

**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

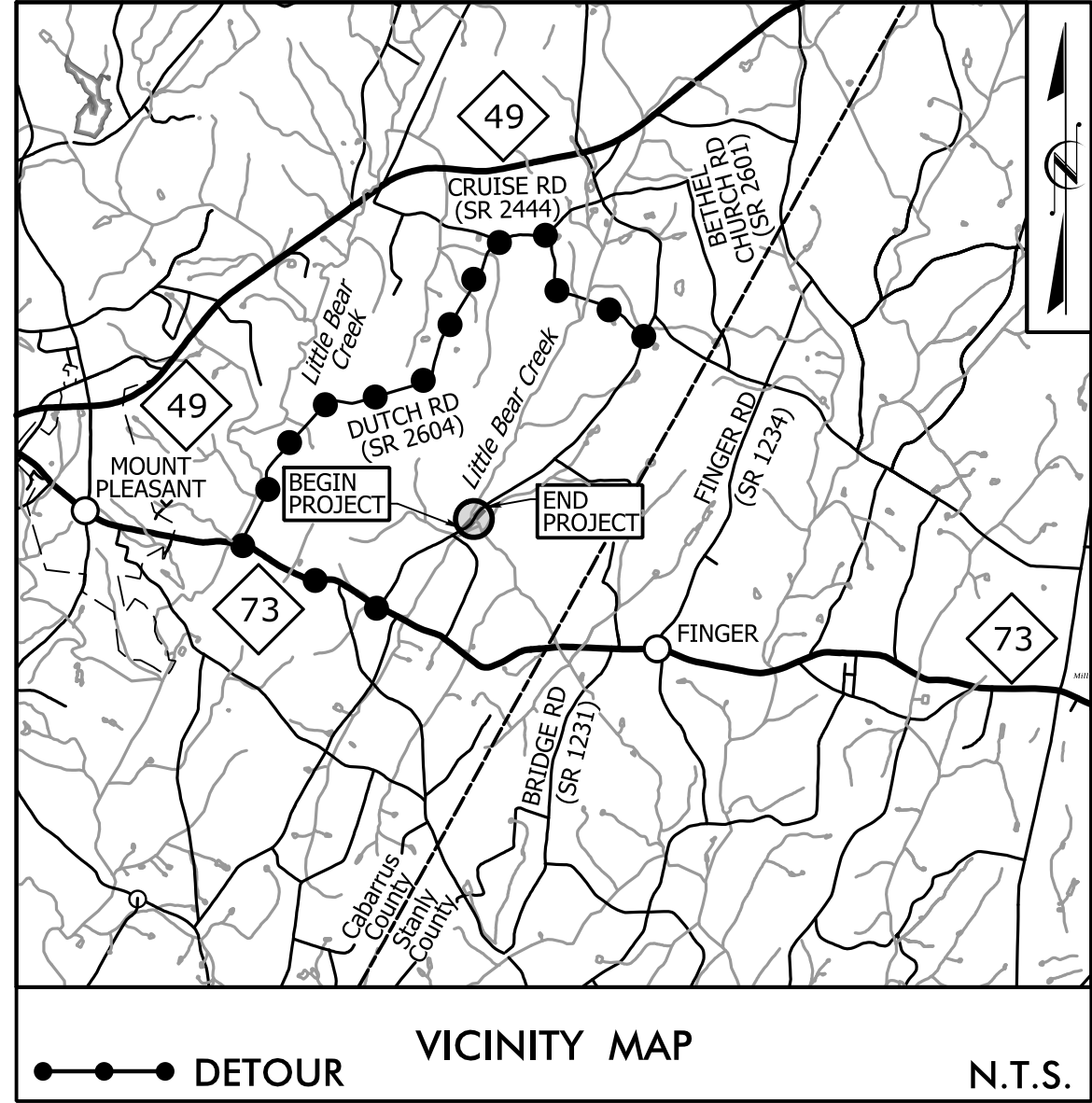
**This file or an individual page
shall not be considered a certified document.**

2/11/2022
R:\Roadway\ProJ\SH\T\RI59...rdy_psh0L_tsh.dgn
SaucieSL

PROJECT WBS: BP10.R020.3

CONTRACT: DJ00400

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



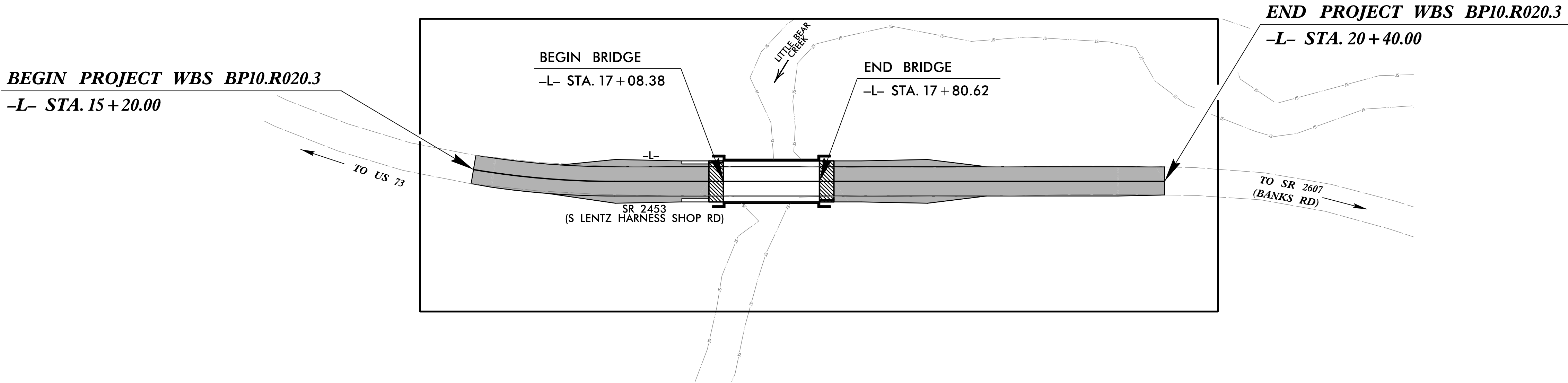
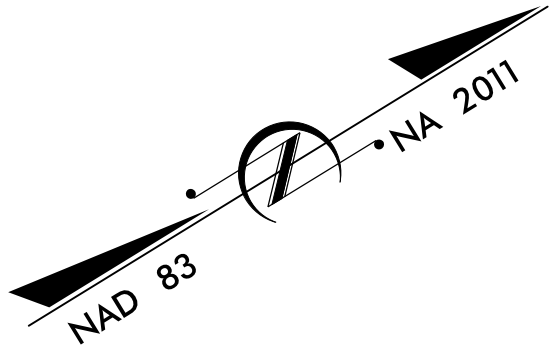
FINAL PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CABARRUS COUNTY

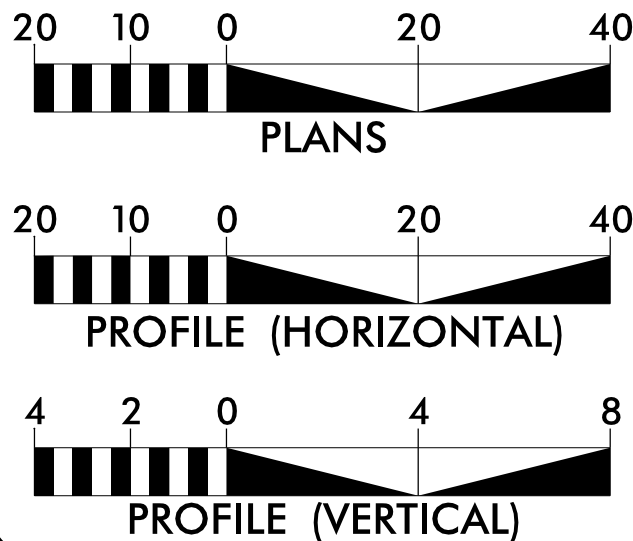
LOCATION: BRIDGE #101 LITTLE BEAR CREEK ON
SR 2453 (SOUTH LENTZ HARNESS SHOP RD)
TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP10.R020.3	1	42
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP10.R020.1	DJ00400	P.E.	
BP10.R020.2	DJ00400	R/W & UTILITY	
BP10.R020.3	DJ00400	CONSTRUCTION	



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2012 = 310
ADT 2025 = 620
DHV = N/A
D = N/A
T = 6 %
V = 45 MPH

FUNC. CLASSIFICATION:
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT WBS BP10.R020.3 = .085 MILES
LENGTH OF STRUCTURE PROJECT WBS BP10.R020.3 = .013 MILES
TOTAL LENGTH OF PROJECT WBS BP10.R020.3 = .098 MILES

NCDOT CONTACT: GARLAND HAYWOOD, PE
Division Bridge Manager

PLANS PREPARED FOR THE NCDOT BY:



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

2018 STANDARD SPECIFICATIONS

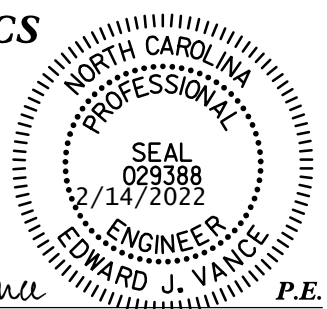
RIGHT OF WAY DATE:
JANUARY 7, 2021

LETTING DATE:
MARCH 16, 2022

NIKKI T. HONEYCUTT, PE
PROJECT ENGINEER

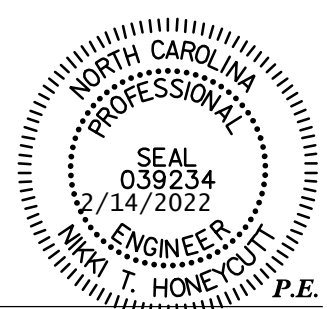
CLARK E. GROVES
PROJECT DESIGNER

HYDRAULICS
ENGINEER

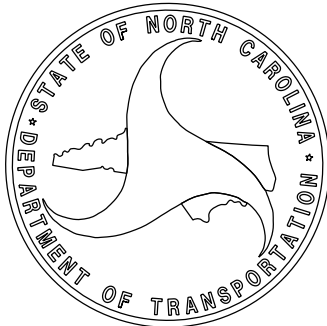


Documented by:
Edward J. Vance
SIGNATURE

ROADWAY
DESIGN
ENGINEER



Documented by:
Nikki T. Honeycutt
SIGNATURE





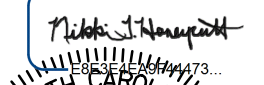
STV Engineers, Inc.
300 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO.
BP10.R020.3

SHEET NO.
1A

R/W SHEET NO.

ROADWAY DESIGN ENGINEER


Mike J. Honeycutt
Professional Engineer
Seal: 039234, 2/14/2022
Mike J. Honeycutt

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
2C-1 THRU 2C-2	ROADWAY DETAILS
3	SUMMARIES AND TYPICAL SECTIONS SHEET
3P-1	PARCEL INDEX SHEET
4 THRU 5	PLAN AND PROFILE SHEET
TMP-1 THRU TMP-2	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-5	EROSION CONTROL PLANS
UO-1 THRU UO-4	UTILITIES BY OTHERS PLANS
X-1 THRU X-6	CROSS-SECTIONS
S-1 THRU S-13	STRUCTURE PLANS
SN	STRUCTURE NOTES

GENERAL NOTES

GENERAL NOTES:	2018 SPECIFICATIONS EFFECTIVE: 01-01-2018
GRADE LINE: GRADING AND SURFACING:	THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.
CLEARING:	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
SUPERELEVATION:	ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.
SHOULDER CONSTRUCTION:	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.
GUARDRAIL:	THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.
END BENTS:	THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.
RIGHT-OF-WAY MARKERS:	ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY THE DIVISION.

STANDARD DRAWINGS

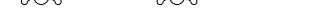
2018 ROADWAY ENGLISH STANDARD DRAWINGS	EFF. January, 2018
--	--------------------

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:

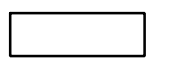
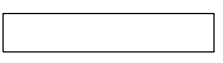
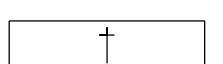
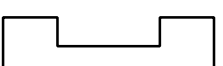
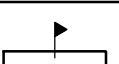
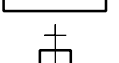
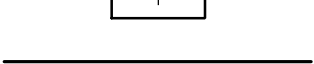
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 4 - MAJOR STRUCTURES	
422.02	Bridge Approach Fills - Type II - Modified Approach Fill
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
840.02	Concrete Catch Basin
840.03	Frame, Grates, and Hood
840.29	Frame and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets
DIVISION 11 - WORK ZONE TRAFFIC CONTROL	
1101.03	Temporary Road Closures
1110.01	Stationary Work Zone Signs - Mounting Height & Lateral Clearance
1145.01	Barricades - Type III

Note: Not to Scale

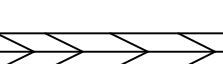
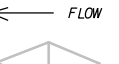
BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin (EIP)	
Computed Property Corner	
Existing Concrete Monument (ECM)	
Parcel/Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

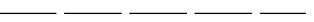
RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

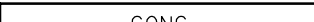
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent Easement Monument (Rebar and Cap)	
Existing C/A Monument	
Proposed C/A Monument (Rebar and Cap)	
Proposed C/A Monument (Concrete)	
Existing Right of Way Line	
Proposed Right of Way Line	
Existing Control of Access Line	
Proposed Control of Access Line	
Proposed ROW and CA Line	
Existing Easement Line	
Proposed Temporary Construction Easement	
Proposed Temporary Drainage Easement	
Proposed Permanent Drainage Easement	
Proposed Permanent Drainage/Utility Easement	
Proposed Permanent Utility Easement	
Proposed Temporary Utility Easement	
Proposed Aerial Utility Easement	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
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	

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:

* SUE – Subsurface Utility Engineering
LOS – Level of Service – A,B,C or D (Accuracy)

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 Test Hole (SUE – LOS A)*	
U/G Power Line (SUE – LOS B)*	
U/G Power Line (SUE – LOS C)*	
U/G Power Line (SUE – LOS D)*	

TELEPHONE:

Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	
U/G Telephone Test Hole (SUE – LOS A)*	
U/G Telephone Cable (SUE – LOS B)*	
U/G Telephone Cable (SUE – LOS C)*	
U/G Telephone Cable (SUE – LOS D)*	
U/G Telephone Conduit (SUE – LOS B)*	
U/G Telephone Conduit (SUE – LOS C)*	
U/G Telephone Conduit (SUE – LOS D)*	
U/G Fiber Optics Cable (SUE – LOS B)*	
U/G Fiber Optics Cable (SUE – LOS C)*	
U/G Fiber Optics Cable (SUE – LOS D)*	

WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line Test Hole (SUE – LOS A)*	
U/G Water Line (SUE – LOS B)*	
U/G Water Line (SUE – LOS C)*	
U/G Water Line (SUE – LOS D)*	
Above Ground Water Line	

TV:

TV Pedestal	
TV Tower	
U/G TV Cable Hand Hole	
U/G TV Test Hole (SUE – LOS A)*	
U/G TV Cable (SUE – LOS B)*	
U/G TV Cable (SUE – LOS C)*	
U/G TV Cable (SUE – LOS D)*	
U/G Fiber Optic Cable (SUE – LOS B)*	
U/G Fiber Optic Cable (SUE – LOS C)*	
U/G Fiber Optic Cable (SUE – LOS D)*	

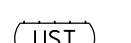
GAS:

Gas Valve	
Gas Meter	
U/G Gas Line Test Hole (SUE – LOS A)*	
U/G Gas Line (SUE – LOS B)*	
U/G Gas Line (SUE – LOS C)*	
U/G Gas Line (SUE – LOS D)*	
Above Ground Gas Line	

SANITARY SEWER:

Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Force Main Line Test Hole (SUE – LOS A)*	
SS Force Main Line (SUE – LOS B)*	
SS Force Main Line (SUE – LOS C)*	
SS Force Main Line (SUE – LOS D)*	

MISCELLANEOUS:

Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown U/G Line (SUE – LOS B)*	
U/G Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
A/G Tank; Water, Gas, Oil	
Geoenvironmental Boring	
Abandoned According to Utility Records	
End of Information	

PROJECT REFERENCE NO.	SHEET NO.
BP10.R020.3	2C-1
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

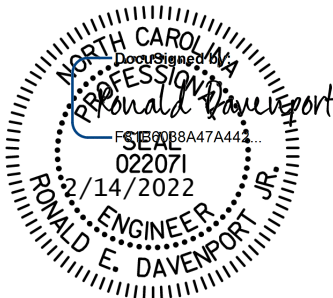
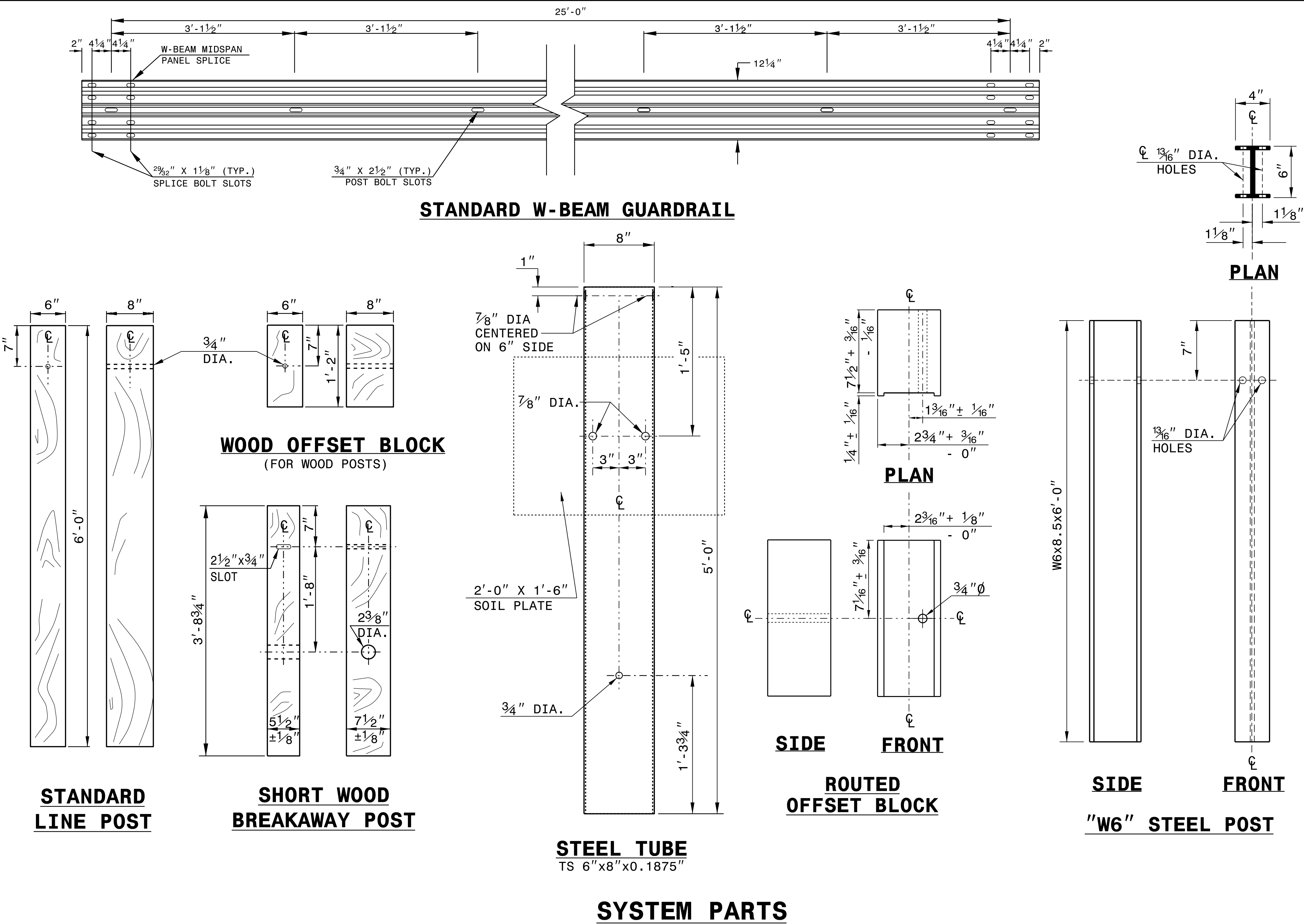
ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

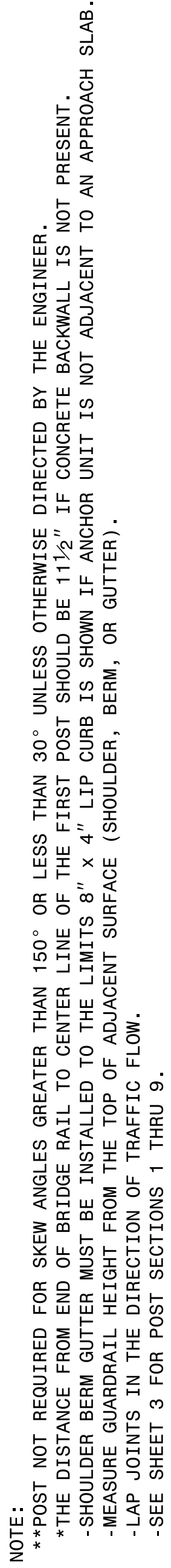
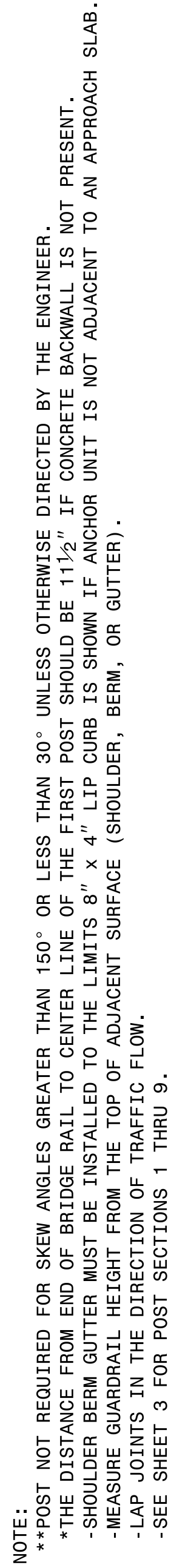
SHEET 6 OF 8
862D02



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.: DATE:



6/2/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
BPI0.R020.3	3P-1
 100 Years STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	

PARCEL INDEX SHEET

PARCEL NO.	SHEET NO.	PROPERTY OWNER NAME	AREA TAKEN		
			ROW (SF)	PUE (SF)	TCE (SF)
1	4	RUTH LYNN DWYER	2611	1180	
2	4	FREDRICK WILLIAM DOTGER III	2264		301
3	4	LESA A. HURLOCKER SMITHKA	4537	211	
4	4	LORETTA K. HURLOCKER	743	2044	

8/17/99

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY SEPI FOR MONUMENT "120301-2"

WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 602504.2032(ft) EASTING: 1587182.1135(ft) ELEVATION: 543.58(ft)

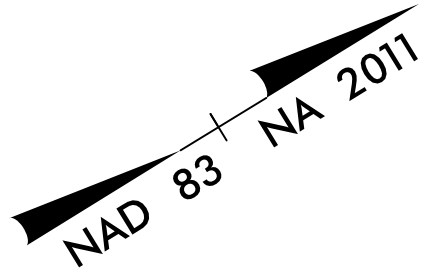
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00012419

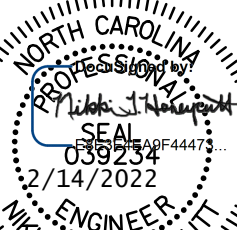
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-3" TO -L- STATION 15+20.00 IS S 28°31'49.4" W 126.49'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

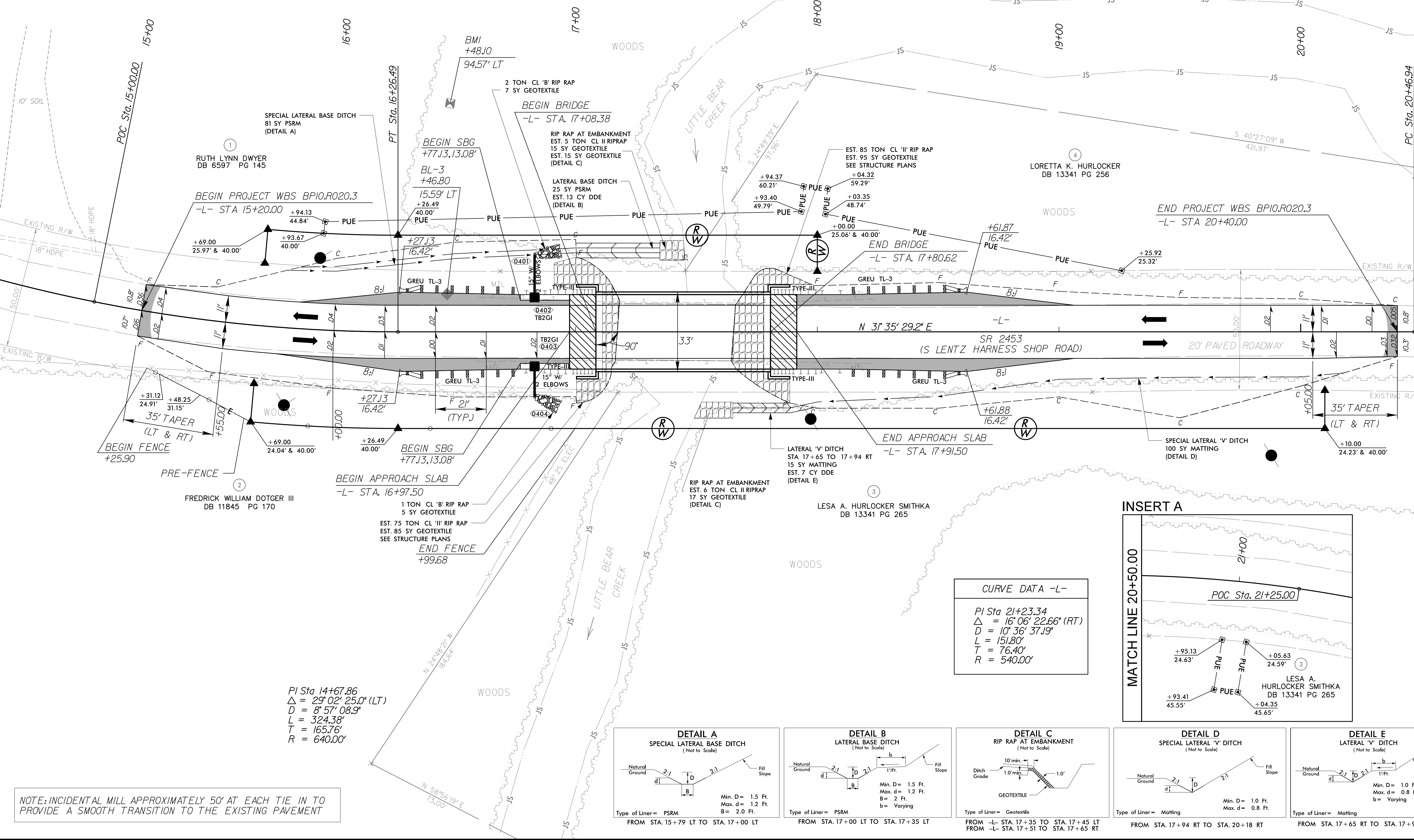
VERTICAL DATUM IS BASED ON MONUMENT 12-301 BL-103 (ELEV 548.36') NAVD 88

BM-1	N 602939	E 1587626	ELEV 540.29
BM-2	N 603441	E 1588058	ELEV 542.35
103	N 602348.0920	E 1586895.1210	ELEV 548.36
BL-1	N 602571.3347	E 1587294.8682	ELEV 541.72
BL-2	N 602696.6223	E 1587561.5522	ELEV 540.75
BL-3	N 602896.2581	E 1587692.5714	ELEV 539.81
BL-4	N 603332.1316	E 1587975.7376	ELEV 545.50
BL-5	N 603695.0358	E 1588433.0249	ELEV 570.65
120101-6	N 603952.3688	E 1588926.9107	ELEV 578.10
120101-7	N 604607.2972	E 1589946.8453	ELEV 583.31



PROJECT REFERENCE NO.		SHEET NO.
BPIO.R020.3		4
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

MATCH LINE 20+50.00 SEE INSERT A



① RUTH LYNN DWYER
DB 6597 PG 145

④ LORETTA K. HURLOCKER
DB 13341 PG 256

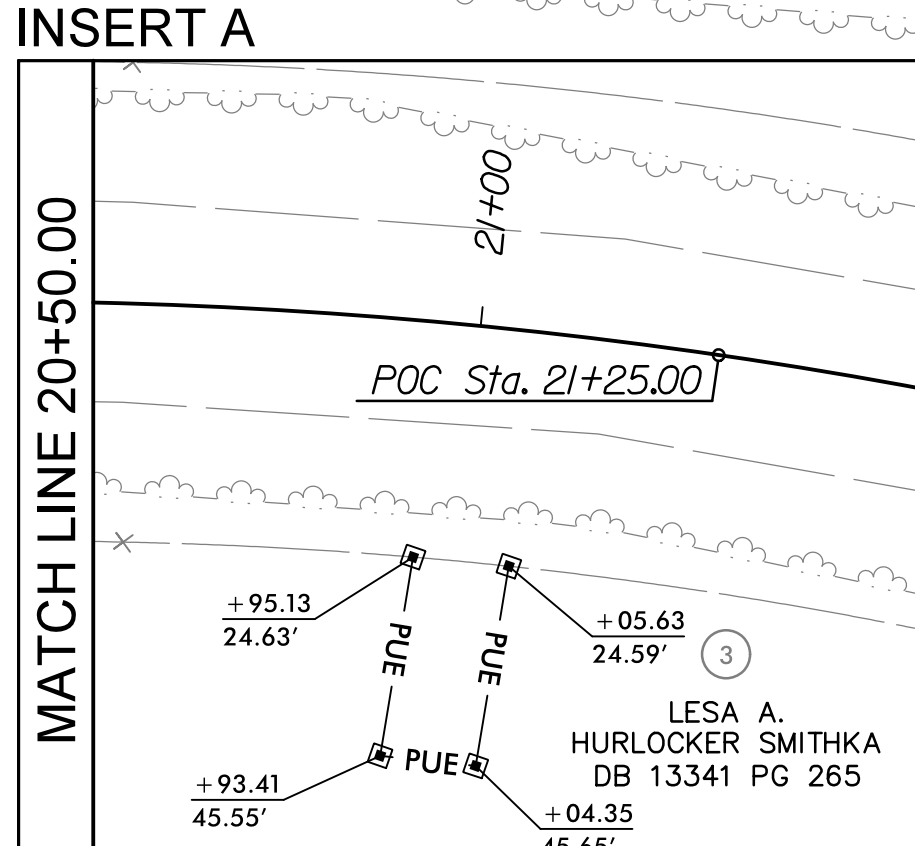
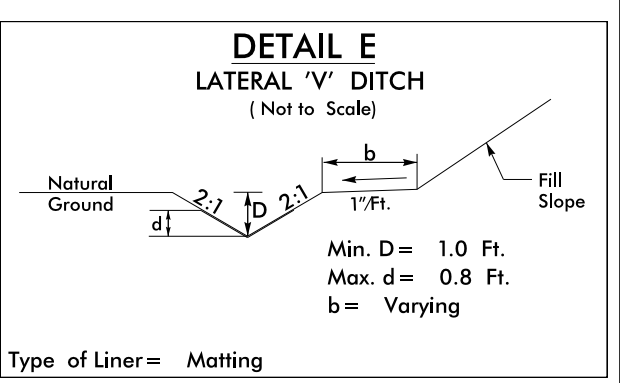
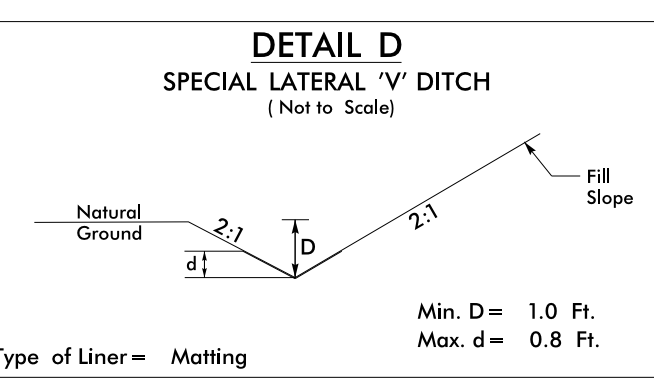
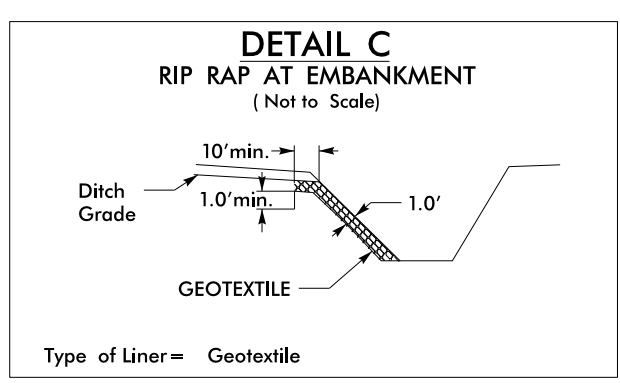
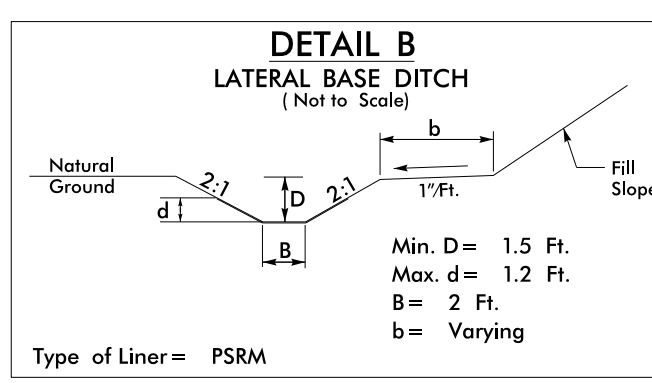
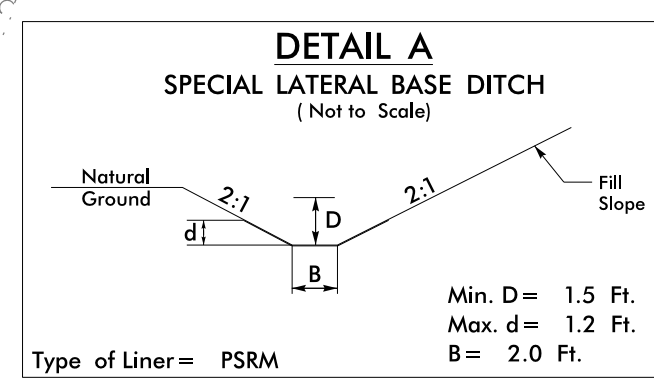
② FREDRICK WILLIAM DOTGER III
DB 11845 PG 170

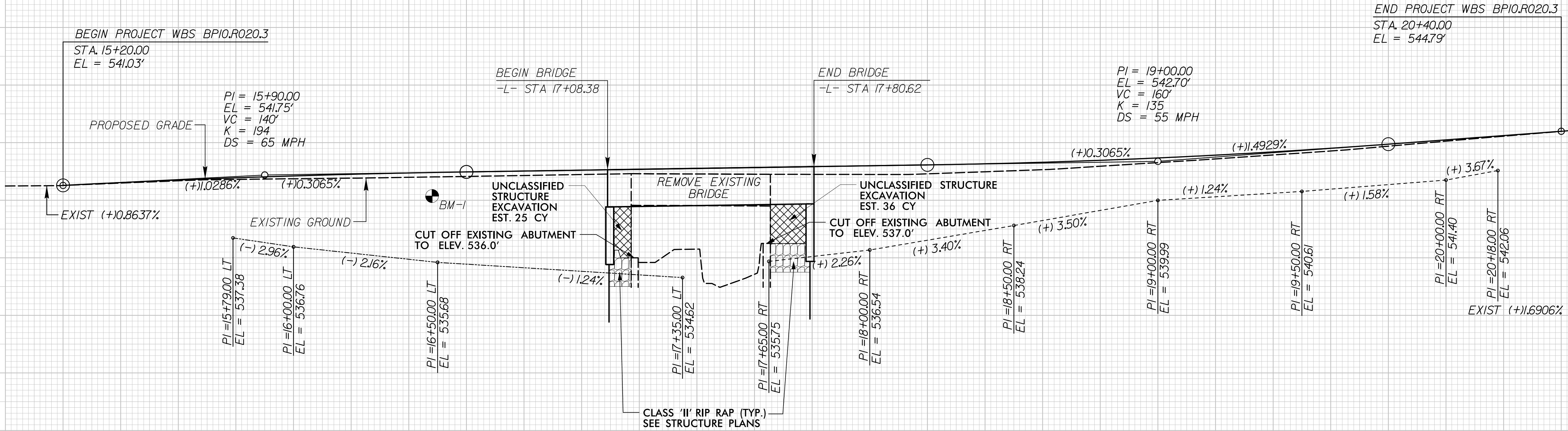
③ LESA A. HURLOCKER SMITHKA
DB 13341 PG 265

PI Sta 14+67.86
Δ = 29° 02' 25.0" (LT)
D = 8' 57' 08.9"
L = 324.38'
T = 165.76'
R = 640.00'

CURVE DATA -L-	
PI Sta	21+23.34
Δ	= 16° 06' 22.66" (RT)
D	= 10' 36' 37.19"
L	= 151.80'
T	= 76.40'
R	= 540.00'

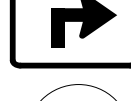
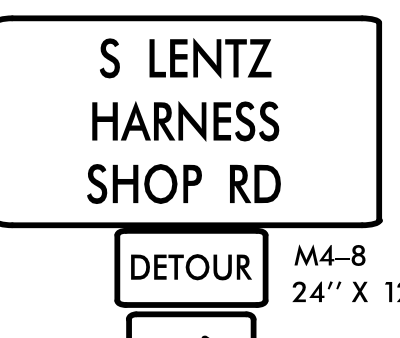
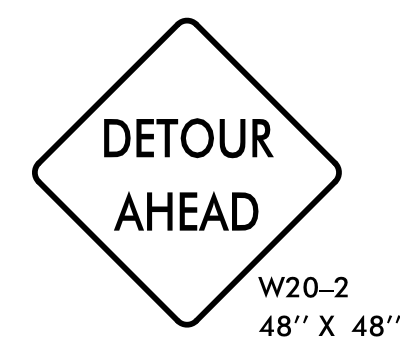
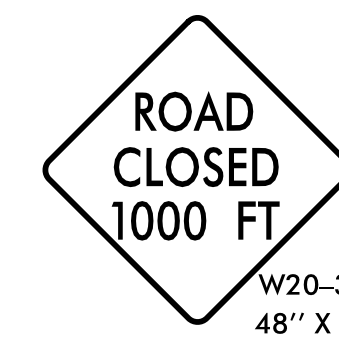
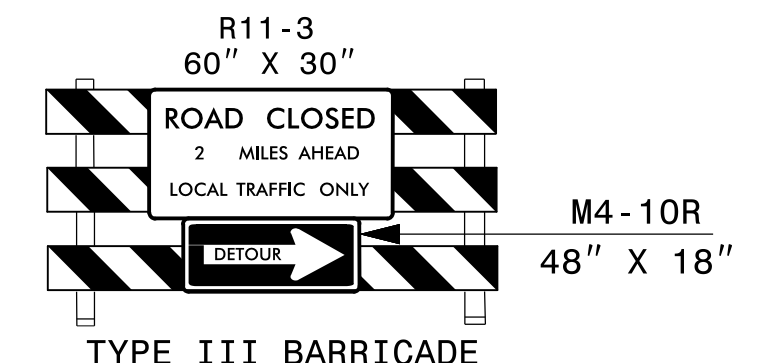
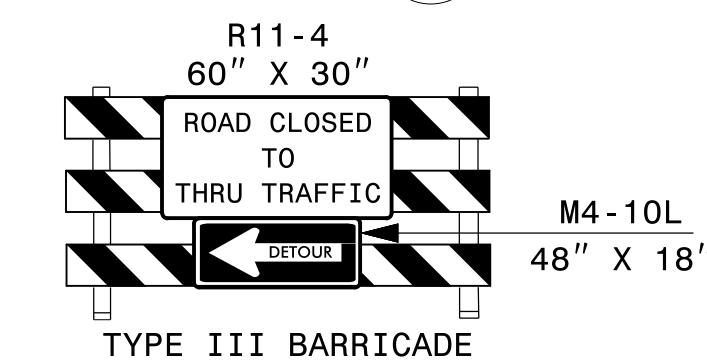
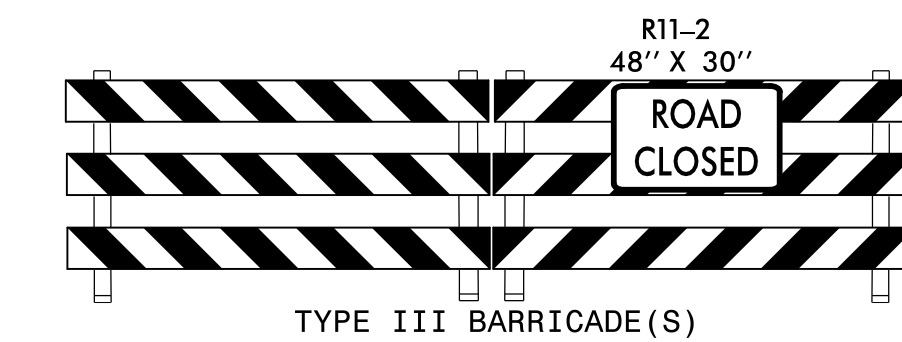
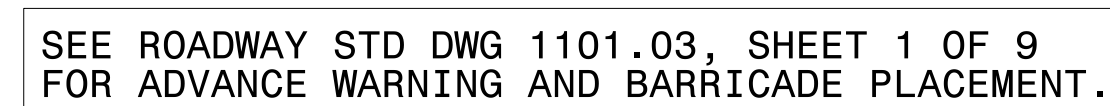
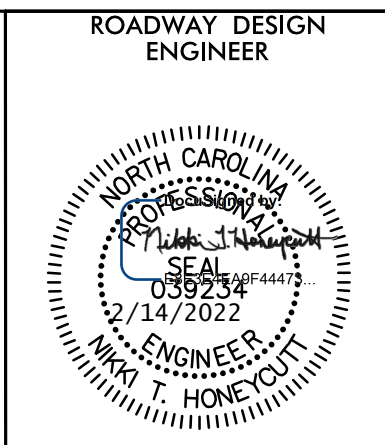
NOTE: INCIDENTAL MILL APPROXIMATELY 50' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING PAVEMENT



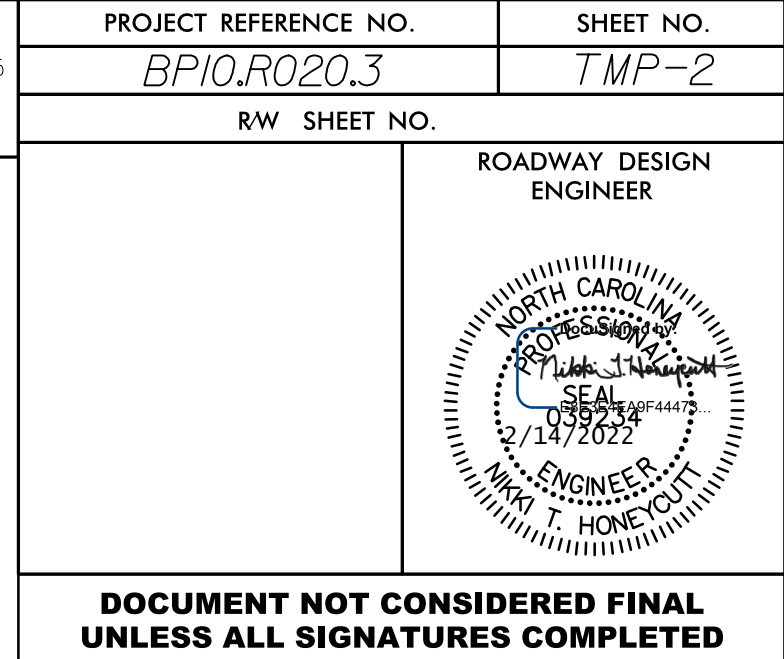


BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	=	1500 CFS
DESIGN FREQUENCY	=	25 YRS
DESIGN HW ELEVATION	=	540.3 FT
BASE DISCHARGE	=	2100 CFS
BASE FREQUENCY	=	100 YRS
BASE HW ELEVATION	=	541.3 FT
OVERTOPPING DISCHARGE	=	1676 CFS
OVERTOPPING FREQUENCY	=	50+ YRS
OVERTOPPING ELEVATION	=	541.0 FT
DATE OF SURVEY	=	06/27/2018
W.S.ELEVATION AT DATE OF SURVEY	=	433.9 FT

PROJECT REFERENCE NO.	SHEET NO.
BPI0.R020.3	TMP-1
R/W 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	



Scale: 1" = 1200'



SIGN NUMBER: 1-1 **BACKG COLOR:** Orange
TYPE: D **COPY COLOR:** Black
QUANTITY: See Plans

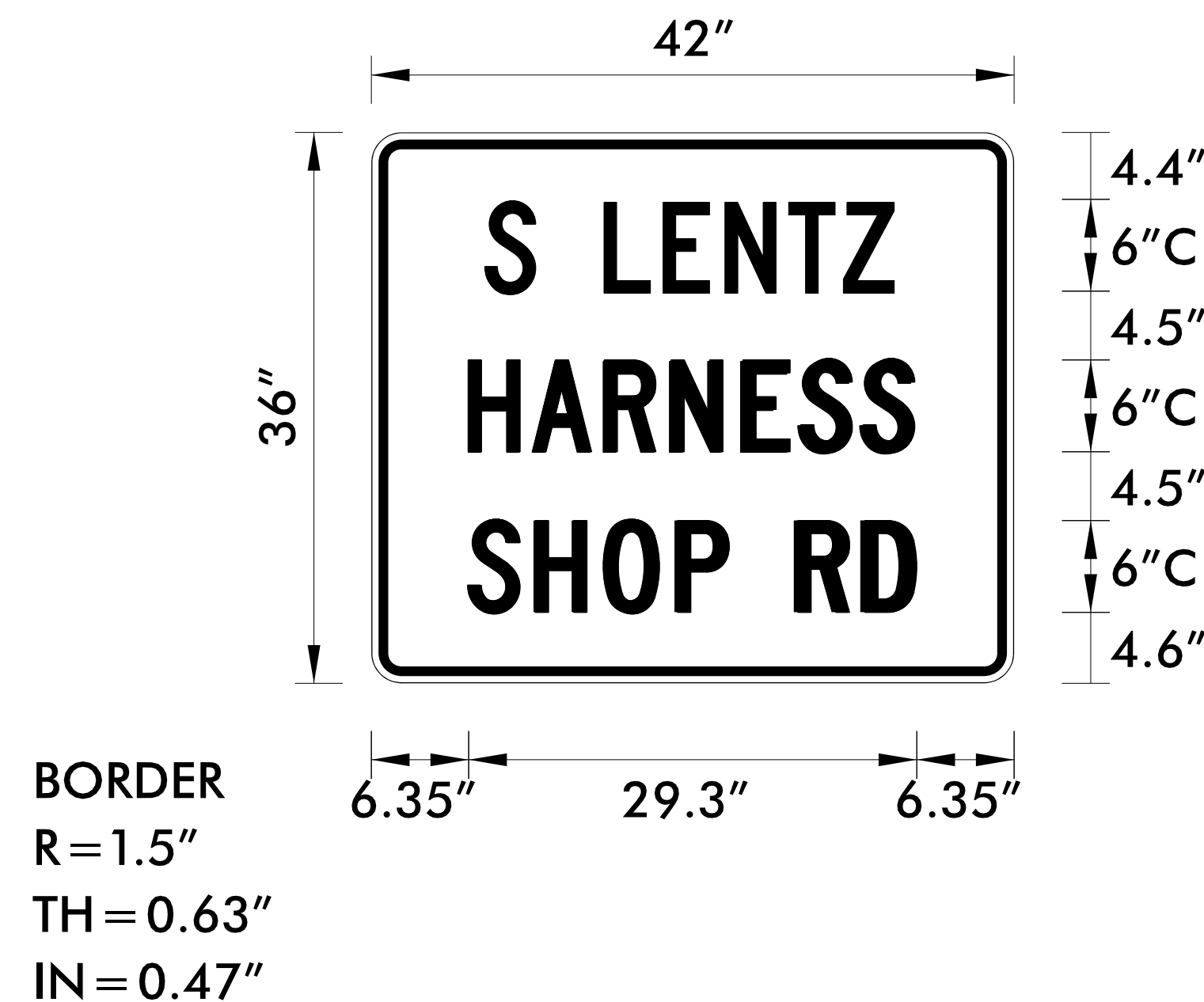
SYMBOL	X	Y	WID	HT

SIGN WIDTH: 42"
HEIGHT: 36"
TOTAL AREA: 10.5 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"

NO. Z BARS: **MAT'L:** 0.080" (2.0 mm) ALUMINUM
LENGTH:

DESIGN BY: JCT	CHECKED BY: GHM	
PROJECT ID: 17BP.10.R.159	DIV: 10	DATE: June 25, 2019



Spacing Factor is 1 unless specified otherwise

[illegible]

NORTH CAROLINA D.O.T. SIGN DETAIL

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

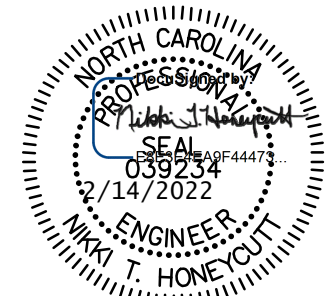
GENERAL NOTES

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.

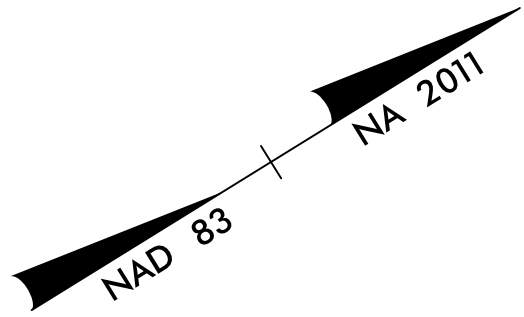
- A) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE.
- | | |
|-----------------------------------|---------|
| ROAD NAME | MARKING |
| SR 2453 (S LENTZ HARNESS SHOP RD) | THERMO |
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED 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.

STV 100 Years

STV Engineers, Inc.
300 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO. BP10.R020.3	SHEET NO. PMP-1
RW SHEET NO.	
	ROADWAY DESIGN ENGINEER
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

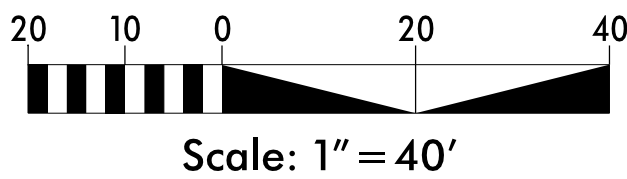


BEGIN T1 T13 MARKINGS
TIE TO EXISTING
-L- STA.15+20.00

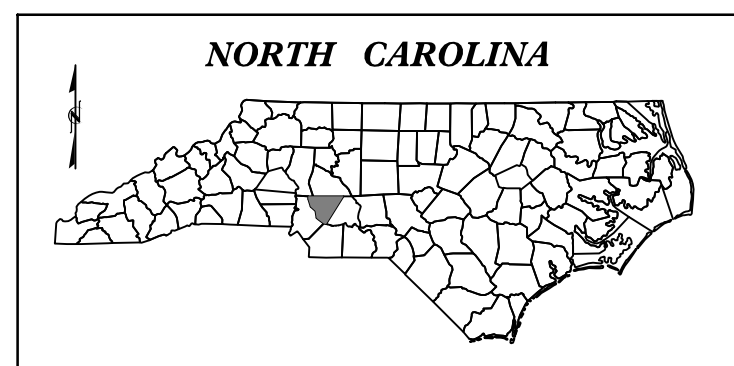
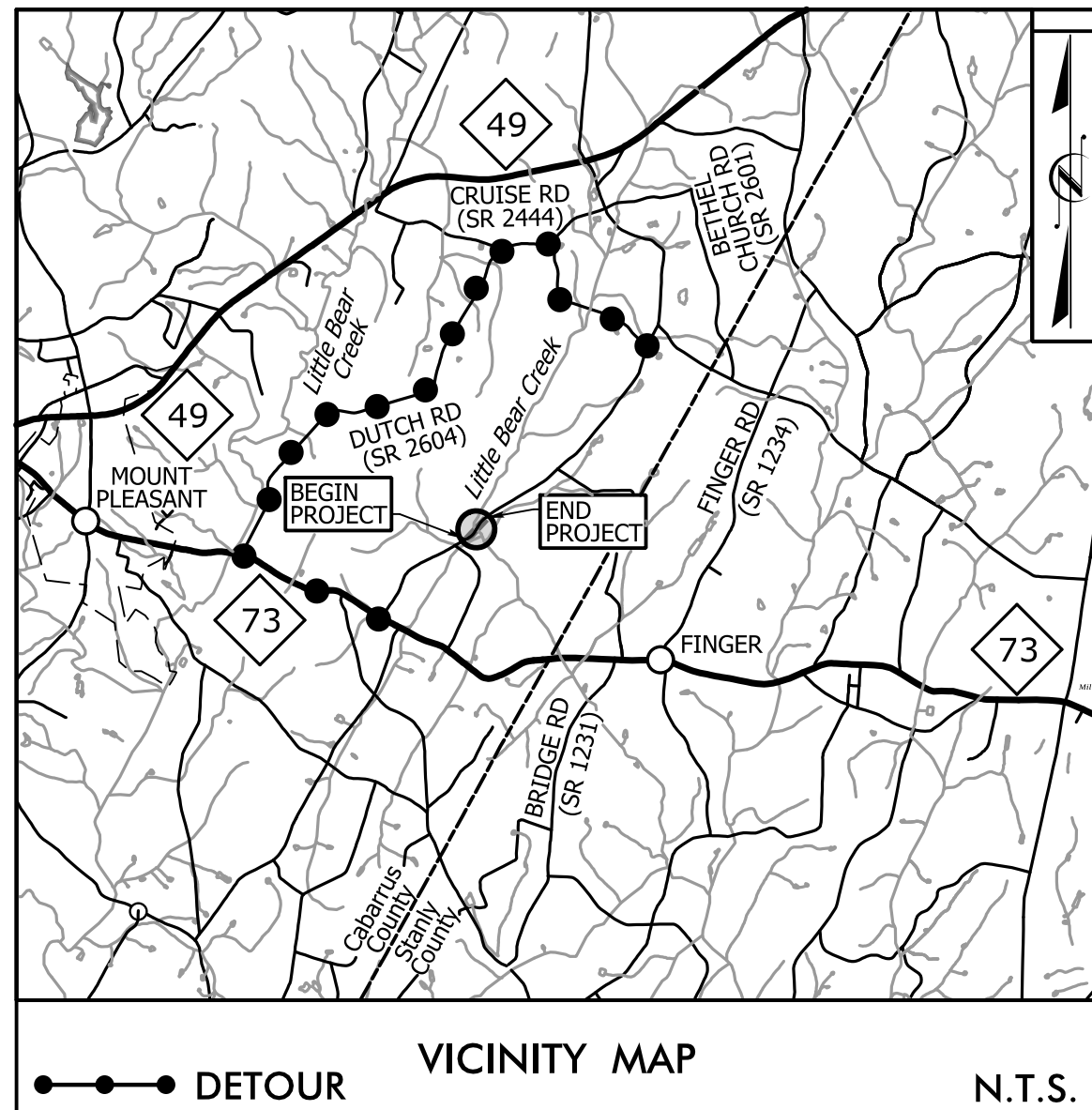
BEGIN BRIDGE
-L- STA.17+08.38

END BRIDGE
-L- STA.17+80.62

END T1 T13 MARKINGS
TIE TO EXISTING
-L- STA.20+40.00



PROJECT WBS: BP10.R020.3

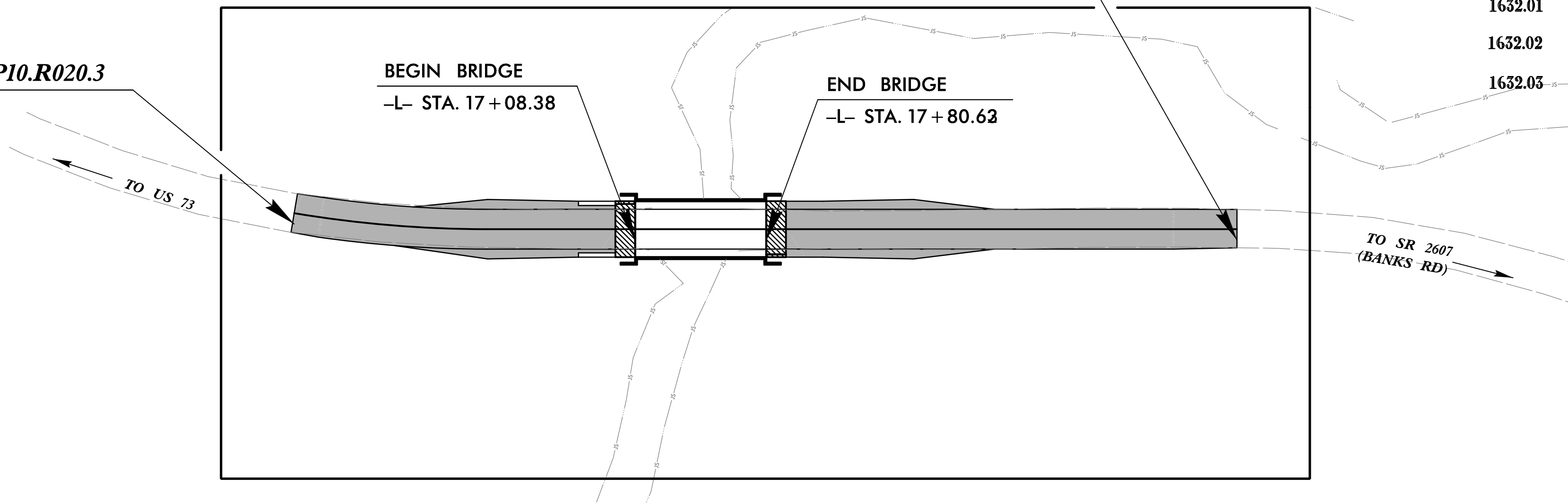


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
CABARRUS COUNTY

LOCATION: BRIDGE #101 LITTLE BEAR CREEK ON
SR 2453 (SOUTH LENTZ HARNESS SHOP RD)
TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE

BEGIN PROJECT WBS BP10.R020.3
-L- STA. 15 + 20.00

END PROJECT WBS BP10.R020.3
-L- STA. 20 + 40.00



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSB
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SSCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle/Coir Fiber Wattle	WCFW
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	WCFW-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDB
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPIST-A
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPIST-B
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SB
	Tiered Skimmer Basin	TSB
	Infiltration Basin	IB

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

GRAPHIC SCALE



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:
PETER WALDRON 4352
NAME LEVEL III CERTIFICATION NO.

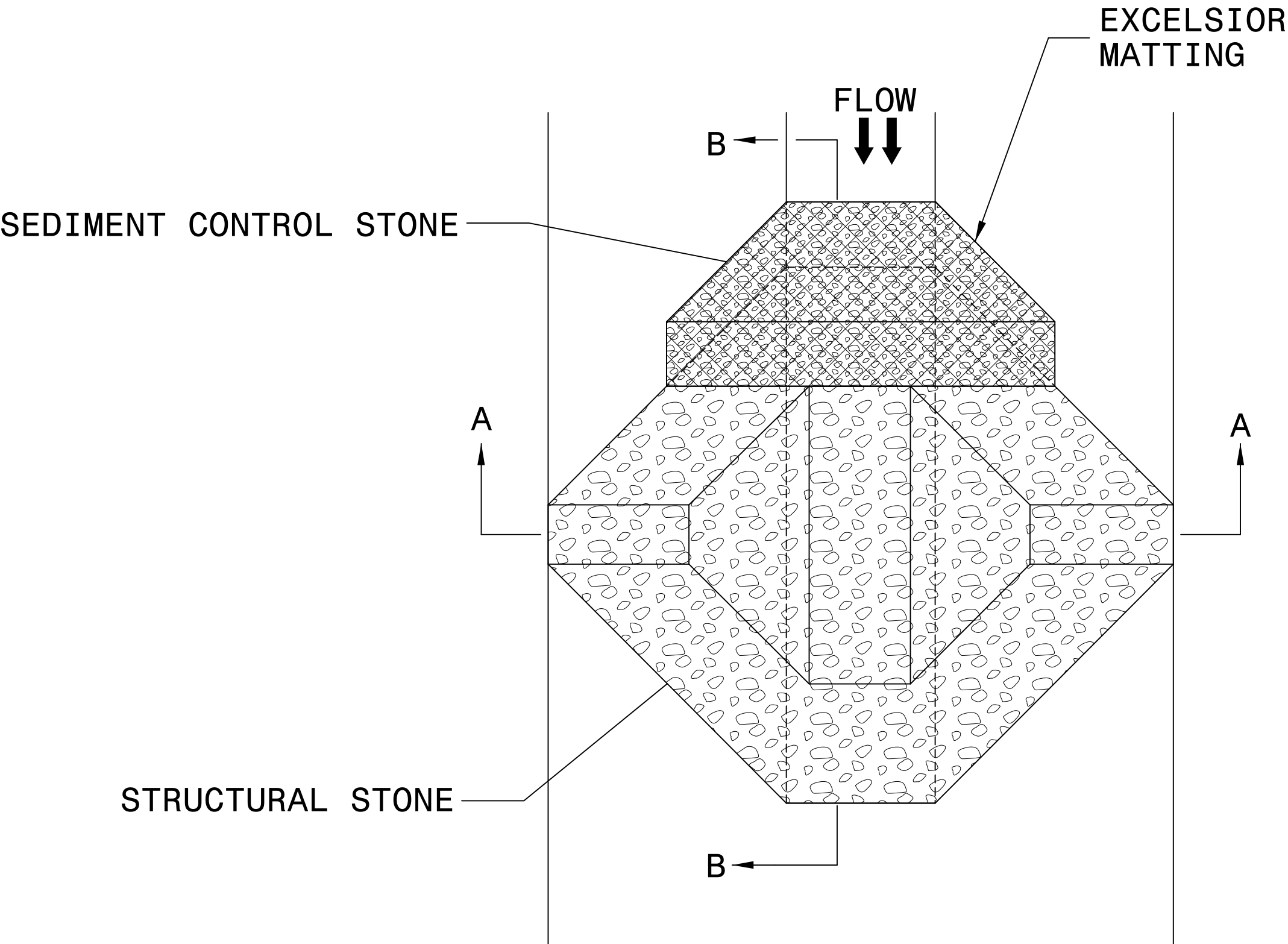
Roadway Standard Drawings

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.

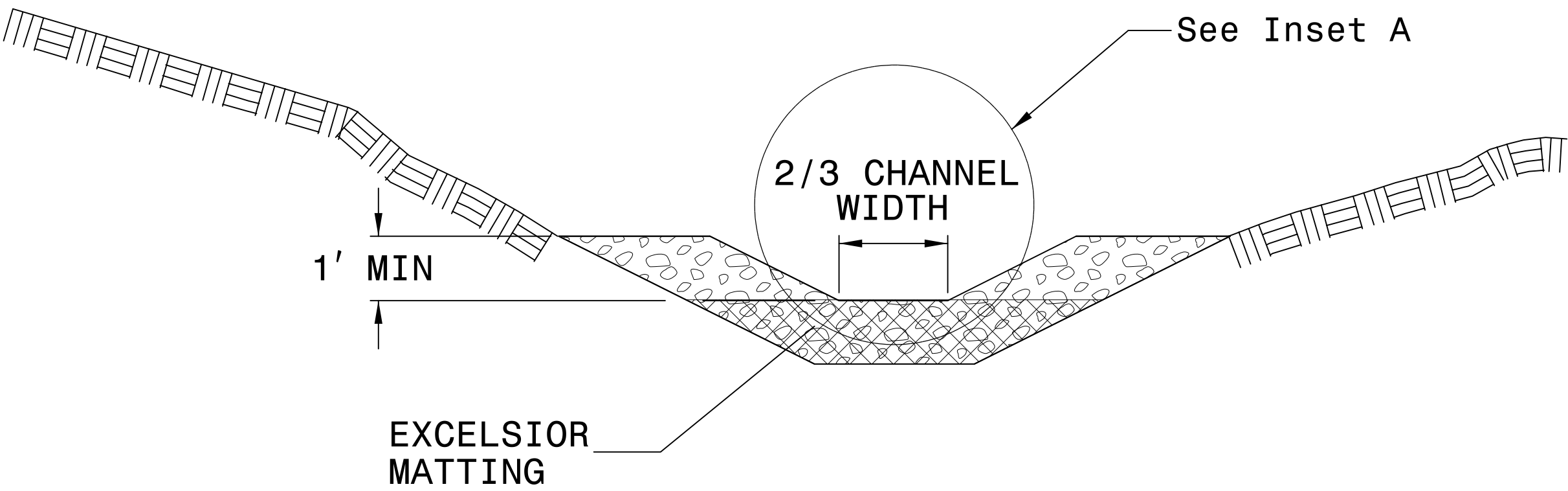
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type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

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

PROJECT REFERENCE NO.	SHEET NO.
BP10.R020.3	EC-2
STV 100 years STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	



PLAN



SECTION A-A

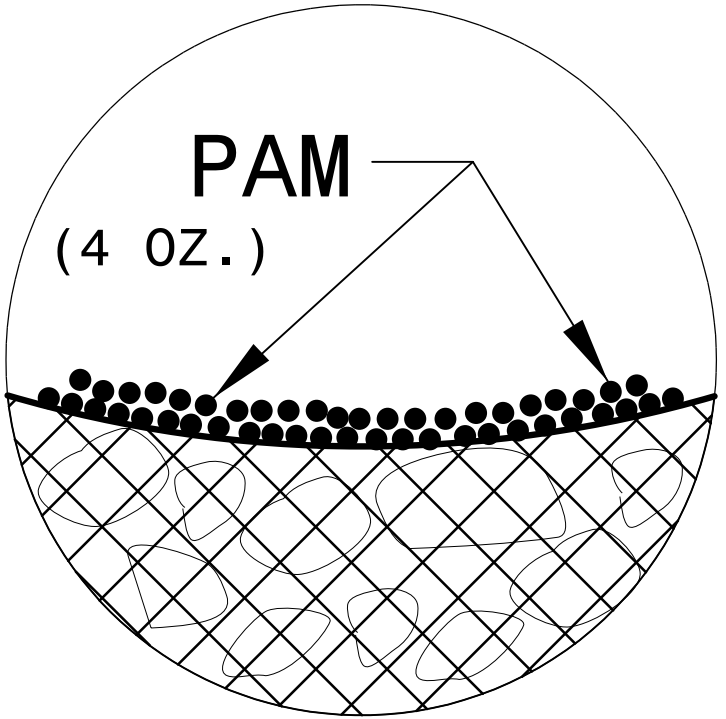
NOTES:

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

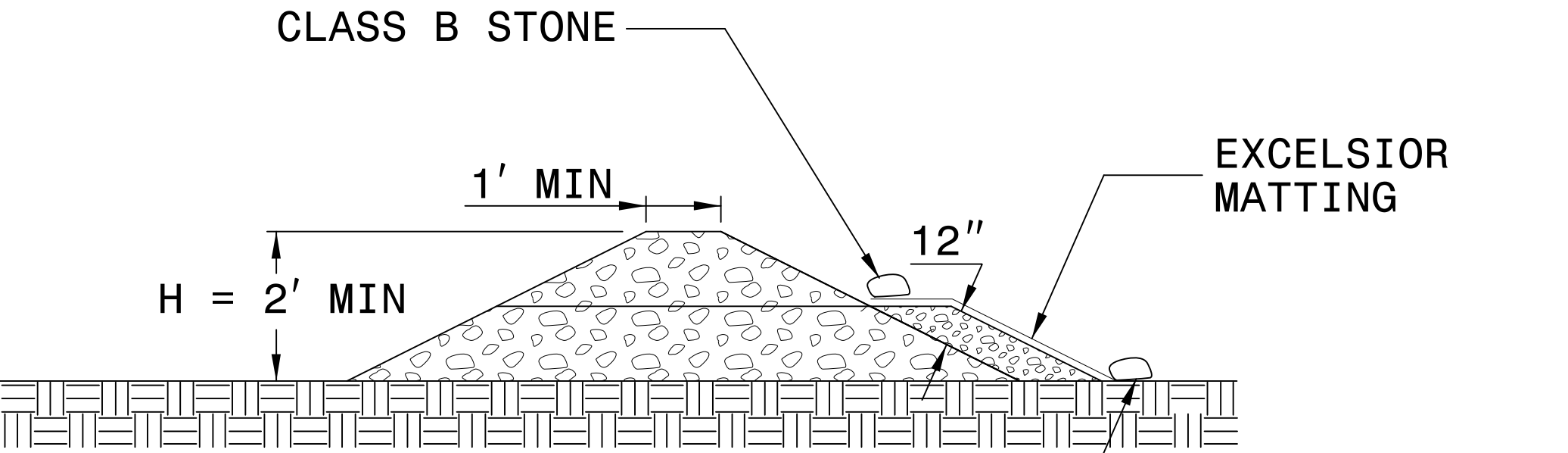
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

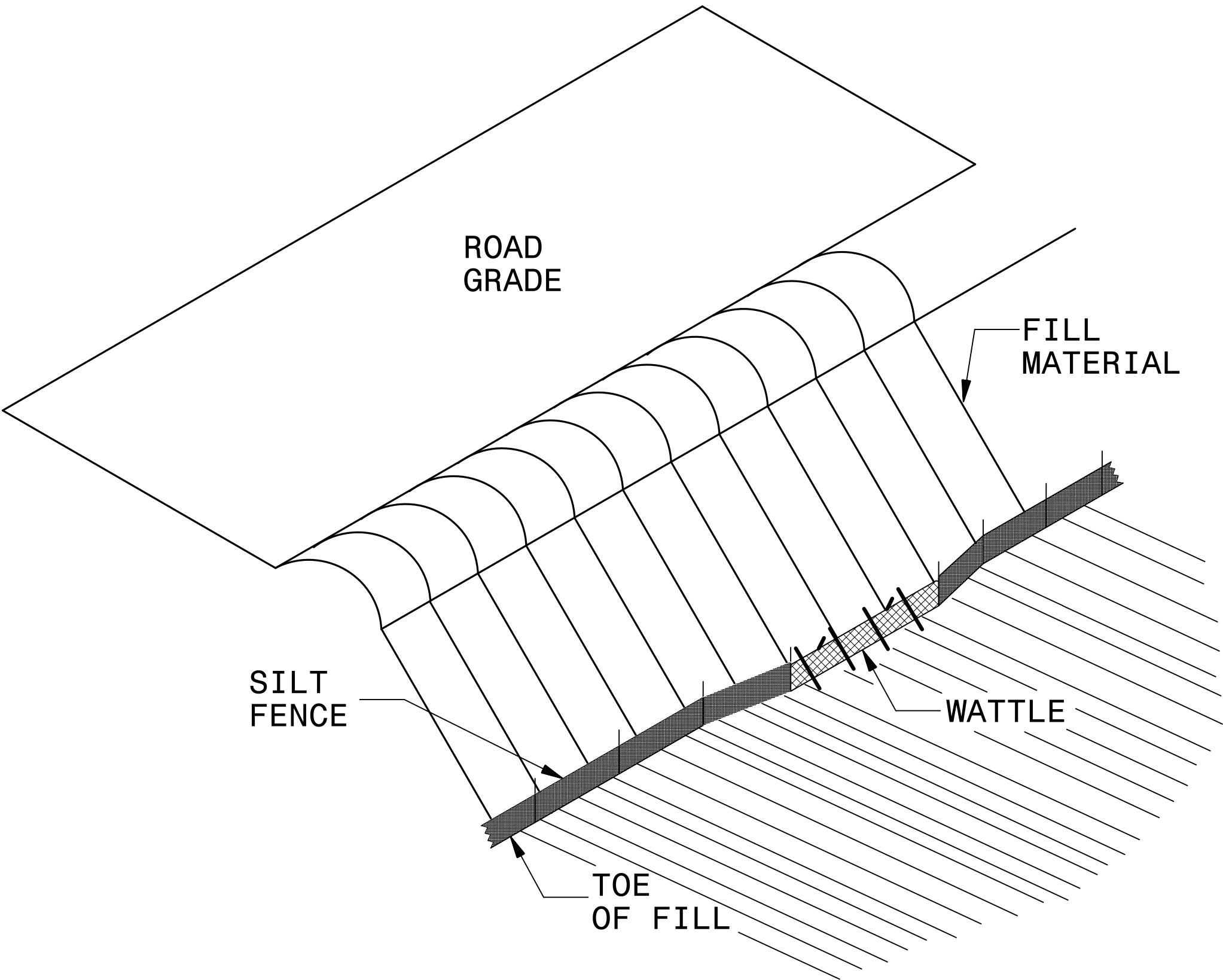


SECTION B-B

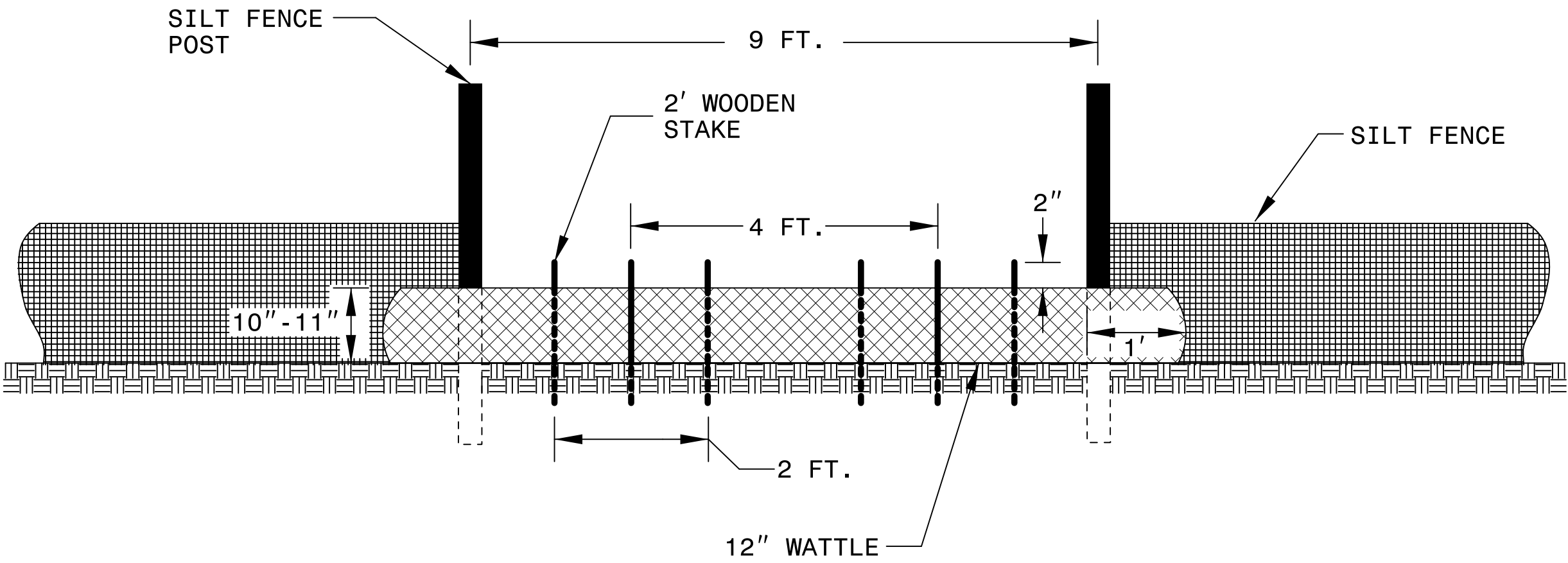
NOT TO SCALE

SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO.	SHEET NO.
BP10.R020.3	EC-2A
STV 100 years STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	



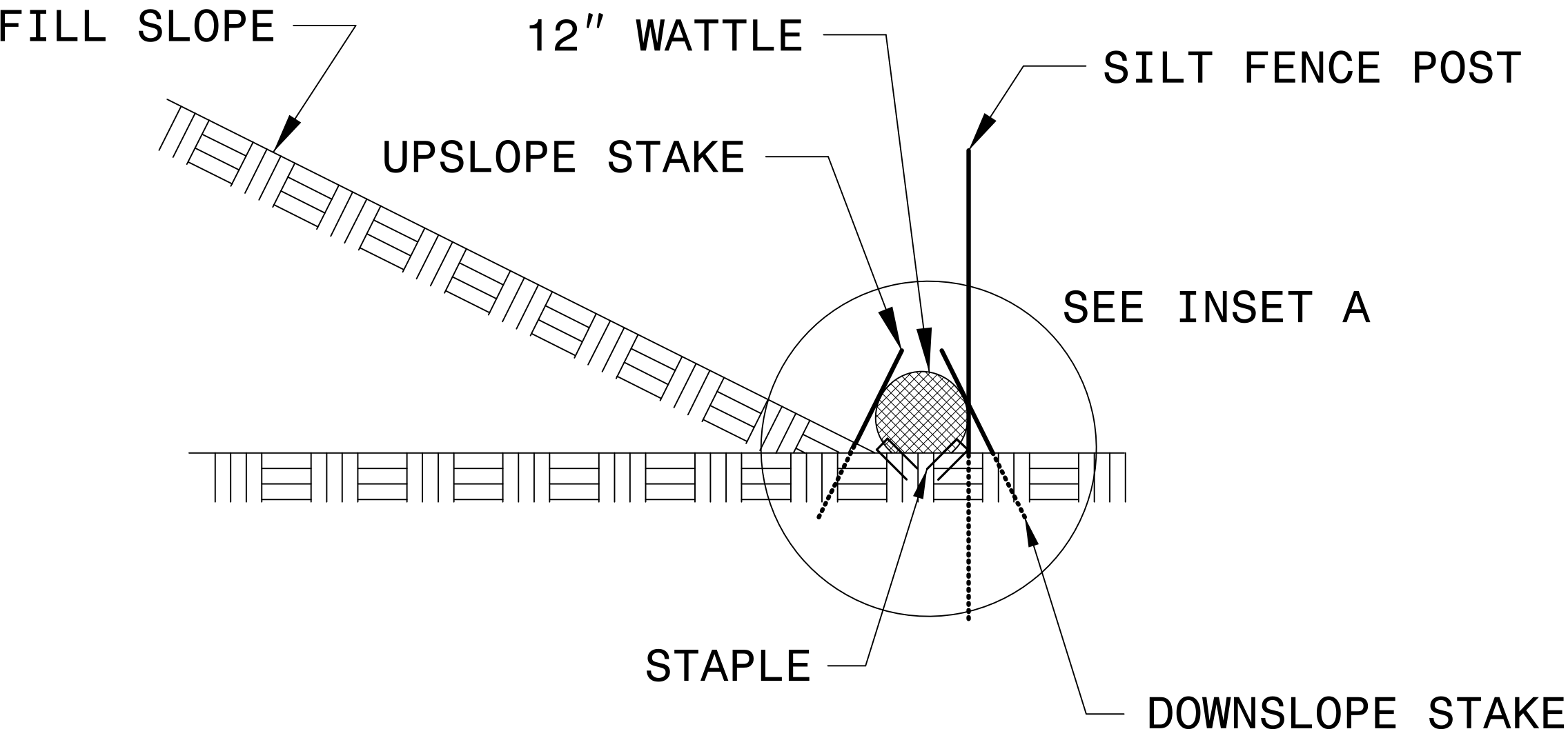
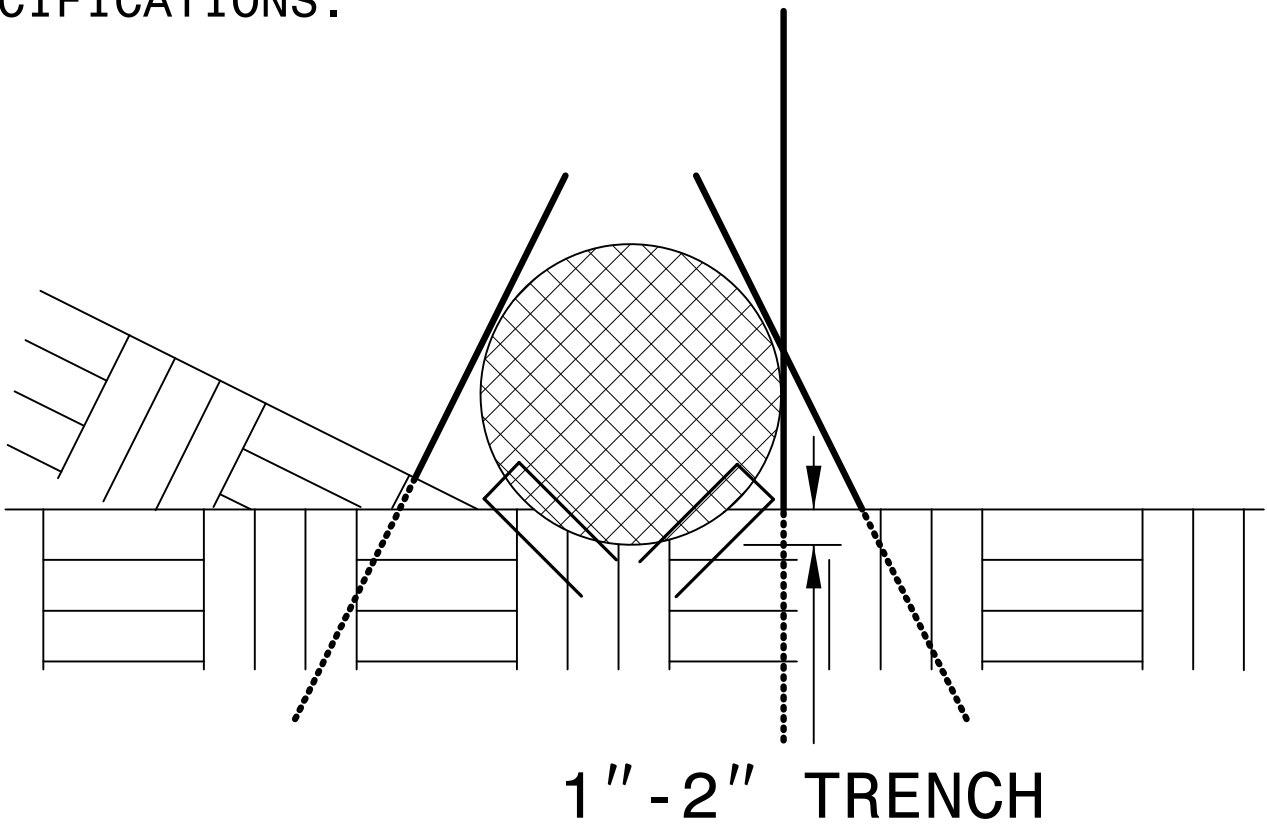
ISOMETRIC VIEW



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



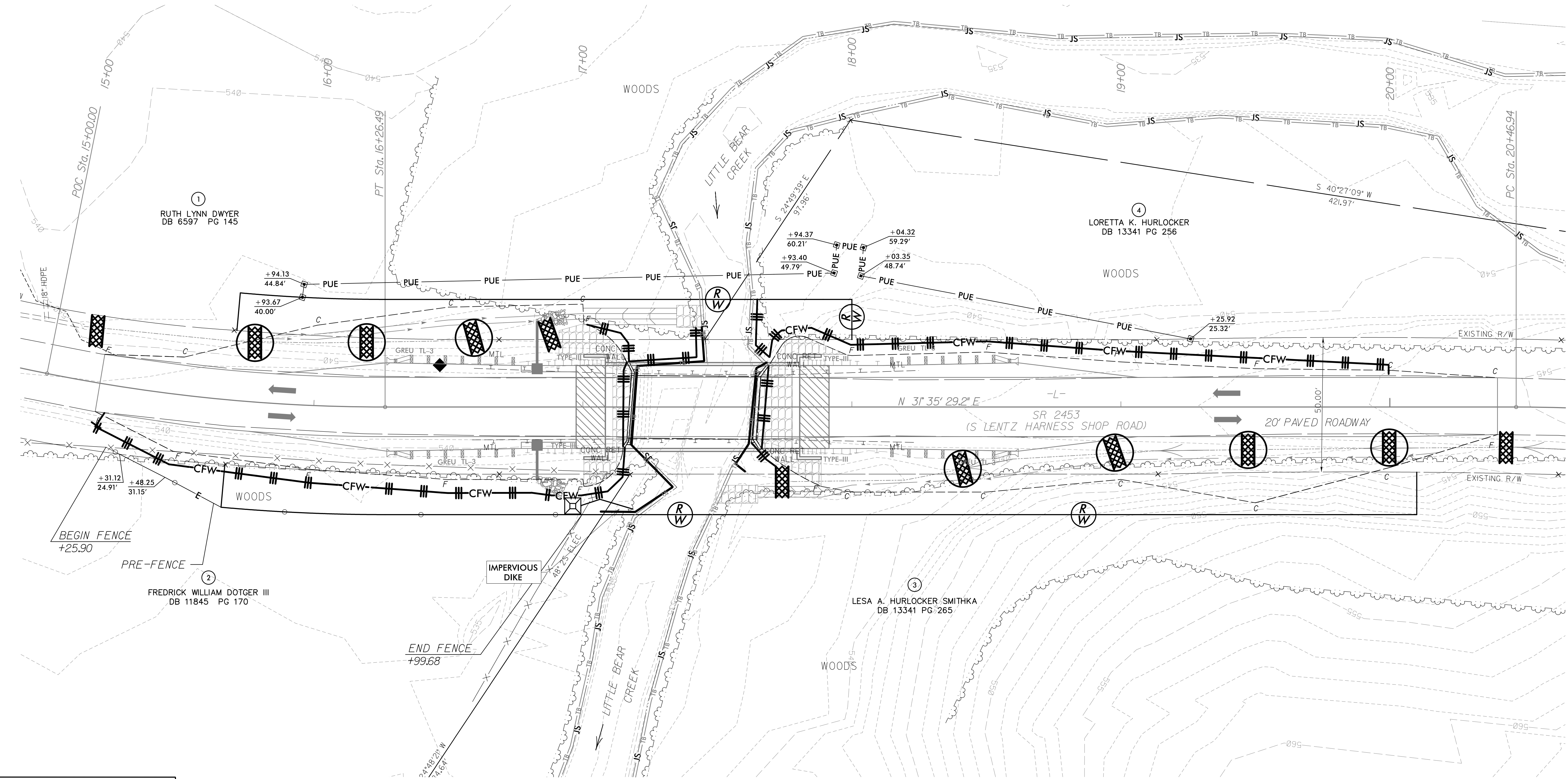
SIDE VIEW

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

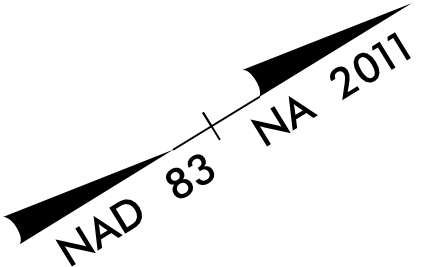
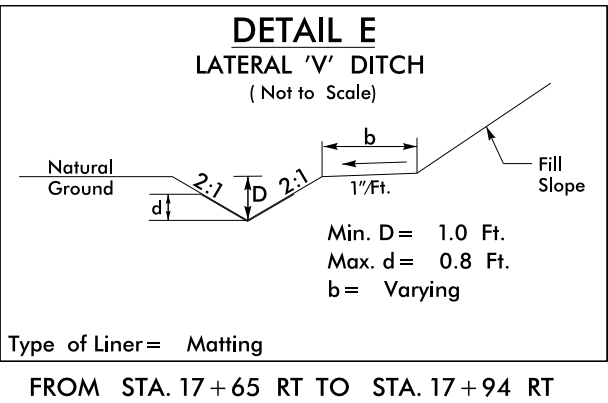
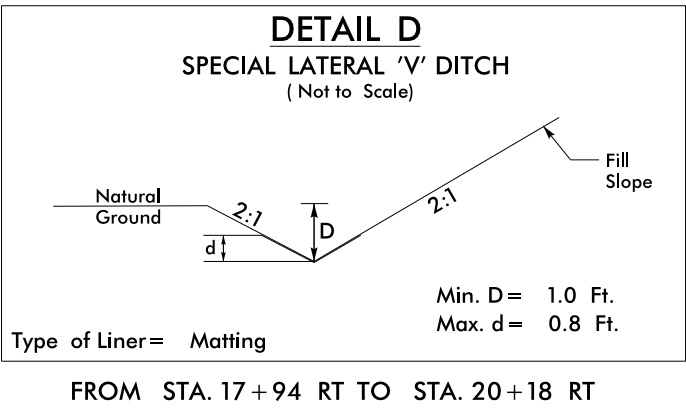
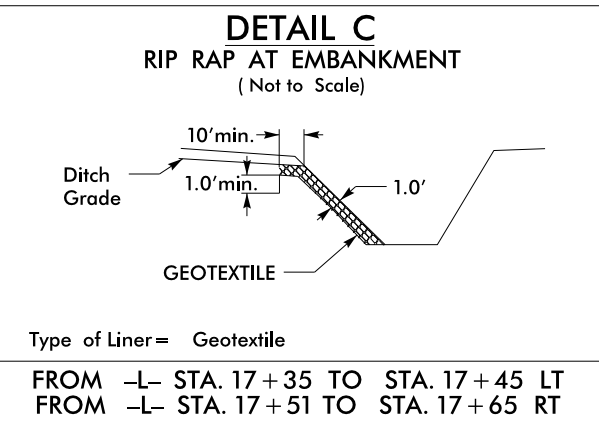
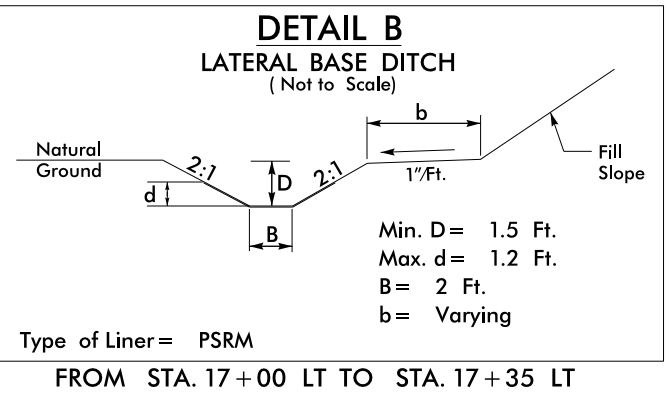
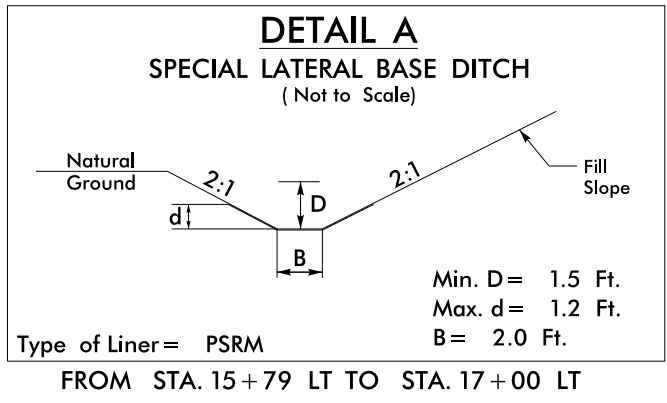
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10’ OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS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

NAD 83 NA 2011

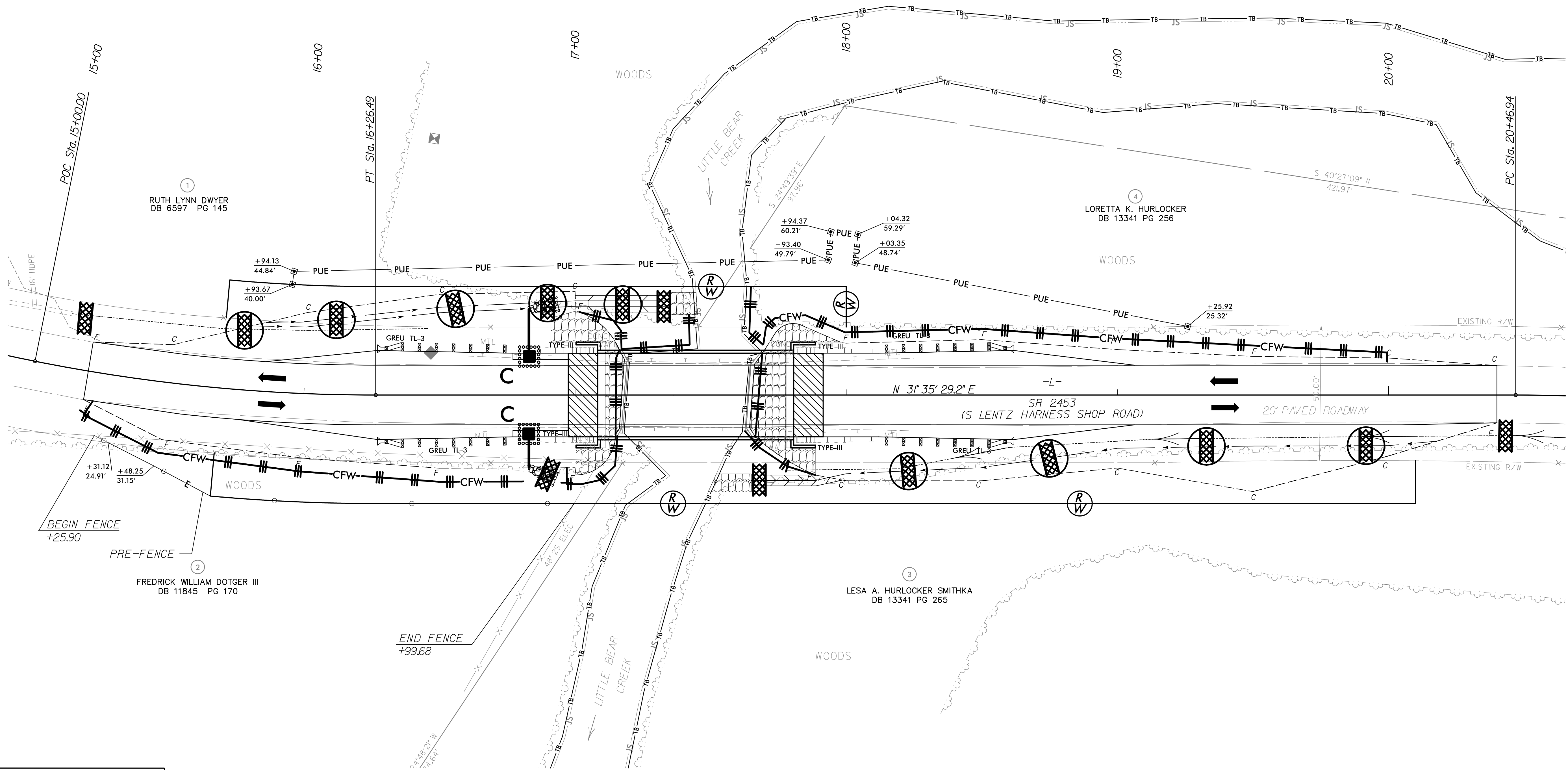


NOTE: FOLLOW NCDOT BMP MANUAL FOR CONSTRUCTION ACTIVITIES FOR THE BRIDGE DEMOLITION AND CONSTRUCTION

8/17/99



PROJECT REFERENCE NO.	SHEET NO.
BPI0.R020.3	EC-5/CONST 4
 STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	



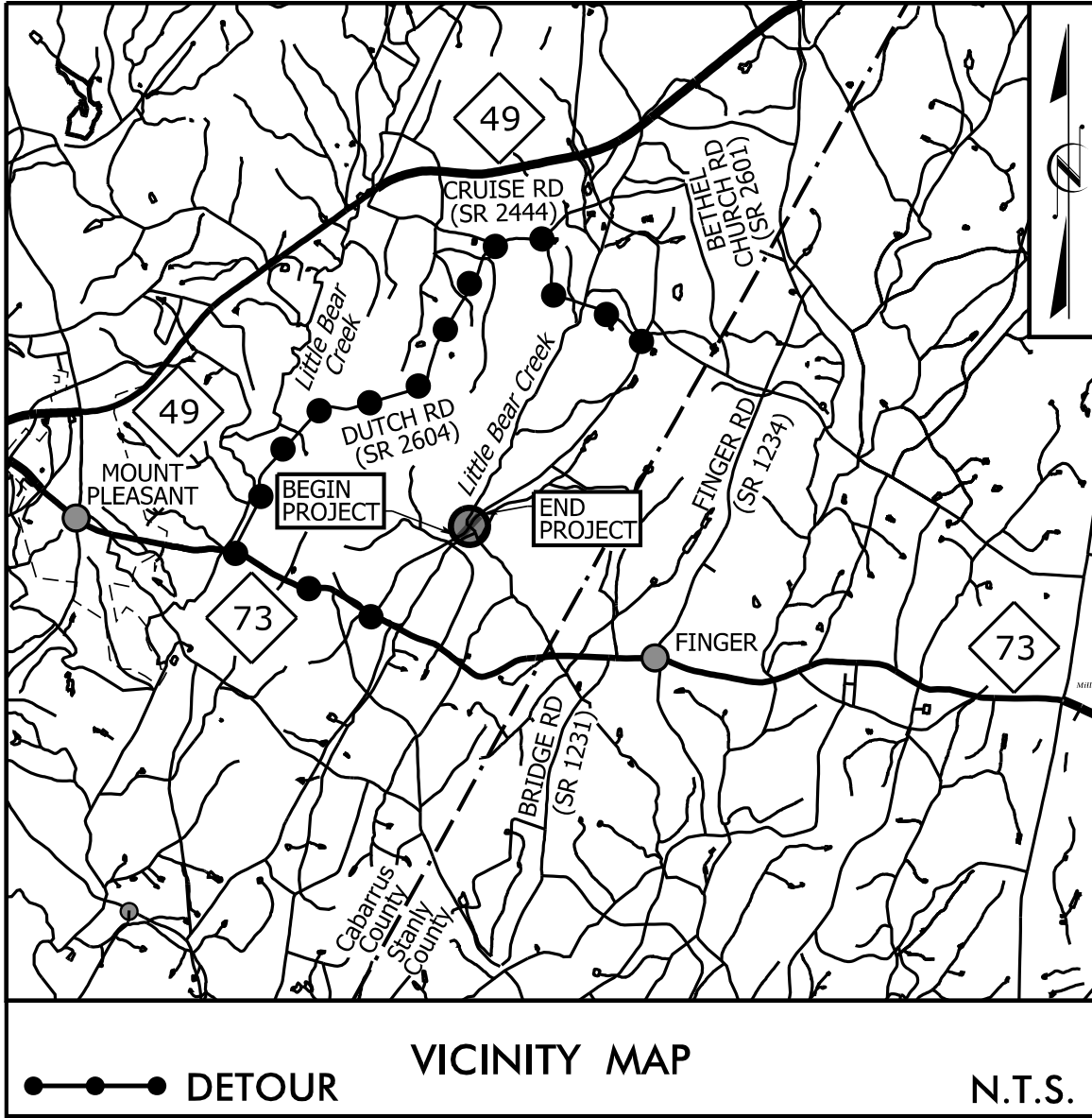
FINAL PHASE
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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:
FOLLOW NCDOT BMP MANUAL FOR CONSTRUCTION
ACTIVITIES FOR THE BRIDGE DEMOLITION AND
CONSTRUCTION

PROJECT WBS: BP10.R020.3

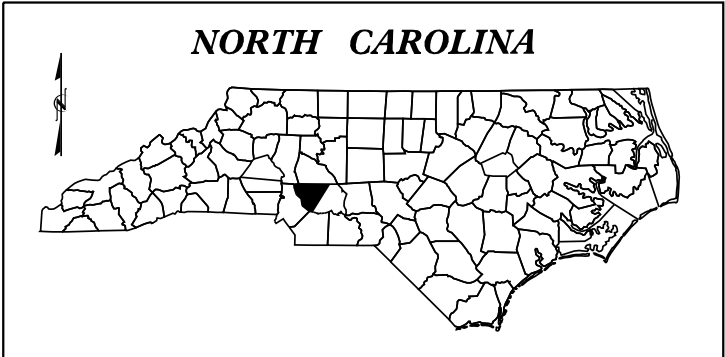
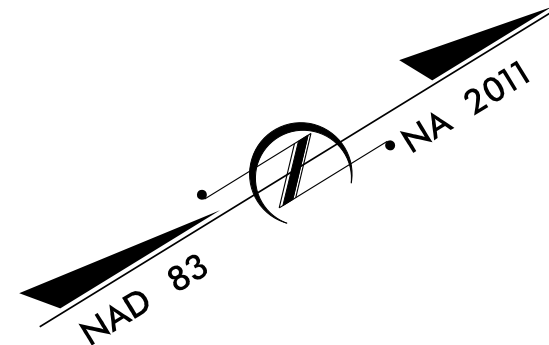


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS CABARRUS COUNTY

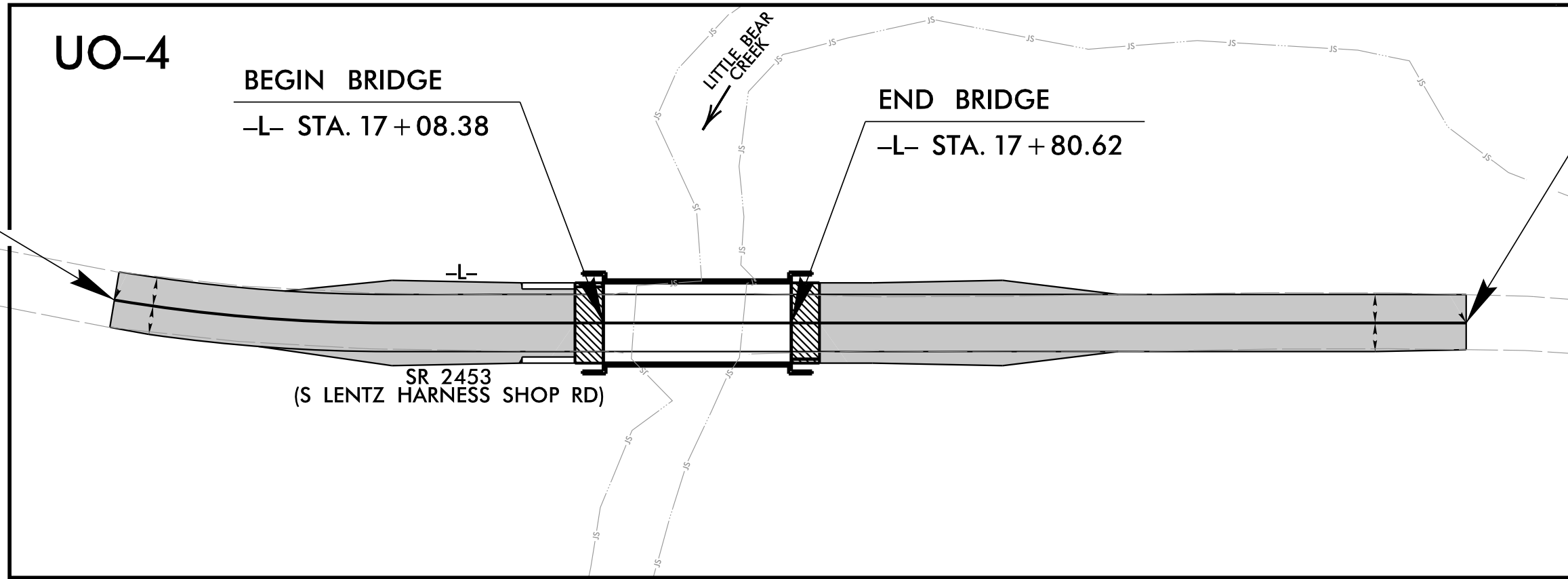
LOCATION: BRIDGE #101 LITTLE BEAR CREEK ON
SR 2453 (SOUTH LENTZ HARNESS SHOP RD)

TYPE OF WORK: POWER AND FIBER RELOCATION



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

BEGIN PROJECT WBS BP10.R020.3
-L- STA. 15 + 20.00



END PROJECT WBS BP10.R020.3
-L- STA. 20 + 40.00

GRAPHIC SCALES



INDEX OF SHEETS

<u>SHEET NO.:</u>	<u>DESCRIPTION:</u>
UO-1	TITLE SHEET
UO-2	SYMBOLGY SHEET
UO-3	OMITTED
UO-4	PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

- (A) POWER - UNION POWER COOPERATIVE
(B) FIBER - WINDSTREAM

PREPARED IN THE OFFICE OF:



Nick Asaro, PLS
Shane Waidner

UTILITY PROJECT MANAGER
PROJECT UTILITY COORDINATOR



DIVISION OF HIGHWAYS
DIVISION 10
716 West Main Street
Albemarle, NC 28001

David Talbert
DIVISION CONTACT #1

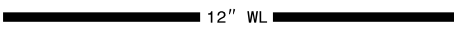
5/14/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

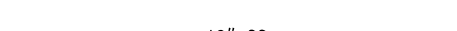
PROJECT REFERENCE NO.	SHEET NO.
BP10.R020.3	U0-2

UTILITIES PLAN SHEET SYMBOLS

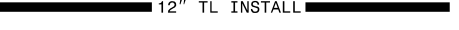
PROPOSED WATER SYMBOLS

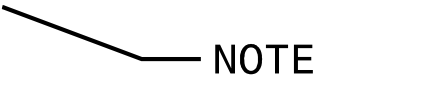
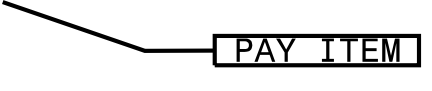
Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

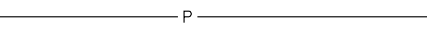
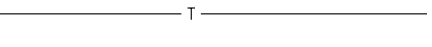
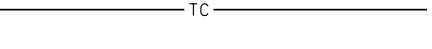
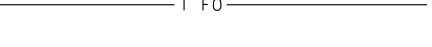
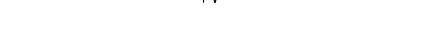
PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

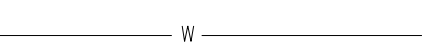
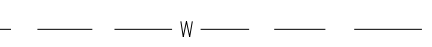
Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

EXISTING UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Utility Pole	
Utility Pole with Base	
H-Frame Pole	
Power Transmission Line Tower	
Water Manhole	
Power Manhole	
Telephone Manhole	
Sanitary Sewer Manhole	
Hand Hole for Cable	
Power Transformer	
Telephone Pedestal	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	
End of Information	

*Underground Power Line	
*Underground Telephone Cable	
*Underground Telephone Conduit	
*Underground Fiber Optics Telephone Cable	
*Underground TV Cable	
*Underground Fiber Optics TV Cable	
*Underground Gas Pipeline	
Aboveground Gas Pipeline	
*Underground Water Line	
Aboveground Water Line	
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	
*Underground SS Forced Main Line	
Underground Unknown Utility Line	
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

*For Existing Utilities
Utility Line Drawn from Record (Type as Shown) 
Designated Utility Line (Type as Shown) 

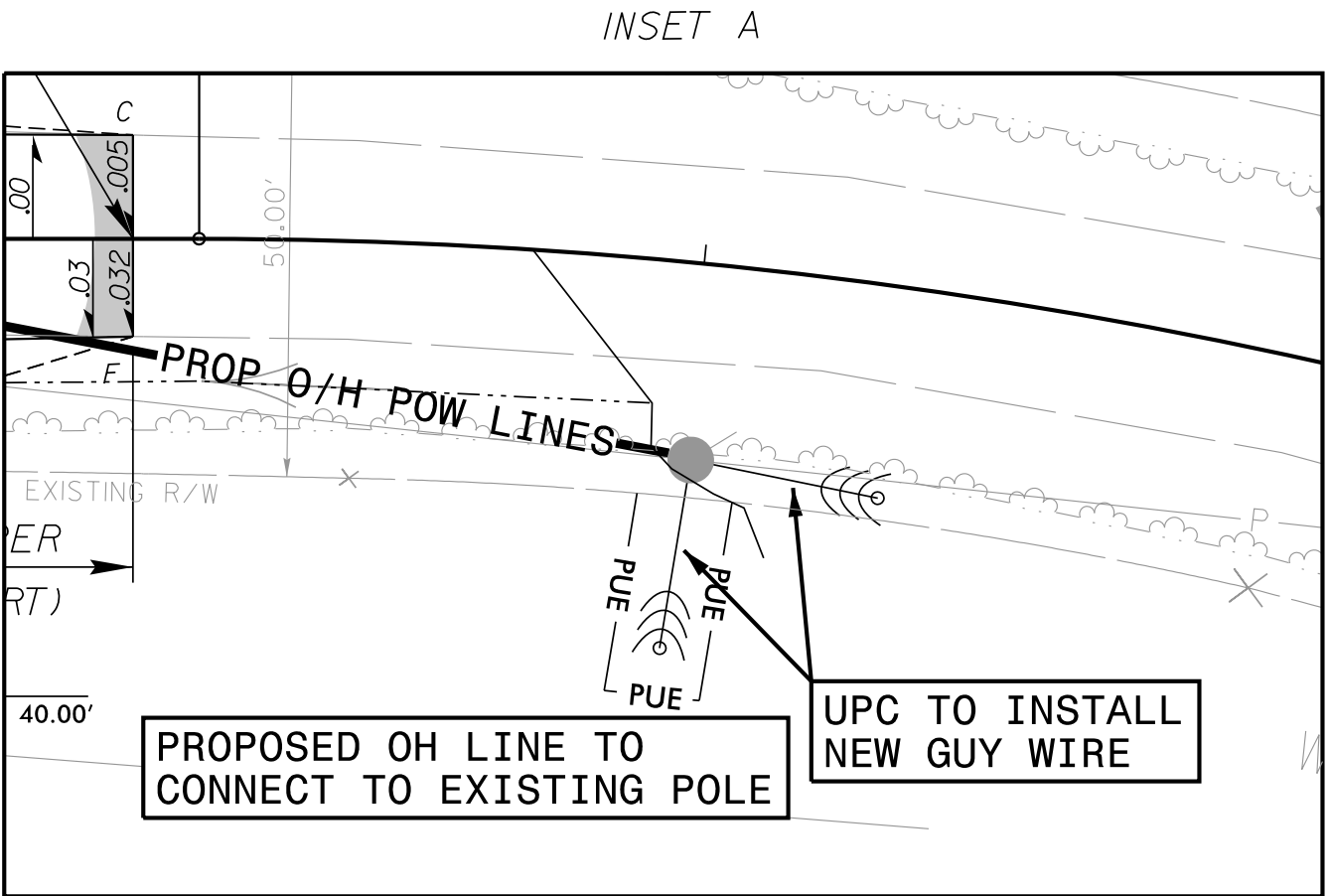
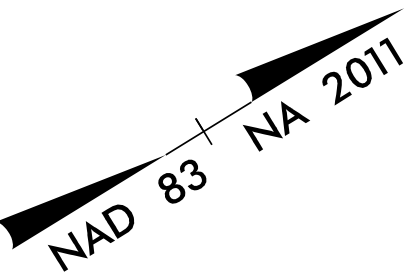
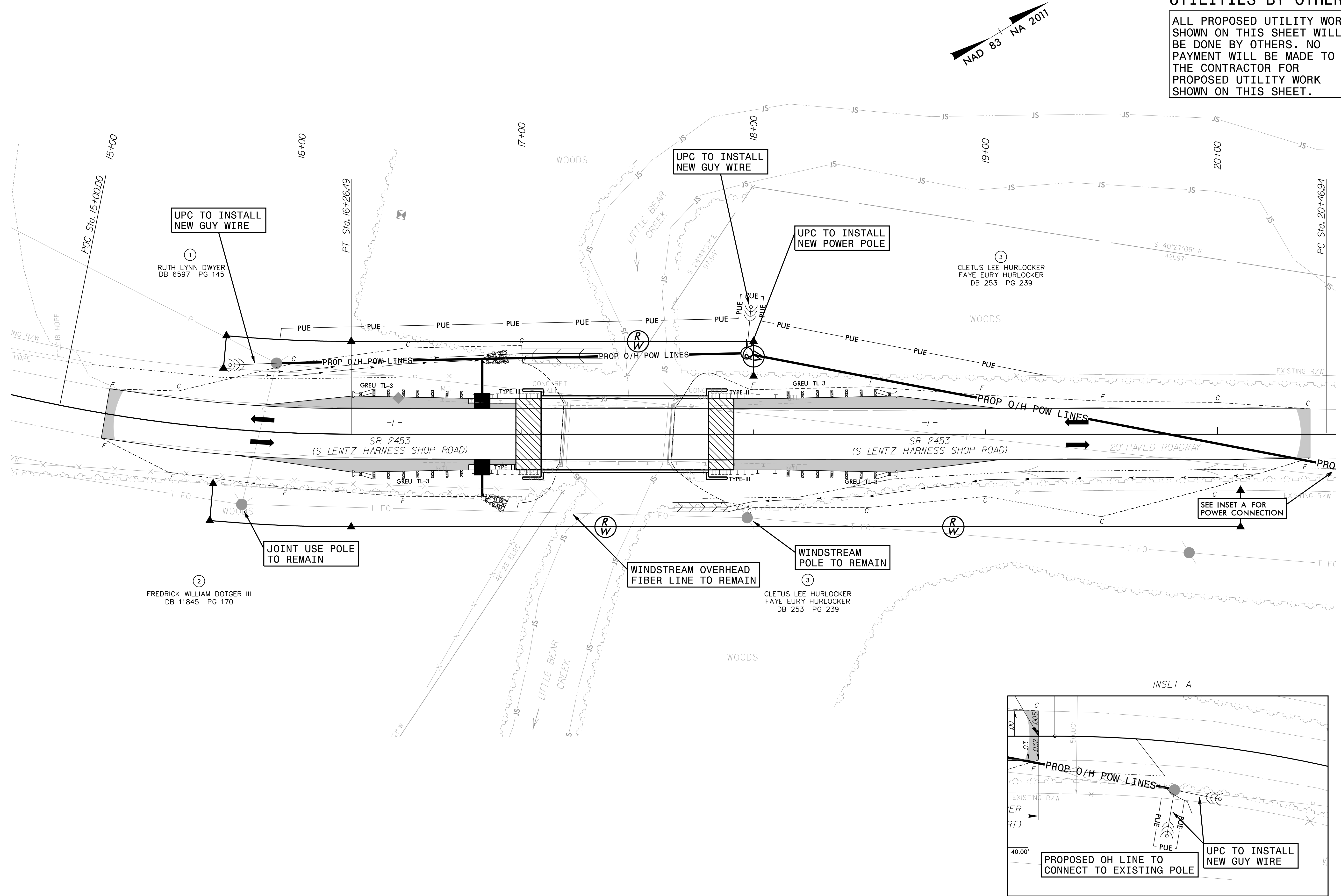
8/15/19

2/24/2021 9:06:43 AM 004.dgn
C:\Users\jld\OneDrive\Documents\004.dgn

PROJECT REFERENCE NO.	SHEET NO.
BP10.R020.3	UD-4
THIS SHEET CORRESPONDS TO RDY-04	

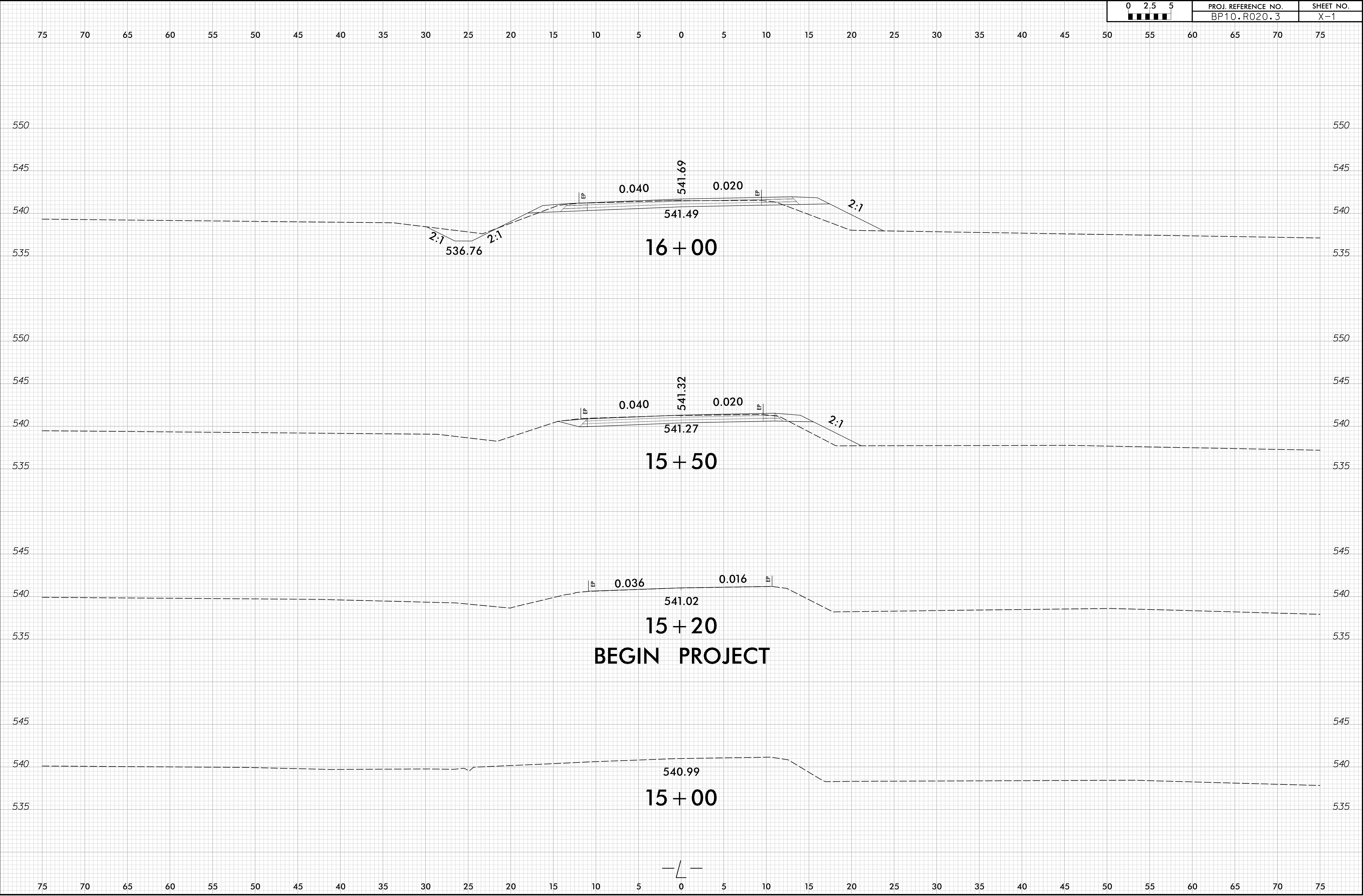
UTILITIES BY OTHERS

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



6/23/16

02.55 0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	BP10.R020.3	X-1





6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	BP10.R020.3	X-3

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

550

545

540

535

530

END BRIDGE

17 + 80.62

0.020

542.33

0.020

541.80

2:1

536.11

2:1

550

545

540

535

530

550

545

540

535

530

0.020

542.24

0.020

534.09

17 + 50

550

545

540

535

530

2/1/2022
R:\Roadway\Xsc\R159_R0Y_xpl.dgn
paulrsl

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

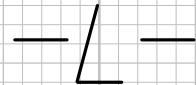
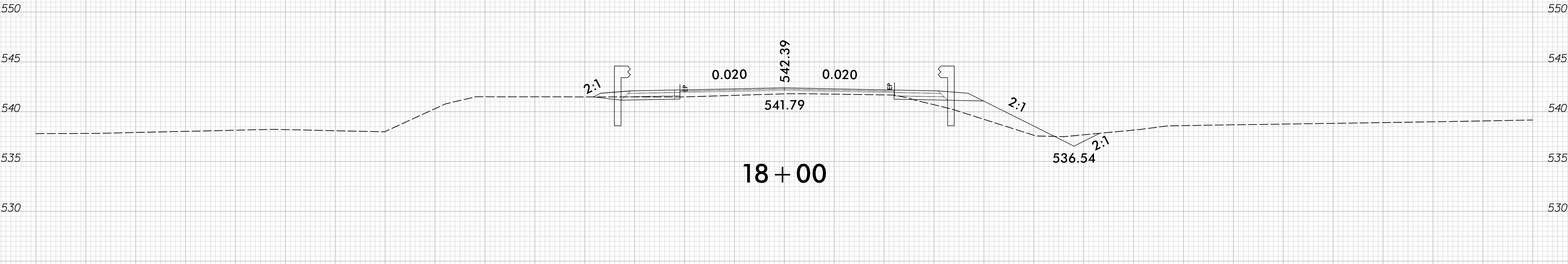
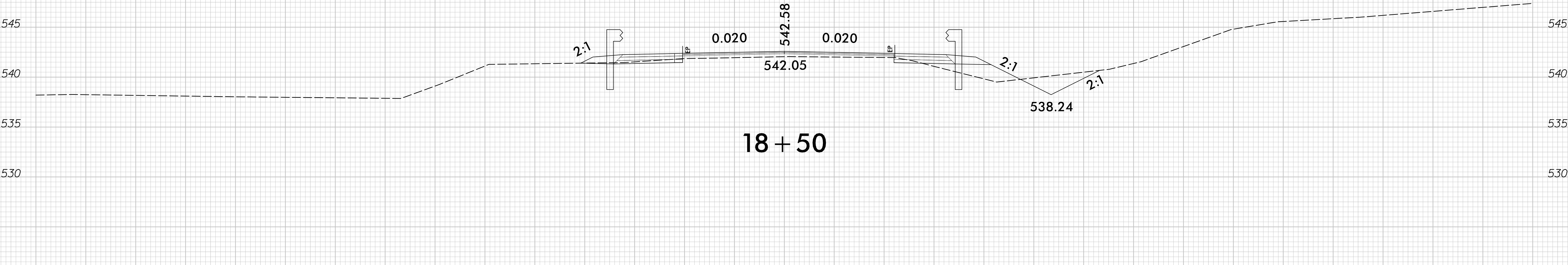
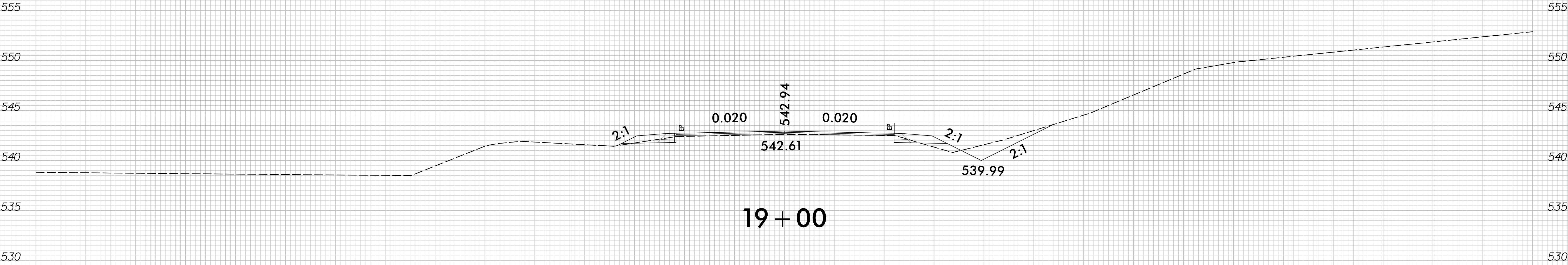
70

75

6/23/16

02.55 0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	BP10.R020.3	X-4

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

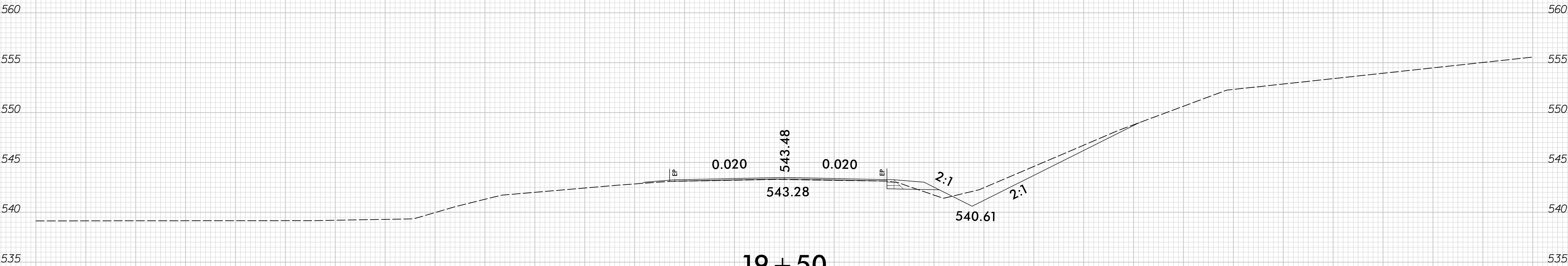
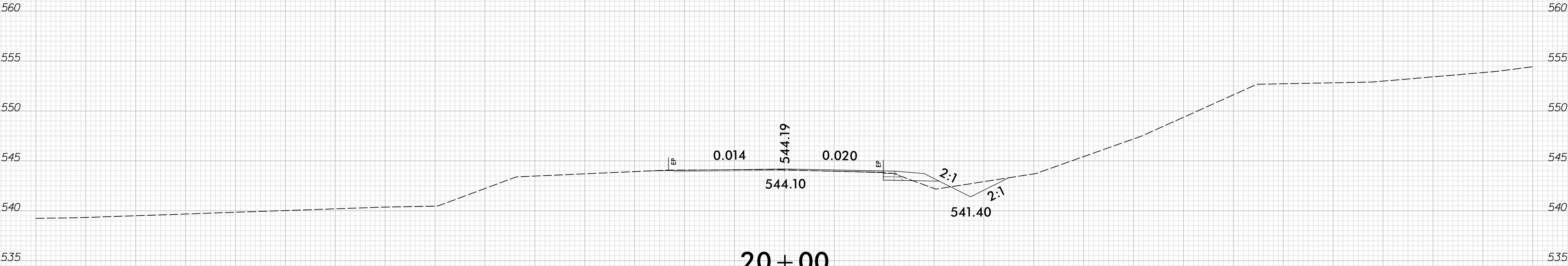


75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

6/23/16

02.55	PROJ. REFERENCE NO.	SHEET NO.
	BP10.R020.3	X-5

75706560555045403530252015105051015202530354045505560



—/—

75706560555045403530252015105051015202530354045505560

6/23/16

02.55	PROJ. REFERENCE NO.	SHEET NO.
	BP10.R020.3	X-6

