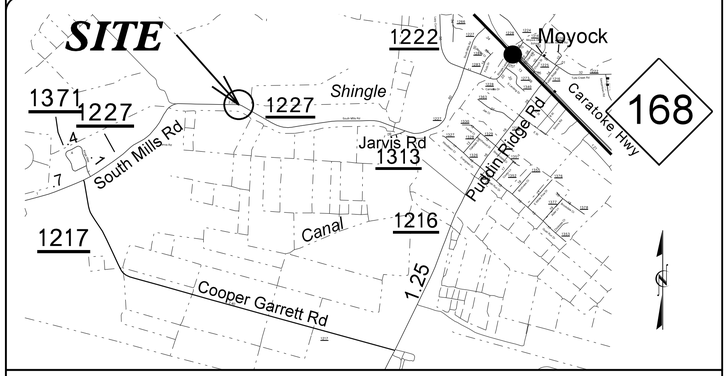
09/08/99

WBS #: 42999.3.1

CONTRACT: DA00169



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

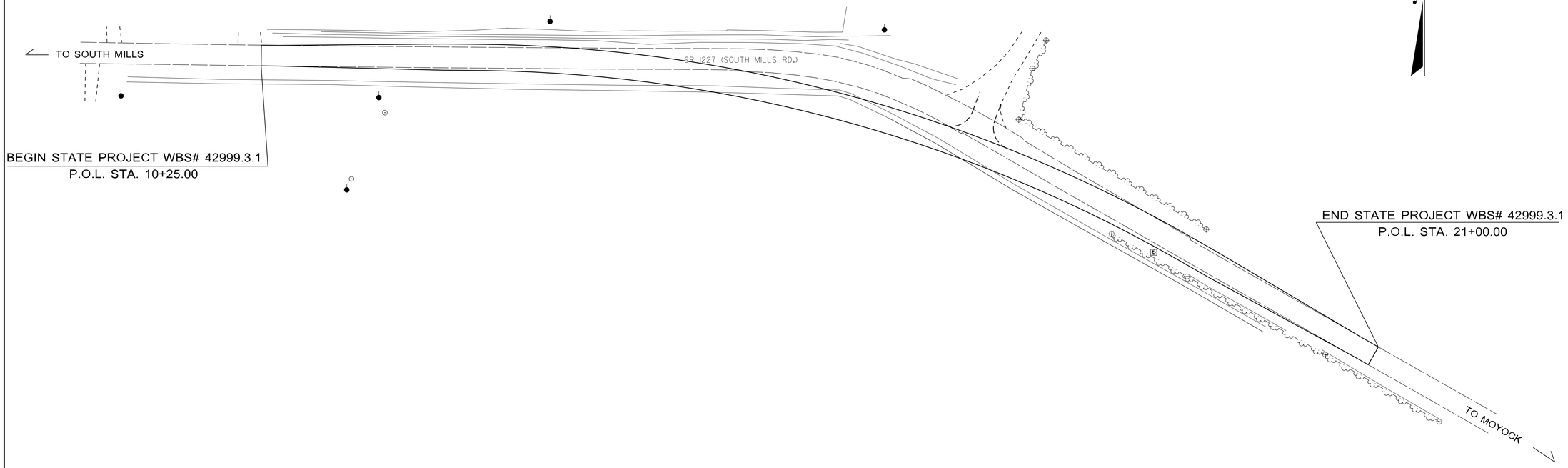
CURRITUCK COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	42999.3.1	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42999.1.1		PE
42999.2.1		R/W
42999.3.1		CONST.

LOCATION: SOUTH MILLS RD.(SR 1227), 1.067 MILES WEST OF JARVIS RD.(SR 1313)

TYPE OF WORK: GRADING, BASE, PAVING TO IMPROVE CURVE RADIUS



GRAPHIC SCALES

25 0 25 50
PLANS

25 0 25 50
PROFILE (HORIZONTAL)

2.5 0 2.5 5
PROFILE (VERTICAL)

DESIGN DATA

ADT 2007 = 2,600

V = 55 MPH

PROJECT LENGTH

TOTAL LENGTH STATE PROJECT WBS#42999.3.1= 0.194 MILES

Prepared in the Office of:

DIVISION OF HIGHWAYS

113 Airport Dr., Edenton NC, 27932

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 22, 2012

LETTING DATE: OCTOBER 16, 2013

BARRY HOBBS, PE
DIVISION PROJECT MANAGER

CHRIS SLACHTA
DIVISION PROPOSALS ENGINEER

S. P. FENWICK, PLS
DIVISION DESIGN ENGINEER

DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
42999.3.1	1-A

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
4 & 5	PLAN SHEET / PROFILE SHEET
EC-1 THRU EC-3	EROSION CONTROL PLANS
X-1A	CROSS-SECTION SUMMARY
X-1 THRU X-5	CROSS-SECTIONS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 07-30-2012

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04
SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

RIGHT-OF-WAY MARKERS:

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

EFF. 01-17-2012
REV. 10-30-2012

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
225.09	Guide for Shoulder and Ditch Transition at Grade Separations
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I

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sferwick

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
42999.3.1	1-B

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: Boundary or Site
- Potential Soil Contamination: Boundary 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 Marker — RW
- 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
- Curb Cut Future Ramp — CCFR
- 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.

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
42999.3J	1-C
LOCATION AND SURVEYS	

SURVEY CONTROL SHEET

CONTROL DATA

POINT	DESC.	NORTH	BL EAST	ELEVATION	L STATION	OFFSET
1	(NCGS CABINET 1995)	1020147.7000	2820128.9800	16.16	15+56.21	49.23 LT
2	(NCGS MAKER 1995)	1020170.3600	2818018.1300	17.68	OUTSIDE PROJECT LIMITS	N/A
3	(PK NAIL)	1020154.9940	2819449.4280	15.68	OUTSIDE PROJECT LIMITS	N/A
4	(BRIDGE NAIL)	1019993.0450	2820359.1640	15.13	18+23.08	14.81 LT

BENCHMARK DATA

****

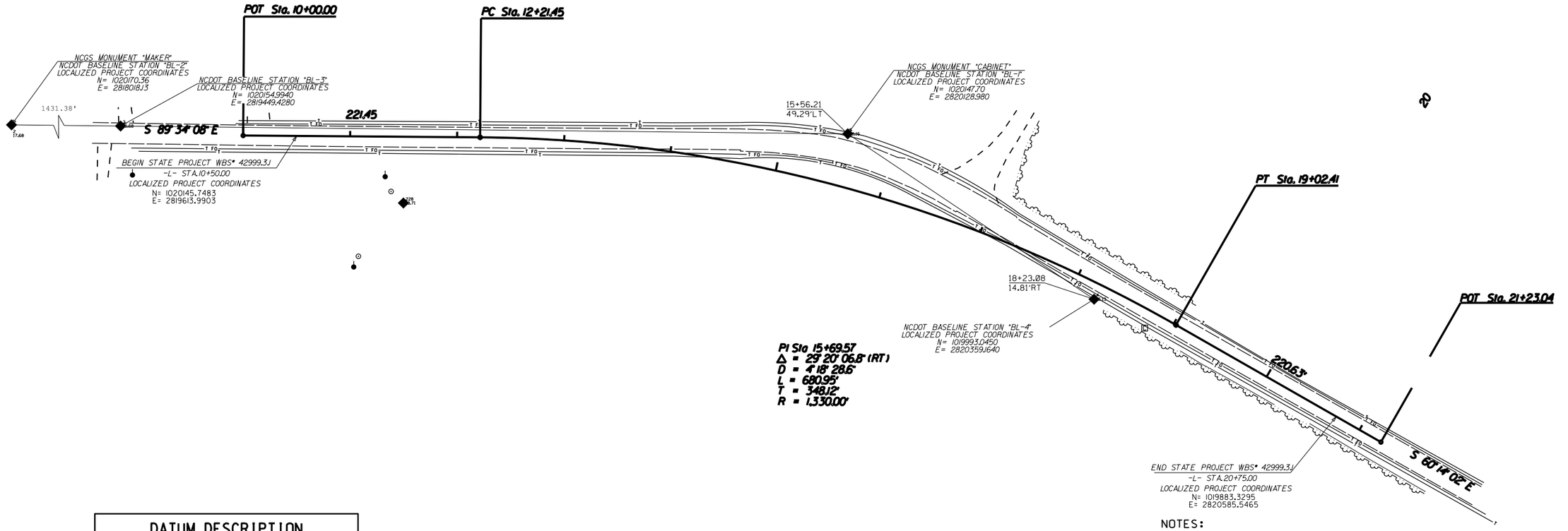
BM 1 ELEVATION = 16.16'

N 1020148 E 2820129

-L- STATION 15+56 49.3'LT.

NCGS "CABINET" 1995 DISC SET IN CONCRETE

****



NC GRID
NAD 83/NSRS 2007

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "CABINET"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 1020147.70(ft) EASTING: 2820128.980(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00012334
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-1" TO -L- STATION 10+00.00 IS S 89°-50'-25"W 249.41'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

SCALE:
1" = 50'
(FULL SIZE)

NOTES:

SITE CALIBRATION PARAMETERS HAVE NOT BEEN DETERMINED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE DIVISION ONE DDC UNIT.

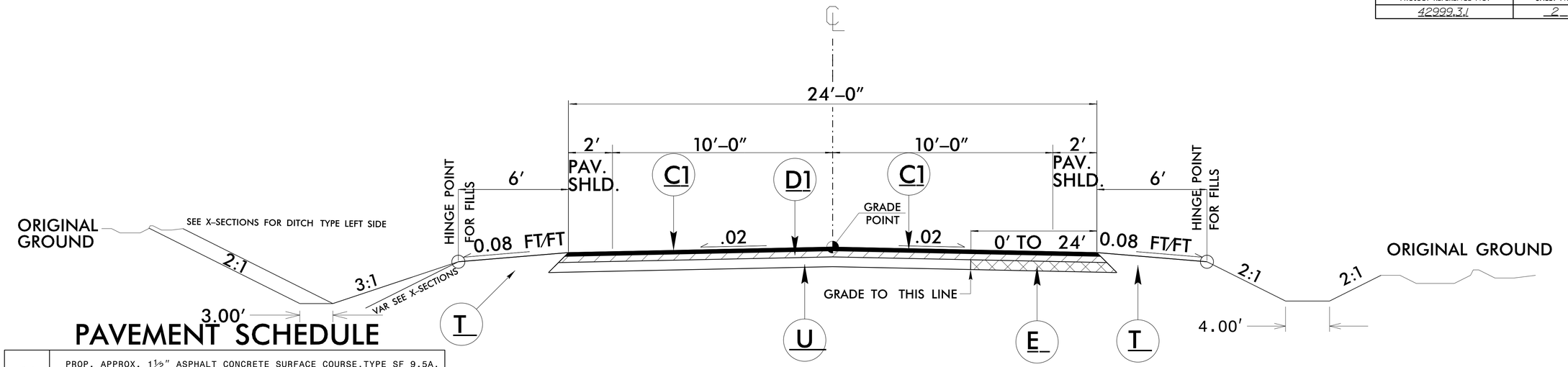
◆ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT DIVISION ONE DDC UNIT.

PROJECT CONTROL ESTABLISHED UTILIZING STANDARD SURVEYING METHODS.

NETWORK ESTABLISHED FROM EXISTING NGS MONUMENTATION.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
42999.31	2



TYPICAL SECTION NO. 2

USE AT:

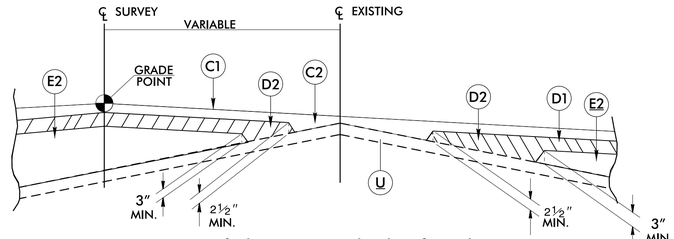
–L– STA. 11+91.45 TO –L– STA. 19+32.41

PAVEMENT SCHEDULE

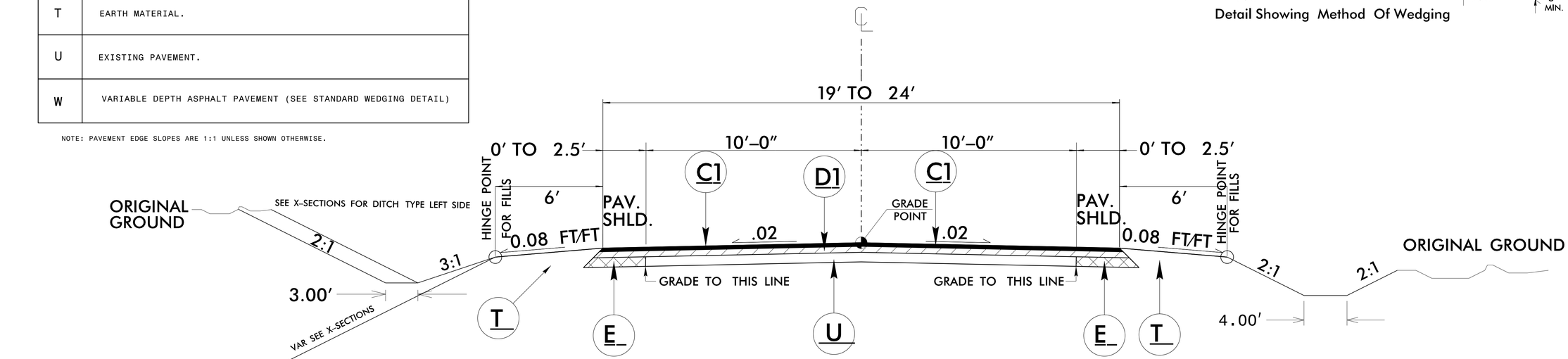
C1	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE,TYPE SF 9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½″ IN DEPTH.
D1	PROP. APPROX. 2½″ DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.
E	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B 25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

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

2½″



Detail Showing Method Of Wedging



TYPICAL SECTION NO. 1

USE AT:

–L– STA. 10+41.45 TO –L– STA. 11+91.45
–L– STA. 19+32.41 TO –L– STA. 20+82.41

PROJECT NO.	SHEET NO.
42999.3.1	3

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	MOBILIZATION LS	UNDERCUT EXCAVATION CY	GRADING LS	SELECT GRANULAR MATERIAL CY	GEOTEXTILE FOR SOIL STABILIZATION SY	INCIDENTAL STONE BASE TONS	BASE COURSE, B25.0B TONS	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, SF9.5A TONS	ASPHALT BINDER FOR PLANT MIX TONS
42999.3.1	Currituck	1	SR1227	IMPROVE CURVE RADIUS	1	NO	0.204	24	1	350	1	350	350	20	400	450	220	54
TOTAL FOR MAP NO. 1							**0.204**		**1**	**350**	**1**	**350**	**350**	**20**	**400**	**450**	**220**	**54**
TOTAL FOR PROJ NO. 42999.3.1							**0.204**		**1**	**350**	**1**	**350**	**350**	**20**	**400**	**450**	**220**	**54**
GRAND TOTAL							**0.204**		**1**	**350**	**1**	**350**	**350**	**20**	**400**	**450**	**220**	**54**

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	TEMPORARY SILT FENCE LF	TEMPORARY MULCHING ACR	SILT EXCAVATION CYD	MATTING FOR EROSION CONTROL SY	WATTLE LF	POLYACRYLAMIDE LB	SEEDING & MULCHING AC	SEED FOR REPAIR SEEDING LBS	FERTILIZER FOR REPAIR SEEDING TON	RESPONSE FOR EROSION CONTROL EA
42999.3.1	Currituck	1	SR1227	IMPROVE CURVE RADIUS	1	NO	0.204	24	320	0.3	10	40	54	3	1.00	20	0.3	5
TOTAL FOR MAP NO. 1							**0.204**		**320**	**0.3**	**10**	**40**	**54**	**3**	**1.00**	**20**	**0.3**	**5**
TOTAL FOR PROJ NO. 42999.3.1							**0.204**		**320**	**0.3**	**10**	**40**	**54**	**3**	**1.00**	**20**	**0.3**	**5**
GRAND TOTAL							**0.204**		**320**	**0.3**	**10**	**40**	**54**	**3**	**1.00**	**20**	**0.3**	**5**

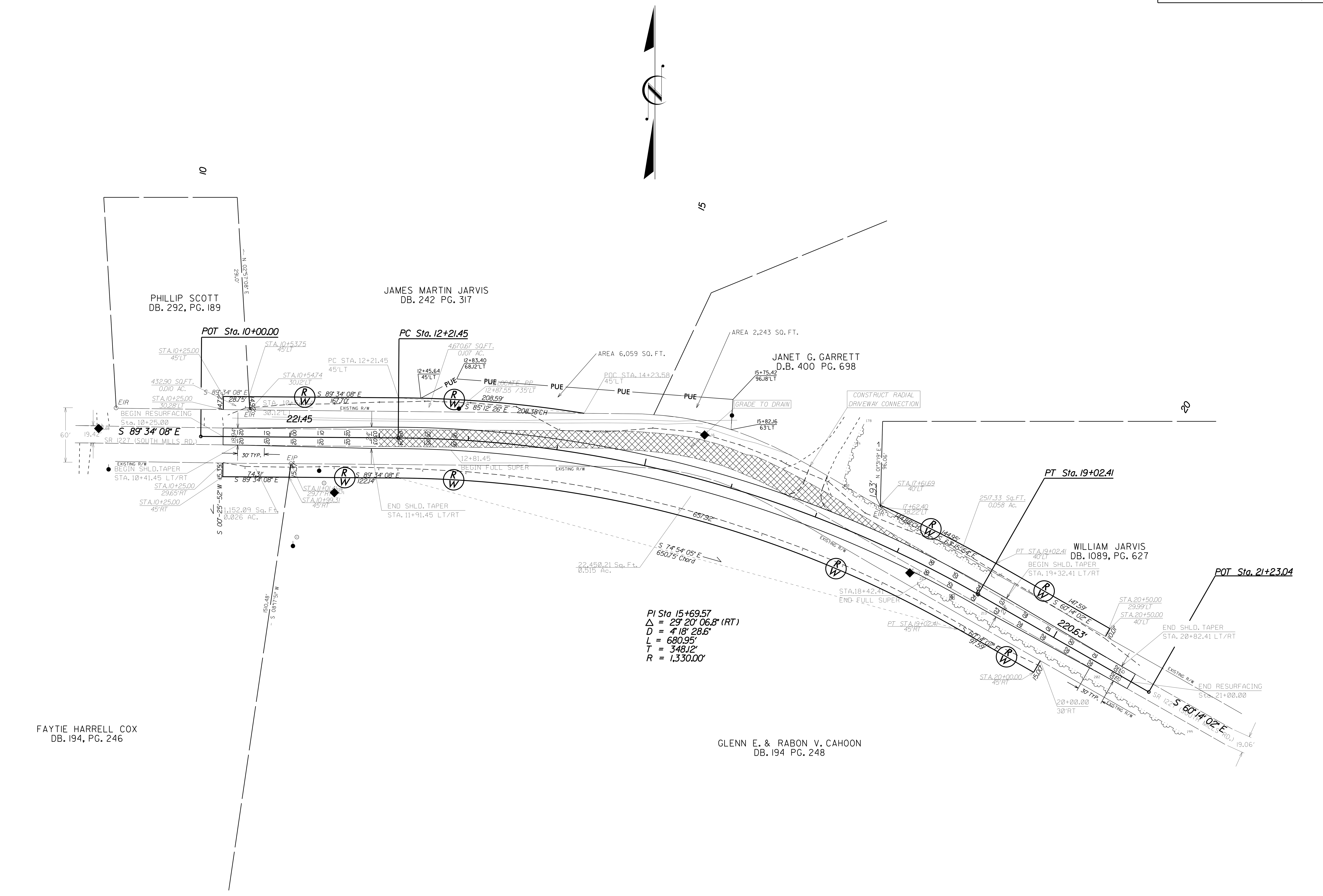
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	TEMPORARY TRAFFIC CONTROL LS	4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	PAINT PAVEMENT MARKING LINES (4") LF
42999.3.1	Currituck	1	SR1227	IMPROVE CURVE RADIUS	1	NO	0.204	24	1	2,200	2,200	2,200
TOTAL FOR MAP NO. 1							**0.204**		**1**	**2,200**	**2,200**	**2,200**
TOTAL FOR PROJ NO. 42999.3.1							**0.204**		**1**	**2,200**	**2,200**	**2,200**
GRAND TOTAL							**0.204**		**1**	**2,200**	**2,200**	**2,200**

PROJECT REFERENCE NO.	SHEET NO.
42999.3.1	4
R/W SHEET NO.	1

8/17/99

REVISIONS



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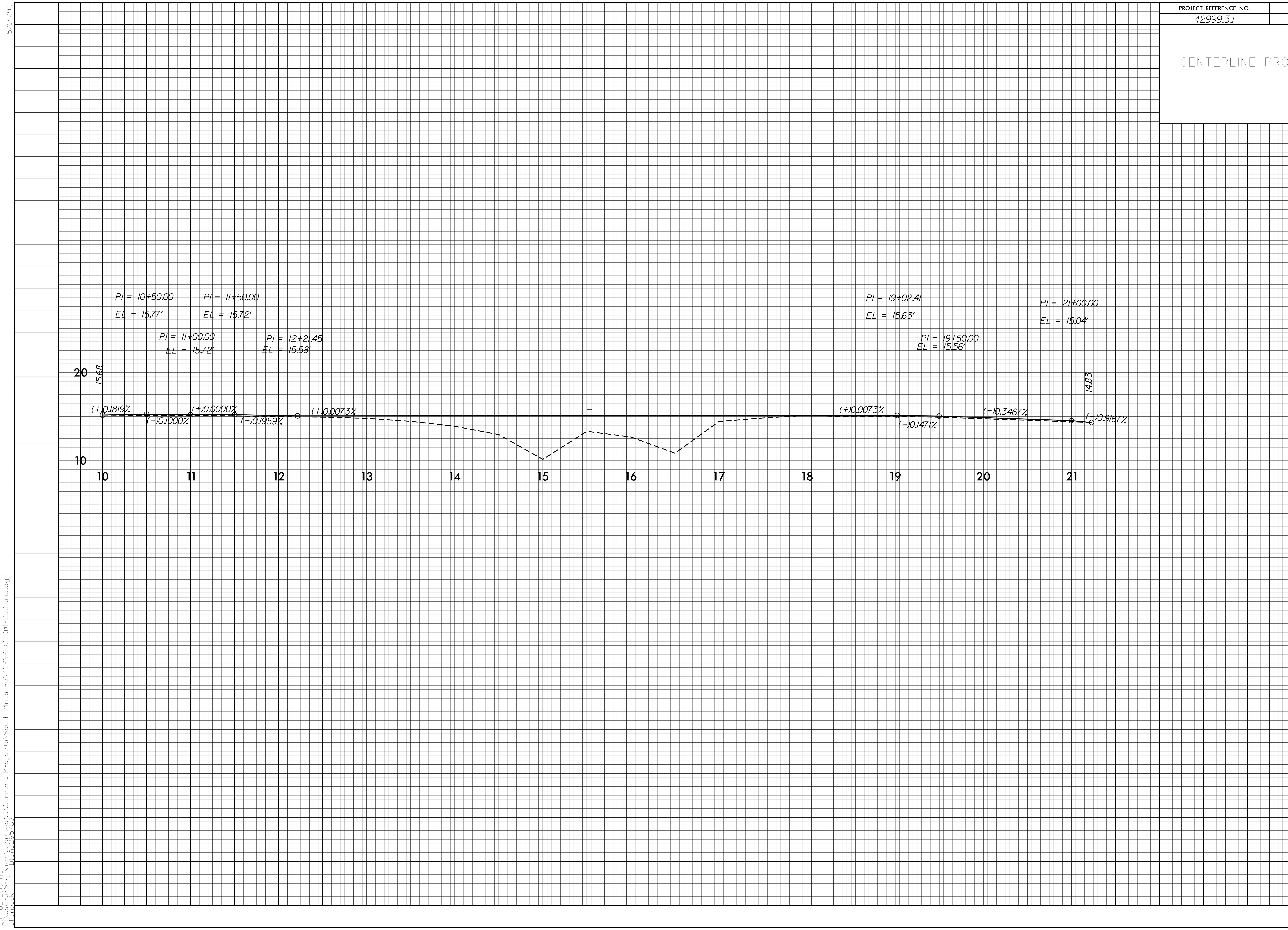
PROJECT REFERENCE NO.	SHEET NO.
42999.3.1	5

CENTERLINE PROFILE



TIP PROJECT: SS-4901W

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	42999.3.1	EC-1	

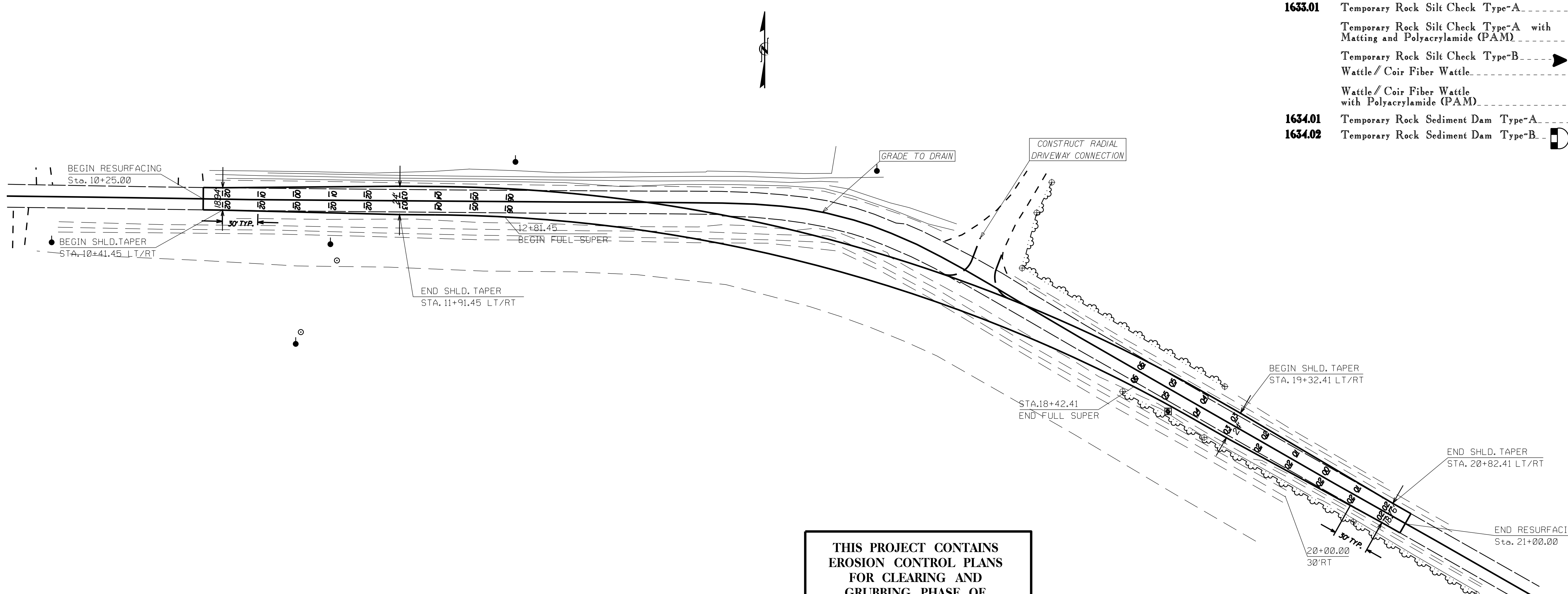
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42999.1.1		PE
42999.2.1		ROW
42999.3.1		CONST.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1622.01		
	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	



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

GRAPHIC SCALE

25 0 50
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

DIVISION ONE

DDC UNIT

STATE OF NORTH CAROLINA

LEVEL III-A: DESIGNER OF EROSION AND SEDIMENT CONTROL PLANS

SCOTT FENWICK

CERTIFICATION NUMBER: 267

Prepared In the Office of:

DIVISION OF HIGHWAYS

113 Airport Rd.
Edenton, NC 27932

2006 STANDARD SPECIFICATIONS

Roadway Standard Drawings

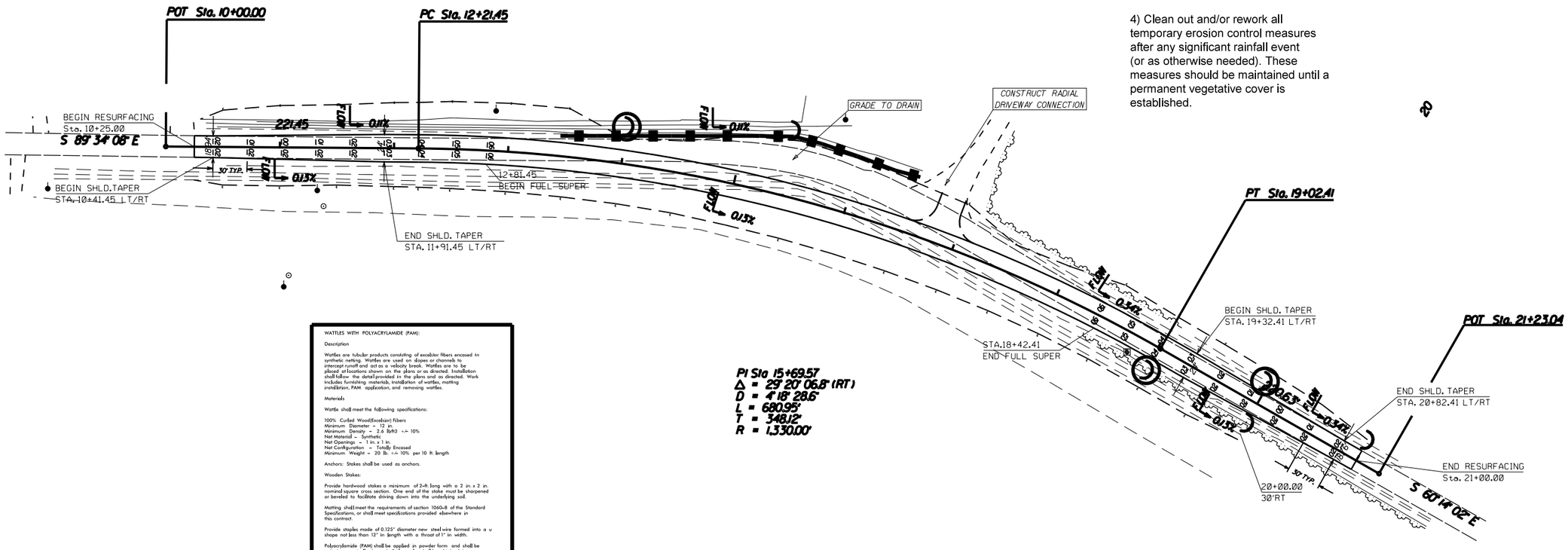
The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated July 18, 2006 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

- 1605.01 Temporary Silt Fence
- 1606.01 Special Sediment Control Fence
- 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
- 1634.01 Temporary Rock Sediment Dam Type A
- 1634.02 Temporary Rock Sediment Dam Type B

PROJECT REFERENCE NO.	SHEET NO.
42999.31	EC-2

EROSION CONTROL PLAN

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



Erosion Control Schedule

1) Install erosion control measures according to plans at all outlets and at other discharge points after clearing but before grubbing.

2) Begin grading of roadway ditches. Place erosion control measures along roadway ditches as grading progresses and conditions allow.

3) Seed and mulch all disturbed areas as soon as any phase of grading is completed. Exposed areas can not lay idle for more than 21 calendar days without being provided adequate groundcover..

4) Clean out and/or rework all temporary erosion control measures after any significant rainfall event (or as otherwise needed). These measures should be maintained until a permanent vegetative cover is established.

WATTLES WITH POLYACRYLAMIDE (PAM):

Description

Wattles are tubular products consisting of excelsior fibers encased in synthetic netting. Wattles are used on slopes or channels to intercept runoff and act as a velocity break. Wattles are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation of wattles, matting installation, PAM application, and removing wattles.

Materials

Wattle shall meet the following specifications:

100% Curled Wood(Excelsior) Fibers
Minimum Diameter – 12 in.
Minimum Density – 2.6 lb/ft3 +/– 10%
Net Material – Synthetic
Net Openings – 1 in. x 1 in.
Net Configuration – Totally Encased
Minimum Weight – 20 lb. +/– 10% per 10 ft. length

Anchors: Stakes shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes a minimum of 2-ft long with a 2 in. x 2 in. nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving down into the underlying soil.

Matting shall meet the requirements of section 1060-8 of the Standard Specifications, or shall meet specifications provided elsewhere in this contract.

Provide staples made of 0.125" diameter new steel wire formed into a u shape not less than 12" in length with a throat of 1" in width.

Polyacrylamide (PAM) shall be applied in powder form and shall be anionic or neutrally charged. Soil samples shall be obtained in areas where the wattles will be placed, and from offsite material used to construct roadway, and analyzed for the appropriate PAM flocculant to be utilized with each wattle.

Construction Methods

Wattles shall be secured to the soil by wire staples approximately every 1 linear foot and at the end of each section of wattle. A minimum of 4 stakes shall be installed on the downstream side of the wattle with a maximum spacing of 2 linear feet along the wattle, and according to the detail. Install a minimum of 2 stakes on the upstream side of the wattle according to the detail provided in the plans. Stakes shall be driven into the ground a minimum of 10 in. with no more than 2 in. projecting from the top of the wattle. Drive stakes at an angle according to the detail provided in the plans.

Install wattles to the top of the ditch according to the detail provided in the plans. Overlap adjoining sections of wattles a minimum of 6 in.

Installation of matting shall be in accordance with the detail provided in the plans, and in accordance with section 1631-3(B) of the Standard Specifications, or in accordance with specifications provided elsewhere in this contract.

Apply PAM over the lower center portion of the wattle where the water is going to flow over at a rate of 3.5 ounces per wattle. PAM applications shall be done during construction activities after every rainfall event that is equal to or exceeds 0.50 in.

The Contractor shall maintain the wattles until the project is accepted or until the wattles are removed, and shall remove and dispose of silt accumulations at the wattles when so directed in accordance with the requirements of Section 1630 of the Standard Specifications.

The quantity of wattle(s), wooden stakes, staples, matting and PAM as measured above will be paid for at contract price for "Lump Sum for Erosion Control". Such price and payment will be full compensation for all work covered by this provision, including but not limited to, furnishing all materials, placing and maintaining the wattle(s), and removal and disposal of silt accumulations and wattle.

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

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

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
SP	Wattle	
	Wattle with Polyacrylamide (PAM)	

8/17/99

REVISIONS

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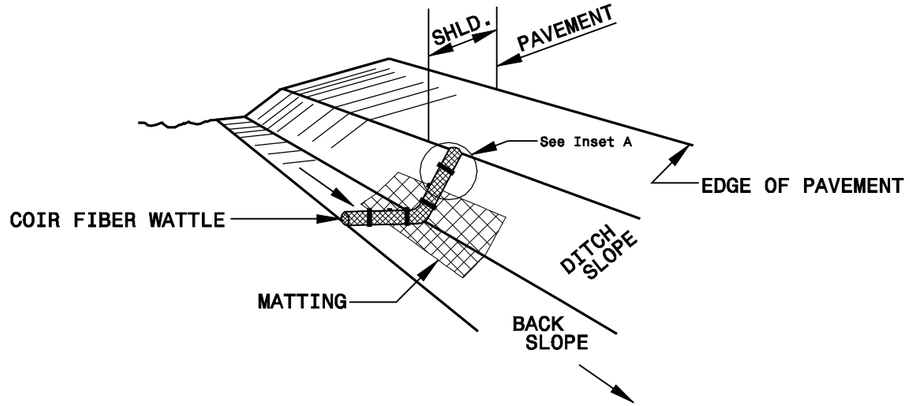
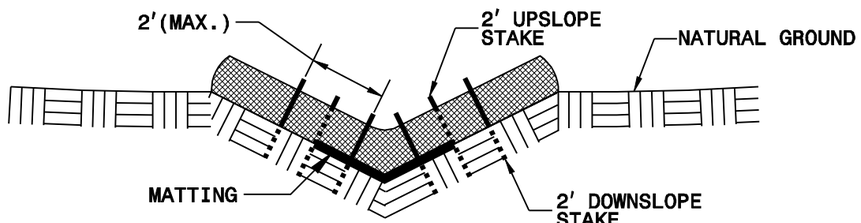
stewart

PROJECT REFERENCE NO.	SHEET NO.
X-XXXX	EC-2G
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

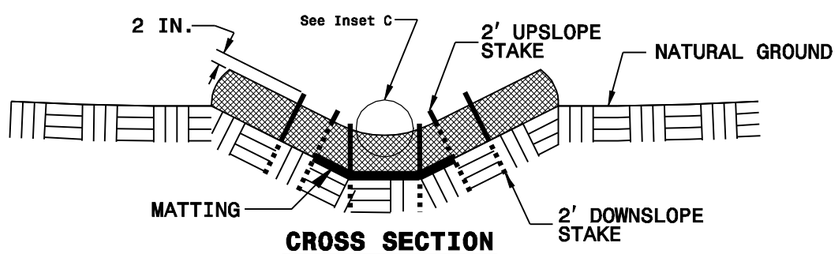
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

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

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

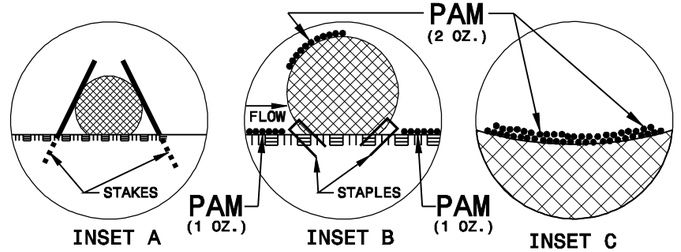
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

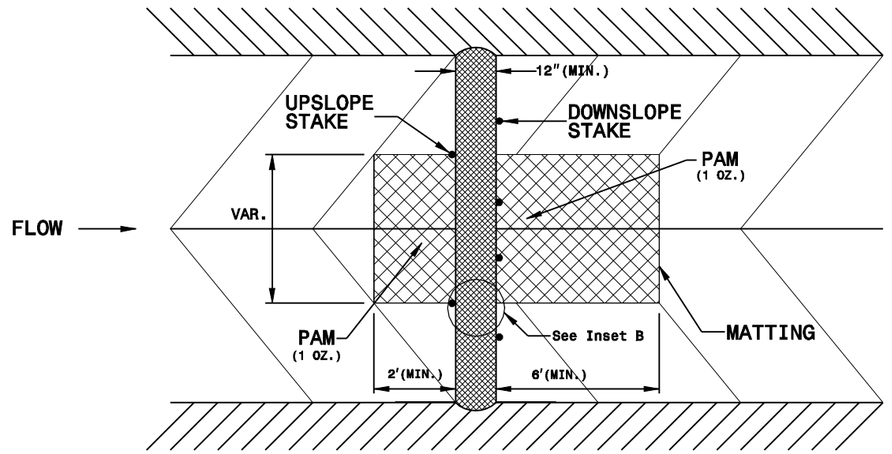
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

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

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

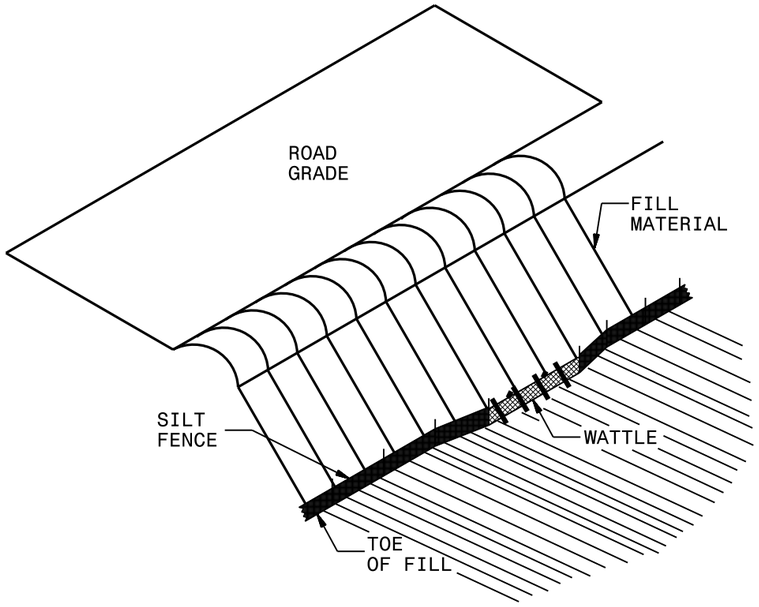




TOP VIEW

SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO.	SHEET NO.
X-XXXX	EC-2G
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ISOMETRIC VIEW

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

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

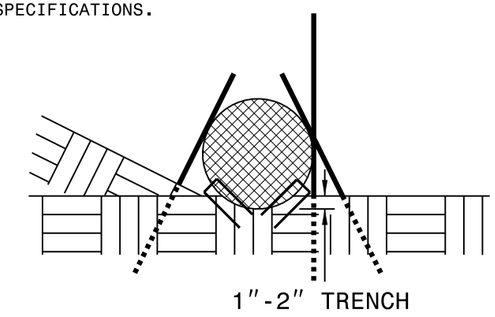
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

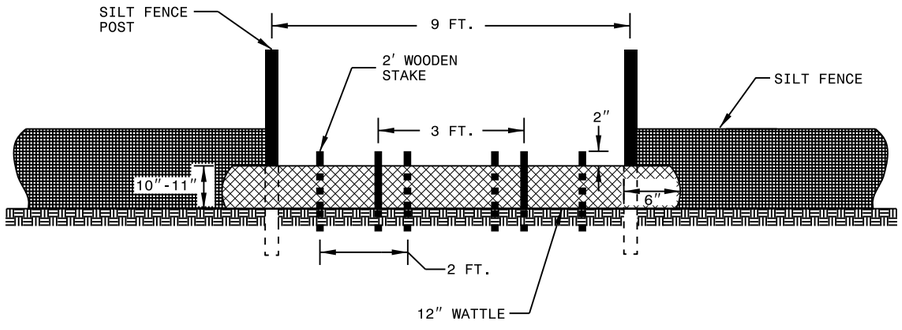
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

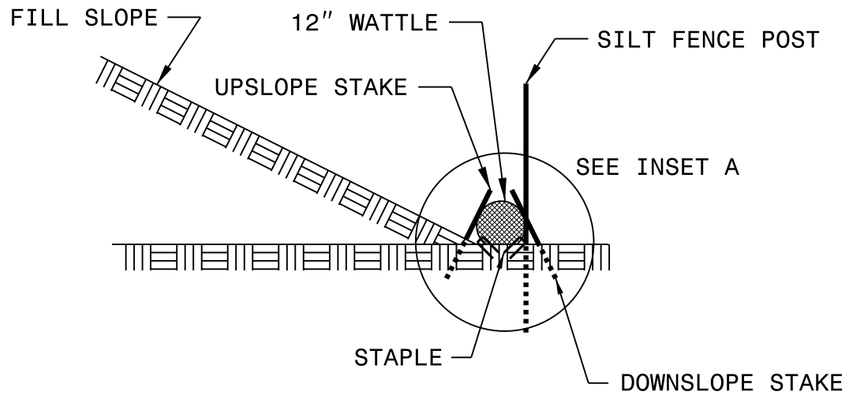
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





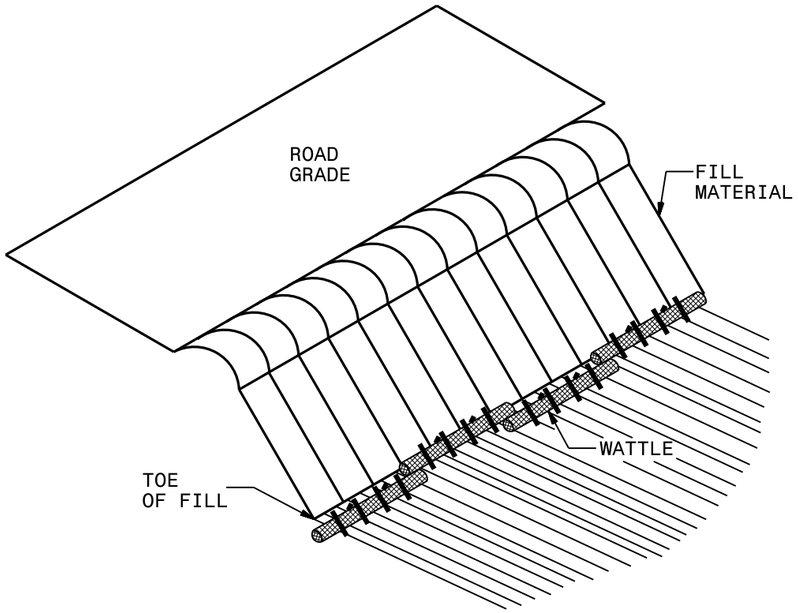
VIEW FROM SLOPE



SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
X-XXXX	EC-2H
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE BARRIER DETAIL



ISOMETRIC VIEW

NOTES:

USE MINIMUM 18 IN. NOMINAL DIAMETER COIR FIBER (COCONUT) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLES ON TOE OF SLOPE.

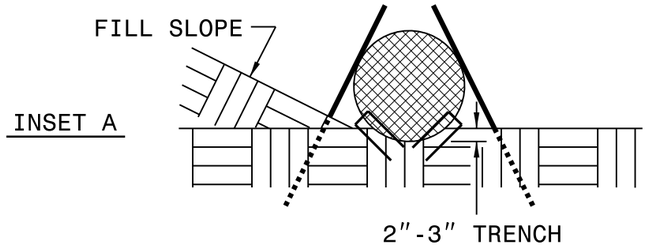
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

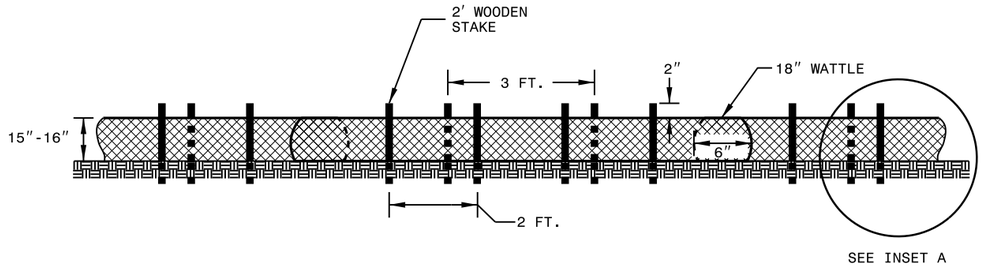
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

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

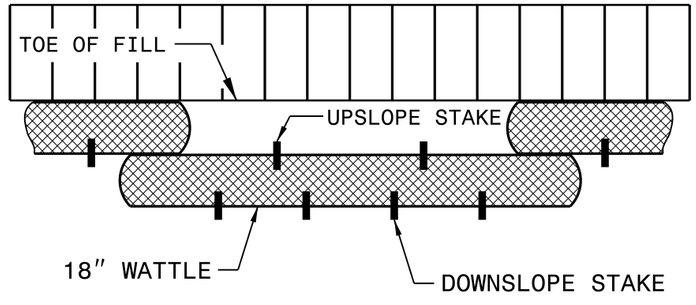
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 20 FT.





FRONT VIEW



TOP VIEW

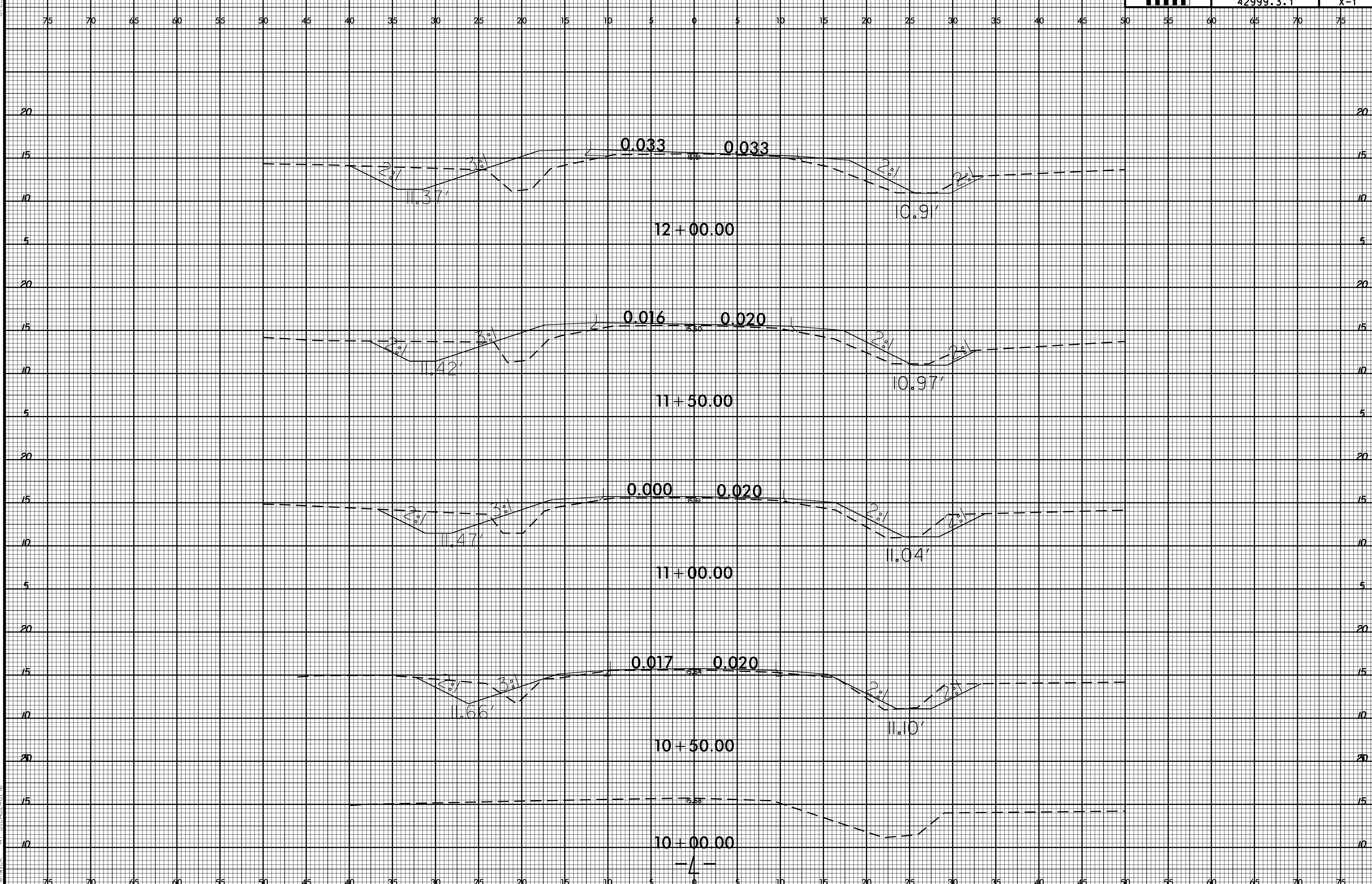
PROJECT REFERENCE NO.	SHEET NO.
42999.3.1	EC-4

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.

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	42999.3.1	X-1



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PROJ. REFERENCE NO.	SHEET NO.
42999.3.1	X-1A

Approximate quantities only. Unclassified excavation, borrow excavation, shoulder borrow, fine grading, clearing and grubbing, breaking of existing pavement and removal of existing pavement will be paid for at the lump sum price for "Grading".

NOTE: EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+50.00	0	0
11+00.00	48	36
11+50.00	50	58
12+00.00	47	74
12+21.45	22	35
12+50.00	34	47
13+00.00	68	88
13+50.00	78	93
14+00.00	69	89
14+50.00	52	106
15+00.00	61	142
15+50.00	71	170
16+00.00	81	164
16+50.00	90	122
17+00.00	92	87
17+50.00	88	68
18+00.00	64	54
18+50.00	57	46
19+02.41	63	43
19+50.00	46	37
20+00.00	30	36
20+50.00	12	36

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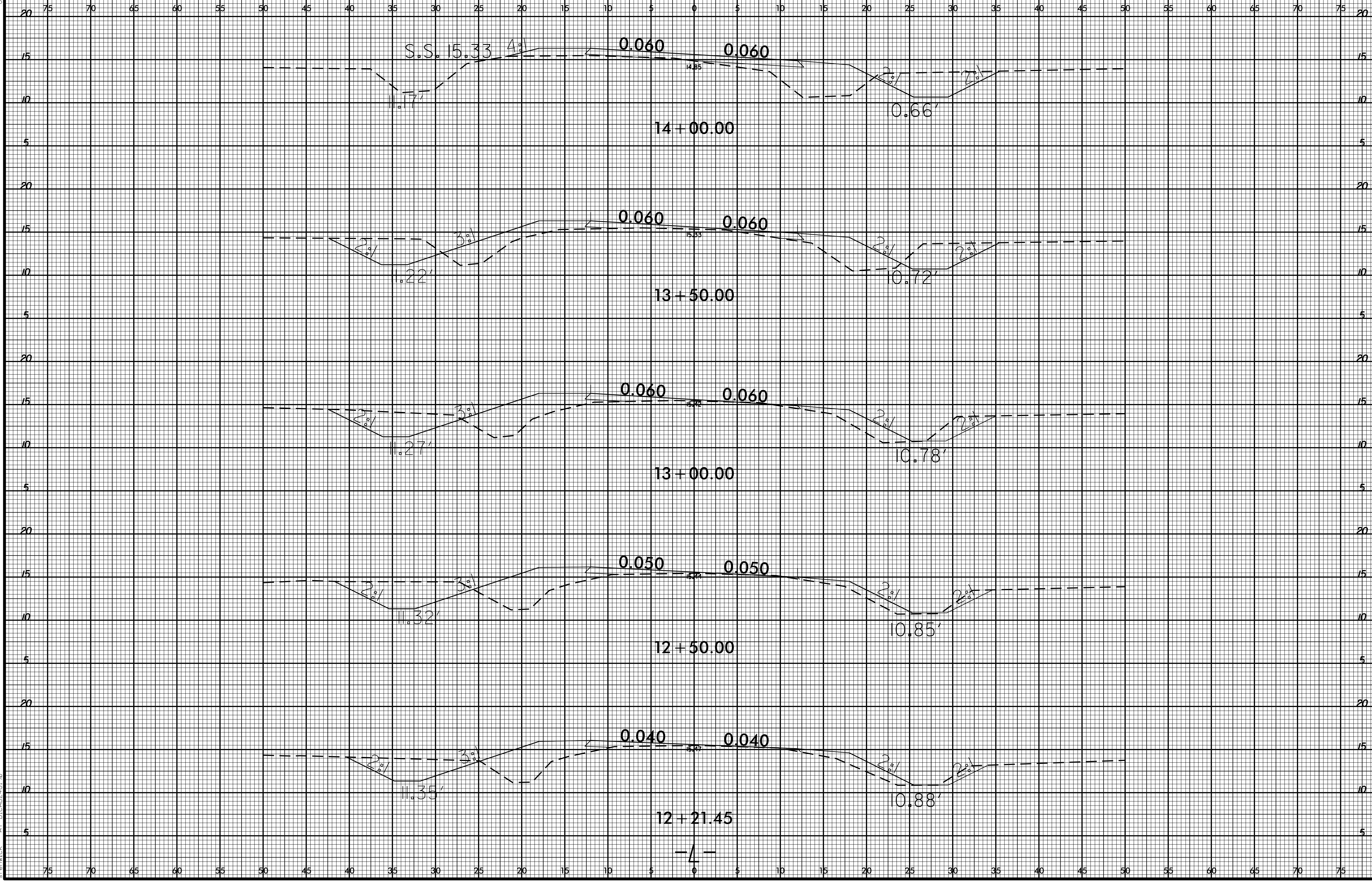
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	42999.3.1	X-2



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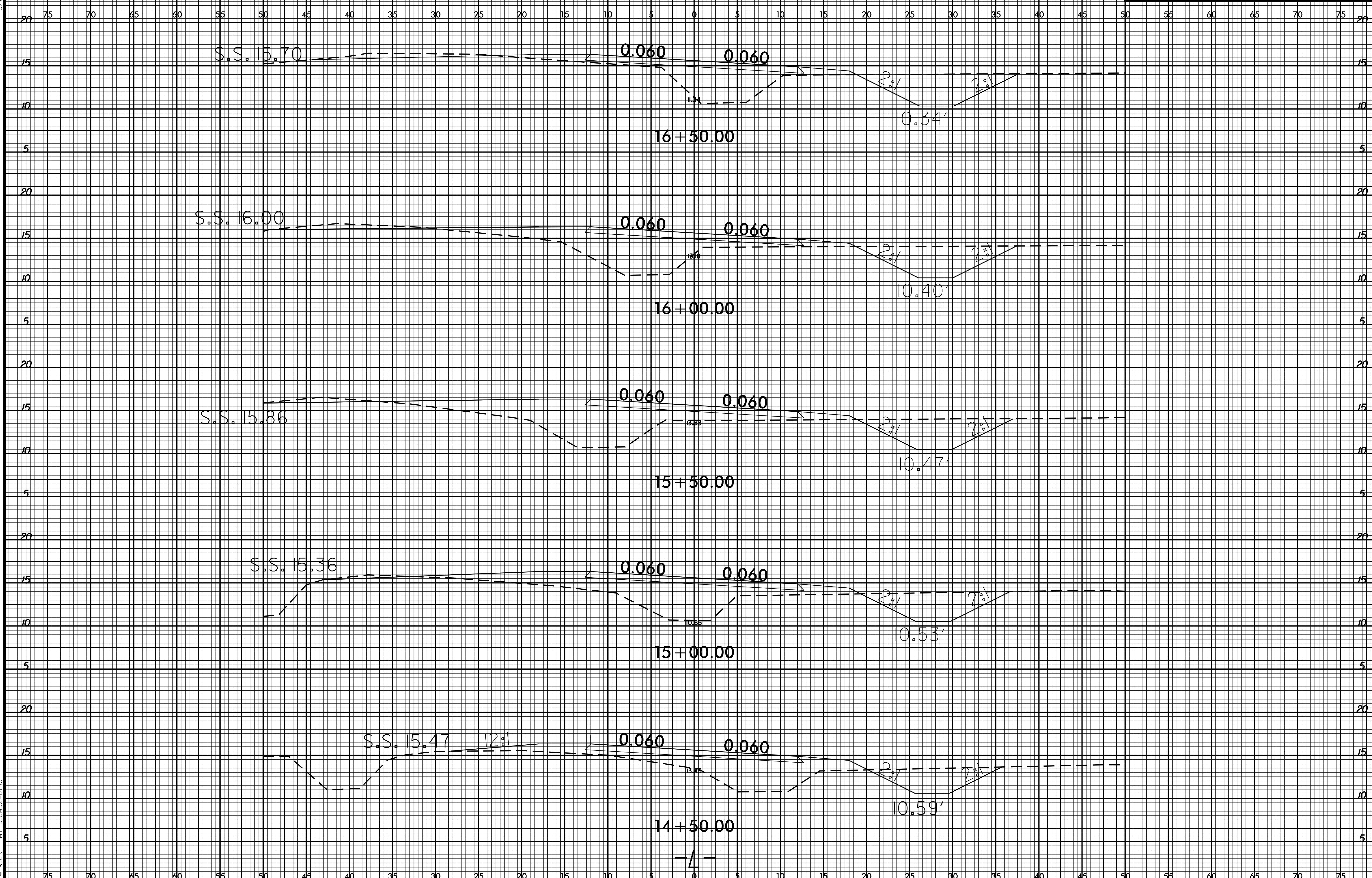

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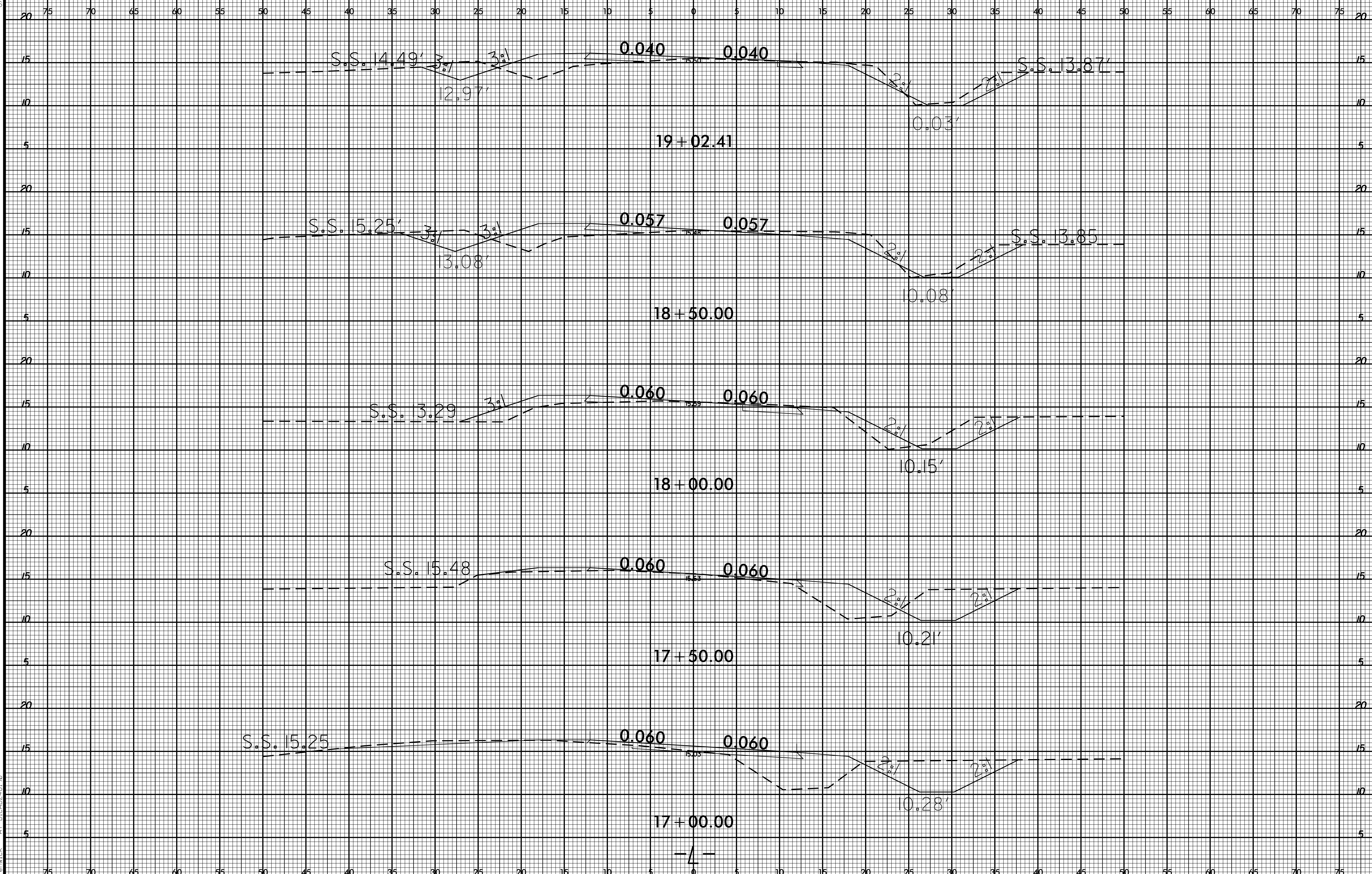

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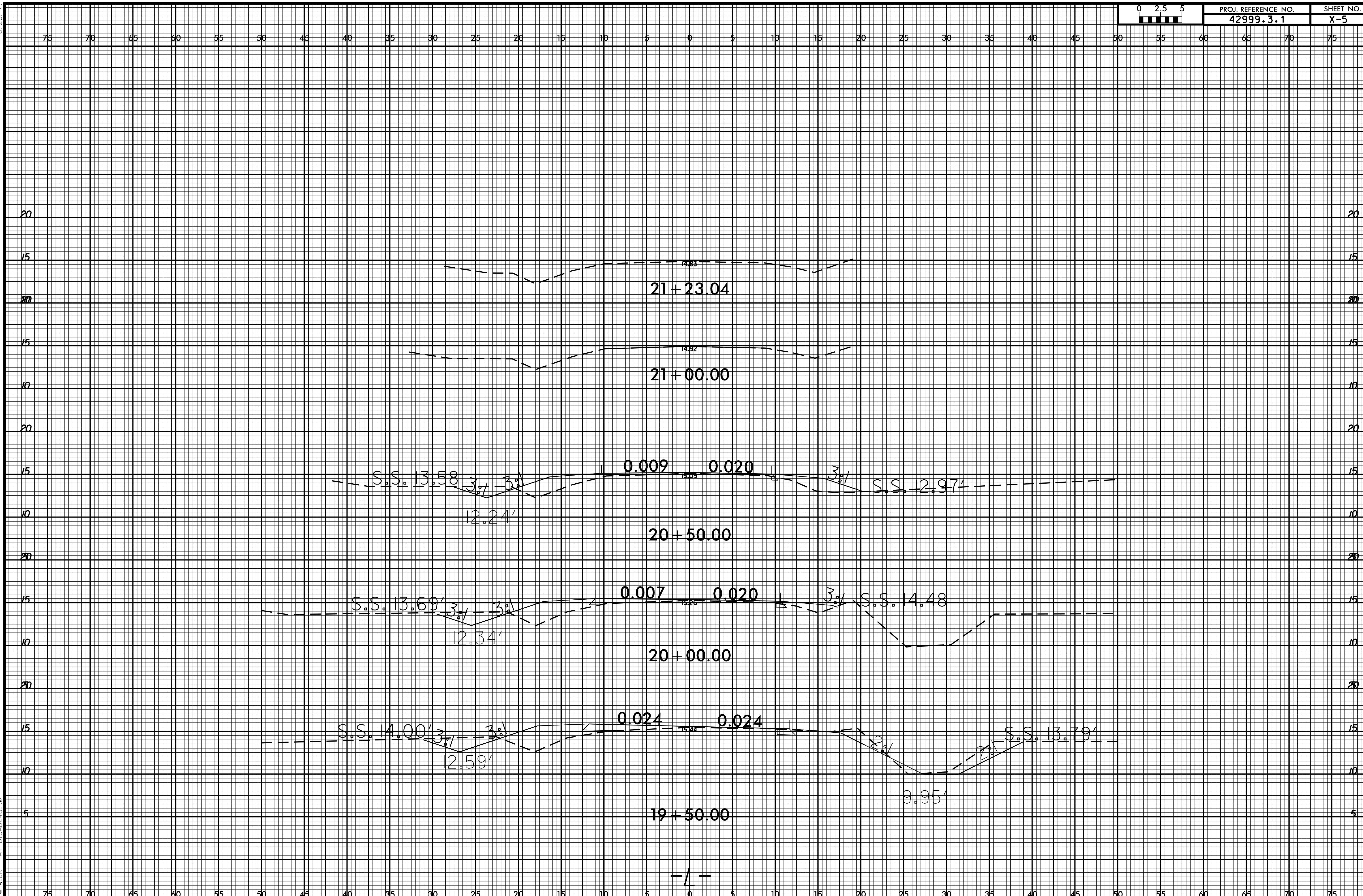

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