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STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M04

Soil Map—Buncombe County, North Carolina

Map Scale: 1:3,650 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M05

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

Map Unit Legend

Buncombe County, North Carolina (NC021)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CsC	Clifton sandy loam, 8 to 15 percent slopes	13.3	13.4%
CsD	Clifton sandy loam, 15 to 30 percent slopes	27.0	27.2%
CuC	Clifton-Urban land complex, 8 to 15 percent slopes	1.4	1.5%
CuD	Clifton-Urban land complex, 15 to 30 percent slopes	4.5	4.5%
EwC	Evard-Cowee complex, 8 to 15 percent slopes, stony	1.9	1.9%
EwD	Evard-Cowee complex, basin, 15 to 30 percent slopes, stony	4.6	4.6%
EwE	Evard-Cowee complex, basin, 30 to 50 percent slopes, stony	25.9	26.1%
TaC	Tate loam, 8 to 15 percent slopes	0.1	0.1%
TaD	Tate loam, 15 to 30 percent slopes	1.5	1.5%
TmC	Tate-Urban land complex, 8 to 15 percent slopes	3.4	3.4%
TmD	Tate-Urban land complex, 15 to 30 percent slopes	0.8	0.8%
UhE	Udorthents-Urban land complex, 2 to 50 percent slopes	14.8	15.0%
Totals for Area of Interest		**99.1**	**100.0%**

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STERLING, VIRGINIA

EROSION & SEDIMENT CONTROL NARRATIVE

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M06

Construction Access

Existing Blue Ridge Parkway

Proposed Blue Ridge Parkway

Construction Access

SCALE IN FEET
0 50 100

N 938500
N 939000
N 939500
N 654500
N 655000

NOTES:

1. Submit construction access roads plan for approval by the Engineer.
2. While construction access roads are in use, install erosion control measures as directed by the Engineer.
3. When construcition access roads are no longer needed, remove temporary fills and stabilize the areas as directed by the Engineer and according to the Special Provisons.

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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

APPROXIMATE LIMITS FOR CONSTRUCTION ACCESS

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STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M07

BEGIN TEMPORARY WIDENING
900+97.80
N 655242.42
E 937876.60

Limits of construction (typ.)

Limits of disturbance (typ.)

907+00 to 910+48.56
Install erosion control matting, Type 2.A

MATCH LINE 907+00

PC 900+00.00

PT 904+95.46

S 38° 30' 20" E

Reinforced soil slopes

GENERAL NOTES

1. See N sheets for temporary traffic control and reinforced soil slopes.

2. See D sheets for roadway construction.

3. Install erosion control measures prior to clearing and grubbing, except where noted otherwise.

4. Seed and cover all the disturbed area slopes 1V:1-1/2H and flatter with erosion control mattings as shown on the plans (Rolled Erosion Control Product).

5. Apply seeding and mulching to finished slopes within 7 days.

6. Seed and mulch all disturbed areas except rock and roadway surfaces according to the Special Provisions.

7. Any deviation from options given will require prior approval by Engineer.

8. Additional erosion control devices may need to be installed as directed by the Engineer.

2018 STANDARD DRAWINGS
1605.01 Temporary silt fence
1630.01 Riser Basin
1631.01 Matting Installation

Limits of construction (typ.)

907+00 to 910+48.56
Install erosion control matting, Type 2.A

MATCH LINE 907+00

PC 908+68.71

Limits of disturbance (typ.)

END TEMPORARY WIDENING
910+48.56
N 654591.40
E 938588.68

PCC 911+67.47

PT 913+19.52

POT 913+44.59

S 54° 08' 34" W
110.00'

N 82° 18' 45" E

Reinforced soil slopes

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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

EROSION AND SEDIMENT CONTROL PLAN

PHASE 1
TEMPORARY PAVEMENT WIDENING AT SOUTH END

SCALE IN FEET 0 25 50

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STATE	PROJECT	SHEET NUMBER
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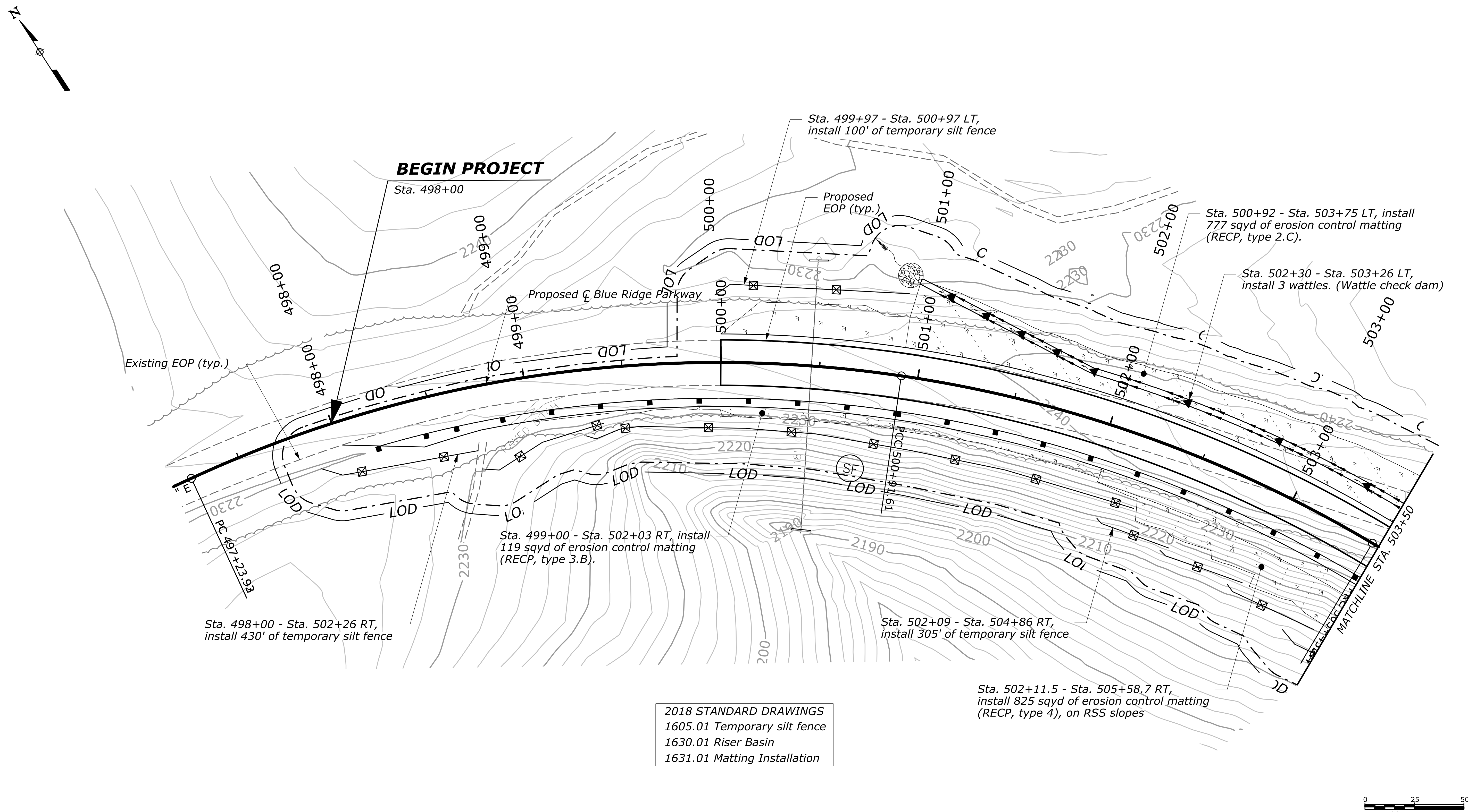

2018 STANDARD DRAWINGS
1605.01 Temporary silt fence
1630.01 Riser Basin
1631.01 Matting Installation

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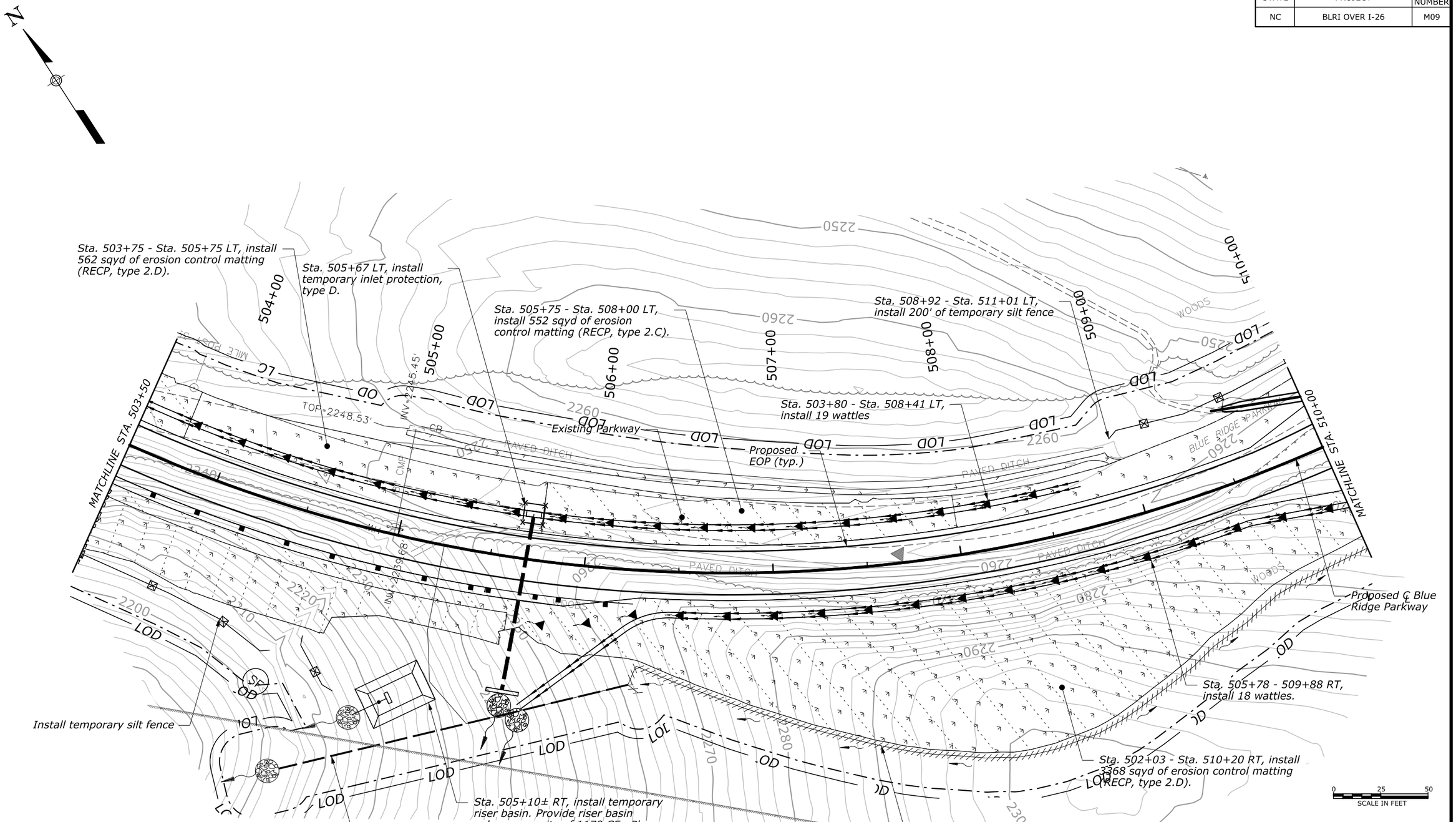
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

EROSION AND SEDIMENT CONTROL PLAN

PHASE 2
SOUTH REINFORCED SOIL SLOPE CONSTRUCTION

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M09



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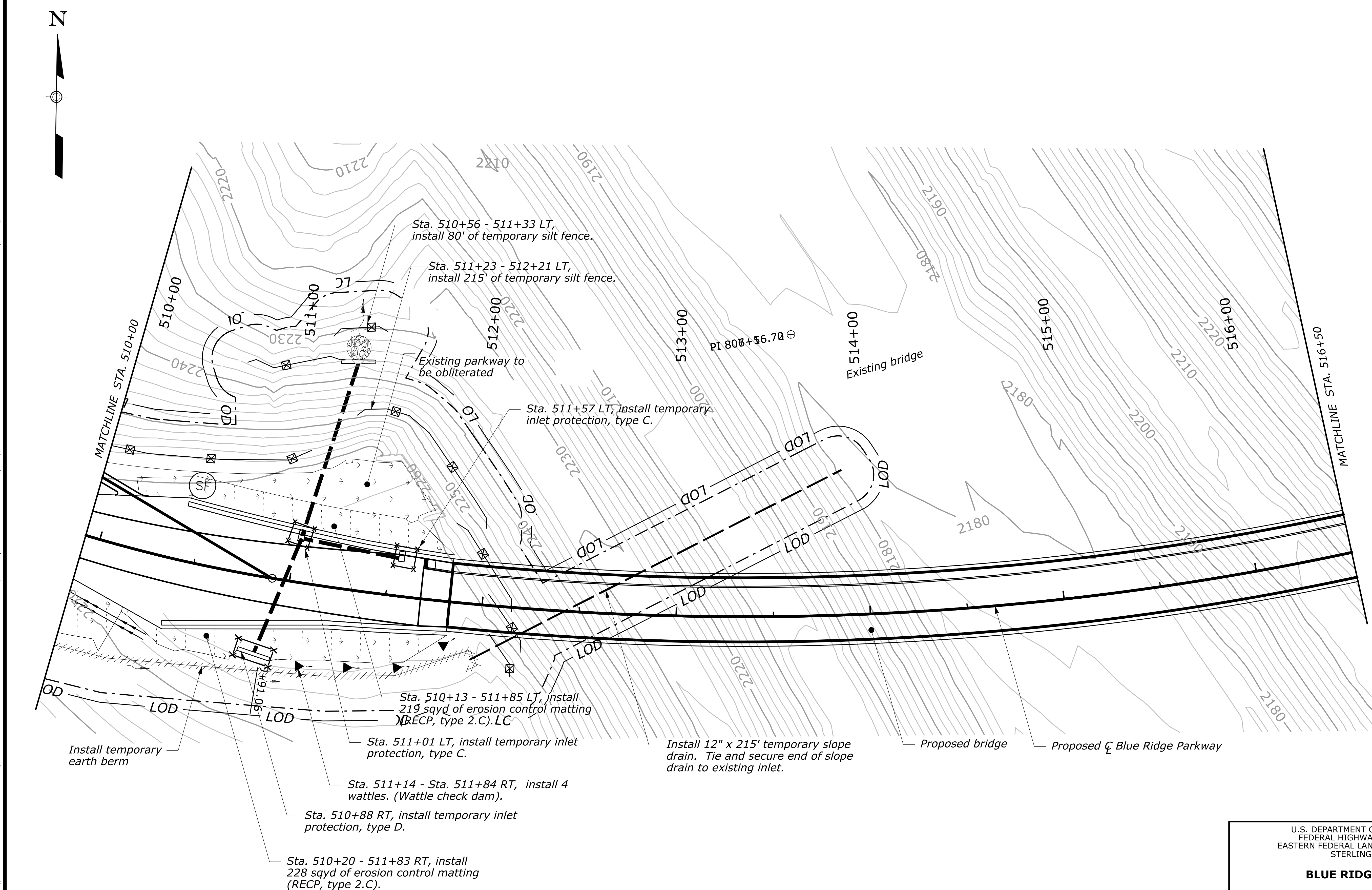
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

EROSION AND SEDIMENT CONTROL PLAN

PHASE 2
SOUTH REINFORCED SOIL SLOPE CONSTRUCTION

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M10



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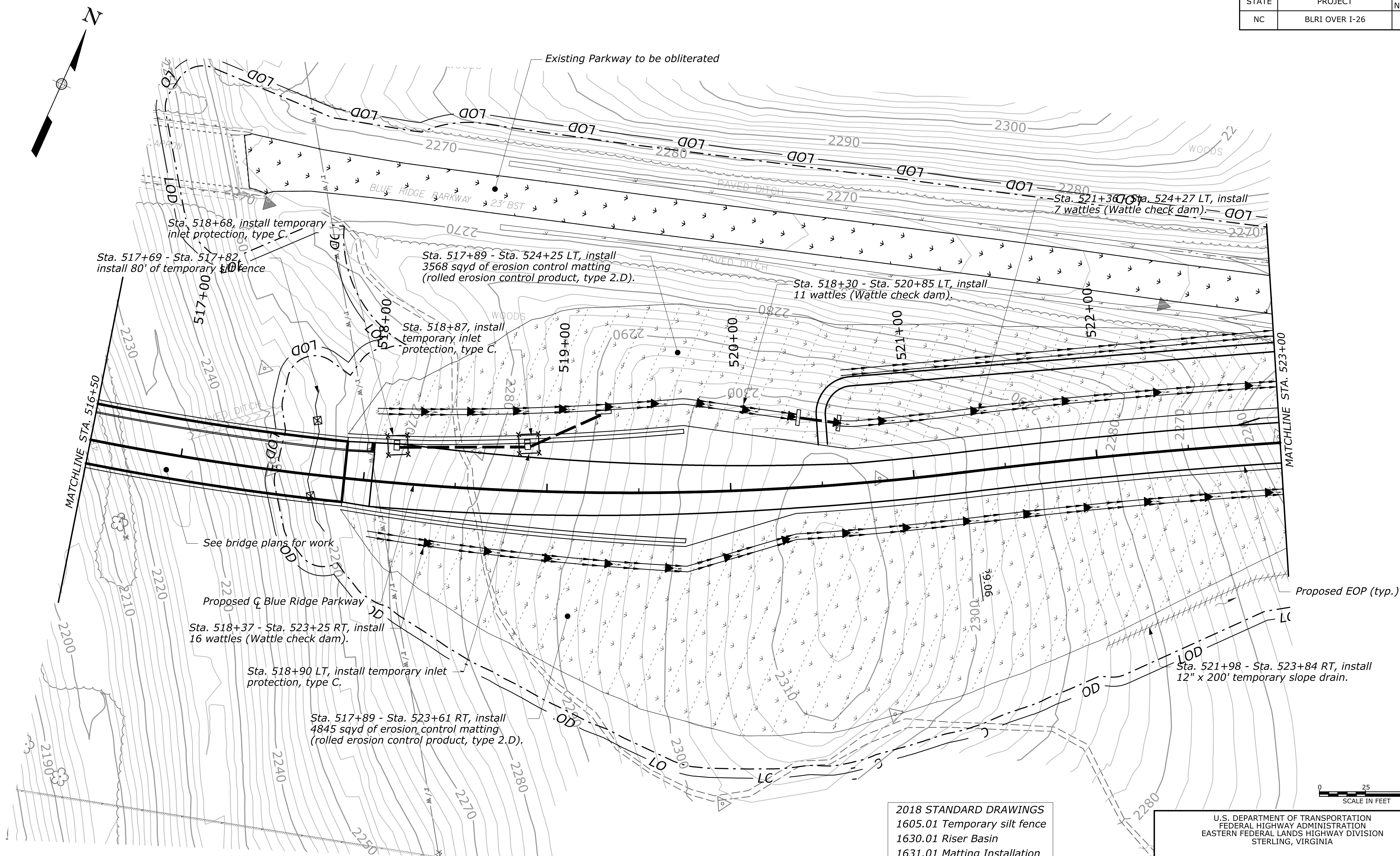
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

EROSION AND SEDIMENT CONTROL PLAN

PHASE 2
SOUTH REINFORCED SOIL SLOPE CONSTRUCTION

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M11



2018 STANDARD DRAWINGS
1605.01 Temporary silt fence
1630.01 Riser Basin
1631.01 Matting Installation

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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

EROSION AND SEDIMENT CONTROL PLAN

PHASE 3
NORTH REINFORCED SOIL SLOPE CONSTRUCTION

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M12

N

Sta. 524+25 - Sta. 527+50 LT, install 1123 sqyd of erosion control matting (RECP, type 2.C).

Sta. 525+43 LT, install temporary inlet protection, type C.

Sta. 524+76 - Sta. 527+18 LT, install 14 wattles (Wattle check dam).

Sta. 527+10 LT, install temporary inlet protection, type D.

Sta. 527+33 - Sta. 531+44 LT, install 33 wattles (Wattle check dam).

Existing Parkway

Proposed C Blue Ridge Parkway

MATCHLINE STA. 523+00

MATCHLINE STA. 529+00

Install temporary earth berm

Sta. 523+57 RT, install temporary inlet protection, type D.

Install 12" x 210' of temporary slope drain and 1 ton of rip rap, class B, at outlet end.

Sta. 600+71 - 602+59 LT, Install 210' of temporary silt fence.

Sta. 523+68 to Sta. 526+75 RT, install 1034 sqyd of erosion control matting (RECP, type 4) on RSS slopes.

Sta. 525+60 ± RT, install temporary riser basin. Provide basin volume of 2510 CF. Place 2 tons of rip rap, class B, at pipe outlet.

Sta. 525+74 - 528+48 RT, Install 300' of temporary silt fence.

Sta. 526+75 to Sta. 528+50 RT, install 397 sqyd of erosion control matting (RECP, type 2.D).

Proposed EOP (typ.)

0 25 50
SCALE IN FEET

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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

EROSION AND SEDIMENT CONTROL PLAN

PHASE 3
NORTH REINFORCED SOIL SLOPE CONSTRUCTION

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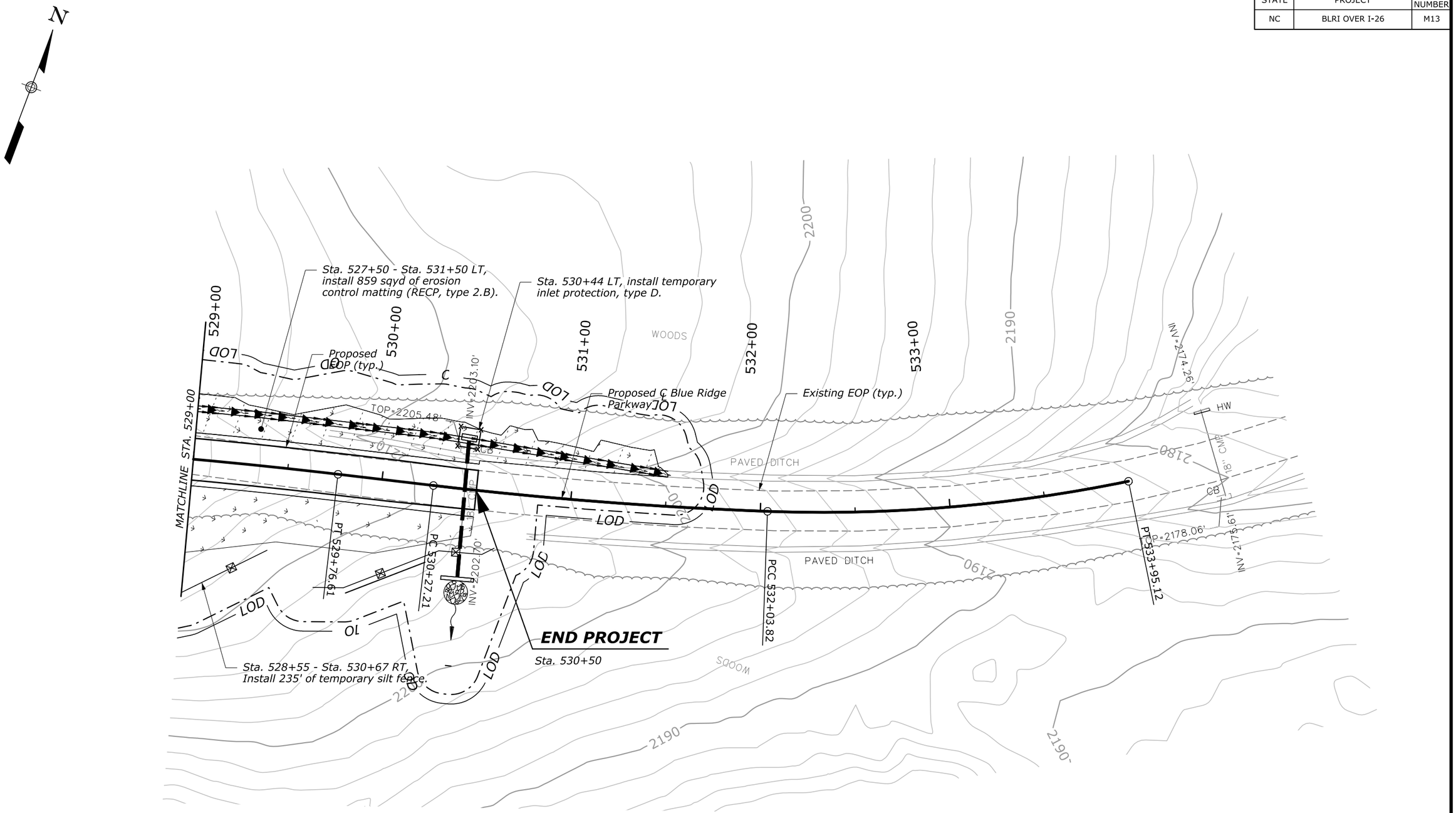
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M13



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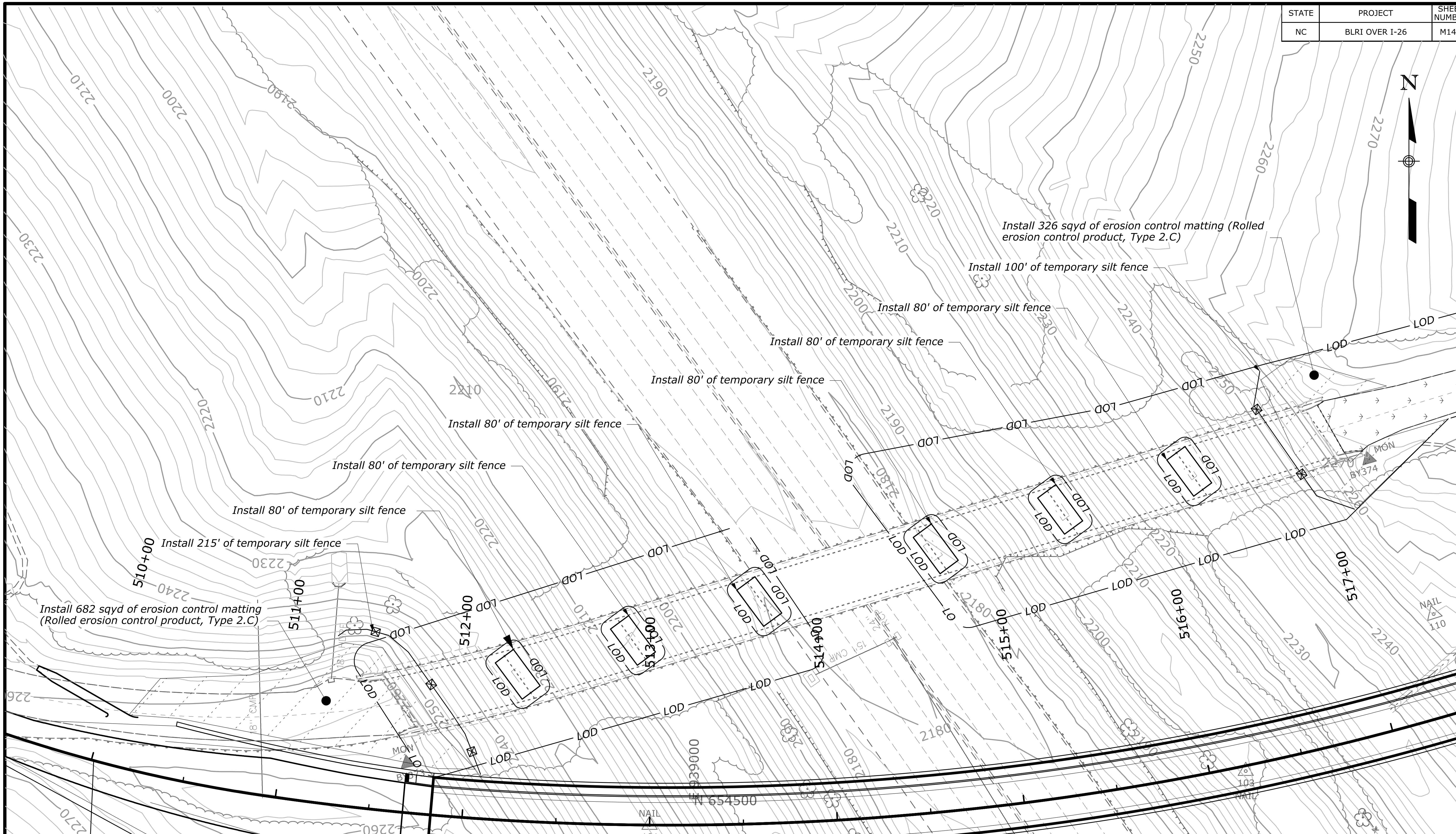
BLUE RIDGE PARKWAY

EROSION AND SEDIMENT CONTROL PLAN

PHASE 3
NORTH REINFORCED SOIL SLOPE CONSTRUCTION

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M14



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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

EROSION AND SEDIMENT CONTROL PLAN

PHASE 4
OBLITERATION OF EXISTING ROAD
BRIDGE REMOVAL

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M15

Install 127 sqyd of erosion control matting (Rolled erosion control product, Type 2.D)

Install 1443 sqyd of erosion control matting (Rolled erosion control product, Type 2.C)

516+76 to 517+04
Install 98' of temporary silt fence

N

SCALE IN FEET
0 25 50

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BLUE RIDGE PARKWAY

EROSION AND SEDIMENT CONTROL PLAN

PHASE 4
OBLITERATION OF EXISTING ROAD AND BRIDGE REMOVAL

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STATE	PROJECT	SHEET NUMBER
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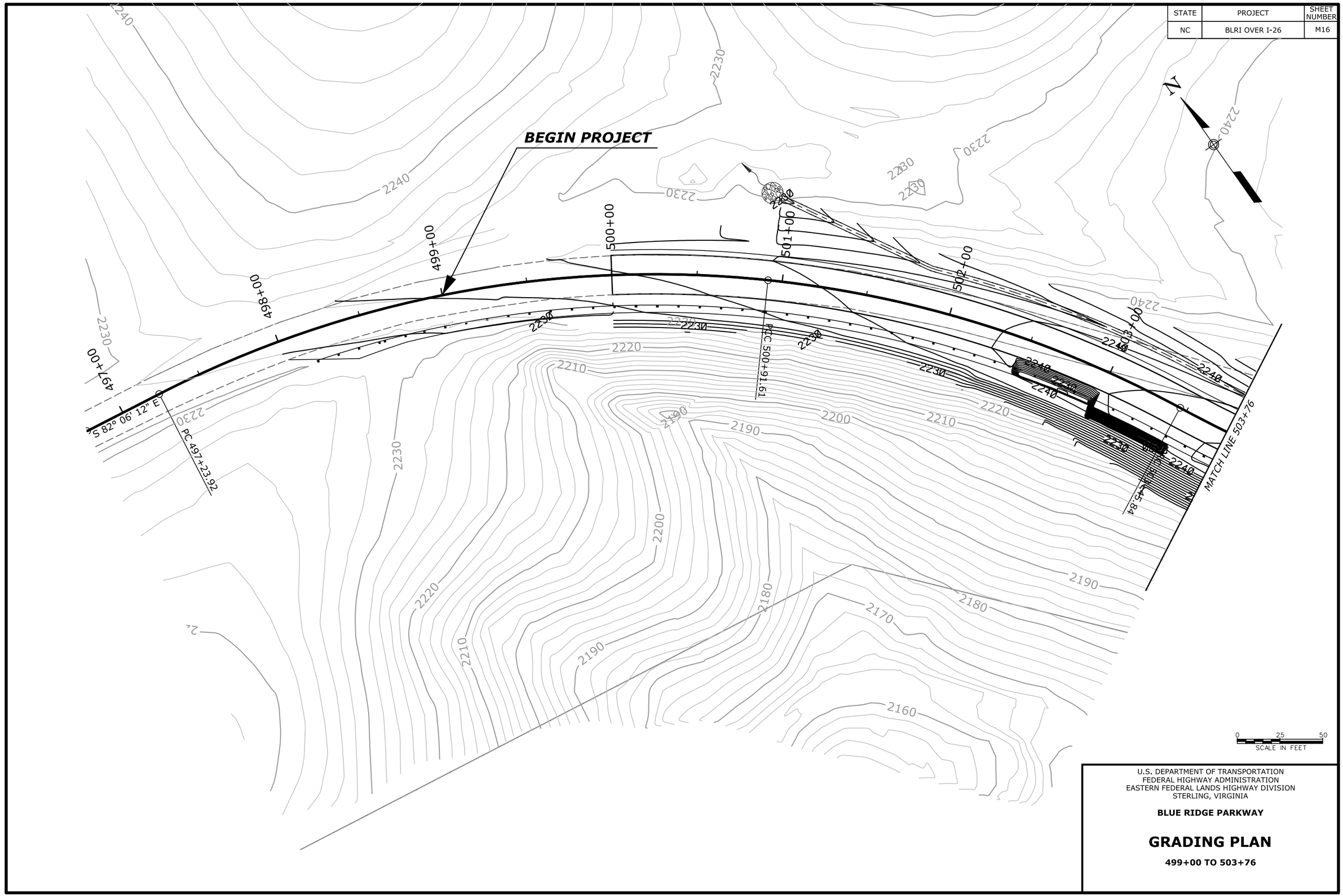

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BLUE RIDGE PARKWAY

GRADING PLAN

499+00 TO 503+76

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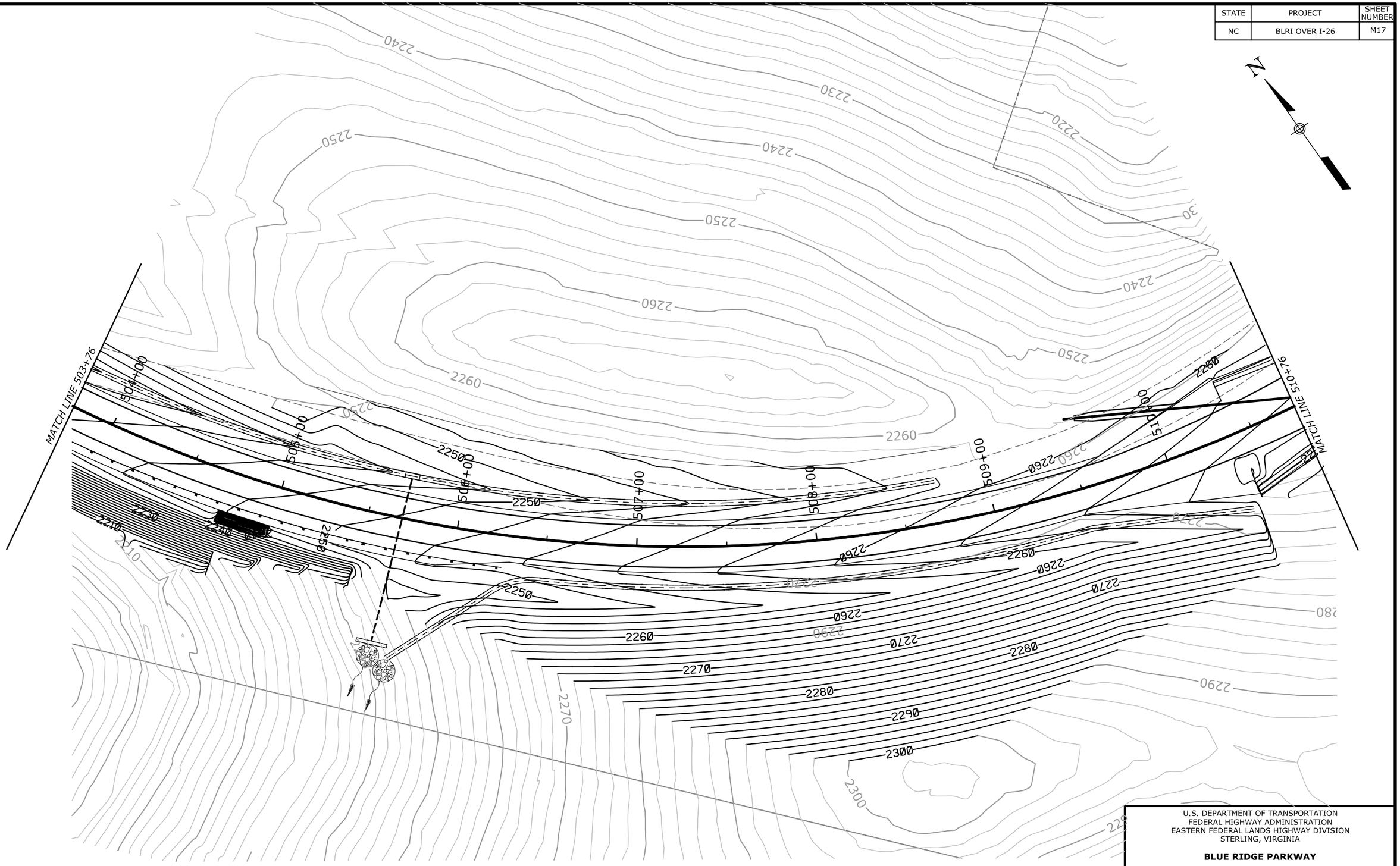
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M17



0 25 50
SCALE IN FEET

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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

GRADING PLAN

503+76 TO 510+76

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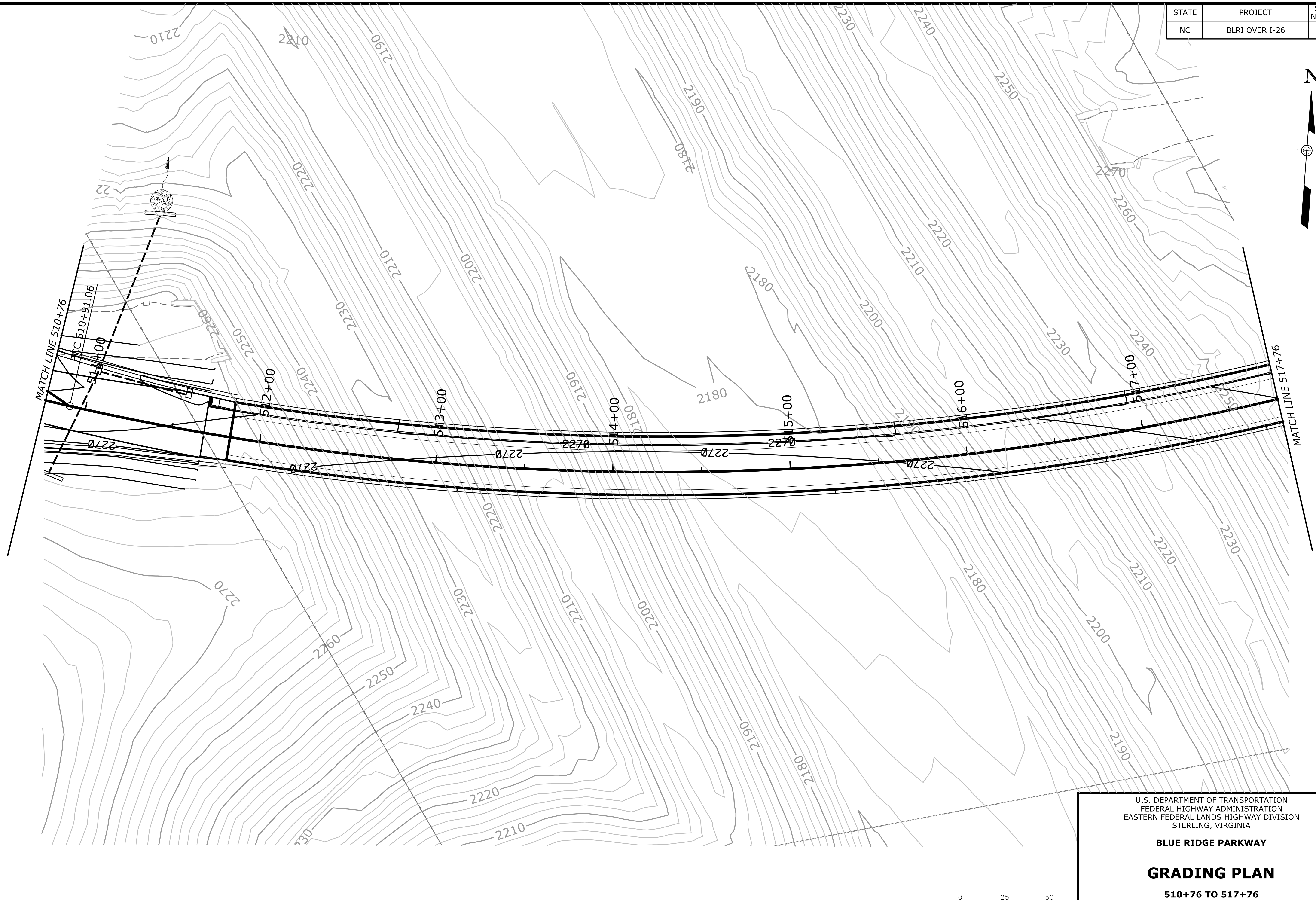
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M18



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BLUE RIDGE PARKWAY

GRADING PLAN

510+76 TO 517+76

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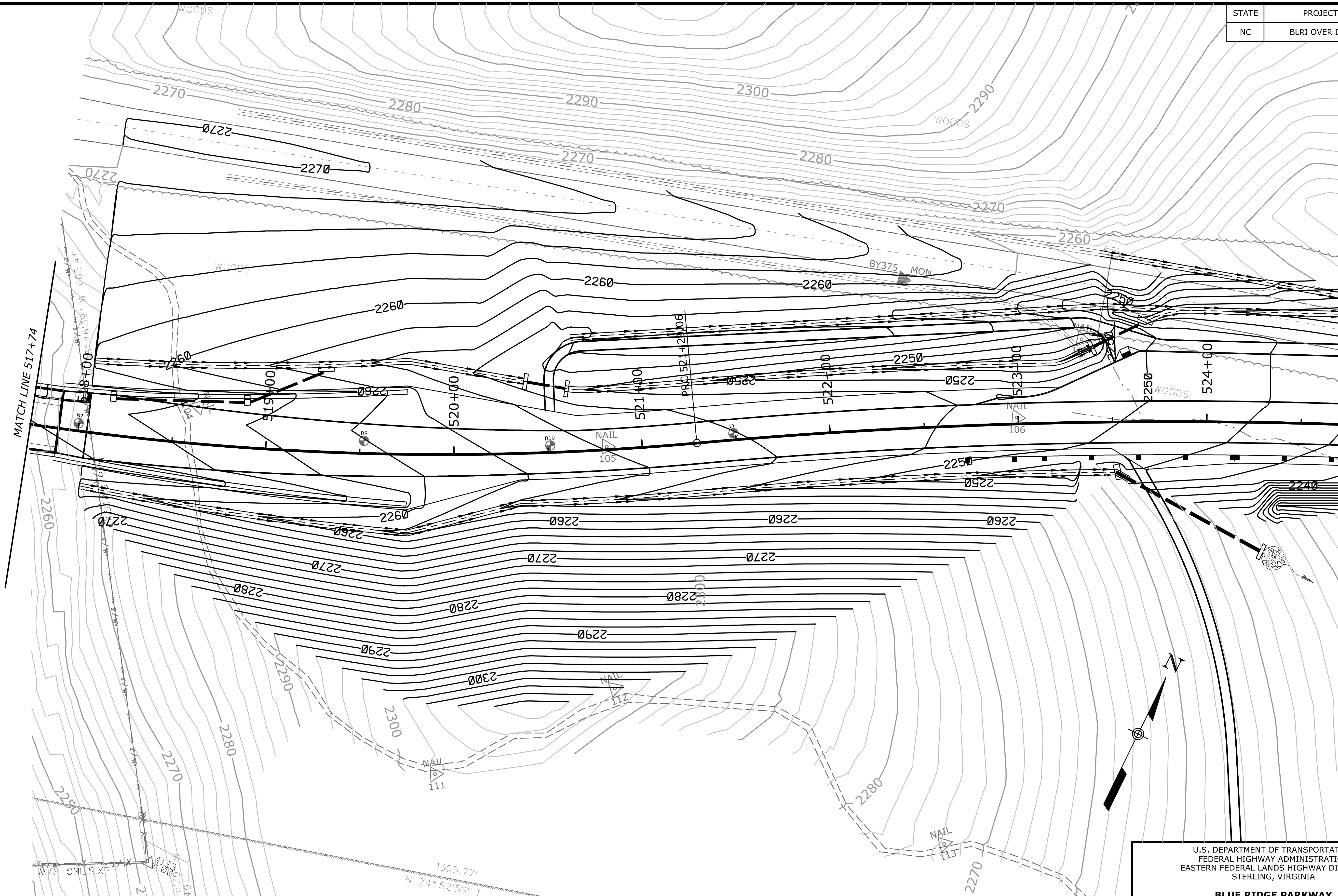
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M19



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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

GRADING PLAN

517+74 TO 524+43

0 25 50
SCALE IN FEET

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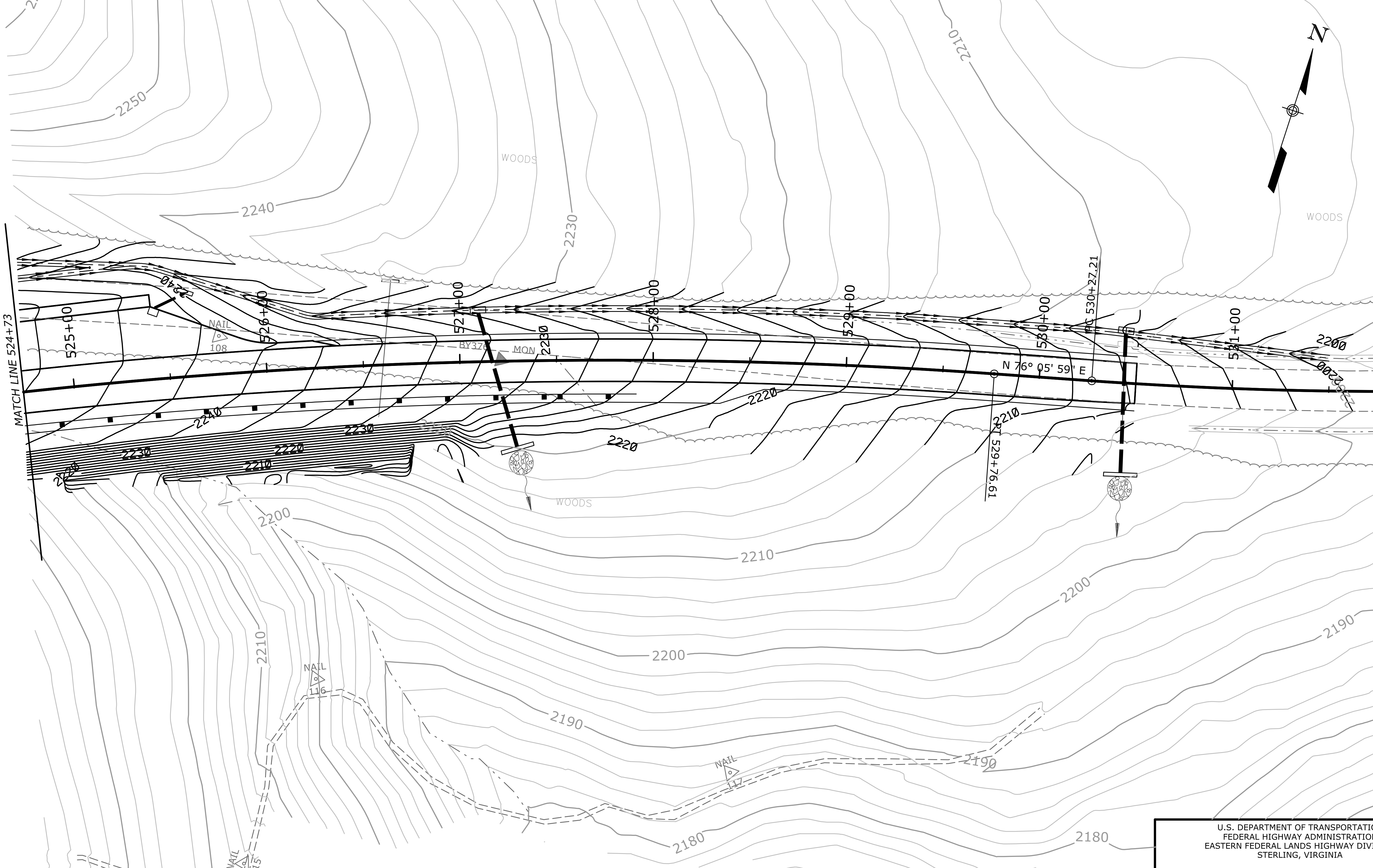
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M20



0 25 50
SCALE IN FEET

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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

GRADING PLAN

524+73 to 531+77

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STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M21

N

MATCH LINE 531+77

531+00

532+03.81

533+00

PT 533+95.11

END PROJECT

533+95

WOODS

WOODS

BLUE RIDGE PARKWAY
PROJECT 2, SECTION
DB 780 PG
TRACT
MAP BOOK 1 PG

N 45° 13' 57" E
953.77'

2200
2190
2180
2170
2160
2150

0 25 50
SCALE IN FEET

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BLUE RIDGE PARKWAY

GRADING PLAN

531+77 to 533+95

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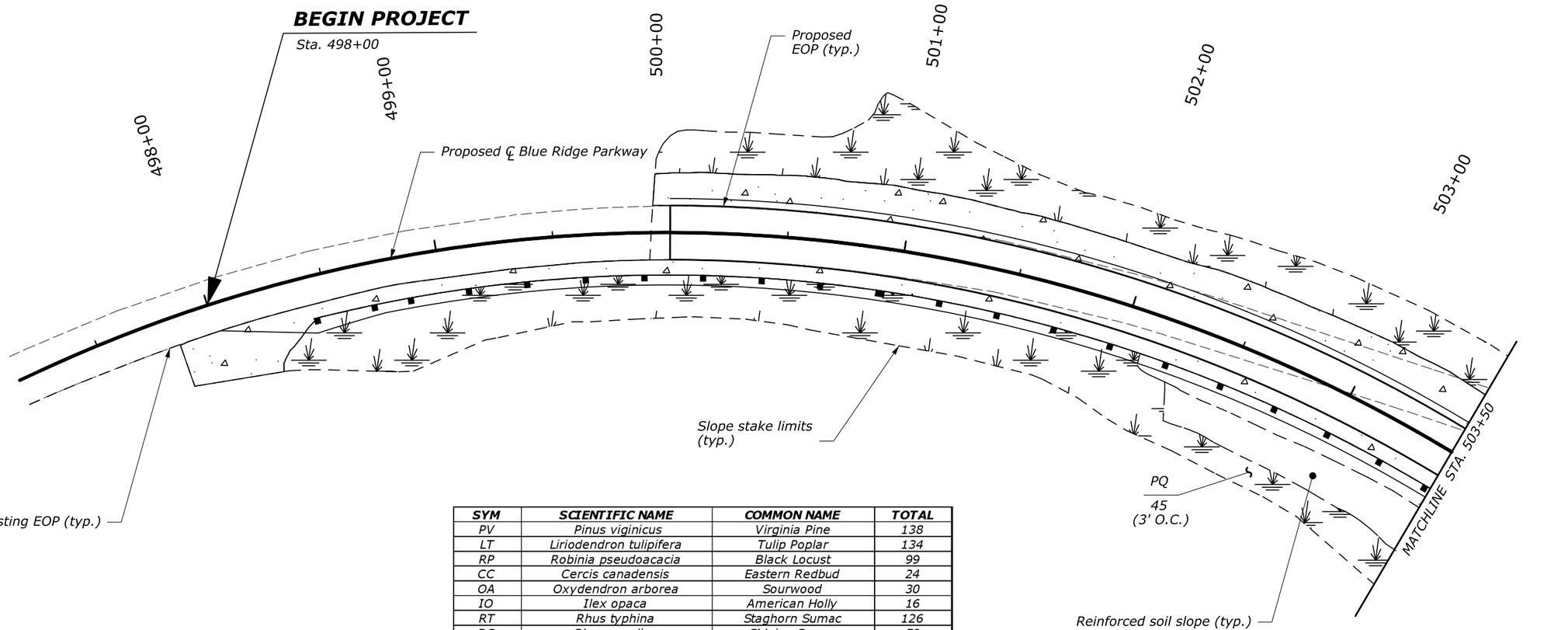
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M22

GENERAL NOTES:

1. See D sheet for construction work
2. Plant trees and shrubs according to planting methods shown on the plans
3. Any deviation from options given will require prior approval by Engineer.



SYM	SCIENTIFIC NAME	COMMON NAME	TOTAL
PV	Pinus viginicus	Virginia Pine	138
LT	Liriodendron tulipifera	Tulip Poplar	134
RP	Robinia pseudoacacia	Black Locust	99
CC	Cercis canadensis	Eastern Redbud	24
OA	Oxydendron arborea	Sourwood	30
IO	Ilex opaca	American Holly	16
RT	Rhus typhina	Staghorn Sumac	126
RC	Rhus copalina	Shining Sumac	58
RG	Rhus glabra	Smooth Sumac	124
RS	Rubus species	Rubus	135
RW	Rhododendron catawbiense	Catawba Rhododendron	22
LB	Lindera benzoin	Spicebush	32
VP	Viburnum prunifolium	Blackhaw Viburnum	58
HP	Hypericum prolificum	Shrubby St. John's Wort	50
PQ	Parthenocissus quinquefolia	Virginia Creeper	220
			1266

LEGEND

Permanent vegetation (Meadow seed mix)

Road shoulder turf establishment

0 25 50
SCALE IN FEET

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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

LANDSCAPING PLAN

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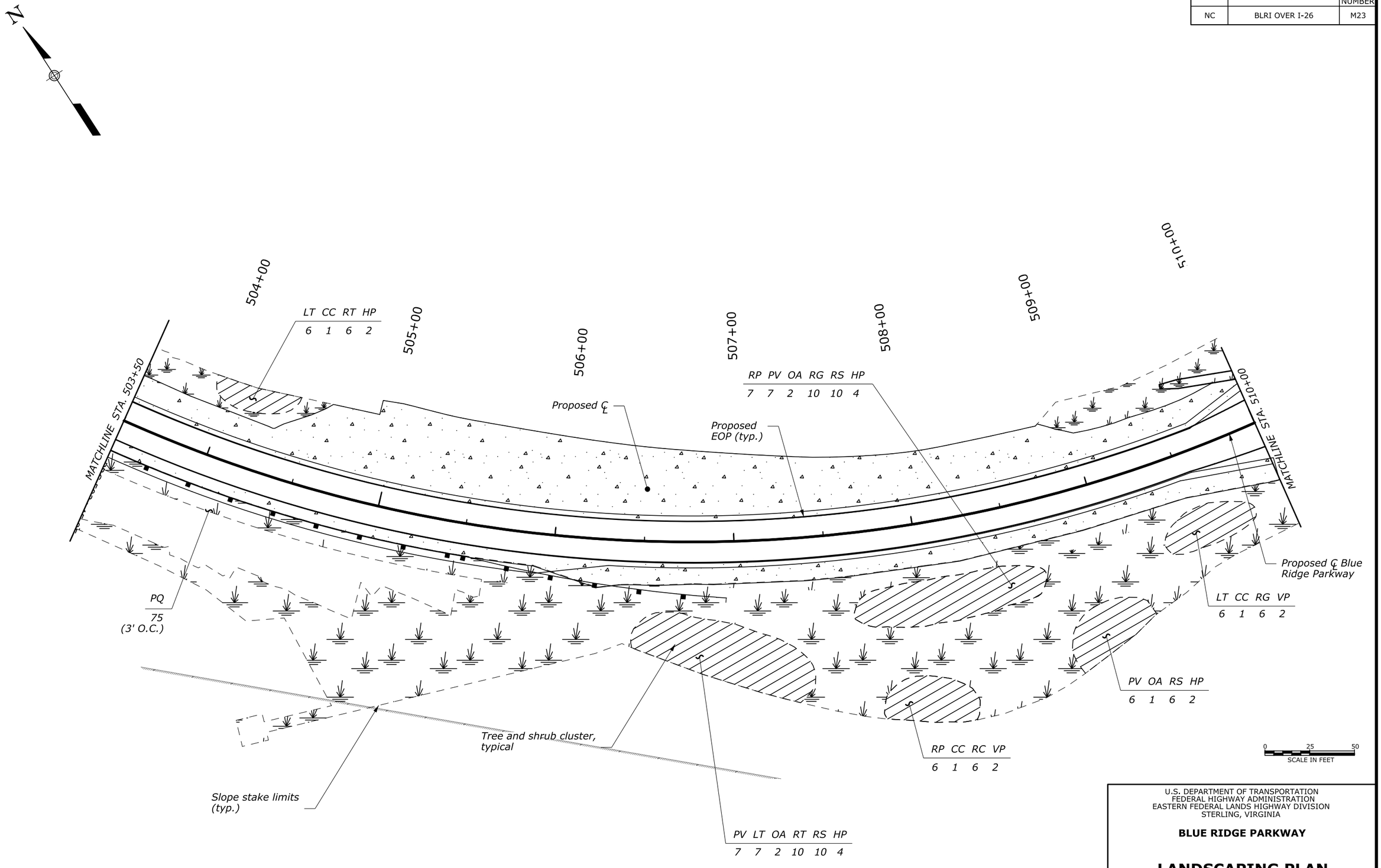
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M23



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STERLING, VIRGINIA

BLUE RIDGE PARKWAY

LANDSCAPING PLAN

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M24

N

MATCHLINE STA. 510+00

510+00

511+00

512+00

513+00

514+00

515+00

516+00

MATCHLINE STA. 516+50

I-26

LT RP CC RT RS VP
7 7 2 10 10 4

PV OA RG HP
6 1 6 2

LT CC RS VP
6 1 6 2

PV OA RT HP
6 1 6 2

RP CC RT VP
6 1 6 2

LT PV OA RG RS HP
7 7 2 10 10 4

PV OA RS VP
6 1 6 2

PV RP OA RC RG HP
7 7 2 10 10 4

LT CC RS VP
6 1 6 2

LT RP CC RT RS VP
7 7 2 10 10 4

RP OA RC HP
6 1 6 2

PV OA RG HP
6 1 6 2

Proposed bridge

Proposed ℄ Blue Ridge Parkway

Slope stake limits (typ.)

0 25 50
SCALE IN FEET

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BLUE RIDGE PARKWAY

LANDSCAPING PLAN

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STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M25

N

PV LT CC RC RT VP
7 7 2 10 10 4

RP PV OA RG RS HP
7 7 2 10 10 4

RP LT CC RC RS VP
7 7 2 10 10 4

PV RP OA RT RG HP
7 7 2 10 10 4

PV OA RT VP
6 1 6 2

LT CC RS HP
6 1 6 2

PV RP OA RT RG VP
7 7 2 10 10 4

RP CC RS HP
6 1 6 2

517+00

518+00

519+00

520+00

521+00

522+00

MATCHLINE STA. 516+50

MATCHLINE STA. 523+00

See bridge plans for work

Proposed ℄ Blue Ridge Parkway

Proposed EOP (typ.)

PV OA RS VP
6 1 6 2

LT CC RT HP
6 1 6 2

PV LT OA RG RS VP
7 7 2 10 10 4

RP CC RT HP
6 1 6 2

PV CC RS HP
6 1 6 2

Slope stake limits (typ.)

PV RP CC RC RG VP
7 7 2 10 10 4

PV LT OA RT RG VP
7 7 2 10 10 4

RP CC RS HP
6 1 6 2

0 25 50
SCALE IN FEET

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BLUE RIDGE PARKWAY

LANDSCAPING PLAN

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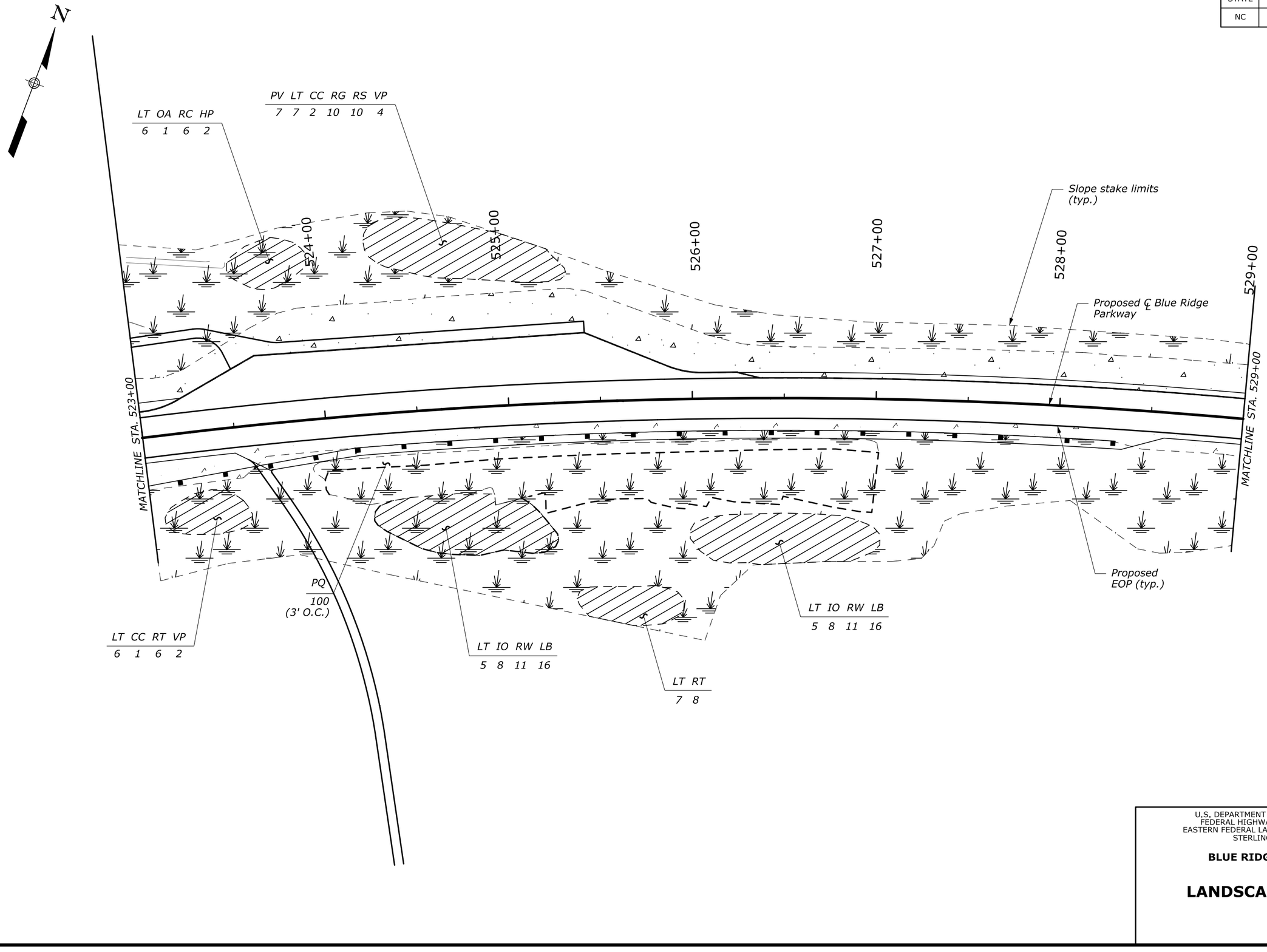
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M26



0 25 50
SCALE IN FEET

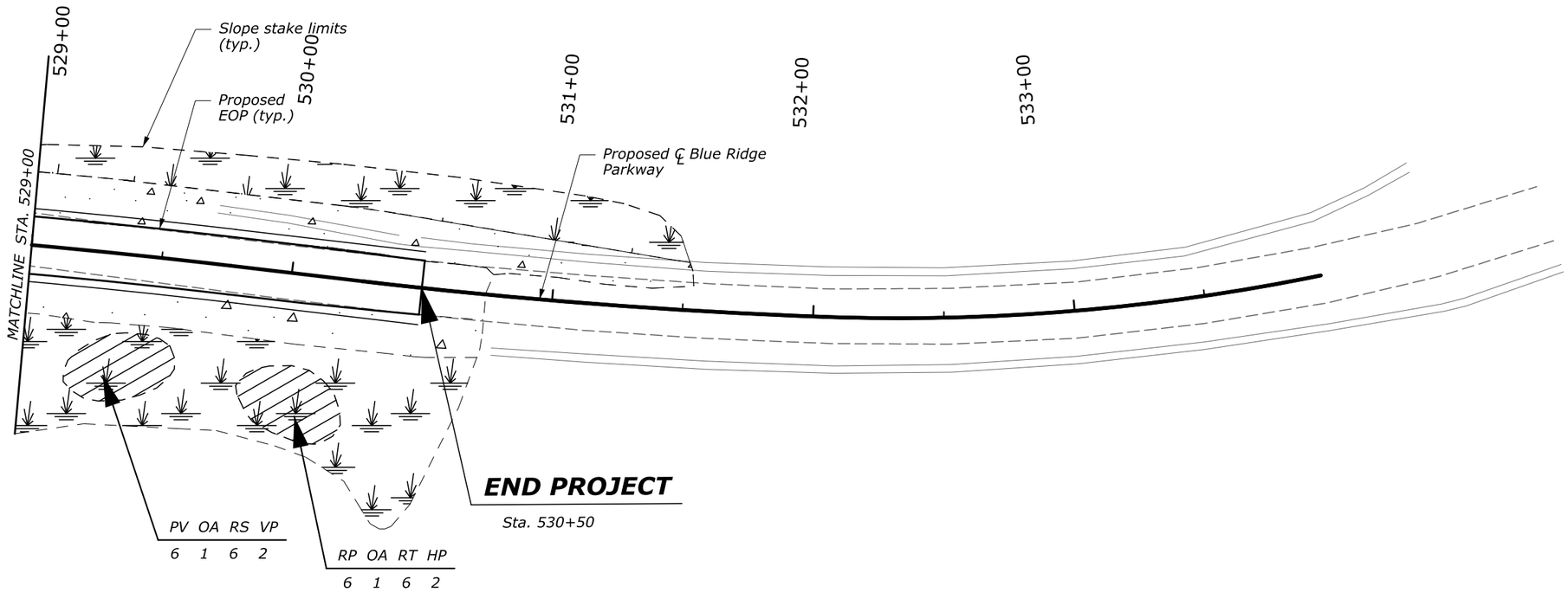
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

LANDSCAPING PLAN

21-Dec-2018 09:00 AM M:\PROJECTS_STATE_DOT\NC\blri_I26_repo\Proj_Dev\CADD\From_Eng_Support\As_Requested_3_20\7\M22-M27-BLRI_I_26_NEPA_plan.dgn

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M27



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SCALE IN FEET

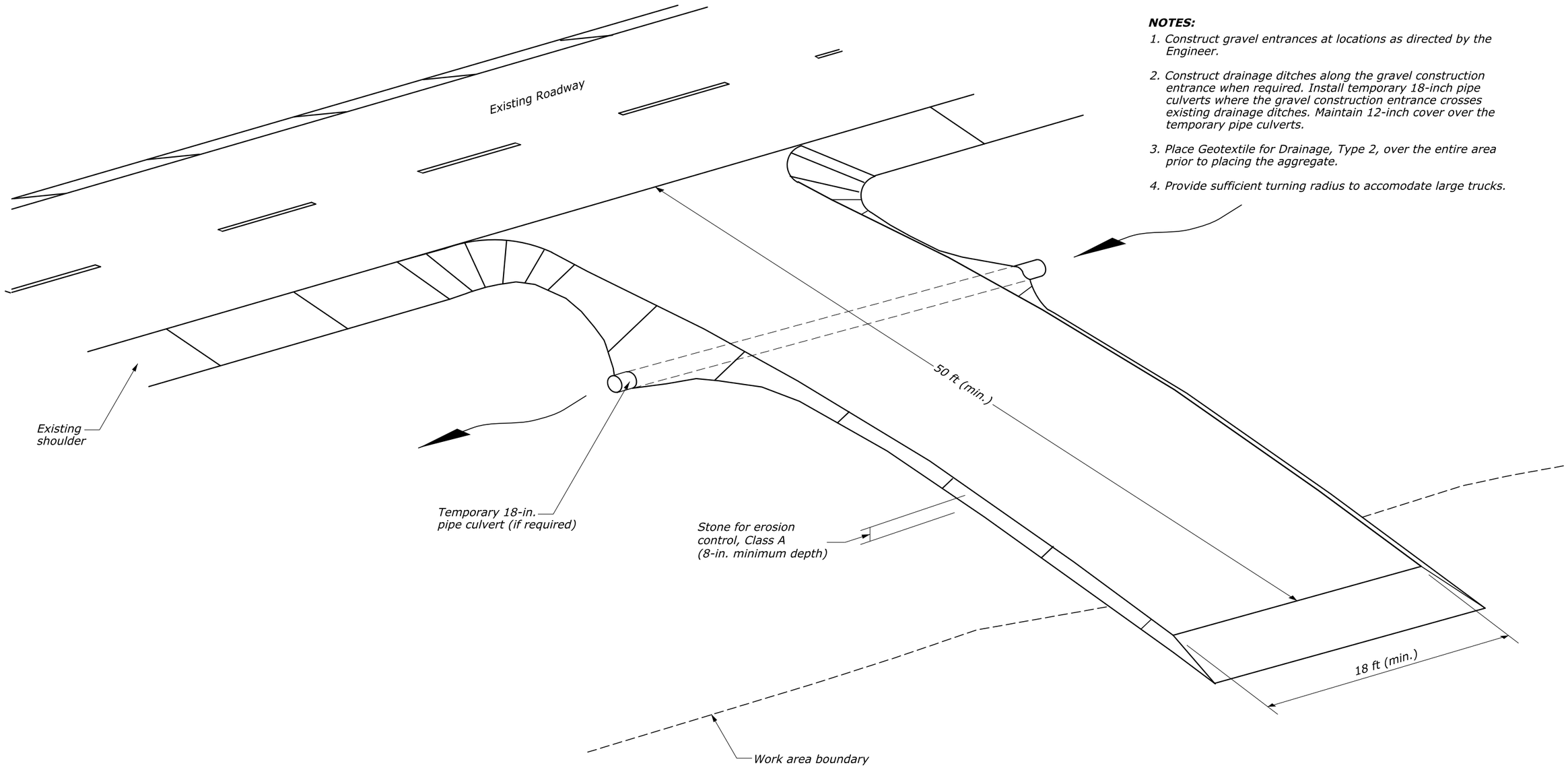
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

LANDSCAPING PLAN

21-Dec-2018 09:03 AM M:\PROJECTS_STATE_DOT\NC\blri_I26_repo\Proj_Dev\CADD\From_Eng_Support\As_Requested_3_2017\M22-M27-BLRI_I_26_NEPA_plan.dgn

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M28



NOTES:

1. *Construct gravel entrances at locations as directed by the Engineer.*
2. *Construct drainage ditches along the gravel construction entrance when required. Install temporary 18-inch pipe culverts where the gravel construction entrance crosses existing drainage ditches. Maintain 12-inch cover over the temporary pipe culverts.*
3. *Place Geotextile for Drainage, Type 2, over the entire area prior to placing the aggregate.*
4. *Provide sufficient turning radius to accomodate large trucks.*

NO SCALE

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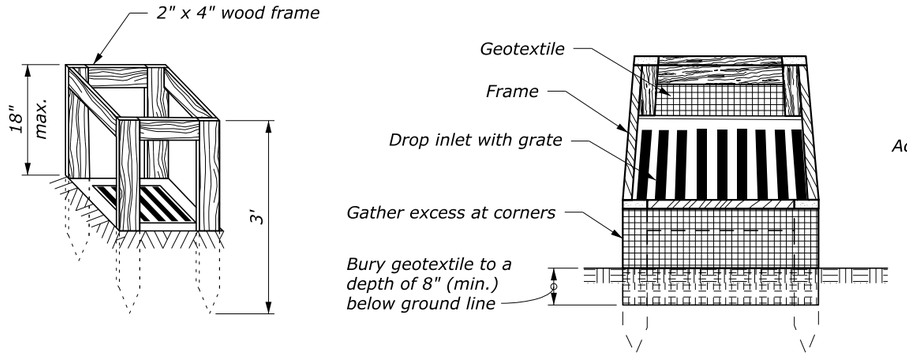
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

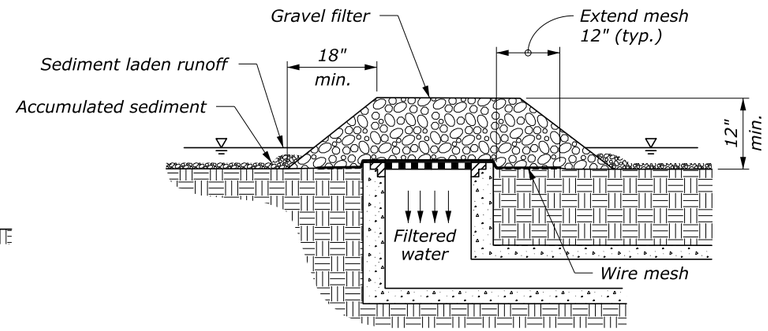
GRAVEL CONSTRUCTION ENTRANCE

12-Dec-2018 11:50 AM M:\PROJECTS\...STATE...DOT\NC\blri-I-26-...neon\Proj...Dev\CADD\From...Eng_Support\As...Requested...3_2017\M28-sht570IA...detail.dgn

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M29



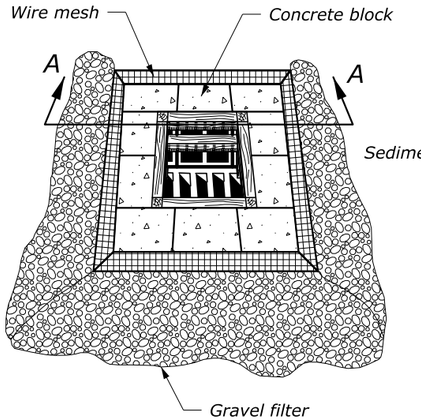
SILT FENCE DROP INLET PROTECTION (TYPE A)

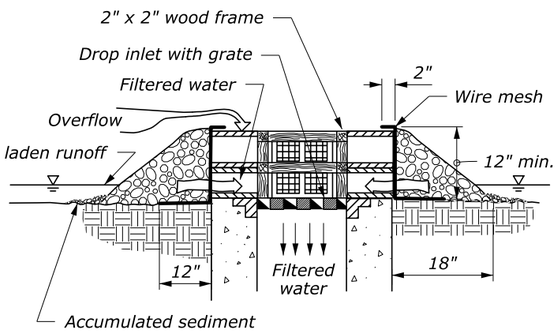


GRAVEL AND WIRE MESH DROP INLET PROTECTION (TYPE B)

NOTES:

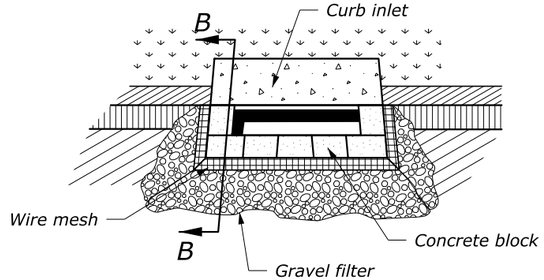
1. *For gravel filters use 2"- 3" diameter coarse aggregate.*
2. *Use wire mesh with ½" x ½" openings.*
3. *Use type A inlet protection in sump locations only.*
4. *Use type B inlet protection only in sump locations where heavy concentrated flows are not expected. Do not use where ponding around the structure might cause inconvenience or damage.*

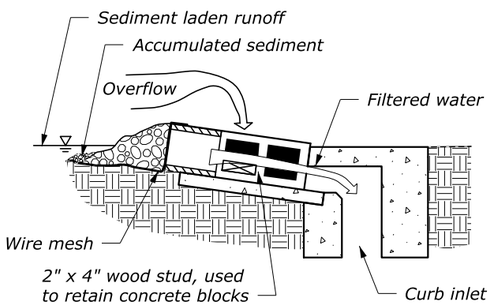




SECTION A-A

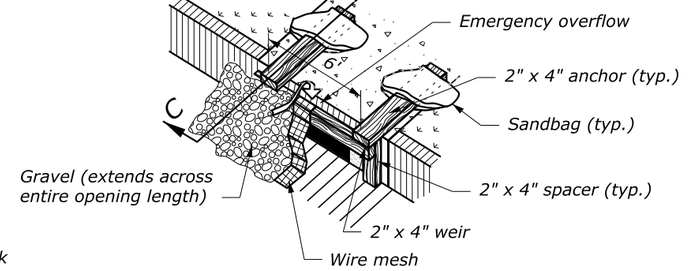
BLOCK AND GRAVEL DROP INLET PROTECTION (TYPE C)

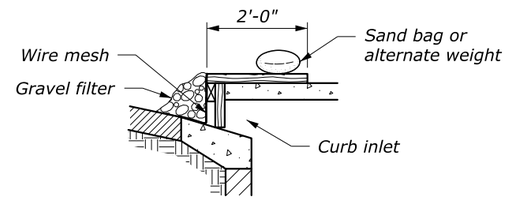




SECTION B-B

CURB INLET PROTECTION, BLOCK AND GRAVEL (TYPE D)





SECTION C-C

CURB INLET PROTECTION, WOODEN WEIR (TYPE E)

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

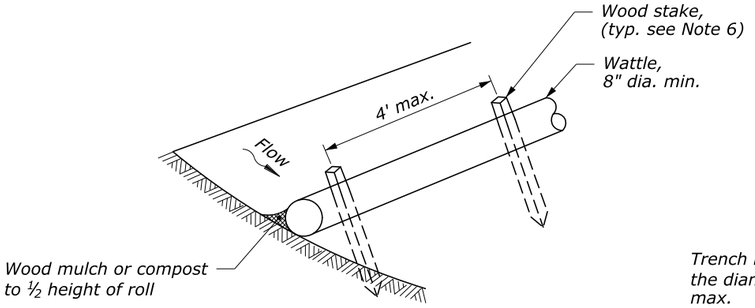
BLUE RIDGE PARKWAY

TEMPORARY INLET PROTECTION

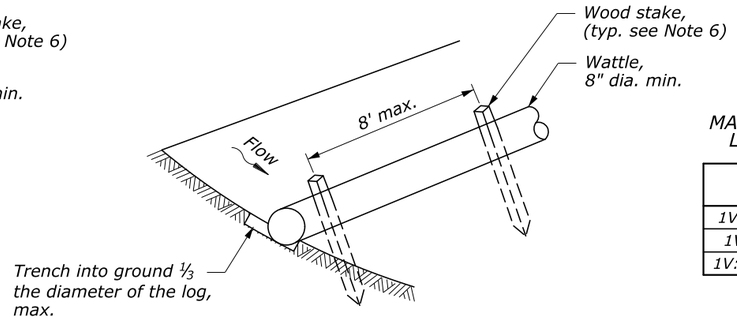
SUPPLEMENTAL TITLE

12-Dec-2018 11:52 AM M:\PROJECTS_STATE_DOT\NC\blri_I26_repo\Proj_Dev\CADD\From_Eng_Support\As_Requested_3_2017\M29-st15702_EFL_TEMP.dgn

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M30



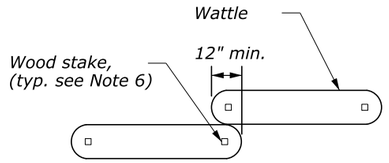
UNTRENCHED INSTALLATION ISOMETRIC VIEW



ENTRENCHED INSTALLATION ISOMETRIC VIEW

MAXIMUM ALLOWABLE SLOPE LENGTH ABOVE WATTLES

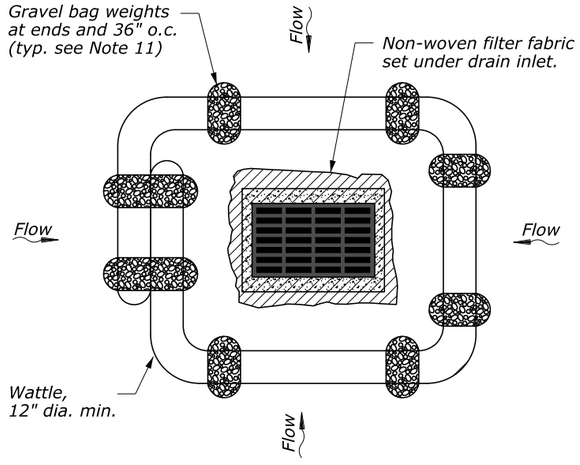
SLOPE	*MAX INTERVAL*
1V:4H or Flatter	*20 ft*
1V:4H - 1V:2H	*15 ft*
1V:2H or Steeper	*10 ft*



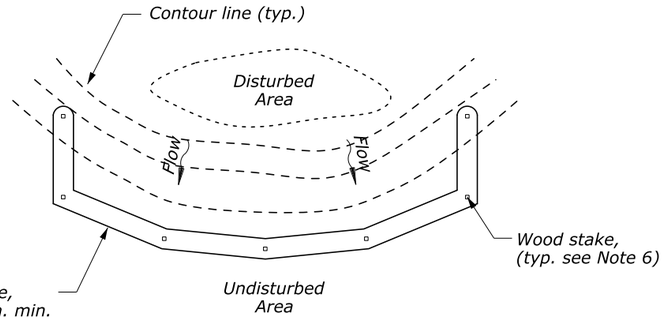
ROLL OVERLAP

NOTES:

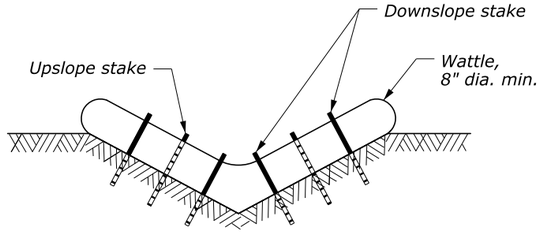
1. *Provide wattles meeting the requirements of Special Provisions SP08-R1671, Wattles.*
2. *Use wattles with a minimum 8-inch diameter. For drain inlet protection, use wattles with a minimum 12-inch diameter.*
3. *Prior to installation, clear all obstructions including rocks, clods, and debris greater than 1-inch that may interfere with proper function of the wattle.*
4. *For untrenched installation, blow or hand place mulch or compost on uphill side of the slope along the wattle.*
5. *Place wattles on level grade and parallel to contours. Extend both ends of the wattle at least 8 feet upslope at 45 degrees to the main alignment.*
6. *Use wood stakes with a minimum nominal cross section of 2-inch x 2-inch and of sufficient length to attain a minimum of 12 inches into the ground and 3 inches protruding above the roll. Furnish wood stakes meeting the requirements of NCDOT 2018 Standard Specifications 1060-12.*
7. *When more than one wattle is needed, overlap ends 12 inches minimum and stake.*
8. *Remove sediment deposits when accumulation is one-half the height of the exposed wattle.*
9. *Replace biodegradable wattles 6 months after installation and photodegradable wattles after 12 months after installation.*
10. *When wattles are required on paved surfaces, use gravel bags to support them as shown on the inlet protection detail.*
11. *Provide gravel bag weights meeting the requirements of Special Provisions SP08-R1671, Wattles.*



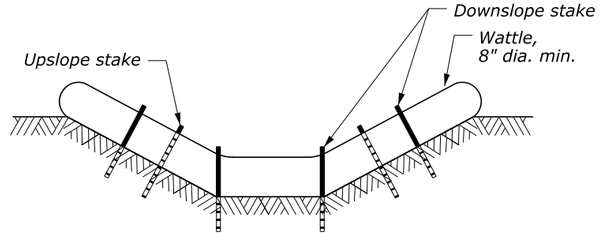
INLET PROTECTION



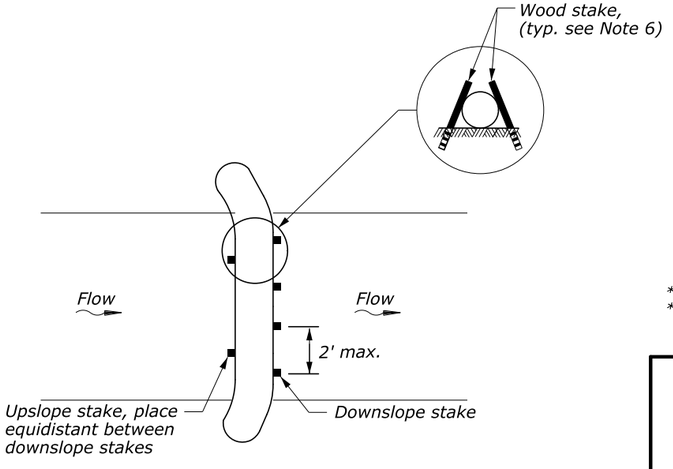
PLAN VIEW



V-DITCH WATTLE CHECK DAM CROSS SECTION



TRAPEZOIDAL DITCH WATTLE CHECK DAM CROSS SECTION



WATTLE CHECK DAM PLAN VIEW

WATTLE CHECK DAM SPACING TABLE

*DITCH GRADE **	*CHECK DAM SPACING(S) ***	
	12" HIGH	*18" HIGH*
2%	*50 ft*	*75 ft*
3%	*33 ft*	*50 ft*
4%	*25 ft*	*40 ft*
5%	*20 ft*	*30 ft*
6%	*16 ft*	*25 ft*
7%	*14 ft*	*21 ft*
8%	*12 ft*	*18 ft*
9%	*11 ft*	*16 ft*
10%	*10 ft*	*15 ft*

** Do not install check dams on grades below 2%*
*** Adjust spacing as approved based on site conditions*

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

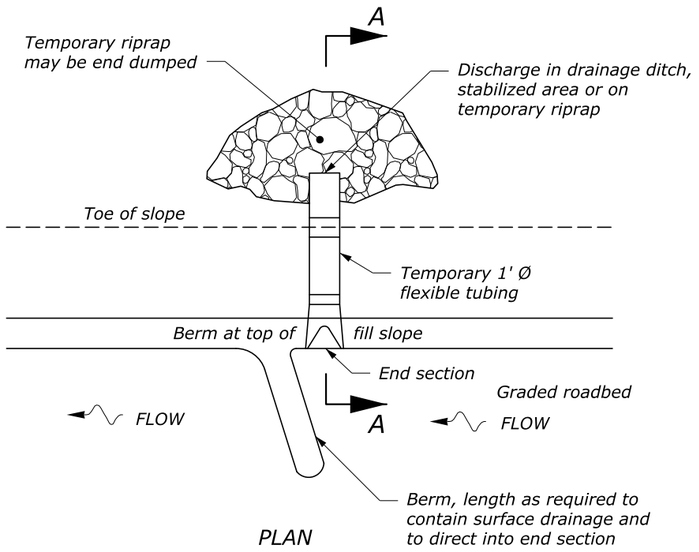
BLUE RIDGE PARKWAY

WATTLES

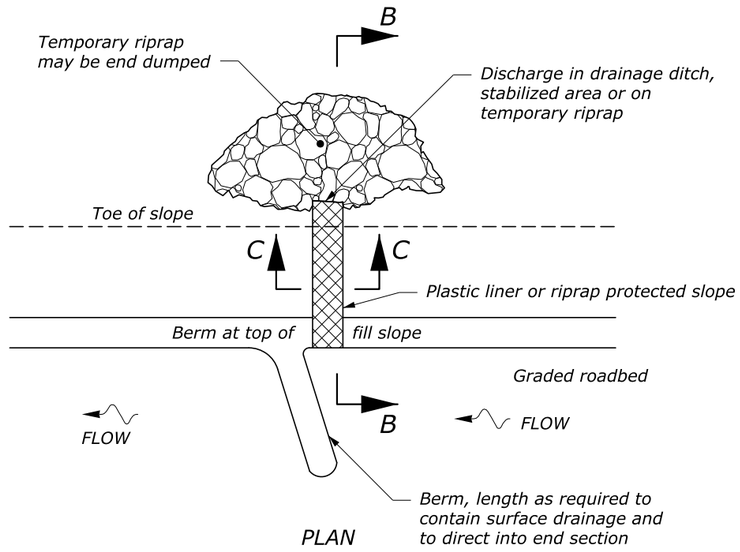
SUPPLEMENTAL TITLE

12-Dec-2018 11:54 AM M:\PROJECTS_STATE_DOT\NC\Uri1-126-repo\Proj_Dev\CADD\From_Eng_Support\As_Requested_3_2017\M30-sf15704_detail.dgn

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M31



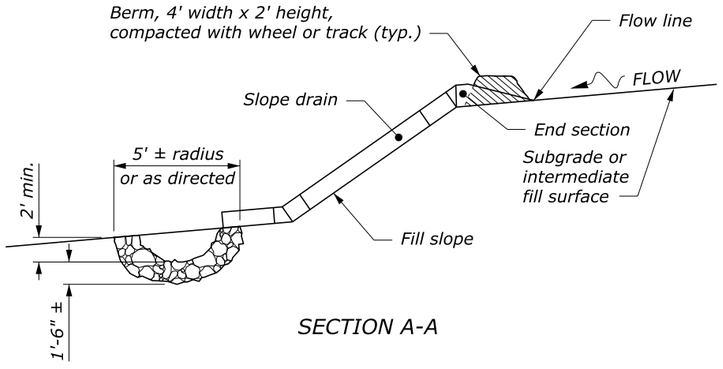
SLOPE DRAINS



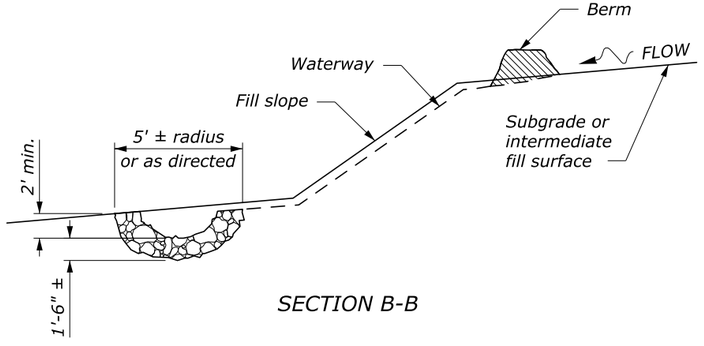
PLASTIC LINED WATERWAY

NOTES:

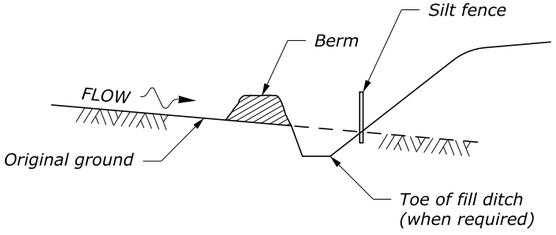
1. Use temporary slope drains (berms, drains, and riprap) as the embankment is constructed. Use spacings as shown on the Erosion and Sediment Control Plans or as designated by the Engineer. Place all slope drains at the end of each work shift. Use slope drains until the slopes are permanently stabilized.
2. Construct temporary berms at the top of all erodible cut slopes as shown on the Erosion and Sediment Control Plans or as designated by the Engineer. Use check dams to reduce the runoff velocity when existing grades are steep.
3. Do not use transverse or longitudinal joints in plastic liner. Plastic liner is not required for rock embankments.
4. Use toe-of-fill slope berms to divert offsite runoff away from disturbed areas.
5. Seed and mulch all cut slope berms and toe-of-fill berms immediately after berm construction.
6. Place rip rap as shown on NCDOT Standard Drawing 876.02.



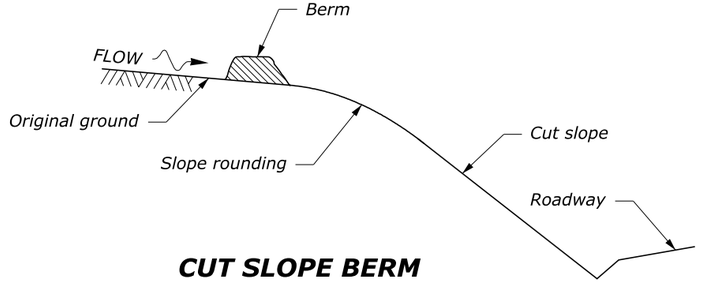
SECTION A-A



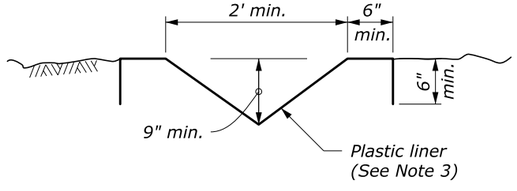
SECTION B-B



TOE-OF-FILL SLOPE BERM



CUT SLOPE BERM



SECTION C-C

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

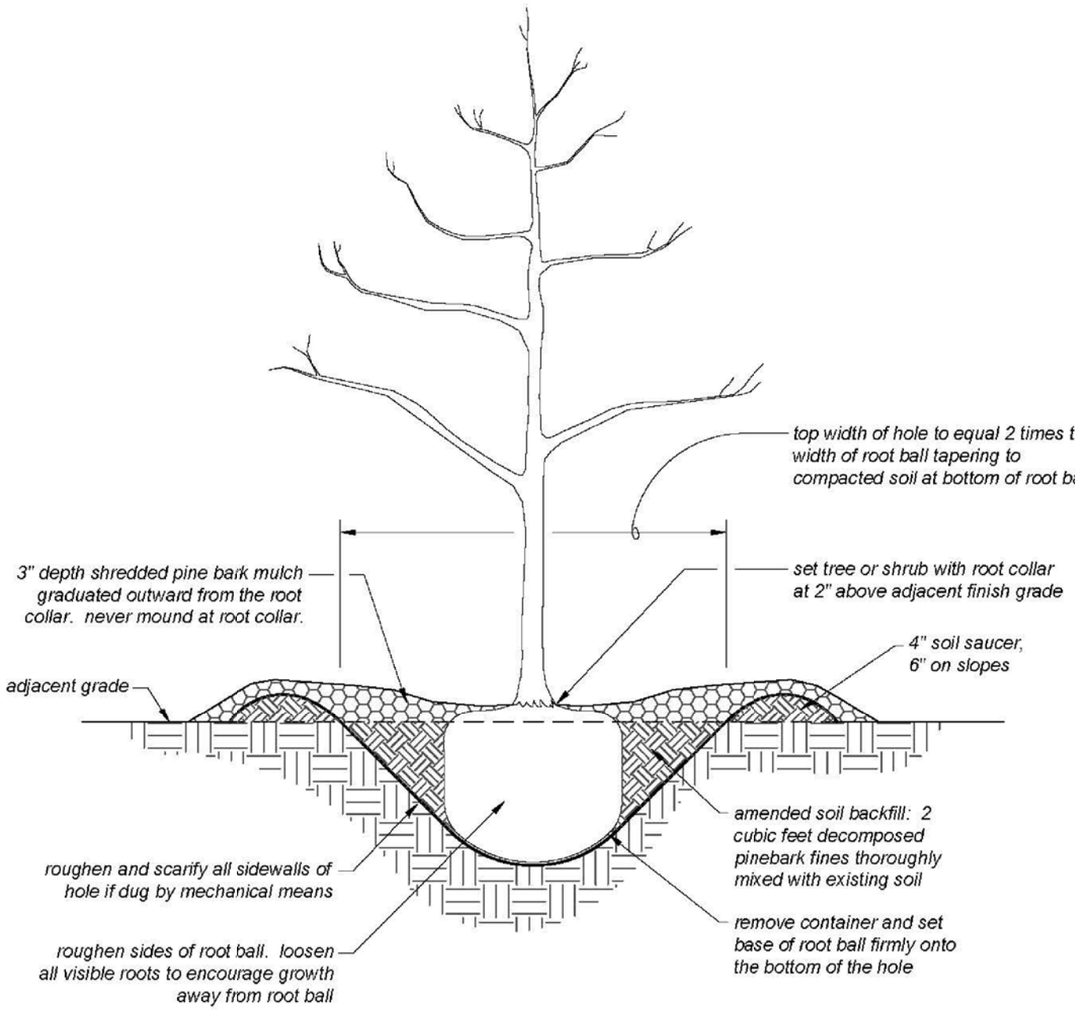
BLUE RIDGE PARKWAY

TEMPORARY EROSION CONTROL BERMS, SLOPE DRAINS, AND LINED WATERWAYS

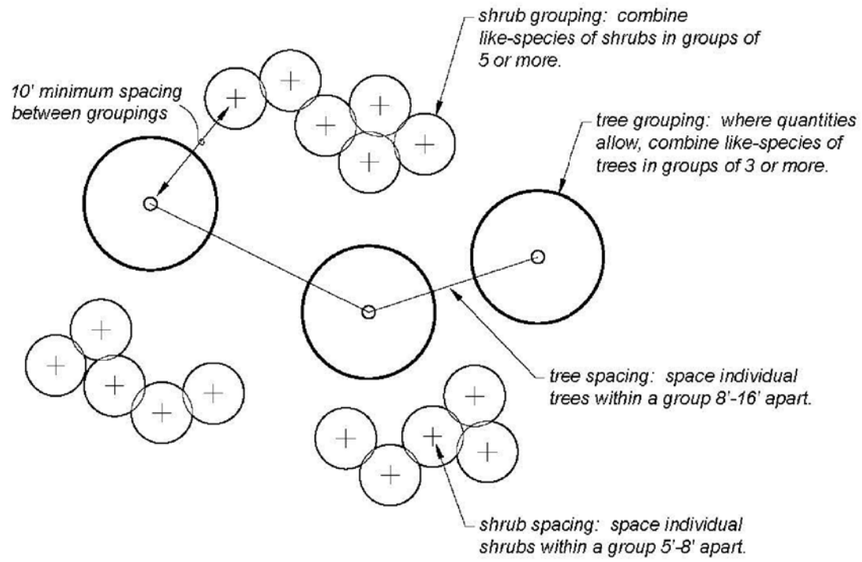
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	M32

NOTES:

1. *Furnish pine bark mulch in accordance to Special Provisions*
2. *Furnish trees & shrubs as specified in plans & in accordance to Special Provisions*



TYPICAL TREE AND SHRUB PLANTING



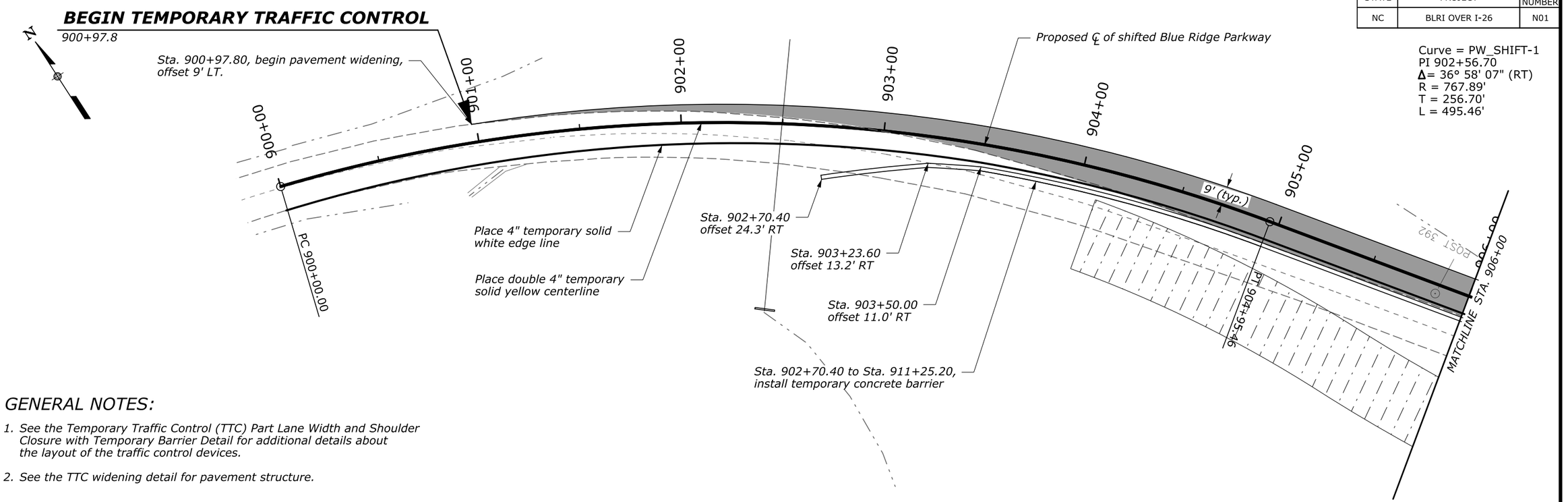
TYPICAL TREE AND SHRUB CLUSTER LAYOUT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

TREES AND SHRUBS PLANTING METHODS

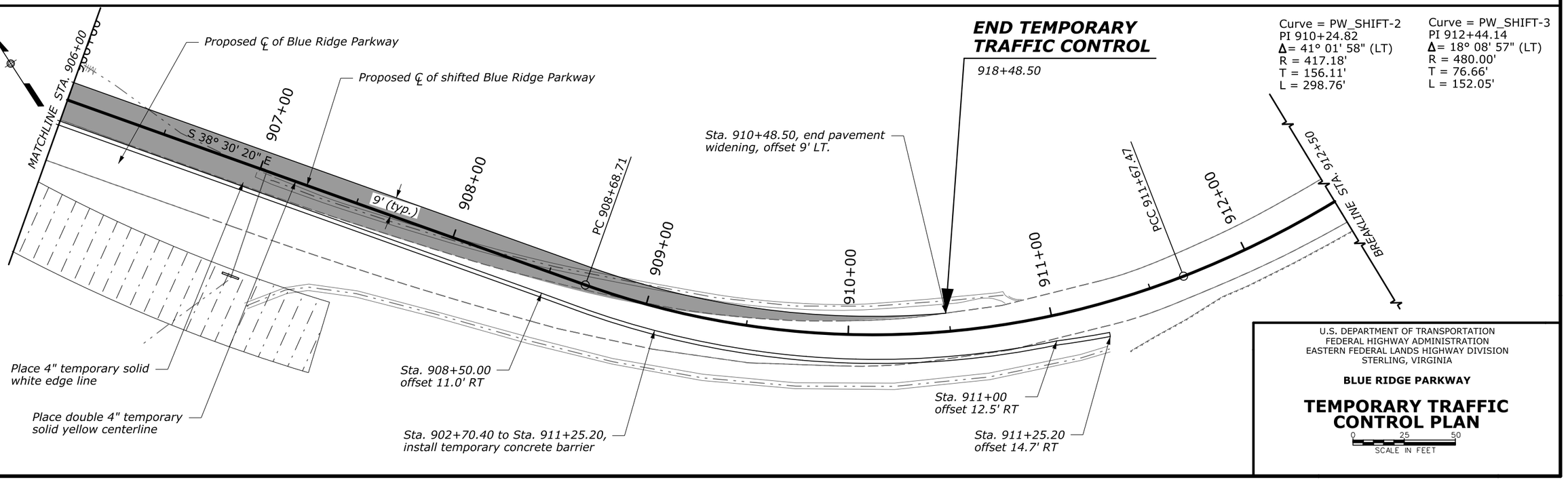
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	N01



GENERAL NOTES:

1. See the Temporary Traffic Control (TTC) Part Lane Width and Shoulder Closure with Temporary Barrier Detail for additional details about the layout of the traffic control devices.

2. See the TTC widening detail for pavement structure.



U.S. DEPARTMENT OF TRANSPORTATION
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EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

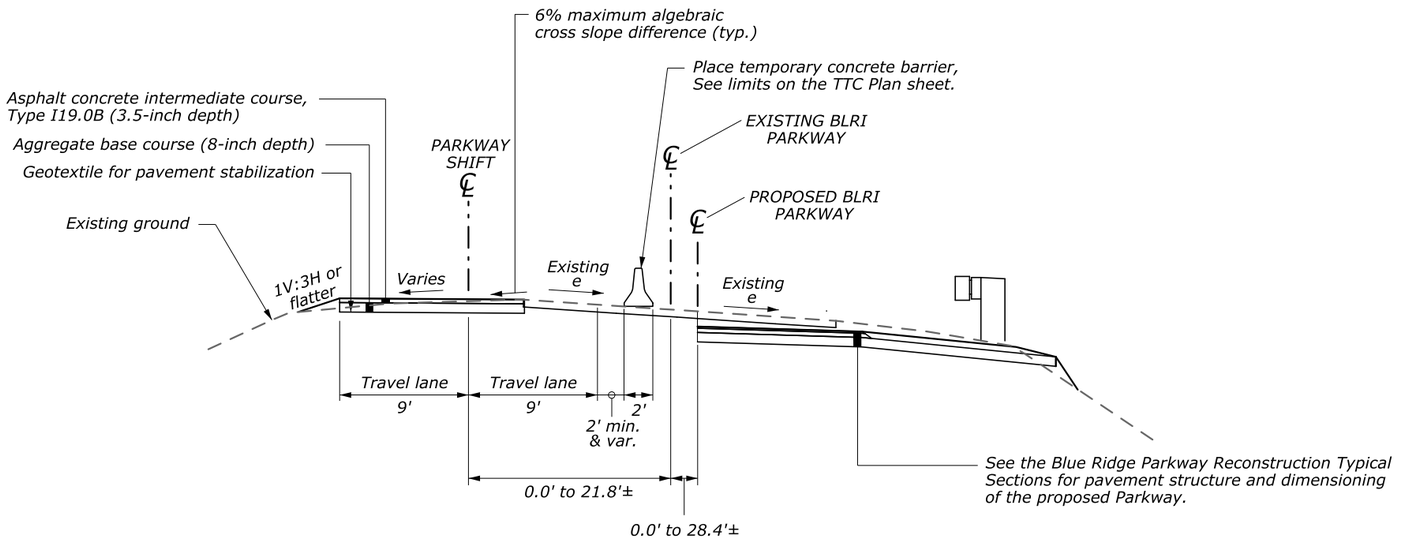
TEMPORARY TRAFFIC CONTROL PLAN

0 25 50
SCALE IN FEET

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	N02

NOTES:

1. *Prepare the surface on which the aggregate course is placed according to Articles 225 and 500 of the NCDOT 2018 Standard Specifications.*
2. *After traffic is shifted to the reconstructed Parkway, remove temporary pavement and base course. Restore surface to the existing contours prior to constructing the temporary widening and establish turf on all disturbed areas in accordance with Articles 1060 and 1660 of the NCDOT 2018 Standard Specifications.*



PARKWAY SHIFT WIDENING

Sta. 901+00.00 to Sta. 904+09.50
Sta. 908+64.30 to Sta. 910+76.70

NOT TO SCALE

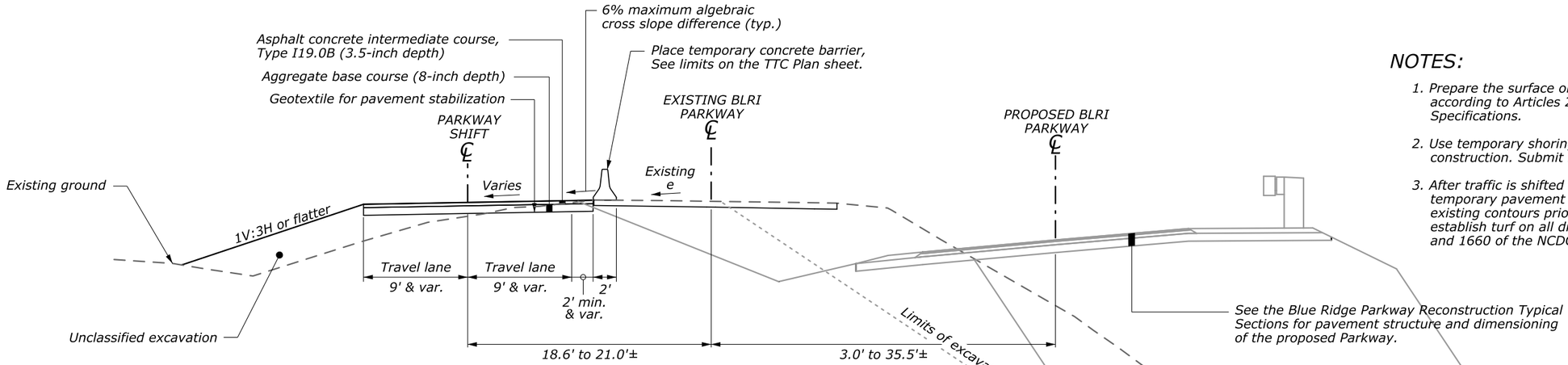
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

TEMPORARY TRAFFIC CONTROL WIDENING DETAIL

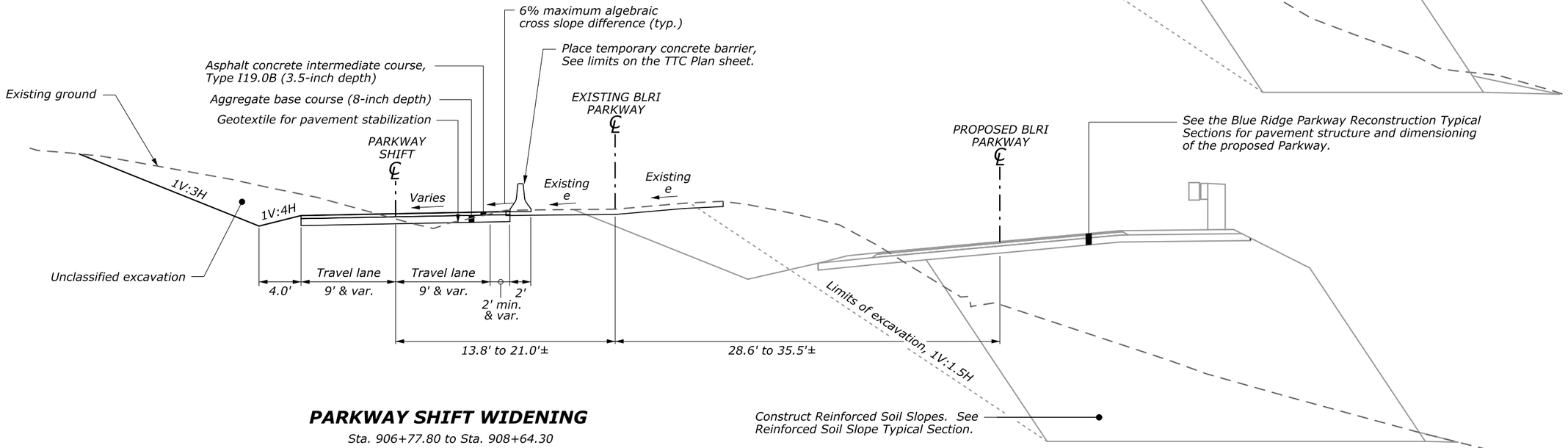
SHEET 1 OF 2

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	N03



PARKWAY SHIFT WIDENING

Sta. 904+09.50 to Sta. 906+77.80



PARKWAY SHIFT WIDENING

Sta. 906+77.80 to Sta. 908+64.30

NOTES:

1. Prepare the surface on which the aggregate course is placed according to Articles 225 and 500 of the NCDOT 2018 Standard Specifications.
2. Use temporary shoring to maintain traffic on existing Parkway during construction. Submit shoring plan to the Engineer for approval.
3. After traffic is shifted to the reconstructed Parkway, remove temporary pavement and base course. Restore surface to the existing contours prior to constructing the temporary widening and establish turf on all disturbed areas in accordance with Articles 1060 and 1660 of the NCDOT 2018 Standard Specifications.

NOT TO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

TEMPORARY TRAFFIC CONTROL WIDENING DETAIL

LENGTH AND SPACING TABLE

APPROACH SPEED* MPH	MINIMUM TAPER LENGTH FEET	BUFFER SPACE LENGTH FEET	CHANNELIZING DEVICE: TAPER AREA	CHANNELIZING DEVICE: BUFFER SPACE	CHANNELIZING DEVICE: WORK SPACE	WORK ZONE CLEAR ZONE WIDTH FEET
			SPACING IN FEET			
20	Shifting taper formula:	115	20	40	40	10
25	$L = \frac{WS^2}{120}$ for S ≤ 40 MPH	155	25	50	50	10
30		200	30	60	60	10
35	$L = \frac{WS}{2}$ for S ≥ 45 MPH	250	35	70	70	10
40		305	40	80	80	15
45	Where:	360	45	90	90	20
50	L = Minimum length of taper	425	50	100	100	20
55	W = Width of offset in feet	495	55	110	110	20
60	S = Numerical value of posted speed	570	60	120	120	30
65	limit or 85 percentile speed prior	645	65	130	130	30
70	to work in miles per hour	730	70	140	140	30

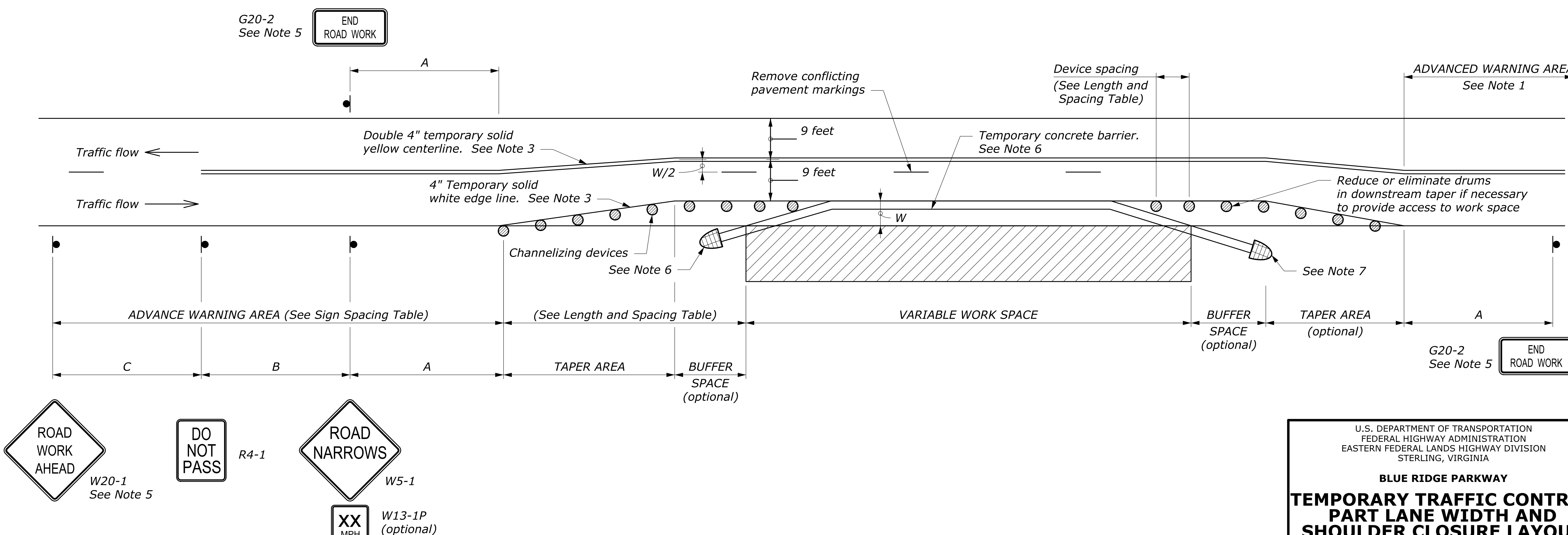
* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET: A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTES:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the Engineer.
3. If the roadway surface is paved, install temporary pavement extend markings to connect zones.
4. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. Install "PASS WITH CARE" sign (R4-2) at ends of no-passing zone if directed by the Engineer.
6. Place the barrier according to the AASHTO Roadside Design Guide. Terminate barrier ends outside the work zone clear zone or protect the barrier ends with a crash cushion.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.



NO SCALE

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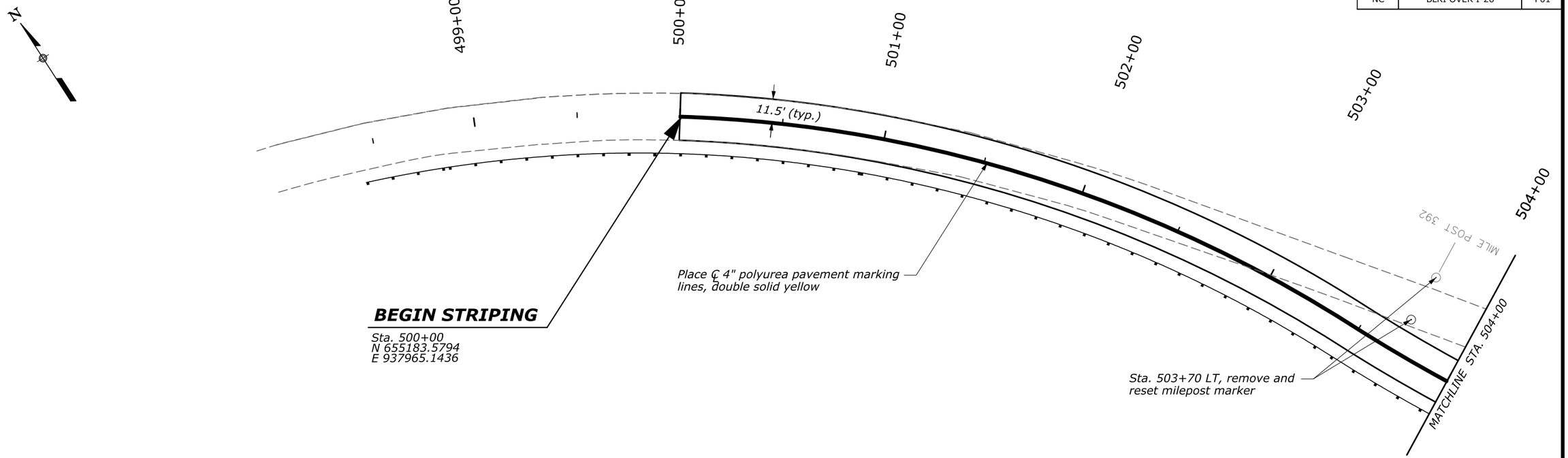
STERLING, VIRGINIA

BLUE RIDGE PARKWAY

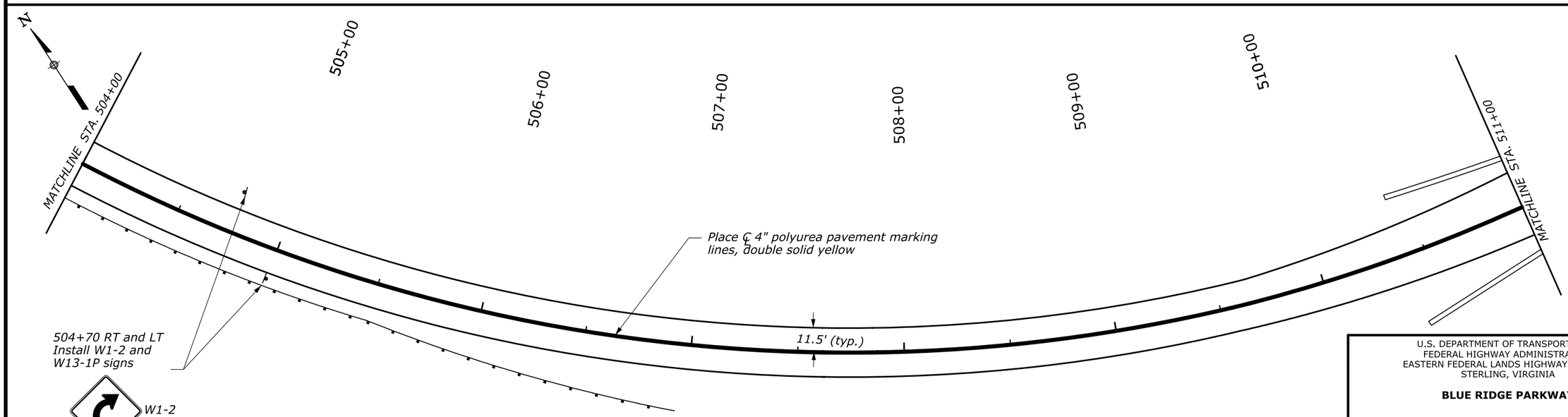
TEMPORARY TRAFFIC CONTROL PART LANE WIDTH AND SHOULDER CLOSURE LAYOUT WITH TEMPORARY BARRIER

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	P01



GENERAL NOTE:

Tie the proposed pavement marking lines to the existing pavement marking lines.



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STERLING, VIRGINIA

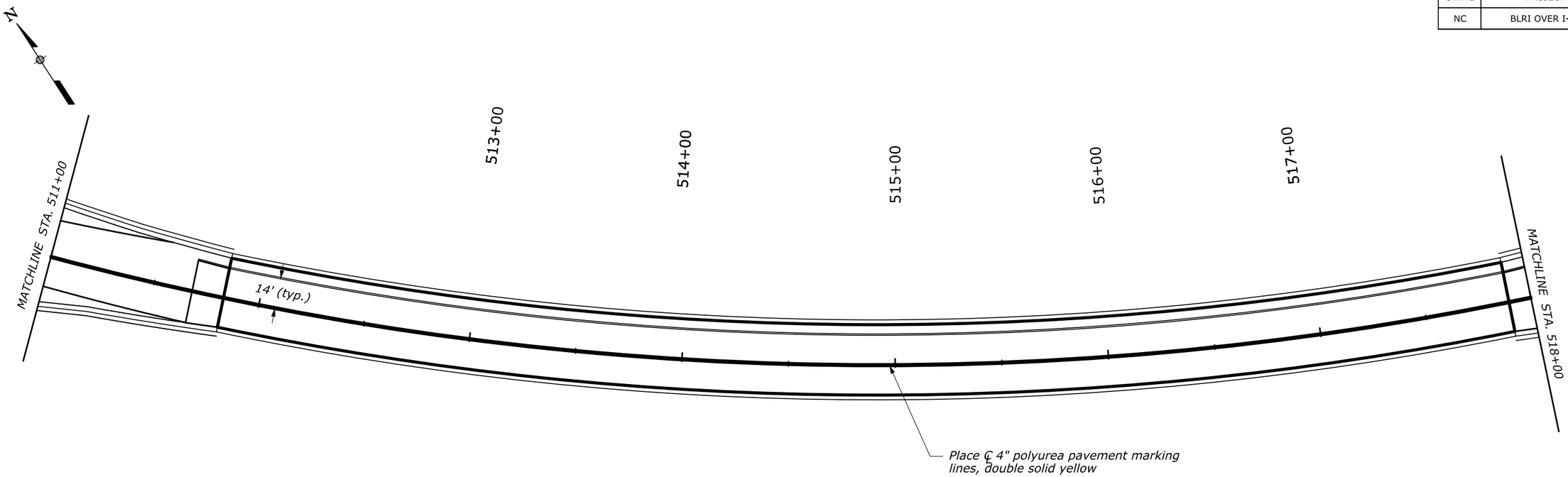
BLUE RIDGE PARKWAY

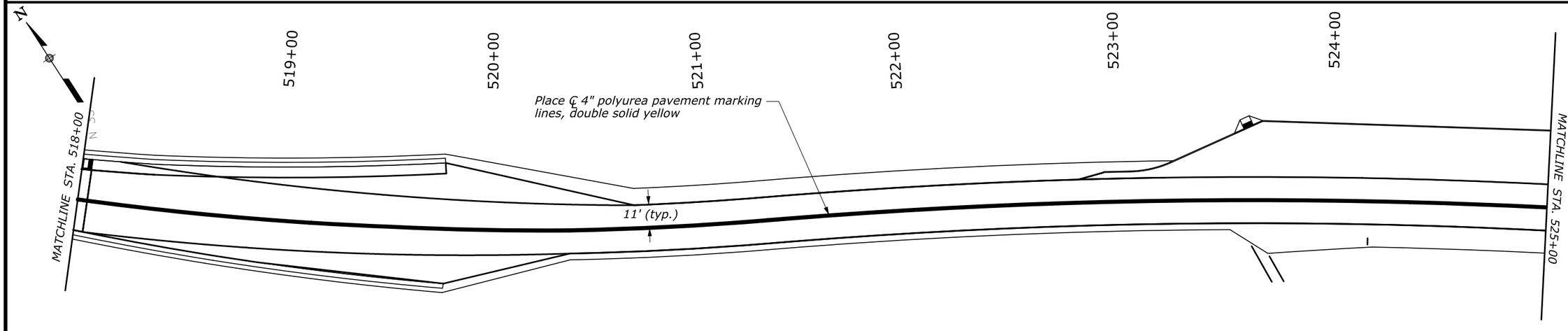
SIGNING AND STRIPING PLAN

0 25 50
SCALE IN FEET

21-Dec-2018 02:34 PM M:\PROJECTS_STATE_DOT\NC\blri_I26_nepa\Proj_Dev\CADD\From_Eng_Support\As_Requested_3_2017\P03-BLRI_I26_NEPA_striping.dgn

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	P02





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BLUE RIDGE PARKWAY

SIGNING AND STRIPING PLAN

0 25 50
SCALE IN FEET

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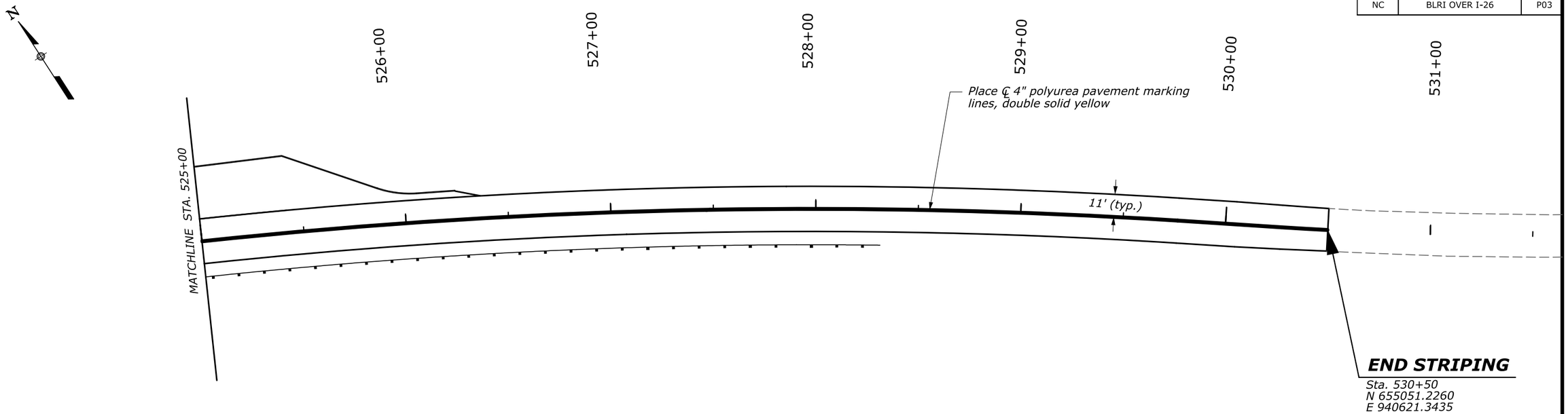
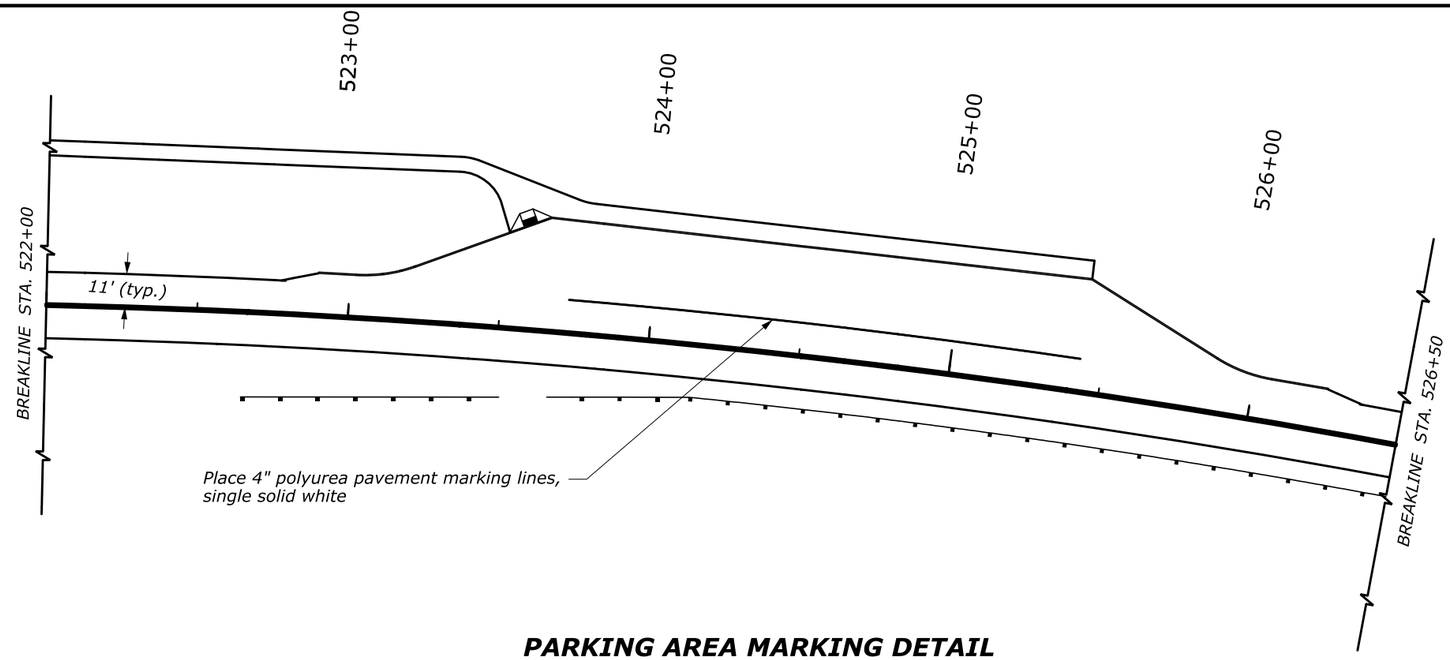
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	P03





PARKING AREA MARKING DETAIL

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BLUE RIDGE PARKWAY

SIGNING AND STRIPING PLAN

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SCALE IN FEET

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STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R01

I. General:

"NCDOT" = North Carolina Department of Transportation

All elevations are in feet.

Furnish Class AA concrete in cast-in-place substructures according to the NCDOT Standard Specifications, unless noted otherwise in the plans.

Furnish Class Special concrete in the bridge railing, sidewalk, and approach slabs according to the Special Provisions, unless noted otherwise in the plans.

Furnish non-ferrous reinforcing steel bar supports in cast-in-place concrete.

For Maintenance and Protection of Traffic beneath Proposed Structure at Station 514+86.30, see Special Provision.

For Thermal Sprayed Coatings (Metallization), see Special Provision.

For Post Tensioning, see Special Provision.

For Precast Segmental Bridge Construction, see Special Provision.

For High Strength Concrete, see Special Provision.

For Post-Tensioning Grout, see Special Provision.

For Disc Bearings, see Special Provision.

For Modular Expansion Joint Seals, see Special Provision.

For Falsework and Formwork, see Special Provision.

For Submittal of Working Drawings, see Special Provision.

For Epoxy Jointing of Precast Segments, see Special Provision.

For Crane Safety, see Special Provision.

For Mass Concrete, see Special Provision.

For Demolition of Existing Bridge, see Special Provision.

For Bridge Deck and Approach Slab Rideability (IRI), see Special Provision.

For Latex Modified Concrete (LMC) Overlay, see Special Provision.

For Caltrans Barrier Rail, see Special Provision.

II. Specifications:

1. *Construction:*

   NCDOT Standard Specifications for Roads and Structures, January 2018.

   AASHTO LRFD Bridge Construction Specifications, 3rd Edition, 2010, with interim revisions through 2016.

   Project Special Provisions BLRI Over I-26

2. *Design*

   NCDOT Structure Design Manual, with revisions and updates through December 2016.

   AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014, with interim revisions and errata through 2016.

   CEB-FIP Model Code, 1990.

III. Design Loads:

1. *Load factors and load combinations:*

   Generally follow AASHTO LRFD Section 1 and 3, with the exceptions, additions, and/or modifications as noted in these design criteria.

   Load modifiers:

AASHTO LRFD LOAD MODIFIERS		
Ductility η_D	*Redundancy* η_R	*Operational Importance* η_I
1.0	*1.0*	*1.0*

III. Design Loads (Cont.):

2. *Dead loads:*

   Unit weight of concrete: Per AASHTO LRFD Bridge Design Specifications

   Traffic Barrier Rail: Caltrans Type 80SW, 580 LB/LF, plus additional 880 LB/LF for lightweight concrete sidewalk (Unit weight: 110 LB/CF).

   Allowance for future wearing surface: 25 LB/SF

3. *Earth pressure loads:*

   Per AASHTO LRFD Bridge Design Specifications

4. *Creep, shrinkage, secondary forces from post-tensioning, and locked in forces due to the construction process (including jacking of cantilevers in segmental construction):*

   Per AASHTO LRFD Bridge Design Specifications and the CEP-FIP Model Code

   Design relative humidity = 70%

   The average age at initial loading has been assumed to be 90 days for determination of creep and shrinkage parameters.

5. *Live load, dynamic load allowance (impact), and pedestrian live load:*

   Per AASHTO LRFD Bridge Design Specifications

   Vehicular design live load: HL-93

6. *Braking force:*

   5% of design truck plus lane load or 5% of design tandem plus lane load per the NCDOT Structure Design Manual

7. *Centrifugal force:*

   Per AASHTO LRFD Bridge Design Specifications. Design speed = 45 MPH.

8. *Wind loads:*

   Per AASHTO LRFD Bridge Design Specifications

   Base wind velocity = 115 MPH at 33' height (open country)

9. *Earthquake effects:*

   Per AASHTO LRFD Bridge Design Specifications

10. *Thermal effects:*

    Per AASHTO LRFD Bridge Design Specification and the NCDOT Structure Design Manual

    Range of temperatures for stresses resulting from variations in temperature:

    Concrete structures: 10°F to 110°F

    Assumed normal fabrication and erection temperature: 60°F

    Temperature gradient: Per AASHTO LRFD Bridge Specifications for Solar Radiation Zone 3.

    Range of temperatures for sizing of expansion joints (post-tensioned concrete):

    Concrete structures: 10°F to 110°F

    Total movement, M

    = 1.25 X long-term creep/shrinkage/post-tensioning + 1.2 X temperature

11. *Construction loads:*

    Formwork and falsework: AASHTO Guide Design Specification for Bridge Temporary Works, 1st Edition, 1995, with interim revisions through 2008

    Segmental superstructure construction: AASHTO LRFD Bridge Design Specifications

    Segment lifting device: 100 kips centered along box girder at 2 feet from tip of previously erected segment and 400 kips centered along box girder at ℄ pier. Weight of device is assumed evenly distributed to each web. Support points and anchor points for device are assumed to be within 3 feet of face of web.

    Work platform: 5 kips

    Closure joint form and strong back: 10 kips

IV. Materials:

1. *Concrete:*

   Concrete strengths will be as follows:

Location	*Class*	*28-day strength*	*Release strength*
Cast-in-place columns, bent and end bent caps, parapets, pedestals, bent cap steps, footings, moment slab	*AA*	*4.5 KSI*	*N/A*
Precast, prestressed segmental piers, cast-in-place pier footings	*HIGH STRENGTH*	*6.0 KSI*	*4.8 KSI*
Precast, prestressed segmental box girders (including cast-in-place joints), bridge rails, approach slabs	*HIGH STRENGTH*	*6.0 KSI*	*4.8 KSI*

   Superstructure concrete will contain a minimum of 25% fly ash Class F or a minimum of 40% ground granulated blast furnace slag.

   Substructure concrete will contain a minimum of 25% fly ash Class F or a minimum of 40% ground granulated blast furnace slag. In addition, silica fume at a minimum of 5% shall be used in footings, columns, and piles.

   For high strength concrete, see Special Provisions.

   Calcium nitrite will be used in the superstructure and substructure precast concrete (including piles) and cast-in-place concrete barrier rail parapets at a rate of 4 gallons per cubic yard.

   Chamfer all exposed corners of concrete structures ¾", unless otherwise noted in the plans.

2. *Post-tensioning steel for precast segmental box girders, columns, & caps*

   See post-tensioning Special Provision.

   Prestressing parameters (strand):

   Post-tensioning strand will conform to ASTM A416, Grade 270, low relaxation, 0.6" diameter 7-wire strand

   Ultimate strength: 270 KSI

   Modulus of elasticity (for design): 28,500 KSI

   Friction coefficient (polyethylene duct): 0.23

   Wobble coefficient (internal tendons): 0.0002 RAD/FT

   Anchor set: 0.375"

   Maximum jacking stress prior to seating: 216 KSI

   Maximum anchor stress after anchor set: 189 KSI

   Maximum stress after anchor set away from anchor: 200 KSI

U.S. DEPARTMENT OF TRANSPORTATION
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BLUE RIDGE PARKWAY

BRIDGE OVER I-26

GENERAL NOTES - 1

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								CC/CWN	CC/CWN	HC	No Scale	George Choubah	1 of 228	December 2018	BRP-1265

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IV. Materials (Cont.):

2. *Post-tensioning steel for precast segmental box girders, columns, & caps (Cont.):*

Prestressing parameters (bar):

Post-tensioning bar will conform to ASTM A722, Grade 150 Type II

Modulus of elasticity (for design): 30,000 KSI

Maximum and required jacking stress: 108 KSI (unless noted otherwise)

Maximum anchor stress at anchor: 105 KSI (unless noted otherwise)

Wobble coefficient: 0.0002 RAD/FT

Anchor set: 0.0625"

3. *Reinforcing steel:*

Reinforcing steel and epoxy coated reinforcing steel will conform to ASTM A615, Grade 60 deformed.

Provide 2-inch cover for reinforcing steel unless noted otherwise.

4. *Bearings:*

Disc bearings will be per Special Provisions.

Bearings are designed for future replacement.

5. *Structural steel, steel pipe, and related steel items:*

When called for in the plans, provide galvanizing in accordance with the NCDOT Standard Specifications (Section 1076).

Steel H-Piles will conform to ASTM A572, Grade 50.

V. Allowable Stresses:

1. *Reinforced concrete elements:*

For pier footings, minimum concrete strength : 6.0 ksi

For all other reinforced concrete elements, per AASHTO LRFD Bridge Design Specifications and NCDOT Structure Design Manual.

2. *Precast segmental concrete box girder superstructures:*

Per AASHTO LRFD Bridge Design Specifications, as listed below:

During construction:

Temporary concrete compressive stress limits before losses: 60% of concrete strength at age of check (per AASHTO LRFD Aricle 5.9.4.1.1)

Temporary concrete tensile stress limits before losses (permanent loads only): no tension (per AASHTO LRFD Table 5.9.4.1.2-1)

Temporary concrete tensile stress limits before losses (with construction loadings applied): based on applicable loading condition of AASHTO LRFD Table 5.14.2.3.3-1

After construction:

Concrete compressive stress limits at Service limit state after losses (sum of effective prestress and permanent loads): 2.7 KSI (per AASHTO LRFD Table 5.9.4.2.1-1)

Concrete compressive stress limits at Service limit state after losses: 3.6 KSI (per AASHTO LRFD Table 5.9.4.2.1-1 and adjusted where required by the section slenderness factor)

Concrete tensile stress limits at Service limit state after losses (longitudinal): no tension (per AASHTO LRFD Table 5.9.4.2.2-1)

Concrete tensile stress limits at Service limit state after losses (transverse): 0.230 KSI (per AASHTO LRFD Table 5.9.4.2.2-1)

Principal concrete tensile stress in web at neutral axis at service limit state after losses: 0.270 KSI (per AASHTO LRFD Table 5.9.4.2.2-1)

Shear and torsion design at the Strength limit state will be per AASHTO LRFD Article 5.8.6.

V. Allowable Stresses (Cont.):

3. *Superstructure segment casting and erection:*

The following minimum concrete strength limits shall be observed:

Prior to lifting segments or lowering support forms: 2.5 KSI

Prior to full transverse post-tensioning: 6.0 KSI

Prior to longitudinal post-tensioning of precast segments: 6.0 KSI

Prior to stressing longitudinal post-tensioning (cast-in-place closure joints only): 2.5 KSI

4. *Precast segmental concrete column segments:*

Per AASHTO LRFD Bridge Design Specifications, as listed below:

During construction:

Temporary concrete compressive stress limits before losses: 60% of concrete strength at age of check (per AASHTO LRFD Aricle 5.9.4.1.1)

Temporary concrete tensile stress limits before losses (permanent loads only): no tension (per AASHTO LRFD Table 5.9.4.1.2-1)

Temporary concrete tensile stress limits before losses (with construction loadings applied): based on applicable loading condition of AASHTO LRFD Table 5.14.2.3.3-1

After construction:

Concrete compressive stress limits at Service limit state after losses (sum of effective prestress and permanent loads): 2.7 KSI (per AASHTO LRFD Table 5.9.4.2.1-1)

Concrete compressive stress limits at Service limit state after losses: 3.6 KSI (per AASHTO LRFD Table 5.9.4.2.1-1 and adjusted where required by the section slenderness factor)

Concrete tensile stress limits at Service limit state after losses: no tension (per AASHTO LRFD Table 5.9.4.2.2-1)

Shear and torsion design at the Strength limit state will be per AASHTO LRFD Article 5.8.6.

5. *Column segment casting and erection:*

The following minimum concrete strength limits will be observed:

Minimum concrete strength prior to lifting segments: 2.5 KSI

Minimum concrete strength prior to stressing post-tensioning: 6.0 KSI

VII. Segmental Construction:

Superstructure:

For proposed erection sequence, see construction sequence drawings.

The contractor will submit any deviation from the proposed erection sequence to the engineer for approval.

The contractor will ensure that the structure remains safe and stable under all anticipated construction stages and loading conditions.

The design is based on a continuous construction season with no stoppage period.

For all stages during erection, construction loads will be submitted to the engineer for approval.

The contractor will submit precast segment shop drawings and erection procedure manuals in accordance with the Special Provisions. The contractor's specialty engineer will detail all reinforcing steel and all tendons with the proper vertical and horizontal alignment for each precast segment and closure joint.

Anchorage systems and blockouts will be determined by the post-tensioning system used. The contractor will determine post-tensioning dimensions and will adjust blockouts as required for stressing equipment. Approved local anchorage zone reinforcing is required at the ends of all post-tensioning tendons, unless otherwise noted. The contractor will adjust local anchorage zone reinforcing and other reinforcing as necessary to clear tendons.

If stacking of the segments is desired, submit a segment stacking plan and a calculation demonstrating adequate performance of the stacked design to the engineer for approval prior to start of segment stacking. The performance of stacking and condition of segments after stacking remains the responsiblity of the contractor.

Segment joints will be epoxy bonded per the epoxy jointing of precast segments Special Provision.

The following activities are not allowed over traffic: placement of segments and beams, placement and removal of formwork, placement and removal of concrete.

Substructure:

The contractor will submit precast segment and bent cap shop drawings based on the details provided on the plans and in accordance with the Special Provisions.

Anchorage systems will be designed by the post-tensioning bar/tendon supplier for the system used in accordance with the Special Provisions. Dimensions of anchor plates and blockouts will be designed by the supplier. Local zone reinforcing will be designed by the supplier and incorporated into the shop drawings.

Segment joints shall be epoxy bonded per the epoxy jointing of precast segment Special Provisions.

VIII Foundations:

Abutments:

Resistance factor for verification of driven piles established by dynamic testing only: 0.75

Piers:

Verification of competent rock should be performed in the field and approved by the CO prior to placing the concrete.

Rock damaged during excavation should be removed and replaced with concrete with minimum compressive strength of 4 ksi.

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EASTERN FEDERAL LANDS HIGHWAY DIVISION

BLUE RIDGE PARKWAY

BRIDGE OVER I-26

GENERAL NOTES - 2

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								CC/CWN	CC/CWN	HC	No Scale	George Choubah	2 of 228	December 2018	BRP-1265

STATE	PROJECT	SHEET NUMBER
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EASTERN FEDERAL LANDS HIGHWAY DIVISION

BLUE RIDGE PARKWAY

BRIDGE OVER I-26

LIST OF SHEETS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								CC	CC	CWN	No Scale	George Choubah	3 of 228	December 2018	BRP-1265

ACTUAL FILE:R04_BLRI_I26_SITE PLAN.DGN

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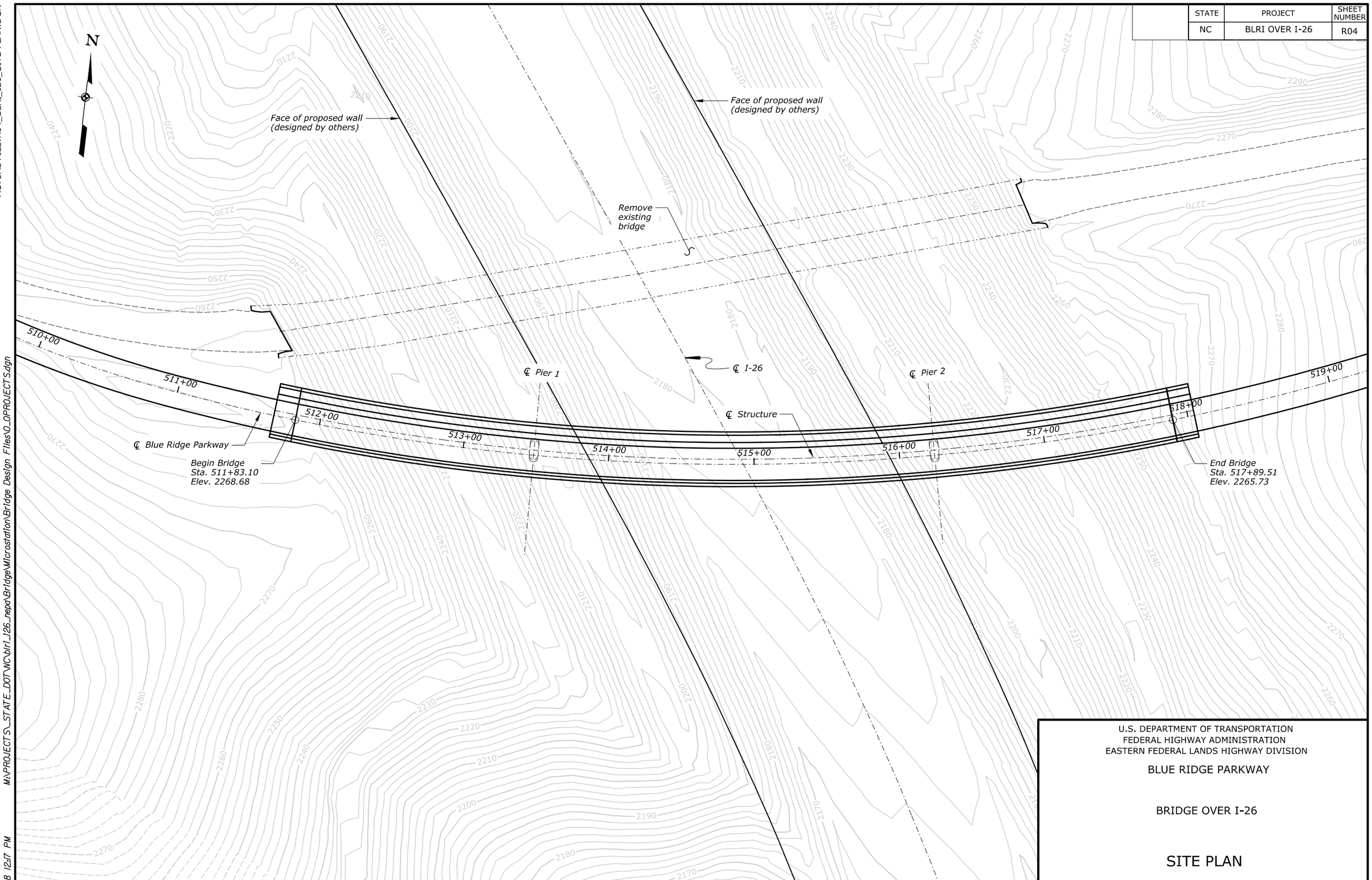
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R04



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BLUE RIDGE PARKWAY

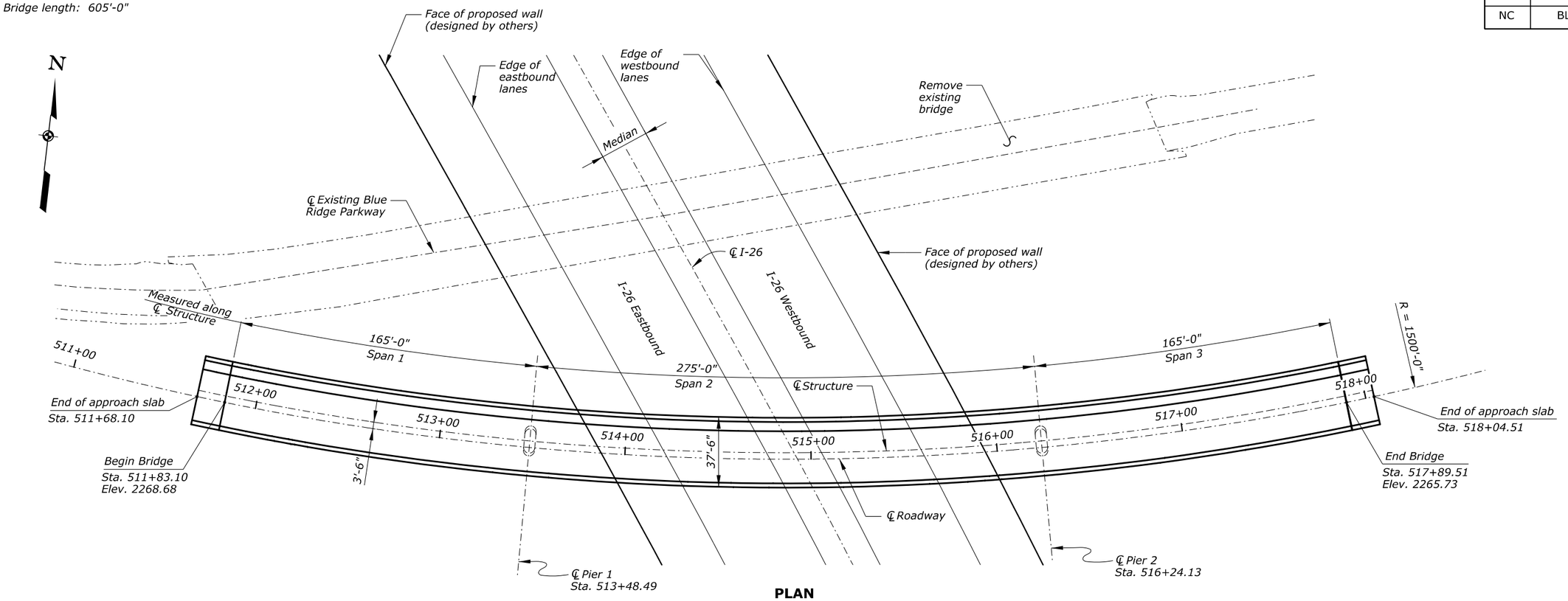
BRIDGE OVER I-26

SITE PLAN

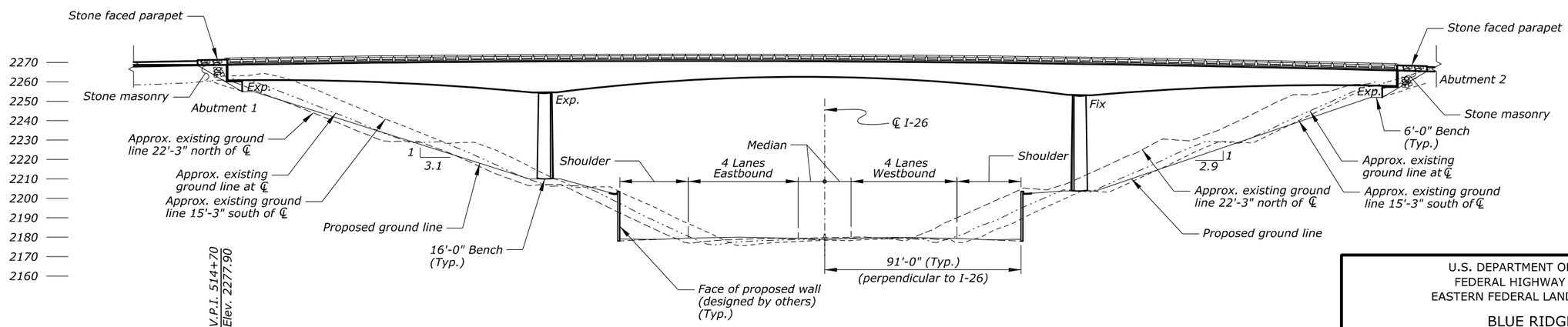
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								CC	CC	CWN	No Scale	George Choubah	4 of 228	December 2018	BRP-1265

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R05

Bridge length: 605'-0"



PLAN



ELEVATION

PROFILE GRADE
NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
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EASTERN FEDERAL LANDS HIGHWAY DIVISION

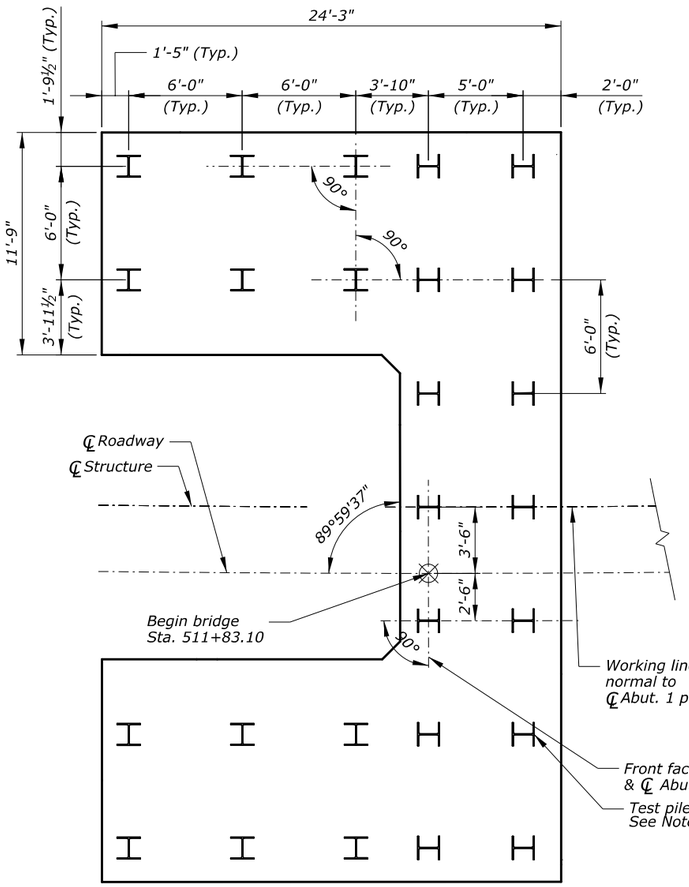
BLUE RIDGE PARKWAY

BRIDGE OVER I-26

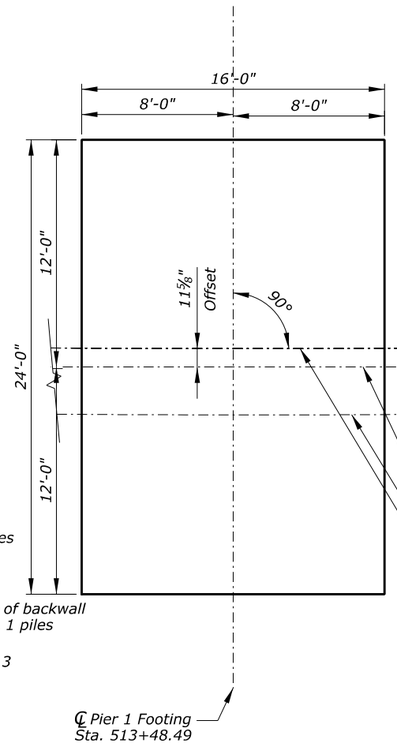
PLAN AND ELEVATION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								AR	AR	CWN	1" = 30'-0"	George Choubah	5 of 228	December 2018	BRP-1265

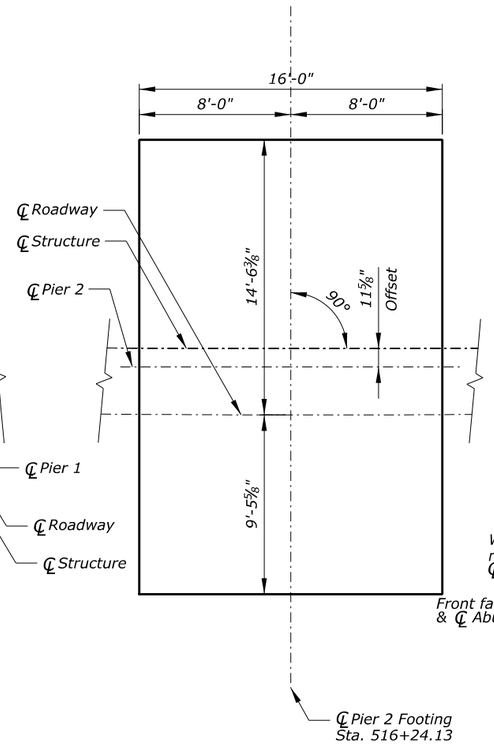
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R06



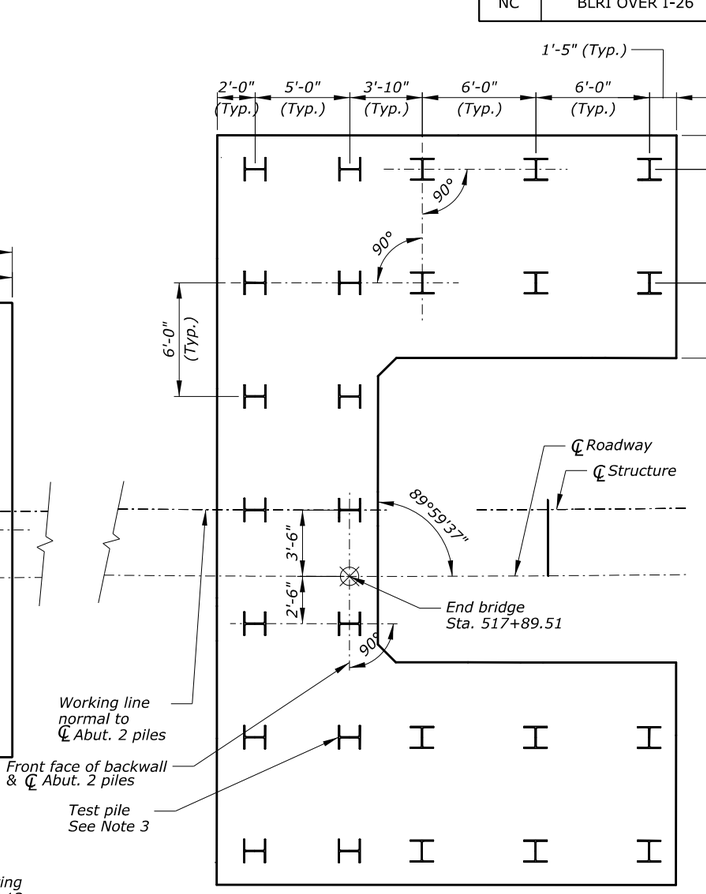
ABUTMENT 1 PLAN



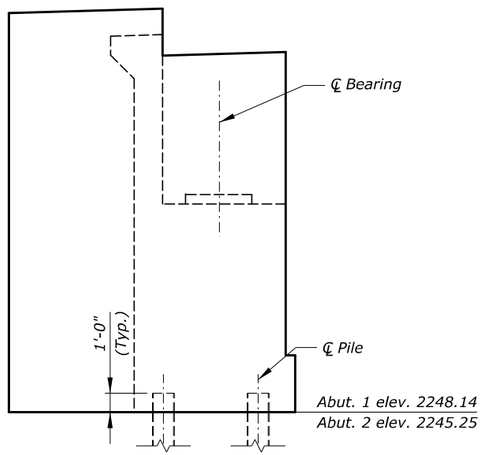
PIER 1 PLAN



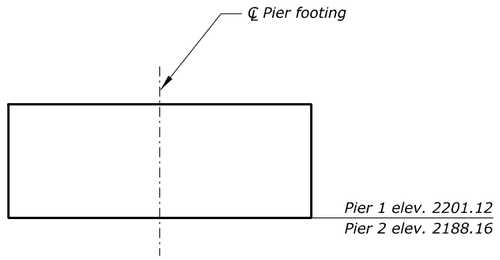
PIER 2 PLAN



ABUTMENT 2 PLAN



ABUTMENT ELEVATION



PIER FOOTING ELEVATION

PILE DATA TABLE

LOCATION	*ESTIMATED PILE TIP ELEVATION (ft)*	*ESTIMATED TOTAL LENGTH (ft)*	*FACTORED GEOTECHNICAL RESISTANCE (Kips/Pile)*
ABUTMENT 1	*2188.10*	*1587.08*	*349*
ABUTMENT 2	*2195.15*	*1328.60*	*438*

Note:

1. *Pile locations are dimensioned parallel and perpendicular to working lines.*
2. *Furnish HP 14x89 steel piles.*
3. *Perform one PDA load test per abutment. Load test to be performed using production pile.*

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EASTERN FEDERAL LANDS HIGHWAY DIVISION

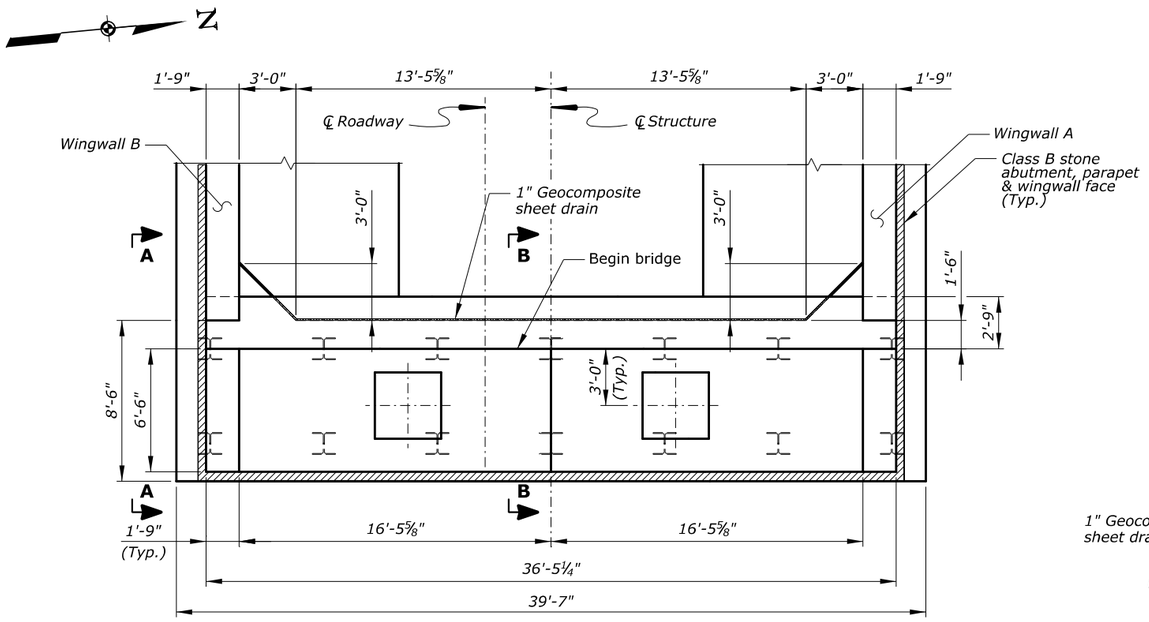
BLUE RIDGE PARKWAY

BRIDGE OVER I-26

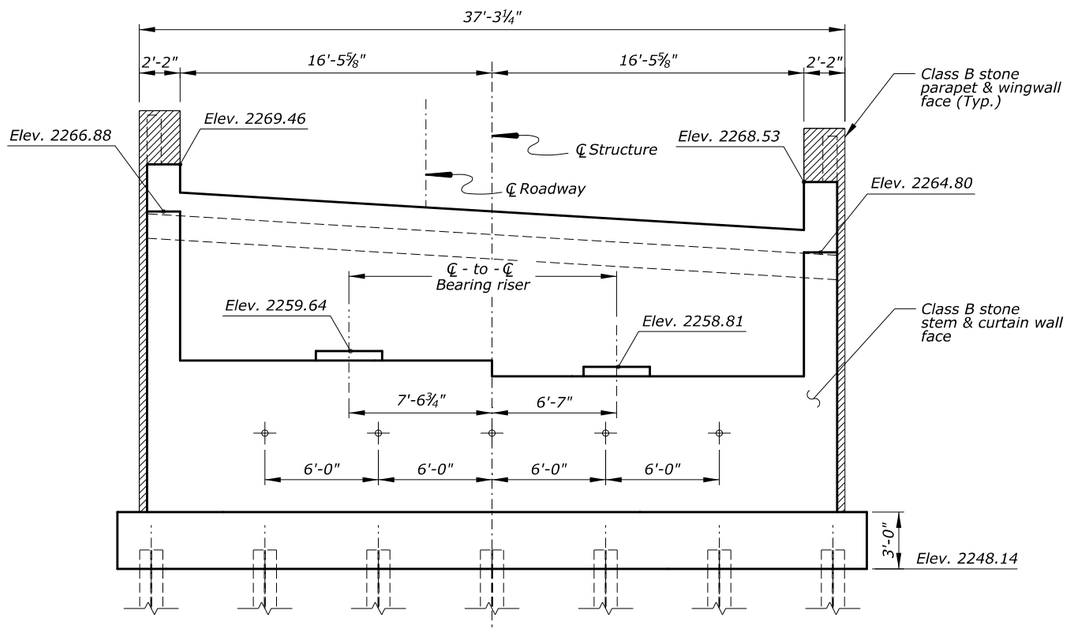
FOUNDATION LAYOUT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	¼" = 1'-0"	George Choubah	6 of 228	December 2018	BRP-1265

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R07



ABUTMENT 1 PLAN
Scale: ¼" = 1'-0"



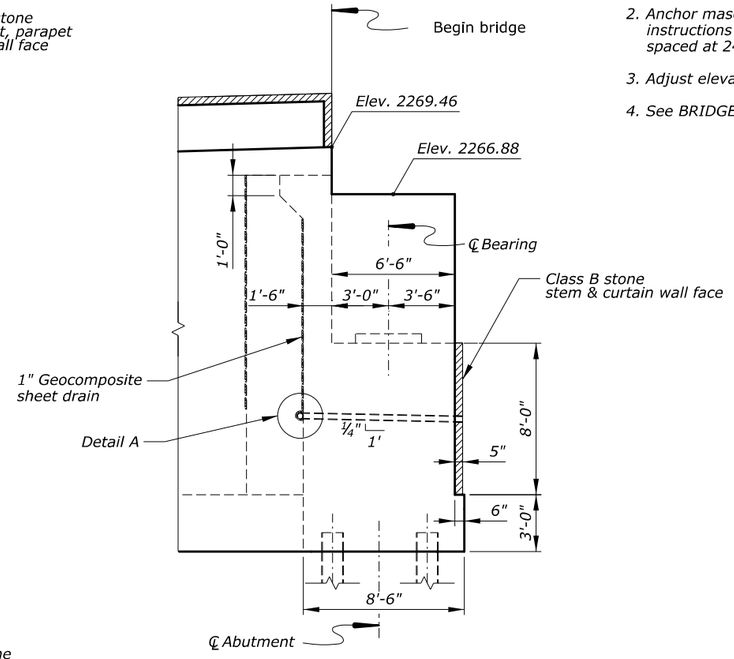
ABUTMENT 1 ELEVATION
Scale: ¼" = 1'-0"

Key:

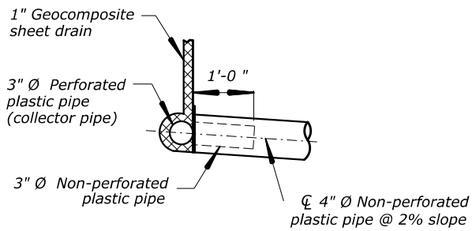
n.f. = near face
f.f. = far face
e.f. = each face

Notes:

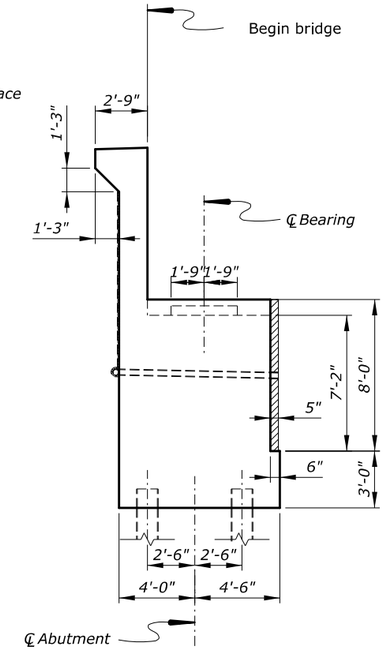
1. *See "FOUNDATION LAYOUT" sheet for additional information.*
2. *Anchor masonry to concrete per anchor manufacturer's instructions utilizing stainless steel dovetail anchor and slots, spaced at 24 inch max.*
3. *Adjust elevation of weepholes to outlet 1'-0" above finish grade.*
4. *See BRIDGE RAIL and "APPROACH SLAB" sheets for additional information.*



VIEW A-A
Scale: ¼" = 1'-0"



DETAIL A
Scale: 1" = 1'-0"



SECTION B-B
Scale: ¼" = 1'-0"

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

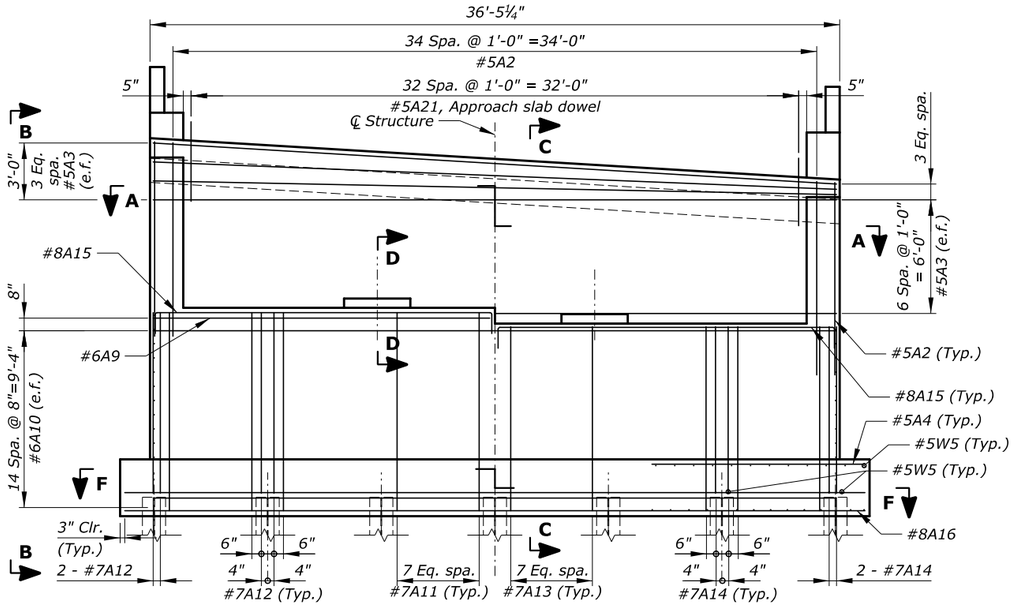
BLUE RIDGE PARKWAY

BRIDGE OVER I-26

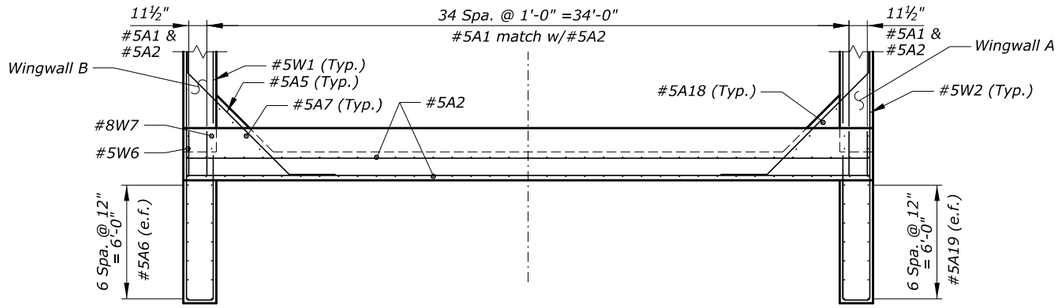
ABUTMENT 1 LAYOUT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	As Shown	George Choubah	7 of 228	December 2018	BRP-1265

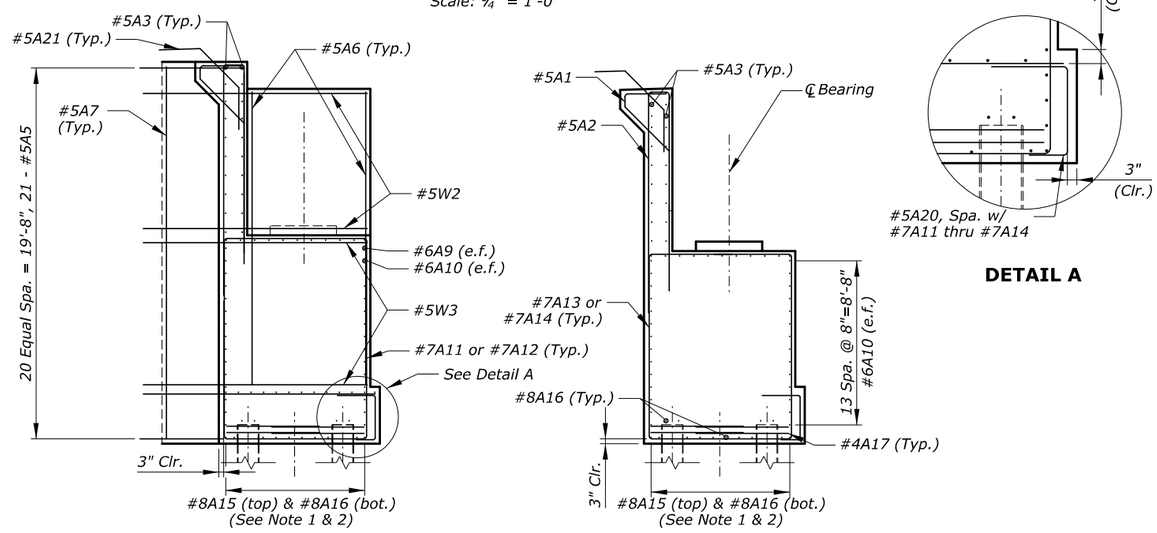
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R08



ABUTMENT 1 ELEVATION VIEW
Scale: ¼" = 1'-0"



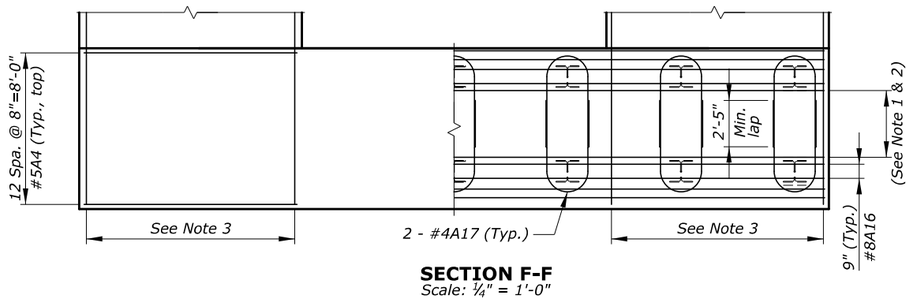
SECTION A-A
Scale: ¼" = 1'-0"



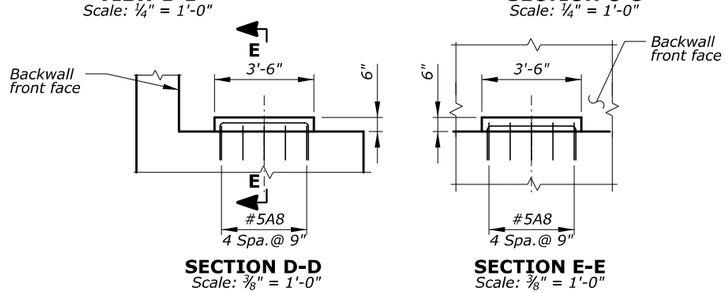
VIEW B-B
Scale: ¼" = 1'-0"

SECTION C-C
Scale: ¼" = 1'-0"

DETAIL A



SECTION F-F
Scale: ¼" = 1'-0"



SECTION D-D
Scale: ⅜" = 1'-0"

SECTION E-E
Scale: ⅜" = 1'-0"

Notes:

1. *Provide 9-inch maximum spacing for top and bottom abutment stem reinforcement.*
2. *Space and cut all reinforcement to maintain 2-inch clearance around H-piles.*
3. *See "WINGWALL A REINFORCEMENT" and "WINGWALL B REINFORCEMENT" sheets for additional information.*
4. *Provide a minimum embedment of 1'-6" for #5 reinforcement. Provide a minimum lap of 2'-0" for #5 reinforcement.*

Key:
n.f. = near face
f.f. = far face
e.f. = each face

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

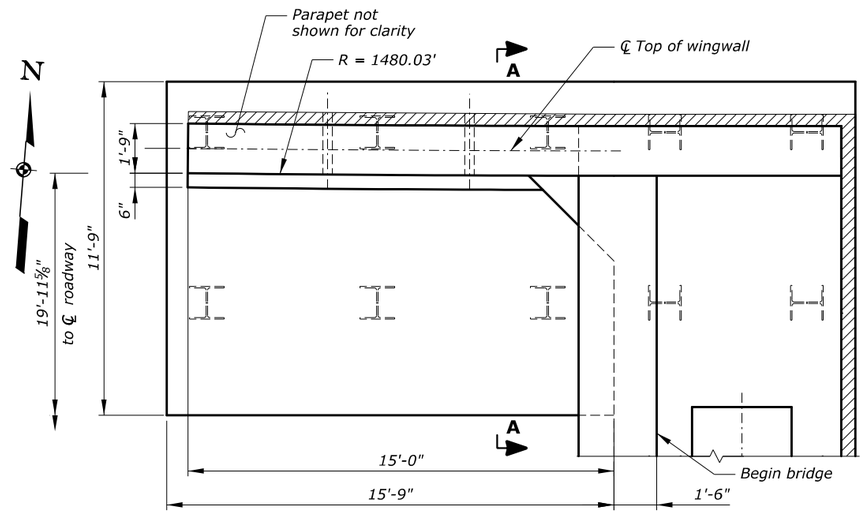
BLUE RIDGE PARKWAY

BRIDGE OVER I-26

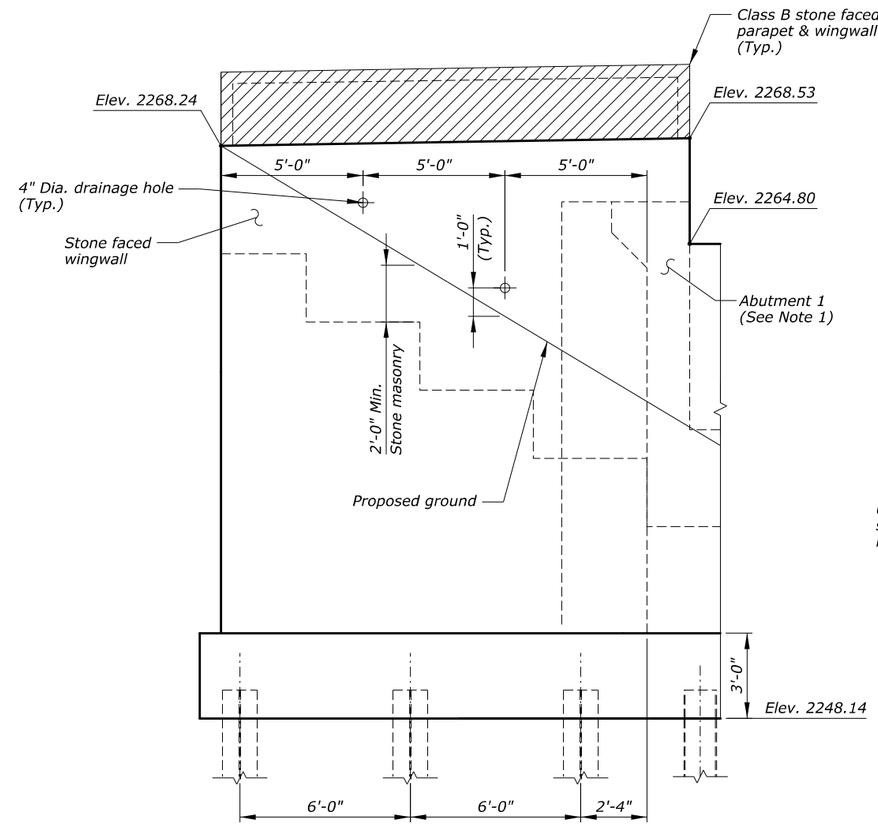
ABUTMENT 1 REINFORCEMENT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	As Shown	George Choubah	8 of 228	December 2018	BRP-1265

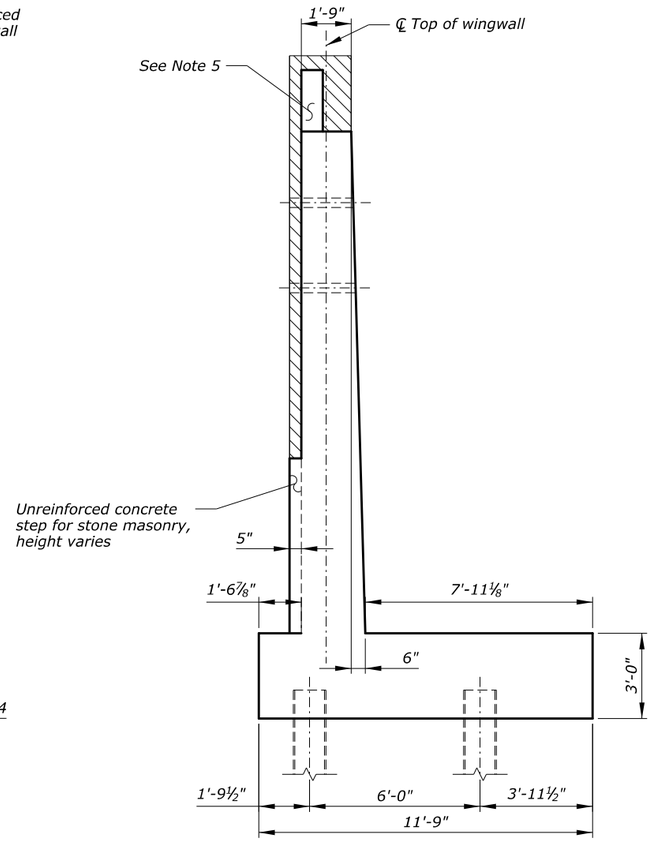
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R09



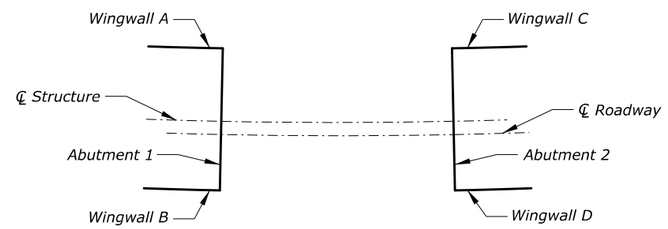
WINGWALL A PLAN



WINGWALL A ELEVATION



SECTION A-A



Notes:

1. *See "ABUTMENT 1 REINFORCEMENT" and "ABUTMENT 1 LAYOUT" sheets for additional information.*
2. *See "WINGWALL A REINFORCEMENT" sheet for additional information.*
3. *See "FOUNDATION LAYOUT" sheet for additional information.*
4. *Anchor masonry to concrete per anchor manufacturer's instructions untilizing stainless steel dovetail anchor and slots, spaced at 24 inch max.*
5. *See "WINGWALL B LAYOUT" sheet for stone masonry details.*
6. *Adjust elevation of weepholes to outlet 1-ft above finish grade.*
7. *See BRIDGE RAIL sheets and "APPROACH SLAB" sheet for additional information.*

Key:
n.f. = near face
f.f. = far face
e.f. = each face

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

BLUE RIDGE PARKWAY

BRIDGE OVER I-26

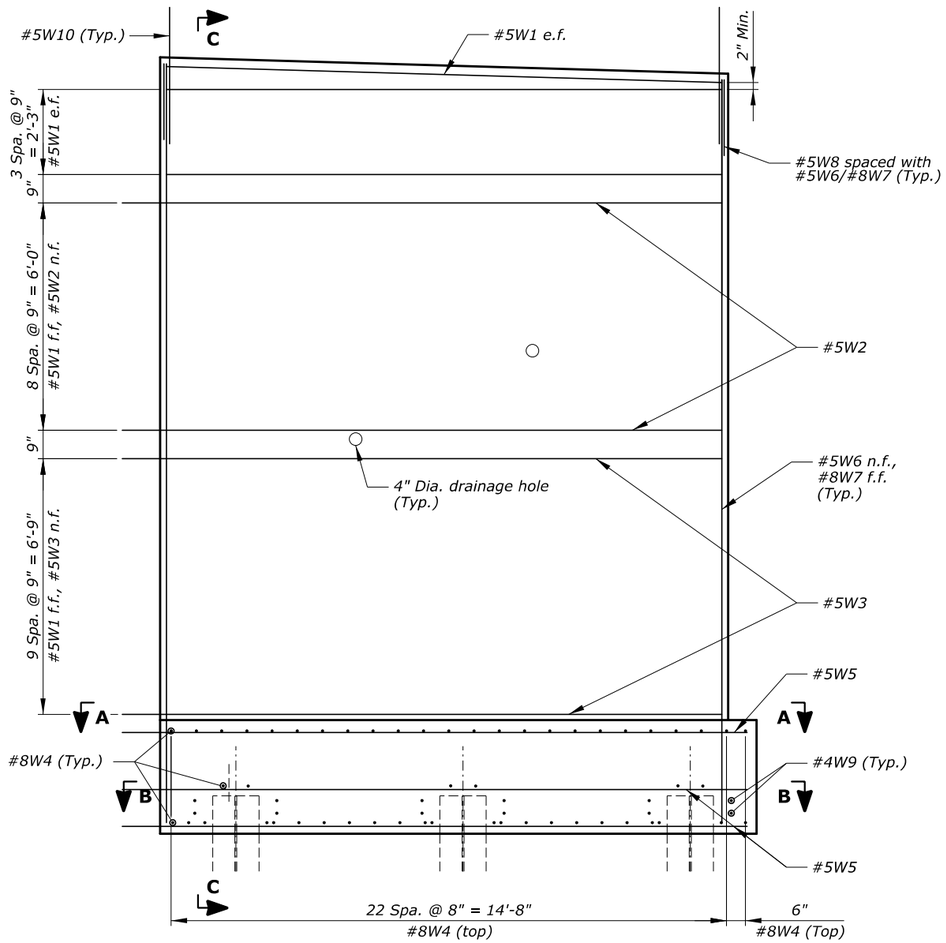
WINGWALL A LAYOUT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	⅜" = 1'-0"	George Choubah	9 of 228	December 2018	BRP-1265

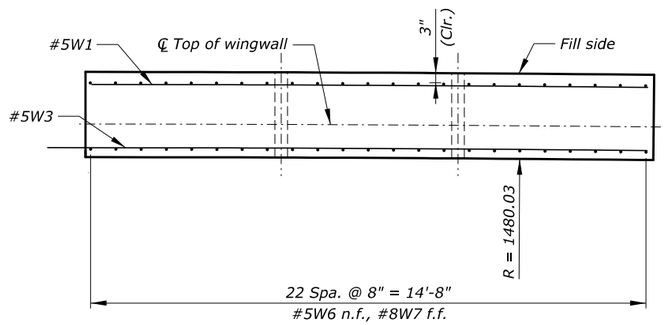
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R10

Notes:

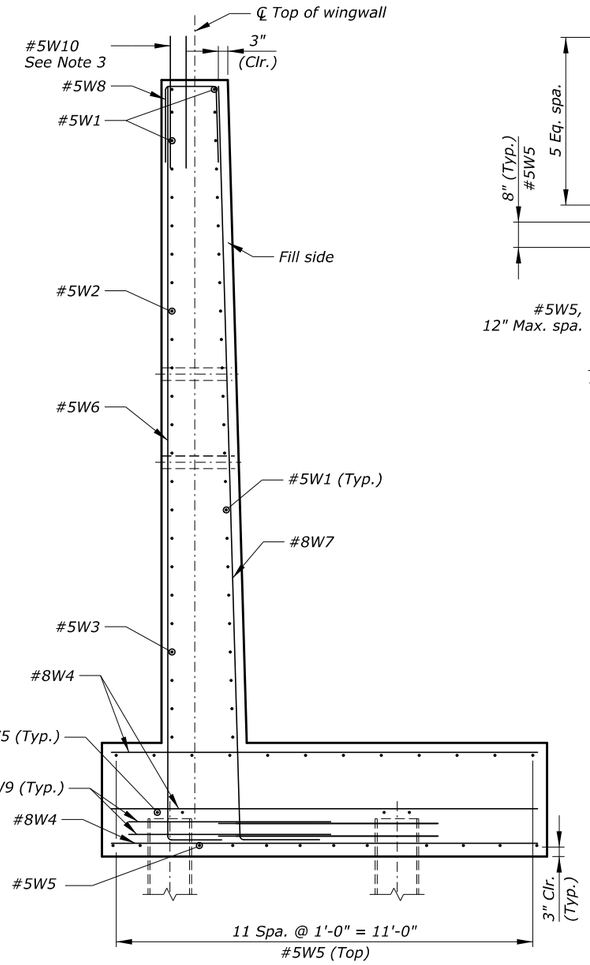
1. *Space and cut all reinforcement to maintain 2-inch clearance around H-piles and adjacent reinforcement. Maximum spacing of 8 inches.*
2. *See "WINGWALL A LAYOUT" sheet for additional information.*
3. *See "WINGWALL C REINFORCEMENT" sheet for additional information.*
4. *Provide a minimum of 2'-0" lap splices for #5 bars.*



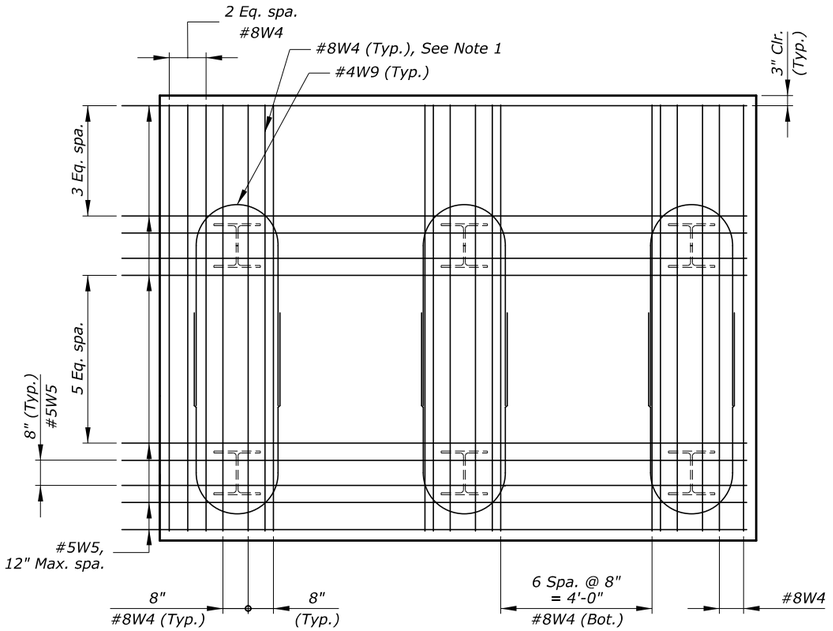
WINGWALL A ELEVATION VIEW



SECTION A-A



SECTION C-C



SECTION B-B WINGWALL FOOTING

Key:
n.f. = near face
f.f. = far face
e.f. = each face

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

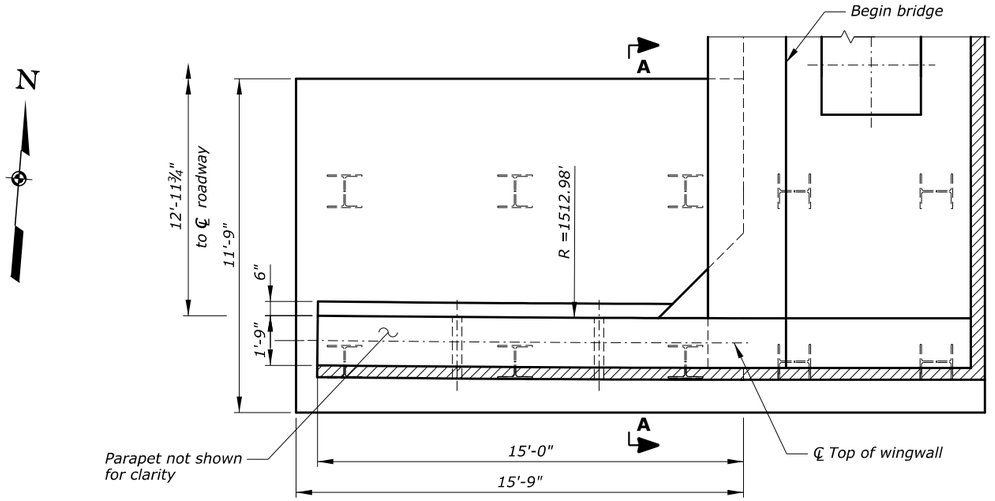
BLUE RIDGE PARKWAY

BRIDGE OVER I-26

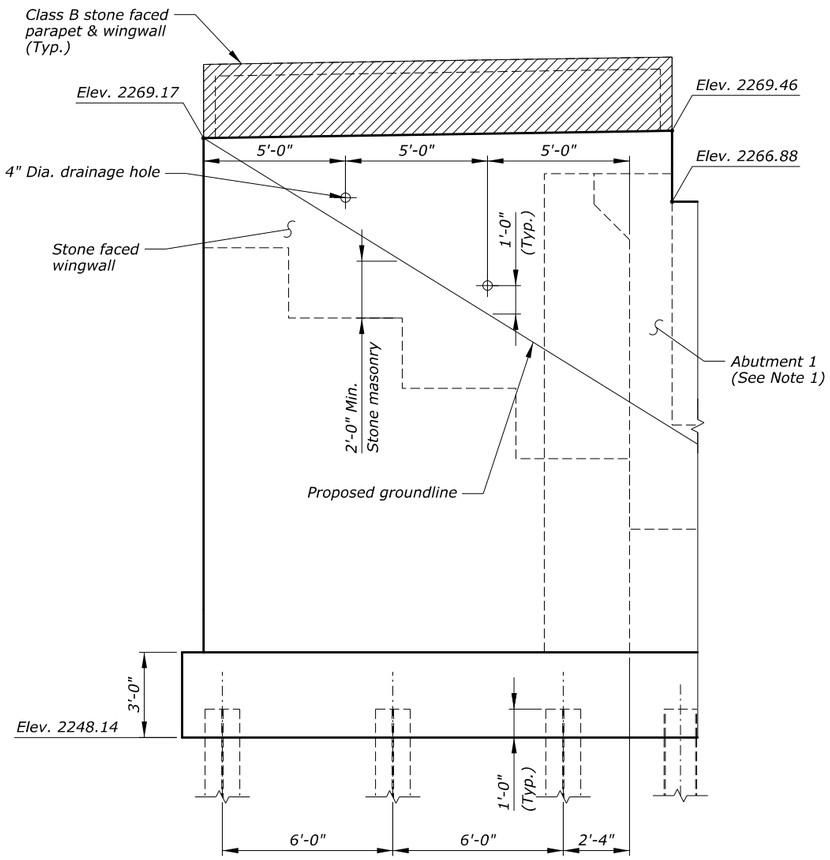
WINGWALL A REINFORCEMENT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	½" = 1'-0"	George Choubah	10 of 228	December 2018	BRP-1265

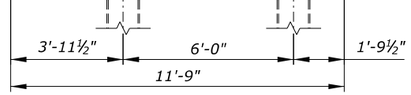
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R11



WINGWALL B PLAN
Scale: ⅜" = 1'-0"



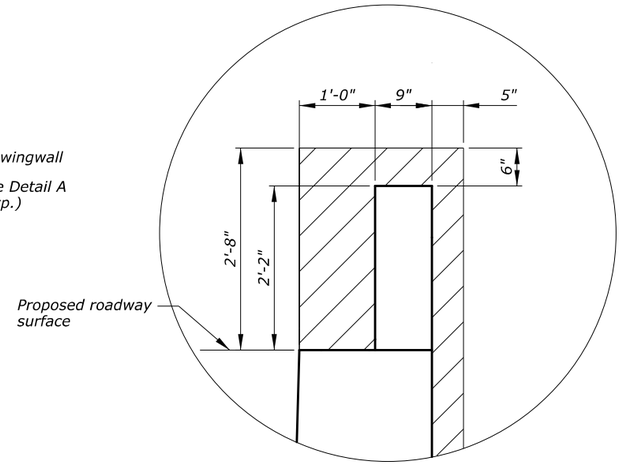
WINGWALL B ELEVATION
Scale: ⅜" = 1'-0"



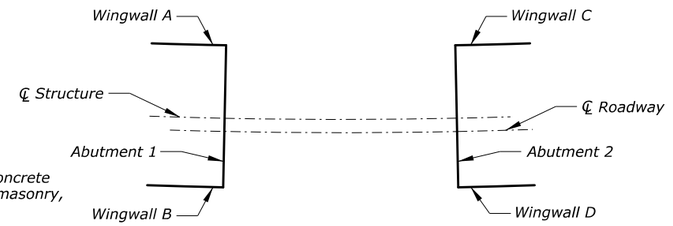
SECTION A-A
Scale: ⅜" = 1'-0"

Notes:

1. *See "ABUTMENT 1 REINFORCEMENT" and "ABUTMENT 1 LAYOUT" sheets for additional information.*
2. *See "FOUNDATION LAYOUT" sheet for additional information.*
3. *Anchor masonry to concrete per anchor manufacturer's instructions untilizing stainless steel dovetail anchor and slots, spaced at 24 inch max.*
4. *Adjust elevation of weepholes to outlet 1-ft above finish grade.*
5. *See BRIDGE RAIL and "APPROACH SLAB" sheets for additional information.*
6. *See "WINGWALL B REINFORCEMENT" sheet for additional information.*



DETAIL A
Scale: 1" = 1'-0"



Key:
n.f. = near face
f.f. = far face
e.f. = each face

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

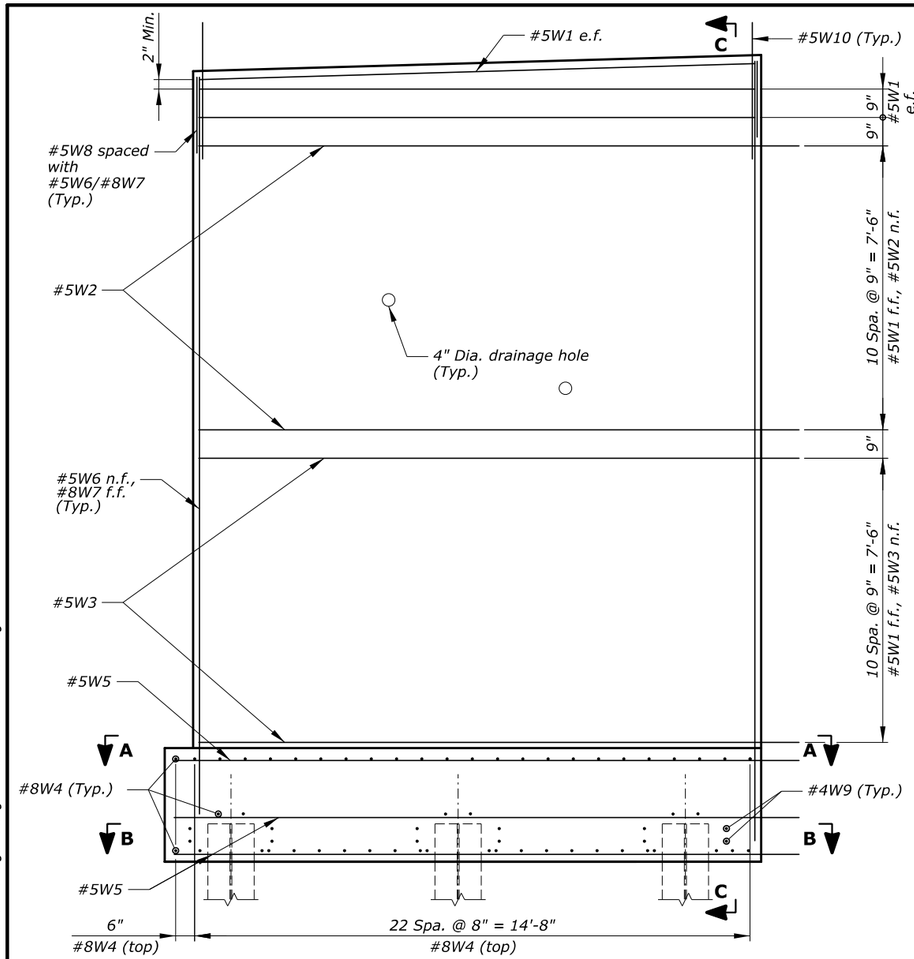
BLUE RIDGE PARKWAY

BRIDGE OVER I-26

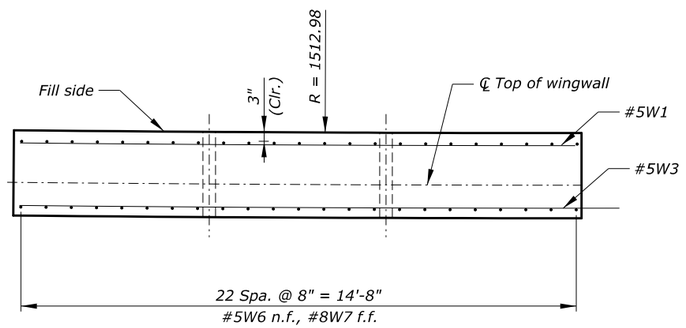
WINGWALL B LAYOUT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	As Shown	George Choubah	11 of 228	December 2018	BRP-1265

STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R12



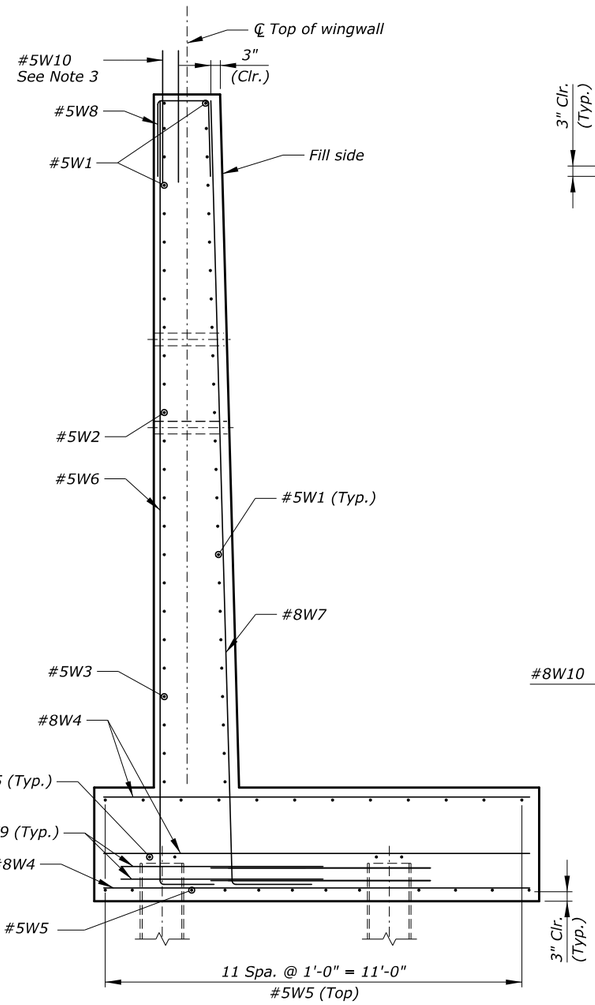
WINGWALL B ELEVATION VIEW



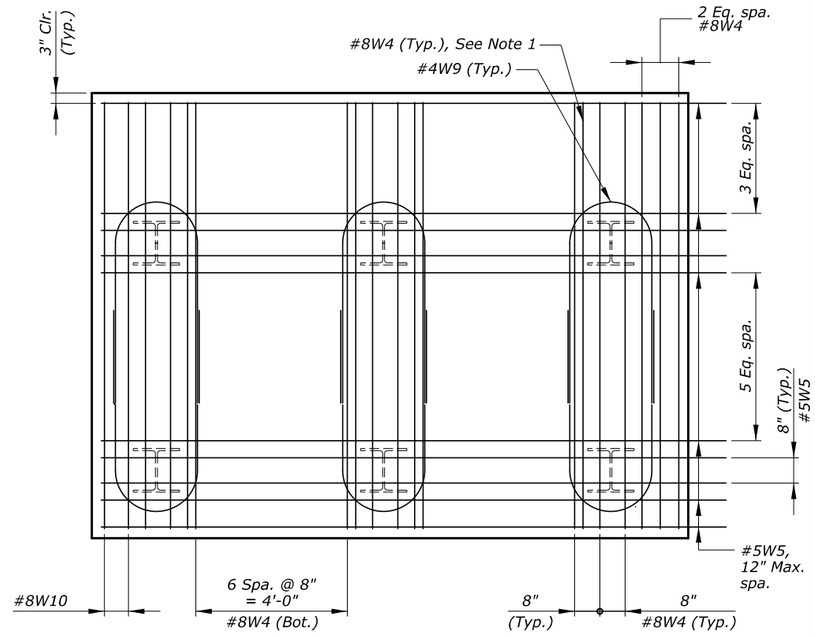
SECTION A-A

Notes:

1. *Space and cut all reinforcement to maintain 2-inch clearance around H-piles and adjacent reinforcement. Maximum spacing of 8 inches.*
2. *See "WINGWALL B LAYOUT" sheet for additional information.*
3. *See "WINGWALL C REINFORCEMENT" sheet for additional information.*
4. *Provide a minimum of 2'-0" lap splices for #5 bars.*



SECTION C-C



SECTION B-B WINGWALL FOOTING

Key:

n.f. = near face
f.f. = far face
e.f. = each face

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

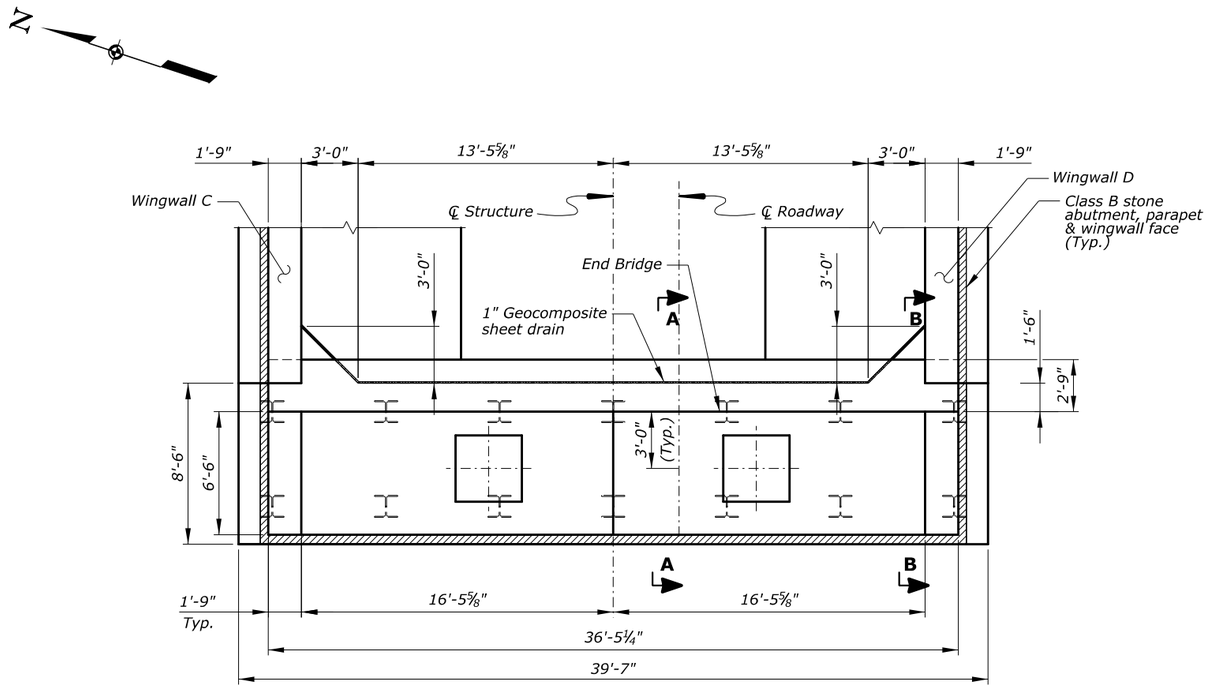
BLUE RIDGE PARKWAY

BRIDGE OVER I-26

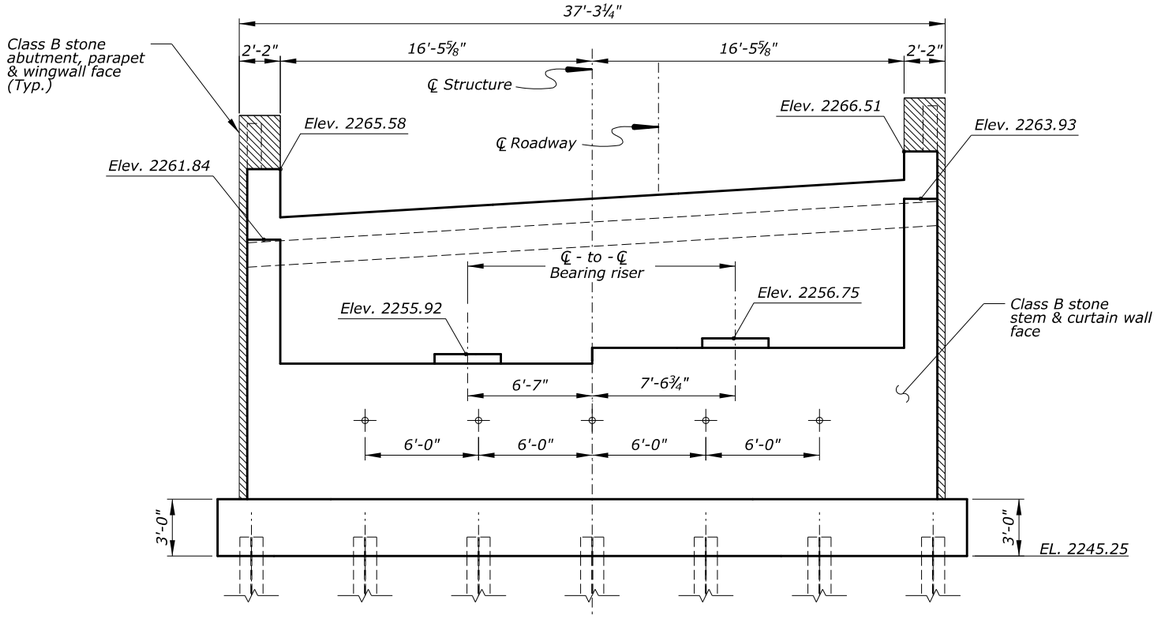
WINGWALL B REINFORCEMENT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	½" = 1'-0"	George Choubah	12 of 228	December 2018	BRP-1265

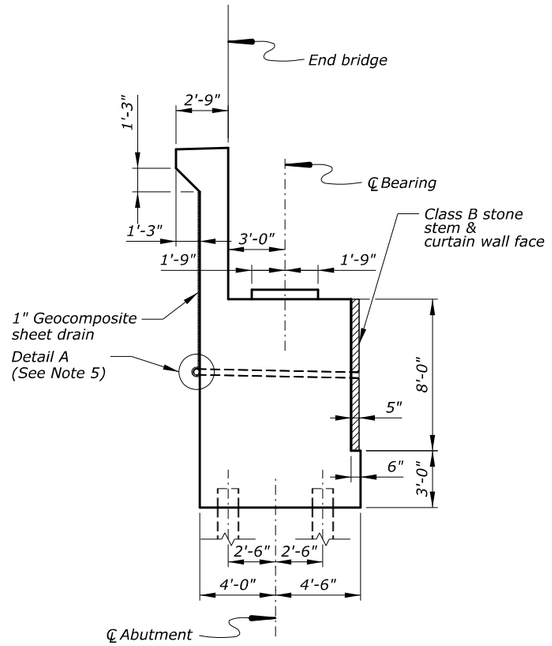
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R13



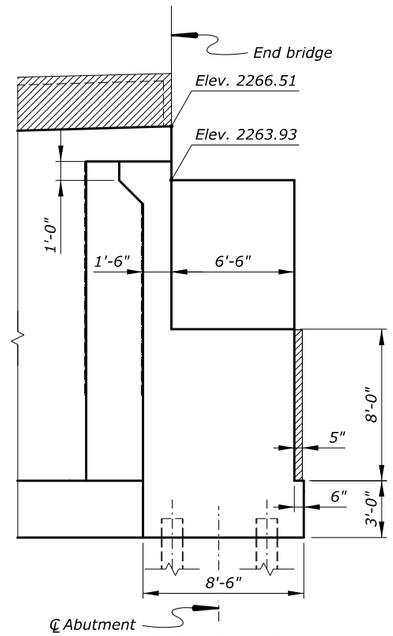
ABUTMENT 2 PLAN



ABUTMENT 2 ELEVATION



SECTION A-A



SECTION B-B

Note:

1. *See "FOUNDATION LAYOUT" sheet for additional information.*
2. *Anchor masonry to concrete per anchor manufacturer's instructions utilizing stainless steel dovetail anchor and slots, spaced at 24 inch max.*
3. *Adjust elevation of weepholes to outlet 1'-0" above finish grade.*
4. *See BRIDGE RAIL and "APPROACH SLAB" sheets for additional information.*
5. *See "ABUTMENT 1 LAYOUT" sheet for additional information.*

Key:

n.f. = near face
f.f. = far face
e.f. = each face

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

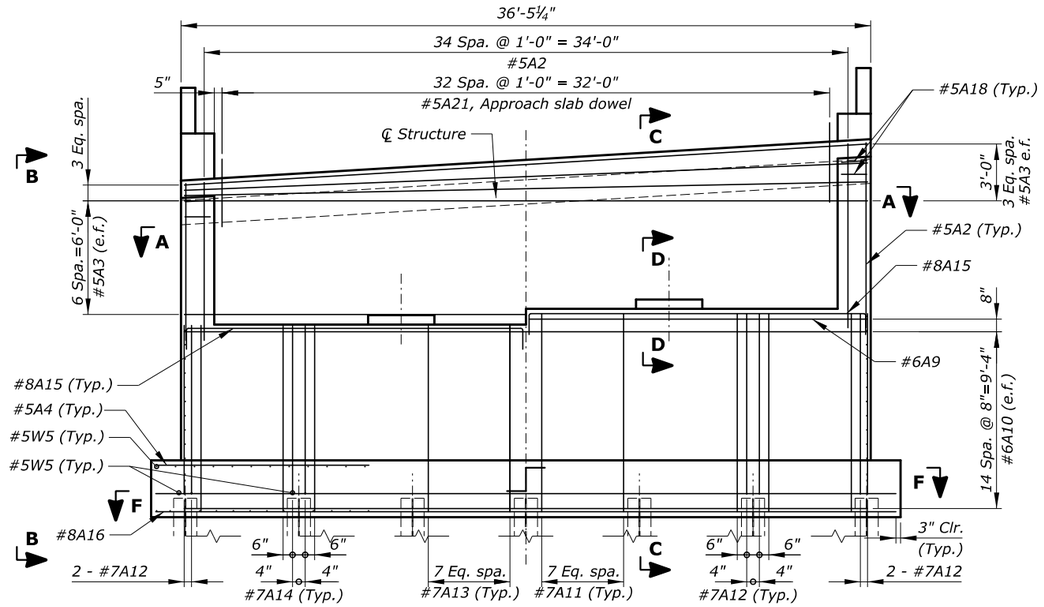
BLUE RIDGE PARKWAY

BRIDGE OVER I-26

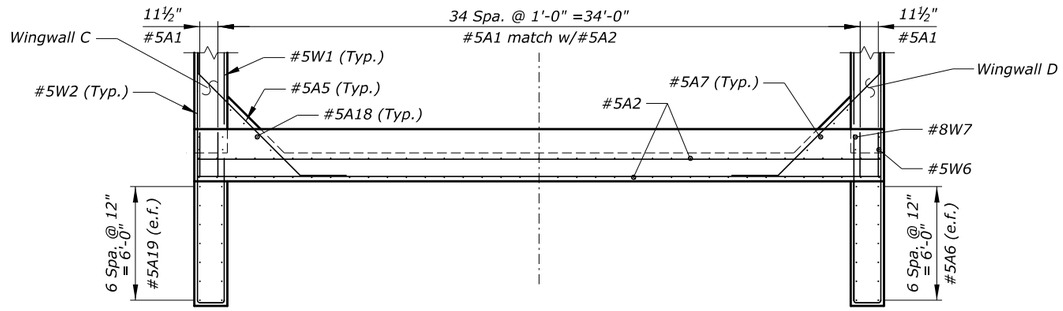
ABUTMENT 2 LAYOUT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	¼" = 1'-0"	George Choubah	13 of 228	December 2018	BRP-1265

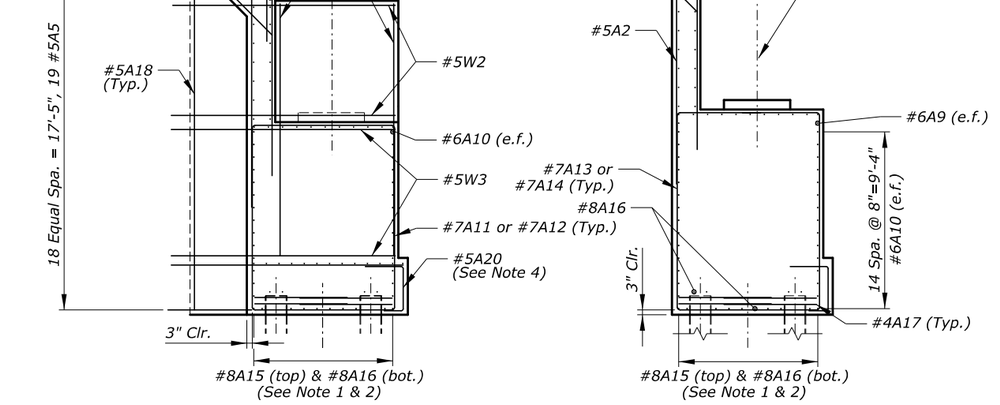
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R14



ABUTMENT 2 ELEVATION VIEW
Scale: ¼" = 1'-0"

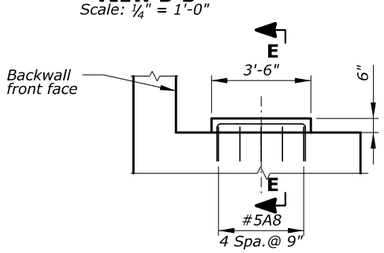


SECTION A-A
Scale: ¼" = 1'-0"

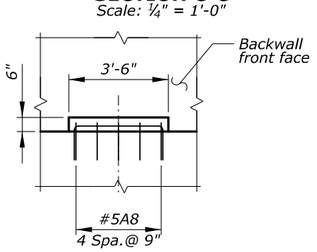


VIEW B-B
Scale: ¼" = 1'-0"

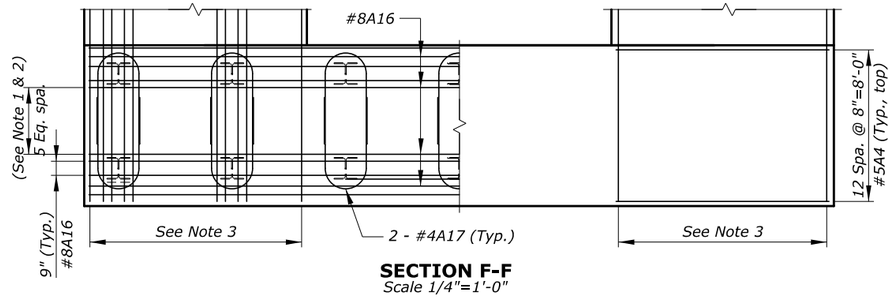
SECTION C-C
Scale: ¼" = 1'-0"



SECTION D-D
Scale: ⅜" = 1'-0"



SECTION E-E
Scale: ⅜" = 1'-0"



SECTION F-F
Scale 1/4"=1'-0"

Notes:

1. *Provide 9 inch maximum spacing for top and bottom abutment stem reinforcement.*
2. *Space and cut all reinforcement to maintain 2 inch clearance around H-piles.*
3. *See "WINGWALL C REINFORCEMENT" and "WINGWALL D REINFORCEMENT" sheets for additional information.*
4. *See "ABUTMENT 1 REINFORCEMENT" sheet for additional information.*
5. *Provide a minimum embedment of 1'-6" for #5 reinforcement. Provide a minimum lap of 2'-0" for #5 reinforcement.*

Key:
n.f. = near face
f.f. = far face
e.f. = each face

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

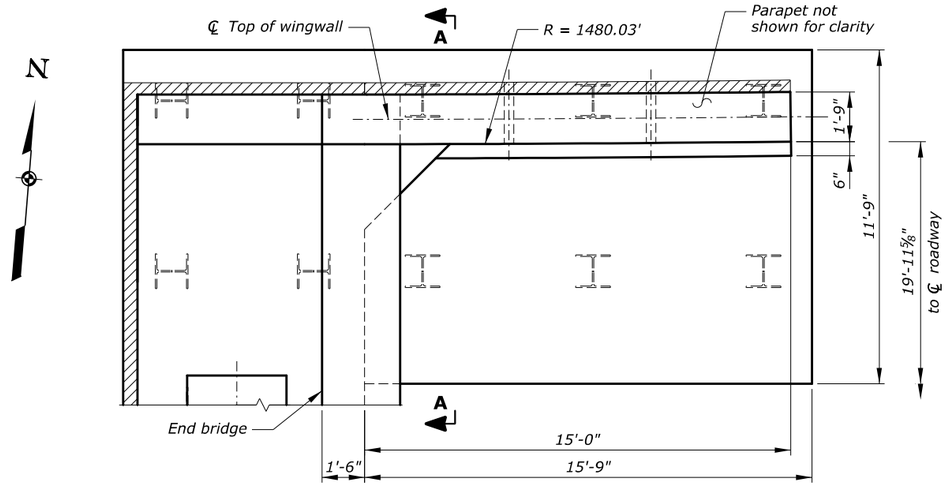
BLUE RIDGE PARKWAY

BRIDGE OVER I-26

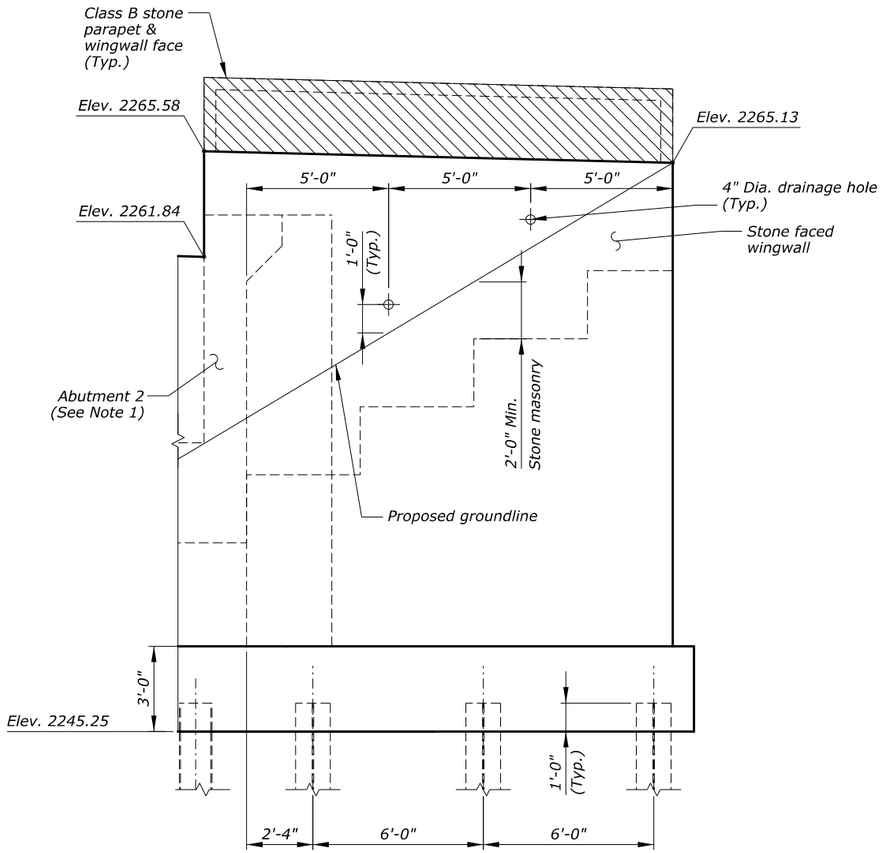
ABUTMENT 2 REINFORCEMENT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	As Shown	George Choubah	14 of 228	December 2018	BRP-1265

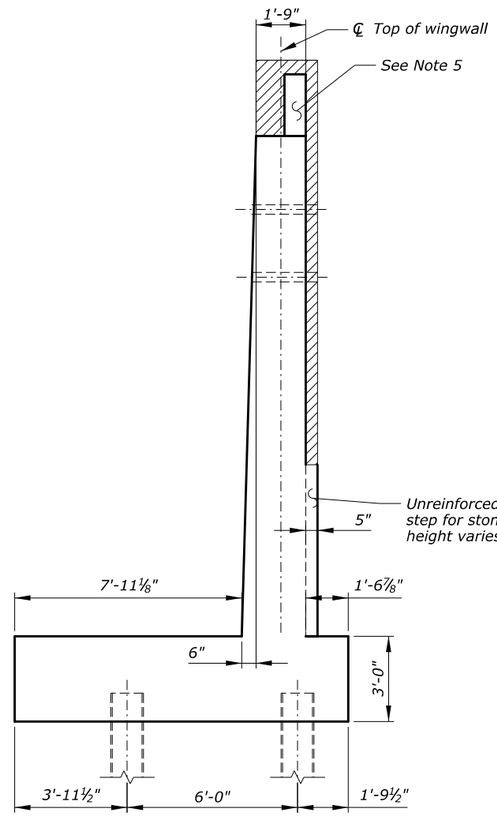
STATE	PROJECT	SHEET NUMBER
NC	BLRI OVER I-26	R15



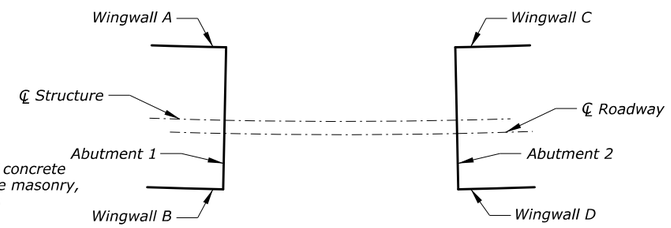
WINGWALL C PLAN



WINGWALL C ELEVATION



SECTION A-A



Notes:

1. See "ABUTMENT 2 REINFORCEMENT" and "ABUTMENT 2 LAYOUT" sheets for additional information.
2. See "WINGWALL C REINFORCEMENT" sheet for additional information.
3. See "FOUNDATION LAYOUT" sheet for additional information.
4. Anchor masonry to concrete per anchor manufacturer's instructions utilizing stainless steel dovetail anchor and slots, spaced at 24 inch max.
5. See "WINGWALL B LAYOUT" sheet for stone masonry details.
6. Adjust elevation of weepholes to outlet 1-ft above finish grade.
7. See BRIDGE RAIL and "APPROACH SLAB" sheets for additional information.

Key:

n.f. = near face
f.f. = far face
e.f. = each face

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

BLUE RIDGE PARKWAY

BRIDGE OVER I-26

WINGWALL C LAYOUT

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								LE	LE	CWN	⅜" = 1'-0"	George Choubah	15 of 228	December 2018	BRP-1265