

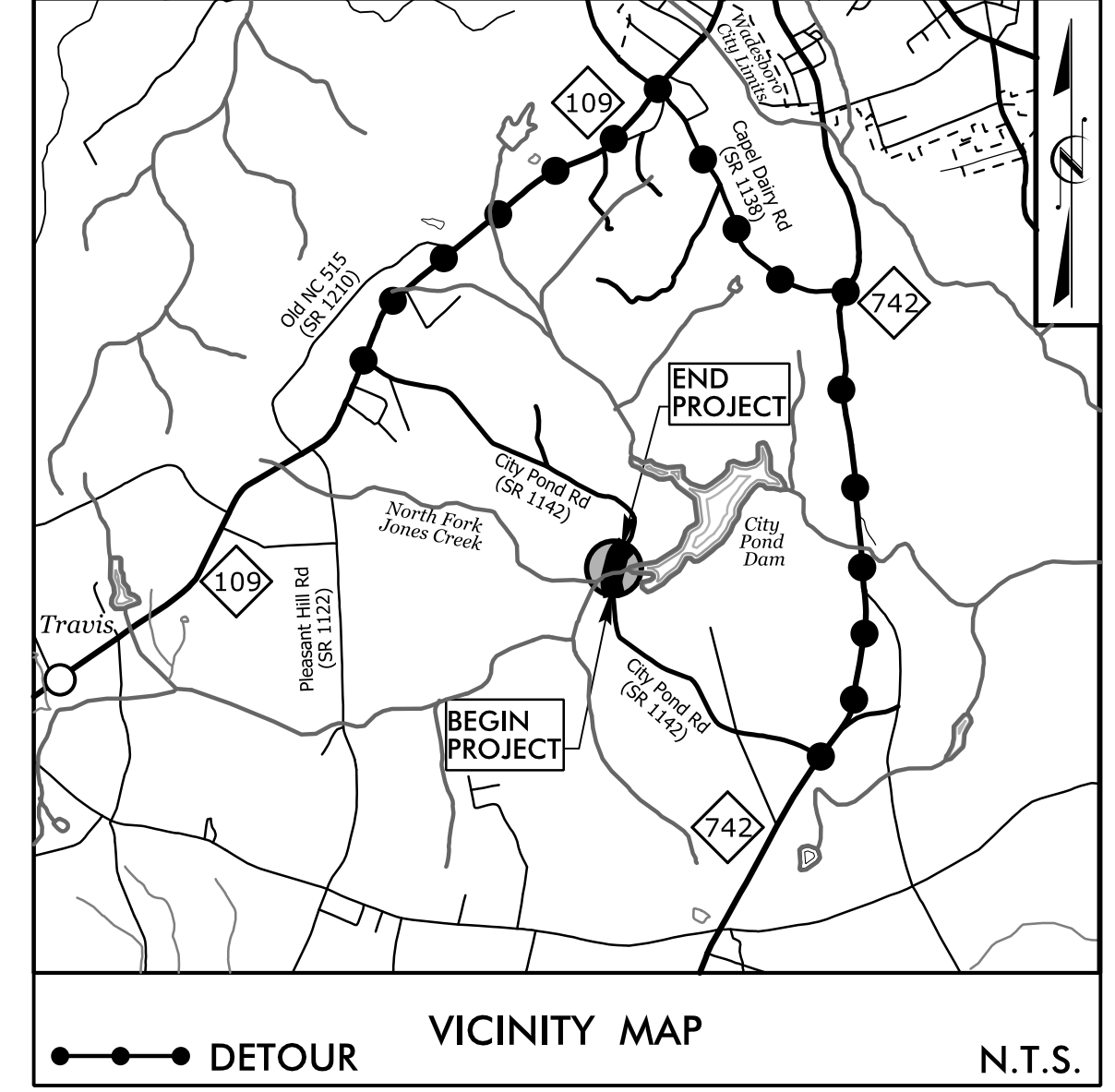
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**TIP PROJECT: B-5809**

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

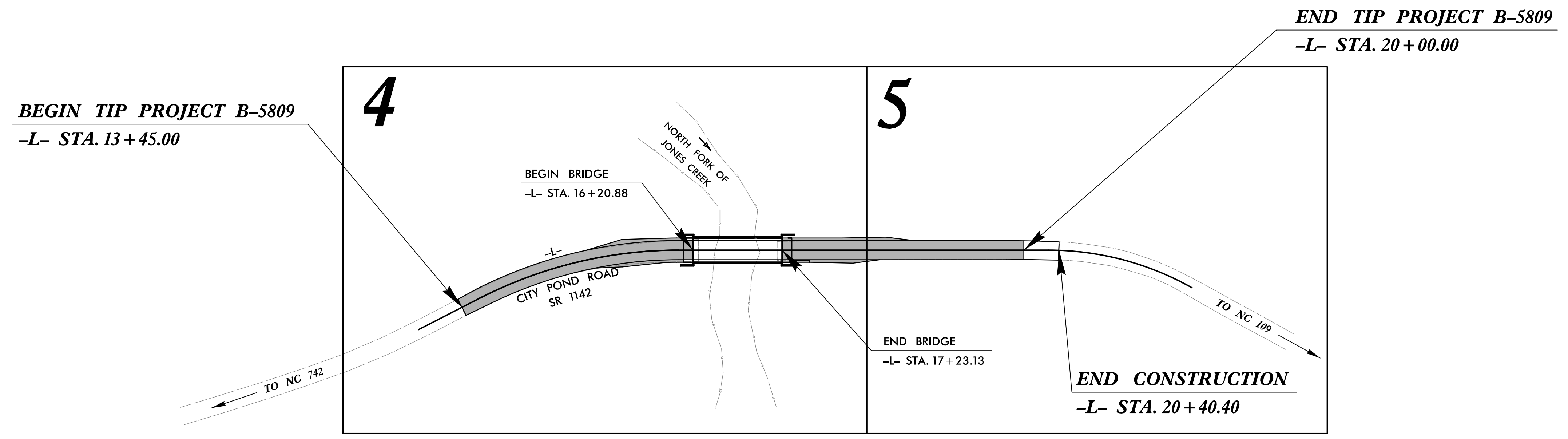
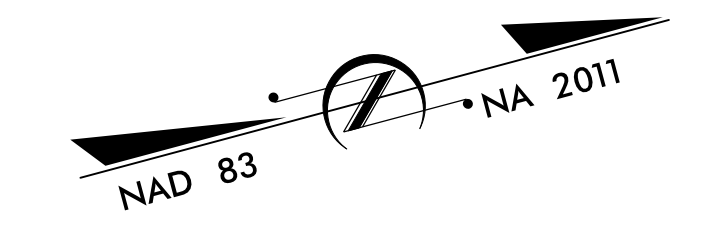
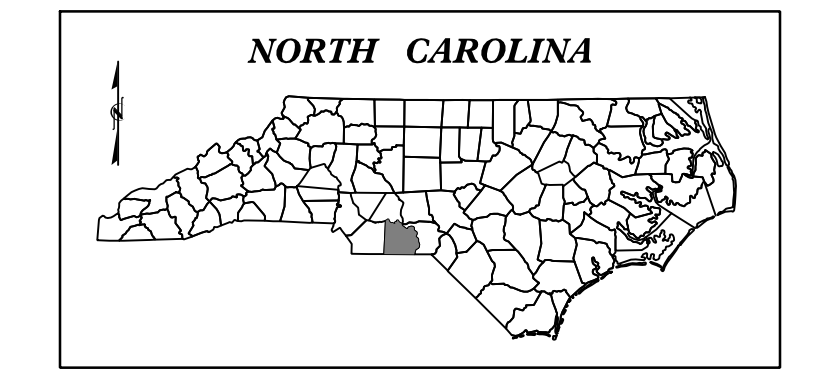


**FINAL PLANS**

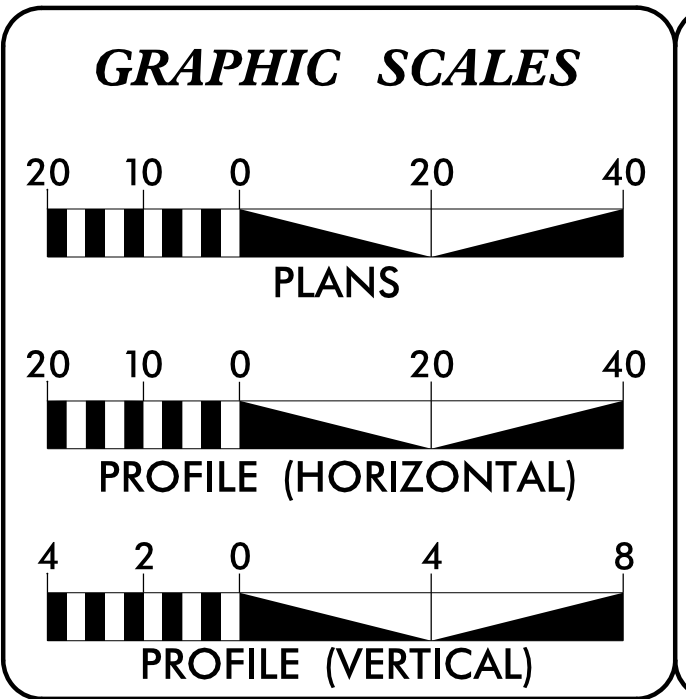
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**ANSON COUNTY**

**LOCATION: BRIDGE #075 ON SR 1142 (CITY POND ROAD) OVER N. FORK OF JONES CREEK**  
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	<b>B-5809</b>	<b>1</b>	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45763.1.1	BRZ 1142(012)	P.E.	
45763.2.1	BRZ 1142(012)	ROW & UTIL	
45763.3.1	BRZ 1142(012)	CONSTRUCTION	



**CONTRACT:**



**DESIGN DATA**

ADT 2015 =	190
ADT 2025 =	380
DHV =	N/A
D =	N/A
T =	6%
V =	35 MPH
FUNC. CLASSIFICATION: LOCAL SUB REGIONAL TIER	

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-5809 = .105 MILES  
LENGTH OF STRUCTURE TIP PROJECT B-5809 = .019 MILES  
TOTAL LENGTH OF TIP PROJECT B-5809 = .124 MILES

NCDOT CONTACT: GARLAND HAYWOOD, PE  
Division Bridge Manager

**PLANS PREPARED FOR THE NCDOT BY:**

**STV** 100 Years  
STV Engineers, Inc.  
900 West Trade St., Suite 715  
Charlotte, NC 28202  
NC License Number F-0991

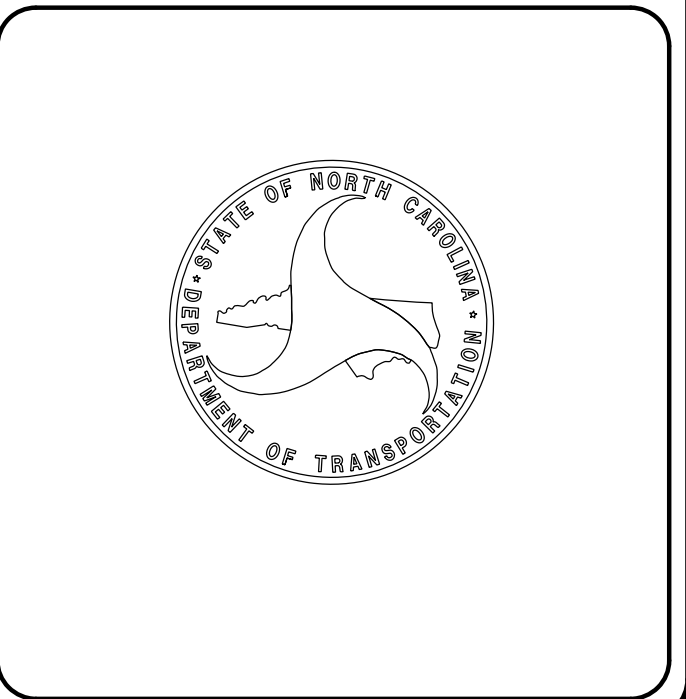
2018 STANDARD SPECIFICATIONS	
<b>RIGHT OF WAY DATE:</b> JULY 31, 2019	<b>NIKKI T. HONEYCUTT, PE</b> PROJECT ENGINEER
<b>LETTING DATE:</b> FEBRUARY 16, 2022	<b>CLARK E. GROVES</b> PROJECT DESIGNER

**HYDRAULICS ENGINEER**

DocuSigned by:  
*Edward J. Vance*  
EDWARD J. VANCE, P.E.  
12/7/2021

**ROADWAY DESIGN ENGINEER**

DocuSigned by:  
*Nikki T. Honeycutt*  
NIKKI T. HONEYCUTT, P.E.  
12/7/2021



**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**





# 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	-----x
Property Monument	□ ECM
Parcel/Sequence Number	⑩②③
Existing Fence Line	-x-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-☣-S-
Potential Contamination Area: Soil	☣-S-☣-S-
Known Contamination Area: Water	☣-W-☣-W-
Potential Contamination Area: Water	☣-W-☣-W-
Contaminated Site: Known or Potential	☠ ?

### 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	-----
False Sump	-----

### RAILROADS:

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

### RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	●
Exist Permanent Easment 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	-----
New Right of Way Line with Pin and Cap	-----
New Right of Way Line with Concrete or Granite R/W Marker	-----
New Control of Access Line with Concrete CA Marker	-----
Existing Control of Access	-----
New Control of Access	-----
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	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

### VEGETATION:

Single Tree	☼
Single Shrub	☼

*Note: Not to Scale*      \*S.U.E. = *Subsurface Utility Engineering*

Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

### EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

### 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.*)	-----TF
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----TF
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----TF

### WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
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.*)	-----TUTL
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.



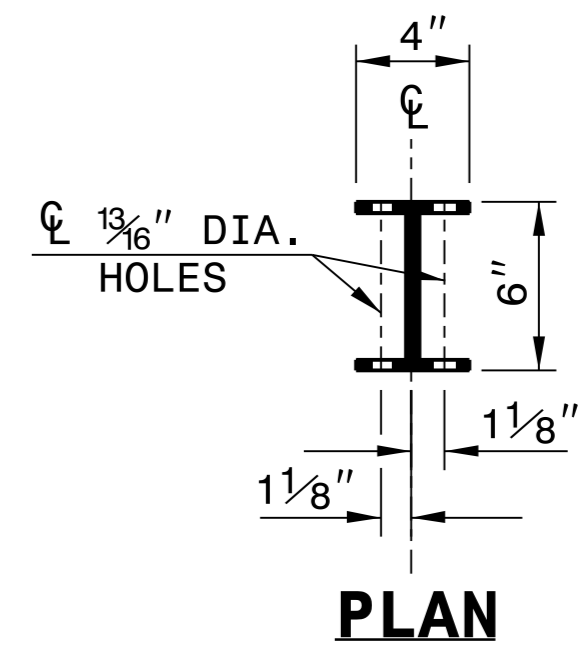
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 6 OF 8  
**862D02**



**STANDARD W-BEAM GUARDRAIL**



**PLAN**



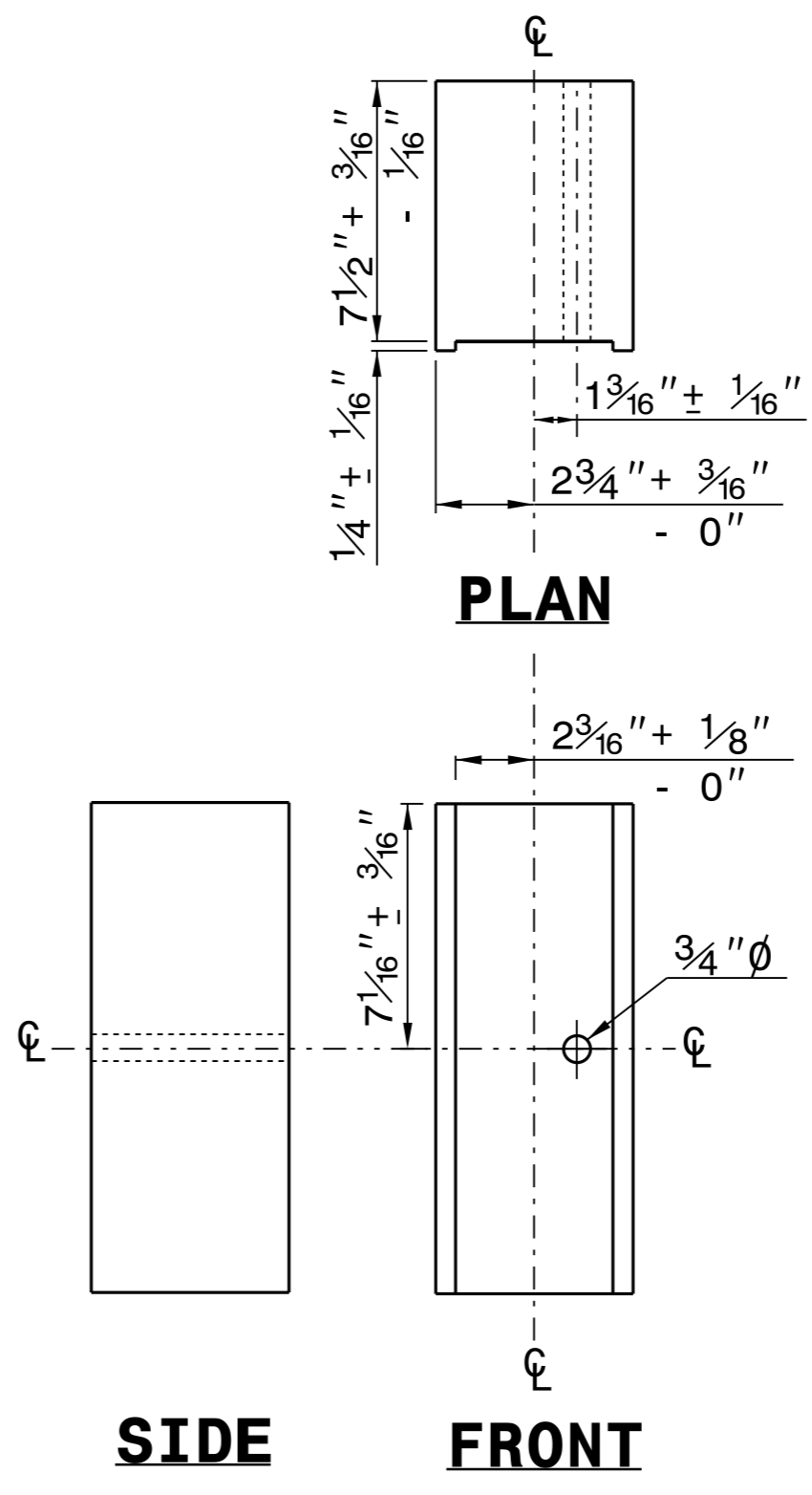
**WOOD OFFSET BLOCK  
(FOR WOOD POSTS)**

**STANDARD  
LINE POST**

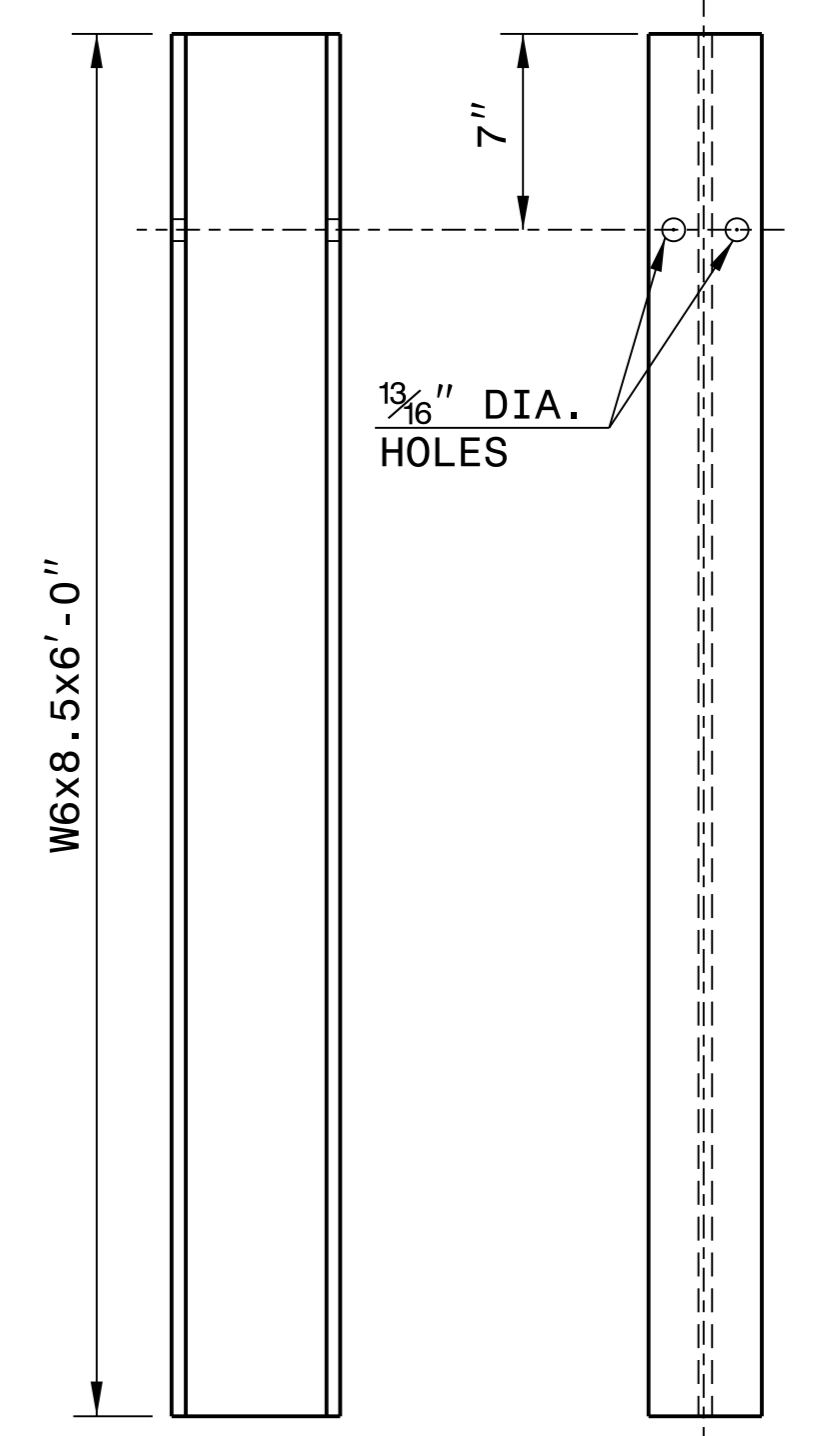
**SHORT WOOD  
BREAKAWAY POST**



**STEEL TUBE  
TS 6"x8"x0.1875"**



**ROUTED  
OFFSET BLOCK**



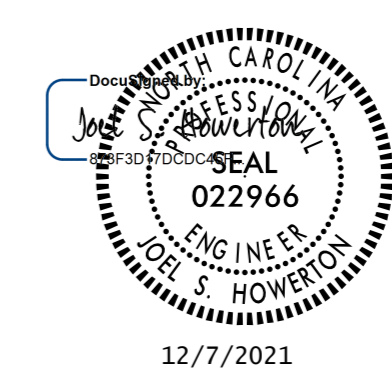
**"W6" STEEL POST**

**SYSTEM PARTS**

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

ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 6 OF 8  
**862D02**



12/7/2021

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

**SEE TITLE BLOCK**

ORIGINAL BY: J. HOWERTON	DATE: 3-7-2018
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

I4-DEC-2017 10:36 S:\Contracts\Special Details\Standard Drawings\Division 8\0862d0301.dgn  
 Jhowerton AT: USD-292595

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

ROADWAY DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
GUARDRAIL ANCHOR UNIT, TYPE III  
FOR ATTACHMENT TO RAIL ON BRIDGE

SHEET 1 OF 7  
**862D03**

SHEET 1 OF 7  
**862D03**

**NOTE:**

- \*\*POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- \*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.
- SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" X 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
- MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.

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

ROADWAY DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO  
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7  
**862D03**

SHEET 2 OF 7  
**862D03**

**NOTE:**

- \*\*POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- \*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.
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- MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.

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

**SEE TITLE BLOCK**

ORIGINAL BY: J HOWERTON

DATE: 06-22-12

MODIFIED BY:

DATE:

CHECKED BY:

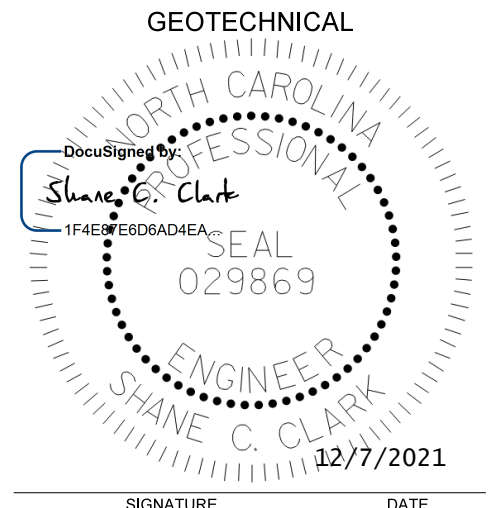
DATE:

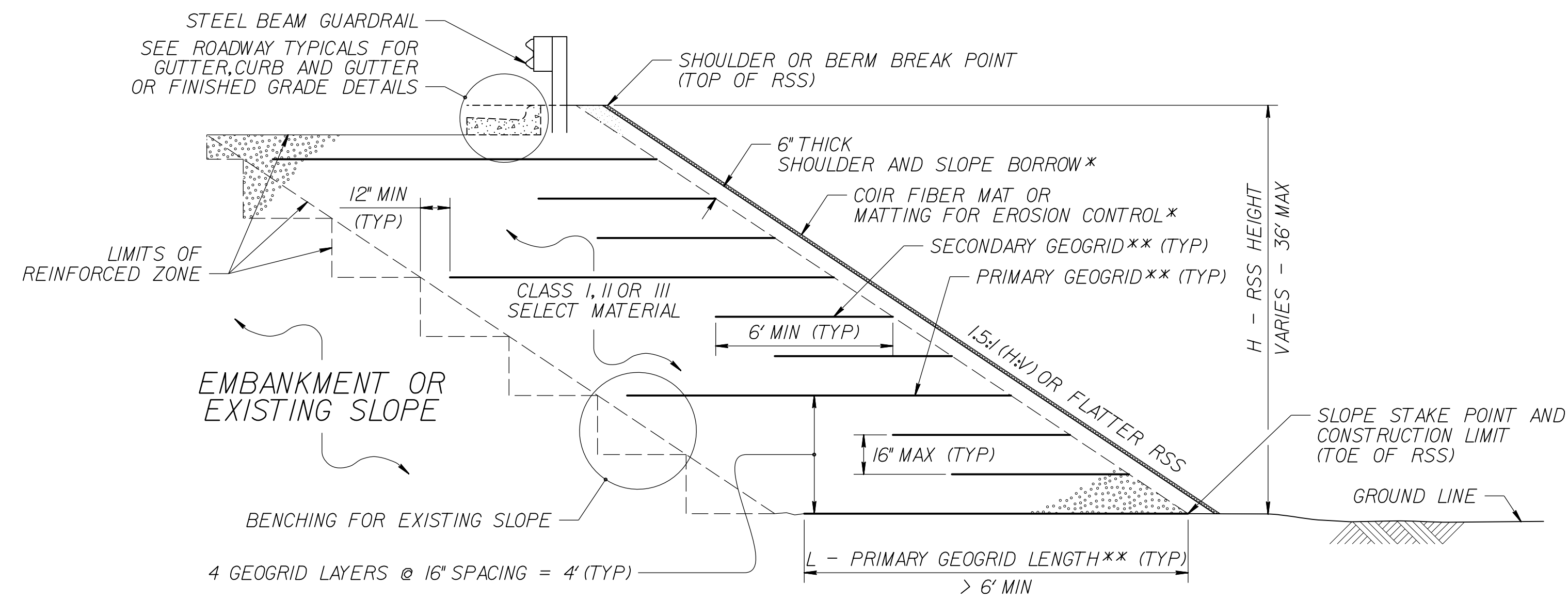
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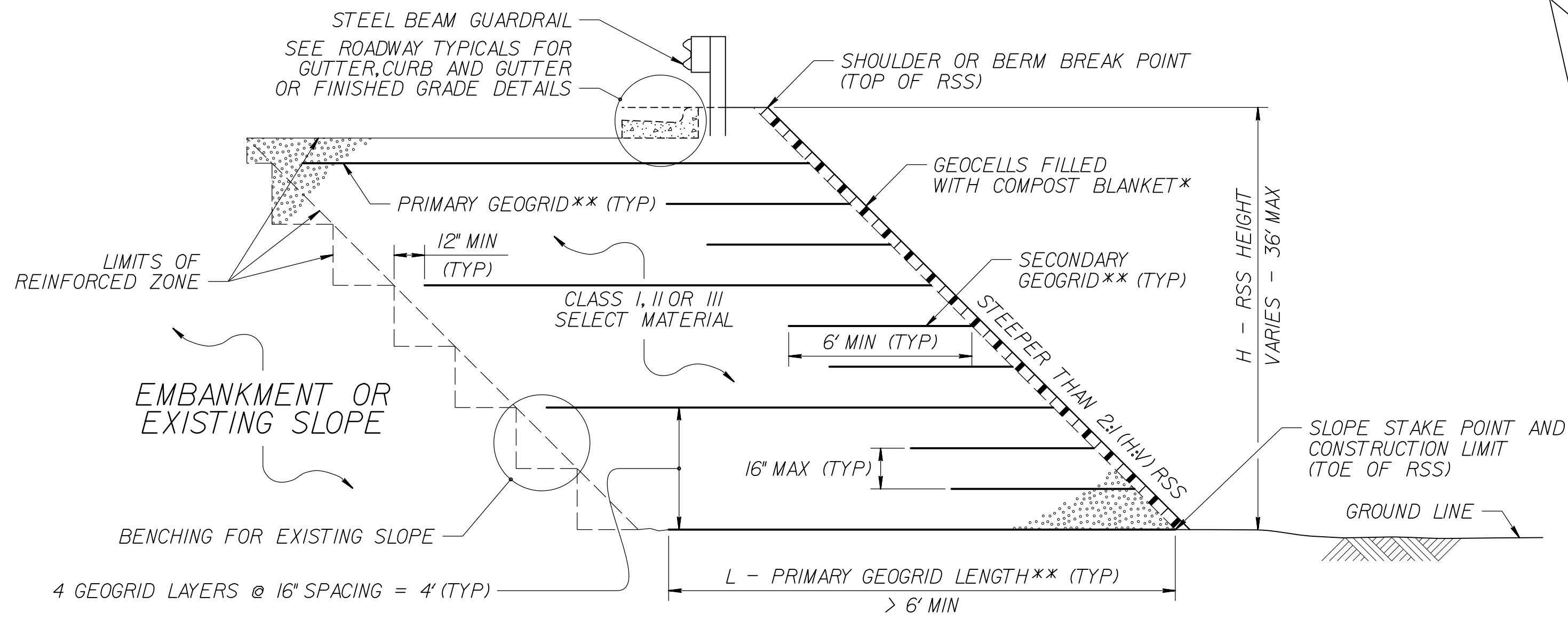
12/7/2021



<b>PROJECT REFERENCE NO.</b> B-5809	<b>SHEET NO.</b> 2G-1
GEOTECHNICAL  ENGINEER	ENGINEER
SIGNATURE	DATE
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

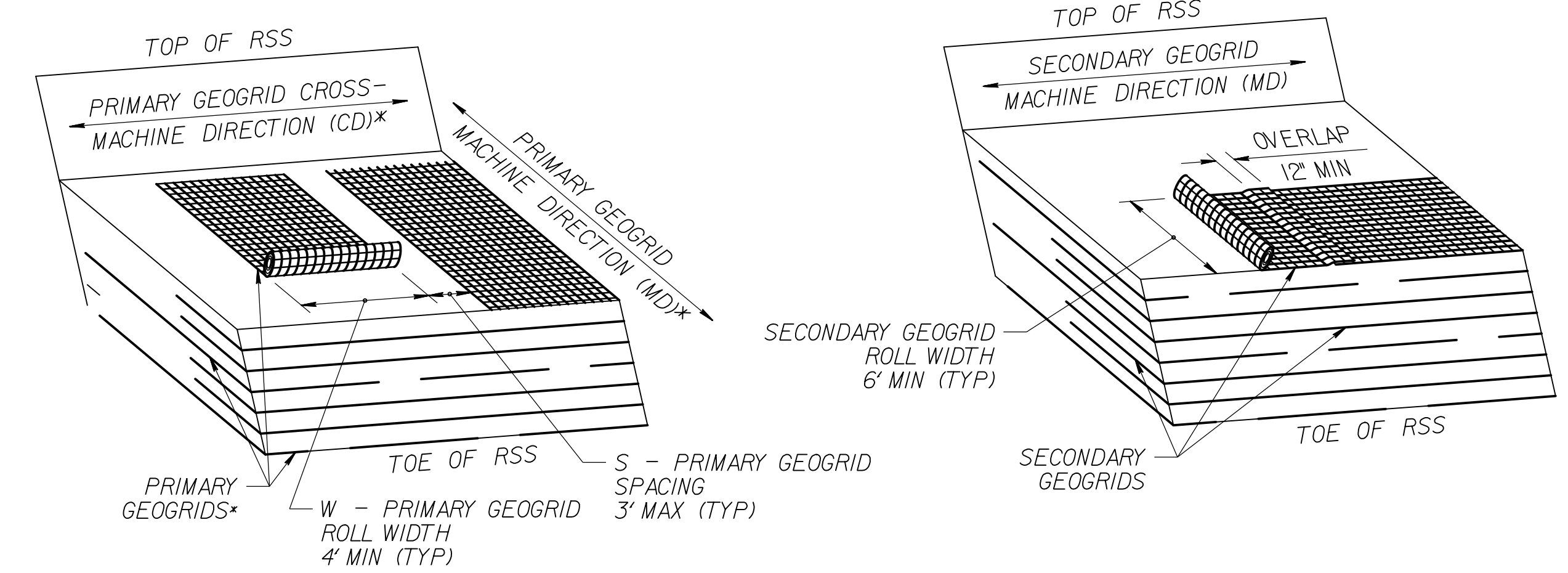


**MATTING WITH SHOULDER AND SLOPE BORROW**  
\*SEE NOTES 3 AND 10 ON SHEET 2.

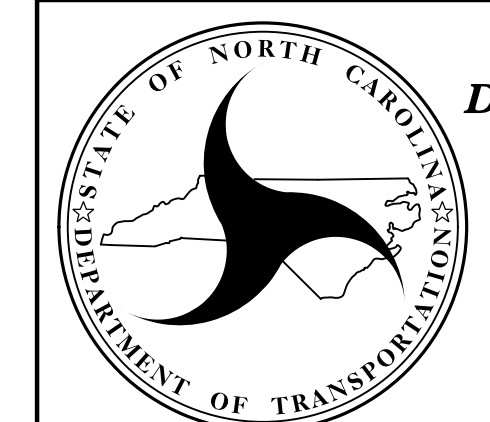


**GEOCELLS WITH COMPOST BLANKET**  
\*SEE NOTES 3 AND 10 ON SHEET 2.

**STANDARD REINFORCED SOIL SLOPE (RSS)**  
\*\*SEE TABLES ON SHEET 2 AND GEOGRID PLACEMENT DETAILS.  
IF RSS ANGLE IS 2:1 (H:V) OR FLATTER, REPLACE PRIMARY GEOGRID WITH SECONDARY GEOGRID PLACED AS SHOWN IN THE GEOGRID PLACEMENT DETAILS.



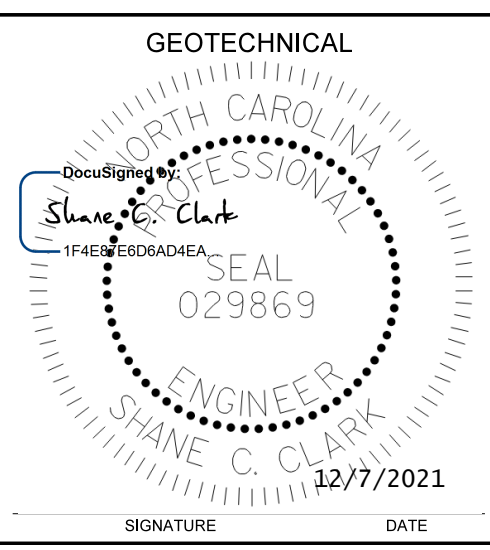
**GEOGRID PLACEMENT DETAILS**  
 $(\% \text{ COVERAGE} = \frac{W}{W+S} \times 100 \geq 75\%)$   
 \*SEE NOTE 8 ON SHEET 2. DO NOT OVERLAP PRIMARY GEOGRIDS IN ANY DIRECTION.



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
  
**GEOTECHNICAL  
ENGINEERING UNIT**

STANDARD DETAIL NO. 1802.02  
  
STANDARD  
REINFORCED SOIL SLOPE (RSS)  
WITH LOW GROUNDWATER  
SHEET 1 OF 2



<b>PROJECT REFERENCE NO.</b>	<b>SHEET NO.</b>
B-5809	2G-2
	ENGINEER
SIGNATURE	DATE
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

H (FT)	0 - < 12		12 - 24		> 24 - 36	
SELECT MATERIAL CLASS	I	II OR III	I	II OR III	I	II OR III
1:1 TO < 1.5:1 (H:V) RSS	900	500	1200	900	1800	1200
1.5:1 TO 1.75:1 (H:V) RSS	500	500	900	500	1400	1000
> 1.75:1 TO < 2:1 (H:V) RSS	500	500	600	500	1000	800

**MINIMUM REQUIRED PRIMARY GEOGRID  
LONG-TERM DESIGN STRENGTH (LTDS, LB/FT) IN MACHINE DIRECTION (MD)**  
(LTDS IS BASED ON 100% COVERAGE FOR PRIMARY GEOGRID.  
SEE NOTE 8 FOR LESS THAN 100% COVERAGE.)

**NOTES:**

- SEE EROSION CONTROL AND ROADWAY PLANS AND SUMMARY SHEETS FOR REINFORCED SOIL SLOPE (RSS) AND SLOPE EROSION CONTROL LOCATIONS.
- FOR STANDARD REINFORCED SOIL SLOPES, SEE REINFORCED SOIL SLOPES PROVISION. FOR STEEL BEAM GUARDRAIL, SEE SECTION 862 OF THE STANDARD SPECIFICATIONS.
- FOR SHOULDER AND SLOPE BORROW, SEE ARTICLE 1019-2 OF THE STANDARD SPECIFICATIONS. FOR GEOCELLS, SEE CELLULAR CONFINEMENT SYSTEMS PROVISION. FOR COIR FIBER MAT, MATTING FOR EROSION CONTROL AND COMPOST BLANKET, SEE EROSION CONTROL PROVISIONS, SECTION 1631 OF THE STANDARD SPECIFICATIONS AND ROADWAY STANDARD DRAWING NO. 1631.01.
- STANDARD RSS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:  
UNIT WEIGHT,  $\gamma = 120$  PCF  
FRICTION ANGLE,  $\phi = 30$  DEGREES  
COHESION,  $c = 0$  PSF
- DO NOT USE STANDARD RSS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR DEPTH TO GROUNDWATER IS LESS THAN 7 FT.
- DO NOT USE STANDARD RSS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW RSS.
- PRIMARY GEOGRIDS ARE APPROVED FOR LTDS FOR A 75-YEAR DESIGN LIFE IN THE MD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM: [connect.ncdot.gov/resources/Geological/Pages/Products.aspx](http://connect.ncdot.gov/resources/Geological/Pages/Products.aspx)  
DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SELECT MATERIAL AS FOLLOWS:

MATERIAL TYPE	SELECT MATERIAL
BORROW	CLASS I SELECT MATERIAL
FINE AGGREGATE	CLASS II OR III SELECT MATERIAL

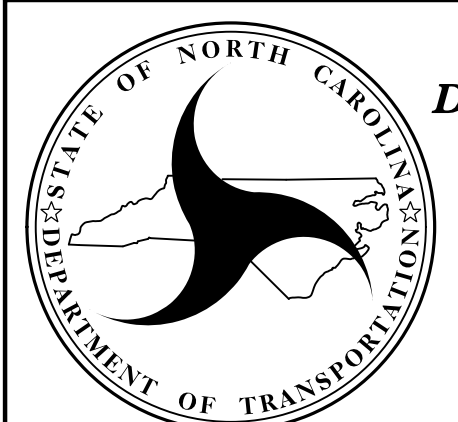
- FOR PRIMARY GEOGRIDS WITH 100% COVERAGE, PLACE PRIMARY GEOGRIDS SO GEOGRIDS ARE ADJACENT TO EACH OTHER IN THE CD. FOR PRIMARY GEOGRIDS WITH 75% TO LESS THAN 100% COVERAGE,  
  
MINIMUM REQUIRED PRIMARY GEOGRID LTDS = LTDS BASED ON 100% COVERAGE x (W + S) / W  
  
SEE TABLE FOR LTDS BASED ON 100% COVERAGE AND GEOGRID PLACEMENT DETAILS FOR PRIMARY GEOGRID ROLL WIDTH (W) AND SPACING (S). FOR PRIMARY GEOGRIDS WITH LESS THAN 100% COVERAGE, STAGGER PRIMARY GEOGRIDS SO GEOGRIDS ARE CENTERED OVER GAPS IN THE PRIMARY GEOGRID LAYER BELOW. DO NOT USE LESS THAN 75% COVERAGE FOR PRIMARY GEOGRIDS.
- DO NOT PLACE ANY GEOGRIDS UNTIL EXCAVATION DIMENSIONS AND IN-SITU MATERIAL ARE APPROVED.
- FOR SLOPE EROSION CONTROL, USE GEOCELLS OR MATTING ON SLOPE FACES OF RSS AS FOLLOWS:

RSS ANGLE	SLOPE EROSION CONTROL
1:1 TO < 1.5:1 (H:V)	GEOCELLS WITH COMPOST BLANKET
1.5:1 TO < 2:1 (H:V)	GEOCELLS WITH COMPOST BLANKET OR COIR FIBER MAT WITH SHOULDER AND SLOPE BORROW*
2:1 (H:V) OR FLATTER	MATTING FOR EROSION CONTROL WITH SHOULDER AND SLOPE BORROW

\*SEE REINFORCED SOIL SLOPES AND SLOPE EROSION CONTROL SUMMARY TABLE IN THE ROADWAY SUMMARY SHEETS FOR SLOPE EROSION CONTROL ON SLOPE FACES OF RSS 1.5:1 (H:V) TO STEEPER THAN 2:1.

H (FT)	0 - < 12		12 - 24		> 24 - 36	
SELECT MATERIAL CLASS	I	II OR III	I	II OR III	I	II OR III
1:1 TO < 1.5:1 (H:V) RSS	1.10	1.00	0.90	0.85	0.85	0.80
1.5:1 TO 1.75:1 (H:V) RSS	0.90	0.80	0.75	0.70	0.75	0.70
> 1.75:1 TO < 2:1 (H:V) RSS	0.75	0.70	0.65	0.60	0.65	0.60

**PRIMARY GEOGRID LENGTH / RSS HEIGHT (L / H) RATIO (L > 6' MIN)**  
(IF L ≤ 6', USE SECONDARY GEOGRID INSTEAD OF PRIMARY GEOGRID.)



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
  
**GEOTECHNICAL  
ENGINEERING UNIT**

STANDARD DETAIL NO. 1802.02  
  
STANDARD  
REINFORCED SOIL SLOPE (RSS)  
WITH LOW GROUNDWATER  
SHEET 2 OF 2  
  
DATE: 12-17-19



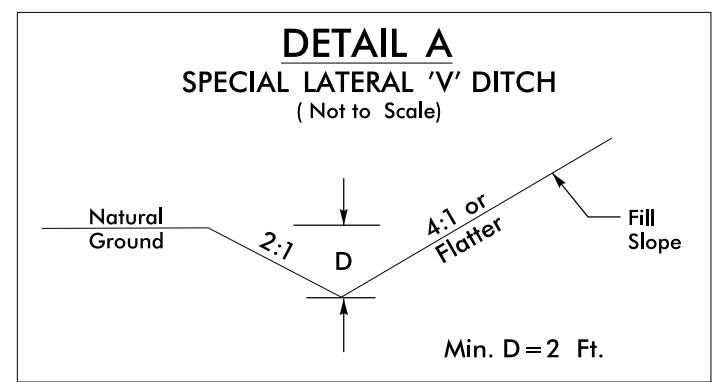








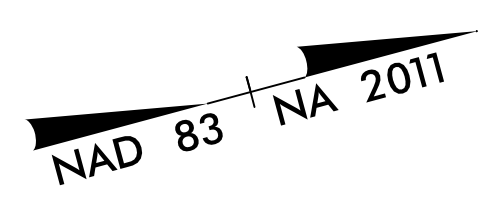
8/17/19



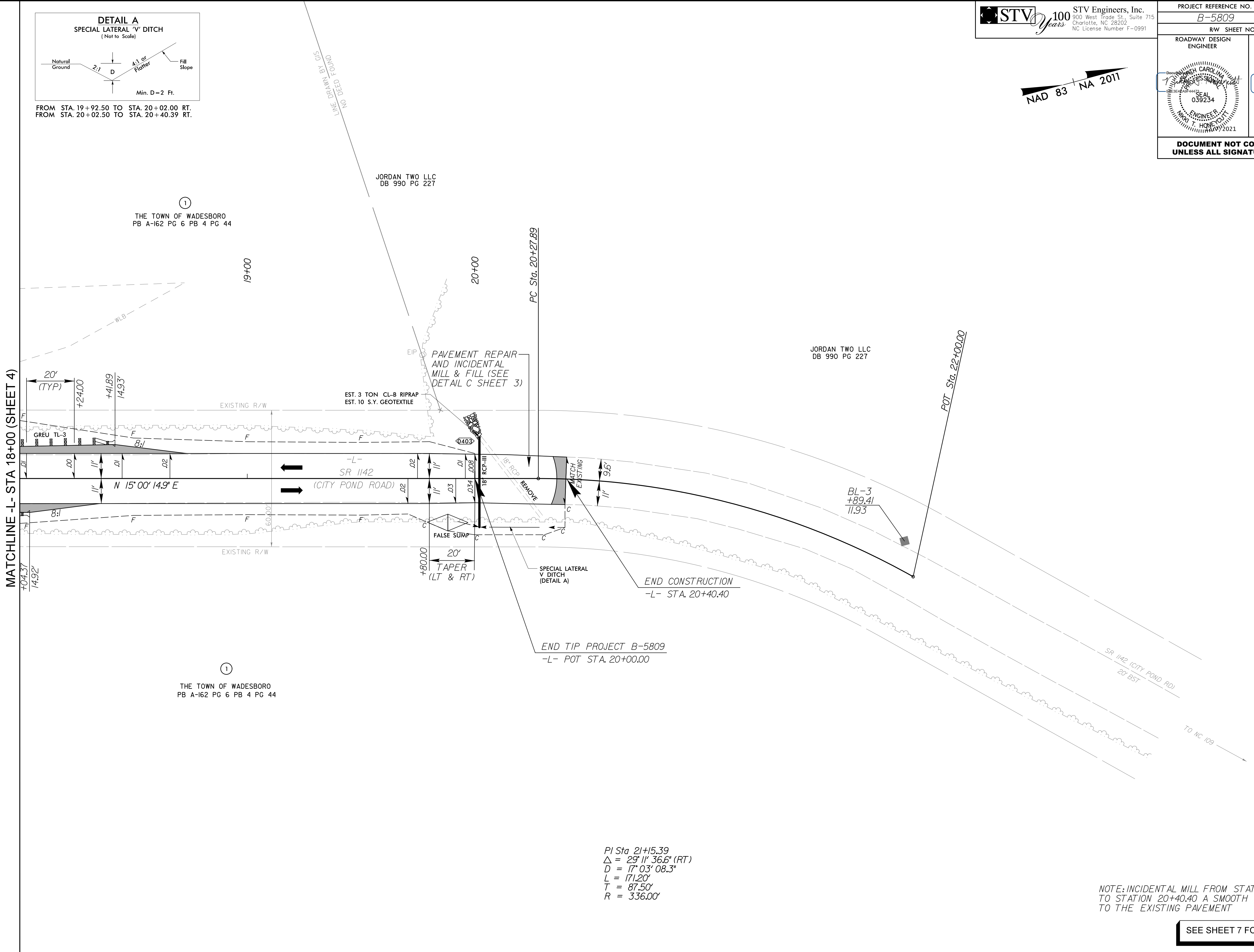
FROM STA. 19+92.50 TO STA. 20+02.00 RT.  
FROM STA. 20+02.50 TO STA. 20+40.39 RT.

**STV** 100 Years  
STV Engineers, Inc.  
900 West Trade St., Suite 715  
Charlotte, NC 28202  
NC License Number F-0991

PROJECT REFERENCE NO. <i>B-5809</i>	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



R:\17\2021\proj\proj\SHIT\142\_rdy\_psh05.dgn Sources

PI Sta 21+15.39  
Δ = 29° 11' 36.6" (RT)  
D = 17' 03' 08.3"  
L = 171.20'  
T = 87.50'  
R = 336.00'

NOTE: INCIDENTAL MILL FROM STATION 20+00.0 TO STATION 20+40.40 A SMOOTH TRANSITION TO THE EXISTING PAVEMENT

SEE SHEET 7 FOR -L- PROFILE

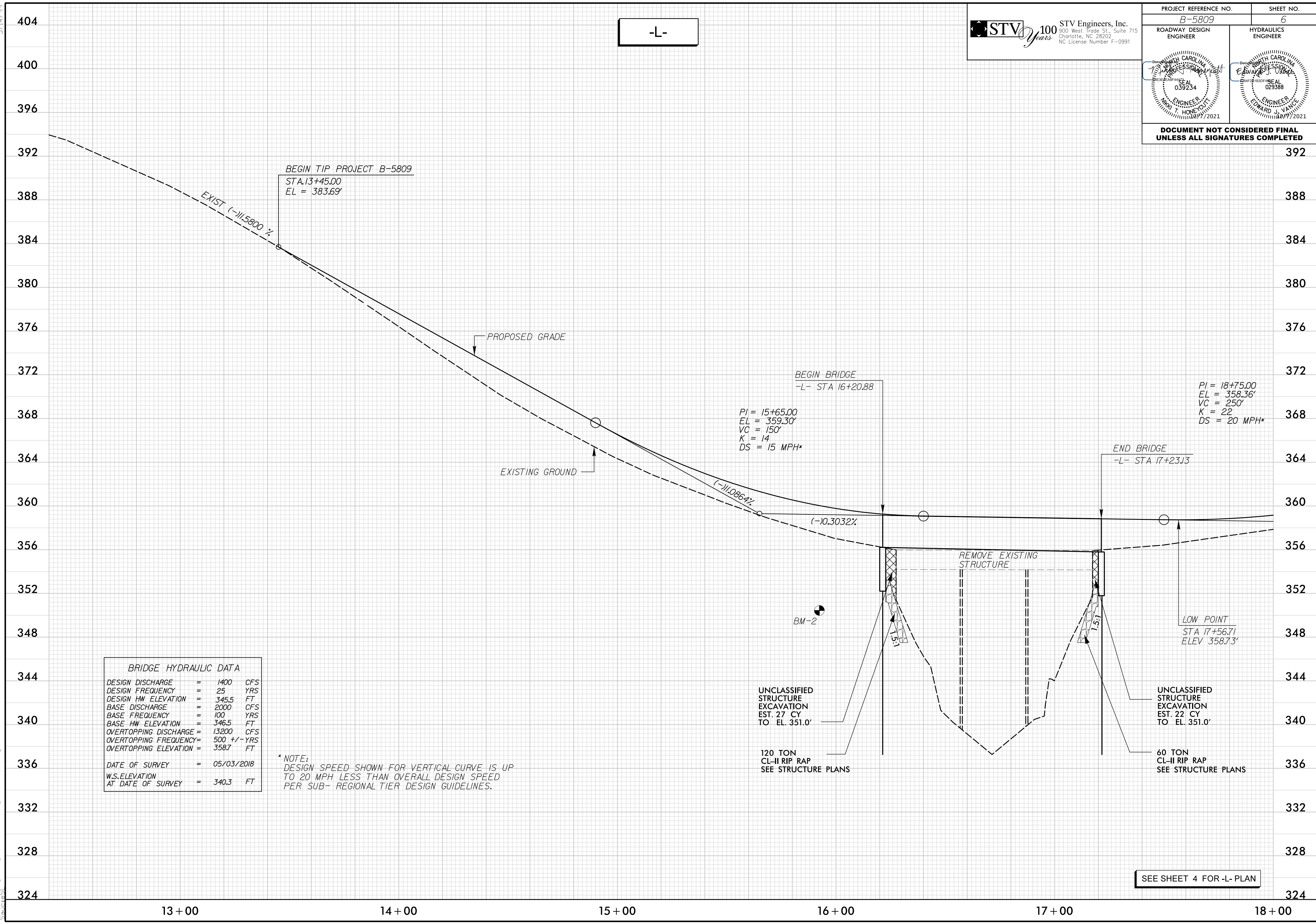
5/14/99  
11/10/2021  
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-L-



PROJECT REFERENCE NO. B-5809	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



BEGIN TIP PROJECT B-5809  
STA 13+45.00  
EL = 383.69'

EXIST (-11.5800 %)

PROPOSED GRADE

EXISTING GROUND

BEGIN BRIDGE  
-L- STA 16+20.88

PI = 15+65.00  
EL = 359.30'  
VC = 150'  
K = 14  
DS = 15 MPH\*

(-11.0864 %)

(-10.3032 %)

END BRIDGE  
-L- STA 17+23.13

PI = 18+75.00  
EL = 358.36'  
VC = 250'  
K = 22  
DS = 20 MPH\*

LOW POINT  
STA 17+56.71  
ELEV 358.73'

BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 1400 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 345.5 FT
BASE DISCHARGE	= 2000 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 346.5 FT
OVERTOPPING DISCHARGE	= 13200 CFS
OVERTOPPING FREQUENCY	= 500 +/- YRS
OVERTOPPING ELEVATION	= 358.7 FT
DATE OF SURVEY	= 05/03/2018
W.S. ELEVATION AT DATE OF SURVEY	= 340.3 FT

\* NOTE:  
DESIGN SPEED SHOWN FOR VERTICAL CURVE IS UP TO 20 MPH LESS THAN OVERALL DESIGN SPEED PER SUB-REGIONAL TIER DESIGN GUIDELINES.

UNCLASSIFIED STRUCTURE EXCAVATION EST. 27 CY TO EL. 351.0'

120 TON CL-II RIP RAP SEE STRUCTURE PLANS

REMOVE EXISTING STRUCTURE

UNCLASSIFIED STRUCTURE EXCAVATION EST. 22 CY TO EL. 351.0'

60 TON CL-II RIP RAP SEE STRUCTURE PLANS

SEE SHEET 4 FOR -L- PLAN

13+00

14+00

15+00

16+00

17+00

18+00

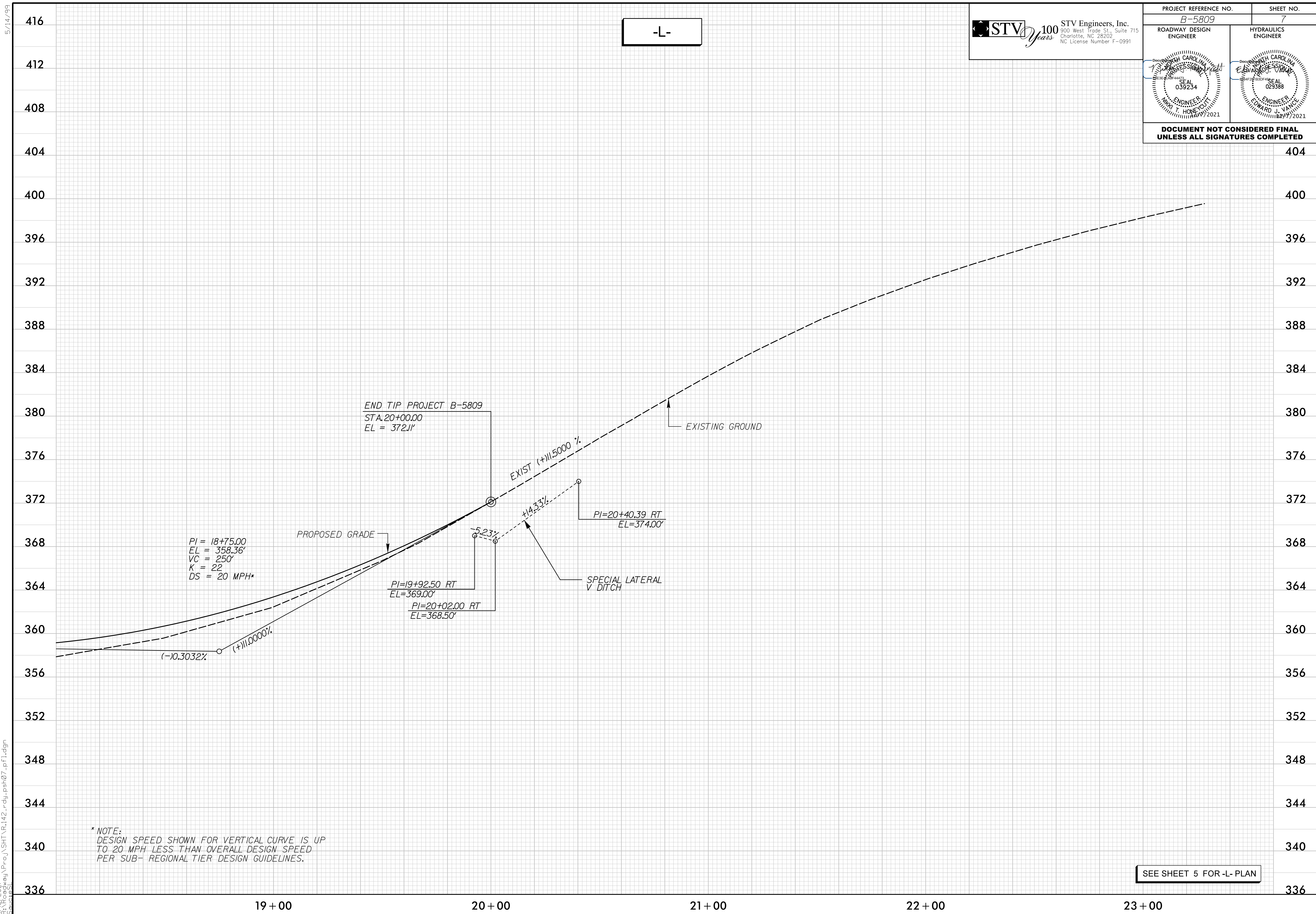
5/14/99

-L-



PROJECT REFERENCE NO. B-5809	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



\* NOTE:  
DESIGN SPEED SHOWN FOR VERTICAL CURVE IS UP  
TO 20 MPH LESS THAN OVERALL DESIGN SPEED  
PER SUB-REGIONAL TIER DESIGN GUIDELINES.

SEE SHEET 5 FOR -L- PLAN

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09/05/19

**TIP PROJECT: B-5809**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5809	RW01	

STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS

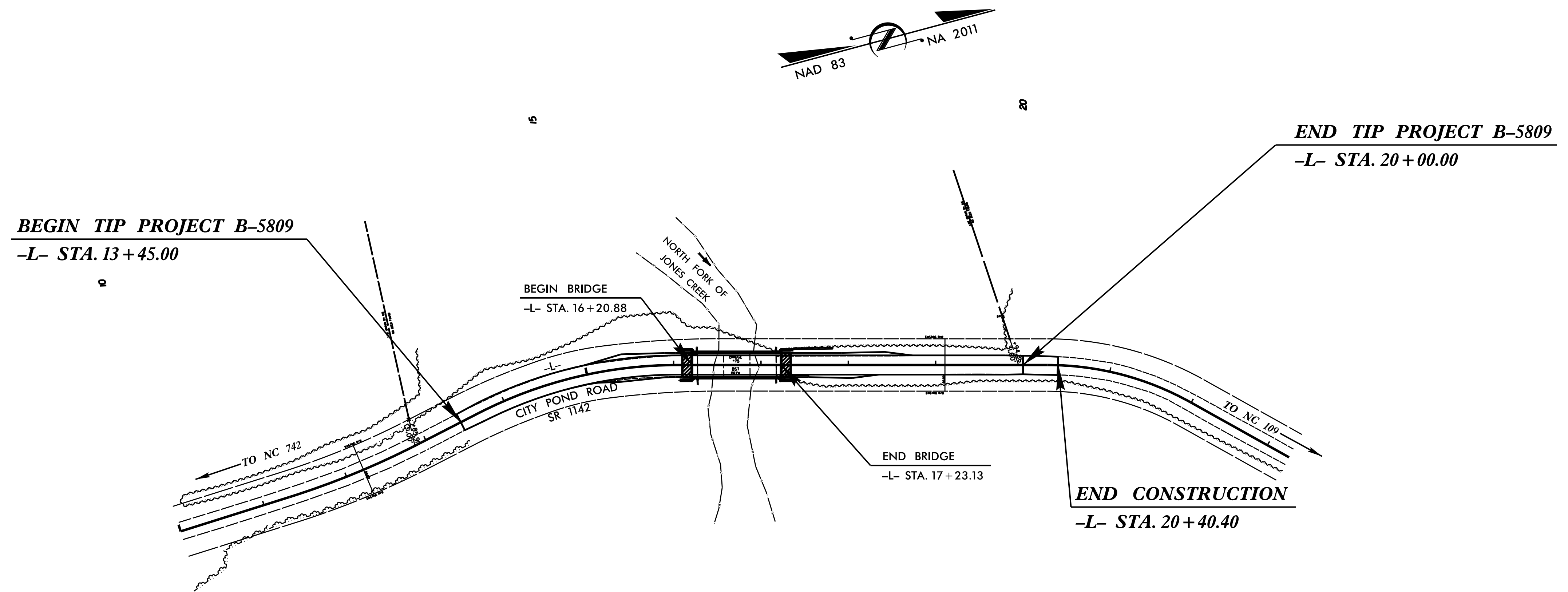
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SURVEY CONTROL, EXISTING CENTERLINES,  
 RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

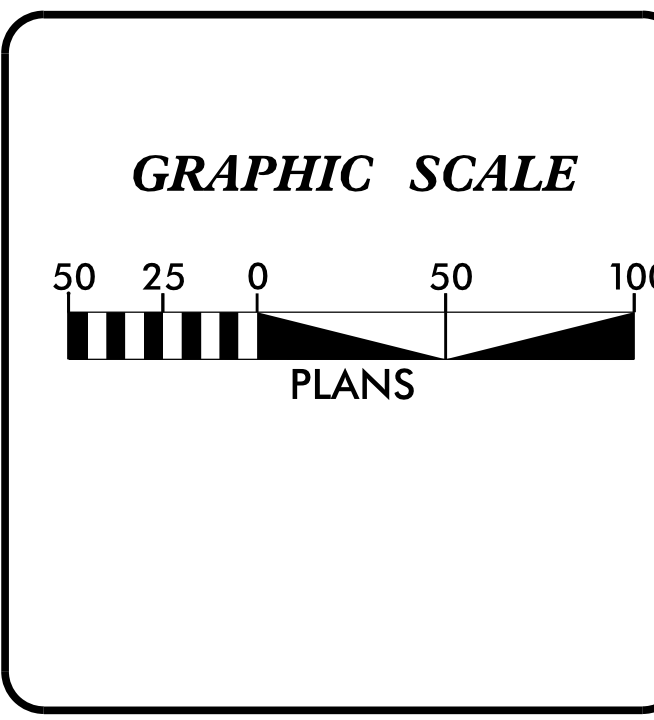
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**ANSON COUNTY**

---



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



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "B5809-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 426,776.762(ft) EASTING: 1,672,267.065(ft) ELEVATION: 356.132(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987618

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5809-2" TO -L- STATION 10+00 IS S 04-37'19.3" E 609.71(ft)

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

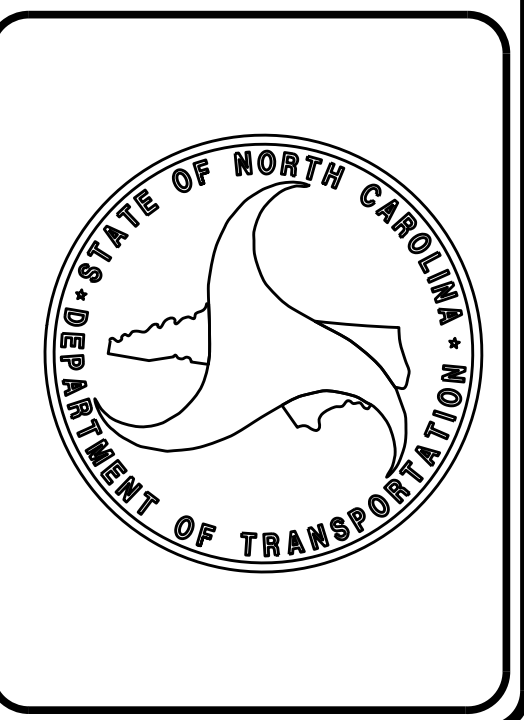
Prepared in the Office of:

2018 STANDARD SPECIFICATIONS

<b>RIGHT OF WAY DATE:</b> JULY 31, 2019	<b>LETTING DATE:</b> APRIL 15, 2020
--	--

PROFESSIONAL LAND SURVEYOR

DocuSigned by:  
  
 SIGNATURE: \_\_\_\_\_ Date: \_\_\_\_\_






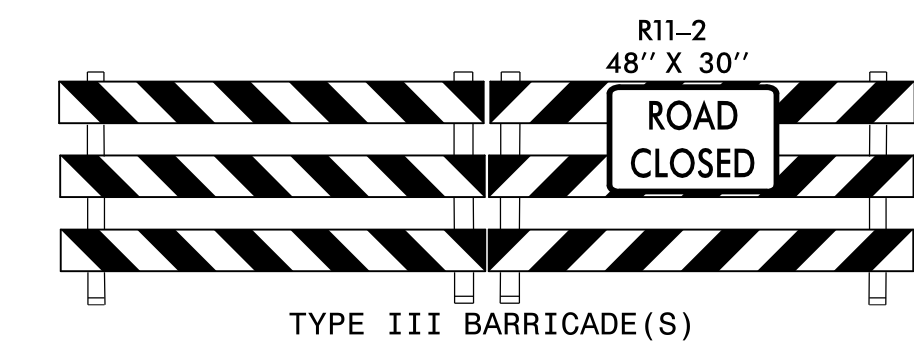
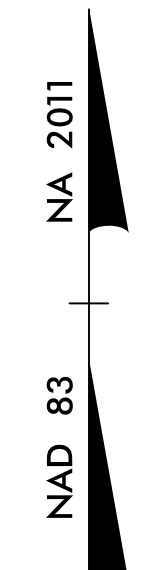
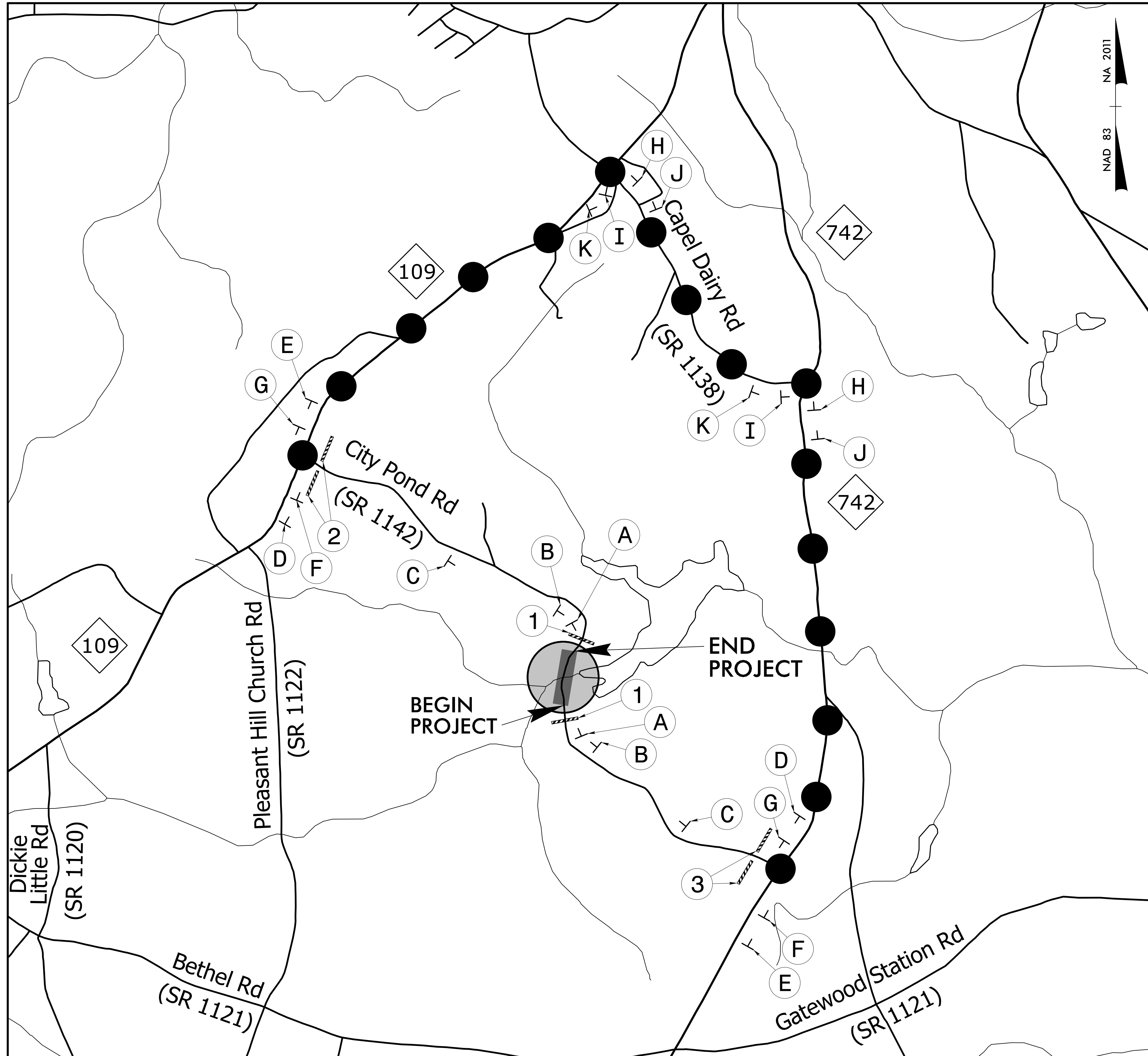
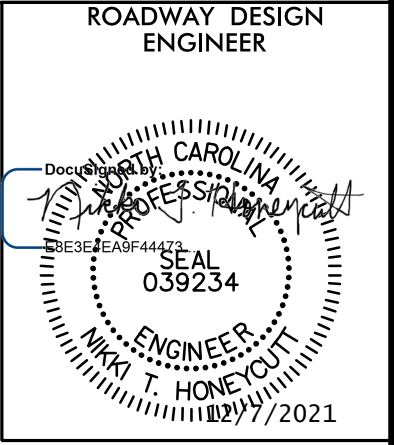




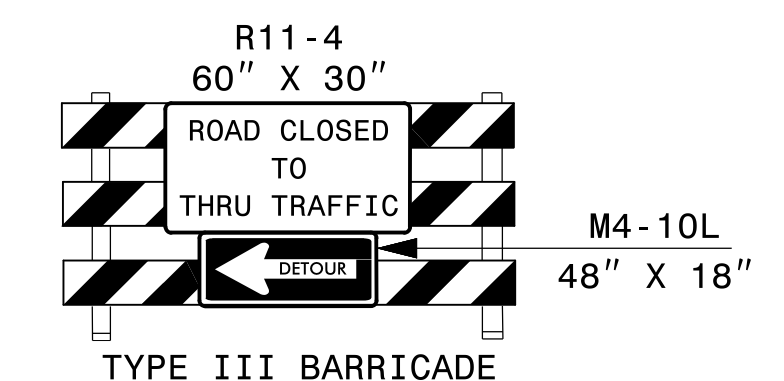


# OFF-SITE DETOUR SIGNING AND ROAD CLOSURE SIGNING

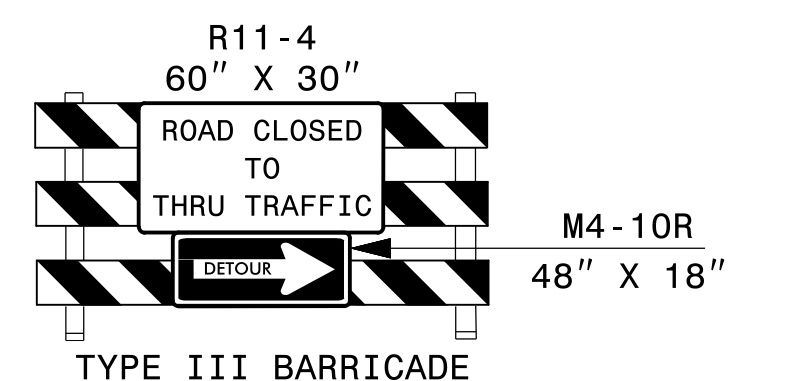
PROJECT REFERENCE NO. B-5809	SHEET NO. TMP-1
RW SHEET NO.	
 <b>STV Engineers, Inc.</b> 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



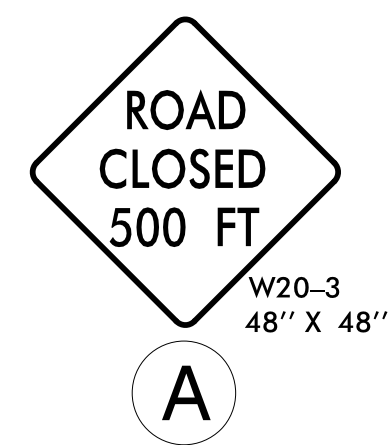
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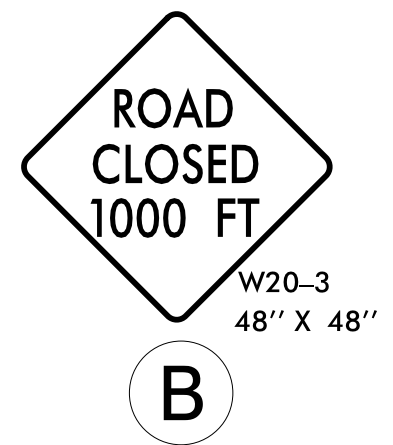
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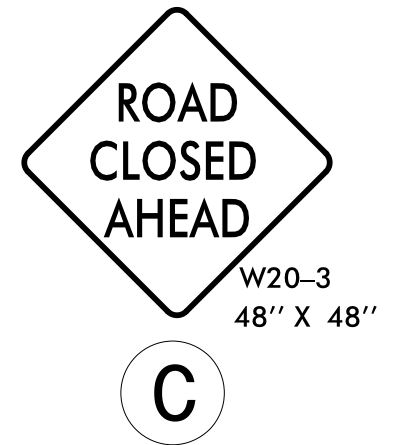
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A



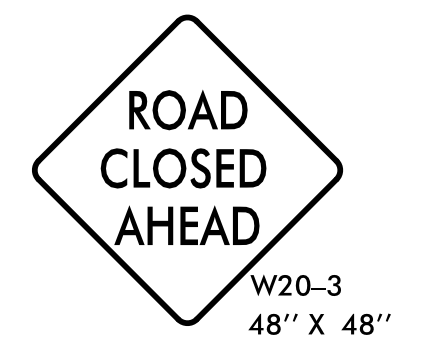
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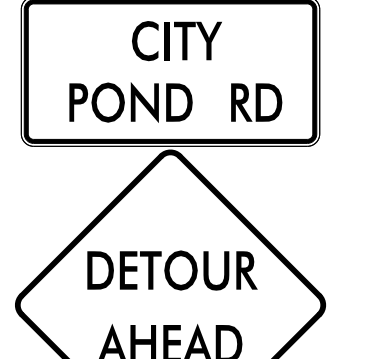
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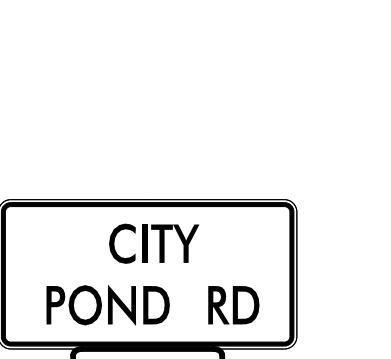
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E



F



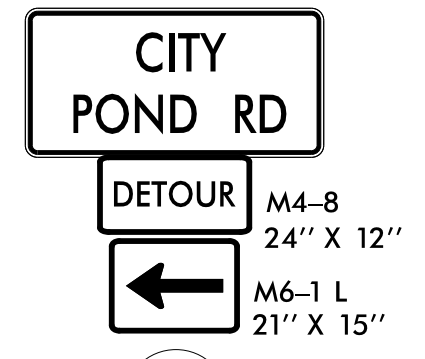
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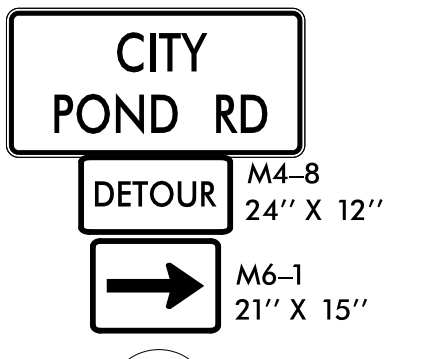
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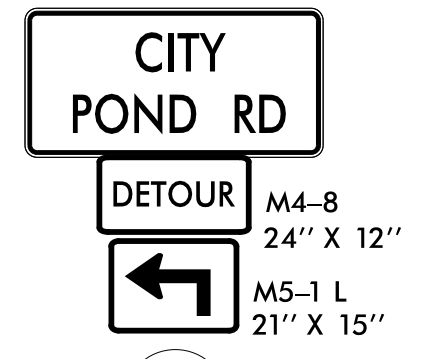
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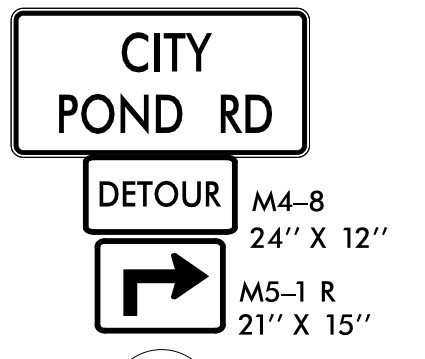
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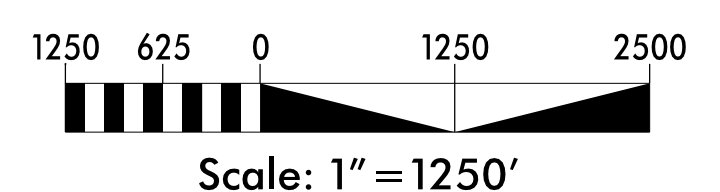


J



K


SEE ROADWAY STD DWG 1101.03, SHEET 1 OF 9  
FOR ADVANCE WARNING AND BARRICADE PLACEMENT.







# PAVEMENT MARKING PLAN

PROJECT REFERENCE NO. B-5809	SHEET NO. PMP-1
RW SHEET NO.	
 STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

## 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:

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

## GENERAL NOTES

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

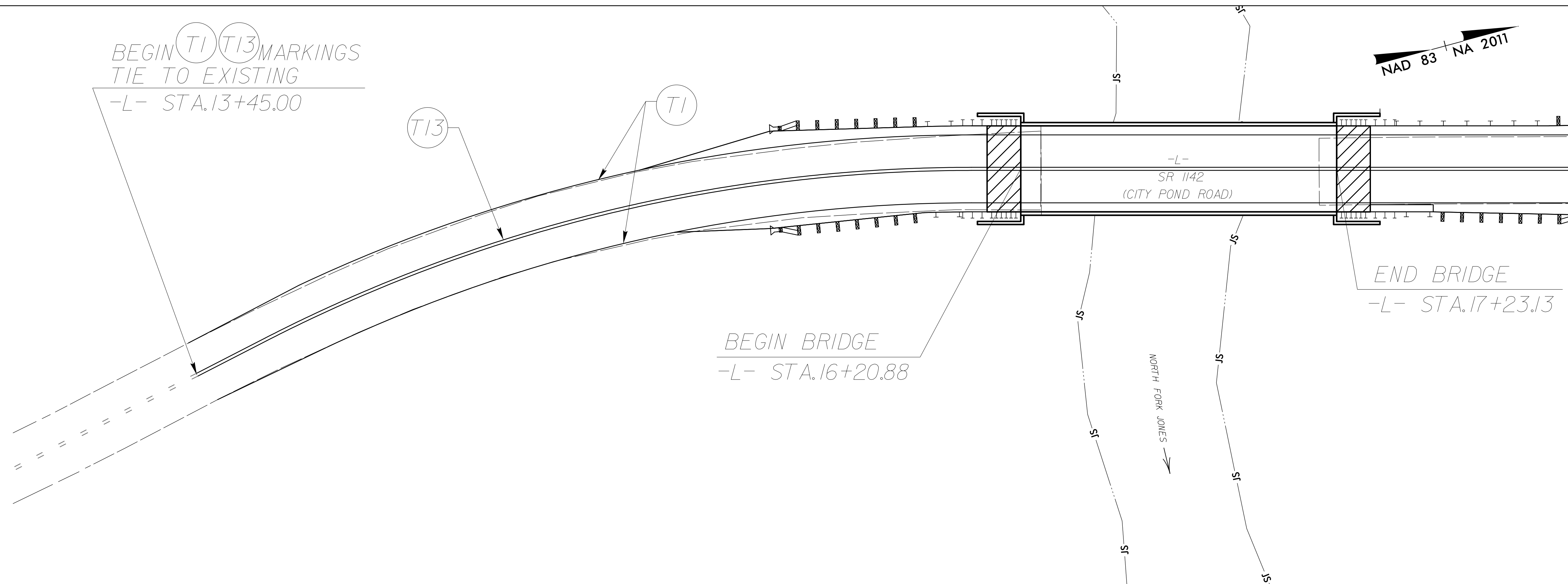
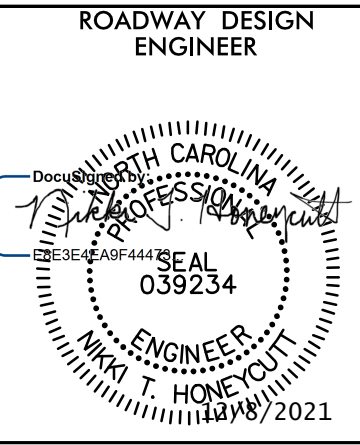
A) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE.

ROAD NAME	MARKING	MARKERS
SR 1142 (CITY POND RD)	THERMOPLASTIC	NONE

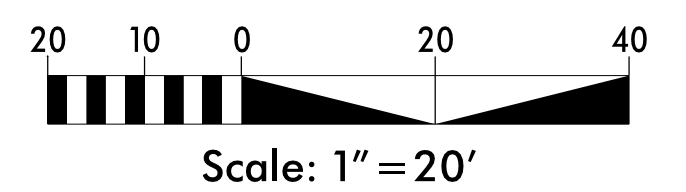
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
- E) REPLACE ANY PAVEMENT MARKINGS BEYOND THE PROJECT LIMITS DAMAGED BY THE CONTRACTORS' OPERATIONS DURING CONSTRUCTION.

## PAVEMENT MARKING SCHEDULE

T1 - THERMOPLASTIC	WHITE EDGELINE (4", 90MIL)
T13 - THERMOPLASTIC	YELLOW DOUBLE CENTER LINE (4", 90MIL)




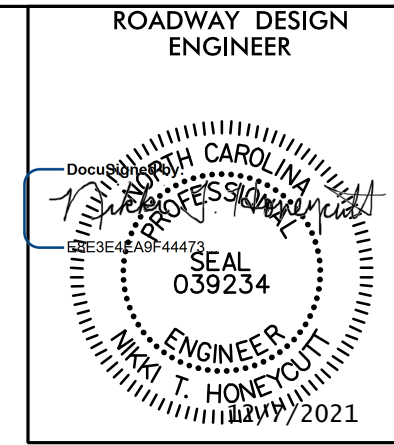
MATCHLINE  
-L- 18 + 00 (SHEET PMP-2)



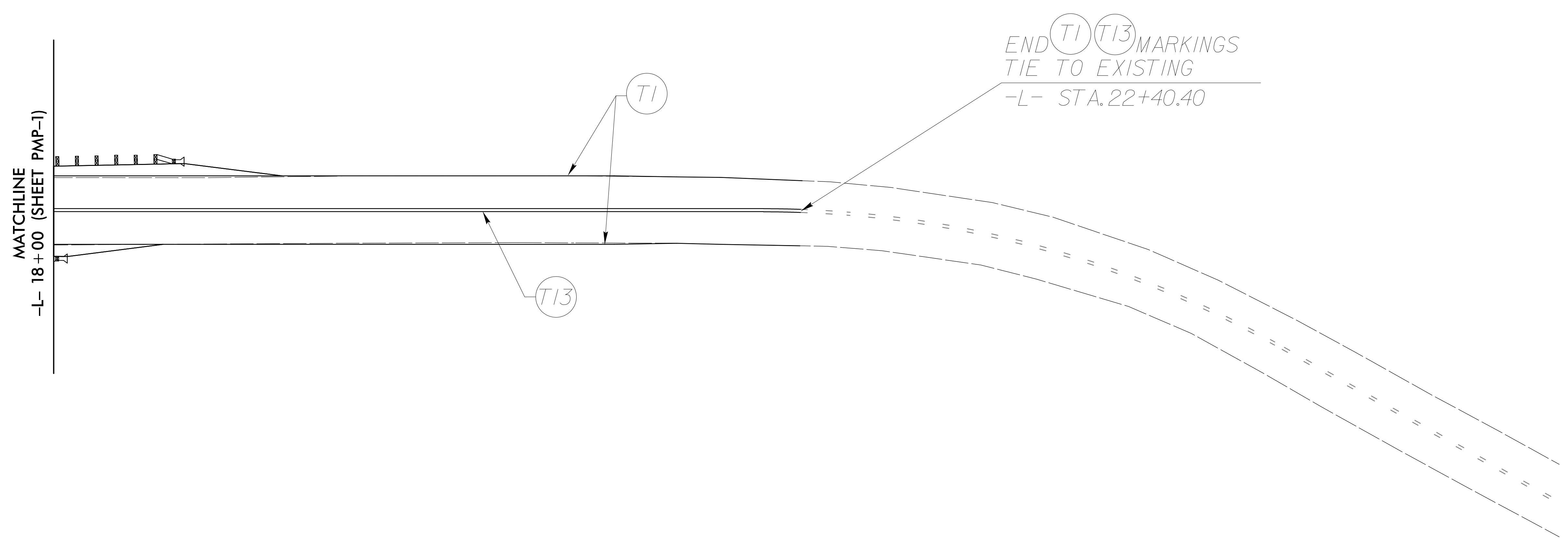
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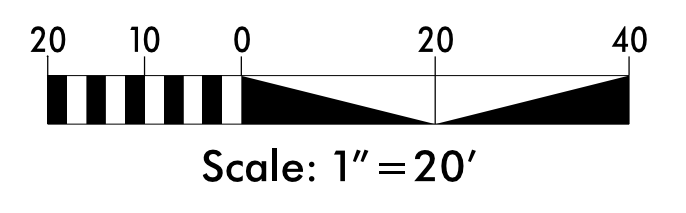
PROJECT REFERENCE NO.	SHEET NO.
B-5809	PMP-2
RW SHEET NO.	
 <b>STV Engineers, Inc.</b> 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	
<b>DOCUMENT NOT CONSIDERED FINAL          UNLESS ALL SIGNATURES COMPLETED</b>	



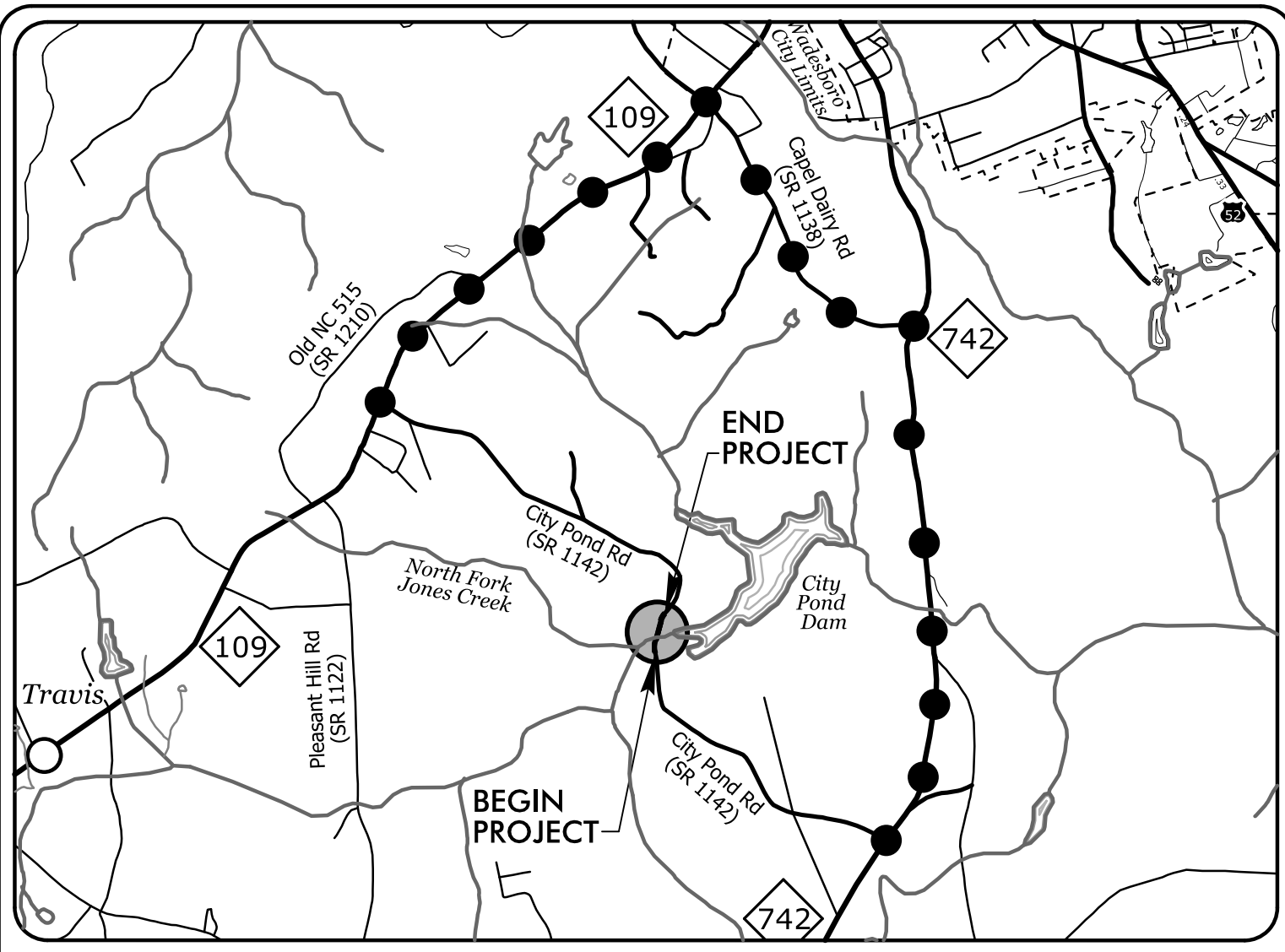
NAD 83 | NA 2011



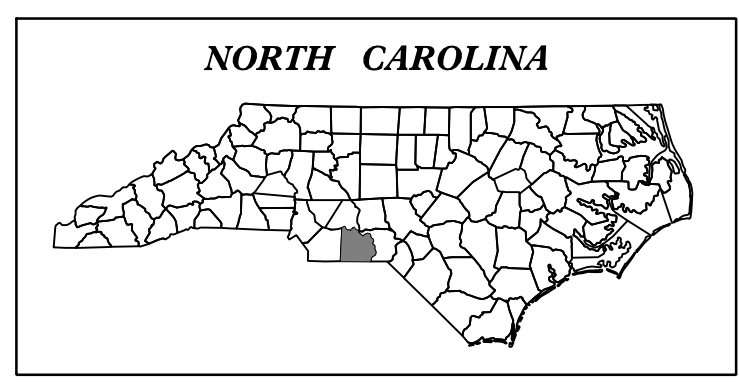
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**TIP PROJECT: B-5809**



**VICINITY MAP**  
NOT TO SCALE



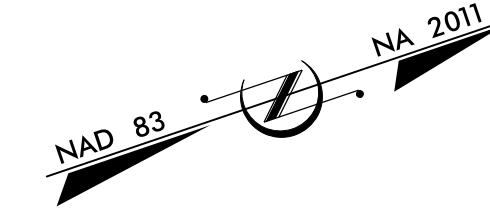
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

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PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL

---

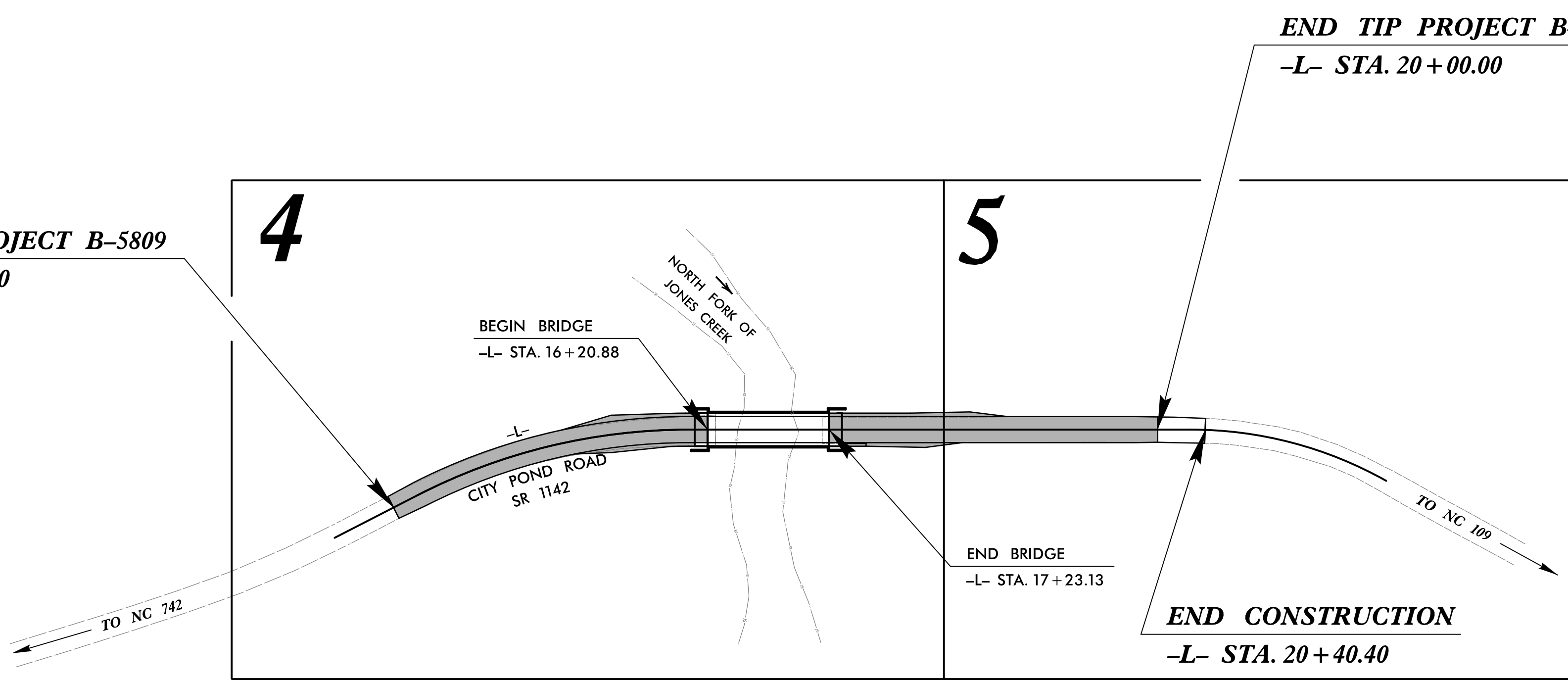
**ANSON COUNTY**



**FINAL PLANS**

**LOCATION: BRIDGE #075 ON N.FORK OF JONES CREEK ON CITY POND RD**  
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE**

**BEGIN TIP PROJECT B-5809**  
-L- STA. 13 + 45.00



**END TIP PROJECT B-5809**  
-L- STA. 20 + 00.00

**END CONSTRUCTION**  
-L- STA. 20 + 40.40

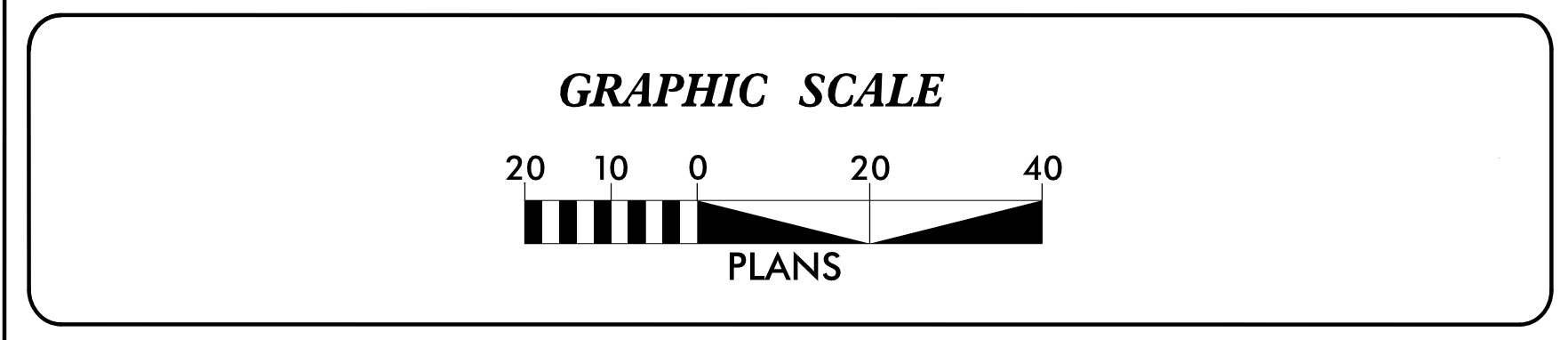
**EROSION AND SEDIMENT CONTROL MEASURES**

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

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

**HIGH QUALITY WATER(S) EXIST  
ON THIS PROJECT**

High Quality Water Zone(s) Exist  
From Sta.          BEGIN  
to Sta.          END  
Refer To E. C. Special Provisions  
for Special Considerations.



**THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH  
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000  
GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019  
AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.**



Prepared In the Office of:  
**STV ENGINEERS, INC.**  
900 WEST TRADE STREET, SUITE 715  
CHARLOTTE, NC 28202

Designed by:  
**DILLON BAWAYAN** **4157**  
NAME LEVEL III CERTIFICATION NO.

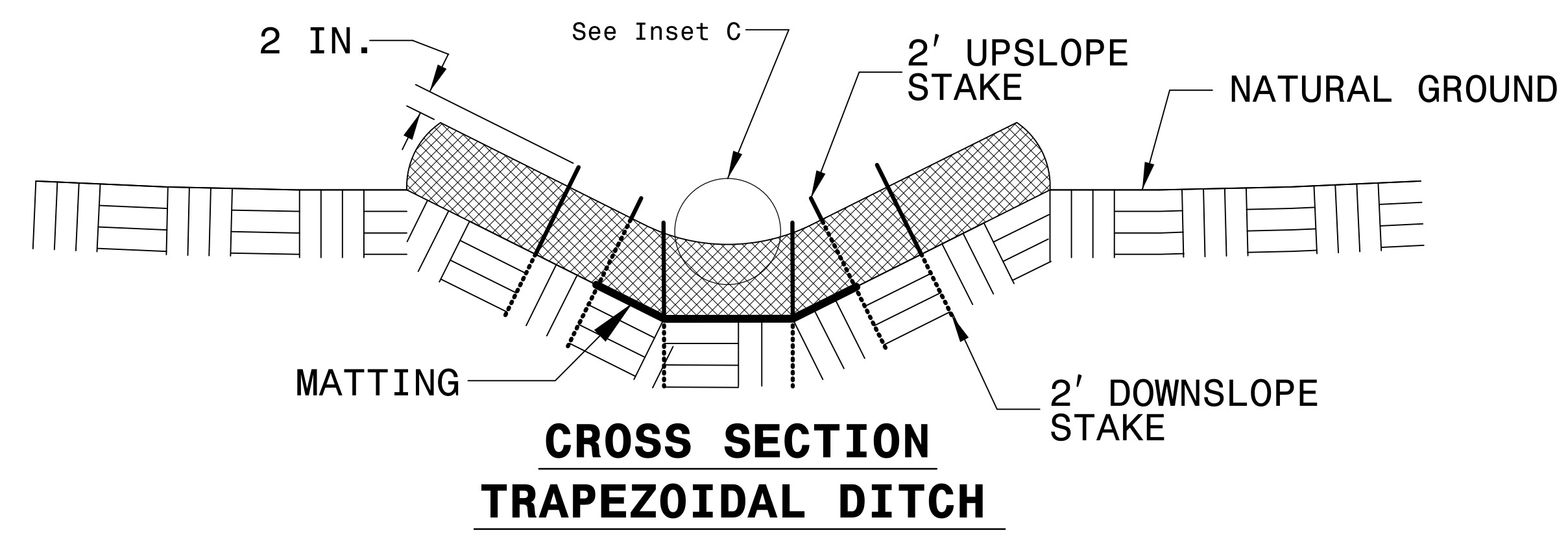
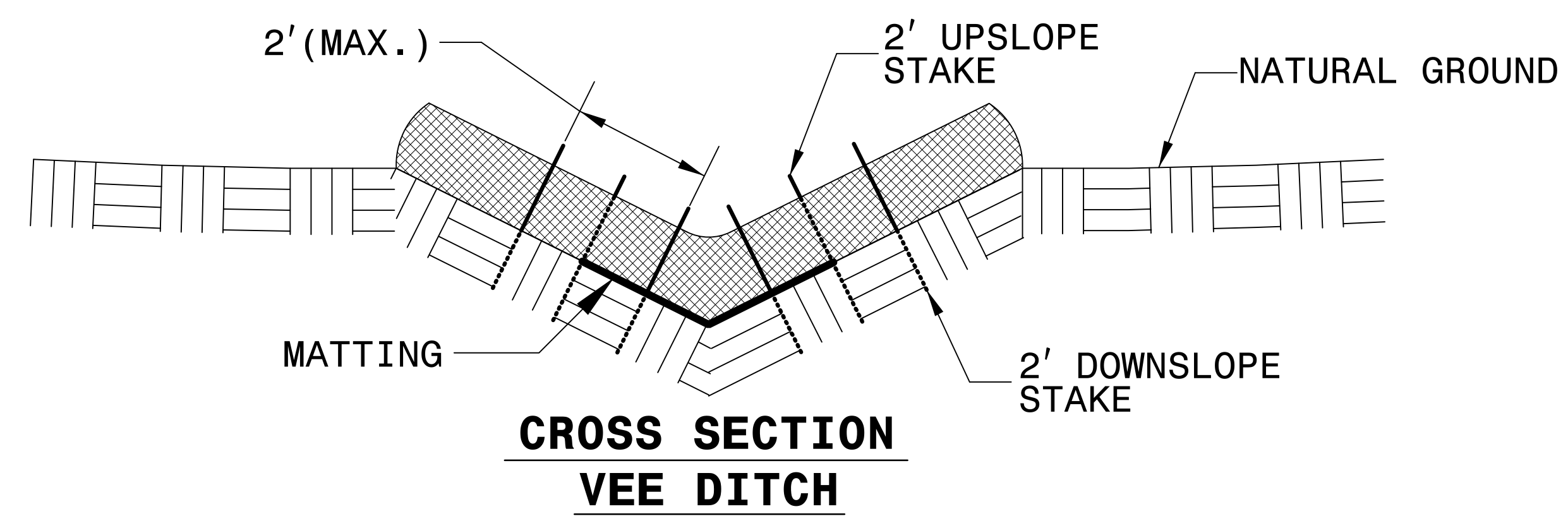
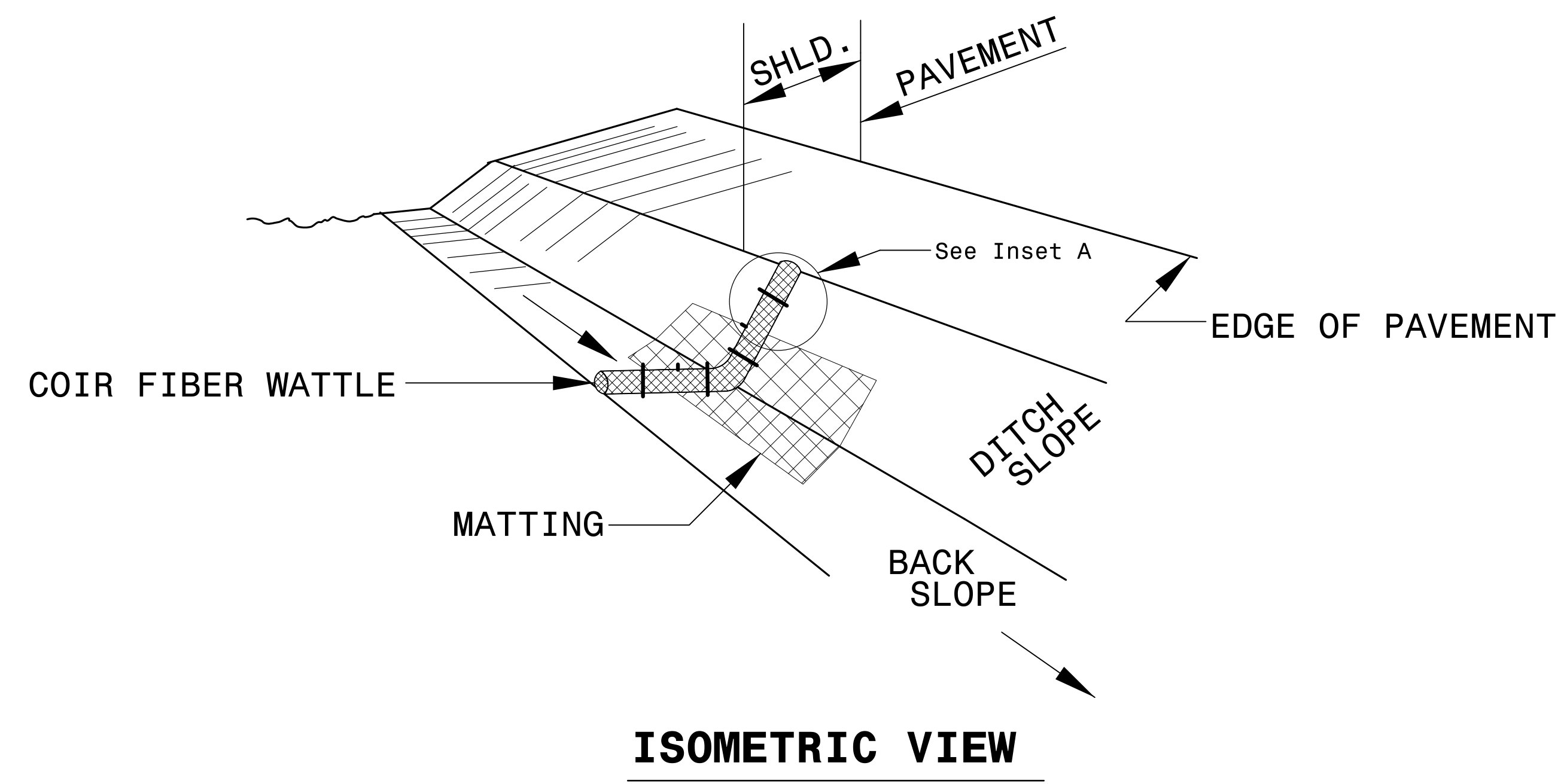
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

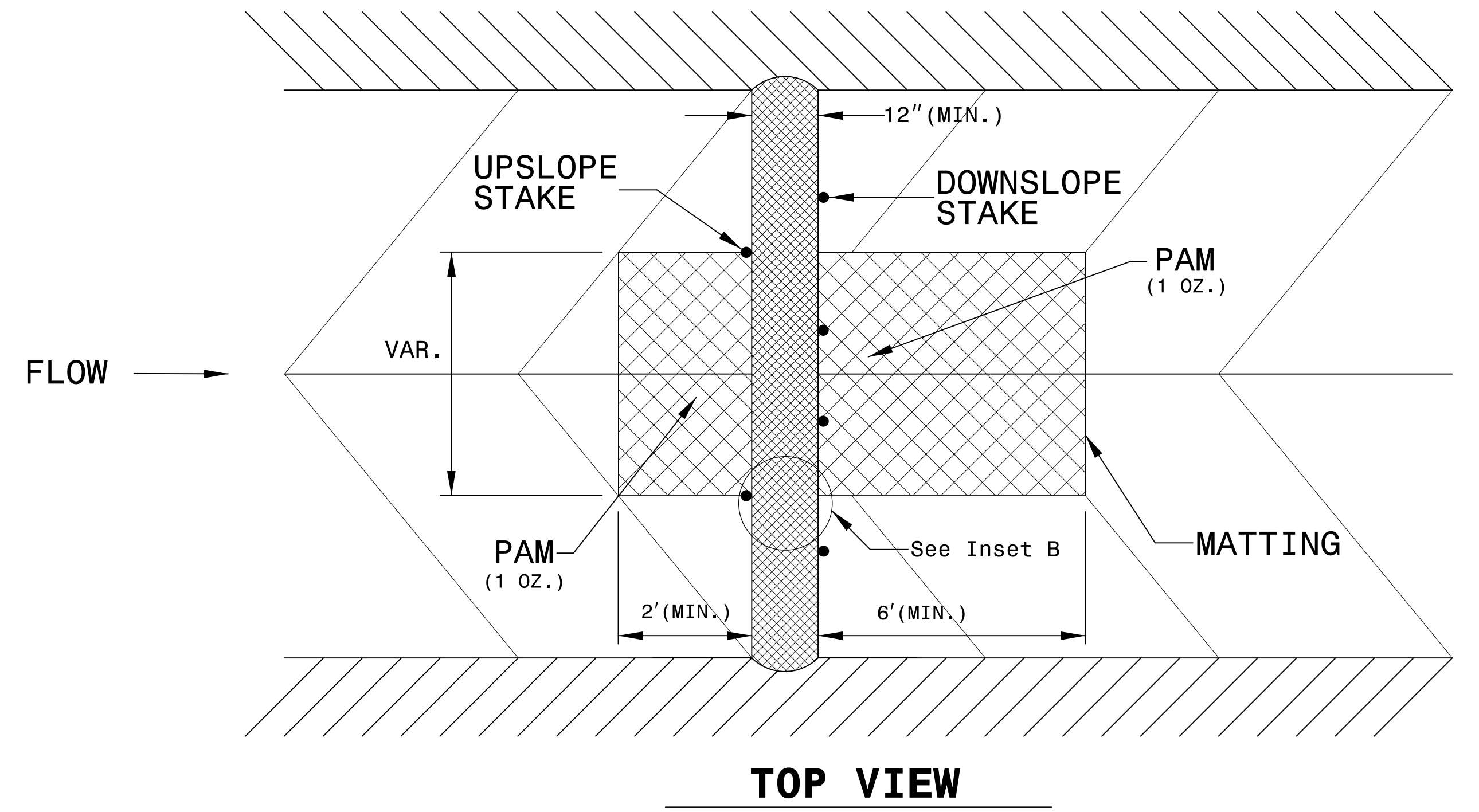
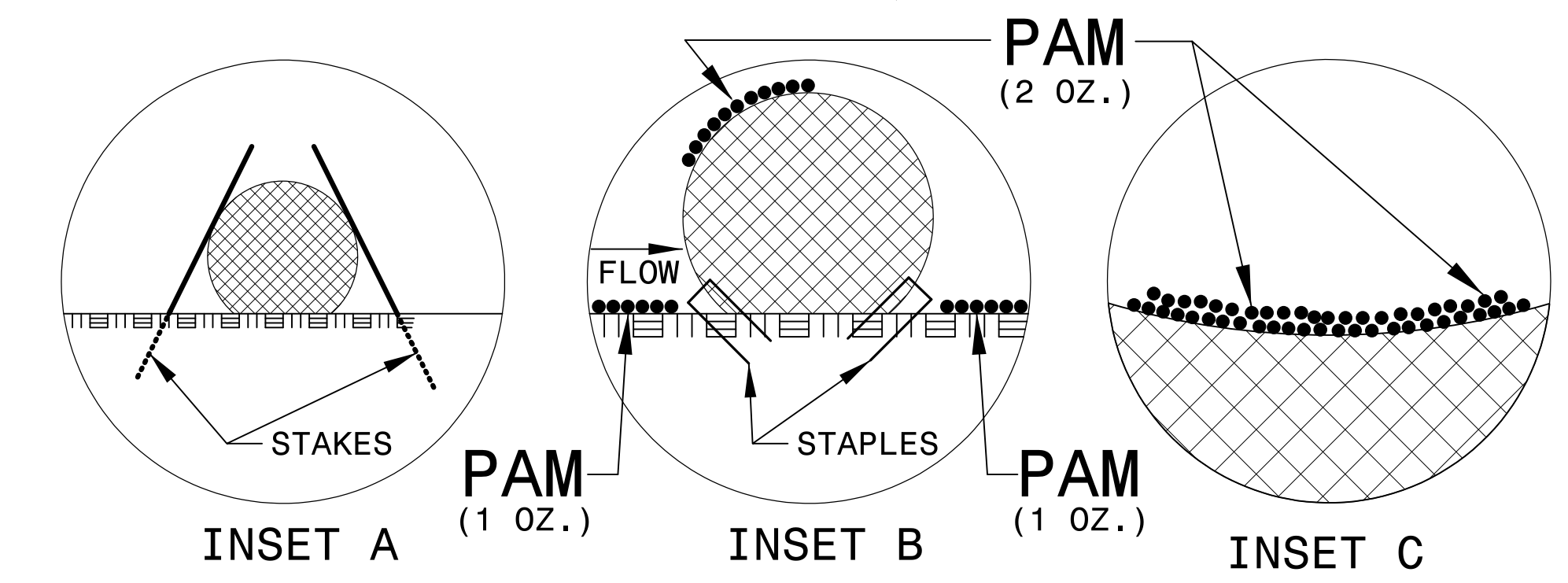
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type 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	



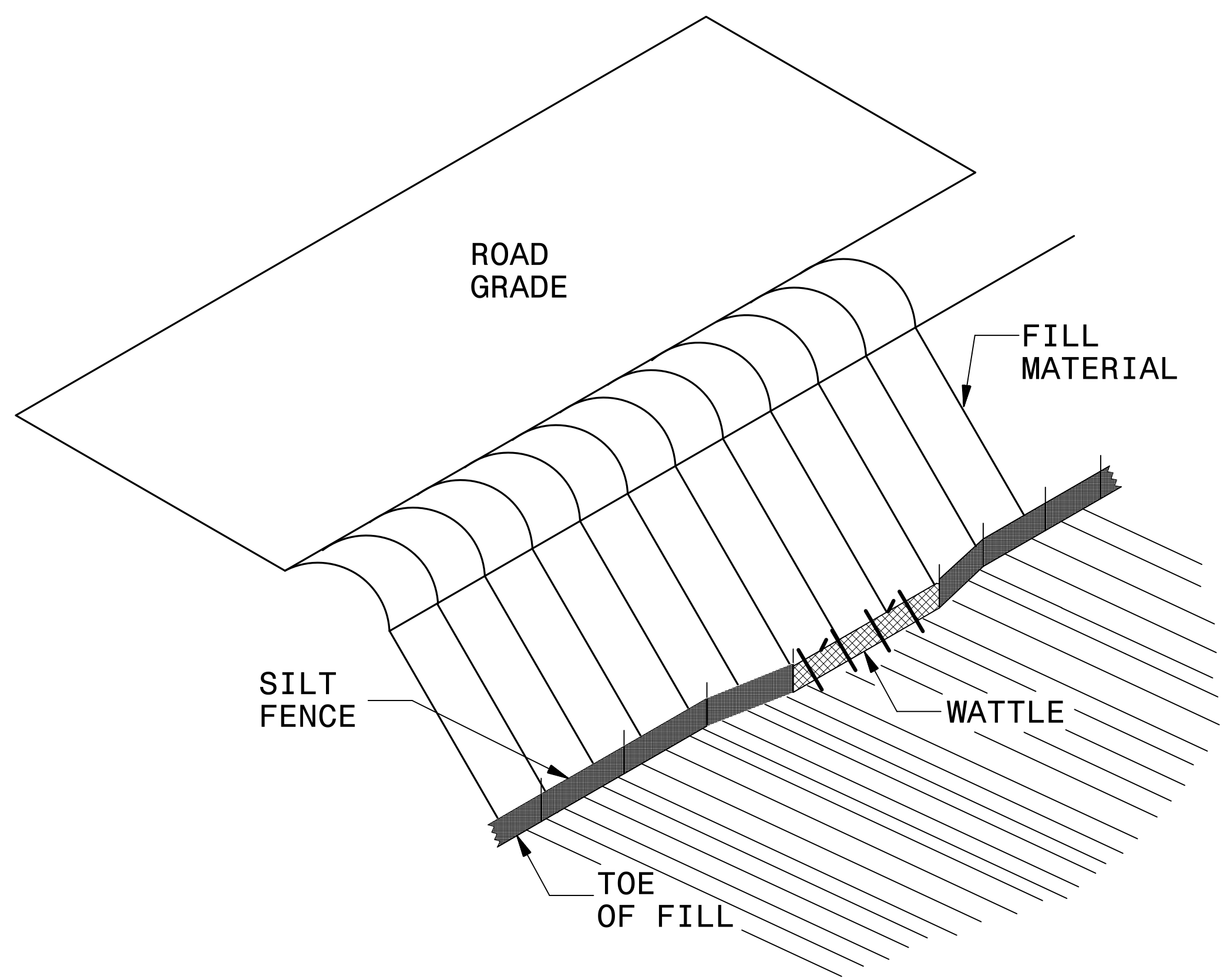
# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



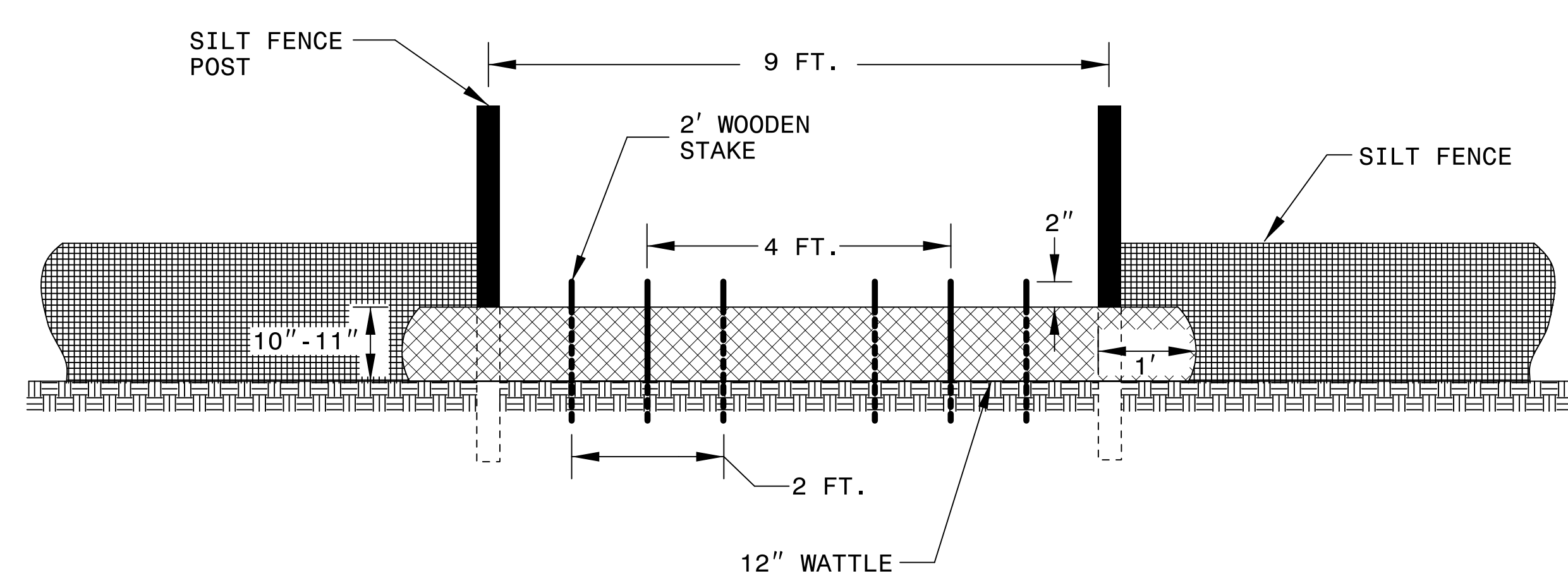
- NOTES:**
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
  - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
  - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
  - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
  - PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
  - INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
  - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
  - PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
  - INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



# SILT FENCE COIR FIBER WATTLE BREAK DETAIL



**ISOMETRIC VIEW**

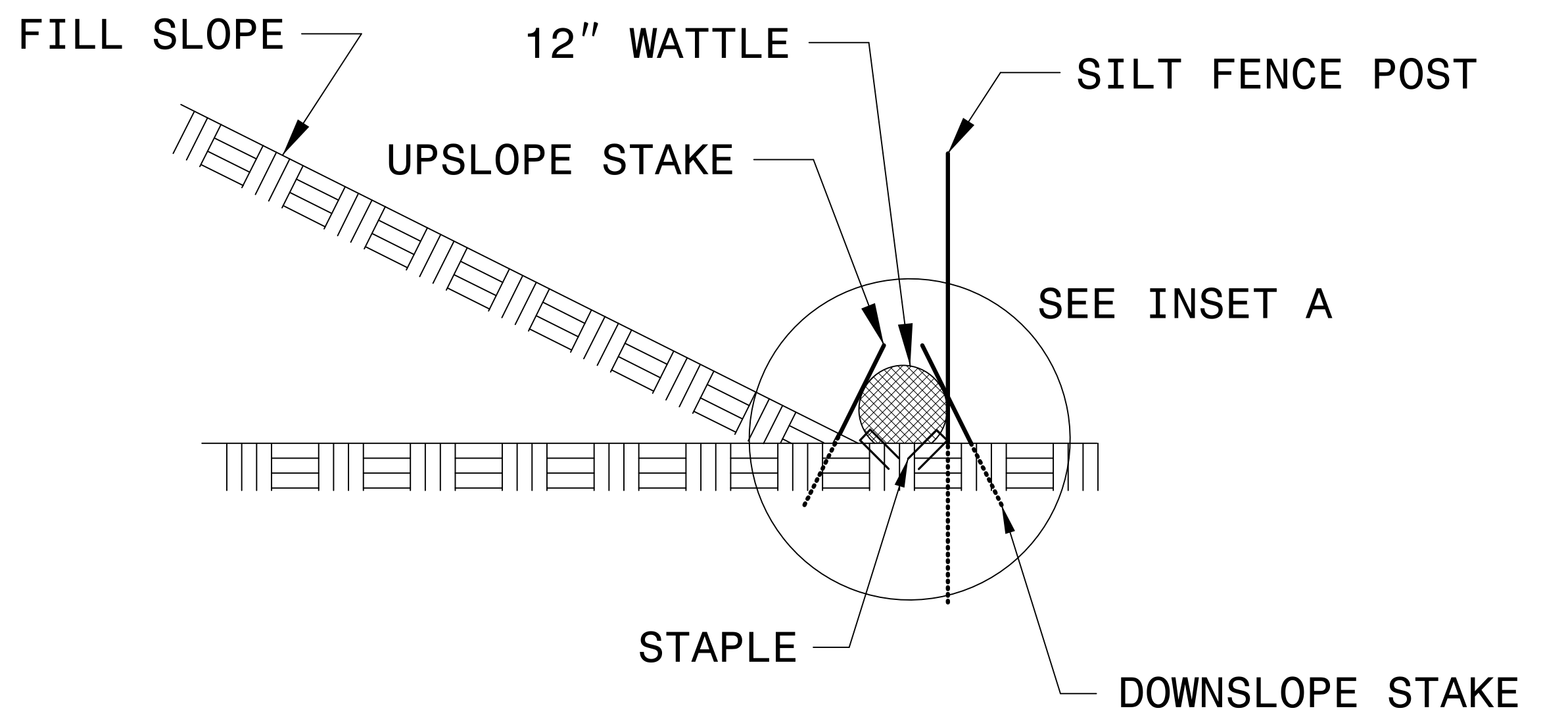
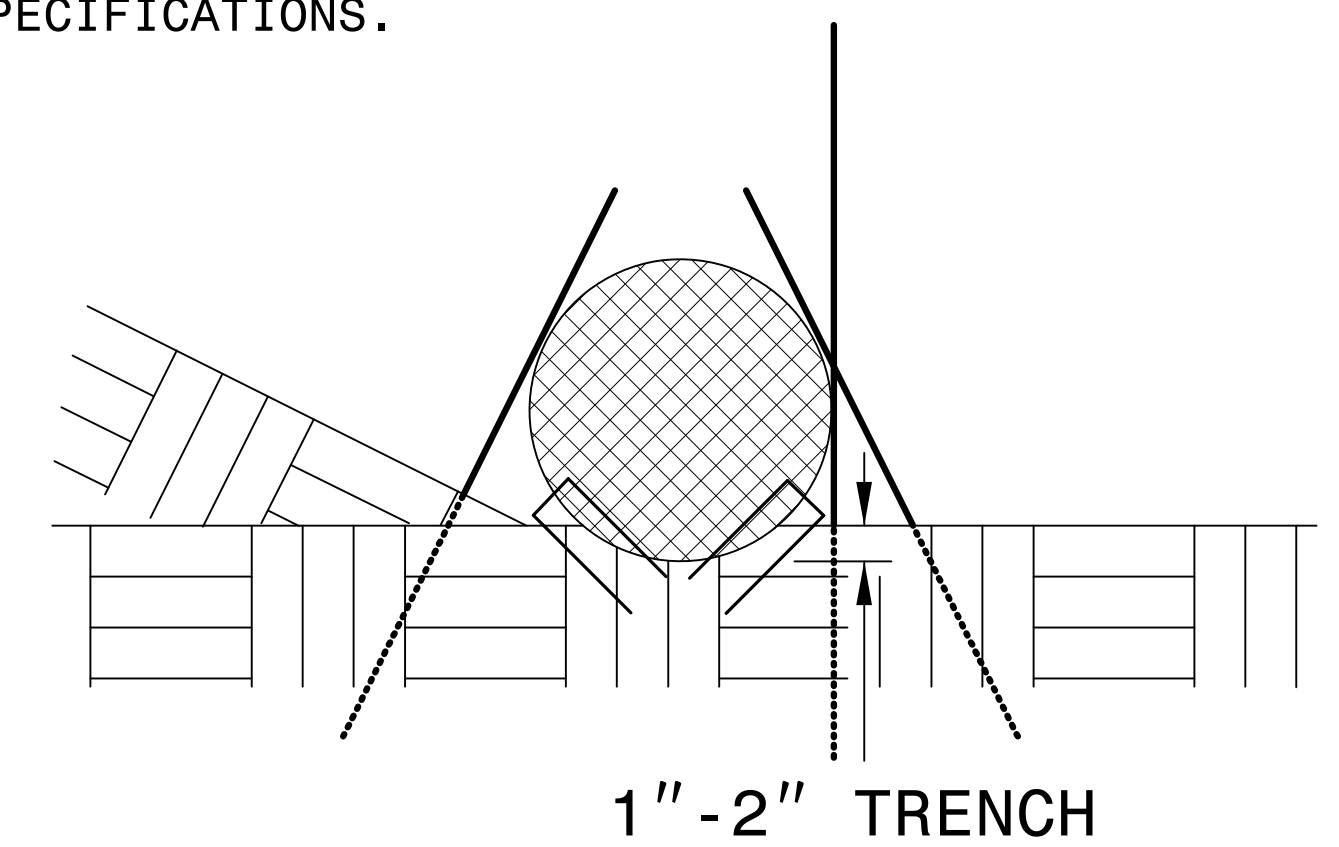


**VIEW FROM SLOPE**

**NOTES:**

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- 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.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

**INSET A**



**SIDE VIEW**




DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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PROJECT REFERENCE NO. <i>B-5809</i>	SHEET NO. <i>EC-3</i>
	
<b>STV Engineers, Inc.</b> 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	

# ***SOIL STABILIZATION TIMEFRAMES***

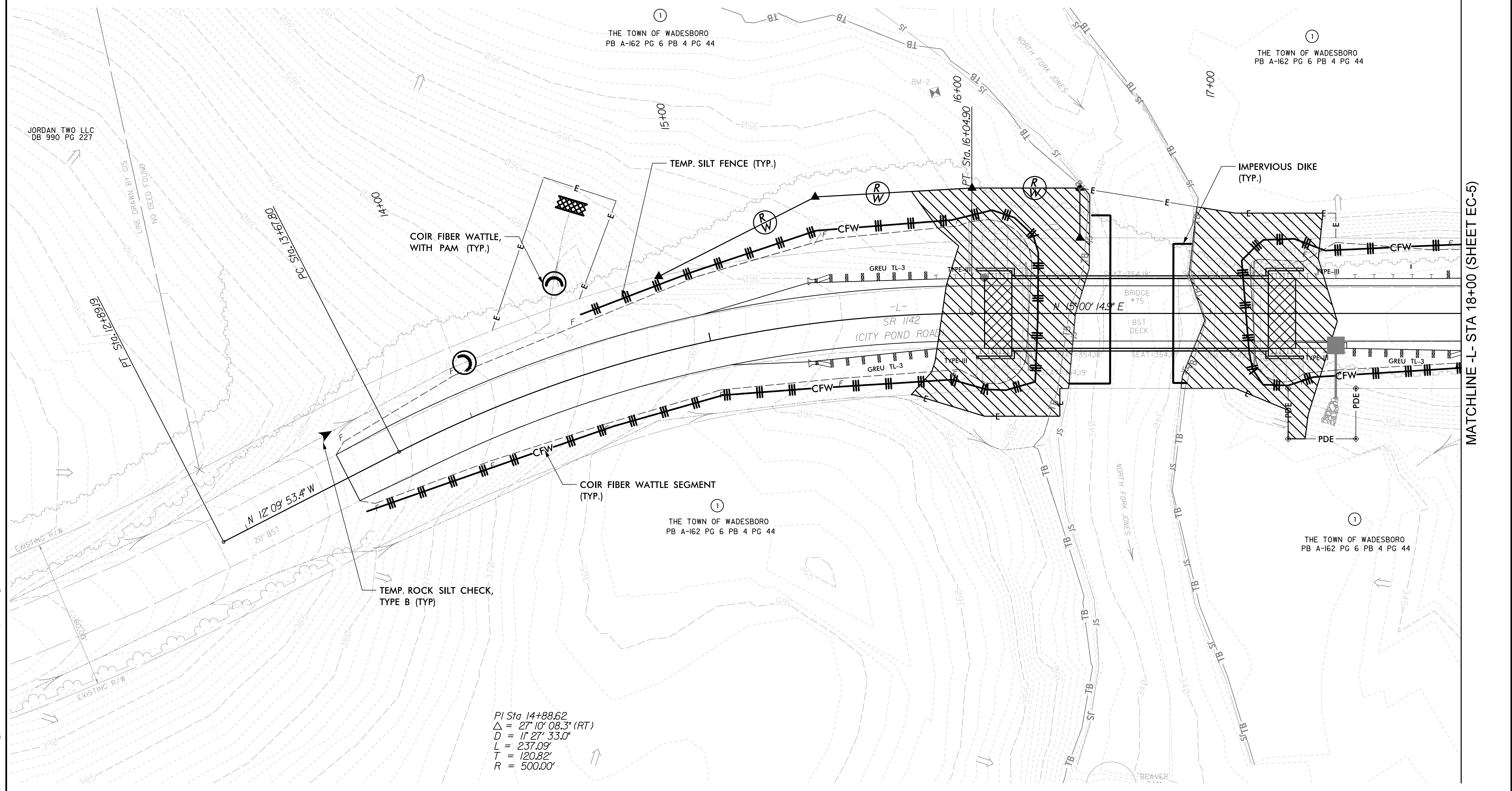
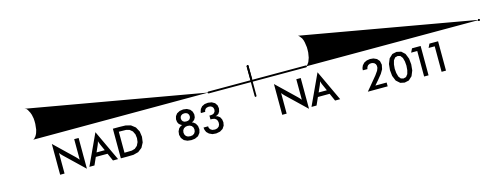
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 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.

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

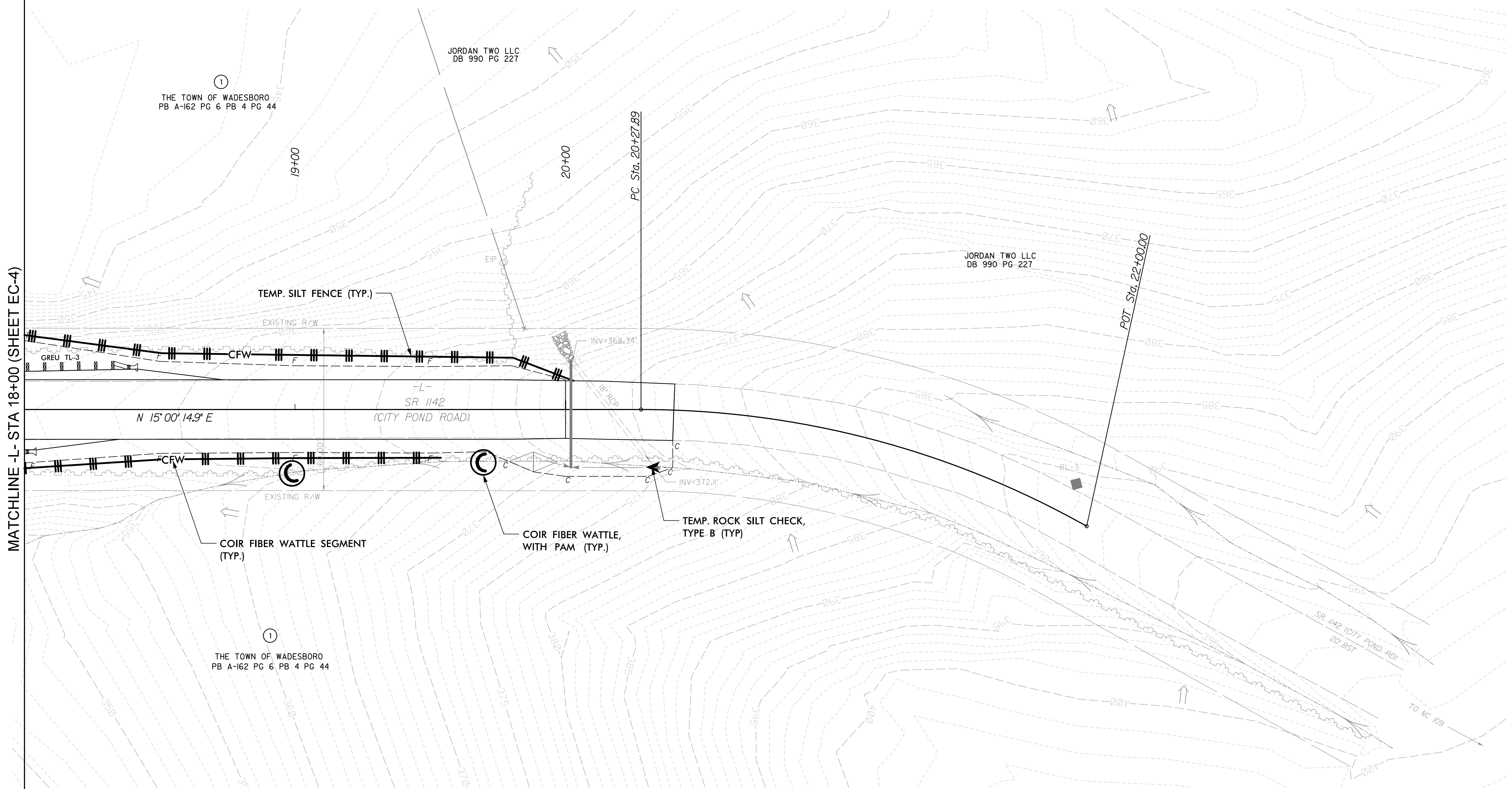
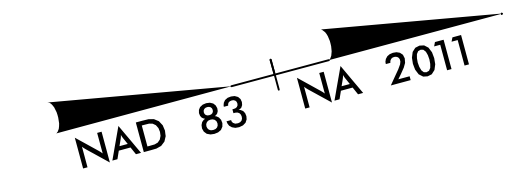
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL  
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY  
NEED TO BE INSTALLED AS DIRECTED BY THE  
ENGINEER.



MATCHLINE -L- STA 18+00 (SHEET EC-5)





CLEARING AND GRUBBING  
 EROSION CONTROL FOR  
 CONSTRUCTION SHEET 5

 ENVIRONMENTALLY SENSITIVE AREA  
 SEE PROJECT SPECIAL PROVISIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL  
 REQUIRE PRIOR APPROVAL BY ENGINEER.

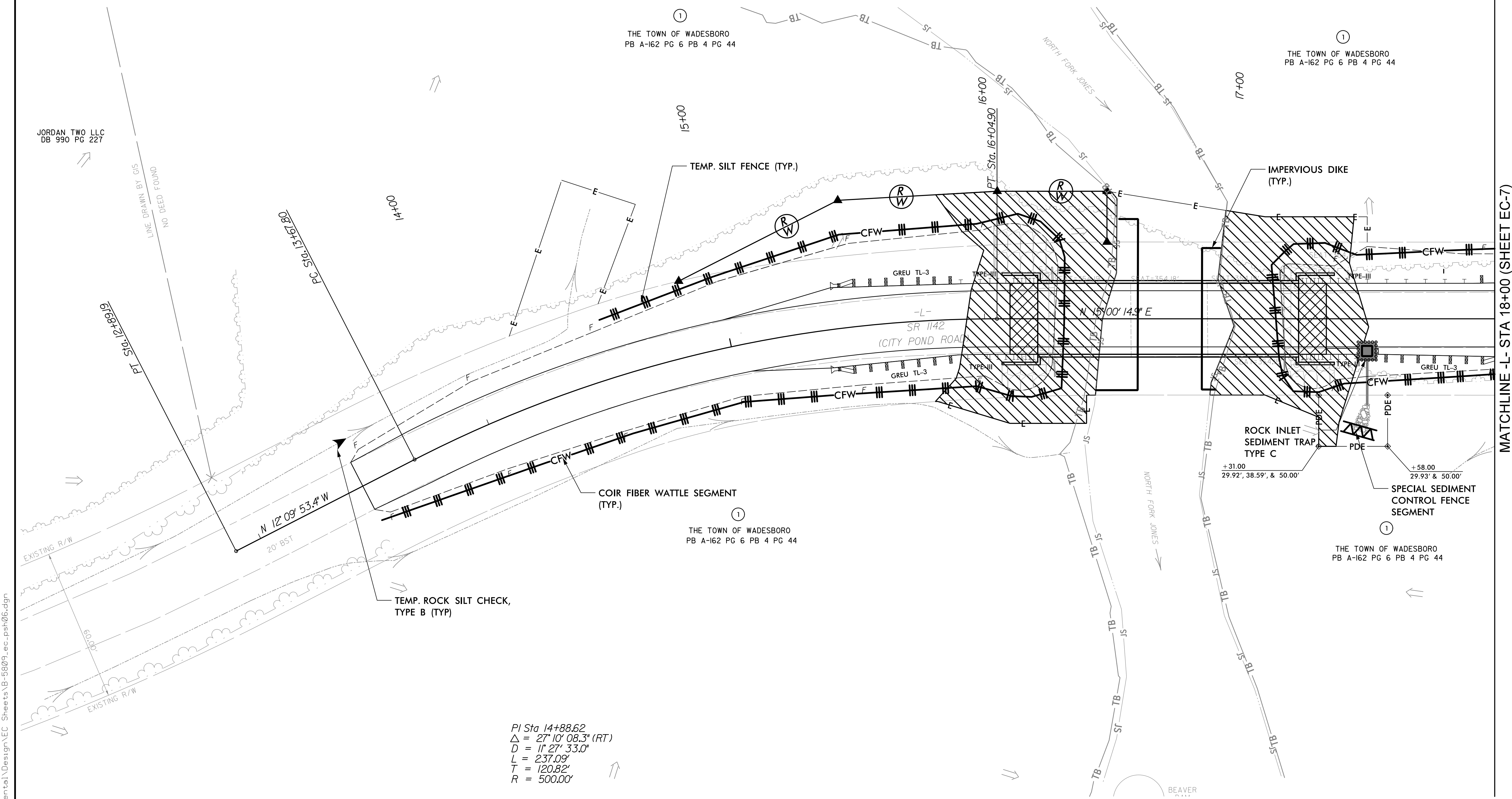
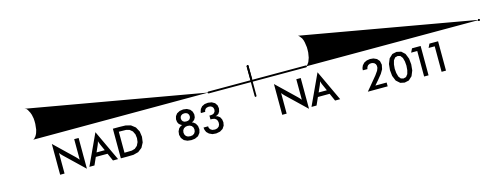
ADDITIONAL EROSION CONTROL DEVICES MAY  
 NEED TO BE INSTALLED AS DIRECTED BY THE  
 ENGINEER.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

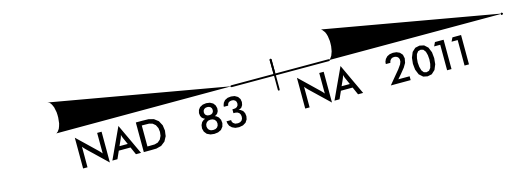
FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 4



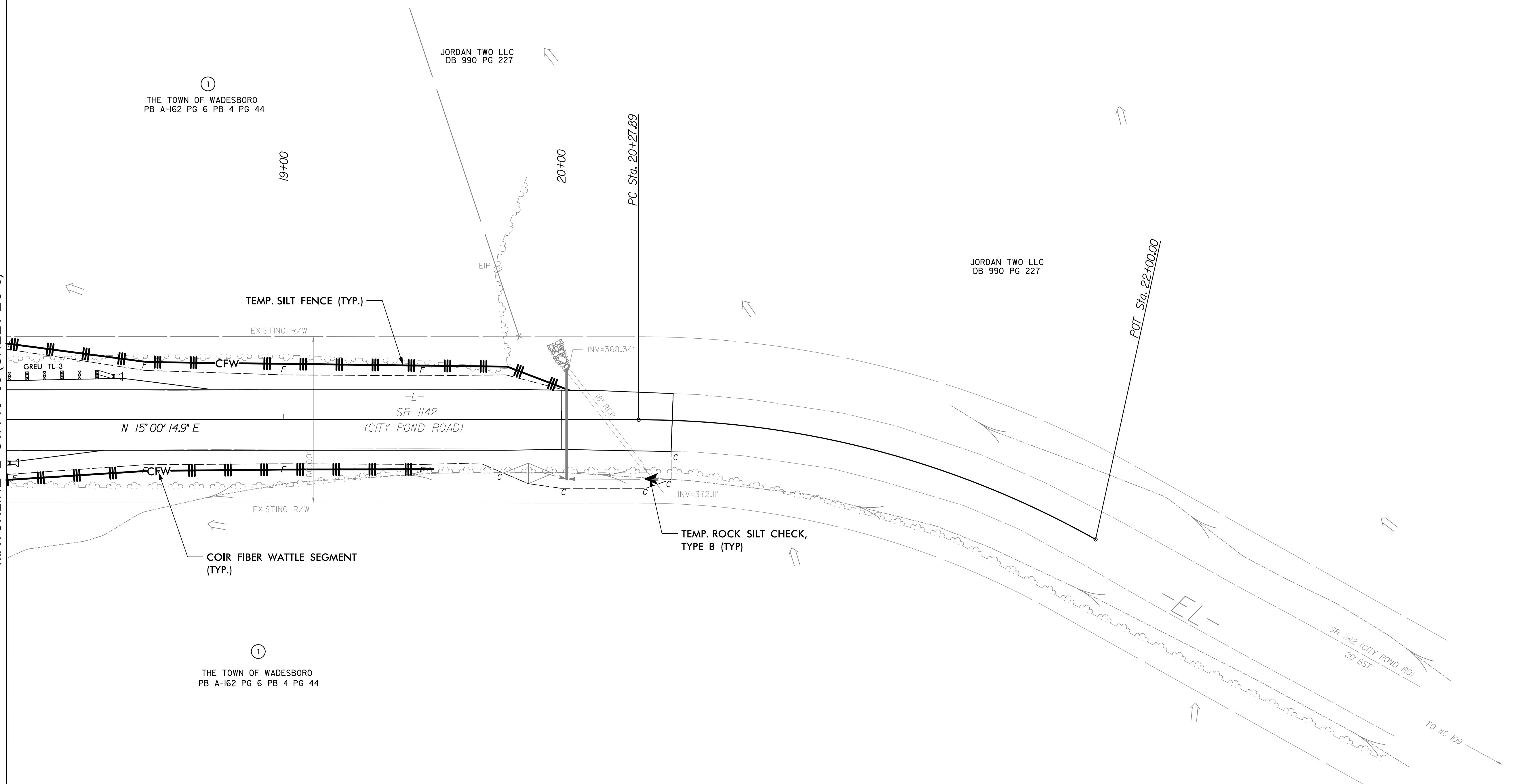
MATCHLINE -L- STA 18+00 (SHEET EC-7)

PI Sta 14+88.62  
 $\Delta = 27^\circ 10' 08.3''$  (RT)  
 $D = 11^\circ 27' 33.0''$   
 $L = 237.09'$   
 $T = 120.82'$   
 $R = 500.00'$





MATCHLINE - L - STA 18+00 (SHEET EC-6)



FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 5

 ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5809	RF-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

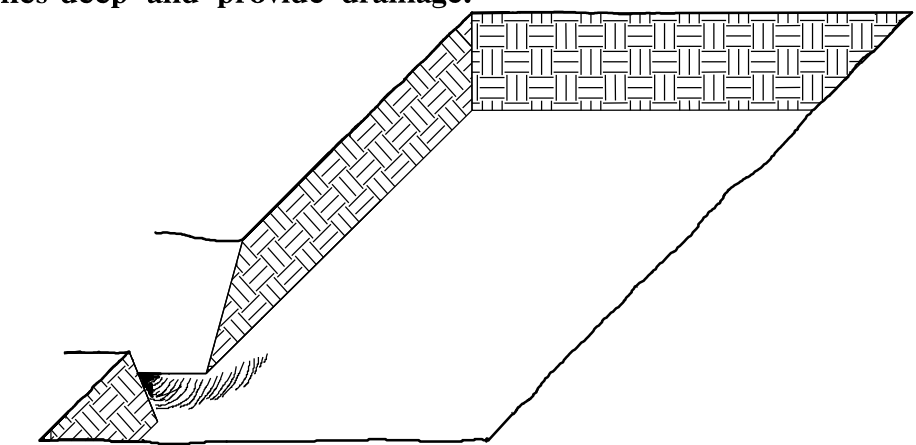
**STV** 100 Years STV Engineers, Inc.  
 900 West Trade St., Suite 715  
 Charlotte, NC 28202  
 NC License Number F-0991

## PLANTING DETAILS

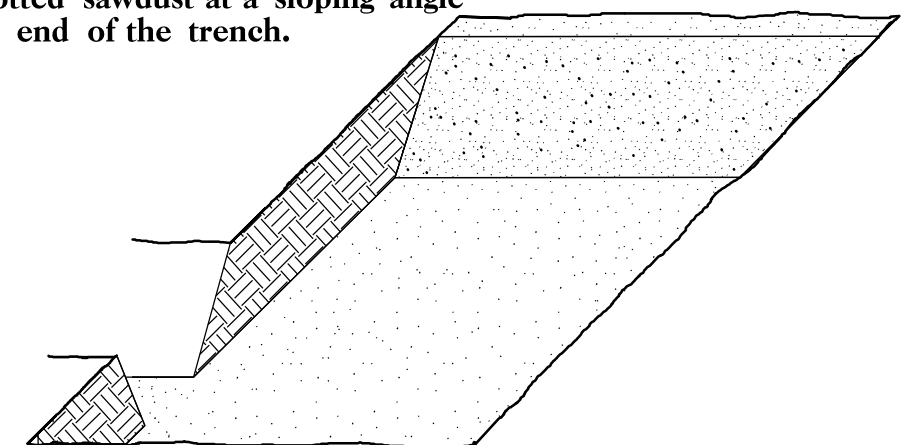
### SEEDLING / LINER BAREROOT PLANTING DETAIL

#### HEALING IN

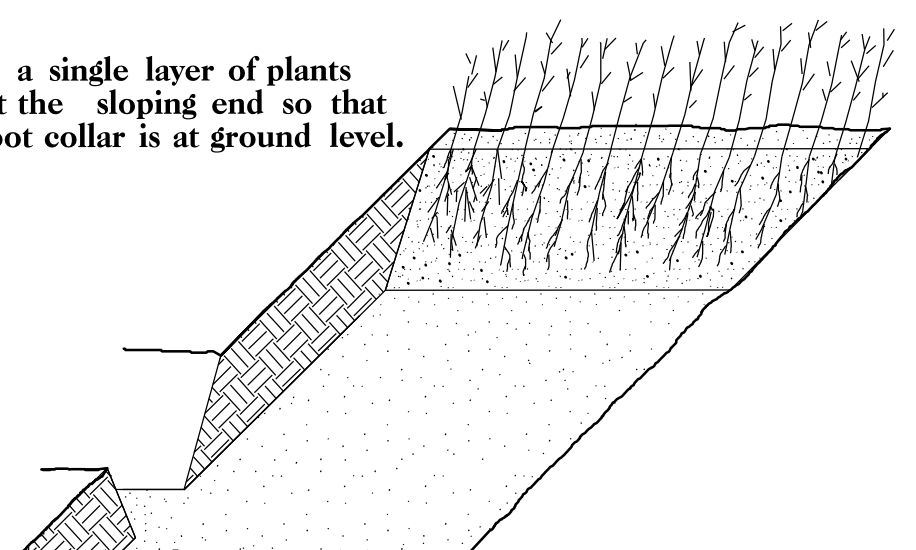
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



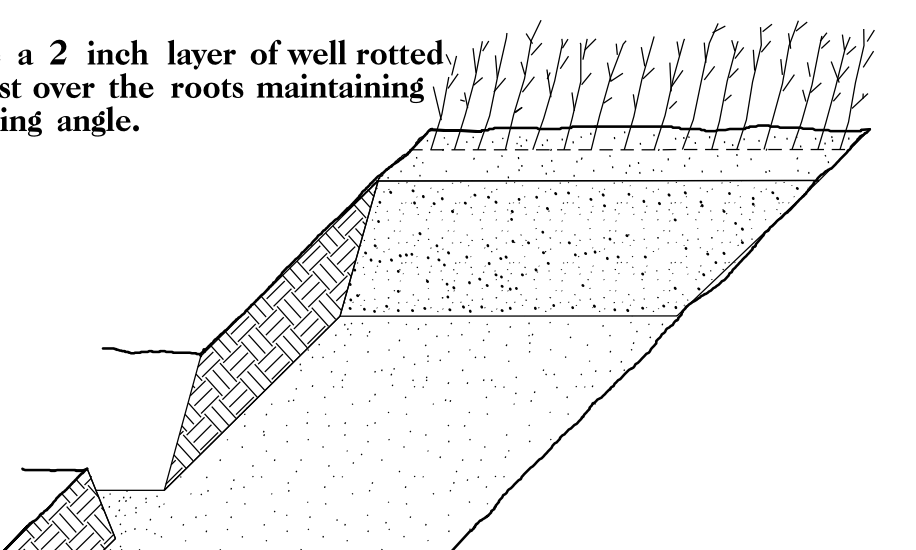
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

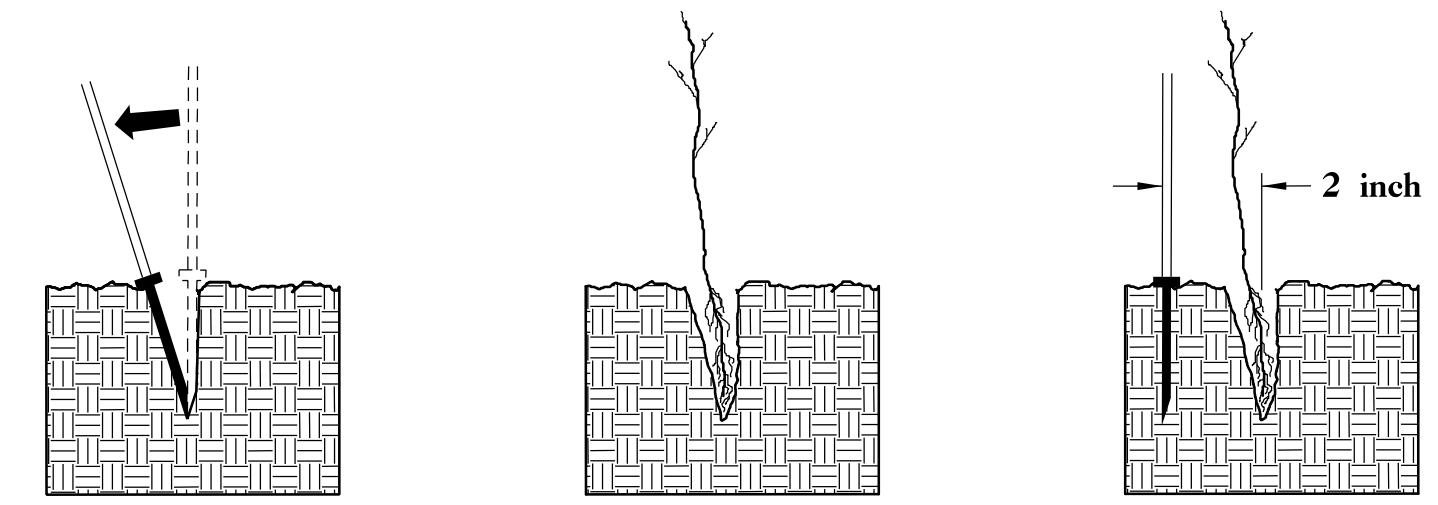


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

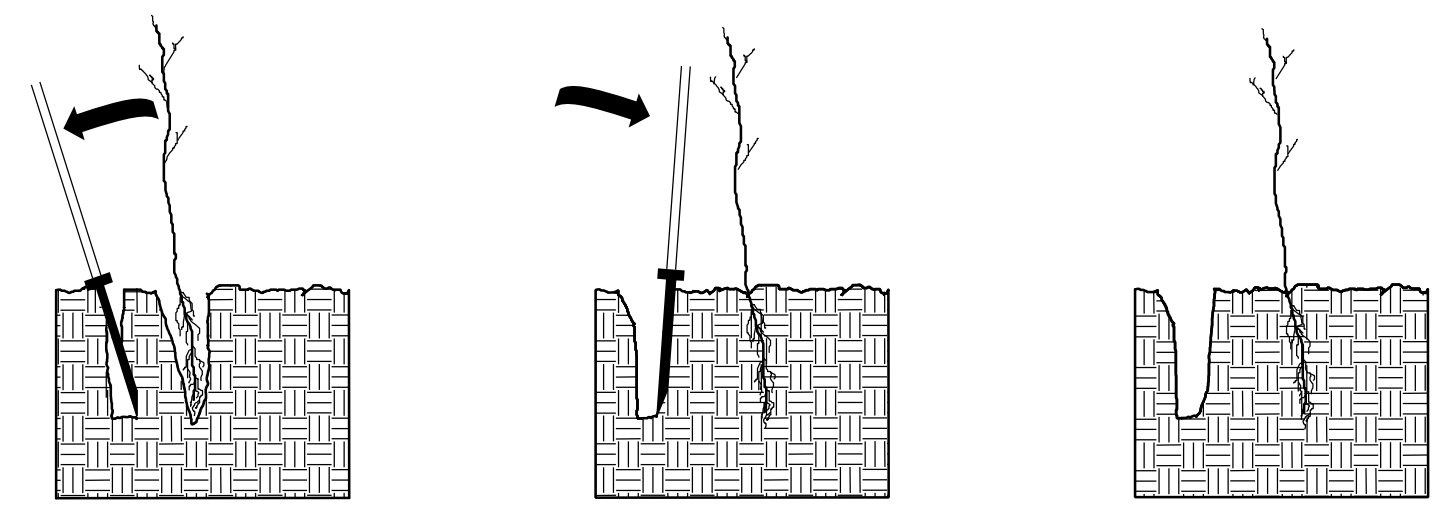


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

#### DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



1. Insert planting bar as shown and pull handle toward planter.
2. Remove planting bar and place seedling at correct depth.
3. Insert planting bar 2 inches toward planter from seedling.



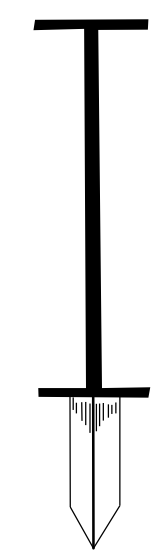
4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

#### PLANTING NOTES:

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



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



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

## REFORESTATION

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

#### REFORESTATION

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

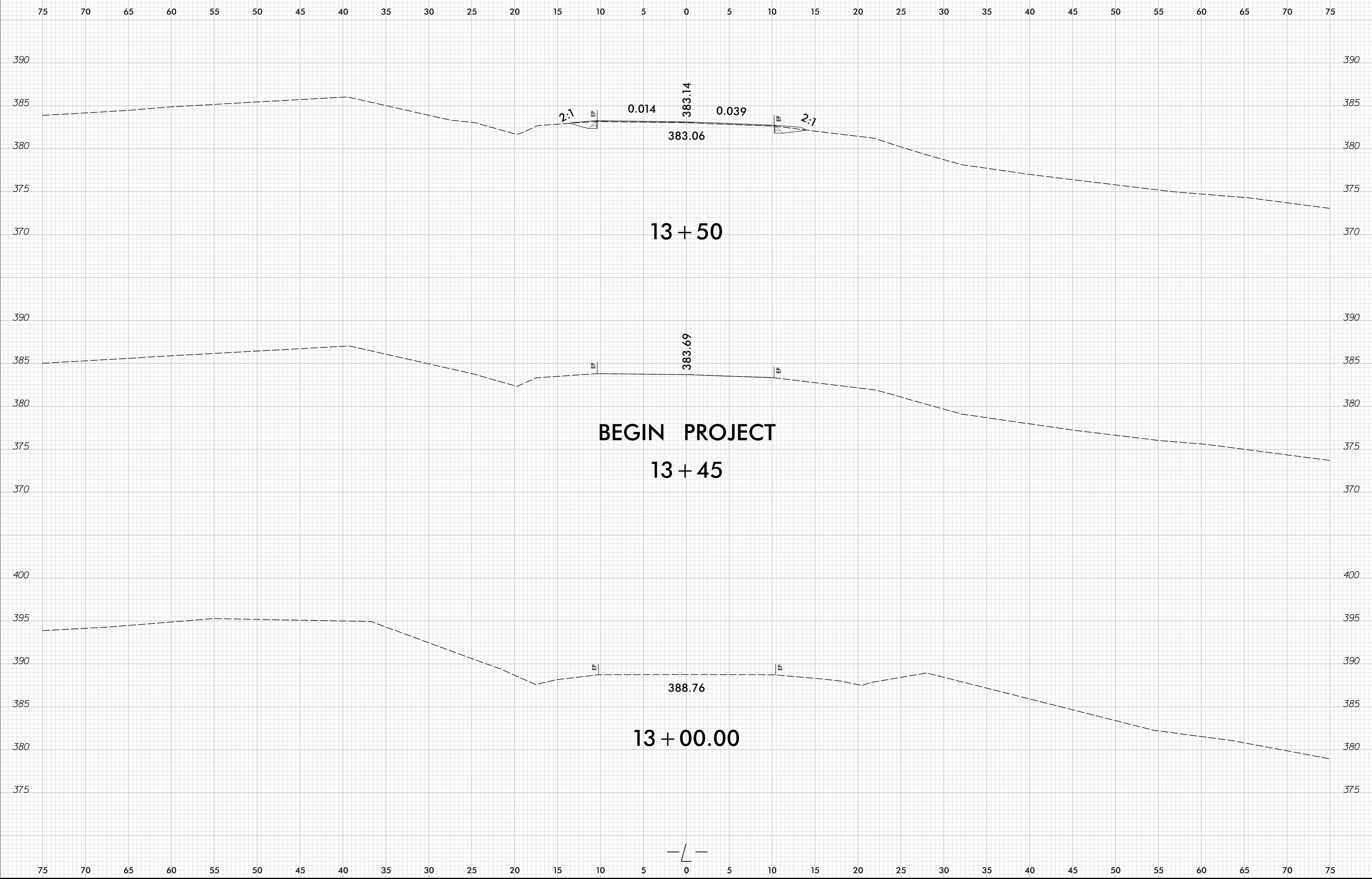
25 0	LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
25 0	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR
25 0	FRAXINUS PENNSYLVANICA	GREEN ASH	12 in - 18 in BR
25 0	BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

**REFORESTATION DETAIL SHEET**  
 N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT



6/23/16

0 2.5 5	PROJ. REFERENCE NO. B-5809	SHEET NO. X-1
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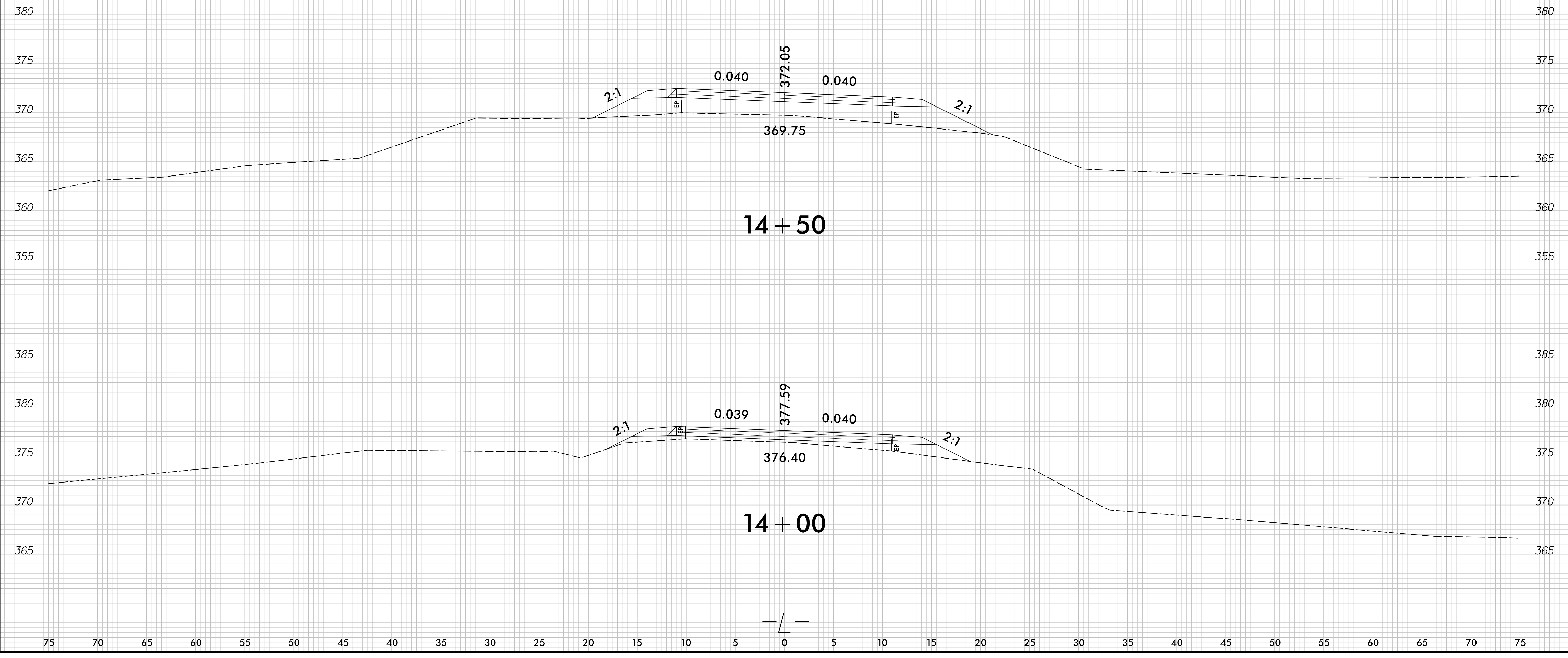


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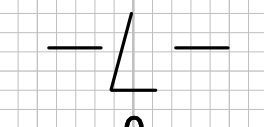
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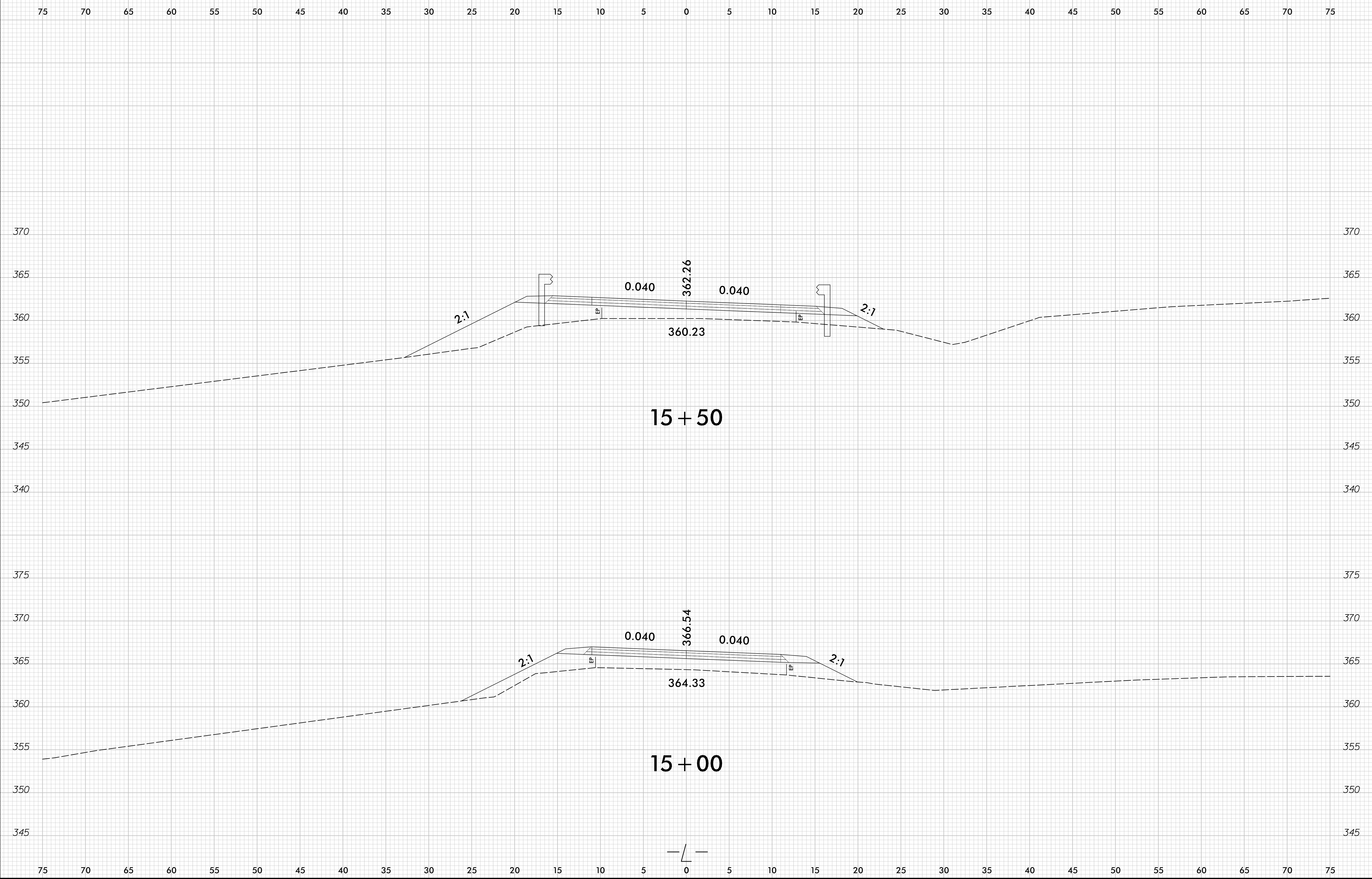
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6/23/16

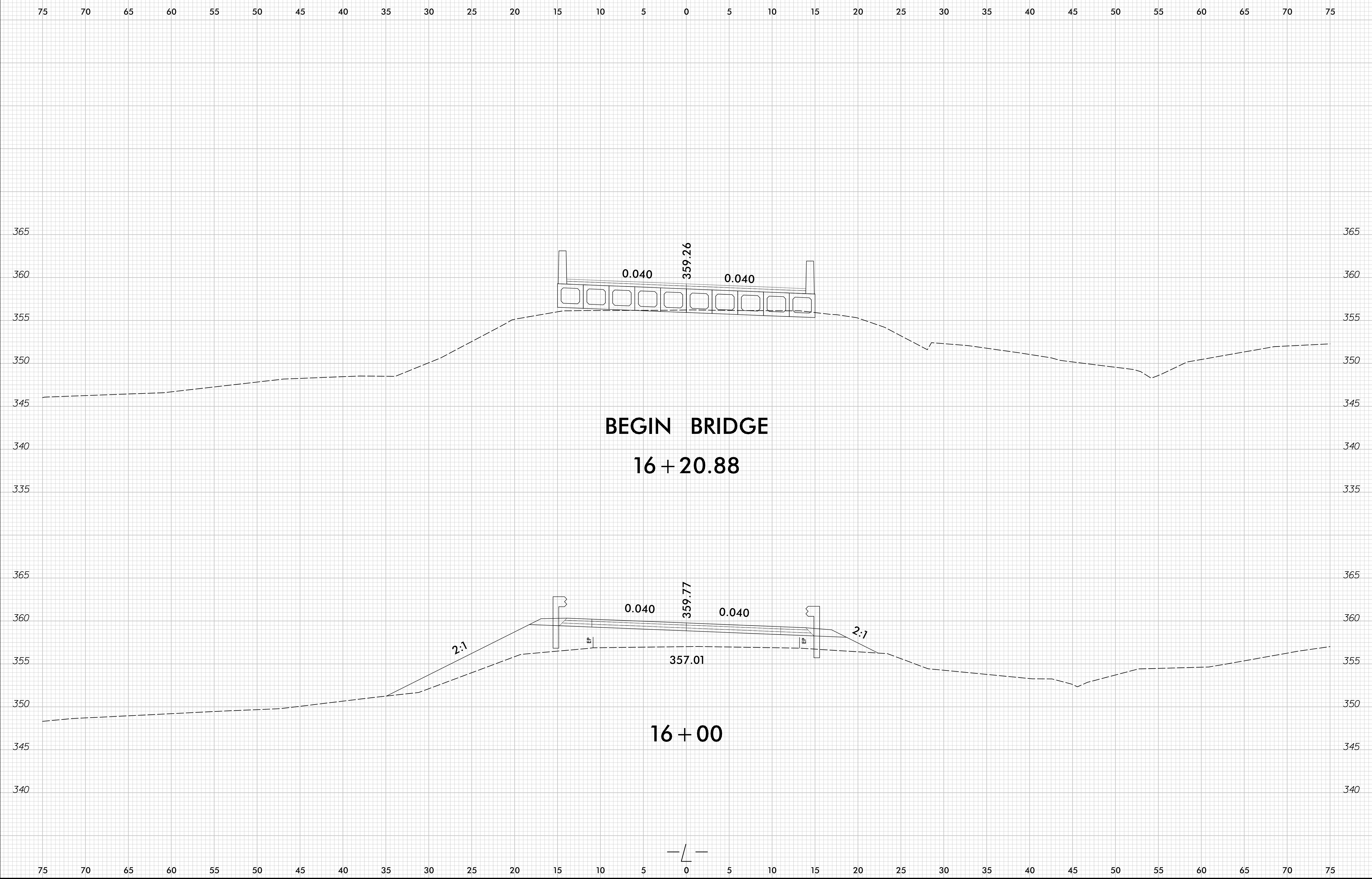
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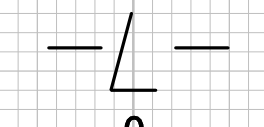
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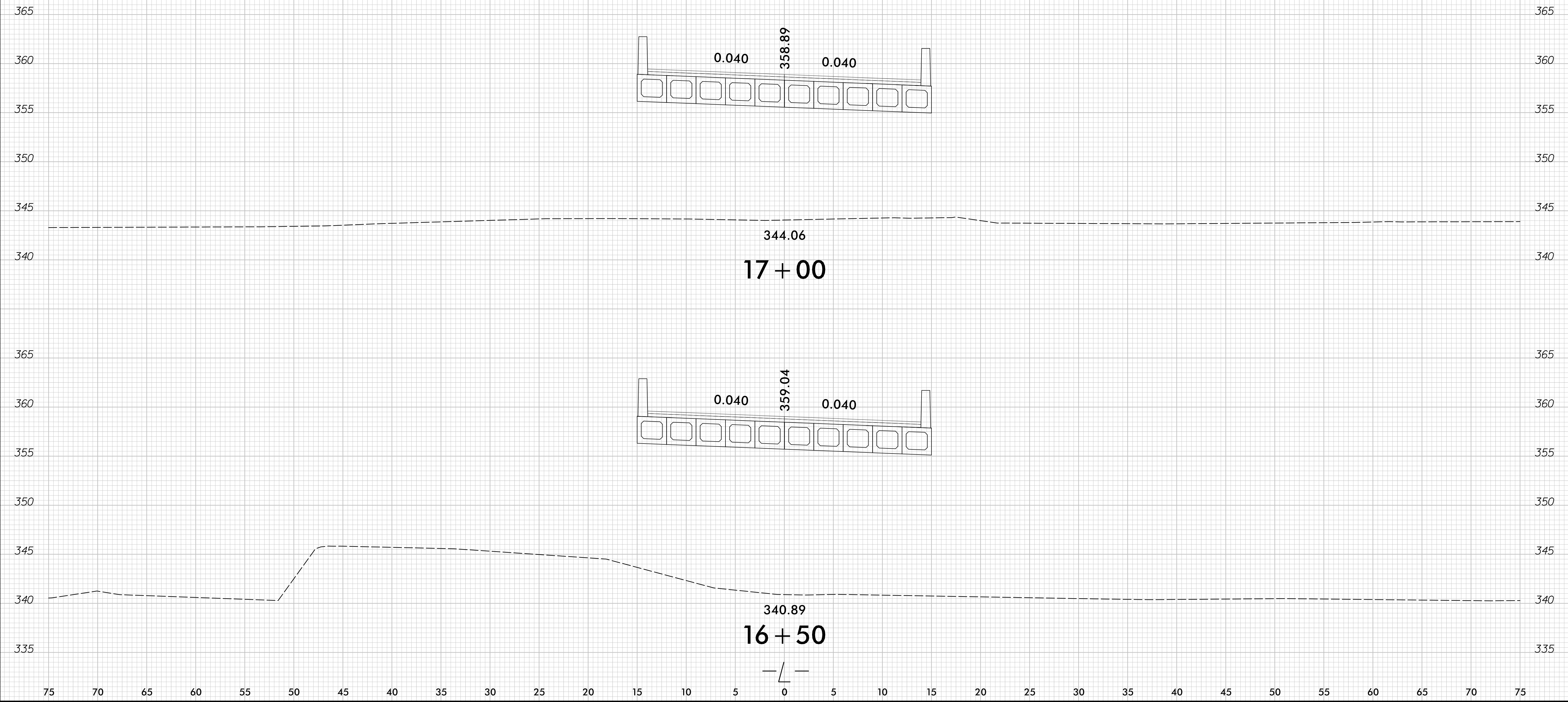
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0 2.5 5	PROJ. REFERENCE NO. B-5809	SHEET NO. X-6
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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

365 365

360 360

REINFORCED SOIL SLOPE  
-L- STA. 17+37.12 TO 17+85.00

355 355

350 350

345 345

17+50

340 340

365 365

360 360

355 355

350 350

345 345

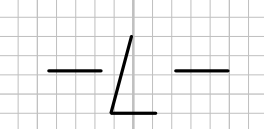
END BRIDGE

17+23.13

340 340

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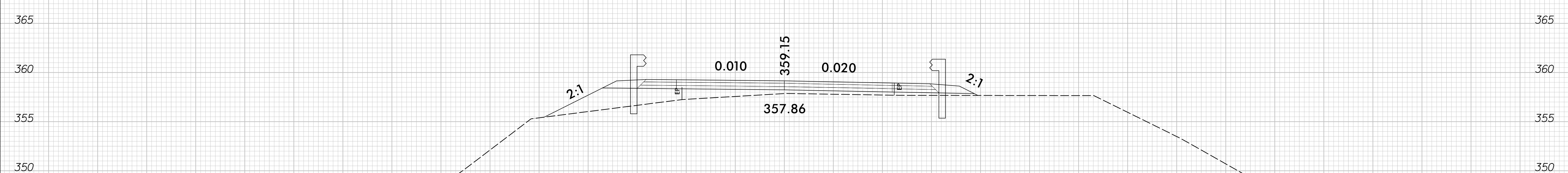
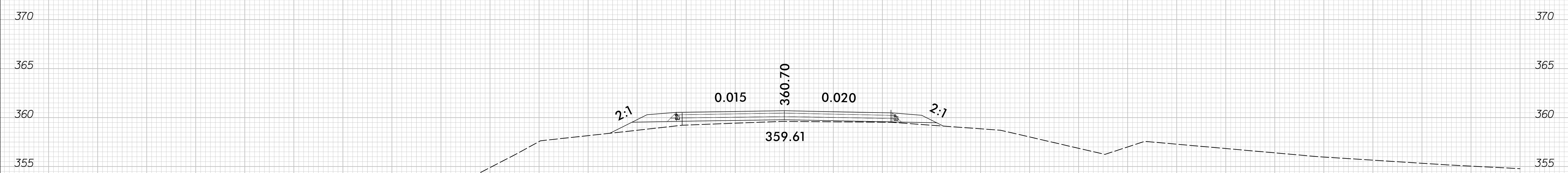
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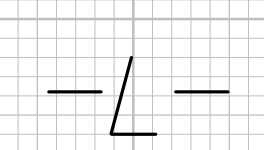
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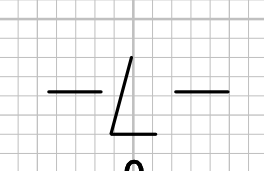
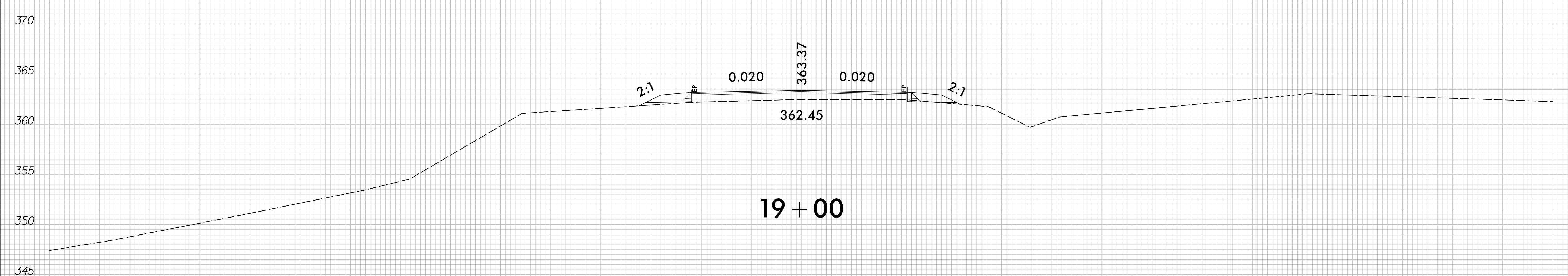
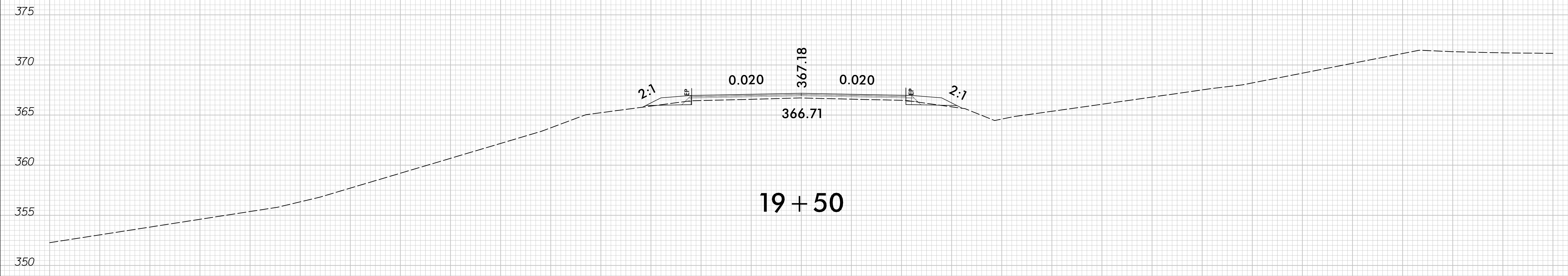
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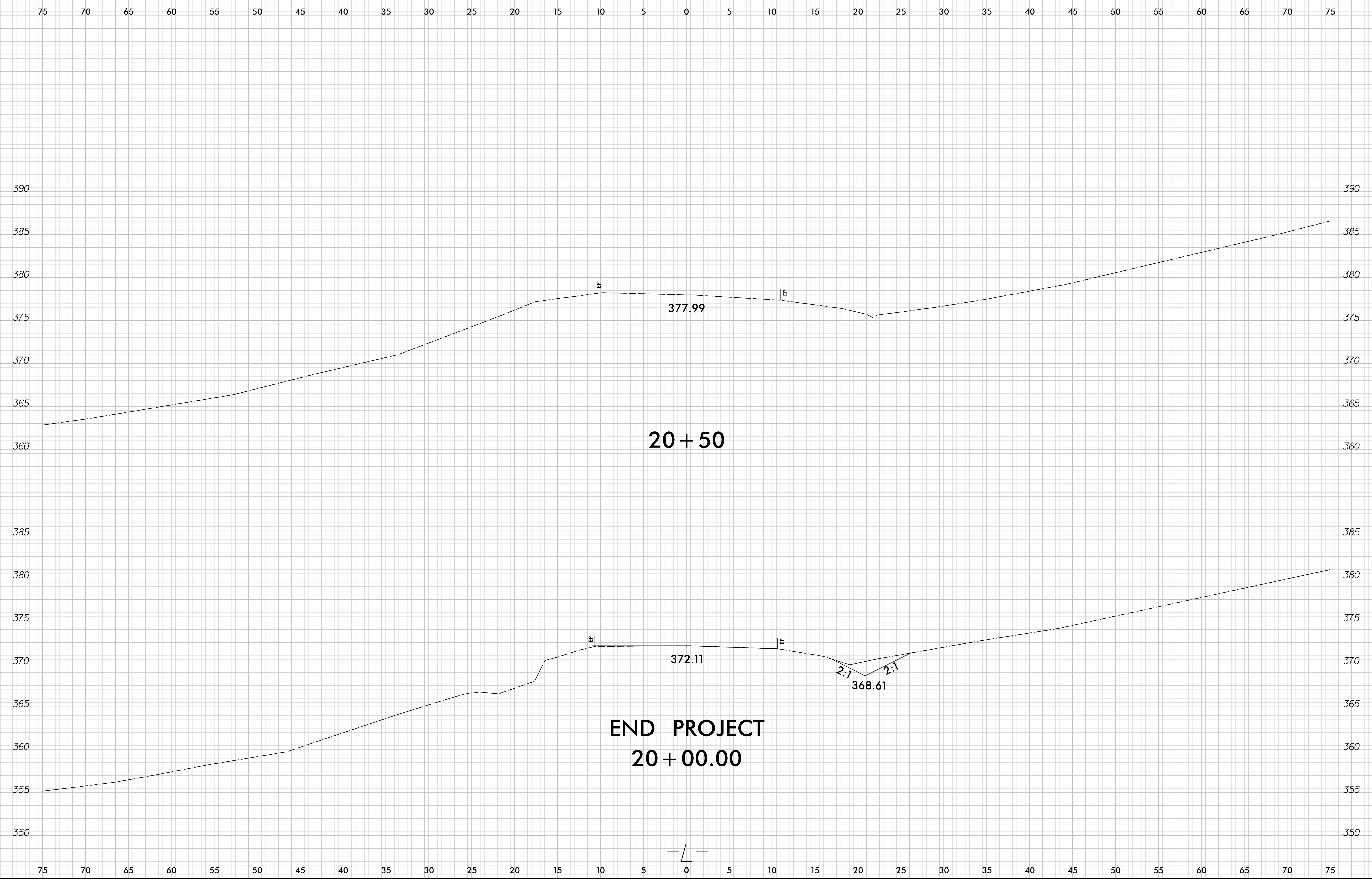
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6/23/16

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