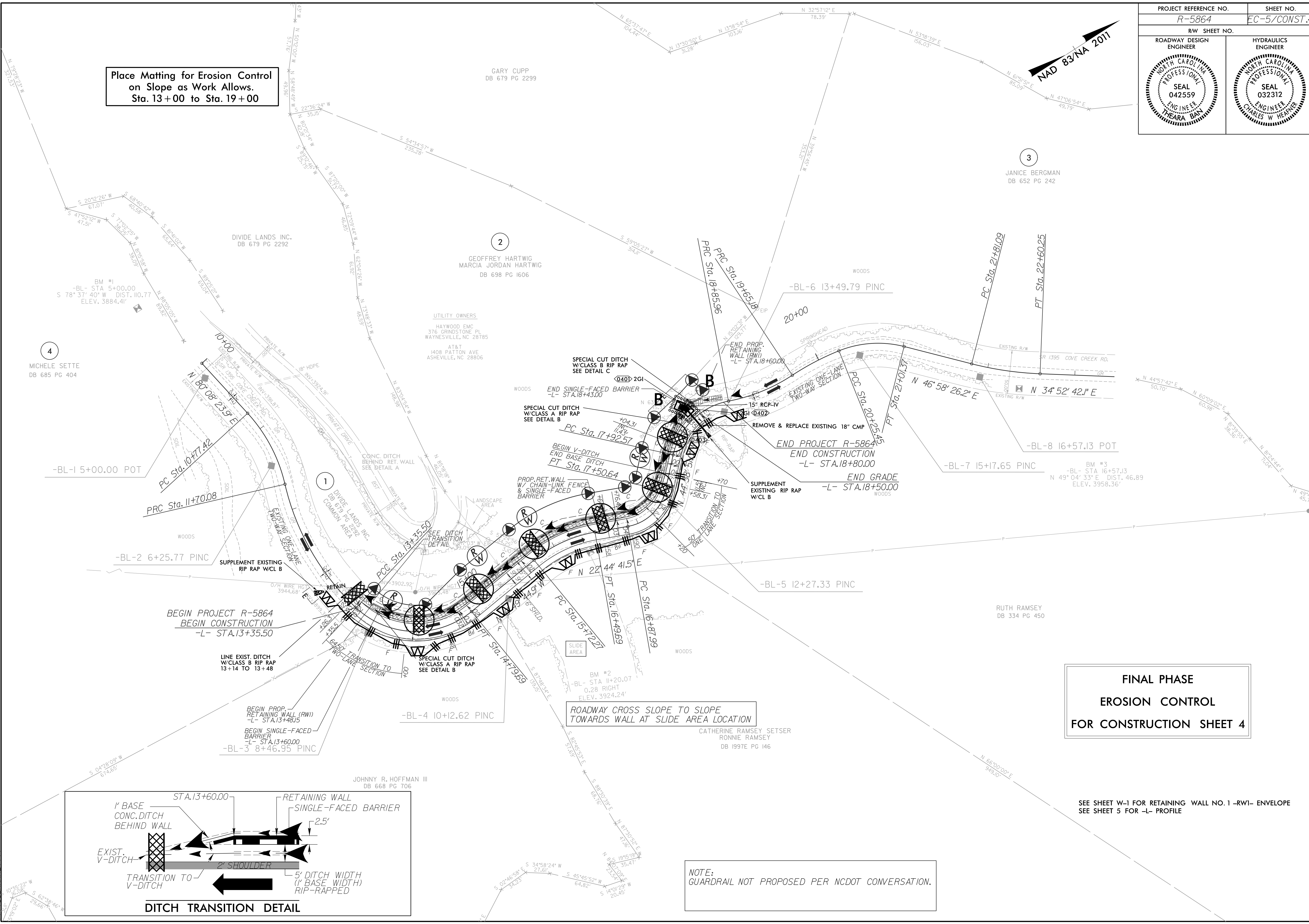
**NOTE:**  
PERIMETER EROSION CONTROL MEASURES SHALL BE  
INSTALLED DURING CLEARING AND GRUBBING PHASE.

**NOTE:**  
GUARDRAIL NOT PROPOSED PER NCDOT CONVERSATION.

SEE SHEET W-1 FOR RETAINING WALL NO. 1 -RW1- ENVELOPE  
SEE SHEET 5 FOR -L- PROFILE

PROJECT REFERENCE NO. R-5864	SHEET NO. EC-5/CONST.4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Place Matting for Erosion Control on Slope as Work Allows. Sta. 13+00 to Sta. 19+00



4  
MICHELE SETTE  
DB 685 PG 404

2  
GEOFFREY HARTWIG  
MARCIA JORDAN HARTWIG  
DB 698 PG 1606

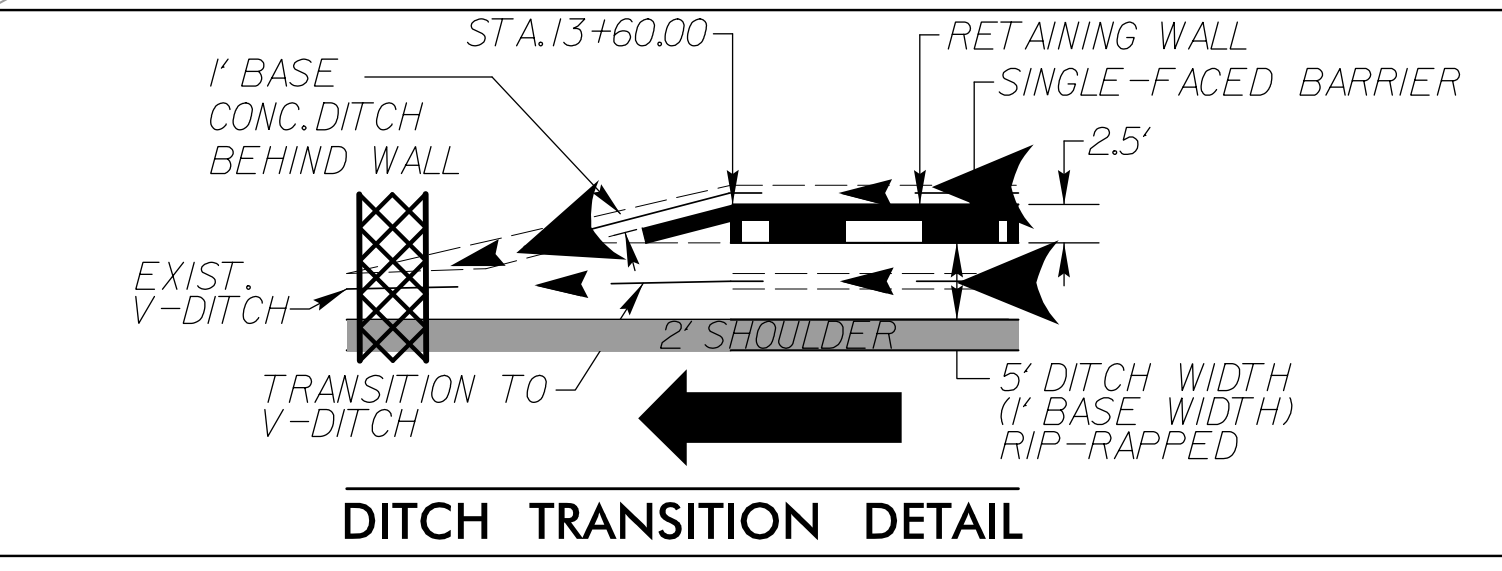
3  
JANICE BERGMAN  
DB 652 PG 242

JOHNNY R. HOFFMAN III  
DB 668 PG 706

CATHERINE RAMSEY SETSER  
RONNIE RAMSEY  
DB 1997E PG 146

RUTH RAMSEY  
DB 334 PG 450

**FINAL PHASE  
EROSION CONTROL  
FOR CONSTRUCTION SHEET 4**



ROADWAY CROSS SLOPE TO SLOPE TOWARDS WALL AT SLIDE AREA LOCATION

NOTE:  
GUARDRAIL NOT PROPOSED PER NCDOT CONVERSATION.

SEE SHEET W-1 FOR RETAINING WALL NO. 1 -RW1- ENVELOPE  
SEE SHEET 5 FOR -L- PROFILE