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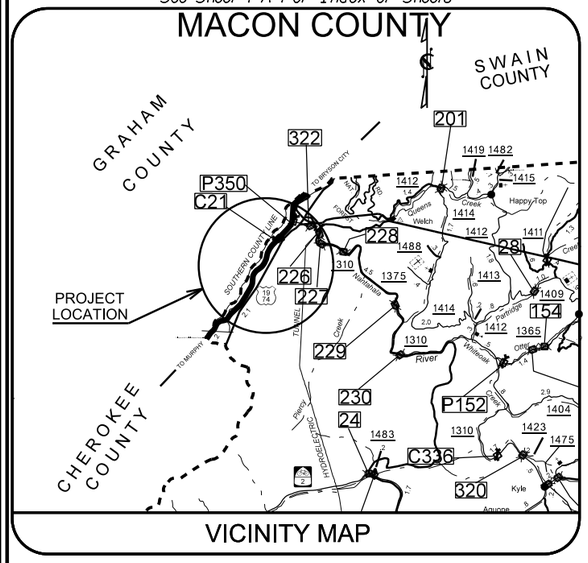
09/08/16

CONTRACT: DN00534 TIP: SS-4914BO WBS ELEMENT: 43936.3.1; 2016CPT.14.03.10561.1

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

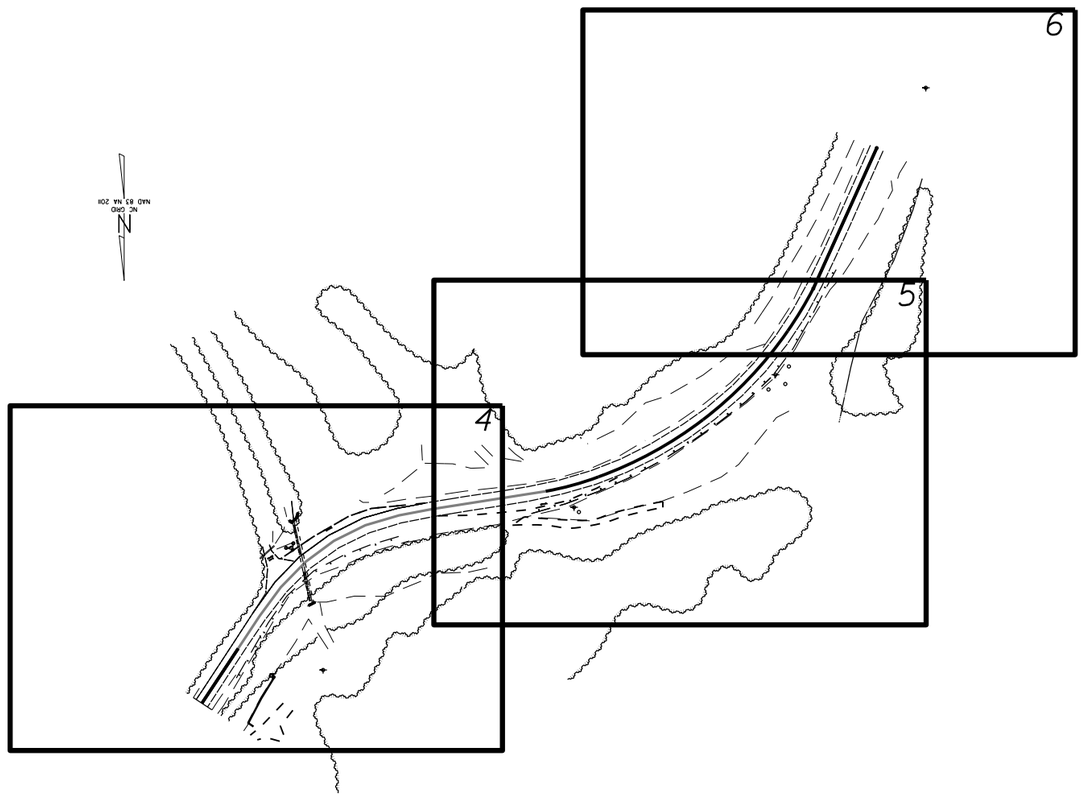
MACON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	43936.3.1; 2016CPT.1.03.10561.1	1	

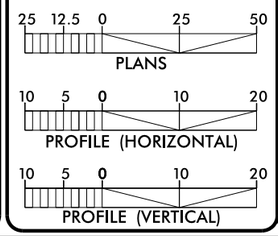
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

LOCATION: ALONG NC HWY 19 /74 NEAR MACON/CHEROKEE COUNTY LINE

TYPE OF WORK: GRADING, PAVING, BOX CULVERT INSTALLATION, GUARDRAIL INSTALLATION



GRAPHIC SCALES



PROJECT LENGTH

0.46 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS

191 Robbinsville Rd., Andrews NC, 28901

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

ANDY RUSSELL, P.E.
PROJECT ENGINEER

ALAN R BROWN
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

_____ P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

_____ P.E.
SIGNATURE:

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

10-AUG-2016 15:46
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arbrown4 AT DI4CAD272166

PROJECT REFERENCE NO.	SHEET NO.
43936.3.1; 2016CPT.14.03.10561.1	2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS

GENERAL NOTES

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012

1 CARE SHALL BE TAKEN TO PREVENT DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION. ANY DAMAGE TO THESE UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

2 THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY.

LIST OF ROADWAY STANDARDS

2012 ROADWAY STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" - Highway Design Branch - N.C. Department of Transportation - Raleigh, N.C., dated January 17, 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade
225.04	Method of Obtaining Superelevation
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction
DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.05	Tying Proposed Pavement to Existing Pavement
DIVISION 8 - INCIDENTALS	
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
DIVISION 11 - WORK ZONE TRAFFIC CONTROL	
1101.01	Detail Drawing for Two Way Undivided Work Zone Warning Signs
1101.02	Temporary Lane Closures
DIVISION 12 - PAVEMENT MARKINGS, MARKERS AND DELINEATION	
1205.01	Line Types and Offsets
DIVISION 16 - EROSION CONTROL AND ROADSIDE DEVELOPEMENT	
1605.01	Temporary Silt Fence
1606.01	Special Sediment Control Fence
1607.01	Gravel Construction Entrance
1631.01	Matting Installation
1640.01	Coir Fiber Baffle

12/05/11

PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561	3

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

COMPUTED BY: ____________ DATE: ____________

CHECKED BY: ____________ DATE: ____________

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
43936.3.1; 2016CPT.14.03.10561.1	3-A

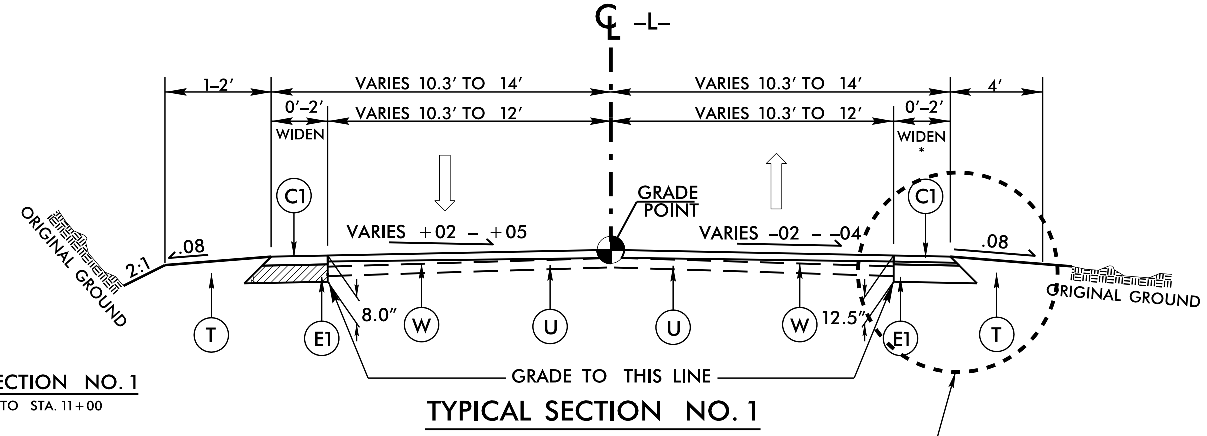
GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS TES	ANCHORS AT-1	ANCHORS ·	IMPACT ATTENUATOR TYPE 350 NO.	PERMITTED G	PERMITTED NG	REMARKS
-L-	10+50	14+15	RT	375														2			REMOVE AND REPLACE EXIST GR.
-L-	17+25	19+50	RT	225																	RESET EXIST.GR
-L-	21+00	22+25	RT	125																	RESET EXIST.GR
	SUB TOTAL:			375														2			
	350 ANCHOR DEDUCTIONS:			100																	
	TOTAL:			275													ANCHOR DEDUCTIONS: 2 GRAU-350 @ 50' = 100.00'				

SUMMARY OF EARTHWORK

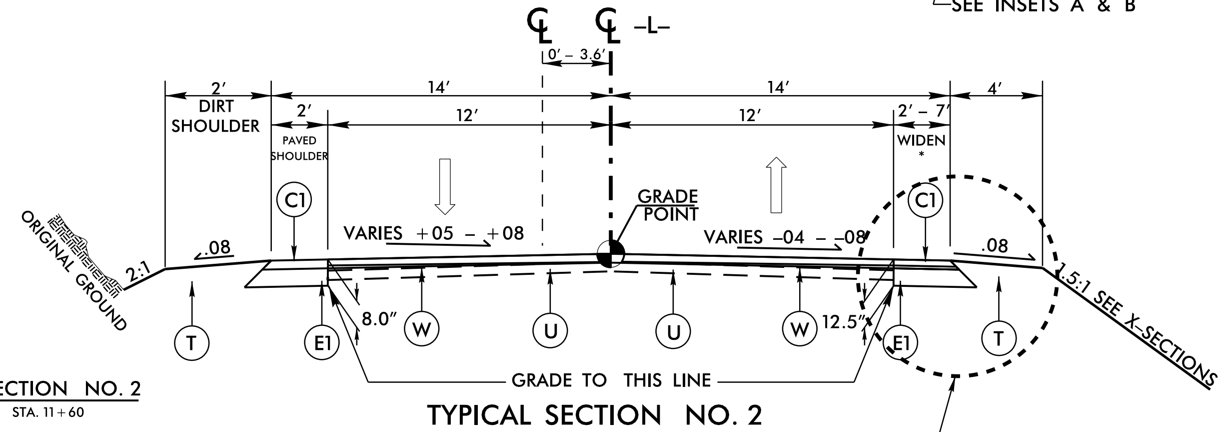
STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
10+00	10+50			2	
10+50	11+00			2	
11+00	11+50			6	
11+50	12+00			226	
12+00	12+50			764	
12+50	13+00	100		486	
13+00	13+50			111	
13+50	14+00			33	
14+00	14+50			22	
14+50	15+00			21	
15+00	15+50			11	
15+50	16+00			1	
16+00	16+50			1	
16+50	17+00			2	
17+00	17+50			12	
17+50	18+00			15	
18+00	18+50			14	
18+50	19+00			14	
19+00	19+50			11	
19+50	20+00			6	
20+00	20+50			7	
20+50	21+00			10	
21+00	21+50			17	
21+50	22+00			28	
22+00	22+50			38	
22+50	23+00			39	
23+00	23+50			38	
23+50	24+00			43	
SUBTOTALS:				375	
PROJECT TOTALS:		100		1979	
GRAND TOTALS:		100		1979	
SAY:		110		2177	

PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	3B



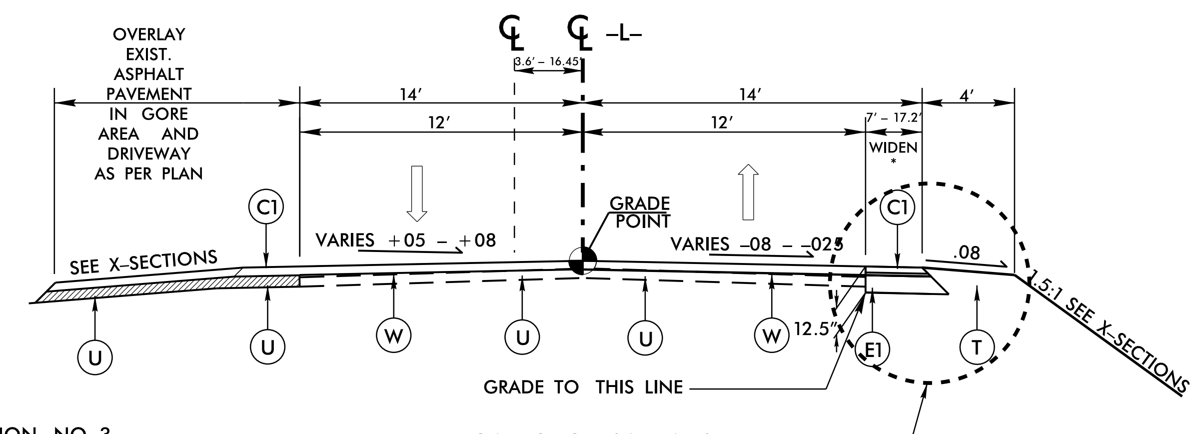
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 10+00.00 TO STA. 11+00



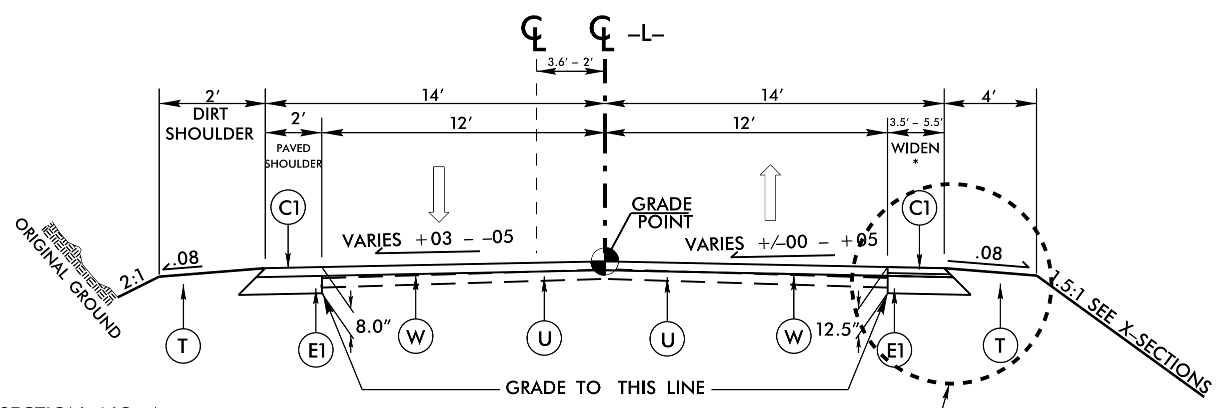
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- STA. 11+00 TO STA. 11+60



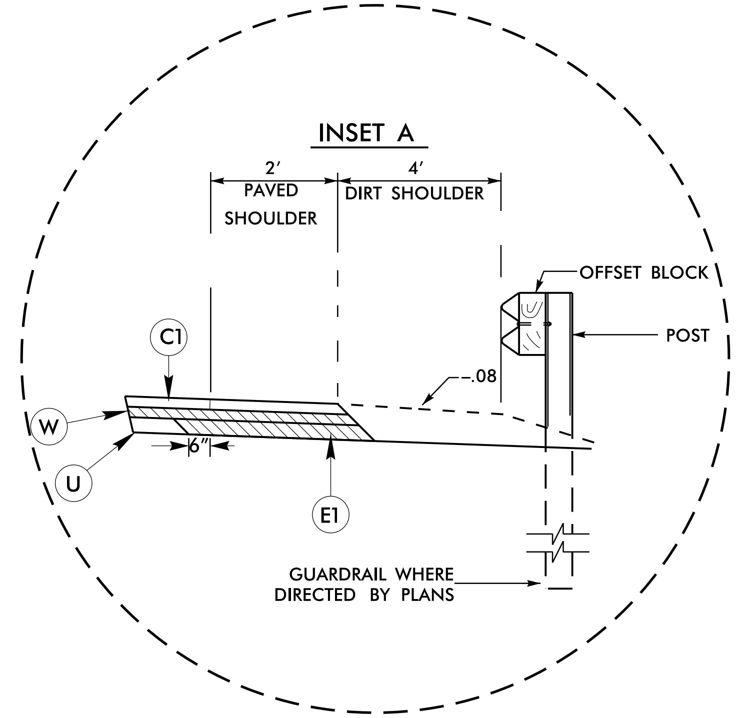
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
-L- STA. 11+60 TO STA. 14+60



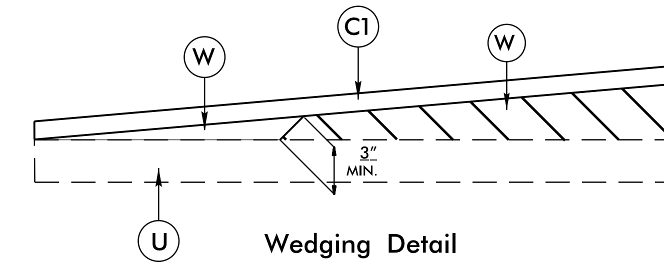
USE TYPICAL SECTION NO. 4
-L- STA. 14+60.00 TO STA. 16+71

TYPICAL SECTION NO. 4

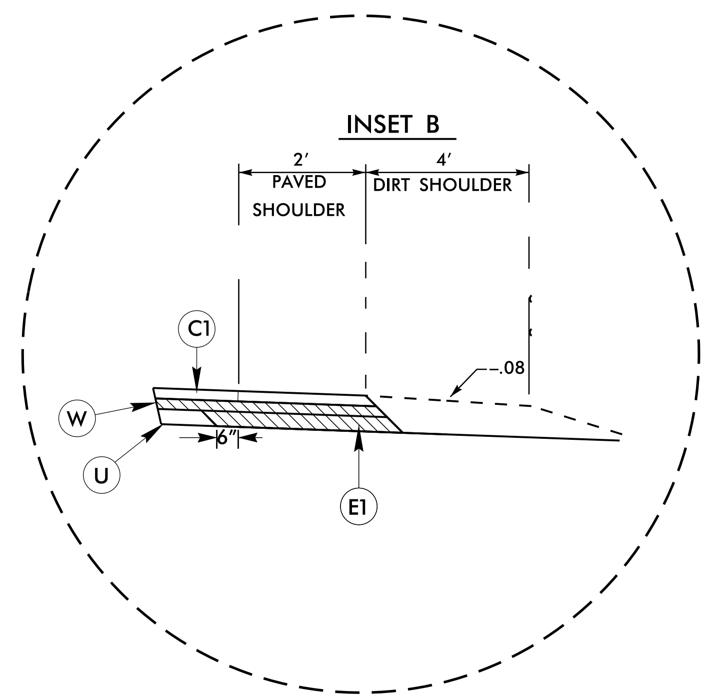


USE INSET A

-L- STA. 10+50 RT TO 14+13 RT
-L- STA. 17+25 RT TO 19+50 RT
-L- STA. 21+00 RT TO 22+25 RT



Wedging Detail



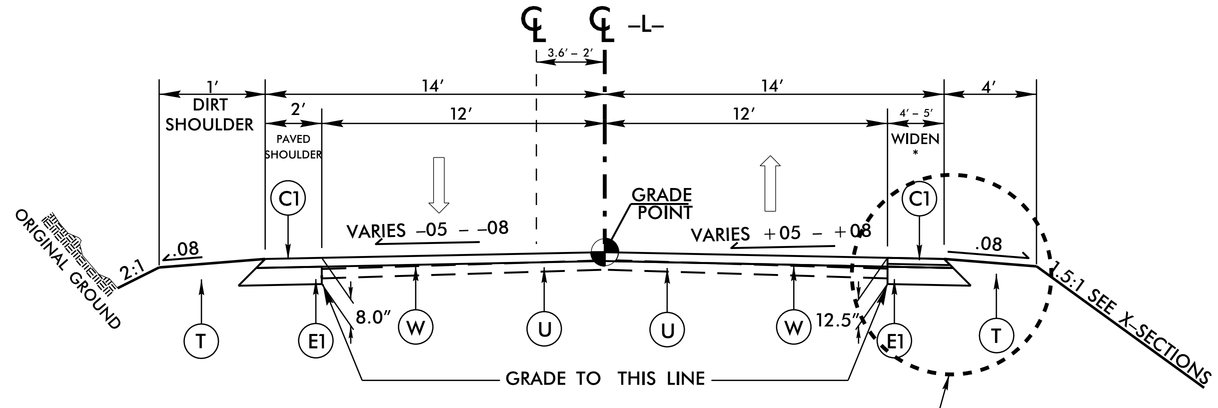
USE INSET B

-L- STA. 11+00 RT TO 24+10 RT

PAVEMENT SCHEDULE	
C1	PROP. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. 8" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
W	PROP. VAR. DEPTH ASPHALT CONCRETE WEDGING COURSE. TYPE I19 AT AN AVERAGE RATE OF 114 LBS. PER SQ. FT. PER 3" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 3" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT

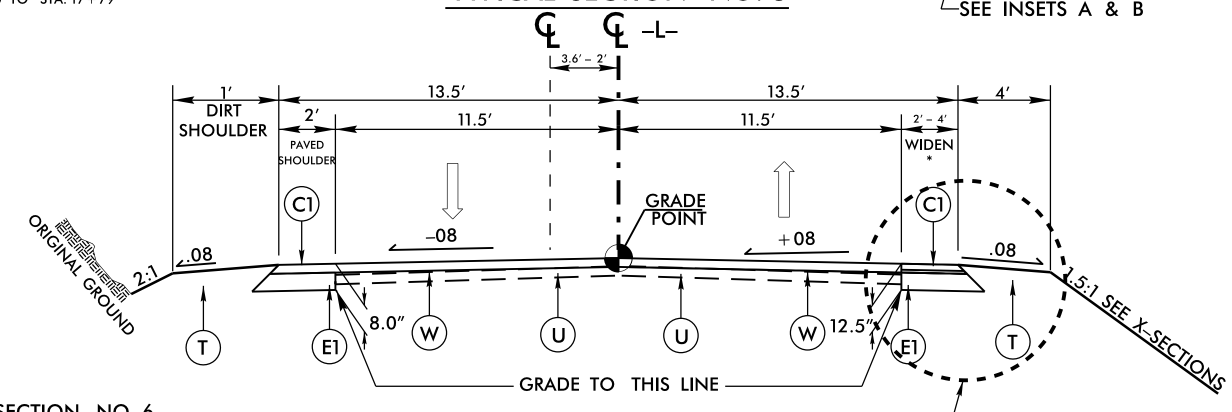
NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	3C



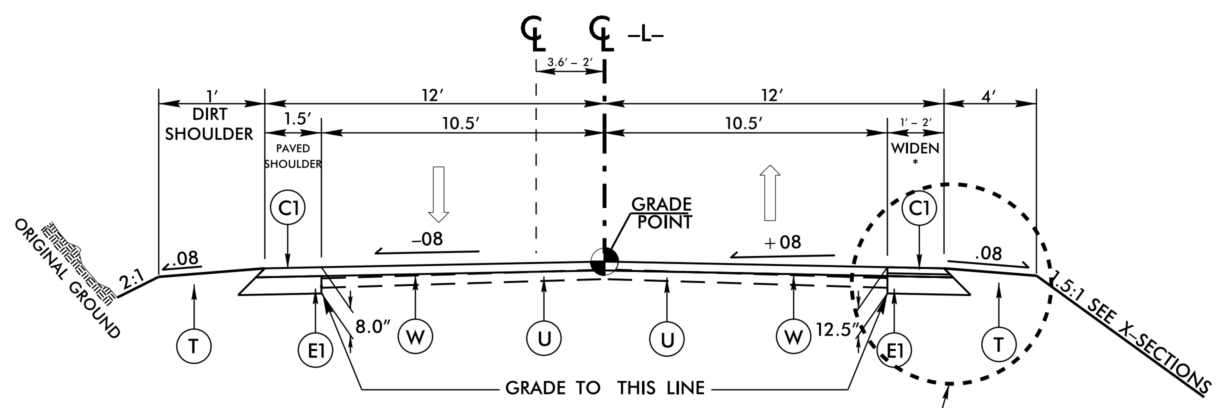
USE TYPICAL SECTION NO. 5
-L- STA. 16+71.00 TO STA. 17+79

TYPICAL SECTION NO. 5



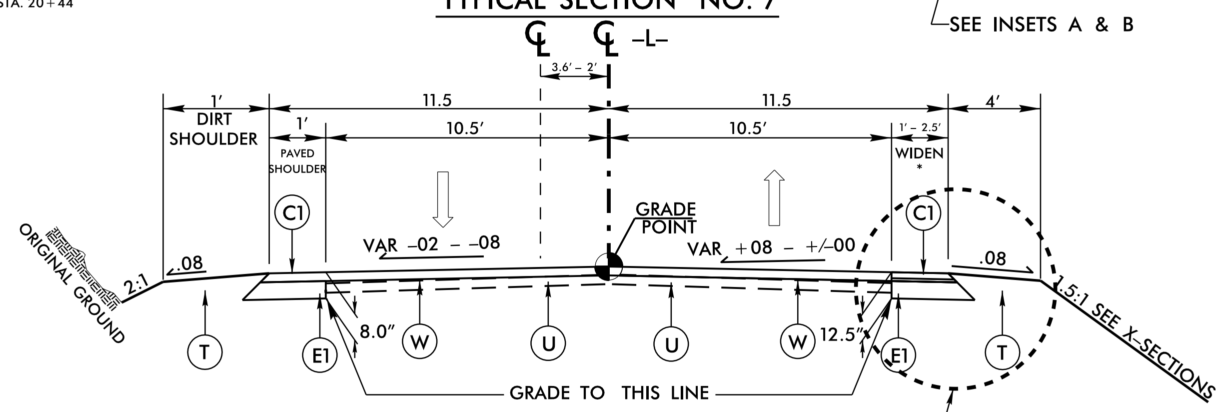
USE TYPICAL SECTION NO. 6
-L- STA. 17+79 TO STA. 19+12

TYPICAL SECTION NO. 6



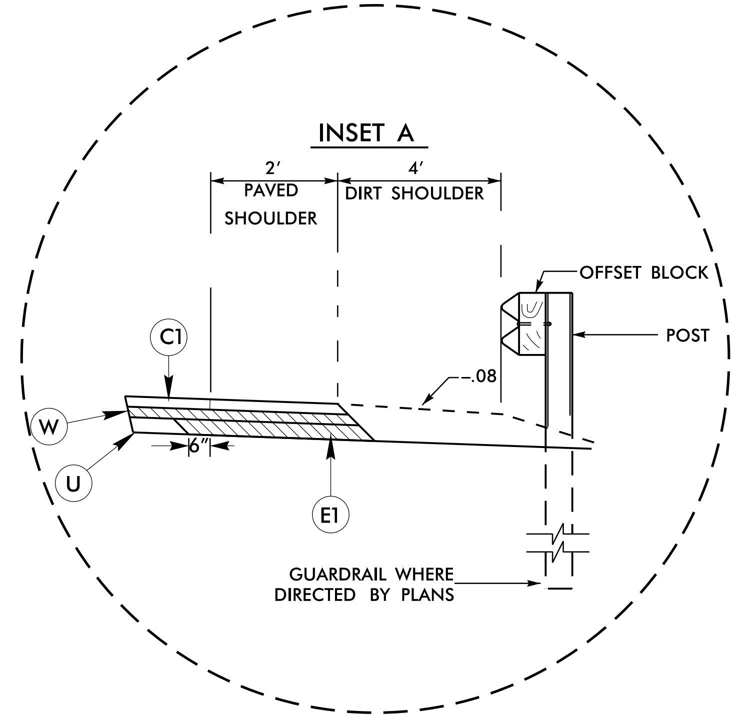
USE TYPICAL SECTION NO. 7
-L- STA. 19+12 TO STA. 20+44

TYPICAL SECTION NO. 7



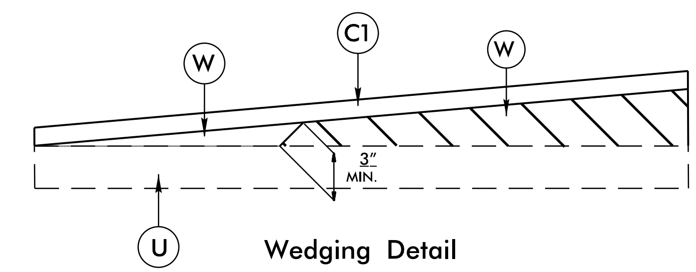
USE TYPICAL SECTION NO. 8
-L- STA. 20+44 TO STA. 24+10

TYPICAL SECTION NO. 8

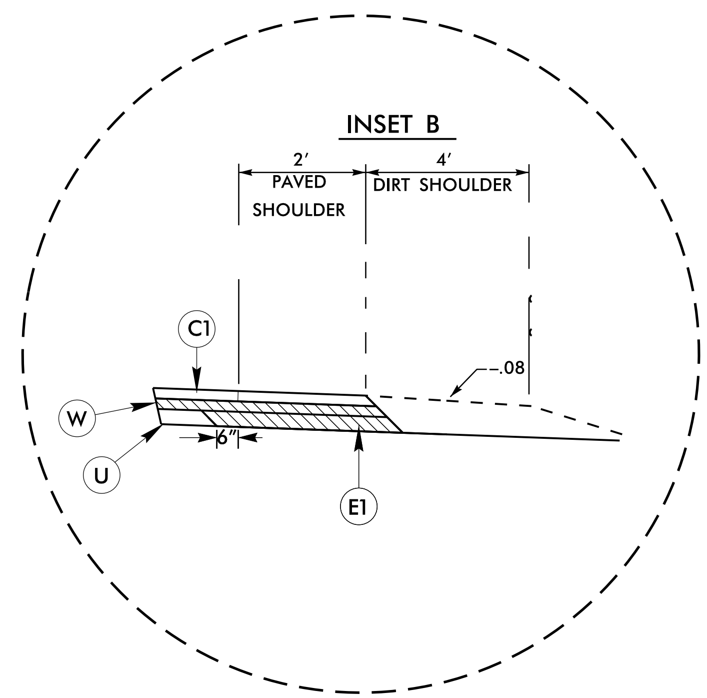


USE INSET A

-L- STA. 10+50 RT TO 14+13 RT
-L- STA. 17+25 RT TO 19+50 RT
-L- STA. 21+00 RT TO 22+25 RT



Wedging Detail



USE INSET B

-L- STA. 11+00 RT TO 24+10 RT

PAVEMENT SCHEDULE	
C1	PROP. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. 8" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
W	PROP. VAR. DEPTH ASPHALT CONCRETE WEDGING COURSE. TYPE I19 AT AN AVERAGE RATE OF 114 LBS. PER SQ. FT. PER 3" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 3" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT

NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

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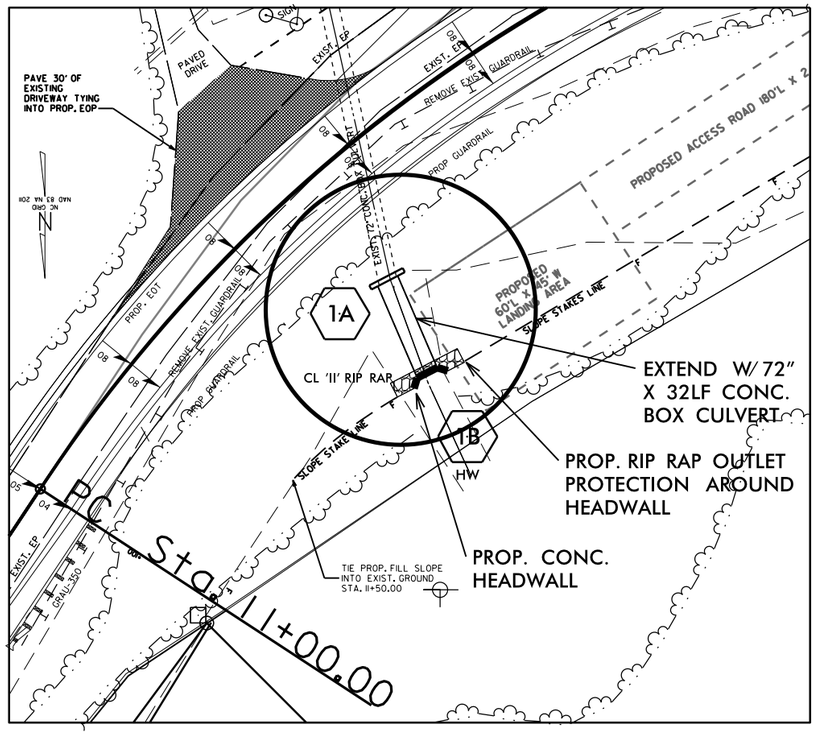
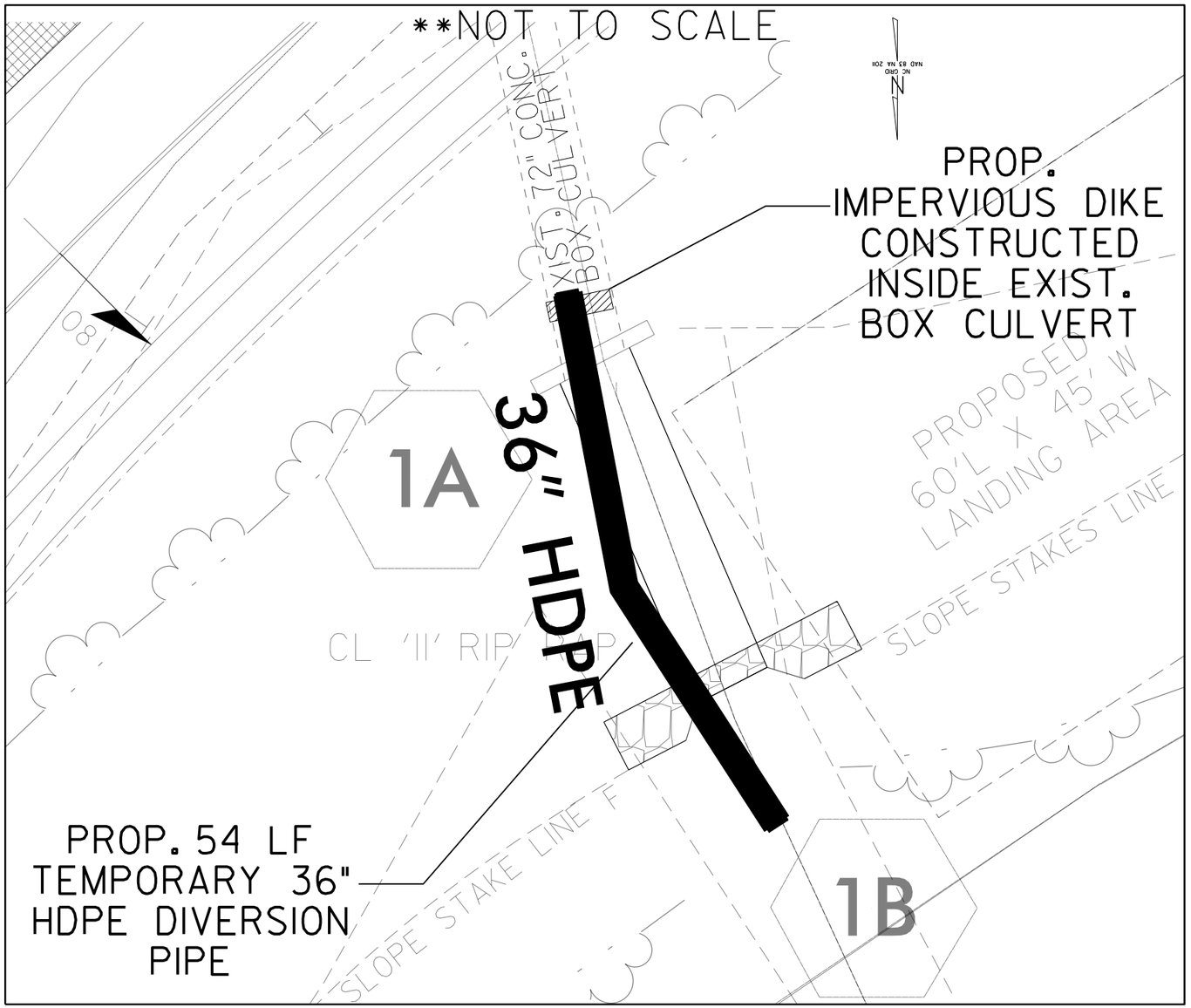
PROJECT REFERENCE NO.	SHEET NO.
43936.3.1 & 2016CPT.14.03.20561J	3E

TEMPORARY STREAM DIVERSION

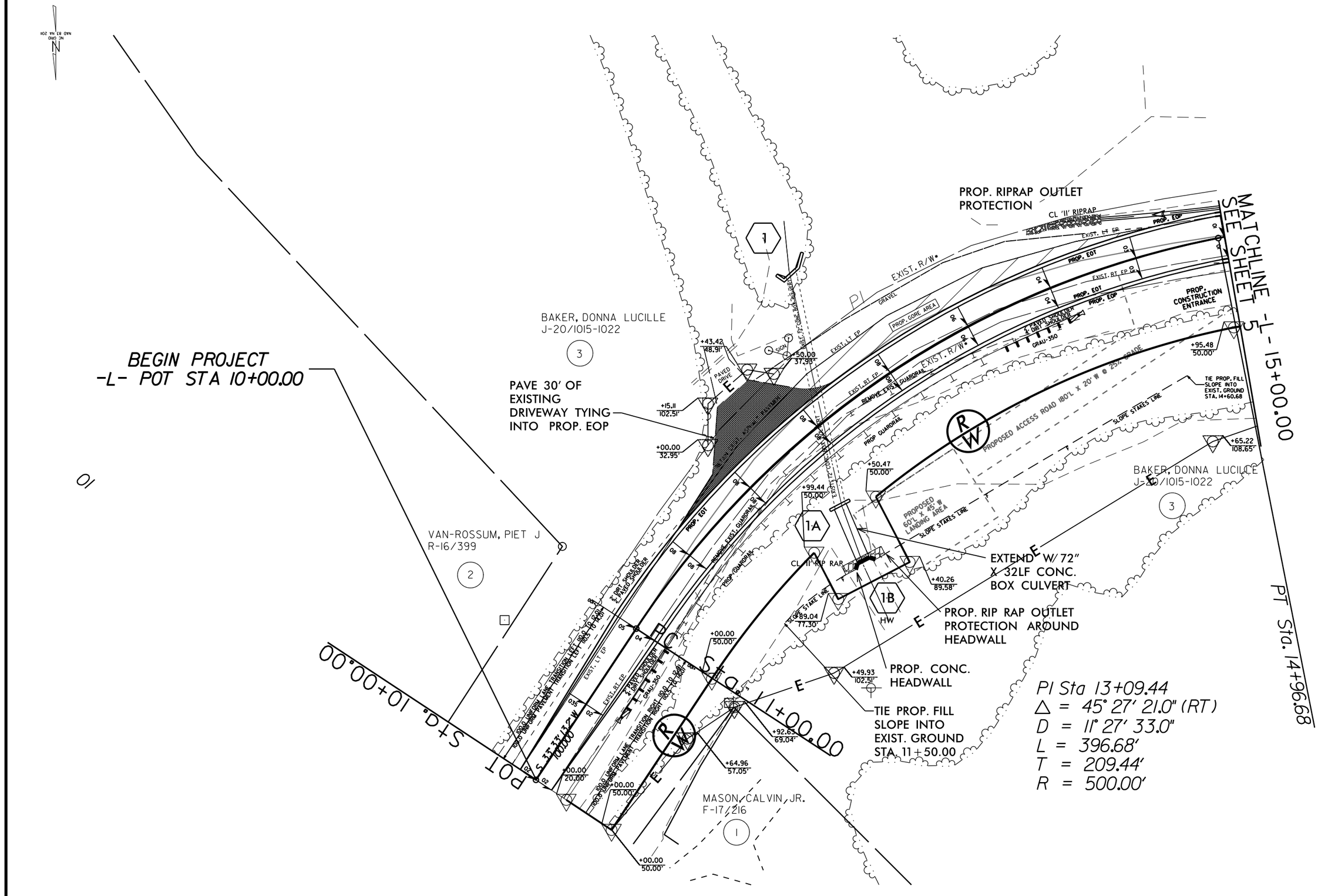




CULVERT CONSTRUCTION SEQUENCE

1. INSTALL IMPERVIOUS DIKE AND TEMPORARY 36" HDPE PIPE
2. CONSTRUCT 32' NEW 72" CONC. BOX CULVERT FLOOR
3. RELOCATE 36" TEMPORARY DIVERSION PIPE ON TOP OF NEW FLOOR
4. CONSTRUCT 32' NEW 72" CONC. BOX CULVERT WALLS
5. REMOVE IMPERVIOUS DIKE AND TEMPORARY 36" HDPE PIPE
6. CONSTRUCT 32' NEW 72" CONC. BOX CULVERT CEILING
7. CONSTRUCT NEW 72" CONC. BOX CULVERT ENDWALL AND BACKFILL

PROJECT REFERENCE NO.	SHEET NO.
43936.31 & 2016CPTJ4.03.2056IJ	4



PROJECT REFERENCE NO.	SHEET NO.
43936.3.1 & 2016CPT.14.03.20561.1	5

NC GRID NAD 83 NA 2011

20

PC Sta. 16+22.87

MATCHLINE -L- 15+00.00
SEE SHEET 4

MATCHLINE -L- 21+00.00
SEE SHEET 6

S 81° 23' 53.5" W
126.19'

EXIST. R/W

PROP. DRAINAGE DITCH

1' DIRT SHOULDER
2' PAVED SHOULDER

EXIST. LT EP

EXIST. RT EP

PROP. EOT

GRAVEL

PROP. CONSTRUCTION ENTRANCE

RW

+22.43
17.86'

+22.87
50.00'

+73.95
92.35'

RETAIN EXIST. GUARDRAIL

REMOVE AND RESET EXIST. GR FROM STA. 17+25-19+50

BAKER, DONNA LUCILLE
J-20/1015-1022

3

PI Sta 19+20.25
△ = 52° 43' 40.3" (LT)
D = 9° 32' 57.5"
L = 552.16'
T = 297.37'
R = 600.00'

PROJECT REFERENCE NO.	SHEET NO.
43936.3.1 & 2016CPT.14.03.20561.1	6

NC GRID NAD 83 NA 2011

POT Sta. 24+10.00

END PROJECT
-L- POT STA 24+10.00

PT Sta. 21+75.04

MATCHLINE -L- SEE SHEET -L- 21+00.00

ROUMELCO PROPERTIES, LLC
V-36/1810
4

ROUMELCO PROPERTIES, LLC
V-36/1810
4

EXIST. R/W

EXIST. EP

PROP. EP

PROP. LOD

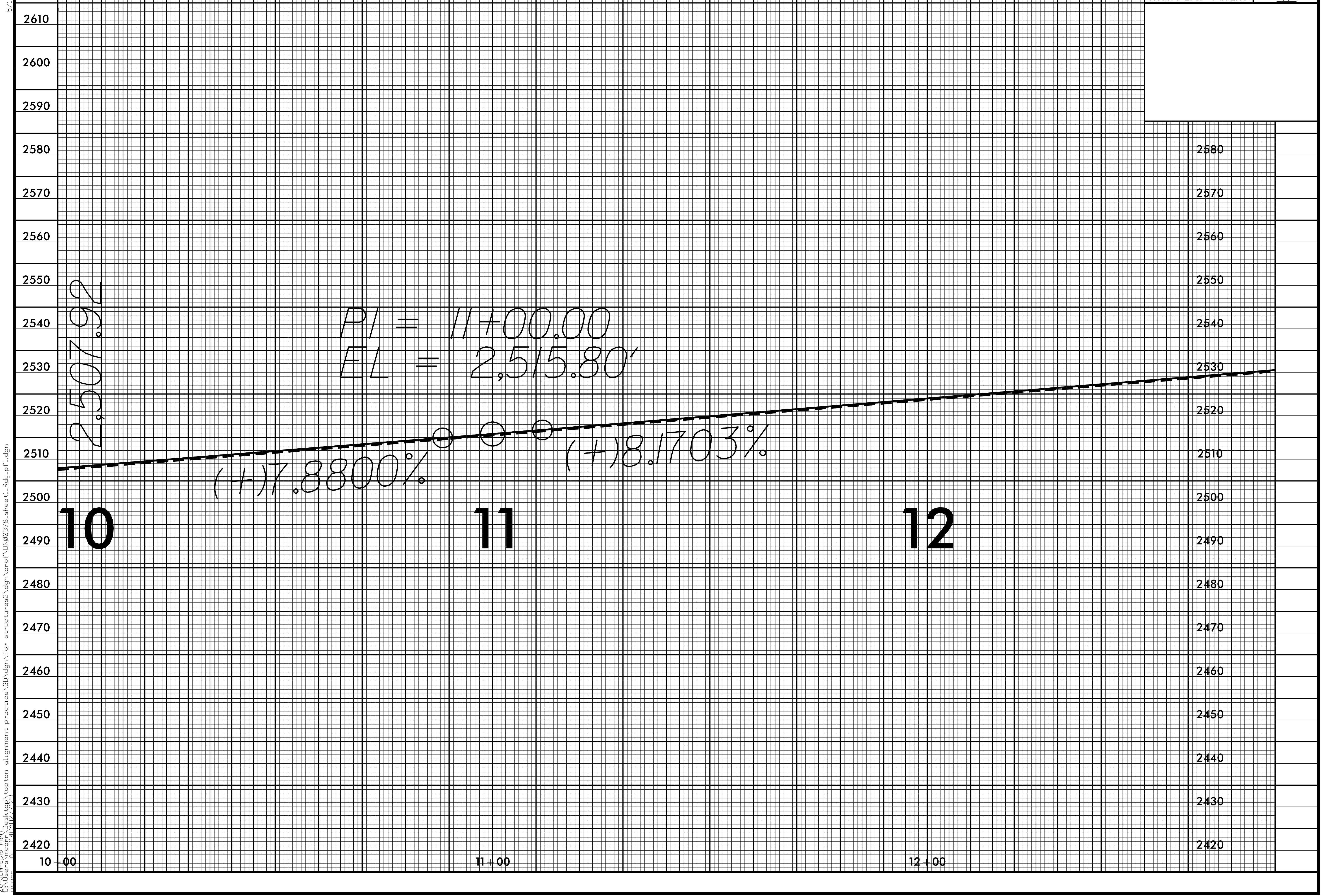
PROP. DRAINAGE DITCH

PROP. 10'

4' PAVED SHOULDER
4' DIRT SHOULDER

REMOVE AND RESET
EXIST. GR FROM STA.
21+00-22+25

PROJECT REFERENCE NO.	SHEET NO.
43936.3.1 & 2016CPT.14.03.20561.1	P1



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PROJECT REFERENCE NO.	SHEET NO.
43936.3J & 2016CPTJ4.03.20561J	P2

PI = 14+96.68
EL = 2,548.21'

(+)8.170%

13

14

15

13+00

14+00

15+00

2630 2620 2610 2600 2590 2580 2570 2560 2550 2540 2530 2520 2510 2500 2490 2480 2470 2460 2450 2440

2600 2590 2580 2570 2560 2550 2540 2530 2520 2510 2500 2490 2480 2470 2460 2450 2440

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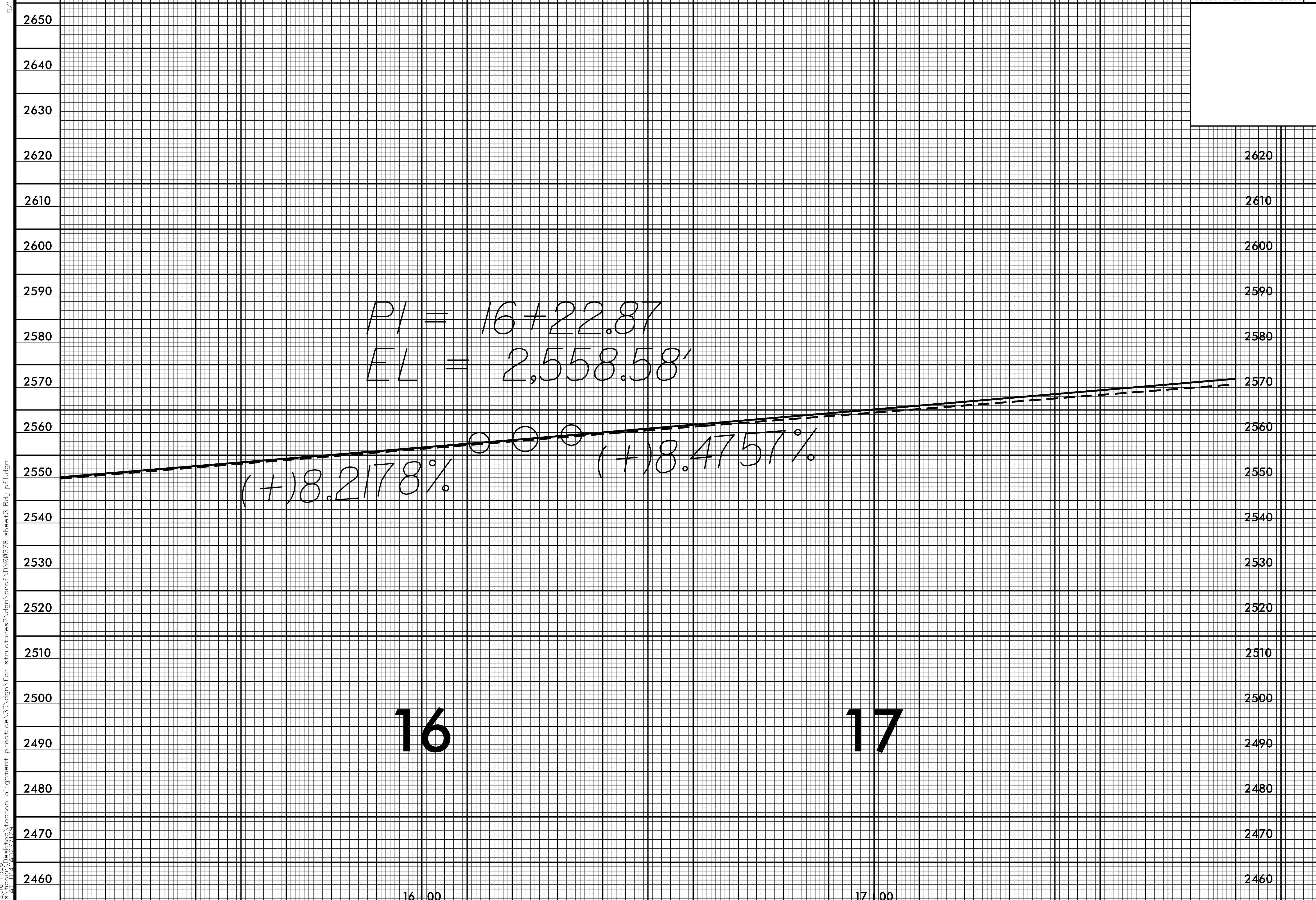
PROJECT REFERENCE NO.	SHEET NO.
43936.3.1 & 2016CPT.14.03.20561.1	P3



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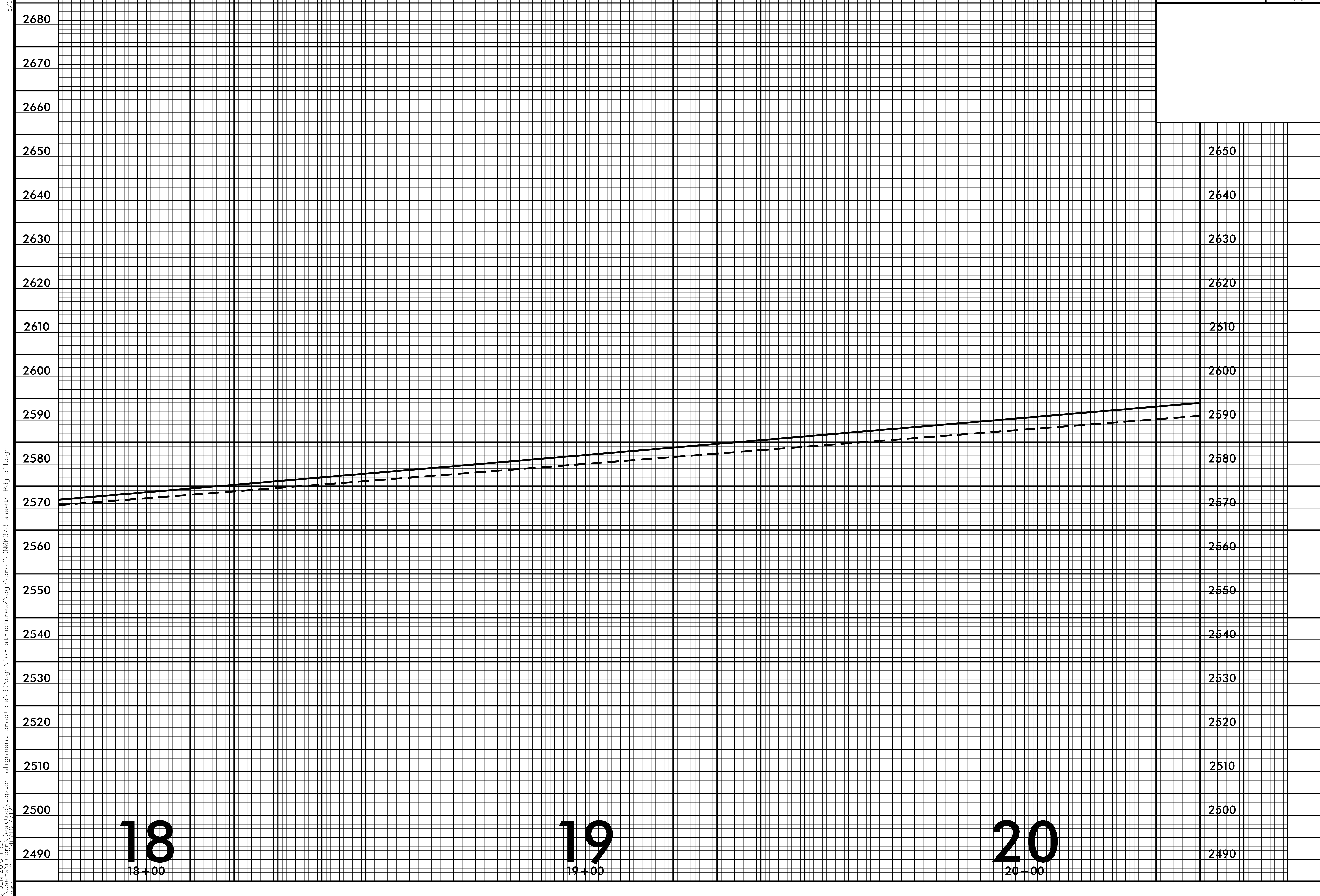
43936.3.1 & 2016CPT.14.03.20561.1	P4



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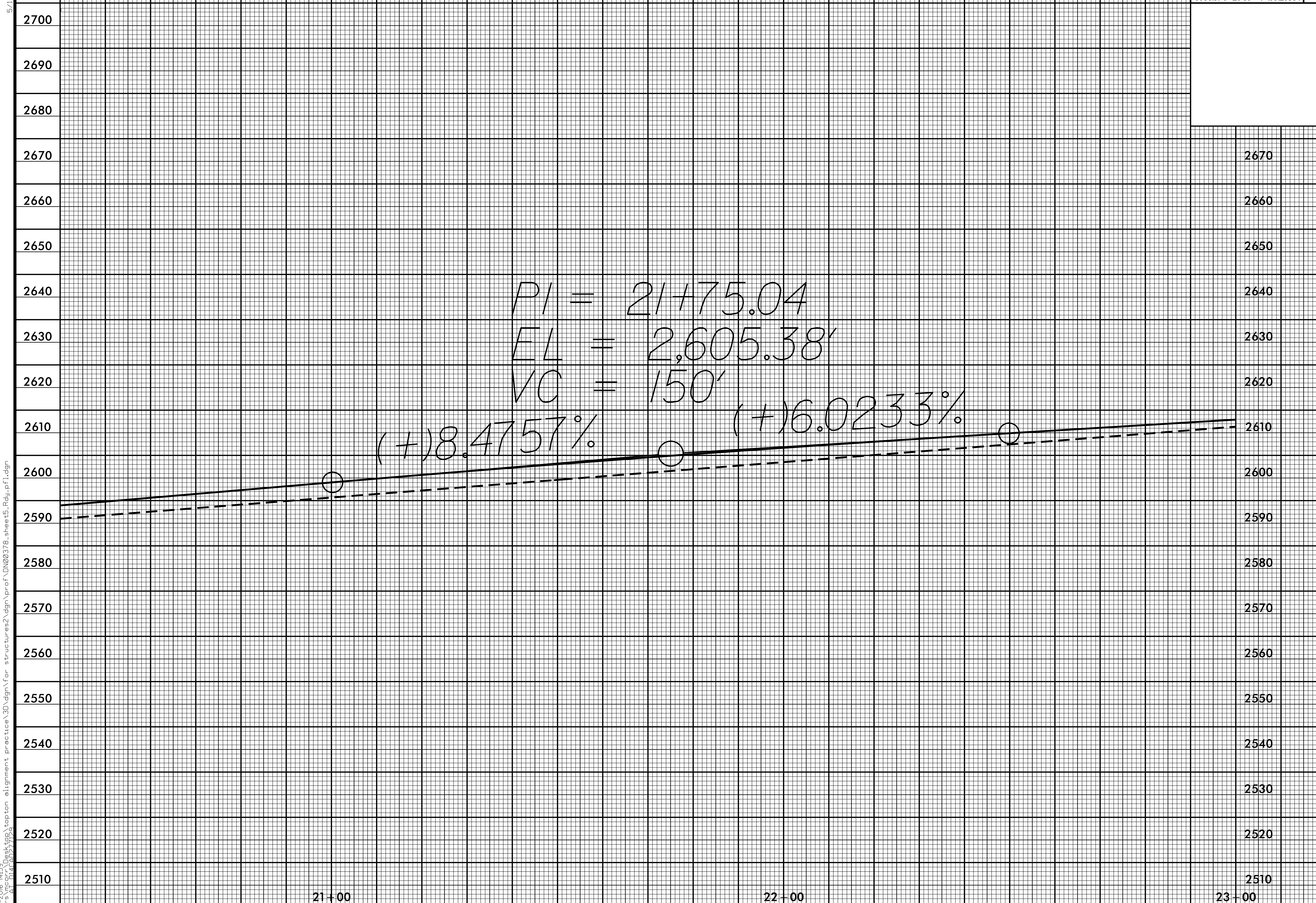
43936.3.1 & 2016CPT.14.03.20561.1	P5



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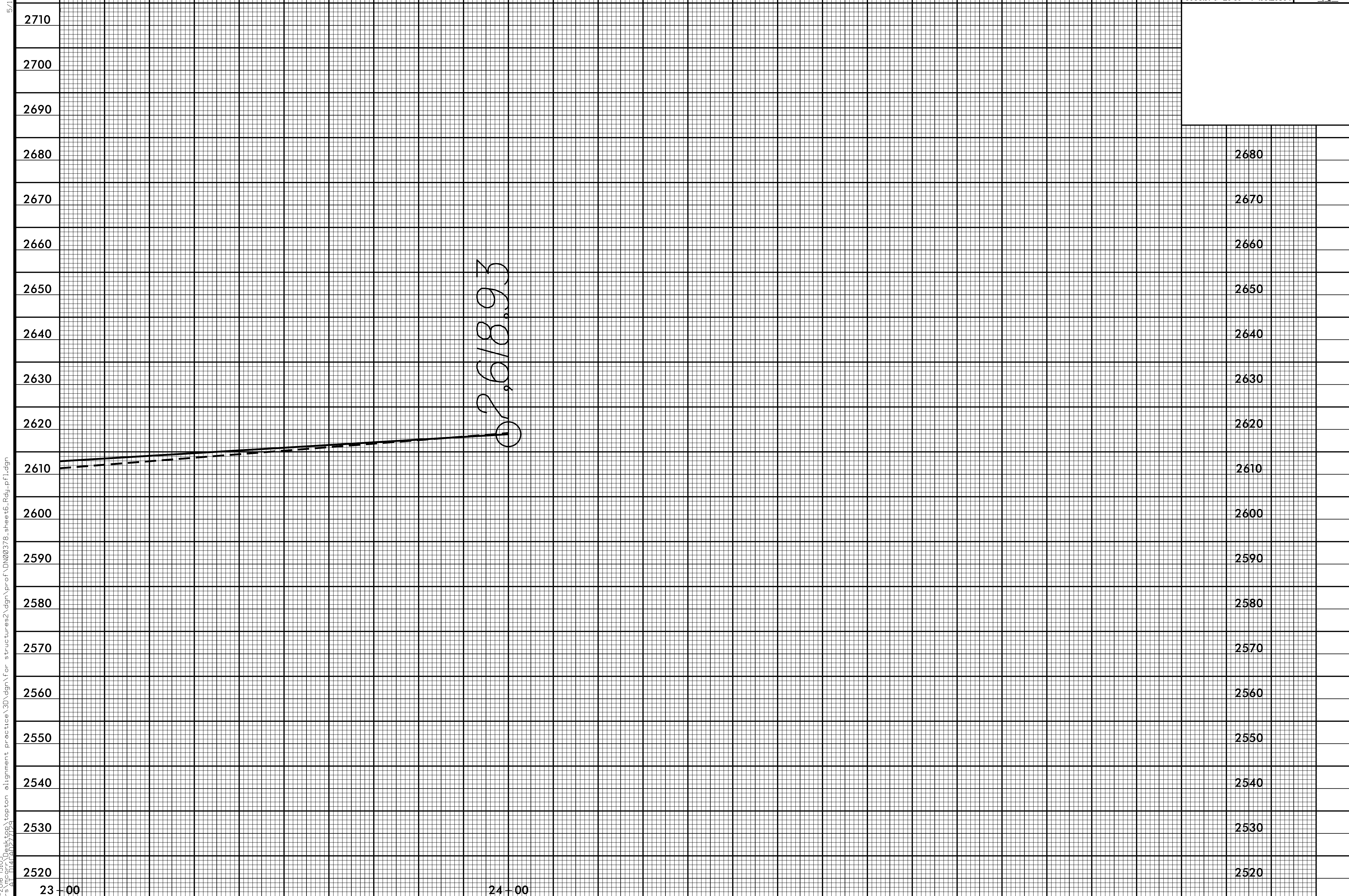
PROJECT REFERENCE NO.	SHEET NO.
43936.3.1 & 2016CPT.14.03.20561.1	P6



PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	SC-1

SURVEY CONTROL SHEET

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-1" WITH NAD 83(2011) STATE PLANE COORDINATES OF NORTHING: 579973.3240(FT) EASTING: 598025.9210(FT) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99979354 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-1" TO -L- STATION 10+00 IS N 35°44'20" E 361.69' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS BASED ON NCDOT MONUMENT "BL-1" (ELEV = 2535.5150') (NAVD88) GEOIDAL MODEL: GI2NC

Point	North	East	Elevation
BL-1	579973.3240	598025.9210	2535.5150
BL-2	580003.5290	598132.1100	2525.0650
BL-3	579928.2260	598156.7760	2529.9000

Point	North	East	Elevation
TBM 1	580214.5230	598052.9260	2482.6600

8" SPIKE SET IN SE SIDE OF COMBO POWER/TELEPHONE/ CABLE POLE +/- 1' ABOVE GROUND LOCATED 100' NORTH EAST OF EXISTING NORTH HEADWALL

Point	North	East	Elevation
TBM 2	580023.5590	598122.6520	2523.9810

8" SPIKE SET IN SW SIDE OF 24" POPLAR TREE +/- 1' ABOVE GROUND LOCATED SOUTH SIDE OF HWY 19, 15.5' SOUTH EAST OF EXISTING ROCK SIGN

-L-

Align	Station	North	East
-L-	10+00.00	580266.058	598236.574
-L-	10+50.00	580224.389	598208.938
-L-	11+00.00	580182.721	598181.302
-L-	11+50.00	580142.428	598151.732
-L-	12+00.00	580105.288	598118.287
-L-	12+50.00	580071.673	598081.302
-L-	13+00.00	580041.918	598041.145
-L-	13+50.00	580016.321	597998.218
-L-	14+00.00	579995.137	597952.951
-L-	14+50.00	579978.578	597905.794
-L-	15+00.00	579966.944	597857.197
-L-	15+50.00	579959.466	597807.760
-L-	16+00.00	579951.987	597758.322
-L-	16+50.00	579943.377	597709.083
-L-	17+00.00	579930.682	597660.736
-L-	17+50.00	579914.008	597613.614
-L-	18+00.00	579893.469	597568.043
-L-	18+50.00	579869.208	597524.340
-L-	19+00.00	579841.393	597482.808
-L-	19+50.00	579810.218	597443.735
-L-	20+00.00	579775.899	597407.393
-L-	20+50.00	579738.674	597374.034
-L-	21+00.00	579698.801	597343.889
-L-	21+50.00	579656.558	597317.167
-L-	22+00.00	579611.852	597294.864
-L-	22+50.00	579566.277	597274.297
-L-	23+00.00	579520.703	597253.731
-L-	23+50.00	579475.128	597233.165
-L-	24+00.00	579429.554	597212.599

-L-

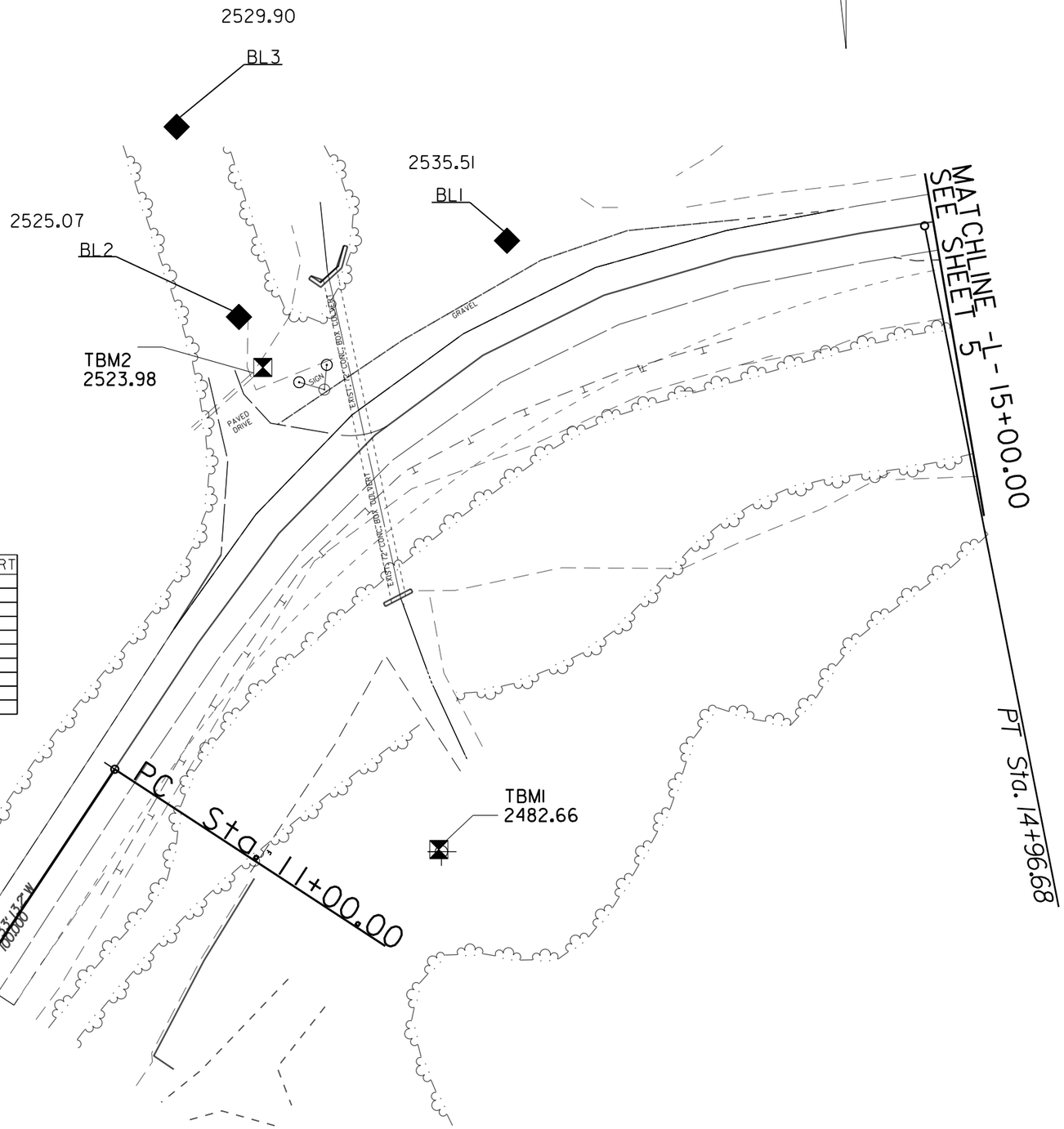
Type	Station	North	East
POT	10+00.00	580266.058	598236.574
PC	11+00.00	580182.7208	598181.3021
PI	13+09.44	580007.8882	598065.9807
PT	14+96.68	579967.4410	597860.4825
PC	16+22.87	579948.5661	597735.7049
PI	19+20.25	579898.2852	597442.6145
PT	21+75.04	579634.6030	597305.1306
POT	24+10.00	579420.4365	597208.4844

ROW Marker

Align	Station	North	East	Offset RT
-L-	10+00.00	580277.1208	598219.8934	20.02
-L-	10+00.00	580293.6937	598194.9055	50.00
-L-	11+00.60	580209.8568	598139.3021	50.00
-L-	12+00.00	580140.6920	598082.7951	50.00
-L-	11+89.68	580166.2360	598069.5491	77.33
-L-	12+39.88	580146.2152	598030.9386	89.30
-L-	12+50.00	580110.4821	598049.4683	50.00
-L-	15+18.13	580013.6392	597831.5896	50.00
-L-	16+09.73	579999.9382	597741.0152	50.00
-L-	16+09.73	579968.8350	597745.7209	18.54

Temporary Construction Easement

Align	Station	North	East	Offset RT	Offset LT
-L-	10+00.00	580293.6937	598194.9055	50.00	
-L-	10+64.65	580243.3938	598153.1453	57.00	
-L-	10+94.00	580225.8587	598127.1161	69.00	
-L-	11+50.00	580206.9536	598072.6505	102.00	
-L-	14+65.00	580079.3903	597863.6884	108.00	
-L-	15+74.00	580046.8098	597770.0615	92.00	
-L-	16+09.73	579999.9382	597741.0152	50.00	
-L-	12+00.87	580080.6134	598141.7520		34.04
-L-	12+14.92	580058.7544	598141.7520		49.85
-L-	12+40.86	580040.0093	598120.1839		49.42
-L-	12+50.22	580042.4724	598104.8801		37.73



PROJECT REFERENCE NO.	SHEET NO.
43936.3.1; 2016CPT.14.03.10561J	PM-1

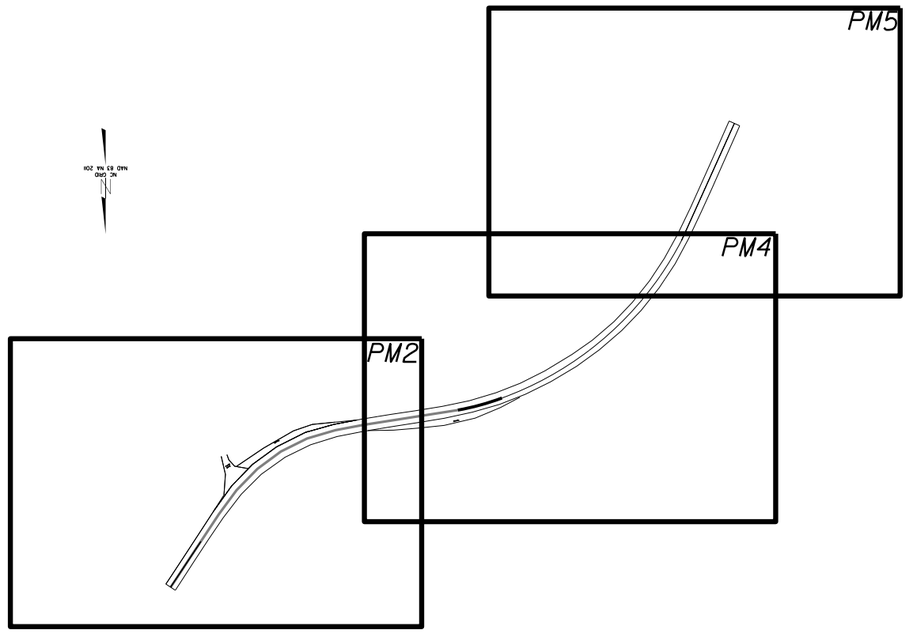
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PAVEMENT MARKING PLAN

MACON COUNTY

LOCATION: ***ALONG NC HWY 19 /74 NEAR MACON/CHEROKEE COUNTY LINE***

TYPE OF WORK: GRADING, PAVING, BOX CULVERT INSTALLATION, GUARDRAIL INSTALLATION



ROADWAY STANDARD DRAWINGS

2012 ROADWAY STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" - Highway Design Branch - N.C. Department of Transportation - Raleigh, N.C., dated January 17, 2012 and the latest revision thereto 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- 2 Lane and Multilane Roadways

INDEX

PAVEMENT MARKING SCHEDULE

FINAL
PAVEMENT MARKINGS

CLI	YELLOW DOUBLE CENTER	4" THERMO (50 MIL)
ETI	WHITE EDGELINE	4" THERMO (50 MIL)
CWG	WHITE GORE LINE	8" THERMO (50 MIL)

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 AS DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
HWY 19 / 74	THERMOPLASTIC	N/A

PLACE ONE (1) APPLICATION OF THERMOPLASTIC PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE.

A) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES

B) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

CONTRACT: DN00534 TIP: SS-4914BO WBS ELEMENT:43936.3.1;2016PT.14.03.10561.1

09/08/99

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PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	PM-2

NC GRID
NAD 83 NA 2011

BEGIN PROJECT
-L- POT STA 10+00.00

POT Sta. 10+00.00

CLI

ETI

ETI

CWG

GRAVEL

PAVED DRIVE

RETAIN EXIST. ASPHALT PAVEMENT

EC Sta. 11+00.00

PT Sta. 14+96.68

MATCHLINE SEE SHEET 5
-L- 15+00.00

PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	PM-3

NC GRID
NAD 83 NA 2011

PC Sta. 16+22.87

MATCHLINE -L- 21+00.00
SEE SHEET 6

ETI

CLI

GRAVEL

ETI

MATCHLINE -L- 15+00.00
SEE SHEET 4

PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	PM-4

CONTRACT: DN00534 TIP: SS-4914BO WBS ELEMENT: 43936.3.1;2016CPT.14.03.10561.1

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	43936.3.1 & 2016CPT.14.03.10561.1	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

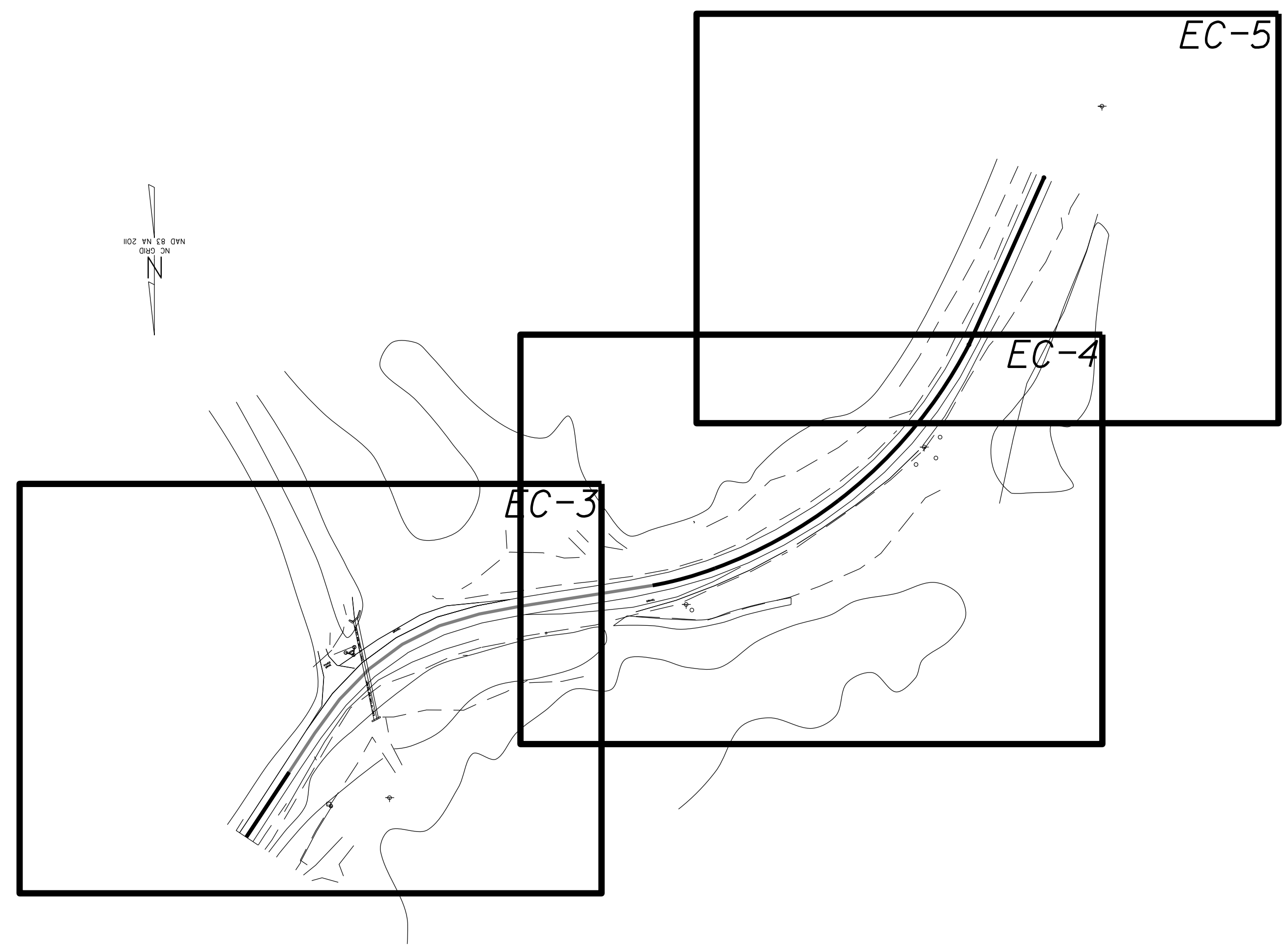
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

MACON COUNTY

LOCATION: ALONG NC HWY 19 /74 NEAR MACON/CHEROKEE COUNTY LINE

TYPE OF WORK: GRADING, PAVING, BOX CULVERT INSTALLATION, GUARDRAIL INSTALLATION



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	SW / CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

GRAPHIC SCALE

25 12.5 0 25 50

PLANS

DIVISION 14, DISTRICT 3
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:

DIVISION 14, DISTRICT 3

191 ROBBINSVILLE ROAD
ANDREWS, NC 28901

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

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

1604.01 Railroad Erosion Control Detail
1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence
1607.01 Gravel Construction Entrance
1622.01 Temporary Berms and Slope Drains
1630.01 Riser Basin
1630.02 Silt Basin Type B
1630.03 Temporary Silt Ditch
1630.04 Stilling Basin
1630.05 Temporary Diversion
1630.06 Special Stilling Basin
1631.01 Matting Installation
1632.01 Rock Inlet Sediment Trap Type A
1632.02 Rock Inlet Sediment Trap Type B
1632.03 Rock Inlet Sediment Trap Type C
1633.01 Temporary Rock Silt Check Type A
1633.02 Temporary Rock Silt Check Type B
1634.01 Temporary Rock Sediment Dam Type A
1634.02 Temporary Rock Sediment Dam Type B
1635.01 Rock Pipe Inlet Sediment Trap Type A
1635.02 Rock Pipe Inlet Sediment Trap Type B
1640.01 Coir Fiber Baffle
1645.01 Temporary Stream Crossing

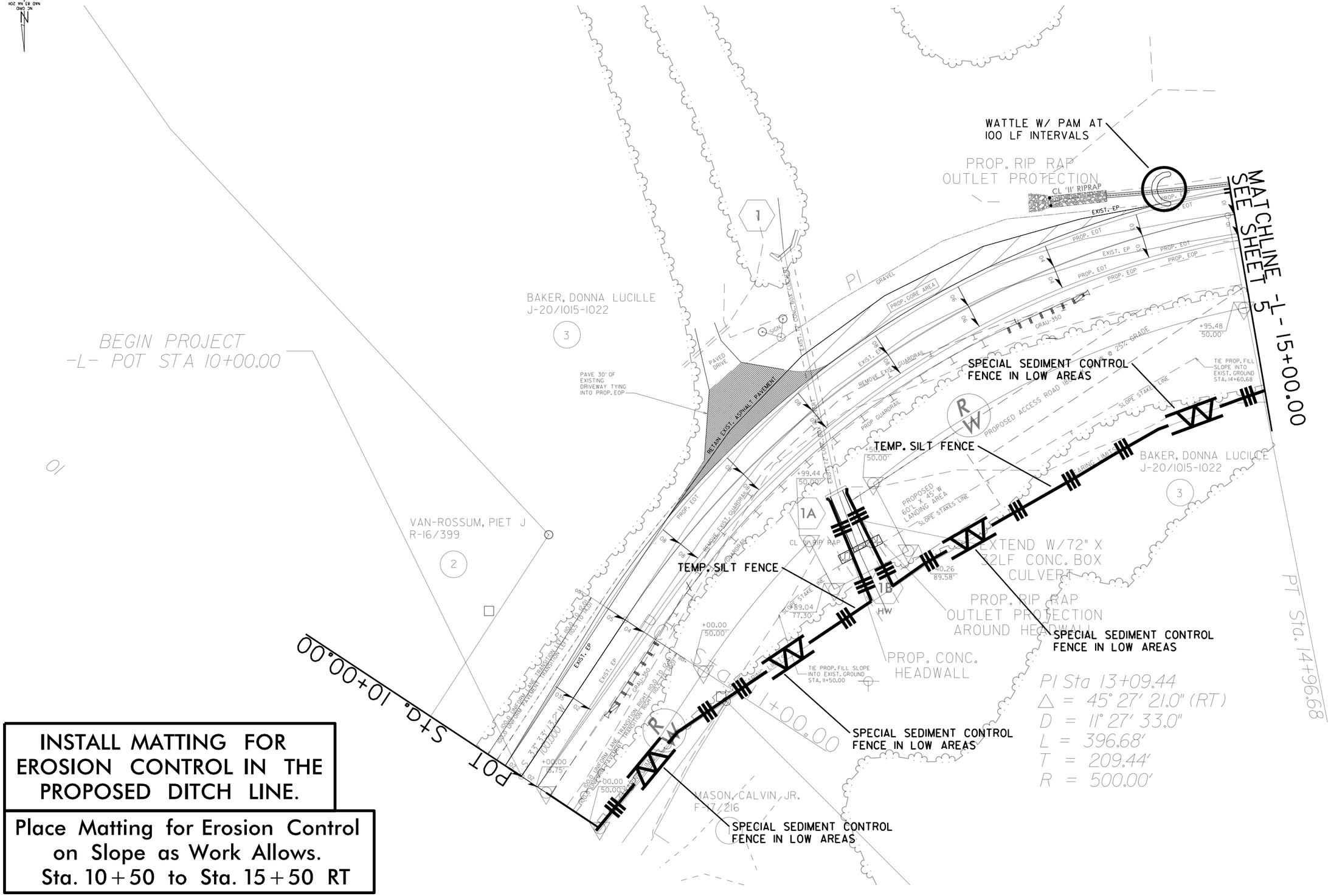
PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	EC-2

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

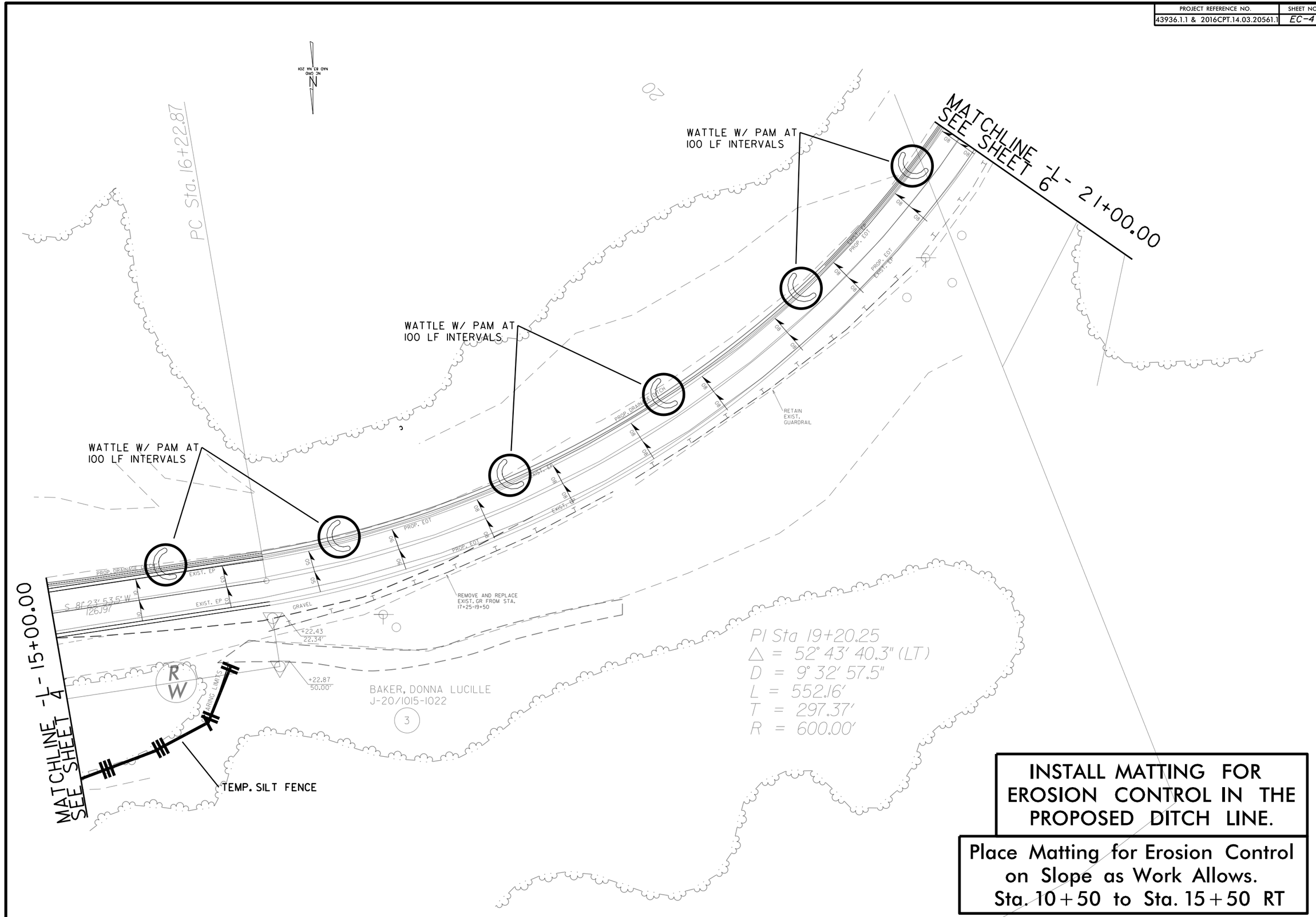
SOIL STABILIZATION TIMEFRAMES

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

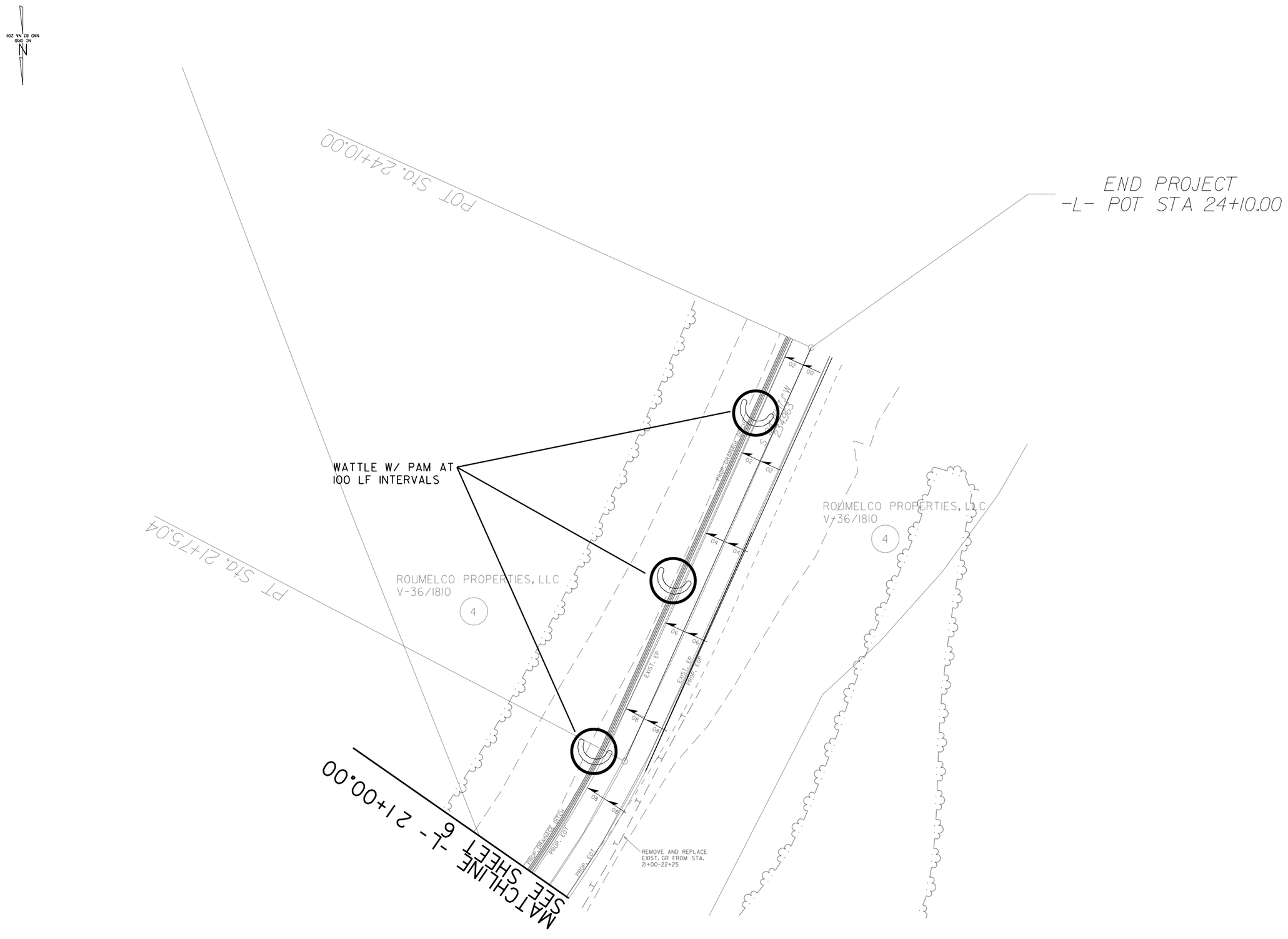
PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	EC-3



PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	EC-4



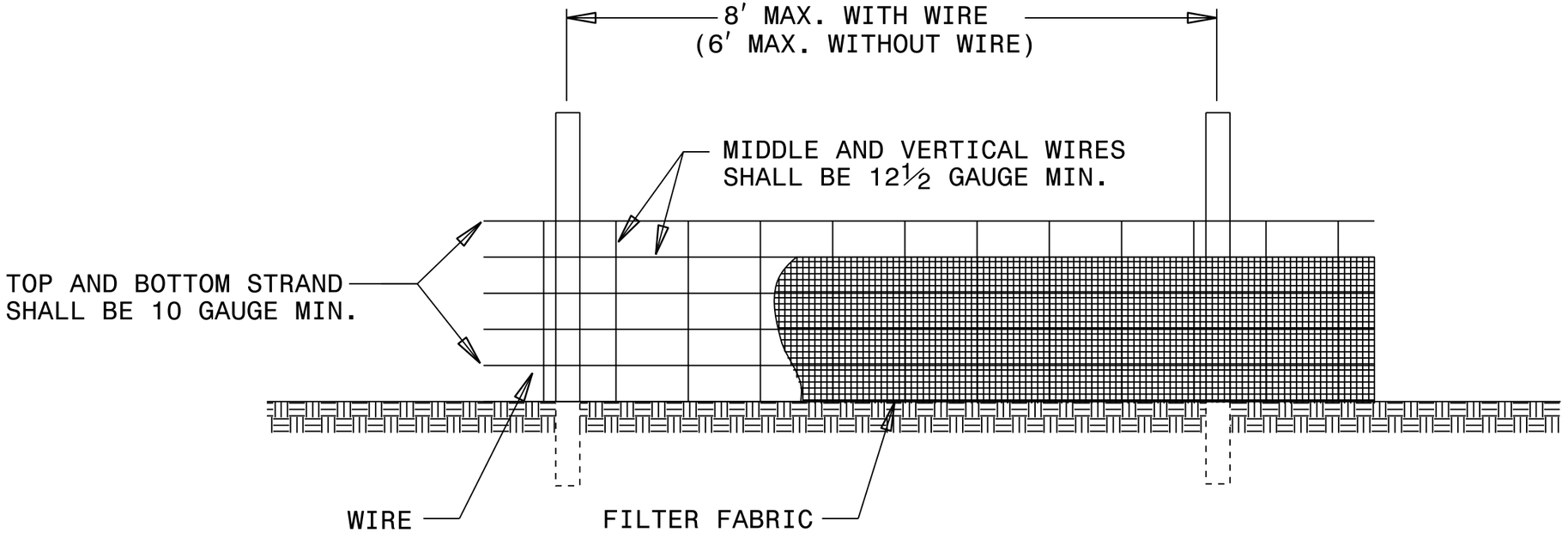
PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	EC-5



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

ENGLISH STANDARD DRAWING FOR

TEMPORARY SILT FENCE

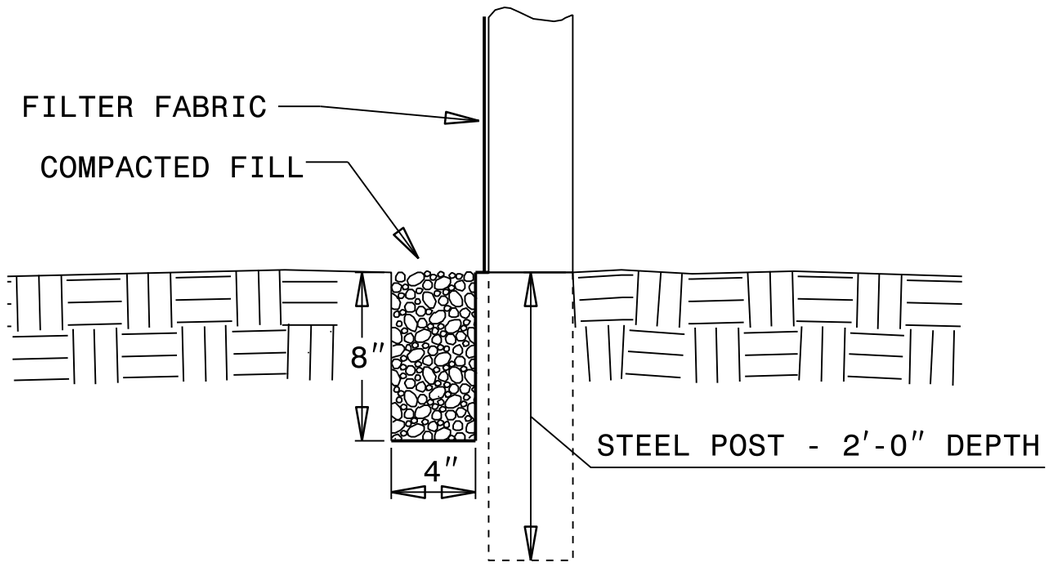


NOTES

USE WIRE A MINIMUM OF 32″ IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 12″ STAY SPACING.

USE FILTER FABRIC A MINIMUM OF 36″ IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.

PROVIDE 5′-0″ STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.



EXTENSION OF FABRIC AND
WIRE INTO TRENCH

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

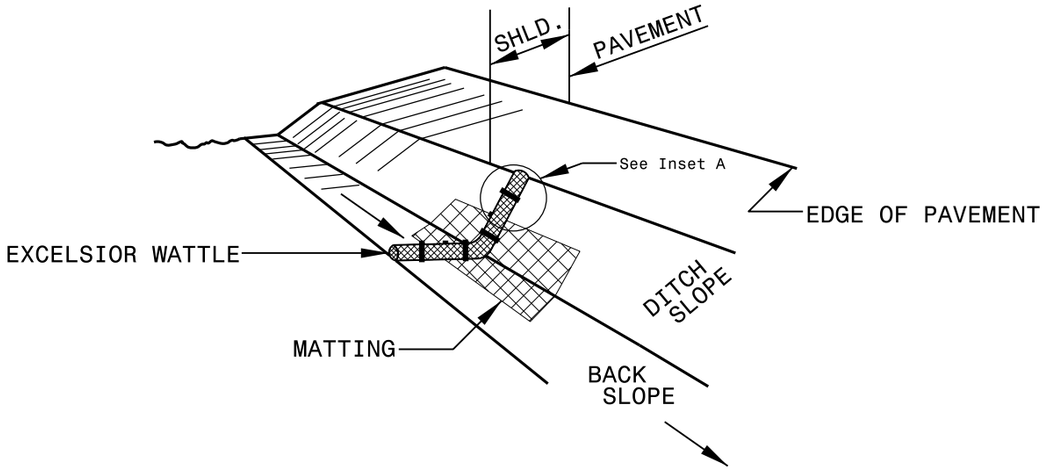
ENGLISH STANDARD DRAWING FOR

TEMPORARY SILT FENCE

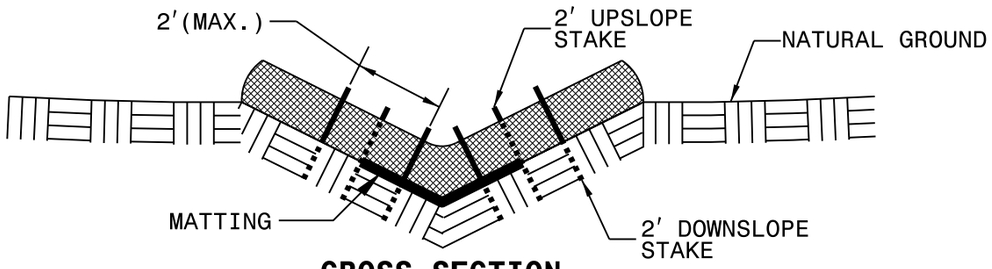
SHEET 1 OF 1
1605.01

PROJECT REFERENCE NO.	SHEET NO.
43936.1.1 & 2016CPT.14.03.20561.1	EC-7

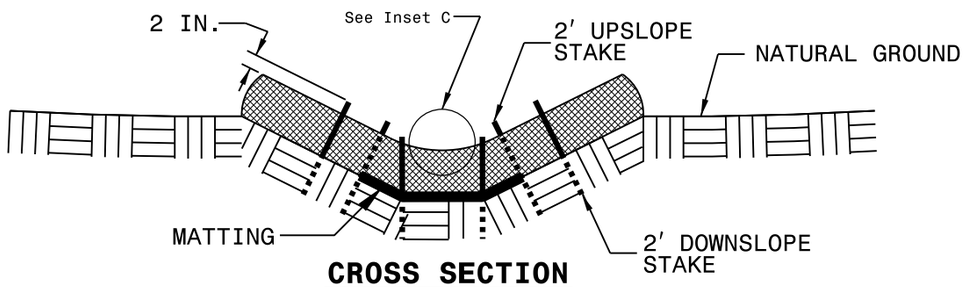
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

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

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

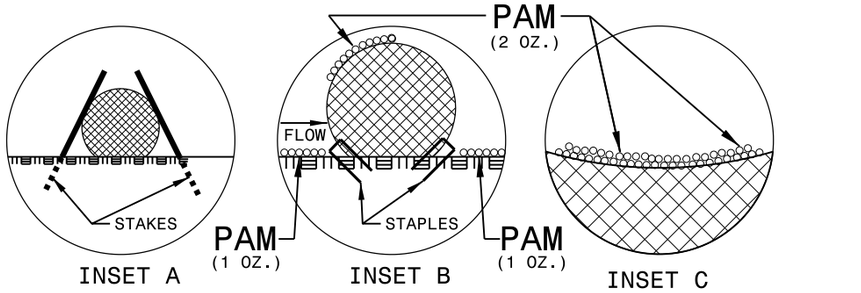
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

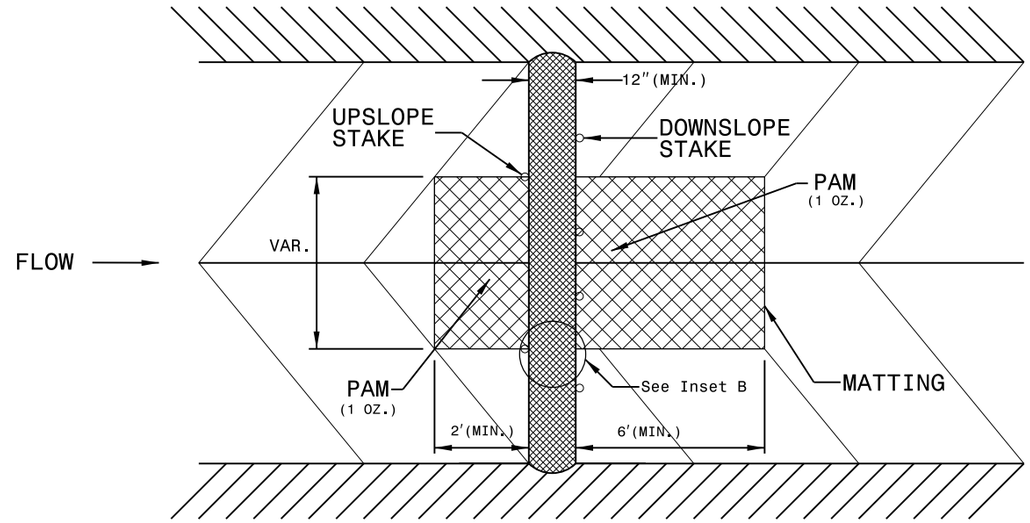
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

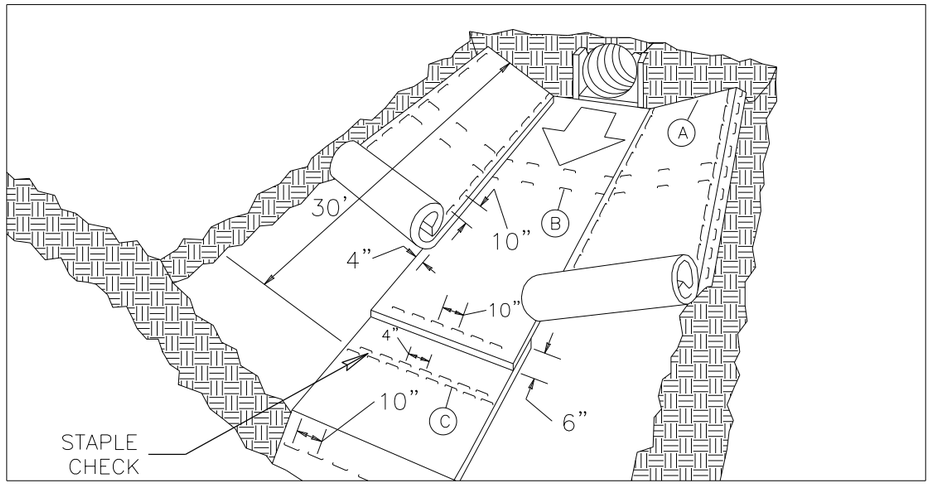




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
43936.31 & 2016CPTJ4.03.20561A	EC-8

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

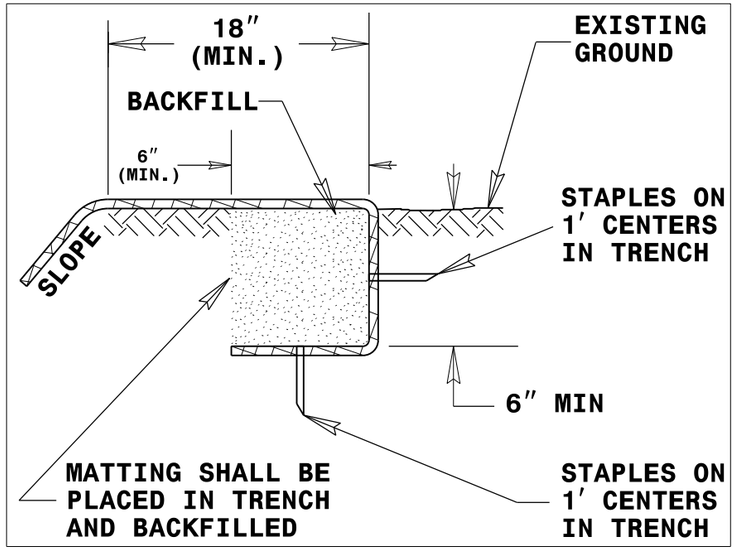
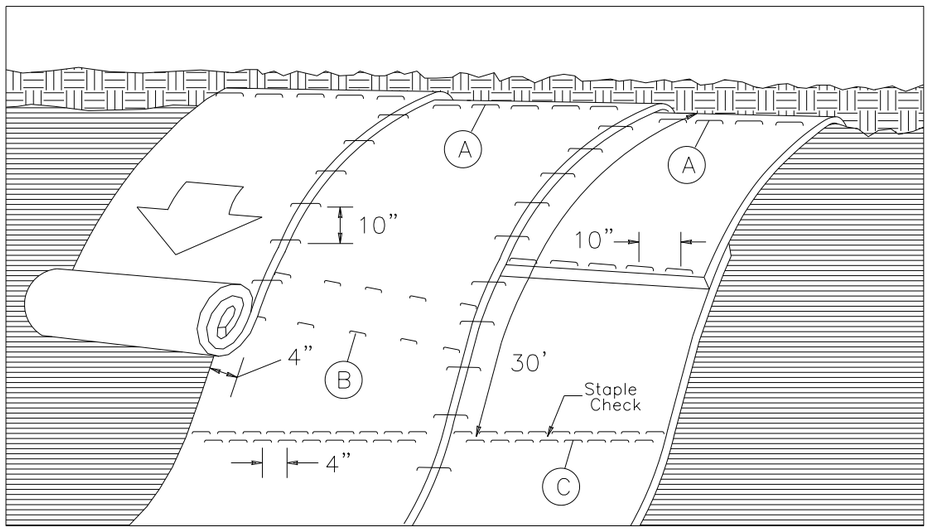


DIAGRAM (A)



MATTING ON SLOPES

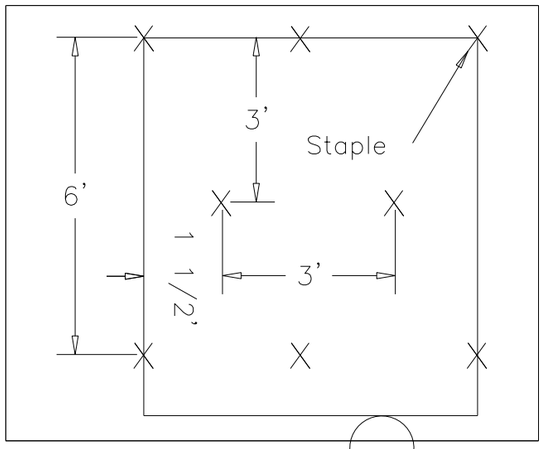


DIAGRAM (B)

Staple Check Pattern

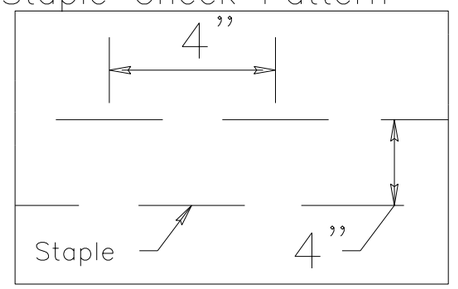


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

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ENGLISH STANDARD DRAWING FOR

SPECIAL SEDIMENT CONTROL FENCE

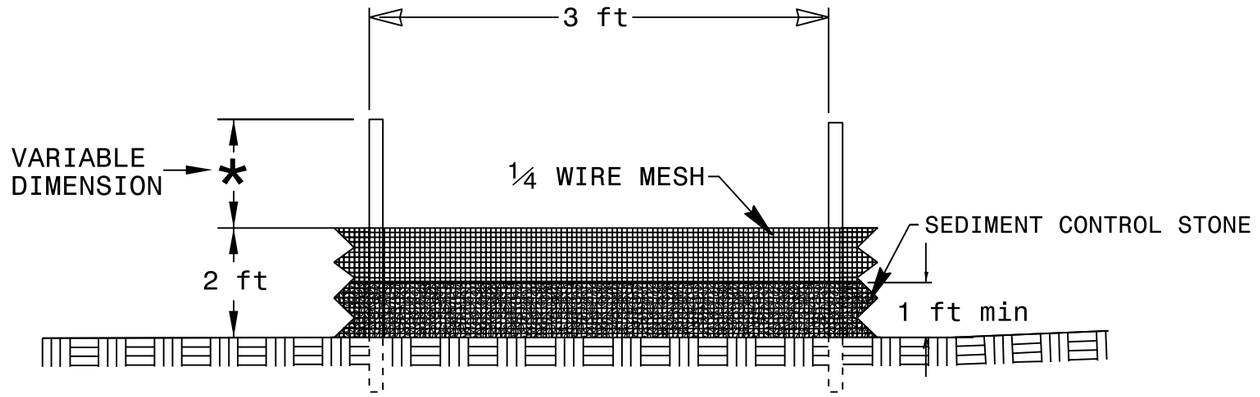
GENERAL NOTES:

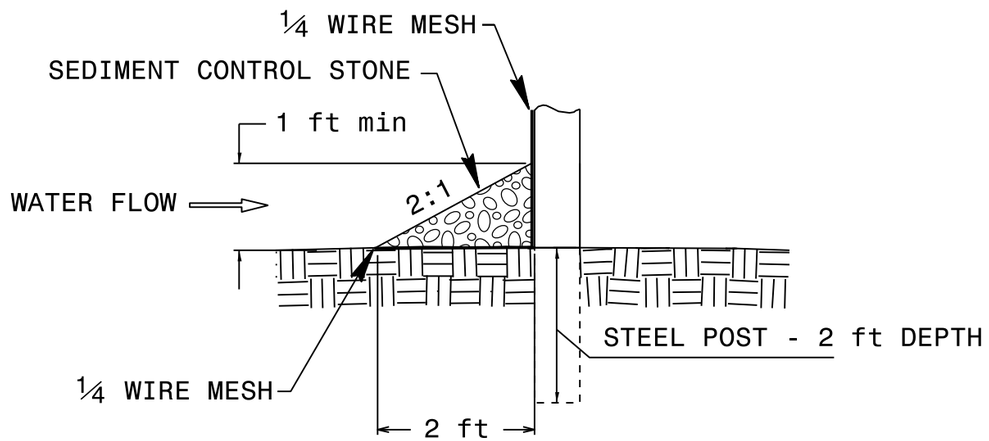
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

USE HARDWARE CLOTH 24 GAUGE WIRE MESH WITH 1/4 INCH MESH OPENINGS.

INSTALL 5 FT. SELF FASTENER ANGLE STEEL POST 2 FT. DEEP MINIMUM.

SPACE POST A MAXIMUM OF 3 FT.





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ENGLISH STANDARD DRAWING FOR

SPECIAL SEDIMENT CONTROL FENCE

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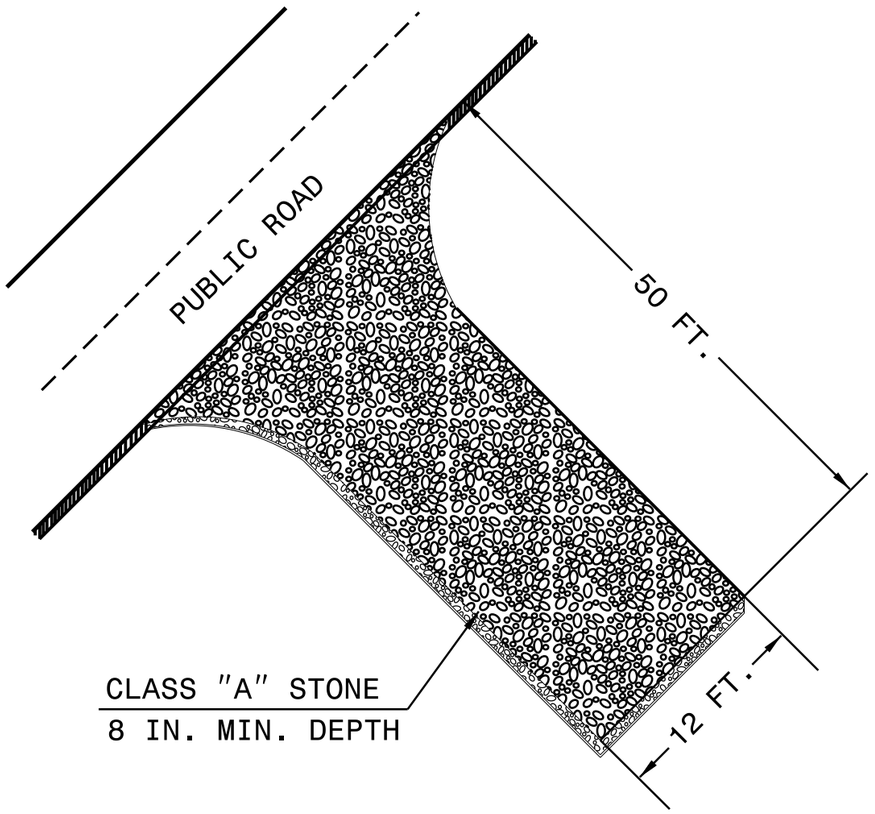
7-06

ENGLISH STANDARD DRAWING FOR

GRAVEL CONSTRUCTION ENTRANCE



NOTES:
1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCE(S) TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.

NOTE: PLACE FILTER FABRIC BENEATH STONE

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ENGLISH STANDARD DRAWING FOR

GRAVEL CONSTRUCTION ENTRANCE

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