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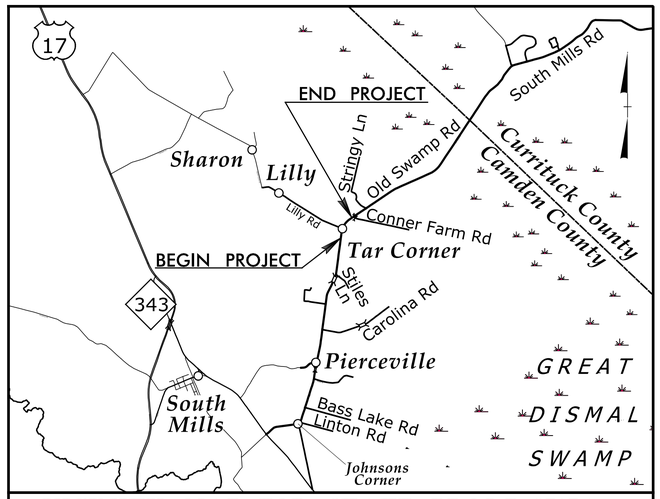
09/08/99

TIP PROJECT: R-5717A/SS-4901BE

CONTRACT: DA00463

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP FOR STATE PROJ. R-5717A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

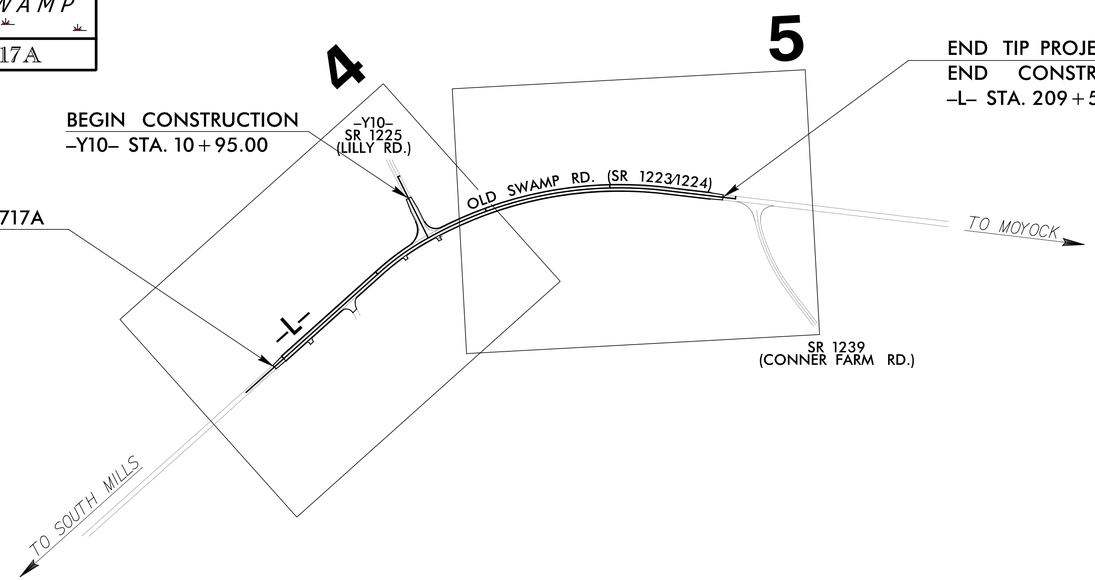
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5717A/SS-4901BE	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
50213.1.1		PE
50213.2.1		R/W, UTIL
50213.3.2		CONST
47664.3.1		CONST

CAMDEN COUNTY

LOCATION: SR 1224 (OLD SWAMP RD.) FROM 0.15 MILES SOUTH OF SR 1225 (LILLY RD.) TO 0.25 MILES NORTH OF SR 1225 (LILLY RD.)

TYPE OF WORK: GRADING, PAVING AND DRAINAGE



NAD 83
NA 2011

PREPARED FOR
N. C. DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS (DIVISION 1)
EDENTON, NC
PLANS COORDINATED BY:
Barry Hobbs, PE
Division 1 Project Manager (NCDOT)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

** DESIGNS PREPARED USING NCDOT R-R-R GUIDELINES

GRAPHIC SCALES

50′ 25′ 0 50′ 100′
PLANS

50′ 25′ 0 50′ 100′
PROFILE (HORIZONTAL)

5′ 2.5′ 0 5′ 10′
PROFILE (VERTICAL)

DESIGN DATA

ADT 2018 = 3,000
ADT 2030 = 3,660
D = 60 %
T = 10 % *
V = 60 MPH**
* TTST = 5% DUAL 5%

FUNC CLASS =
MINOR RURAL COLLECTOR
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5717A	=	0.379 miles
TOTAL LENGTH TIP PROJECT LENGTH R-5717A	=	0.379 miles

Prepared In the Office of:

LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919)571-7111
NC License Number F-0159

vhb
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
August 2, 2018

LETTING DATE:
May 15, 2019

Brian K. Eason, PE
PROJECT ENGINEER

Brian R Pease, EI
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
DocuSigned by: Frank F Fleming
193BC60E42864F8...
3/11/2019
SIGNATURE:
NORTH CAROLINA PROFESSIONAL SEAL 20147 ENGINEER FRANK F. FLEMING P.E.

ROADWAY DESIGN ENGINEER
DocuSigned by: Brian K Eason
9AF015AD7ACC48F...
3/11/2019
SIGNATURE:
NORTH CAROLINA PROFESSIONAL SEAL 25523 ENGINEER BRIAN K. EASON P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

3/11/2019
R5717A_RDY_TSH_01.dgn
BPEASE

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25523 ENGINEER BRIAN K. EASON

DocuSigned by: Brian K. Eason
9AF015AD7ACC48F...
4/15/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1C-1	SURVEY CONTROL SHEET
1C-2	RIGHT OF WAY CONTROL SHEET
2A-1	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAIL
3B-1	SUMMARY OF EARTHWORK, AND RIGHT OF WAY AREA DATA
3D-1	DRAINAGE SUMMARY
4 AND 5	PLAN SHEETS
6	PROFILE
EC-1 THRU EC-7	EROSION CONTROL PLANS
UC-1 THRU UC-6	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-3	UTILITIES BY OTHERS PLANS
X1-A	EARTHWORK VOLUME SUMMARY
X-1 THRU X-13	CROSS-SECTIONS

GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SUBSURFACE PLANS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

ALBEMARLE EMC (POWER)

CENTURYLINK, AND MEDIACOM (COMMUNICATIONS)

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON PLANS.

RIGHT-OF-WAY MARKERS:

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

EFF. 01-16-2018
REV.

2018 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, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method 1
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.05	Tying Proposed Pavement to Existing
DIVISION 8 - INCIDENTALS	
876.02	Guide for Rip Rap at Pipe Outlets

8/17/99

4/15/2019
R5717A_RDY_PSH_01A.dgn
BRIEASON

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	1A

ROADWAY DESIGN ENGINEER

DocuSigned by:
BRIAN K. EASON
3/12/2019

NORTH CAROLINA PROFESSIONAL SEAL 25523 ENGINEER BRIAN K. EASON

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED 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 III~~. METHOD II

SUPERELEVATION:

225.04 ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. ~~225.02~~ USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. ~~560.02~~ 560.01

~~SUBSURFACE DRAINAGE:~~

~~SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER~~.

SUBSURFACE PLANS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

ALBEMARLE EMC (POWER)

CENTURYLINK, AND MEDIACOM (COMMUNICATIONS)

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS. EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

EFF. 01-16-2018
REV.

2018 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, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02 ~~200.03~~	Method of Clearing - ~~Method III~~ 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
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DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.05	Tying Proposed Pavement to Existing
DIVISION 8 - INCIDENTALS	
876.02	Guide for Rip Rap at Pipe Outlets

04/06/15

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

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

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
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — 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
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?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 LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	1C-1
Location and Surveys	

SURVEY CONTROL SHEET R-5717A

CONTROL DATA

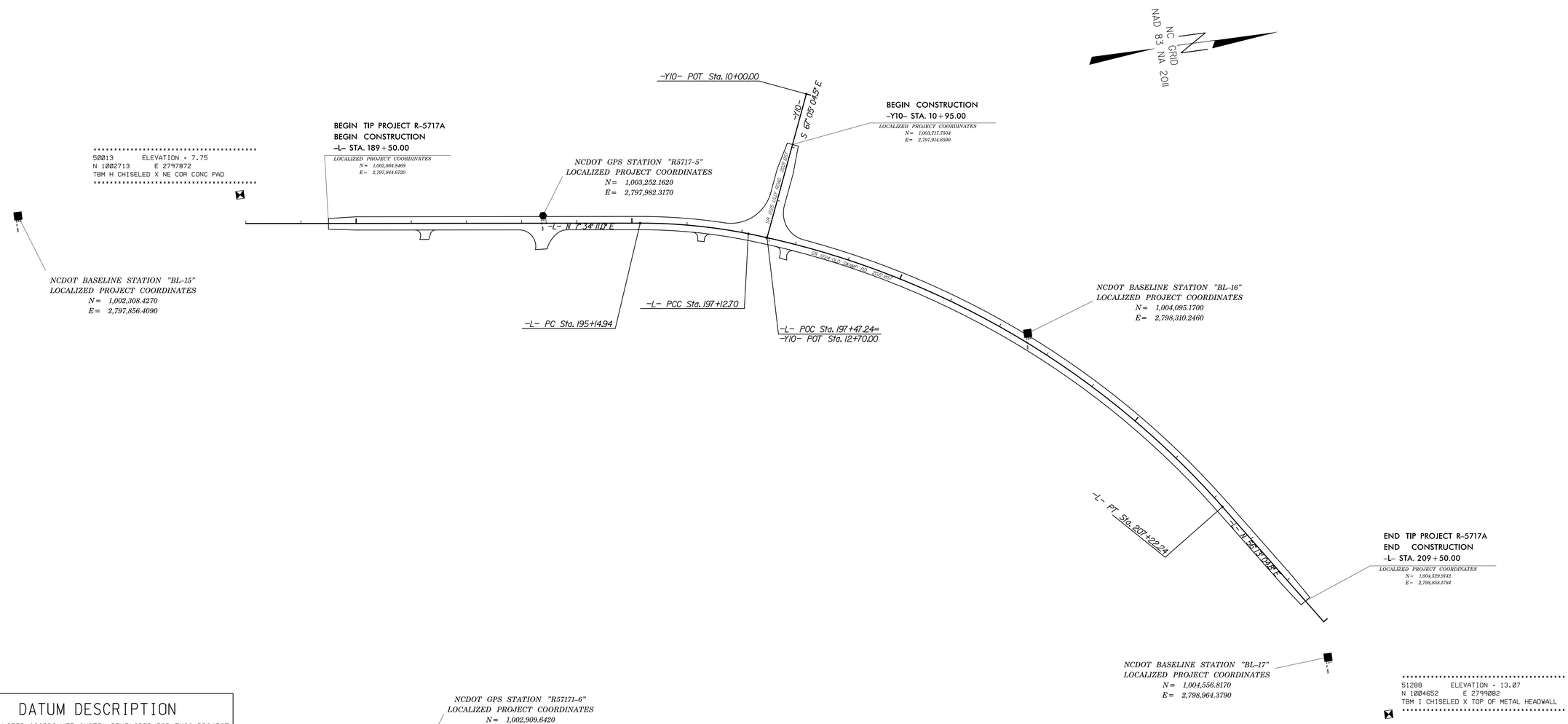
BL

POINT	DESC.	NORTH	EAST	ELEVATION
BL15	TRAV AL MON	1002308.4270	2797856.4090	6.30
R57175	GPS AL MON	1003252.1620	2797982.3170	7.15
R57176	GPS AL MON	1002909.6420	2798918.9990	6.70
BL16	TRAV AL MON	1004095.1700	2798310.2460	12.03
BL17	TRAV AL MON	1004556.8170	2798964.3790	12.19

BENCHMARK DATA

50013 ELEVATION - 7.75
N 1002713 E 2797872
TBM H CHISELED X NE COR CONC PAD

51288 ELEVATION - 13.07
N 1004652 E 2799082
TBM I CHISELED X TOP OF METAL HEADWALL



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R57178"
WITH NAD 83 STATE PLANE GRID COORDINATES OF
NORTHING: 1008375.268(ft) EASTING: 2803170.936(ft)
ELEVATION: 15.01(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998885529
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FR "R57178" TO -L- 189+50.00 STATION IS
S 43°29'02.27" W 7594.64 (FT)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	1C-2
Location and Surveys	

RIGHT OF WAY CONTROL SHEET

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	188+00.00	23.60	1002713.0452	2797948.3058
L	188+00.00	35.00	1002711.5434	2797959.6071
L	188+35.00	-35.00	1002755.4597	2797894.8277
L	195+14.94	-35.00	1003429.4765	2797984.3983
L	195+14.94	35.00	1003420.2552	2798053.7883
L	196+50.00	-35.00	1003566.3805	2798012.0996
L	197+12.70	35.00	1003605.7240	2798097.4098
L	198+45.00	-35.00	1003754.3633	2798080.4116
L	207+22.24	35.00	1004374.1789	2798688.3313
L	207+22.24	-35.00	1004432.3601	2798649.4089
L	207+66.99	35.00	1004399.0644	2798725.5301
L	210+00.00	-35.00	1004586.8065	2798880.2752
L	210+00.00	-25.02	1004578.5077	2798885.8270

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y10	10+75.00	45.00	1003684.0892	2797878.7156
Y10	10+75.00	29.73	1003698.1517	2797884.6603
Y10	10+75.00	-45.00	1003766.9865	2797913.7591
Y10	10+75.00	-30.27	1003753.4166	2797908.0226
Y10	11+80.00	45.00	1003643.2052	2797975.4291
Y10	11+80.00	-45.00	1003726.1024	2798010.4725

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

REVISIONS

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6/2/99

PAVEMENT SCHEDULE

C1	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	T	EARTH MATERIAL.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2″ IN DEPTH.	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 7″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, TO BE PLACED IN TWO LIFTS, WITH THE FIRST LIFT BEING 4″ AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD., AND THE SECOND LIFT BEING 3″ AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	V	INCIDENTAL MILLING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, 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.	W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL No. 1)

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

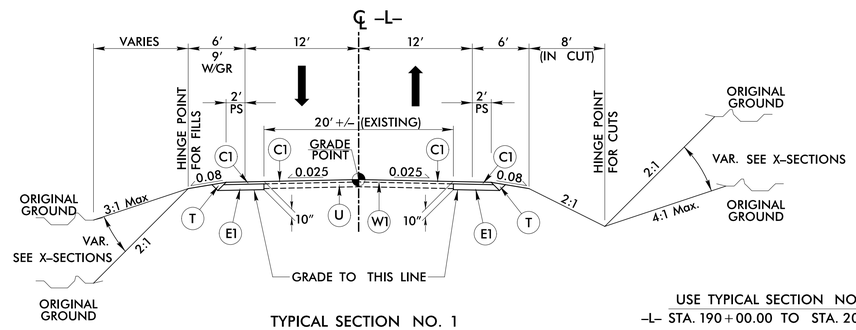
LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919)571-7111
NC License Number F-0159

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	2A-1

ROADWAY DESIGN ENGINEER
DocuSign Envelope ID: Brian K. Eason
NORTH CAROLINA PROFESSIONAL SEAL 25523 ENGINEER BRIAN K. EASON
3/12/2019

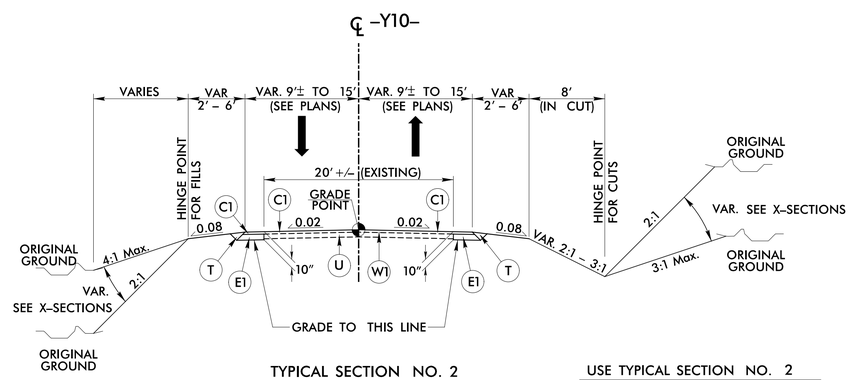
PAVEMENT DESIGN ENGINEER
DocuSign Envelope ID: Clark Morrison
NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CLARK S. MORRISON
3/12/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
–L– STA. 190+00.00 TO STA. 209+00.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
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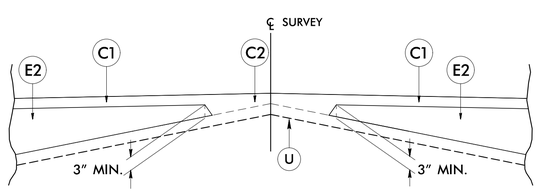
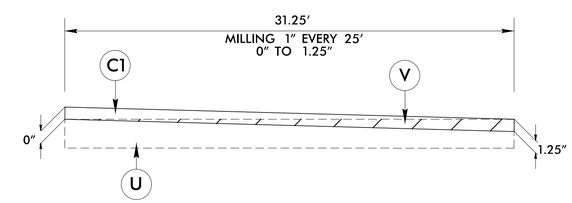


Wedging Detail For Resurfacing
WEDGING DETAIL NO. 1



MILLING DETAIL
USE MILLING DETAIL AT RESURFACING TIES

3/11/2019
R5717A_ROY_TYP_02.dgn
RPE ASF

COMPUTED BY: B. PEASE DATE: 7/11/2018
CHECKED BY: J. HEXT DATE: 7/12/2018

5/9/06

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111
NC License Number F-0159

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	3B-1

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	+30%	BORROW	WASTE
-L- 190+00.00 TO 209+00.00	1,281	-	2,408	1,127	-
-Y10- 10+95.00 TO 12+70.00	275	-	290	15	-
TOTAL:	1,556	-	2,697	1,141	-
LOSS DUE TO CLEAR AND GRUB (EST):	-			-	
WASTE IN LIEU OF BORROW:				-	
5% TO REPLACE TOPSOIL (EST):				57	
PROJECT TOTAL:	1,556		2,697	1,198	
SAY	1,600			1,200	

RIGHT OF WAY AREA DATA

PARCEL NO.	PROPERTY OWNERS NAMES	TAX MAP REFERENCE	TOTAL ACREAGE	AREA TAKEN	AREA REMAINING RT.	AREA REMAINING LT.	CONST. EASE.	PERM. UTILITY EASE.	COMMENTS
1S	LOIS S. CRANK	DB 88-E-9 /DB 22 PG 229	253.17 AC	0.78 AC	50.09 AC	202.30 AC	472.45 SF		
2S	MAINSTAY CONSTRUCTION INC.	DB 163 PG 739 /PB PG 89A	0.21 AC	843.66 SF	0.19 AC				
3S	GENERALS WAY (COMMUNITY ACCESS)			208.07 SF			638.85 SF		ACCORDING TO TAX MAP THIS IS DEDICATED ROW (NOT PRIVATE)
4S	MAINSTAY CONSTRUCTION INC.	DB 163 PG 739 /PB PG 89A	0.50 AC	757.01 SF	0.48 AC				
5S	HOWARD W. & JOYCE F. TAYLOR	DB 155 PG 107	3.08 AC	1,023.23 SF	3.06 AC				
6S	GLEN ALAN CAREY	DB 60 PG 216	24.90 AC	0.20 AC		27.70 AC	0.18 AC	3,400.56 SF	

36612019
R5717A_HDY_SUM_03B-1.dgn
BPEASE

FFLEMING

COMPUTED BY:	VHB	DATE:	3/6/2019
CHECKED BY:	VHB	DATE:	3/6/2019

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
R-5717A/SS-4901BE	3D-1

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

| LINE & STATION / SIZE / THICKNESS OR GAUGE | OFFSET | | STRUCTURE NUMBER FROM | STRUCTURE NUMBER TO | TOP ELEVATION FT. | INVERT ELEVATION FT. | INVERT ELEVATION FT. | MINIMUM REQUIRED SLOPE % | Side Drain Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE | DO NOT USE PVC | R. C. PIPE CLASS III 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | R. C. PIPE CLASS IV 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | | R. C. PIPE CLASS V 12 | 15 | 18 | 24 | 30 | 36 | 42 | | STRUCTURAL PLATE PIPE 60 | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY | REINFORCED ENDWALLS CY | DRAINAGE STRUCTURE MASONRY CY | QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B) 0' THRU 5' EACH | 5' THRU 10' LIN. FT. (A) | 10' AND ABOVE LIN. FT. (B) | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E | F | G | | CONCRETE TRANSITIONAL SECTION D.I. STD. 852.06 OR STD. 852.04 | C.B. STD. 852.05 | OPEN THROAT C.B. STD. 840.04 OR STD. 840.05 | CONCRETE BRIDGE APPROACH D.I. STD. 840.13 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26 | G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27 | G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28 | G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20 | G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22 | G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29 | G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29 | | FLOWABLE FILL CY | CONCRETE COLLARS CL. "B" STD. 840.72 CY | CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---

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LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919)571-7111
NC License Number F-0159

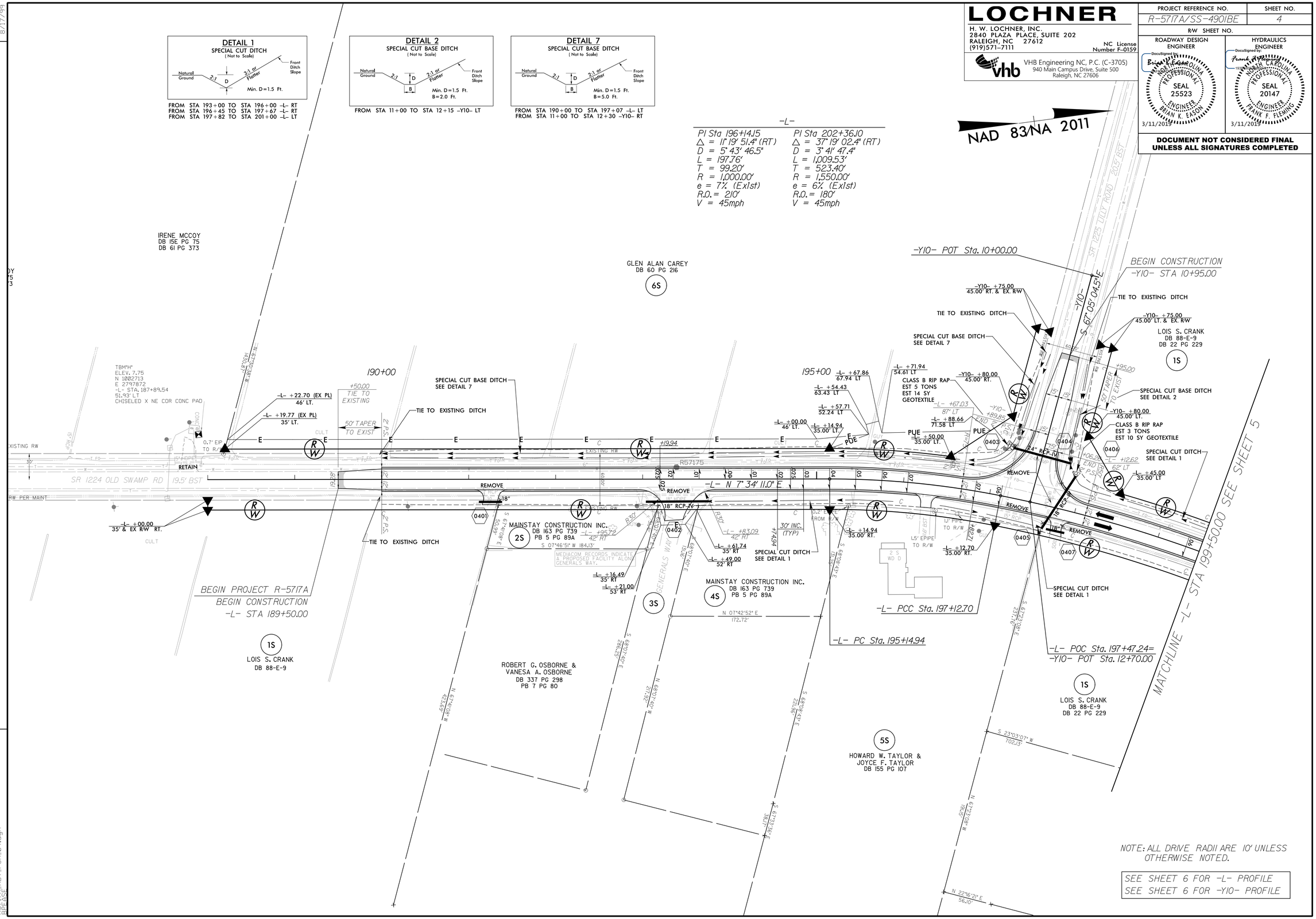
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
DocuSigned by: Brian K. Eason
NORTH CAROLINA PROFESSIONAL SEAL 25523 ENGINEER BRIAN K. EASON
3/11/2019

HYDRAULICS ENGINEER
DocuSigned by: Frank Fleming
NORTH CAROLINA PROFESSIONAL SEAL 20147 ENGINEER FRANK F. FLEMING
3/11/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



NOTE: ALL DRIVE RADII ARE 10' UNLESS OTHERWISE NOTED.

SEE SHEET 6 FOR -L- PROFILE
SEE SHEET 6 FOR -Y10- PROFILE

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8/17/99

REVISIONS

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919)571-7111

NC License Number F-0159

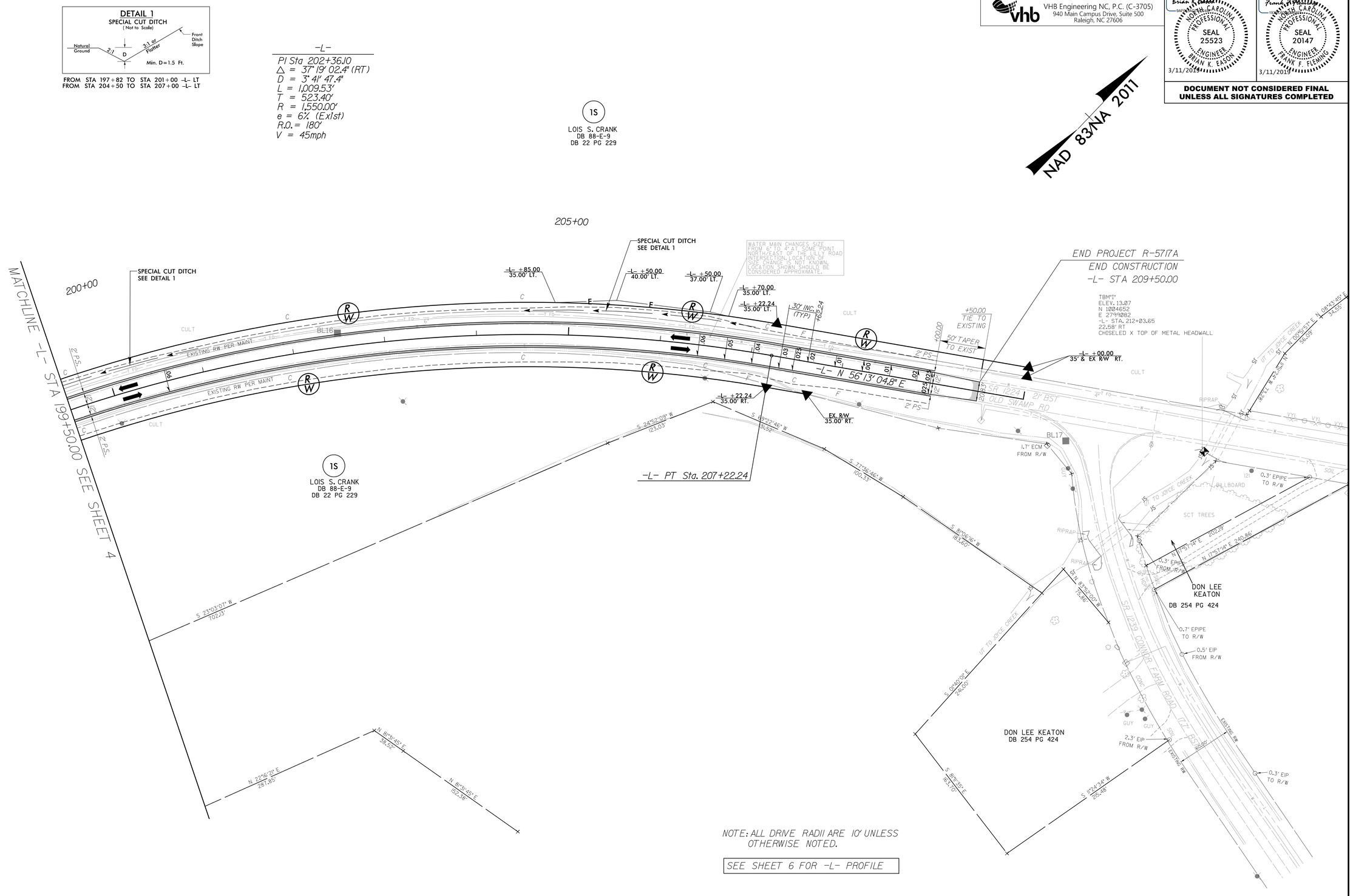
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
DocuSigned by: Brian K Eason
BAF0B0E4E4E4E4E...
NORTH CAROLINA PROFESSIONAL SEAL 25523 ENGINEER BRIAN K. EASON
3/11/2019

HYDRAULICS ENGINEER
DocuSigned by: Frank Fleming
1D4F4A7A7A7A7A7...
NORTH CAROLINA PROFESSIONAL SEAL 20147 ENGINEER FRANK F. FLEMING
3/11/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



3/6/2019
R5717A_RDY_PSH_05.dgn
RPEASE

DocuSign Envelope ID: AB05EDF0-5A23-4D04-AA69-E2B80913A12C

5/28/99

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919)571-7111
NC License Number F-0159

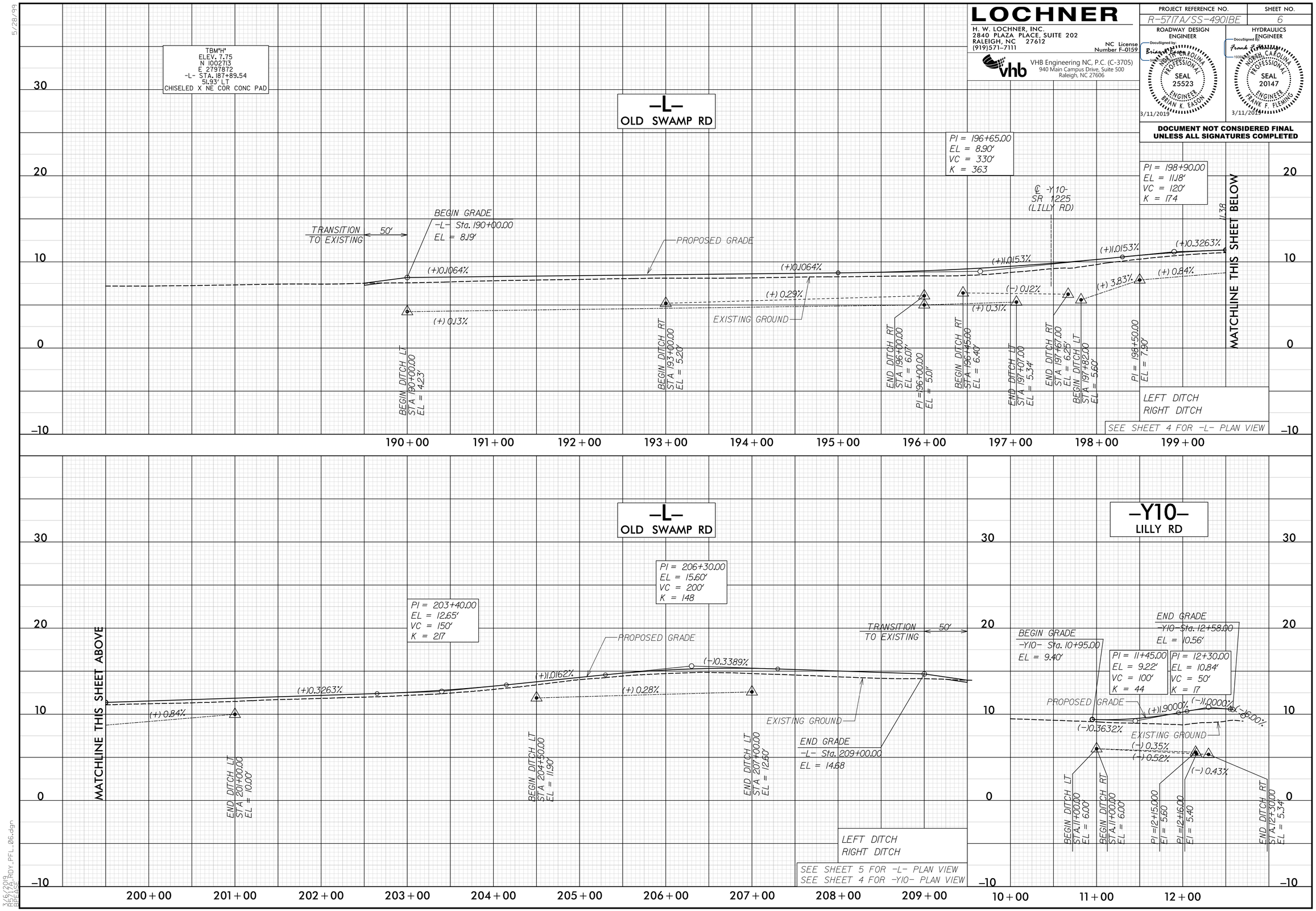
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	6

ROADWAY DESIGN ENGINEER
DocuSigned by: Brian K. Eason
NORTH CAROLINA PROFESSIONAL SEAL 25523 ENGINEER BRIAN K. EASON
3/11/2019

HYDRAULICS ENGINEER
DocuSigned by: Frank F. Fleming
NORTH CAROLINA PROFESSIONAL SEAL 20147 ENGINEER FRANK F. FLEMING
3/11/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

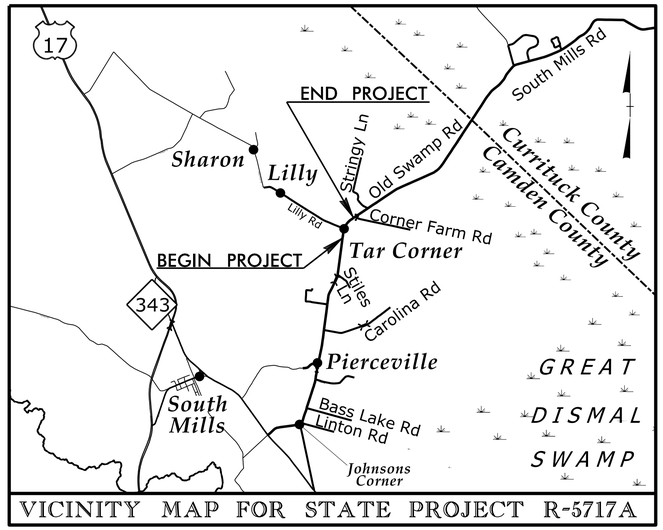


3/6/2019
R5717A_RDY_PFL_06.dgn
RPEASE

TIP PROJECT: R-5717A/SS-4901BE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5717A / SS-4901BE	EC-1	

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



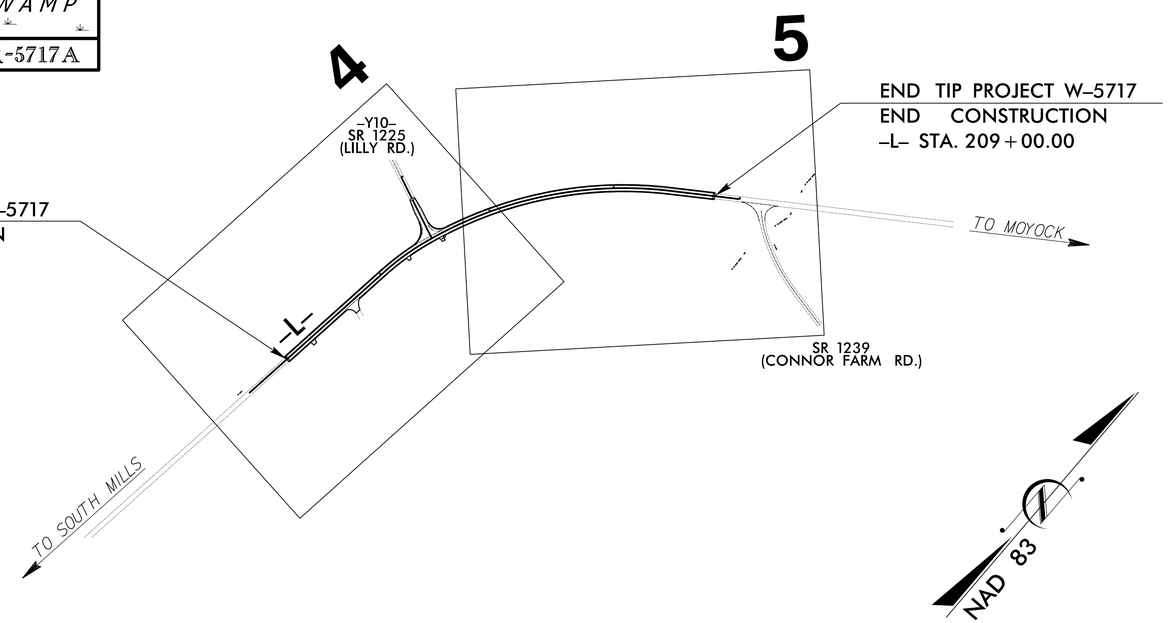
VICINITY MAP FOR STATE PROJECT R-5717A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

LOCATION: WIDENING OF SR 1223 /1224 (OLD SWAMP ROAD)

TYPE OF WORK: GRADING, PAVING AND DRAINAGE



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	EW 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	

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

GRAPHIC SCALE

25 0 50
PLANS

25 0 50
PROFILE (HORIZONTAL)

5 0 10
PROFILE (VERTICAL)

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2016 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared in the Office of:

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

Designed by:

BRANDON BARHAM, PE ***3368***
NAME *LEVEL III CERTIFICATION NO.*

Reviewed in the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2018 STANDARD SPECIFICATIONS

Reviewed by:

ANDREW BLANKENSHIP, PE, CPESC

Roadway Standard Drawings

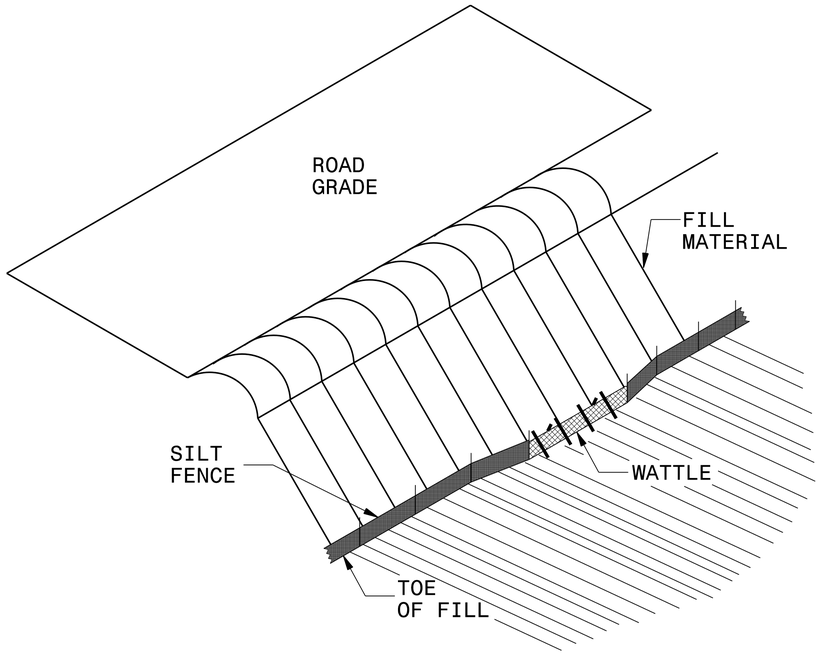
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

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

3/7/2018
R-5717A_REV_EC_TSH.dgn
USER:rbarham

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



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.

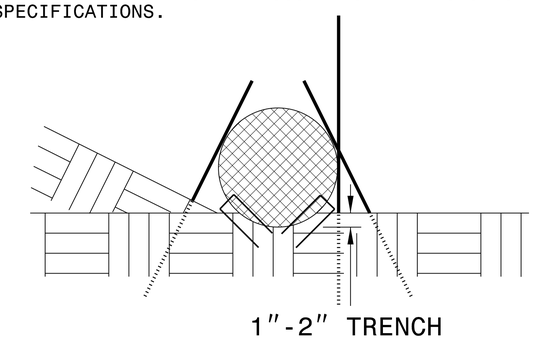
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

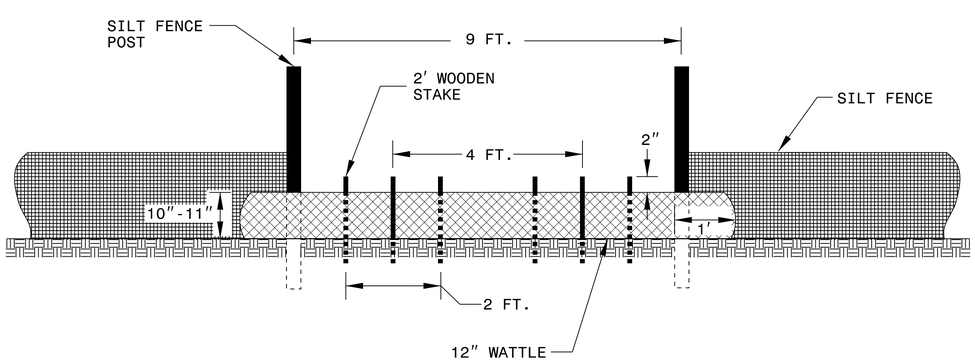
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

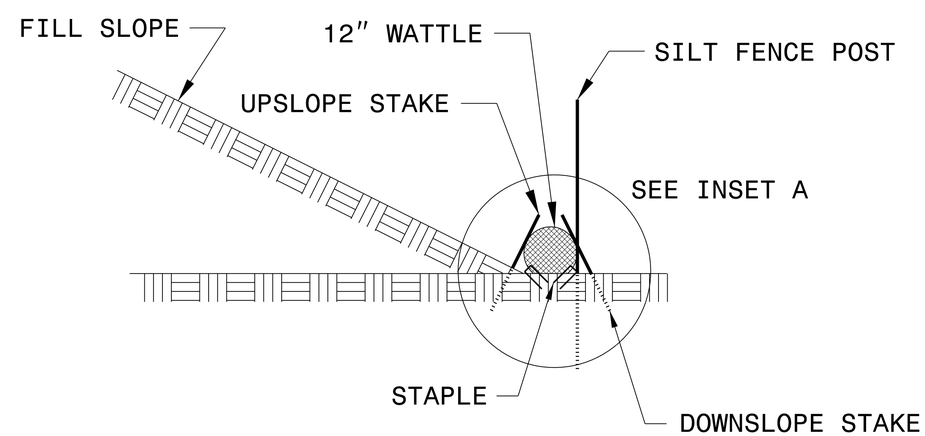
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





VIEW FROM SLOPE



SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

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NC License Number F-0159

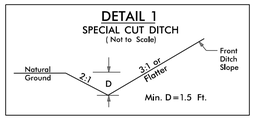
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	EC-04/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

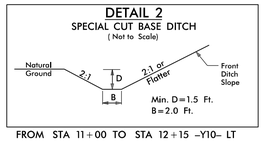
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)



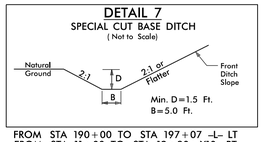
FROM STA 193+00 TO STA 196+00 -L- RT
FROM STA 196+45 TO STA 197+67 -L- RT
FROM STA 197+82 TO STA 201+00 -L- LT

DETAIL 2
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM STA 11+00 TO STA 12+15 -Y10- LT

DETAIL 7
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM STA 190+00 TO STA 197+07 -L- LT
FROM STA 11+00 TO STA 12+30 -Y10- RT

-L-

PI Sta 196+14.15
Δ = 11° 19' 51.4" (RT)
D = 5° 43' 46.5"
L = 197.76'
T = 99.20'
R = 1,000.00'
e = 7% (Exist)
R.O. = 210'
V = 45mph

PI Sta 202+36.10
Δ = 37° 19' 02.4" (RT)
D = 3° 41' 47.4"
L = 1,009.53'
T = 523.40'
R = 1,550.00'
e = 6% (Exist)
R.O. = 180'
V = 45mph

NAD 83

IRENE MCCOY
DB 15E PG 75
DB 61 PG 373
79

GLEN ALAN CAREY
DB 60 PG 216
84

-Y10- POT Sta. 10+00.00

-Y10- +75.00
45.00' RT. & EX. RW

TIE TO EXISTING DITCH

TIE TO EXISTING DITCH

SPECIAL CUT BASE DITCH
SEE DETAIL 7

-Y10- +75.00
45.00' LT. & EX. RW

LOIS S. CRANK
DB 88-E-9
DB 22 PG 229
80

TBM"H"
ELEV. 7.75
N 1002713
E 2797872
-L- STA. 187+89.54
51.93' LT
CHISELED X NE COR CONC PAD

190+00

195+00

SPECIAL CUT BASE DITCH
SEE DETAIL 7

TIE TO EXISTING DITCH

CLASS B RIP RAP
EST 5 TONS
EST 14 SY
GEOTEXTILE

-Y10- +80.00
45.00' RT.

SPECIAL CUT BASE DITCH
SEE DETAIL 2

-Y10- +80.00
45.00' LT.

CLASS B RIP RAP
EST 3 TONS
EST 10 SY GEOTEXTILE

SPECIAL CUT DITCH
SEE DETAIL 1

-L- +45.00
35.00' LT

-L- +54.43
63.43' LT

-L- +57.71
52.24' LT

-L- +67.88
67.94' LT

-L- +71.94
54.61' LT

-L- +64.88.66
67.58' LT

-L- +00.00
46' LT.

-L- +50.00
35.00' LT.

-L- +14.94
35.00' RT.

-L- +12.70
35.00' RT.

PUE

EXISTING RW

0.7' EIP TO R/W

15" HDPE

RETAIN

REMOVE

18" RCP

-L- N 7° 34' 11.0" E

N 7° 35' 57.4" E

19.5' BST

RW PER MAINT

TIE TO EXISTING DITCH

MAINSTAY CONSTRUCTION INC.
DB 163 PG 739
PB 5 PG 89A
81

-L- +83.09
42' RT

-L- +61.74
35' RT

-L- +49.00
52' RT

-L- +16.49
35' RT

-L- +21.00
53' RT

SPECIAL CUT DITCH
SEE DETAIL 1

30' INC.
(TYP)

MAINSTAY CONSTRUCTION INC.
DB 163 PG 739
PB 5 PG 89A
83

N 07°42'52" E
172.72'

GENERALS WAY

82

-L- PCC Sta. 197+12.70

-L- PC Sta. 195+14.94

1.5' EPIPE TO R/W

2 S WD D

SPECIAL CUT DITCH
SEE DETAIL 1

N 21° 15' 21.5" E

-L- POC Sta. 197+47.24=
-Y10- POT Sta. 12+70.00

MATCHLINE -L- STA 199+50.00 SEE SHEET 5

80
LOIS S. CRANK
DB 88-E-9

ROBERT G. OSBORNE &
VANESA A. OSBORNE
DB 337 PG 298
PB 7 PG 80

85
HOWARD W. TAYLOR &
JOYCE F. TAYLOR
DB 155 PG 107

80
LOIS S. CRANK
DB 88-E-9
DB 22 PG 229

S 23°03'07" W
102.13'

N 22°16'21" E
56.10'

NOTE: ALL DRIVE RADII ARE 10' UNLESS OTHERWISE NOTED.

SEE SHEET 6 FOR -L- PROFILE
SEE SHEET 7 FOR -Y10- PROFILE

REVISIONS

8/17/99

3/7/2019
R5717A_REU_EC_PSH_04_CG.dgn
SEPB46Built

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

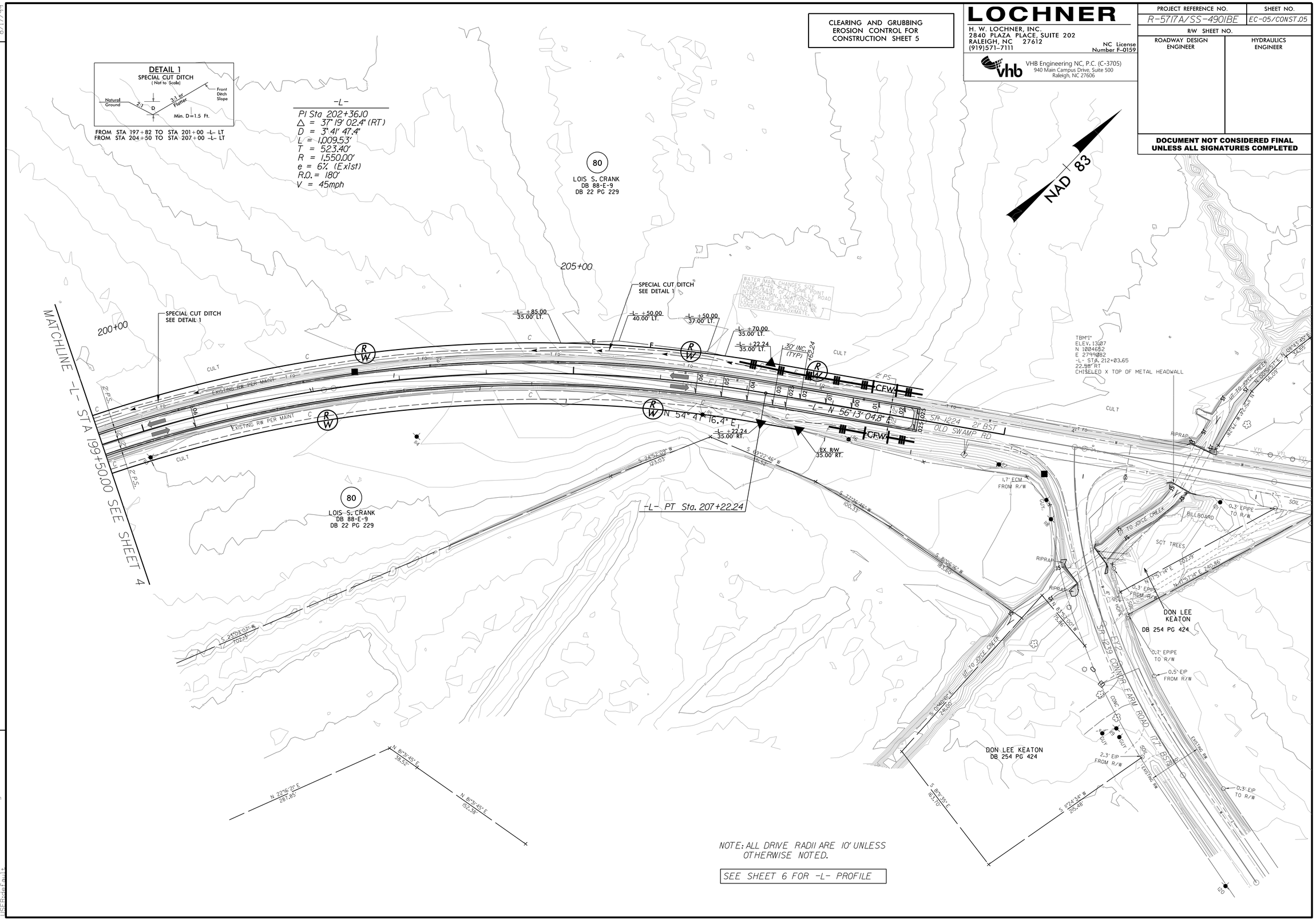
LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919)571-7111
NC License Number F-0159

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	EC-05/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



REVISIONS

8/17/99

3/7/2019
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USERdetrick

LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919)571-7111
NC License Number F-0159

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	EC-06/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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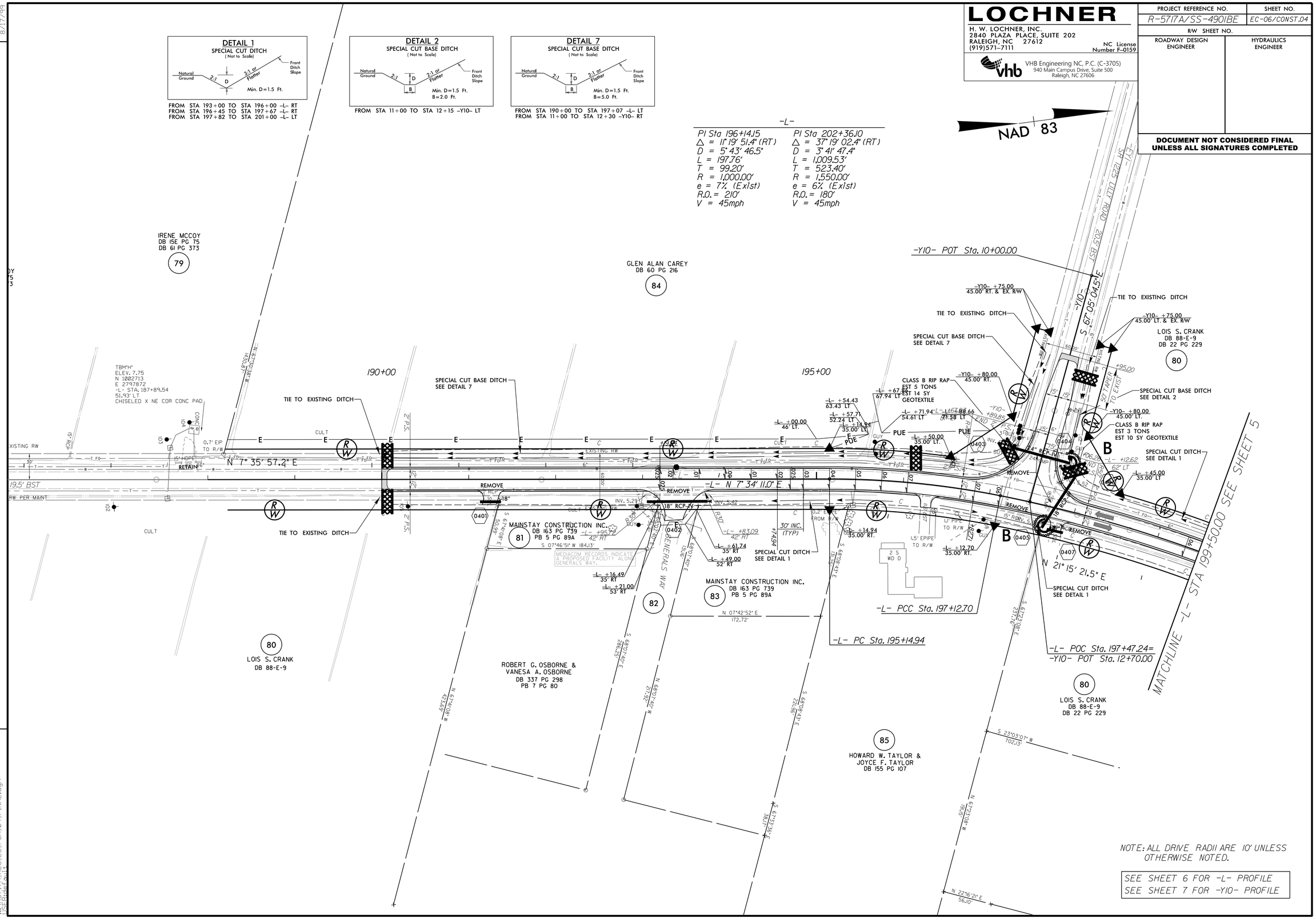
REVISIONS

8/17/99



3/7/2019
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USER:eatwitt

LOCHNER

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2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919)571-7111
NC License Number F-0159

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	EC-07/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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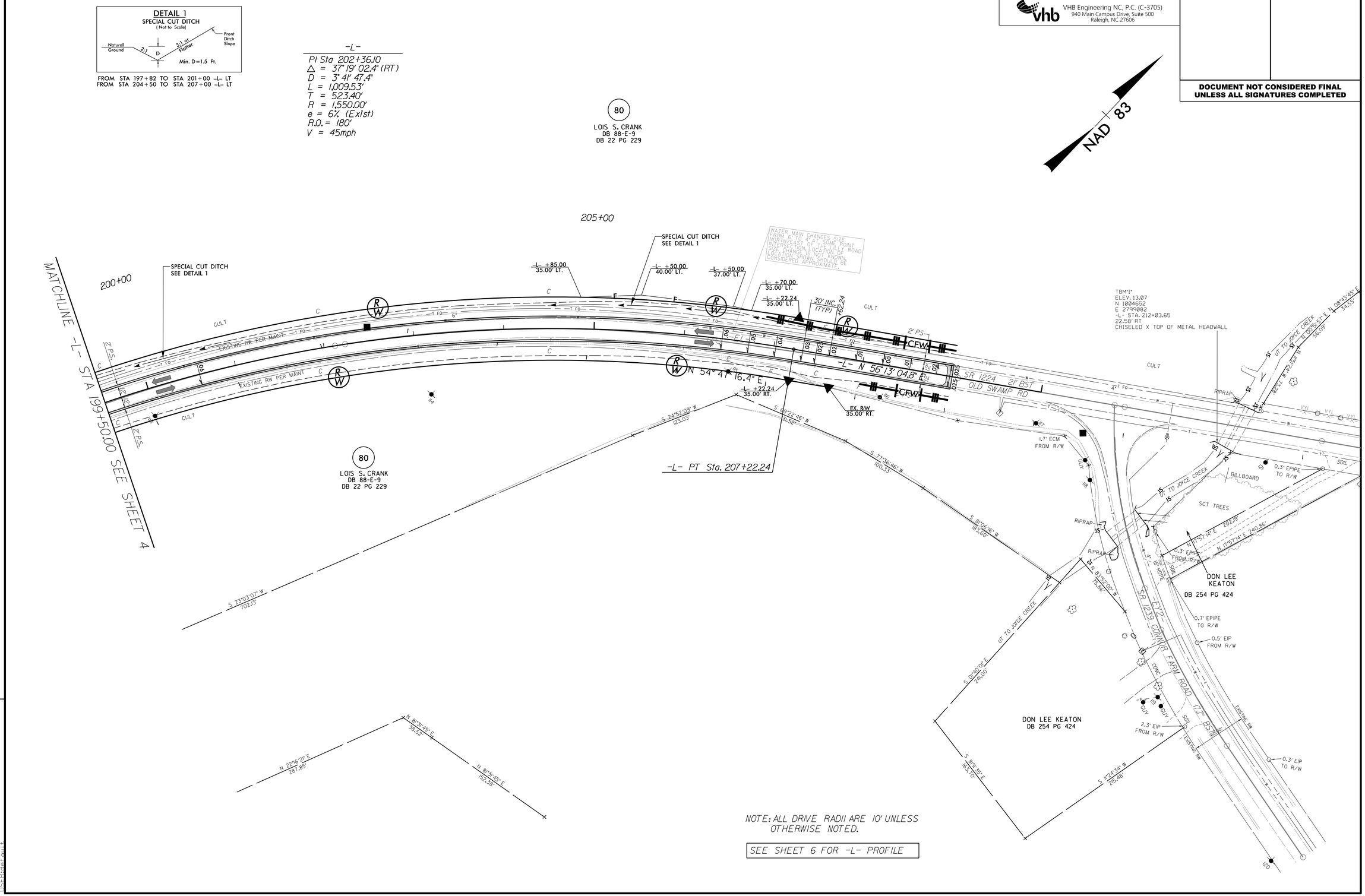
REVISIONS

8/17/99



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USER:BradFoult

DocuSign Envelope ID: F2D73269-12E8-49D1-A739-EEC630014408

TIP PROJECT: R-5717A /SS-4901BE

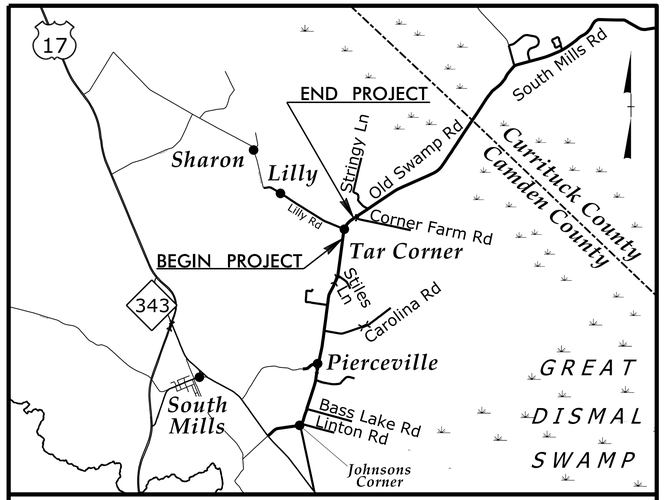
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
R-5717A /SS-4901BE	UC-1

CAMDEN COUNTY

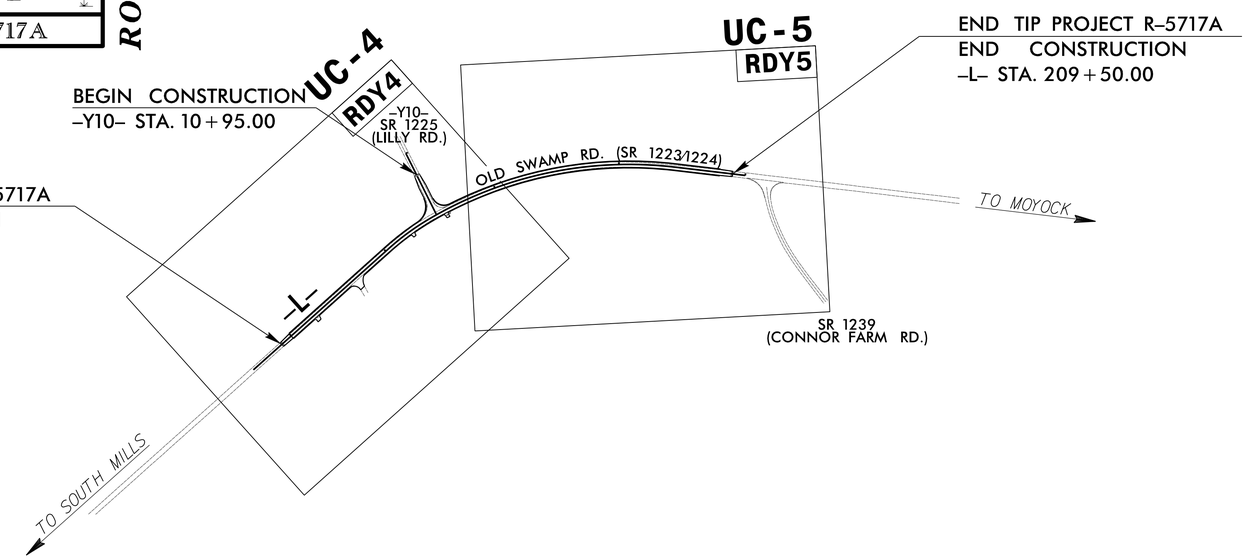
LOCATION: SR 1224 (OLD SWAMP RD.) FROM 0.15 MILES SOUTH OF SR 1225 (LILLY RD.) TO 0.25 MILES NORTH OF SR 1225 (LILLY RD.)

TYPE OF WORK: WATER MAIN RELOCATION



VICINITY MAP FOR STATE PROJ. R-5717A

ROW SUBMITTAL



NAD 83

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GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	DETAILS
UC-4 THRU UC-5	UTILITY CONSTRUCTION SHEETS
UC-6	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) WATER: SOUTH MILLS WATER ASSOCIATION

PREPARED IN THE OFFICE OF
CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

ERIC TWEED, PE — UTILITIES ENGINEER
BRIAN WILES, PE — PROJECT MANAGER

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028912 ENGINEER ERIC M. TWEED
DocuSigned by: Eric Tweed
3/6/2019

DIVISION OF HIGHWAYS
UTILITIES UNIT
1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

JERRY JENNINGS, PE — DIVISION ENGINEER
CHRIS SUTTON — UTILITIES COORDINATOR

3/6/2019
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USERNAME=

PROJECT REFERENCE NO.	SHEET NO.
R-5717A / SS-4901BE	UC-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — REH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PRPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole
- Power Manhole
- Telephone Manhole
- Sanitary Sewer Manhole
- Hand Hole for Cable
- Power Transformer
- Telephone Pedestal
- CATV Pedestal
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.
- *Underground Power Line
- *Underground Telephone Cable
- *Underground Telephone Conduit
- *Underground Fiber Optics Telephone Cable
- *Underground TV Cable
- *Underground Fiber Optics TV Cable
- *Underground Gas Pipeline
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Forced Main Line
- Underground Unknown Utility Line
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown)
- Designated Utility Line (Type as Shown)

REV: 2/1/2012

5/14/99
3/6/2019
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5/14/99

CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

PROJECT REFERENCE NO.	SHEET NO.
R-5717A / SS-4901BE	UC-3
DESIGNED BY: EMT	
DRAWN BY: EMT	
CHECKED BY: BAW	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 028912 ENGINEER ERIC M TWEED
DocuSigned by: Eric Tweed 30DC2DB18
3/6/2019

UTILITY CONSTRUCTION

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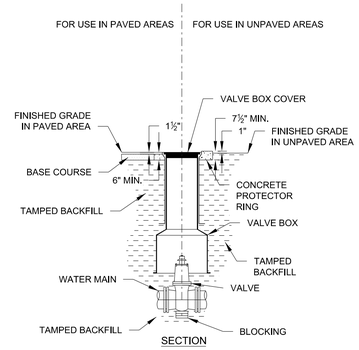


NOTES:
1. D.I.P. MAY BE USED FOR VALVE BOX EXTENSIONS.
2. VALVE BOX SHOULD NOT CONTACT WATER MAIN OR VALVE.
3. CONCRETE PROTECTOR RING SHALL BE USED IN ALL UNPAVED AREAS.
4. ALL MATERIALS USED IN THE POTABLE WATER SYSTEM MUST BE NSF61 AND NSF372 CERTIFIED AND MEET THE LATEST FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS.
5. VALVE SHALL BE MUELLER, M&H, WATEROUS OR EQUAL. DOUBLE DISK, NON-RISING STEM, OPERATED WITH 2" NUT. MJ ENDS.
6. VALVE BOX SHALL BE NEENAH FOUNDRY CO., DEWEY BROTHERS INC., EAST JORDAN IRON WORKS OR EQUAL AS APPROVED BY ENGINEER

VALVE AND VALVE BOX INSTALLATION

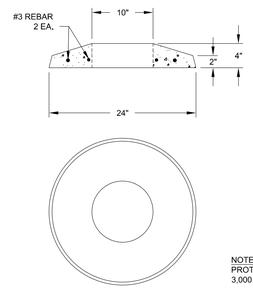
NOT TO SCALE

	Name	Date
Drawn By:		
Checked By:		
Approved By:		
Scale:		

Rev.	Description	Date	Init.

WATER STANDARD DETAIL Valve and Valve Box Installation

PAGE **3**



NOTE:
PROTECTOR RING SHALL BE 3,000 P.S.I. CONCRETE.

CONCRETE PROTECTOR RING

NOT TO SCALE

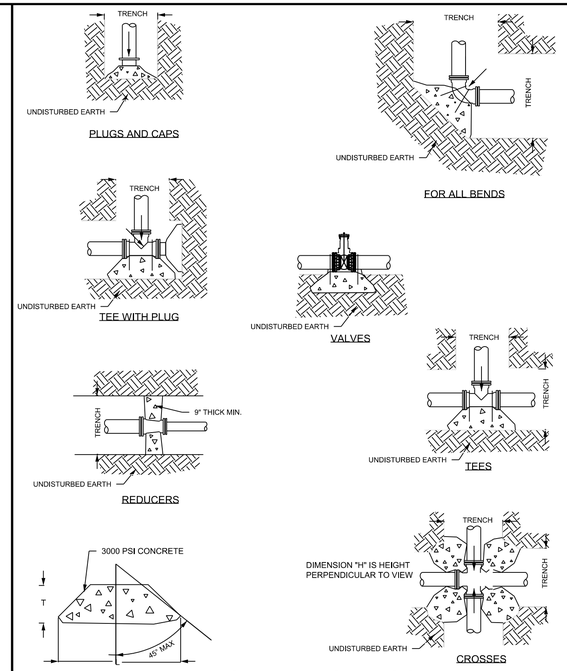
Init.

	Name	Date
Drawn By:		
Checked By:		
Approved By:		
Scale:		

Rev.	Description	Date	Init.

WATER STANDARD DETAIL Concrete Protector Ring

PAGE **14**



TYPICAL THRUST BLOCK

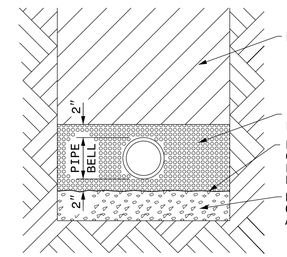
	Name	Date
Drawn By:		
Checked By:		
Approved By:		
Scale:		

Rev.	Description	Date

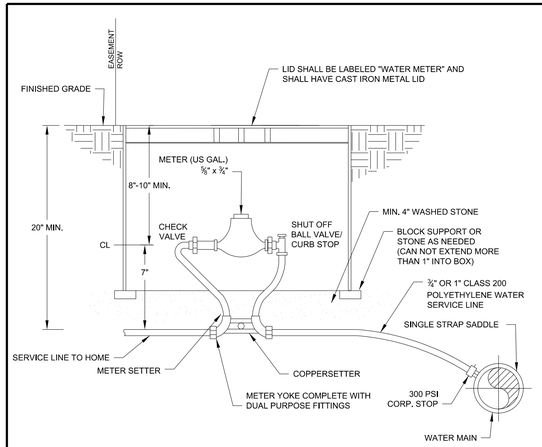
WATER STANDARD DETAIL Thrust Blocking

PAGE **5** 1 OF 2

TRENCH DETAIL



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.



NOTE:
1. CONTRACTOR SHALL PLACE METER BOX IN NON TRAFFIC AREA ONLY, OUTSIDE FENCED AREAS, AND 4 FEET AWAY FROM BUSHES AND TREES THAT COULD COVER THE BOX.
2. PLASTIC METER BOX SHALL BE BROOKS 14.19 CE, OR APPROVED EQUAL
3. CONTRACTOR SHALL CENTER METER YOKE IN METER BOX.
4. METER SETTER: FORD, MUELLER, FY McDONALD OR APPROVED EQUAL.
5. METER TO MEET AWWA C-000 STDS. AND SPECS.
6. METER TO BE PROVIDED AND SET BY SMWA. METER WILL NOT BE INSTALLED IF, THE THE SETTER IS NOT CENTERED IN THE BOX, THE SETTER HAS BEEN PULLED UP ON ONE END, THE SETTER IS LAYING ON IT'S SIDE, THE SETTER IS TO CLOSE TO THE BOX LID, THE BOX IS BELOW GRADE OR BROKEN. THE CUSTOMERS SERVICE LINE IS NOT HOOKED TO THE UNION NUT, THE 3/4 GATE VALVE HAS NOT BEEN INSTALLED WITHIN 12 INCHES OF THE METER BOX.
7. ALL MATERIALS USED IN THE POTABLE WATER SYSTEM MUST BE NSF61 AND NSF372 CERTIFIED AND MEET THE LATEST FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS.
8. SERVICE LINE TO HOME MUST PASS PLUMBING INSPECTION PRIOR TO SETTING METER.
9. CONTRACTOR SHALL CONTACT SOUTH MILLS WATER ASSOCIATION PRIOR TO ORDERING METER BOX AND SHUT OFF BALL VALVE / CURB STOP TO ENSURE THEY MEET REQUIREMENTS.

3/4" & 1" WATER METER SERVICE DETAIL

NOT TO SCALE

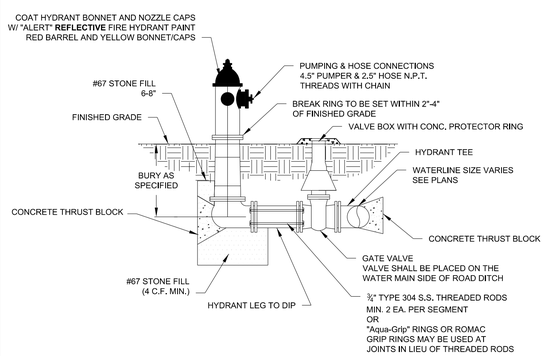
	Name	Date
Drawn By:		
Checked By:		
Approved By:		
Scale:		

Rev.	Description	Date	Init.

WATER STANDARD DETAIL ¾" and 1" Water Meter Service

PAGE **2**

NOTE:
1. MIN. OF 4 CU. FT. STONE (MORE IF REQ'D).
2. CONC. THRUST BLOCK TO HAVE MIN. OF 6 SQ. FT. BEARING ON SOLID BANK (MORE IF REQ'D.).
3. DRAIN HOLES AND FLANGES SHALL BE CLEAR OF CONC.
4. FIRE HYDRANT BARREL SHALL BE PLUMB.
5. ALL MATERIALS USED IN THE POTABLE WATER SYSTEM MUST BE NSF61 AND NSF372 CERTIFIED AND MEET THE LATEST FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS.
6. FIRE HYDRANT SHALL BE MUELLER, M&H (STYLE 129), AMERICAN DARLING OR APPROVED EQUAL.



FIRE HYDRANT ASSEMBLY

NOT TO SCALE

****FIRE HYDRANTS INSTALLED ON EXISTING 6" WATER MAINS, MUST BE INSTALLED USING A 6"x6" TEE CUT INTO THE EXISTING WATER MAIN. FIRE HYDRANTS INSTALLED ON EXISTING WATER MAINS LARGER THAN 6", CAN BE INSTALLED USING A TAPPING SLEEVE AND VALVE ON THE EXISTING WATER MAIN.**

	Name	Date
Drawn By:		
Checked By:		
Approved By:		
Scale:		

Rev.	Description	Date	Init.

WATER STANDARD DETAIL Fire Hydrant Assembly

PAGE **4**

ANCHOR ROD SIZES

PIPE SIZE	ROD SIZE
4" THRU 6"	#4
8" THRU 10"	#6
12" THRU 18"	#8

CONCRETE THRUST BLOCK

PIPE SIZE	FITTING	L (FT.)	H (FT.)	T (FT.)
2 - 3 - 4	TEE OR BLOCK	2.0	1.0	1.0
2 - 3 - 4	90	2.0	1.5	1.0
2 - 3 - 4	45	1.5	1.0	1.0
2 - 3 - 4	22 1/2	1.0	1.0	1.0
6	TEE OR BLOCK	2.0	2.0	1.0
6	90	3.0	2.0	1.5
6	45	2.0	1.5	1.0
6	22 1/2	1.5	1.0	1.0
8	TEE OR BLOCK	3.0	2.5	1.5
8	90	4.0	2.5	2.0
8	45	2.5	2.0	1.5
8	22 1/2	2.0	1.5	1.0
12	TEE OR BLOCK	4.0	4.0	2.0
12	90	5.0	4.5	2.5
12	45	4.0	3.0	2.0
12	22 1/2	3.0	2.0	1.5

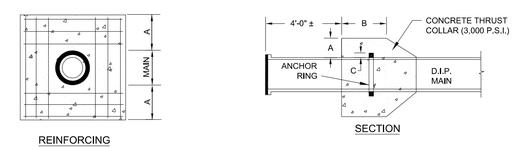
NOTE:
THIS TABLE BASED ON WATER PRESSURE 150 PSI
SOIL BRG. 1500 #/SQ.FT. TO 2000 #/SQ.FT.

	Name	Date
Drawn By:		
Checked By:		
Approved By:		
Scale:		

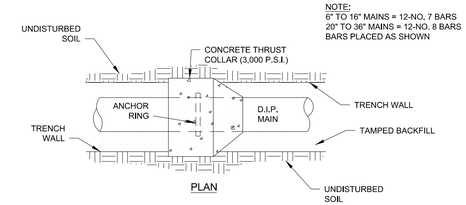
Rev.	Description	Date

WATER STANDARD DETAIL Thrust Block Schedule

PAGE **5** 2 OF 2



NOTE:
6" TO 16" MAINS = 12-NO. 7 BARS
20" TO 36" MAINS = 12-NO. 8 BARS
BARS PLACED AS SHOWN



SCHEDULE

PIPE DIAMETER	CONCRETE THRUST COLLAR		ANCHOR COLLAR	RINGS REQUIRED
	A	B	C	
6",8",12"	1'-0"	1'-0"	2"	ONE
16"	1'-4"	1'-0"	2"	ONE
20"	1'-4"	1'-0"	3"	ONE
24"	1'-4"	1'-0"	3"	TWO
30"	1'-4"	1'-2"	4"	TWO
36"	1'-4"	1'-4"	4"	TWO

THRUST COLLAR INSTALLATION

NOT TO SCALE

	Name	Date
Drawn By:		
Checked By:		
Approved By:		
Scale:		

Rev.	Description	Date	Init.

WATER STANDARD DETAIL Thrust Collar Installation

PAGE **9**

3/6/2019
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USERNAME

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CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

PROJECT REFERENCE NO.	SHEET NO.
R-5717A / SS-4901BE	UC-4
DESIGNED BY: EMT	
DRAWN BY: EMT	
CHECKED BY: BAW	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 028912 ENGINEER ERIC M TWEED
DocuSigned by: Eric Tweed 3/6/2019

UTILITY CONSTRUCTION

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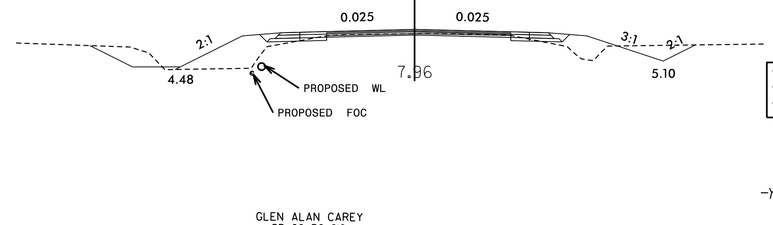
NAD 83

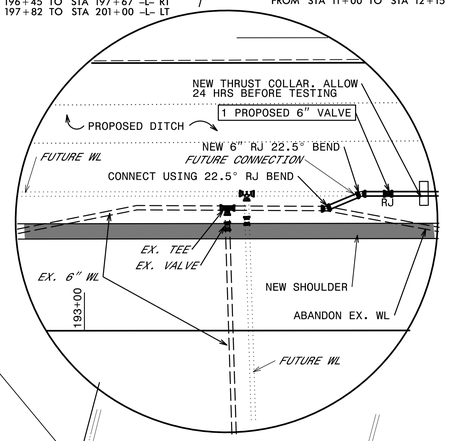
DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, 3:1 or Flatter, Front Ditch Slope, Min. D=1.5 Ft.
FROM STA 193+00 TO STA 196+00 -L- RT
FROM STA 196+45 TO STA 197+67 -L- RT
FROM STA 197+82 TO STA 201+00 -L- LT

DETAIL 2
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1 or Flatter, Front Ditch Slope, Min. D=1.5 Ft. B=2.0 Ft.
FROM STA 11+00 TO STA 12+15 -Y10- LT

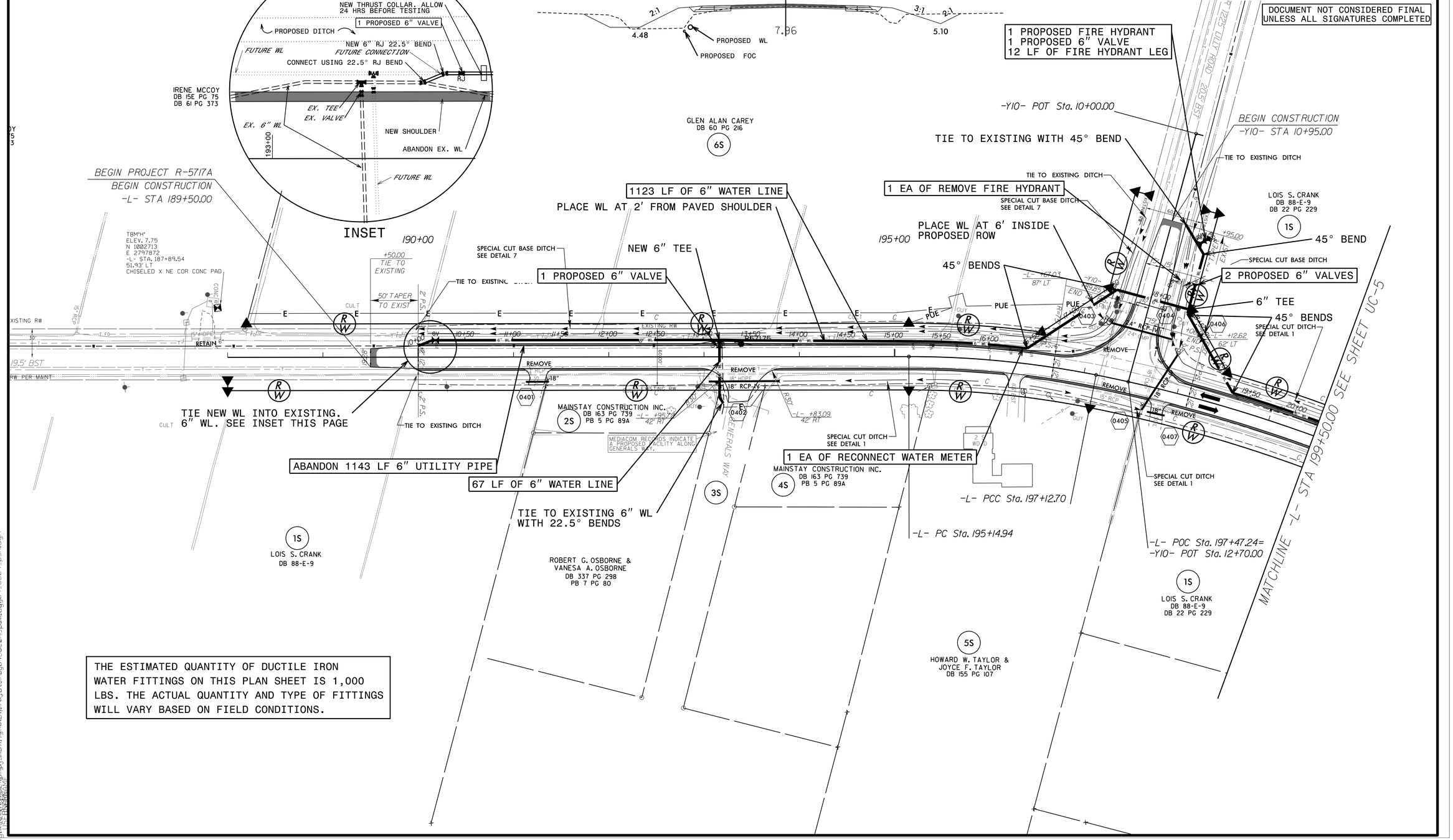
DETAIL 7
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1 or Flatter, Front Ditch Slope, Min. D=1.5 Ft. B=5.0 Ft.
FROM STA 190+00 TO STA 197+07 -L- LT
FROM STA 11+00 TO STA 12+30 -Y10- RT

1" = 10' CROSS SECTION
STA 192+00





INSET



THE ESTIMATED QUANTITY OF DUCTILE IRON WATER FITTINGS ON THIS PLAN SHEET IS 1,000 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

8/17/99
3/6/2019 8:46:20 AM
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DocuSign Envelope ID: F2D73269-12E8-49D1-A739-EEC630014408

CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

PROJECT REFERENCE NO.	SHEET NO.
R-5717A / SS-4901BE	UC-5
DESIGNED BY: EMT	
DRAWN BY: EMT	
CHECKED BY: BAW	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

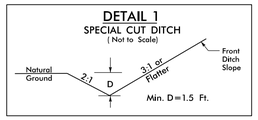
NORTH CAROLINA PROFESSIONAL SEAL 028912 ENGINEER ERIC M TWEED 3/6/2019
DocuSigned by: Eric Tweed 3DDC9B91B1B4...

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

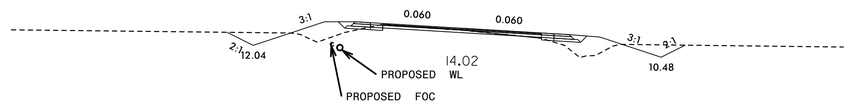
NAD 83

DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)



FROM STA 197+82 TO STA 201+00 -L- LT
FROM STA 204+50 TO STA 207+00 -L- LT

1' = 10' CROSS SECTION
STA 205+00



1S
LOIS S. CRANK
DB 88-E-9
DB 22 PG 229

1477 LF OF 6" WATER LINE.

PLACE PROPOSED WL AT 2' FROM NEW SHOULDER
205+00

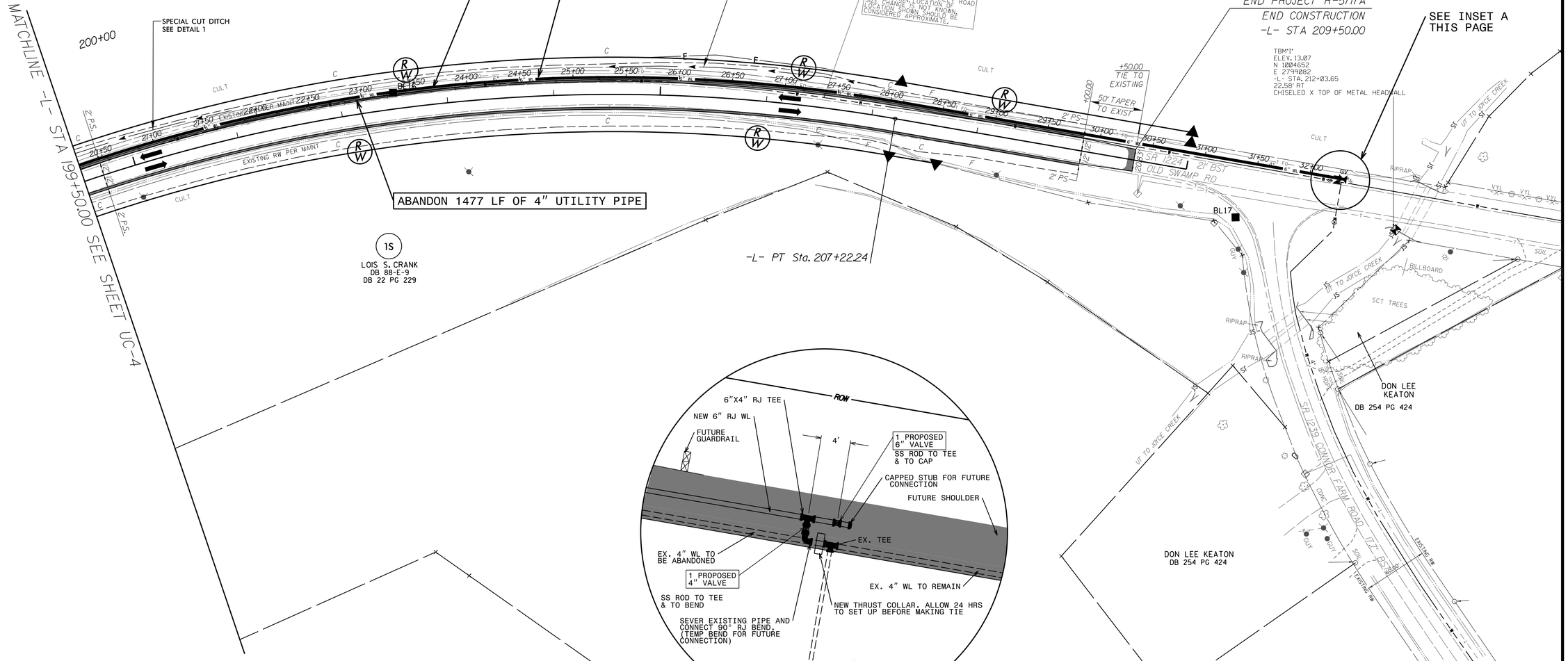
SPECIAL CUT DITCH
SEE DETAIL 1

WATER MAIN CHANGES SIZE FROM 6" TO 4" AT SOME POINT NORTHEAST OF THE LILLY ROAD INTERSECTION. THE LILLY ROAD SIZE CHANGE IS LOCATION OF LOCATION SHOWN. SHOULD BE CONSIDERED APPROXIMATE.

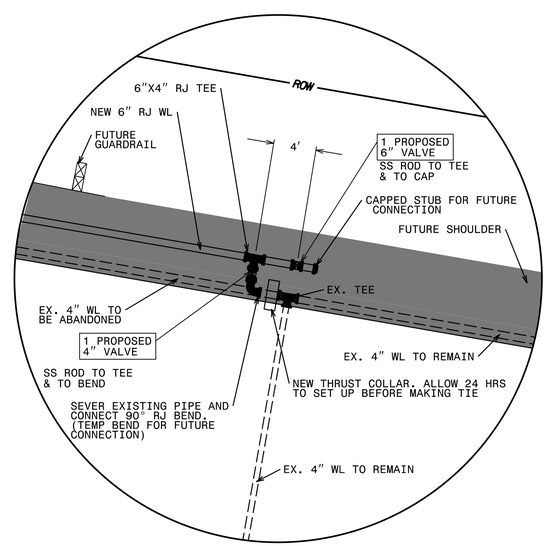
END PROJECT R-5717A
END CONSTRUCTION
-L- STA 209+50.00

SEE INSET A
THIS PAGE

TBM"1"
ELEV. 13.07
N 1004652
E 2799082
-L- STA. 212+03.65
22.58' RT
CHISELED X TOP OF METAL HEADWALL



1S
LOIS S. CRANK
DB 88-E-9
DB 22 PG 229



INSET A
PHASE 1 TERMINATION

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER FITTINGS ON THIS PLAN SHEET IS 195 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

3/6/2019 8:19:49 AM
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CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

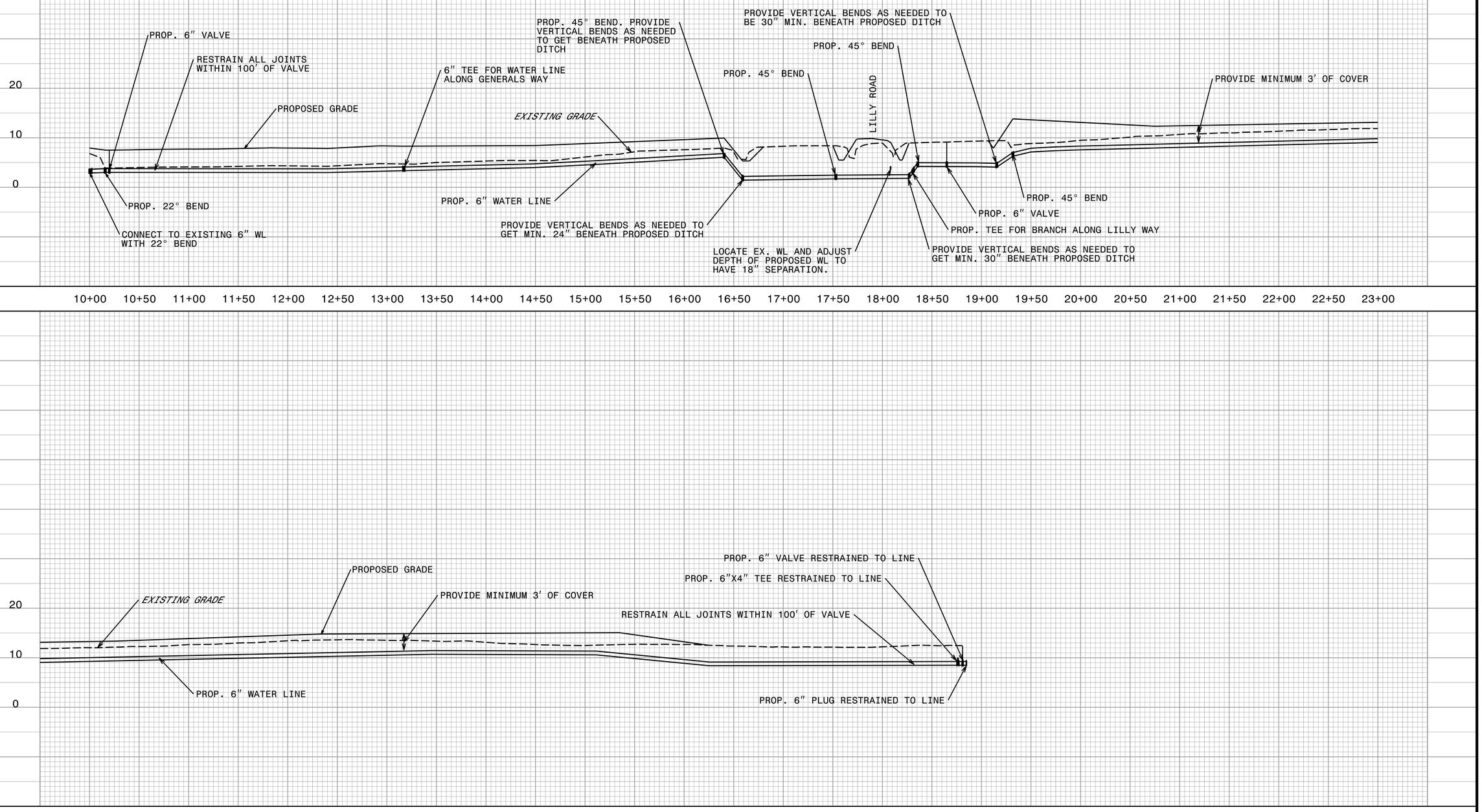
PROJECT REFERENCE NO.	SHEET NO.
R-5717A / SS-4901BE	UC-6
DESIGNED BY: EMT	
DRAWN BY: EMT	
CHECKED BY: BAW	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 028912 ENGINEER ERIC M TWEED
DocuSigned by: 3/6/2019 3:03:52 PM EDT
3/6/2019

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTE: ALL DITCH CROSSINGS SHALL HAVE A MINIMUM OF 2′ OF COVER.



5/28/99

3/6/2019
R:\Utilities\Engineering\UC\proj_R5717A\R5717A_ut_pfl_UC06_psh.dgn
EMTWEED

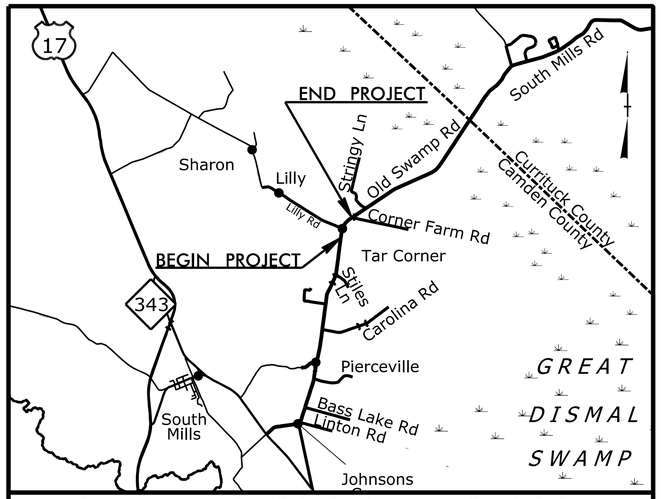
TIP PROJECT: R-5717A /SS-4901BE

T.I.P. NO.	SHEET NO.
R-5717A /SS-4901BE	UO-1

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

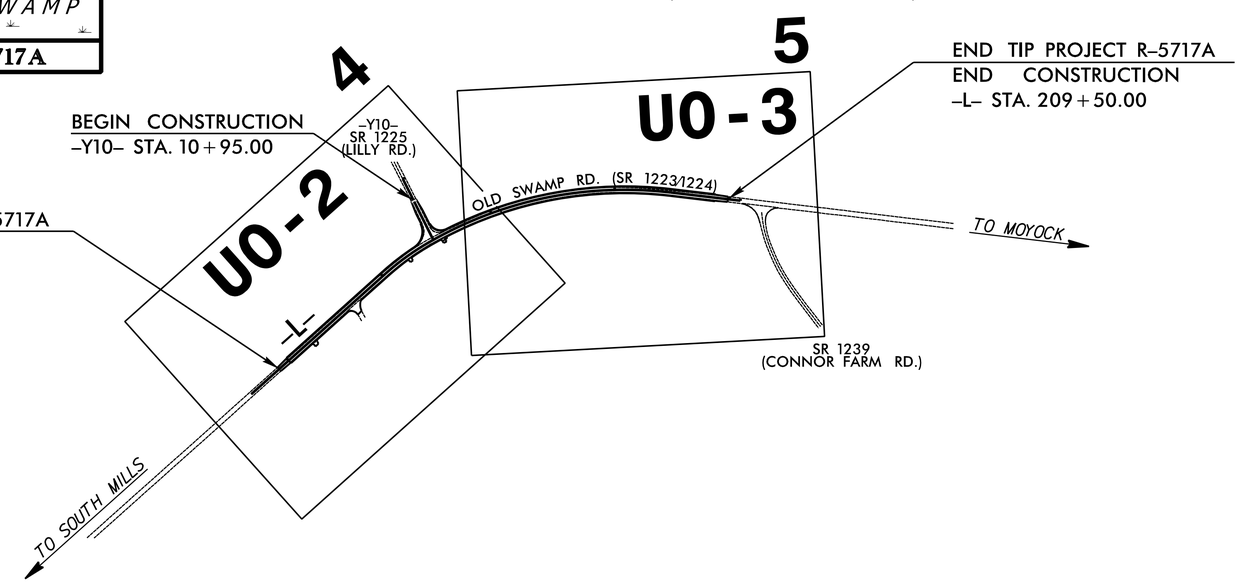
UTILITIES BY OTHERS PLANS
CAMDEN COUNTY



VICINITY MAP FOR STATE PROJ. R-5717A

LOCATION: SR 1224 (OLD SWAMP RD. FROM 0.15 MILES SOUTH OF SR 1225 (LILLY RD.) TO 0.25 MILES NORTH OF SR 1225 (LILLY RD.)

TYPE OF WORK: POWER (DISTRIBUTION) AND COMMUNICATIONS



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2 THRU UO-3	UBO PLAN SHEETS

UTILITY OWNERS WITH CONFLICTS

(A) POWER - ALBEMARLE EMC
(B) COMMUNICATIONS - CENTURYLINK
(C) COMMUNICATIONS - MEDIACOM

PREPARED IN THE OFFICE OF:

SO-DEEP | SAM NC™
SO-DEEP I SAM NC, Inc.
A SAM COMPANY
2800-154 Sumner Boulevard, Raleigh, NC 27616 Tel 919-878-7466

Keith Garry — UTILITY PROJECT MANAGER
Dave Hale — PROJECT UTILITY COORDINATOR

DIVISION OF HIGHWAYS
DIVISION 1
DIV ADDRESS
113 Airport Drive
Suite 100
Edenton, NC 27932

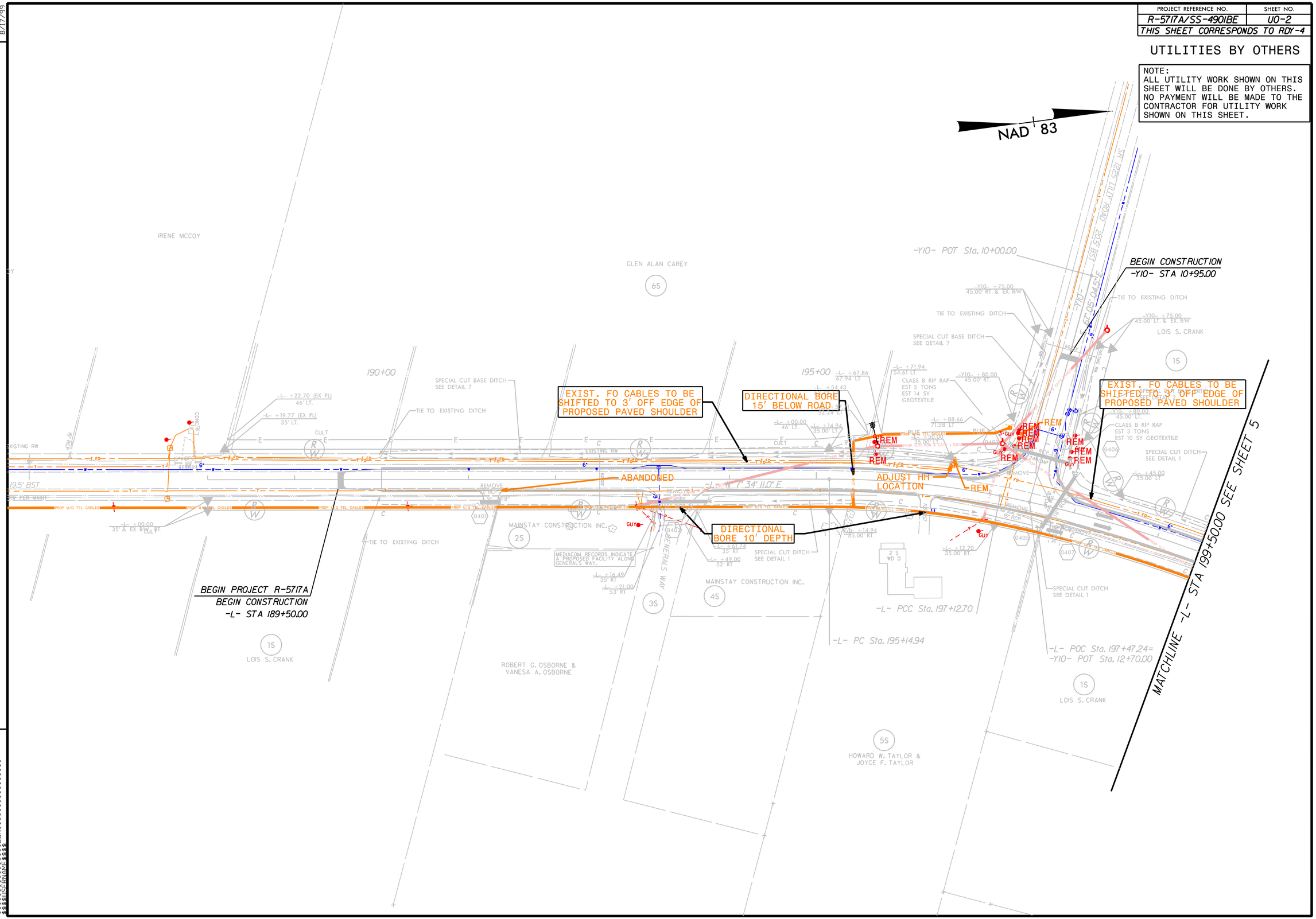
Barry Hobbs, PE — DIVISION CONTACT #1

09/08/99
$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	U0-2
THIS SHEET CORRESPONDS TO RDY-4	

UTILITIES BY OTHERS

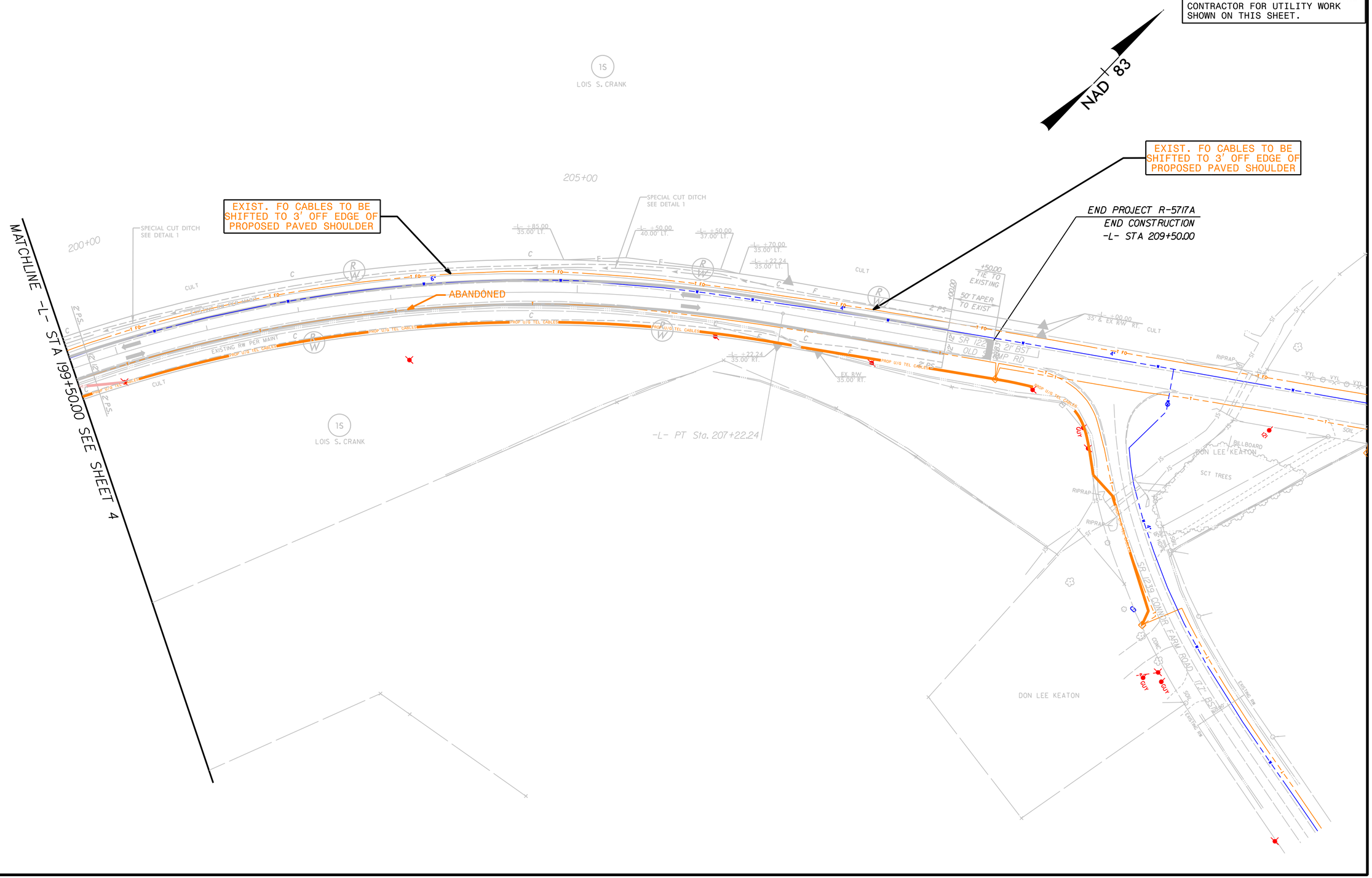
NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



PROJECT REFERENCE NO.	SHEET NO.
R-5717A / SS-4901BE	U0-3
THIS SHEET CORRESPONDS TO RDY-5	

UTILITIES BY OTHERS

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



REVISIONS

8/17/99

$$$$SYSTIME$$$$
$$$$USERNAME$$$$
$$$$DGN$$$$

PROJ. REFERENCE NO.	SHEET NO.
R-5717A/SS-4901BE	X-1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

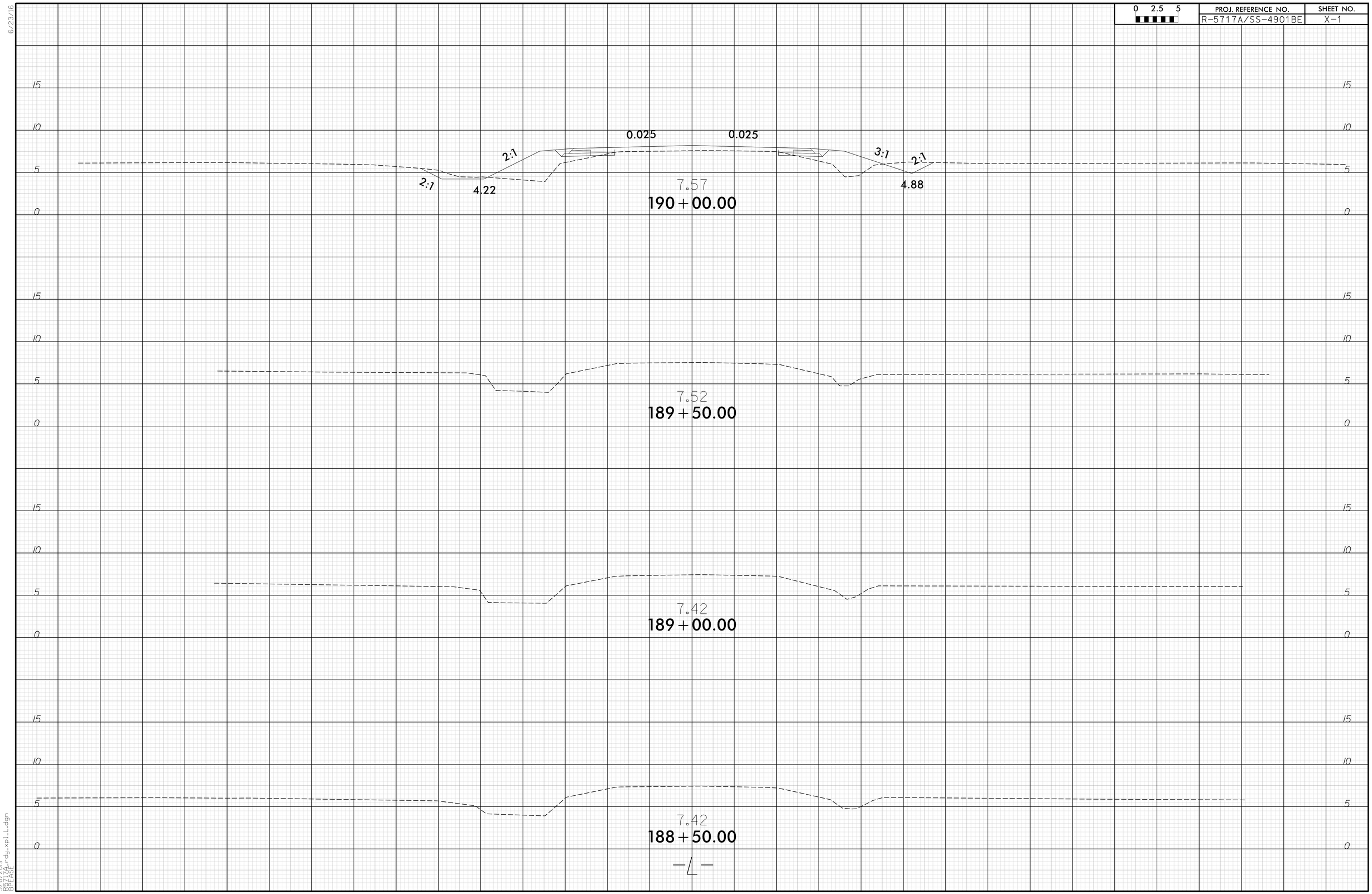
CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Station Y10	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
189+50.00	0	0	10+95.00	0	0
190+00.00	8	31	11+00.00	25	17
190+50.00	27	60	11+50.00	63	47
191+00.00	44	56	12+00.00	80	81
191+50.00	52	51	12+50.00	132	95
192+00.00	43	52	12+58.00	15	7
192+50.00	45	53			
193+00.00	56	51			
193+50.00	60	43			
194+00.00	55	43			
194+50.00	49	56			
195+00.00	59	62			
195+50.00	49	62			
196+00.00	56	57			
196+50.00	56	44			
197+00.00	48	44			
197+50.00	40	37			
198+00.00	41	44			
198+50.00	46	63			
199+00.00	32	56			
199+50.00	31	54			
200+00.00	30	49			
200+50.00	30	44			
201+00.00	30	42			
201+50.00	27	39			
202+00.00	27	37			
202+50.00	28	36			
203+00.00	29	35			
203+50.00	29	36			
204+00.00	27	37			
204+50.00	26	38			
205+00.00	27	41			
205+50.00	26	47			
206+00.00	22	55			
206+50.00	17	59			
207+00.00	7	63			
207+50.00	3	58			
208+00.00	3	52			
208+50.00	2	50			
209+00.00	2	46			
209+50.00	1	21			

Approximate quantities only. Fine grading, clearing and grubbing, Unclassified Excavation, and removal of existing pavement will be paid for at the lump sum price for "Grading".

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5717A/SS-4901BE	X-1



3/6/2019
BPLEASE
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6/23/16

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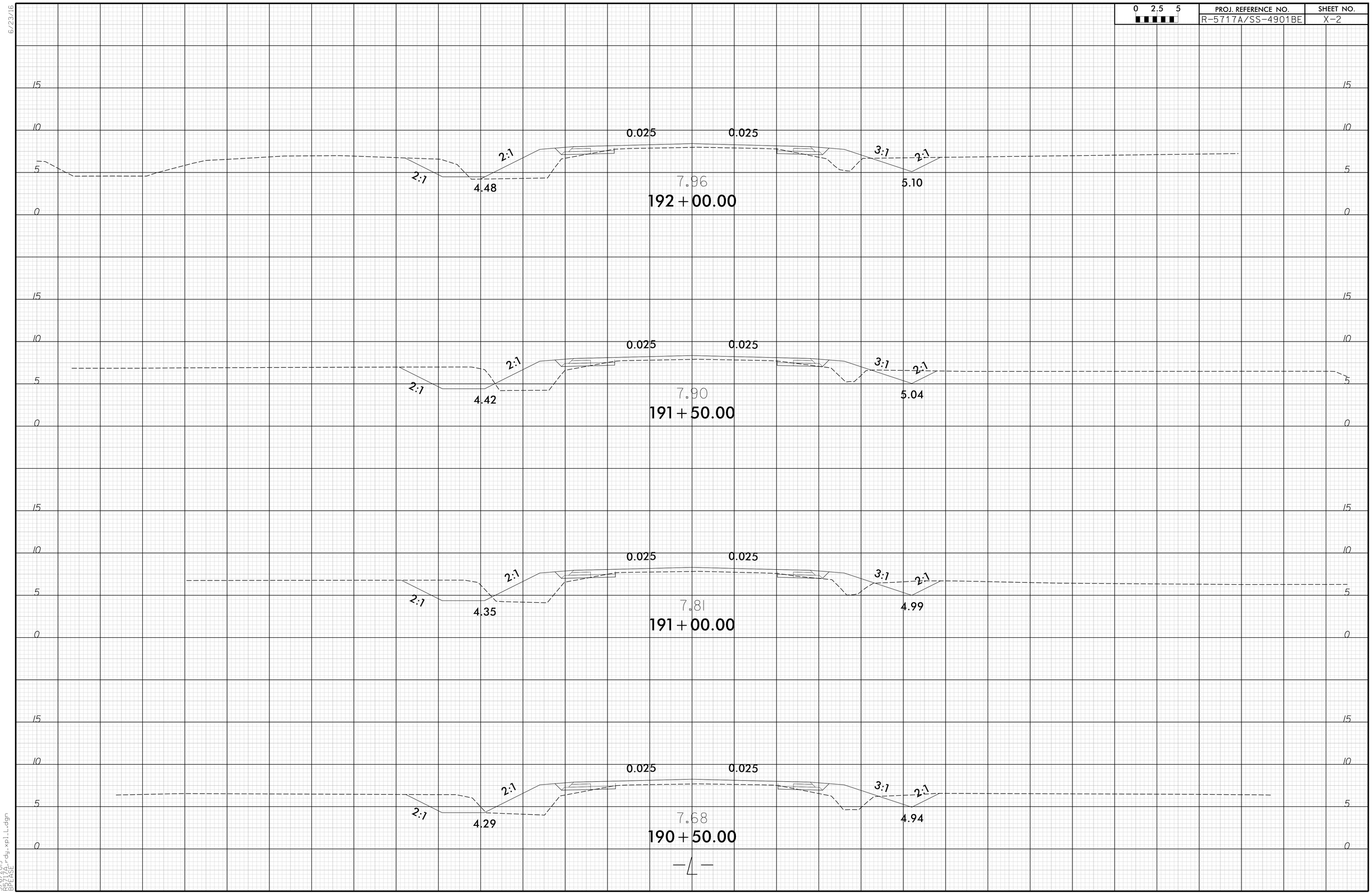

3/6/2019
R5717A_rdy_xp1_L.dgn
BPEASE

6/23/16

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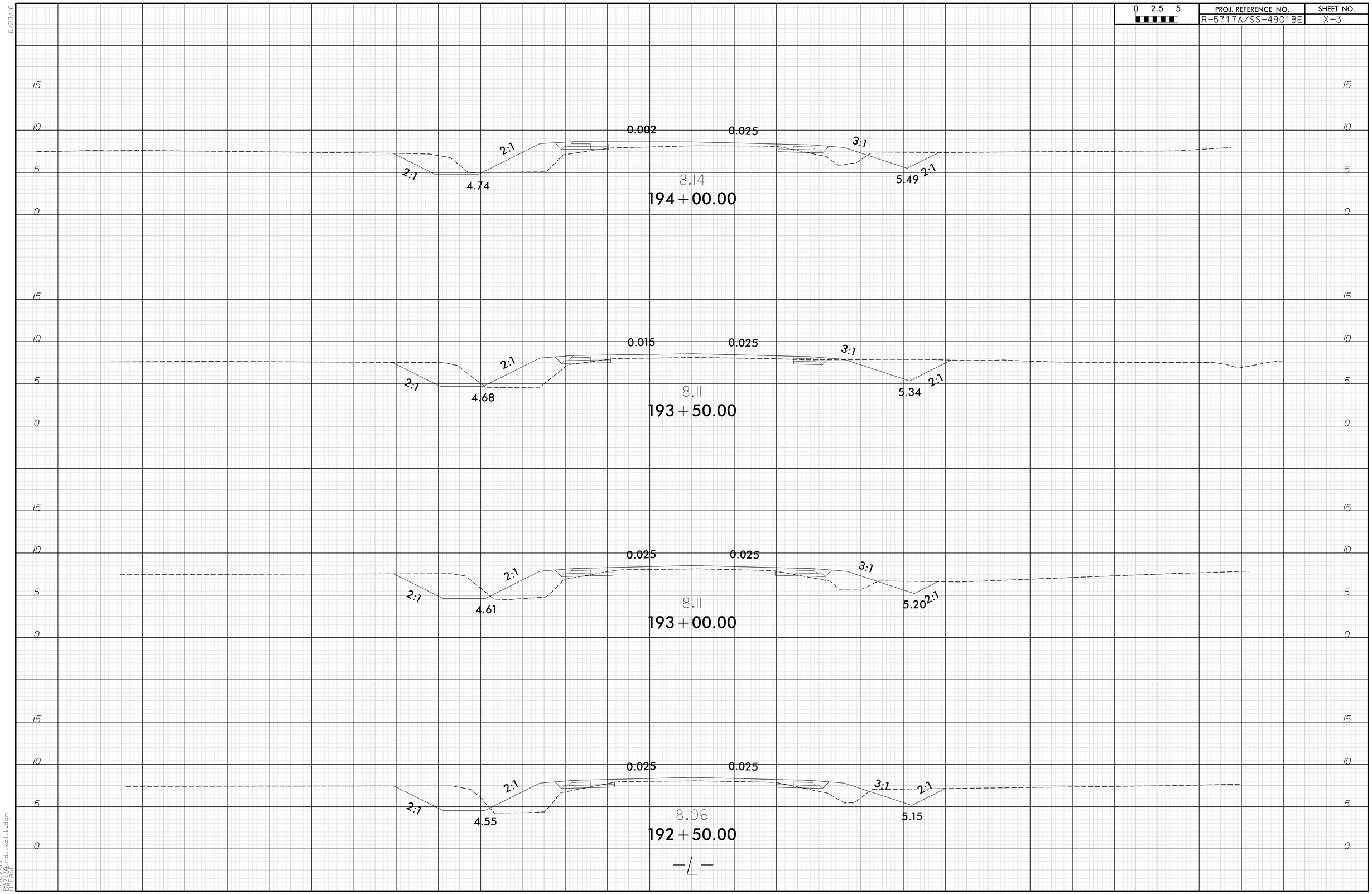

3/6/2019
BPEASE

—4—

6/23/16

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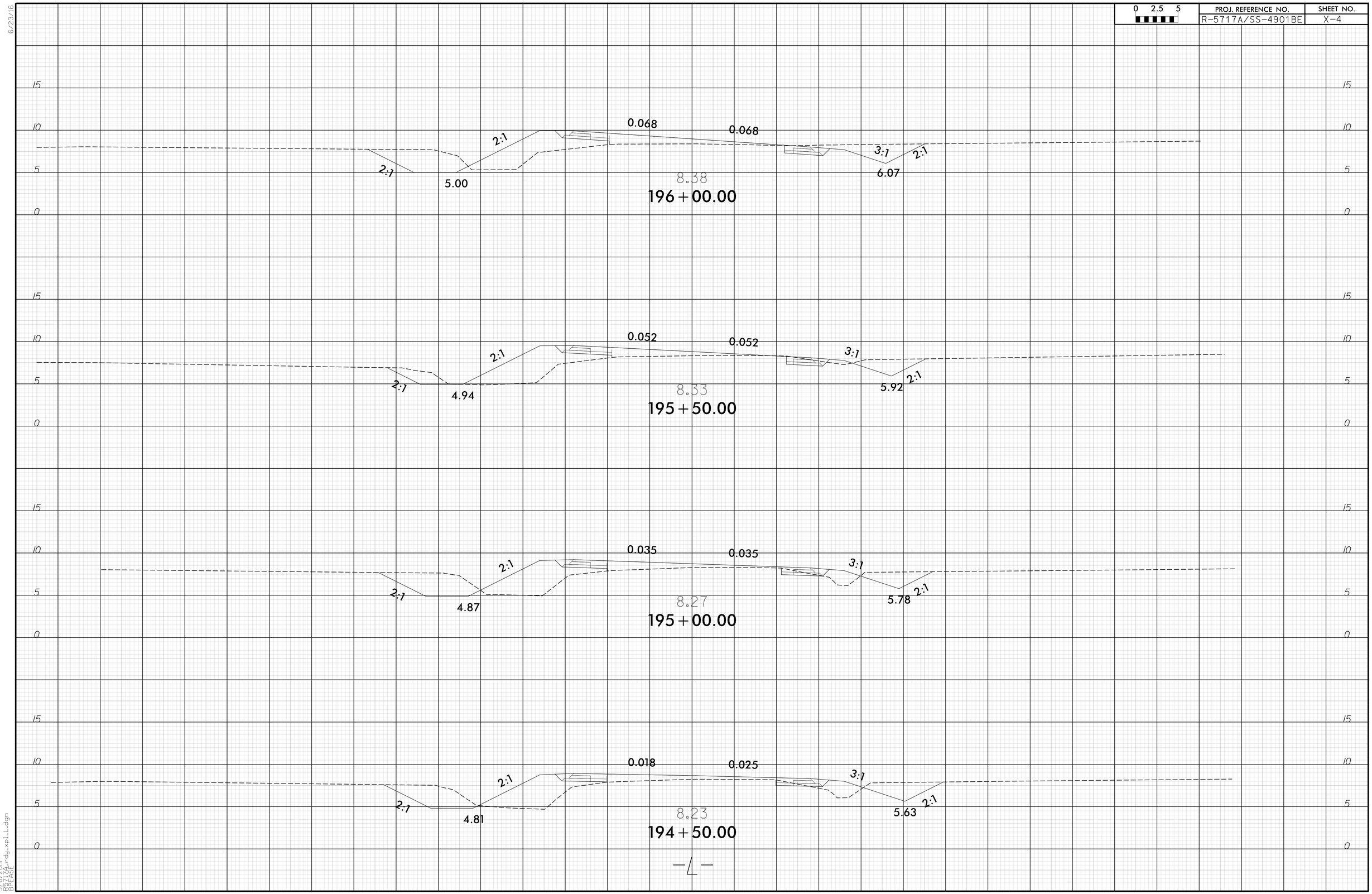

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6/23/16

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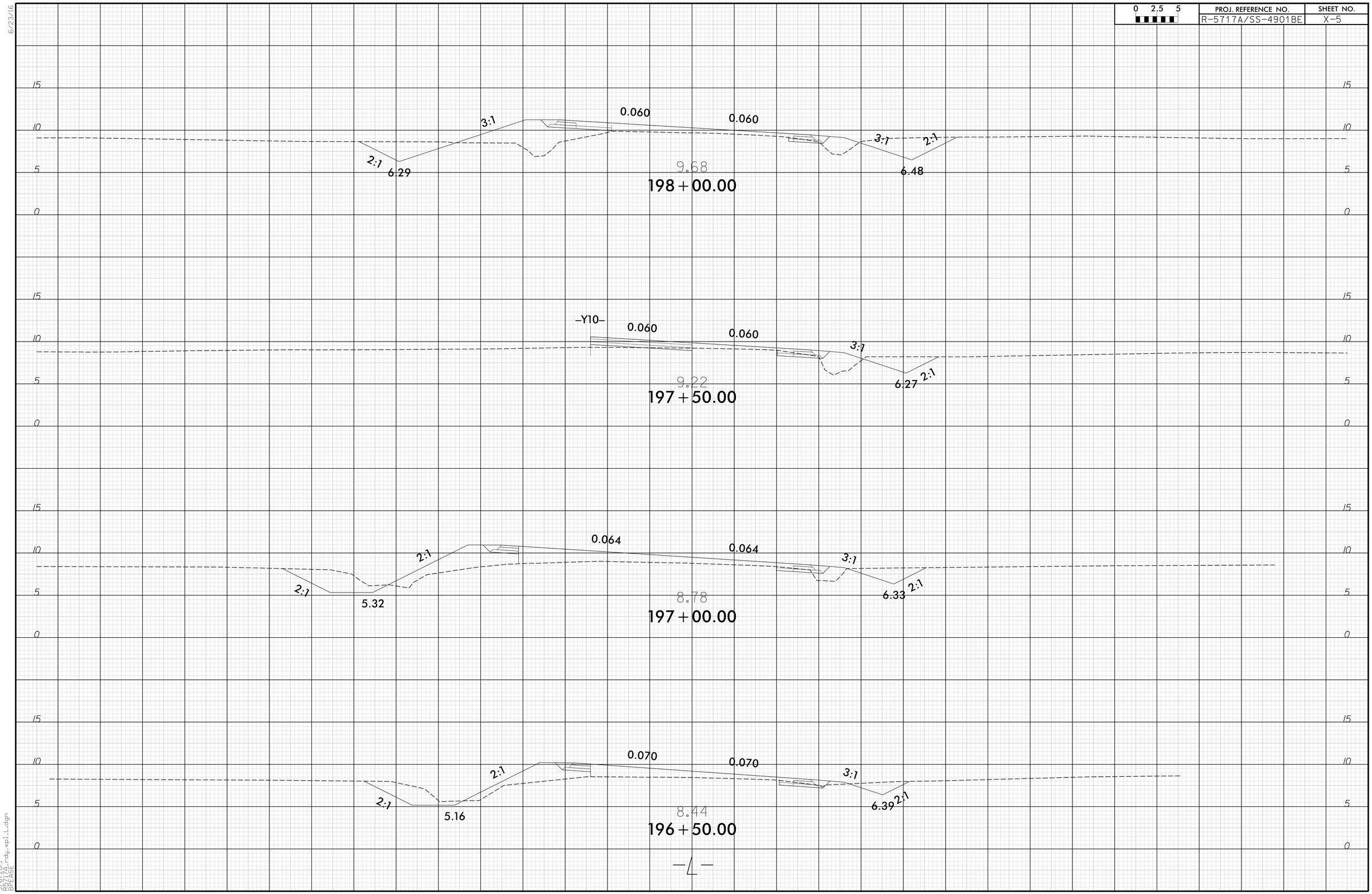

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6/23/16

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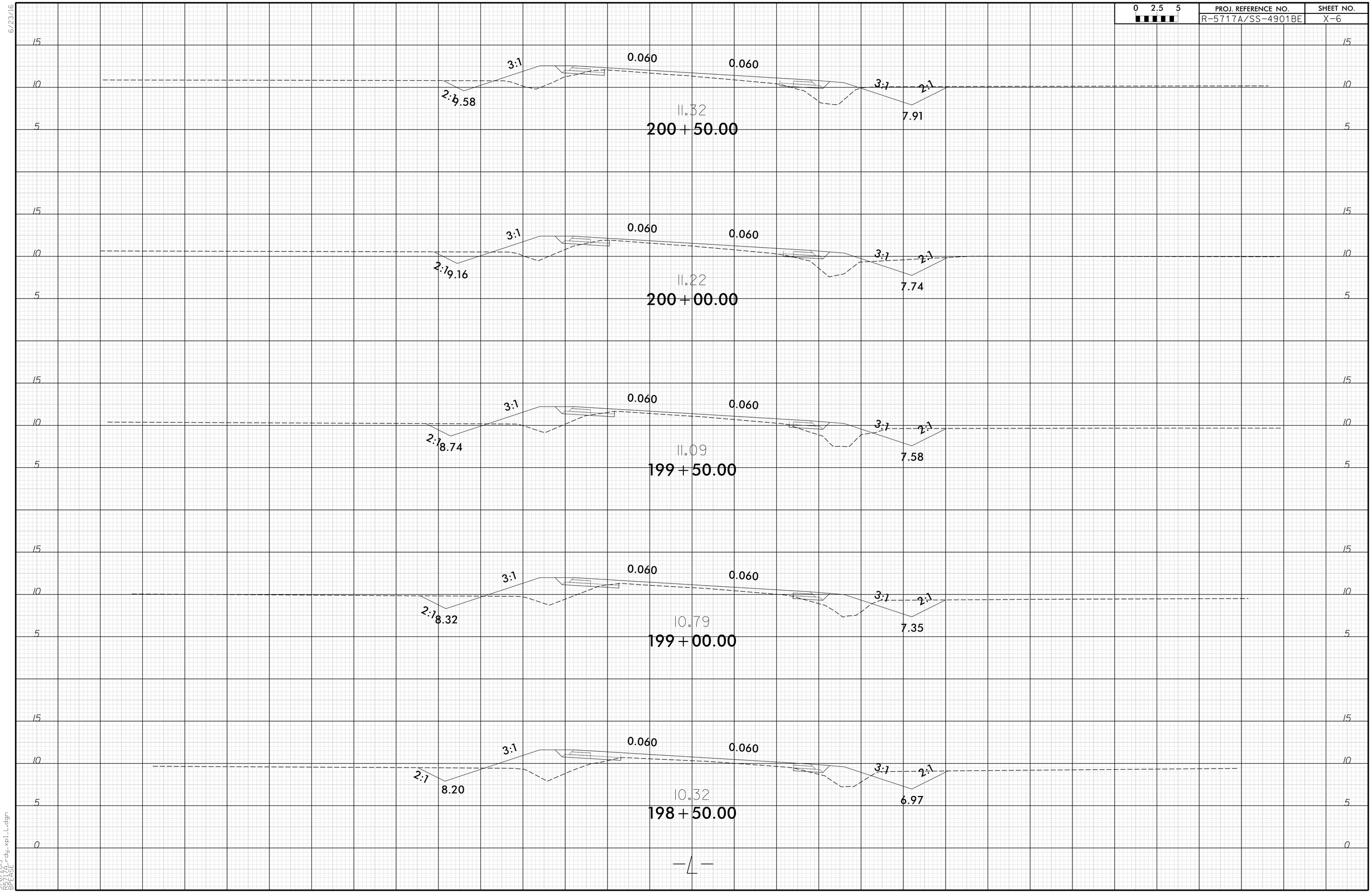

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6/23/16

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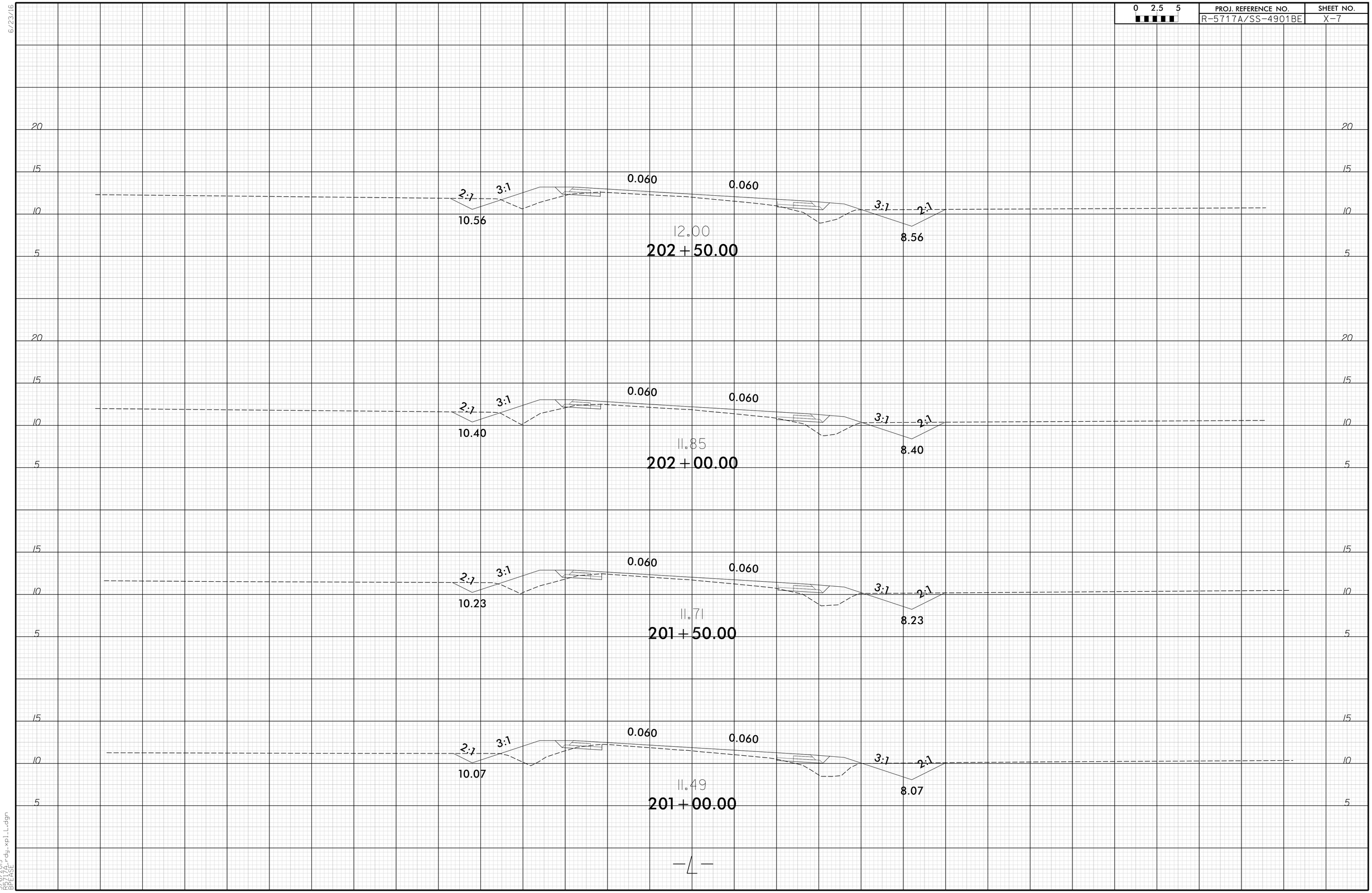

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8:16:20 AM
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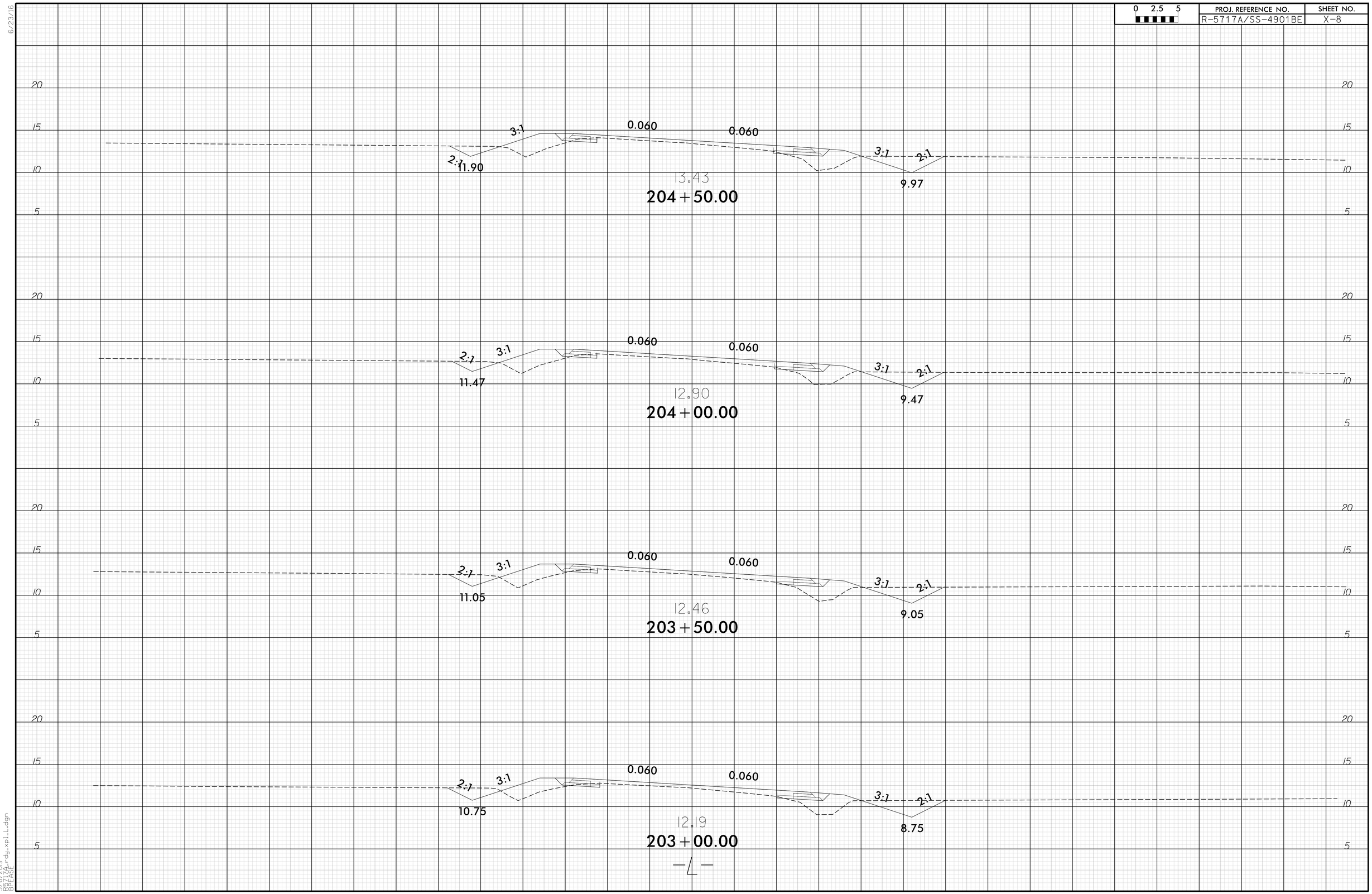

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6/23/16

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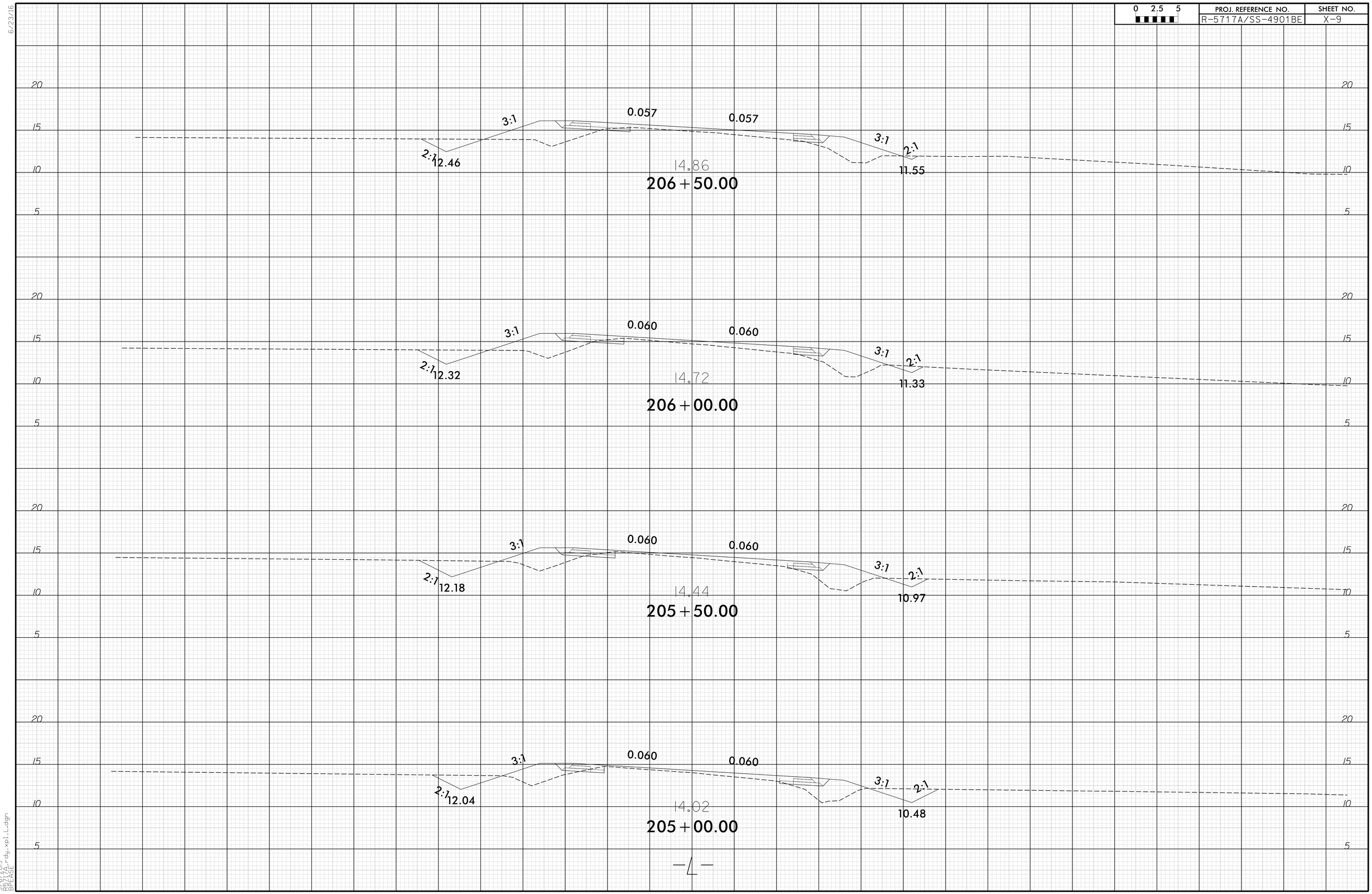

3/6/2019
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6/23/16

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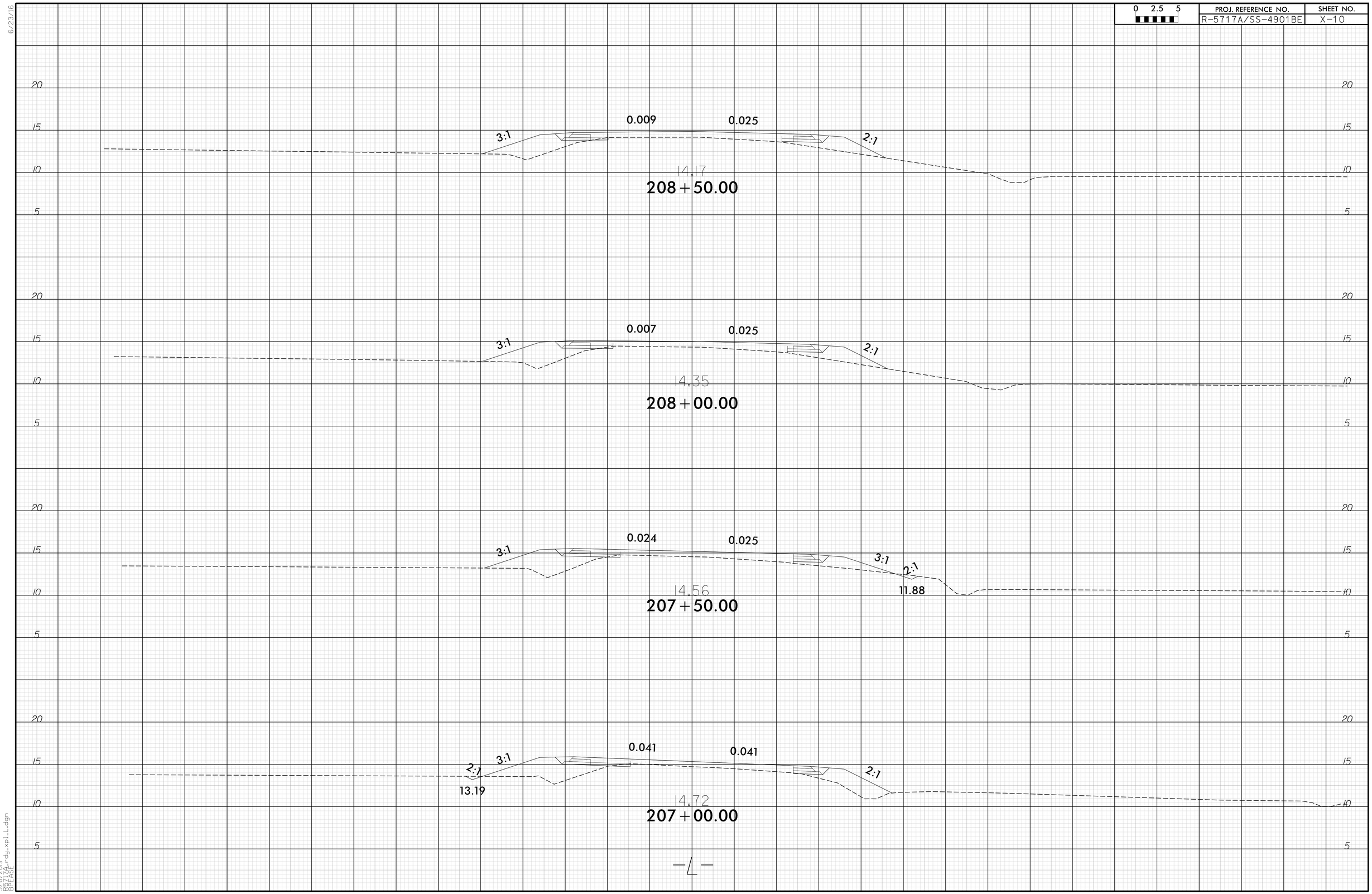

3/6/2019
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6/23/16

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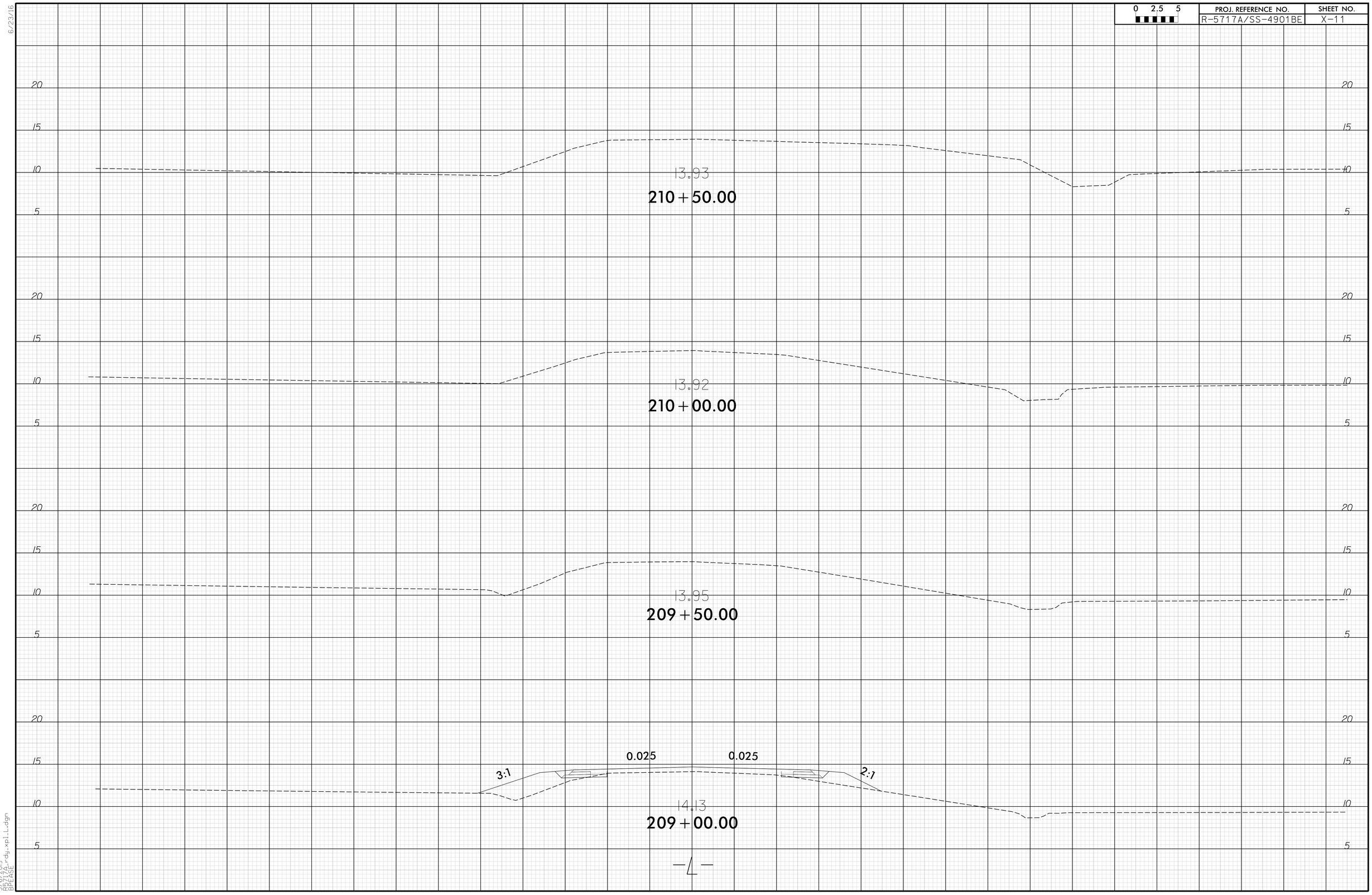

3/6/2019
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6/23/16

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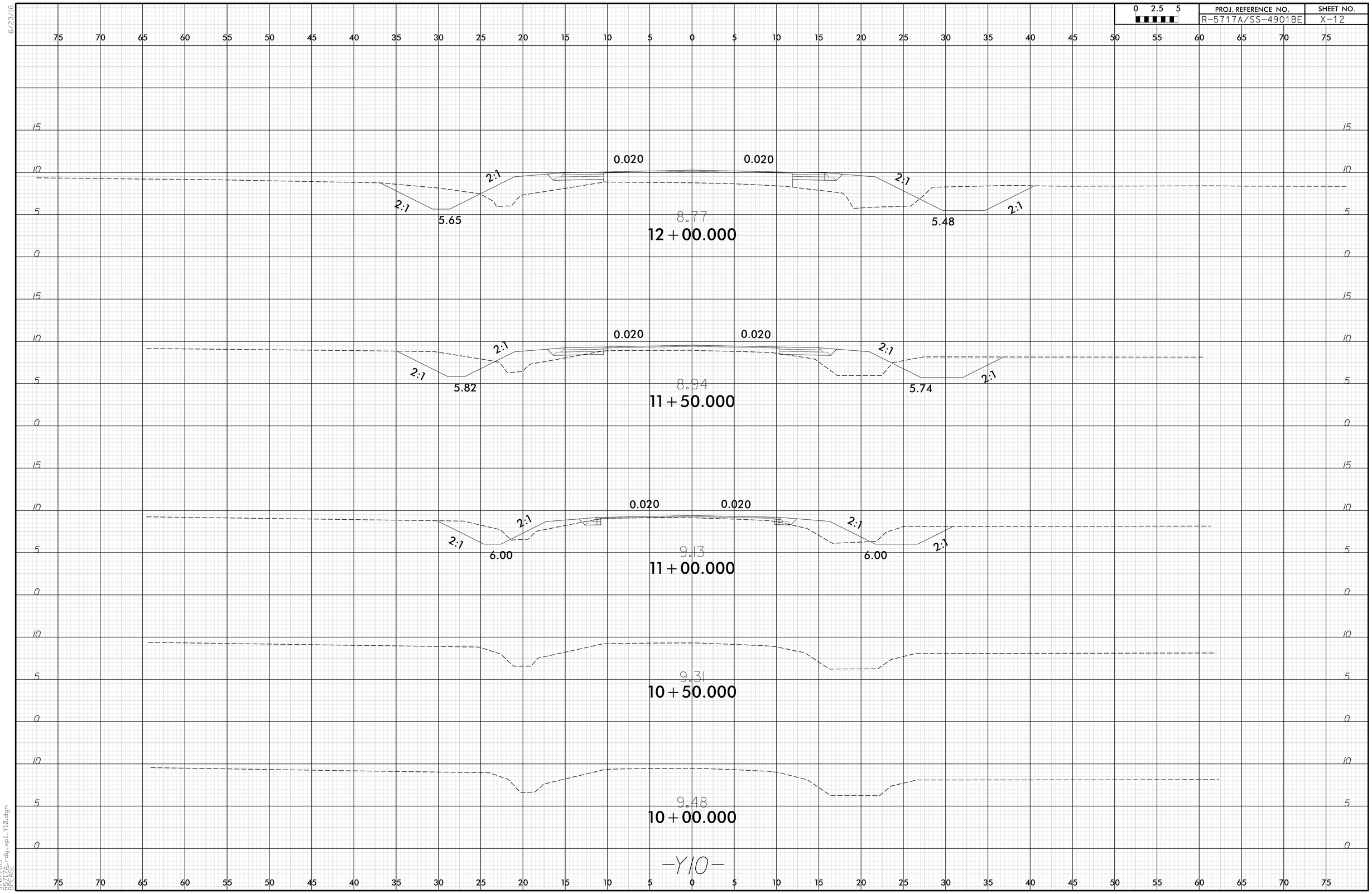

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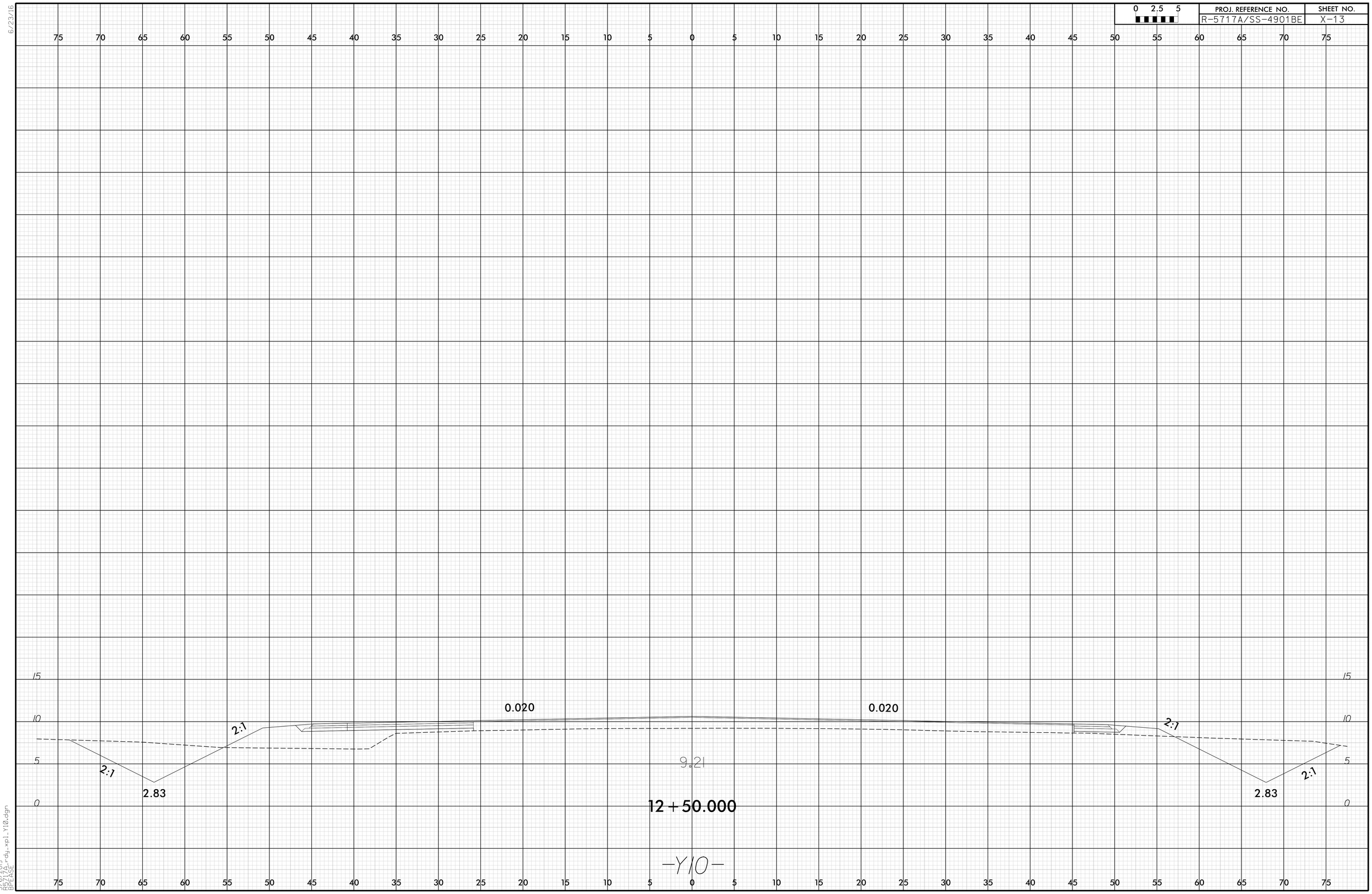

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