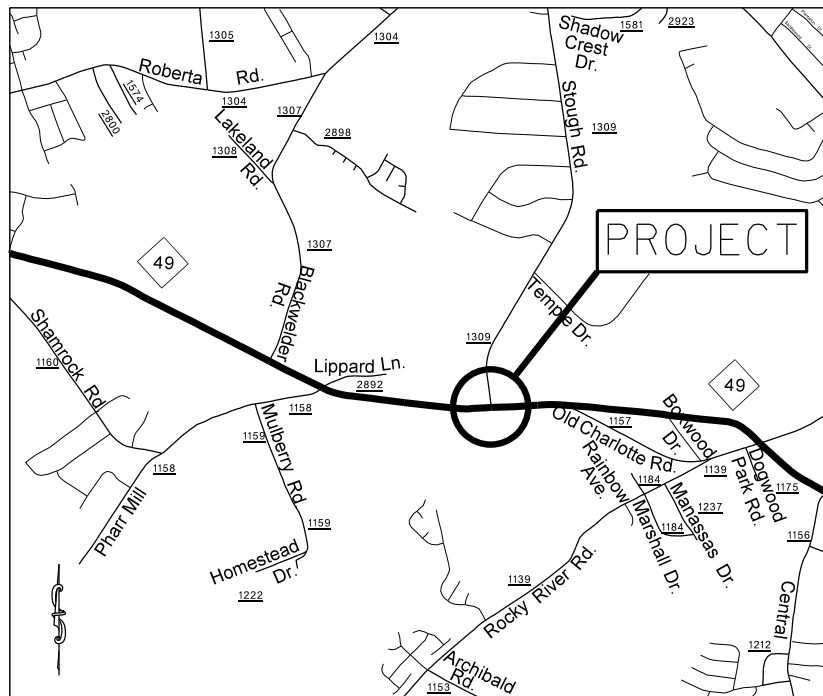


PROJECT: 50138.3.102 TIP:W-5601CW



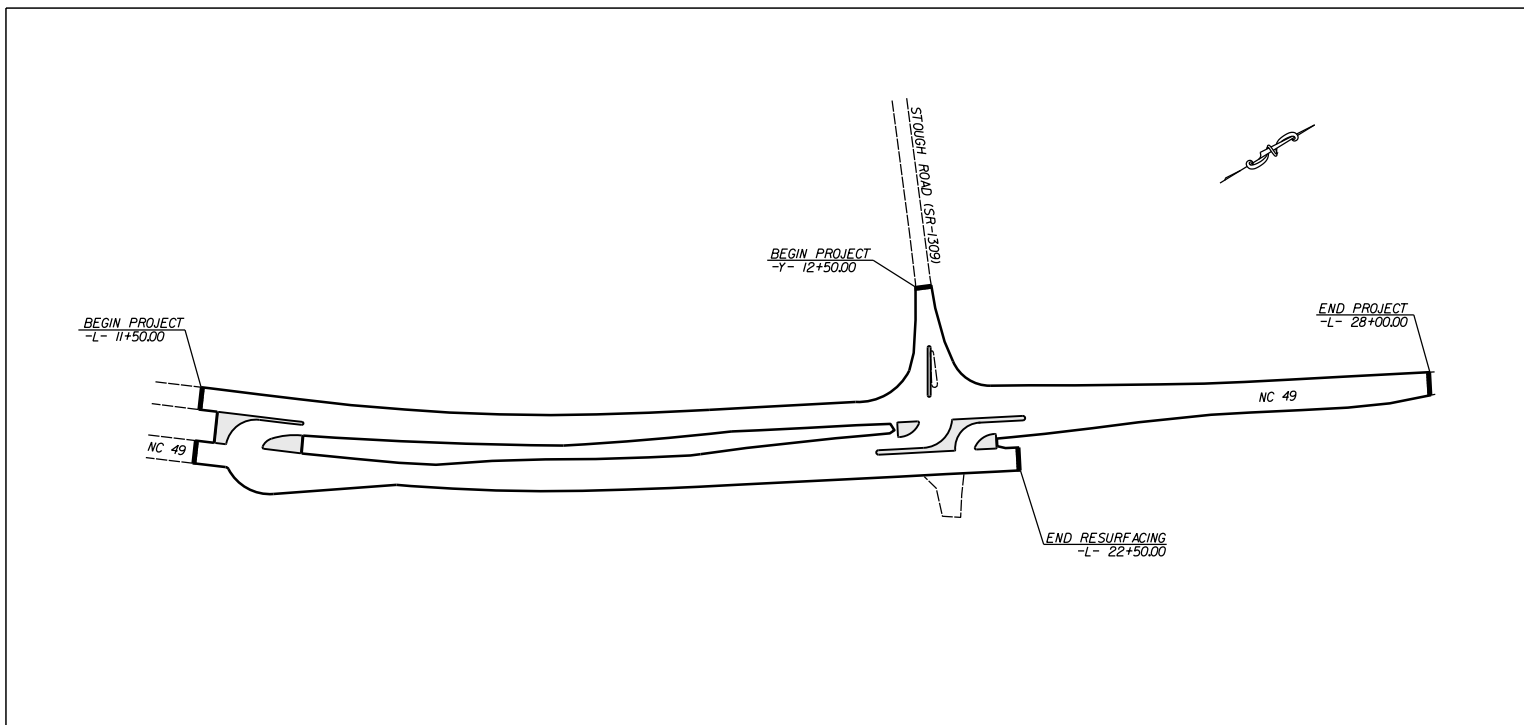
VICINITY MAP NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
CABARRUS COUNTY

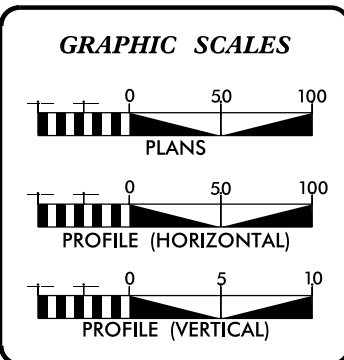
LOCATION: LEFTOVERS AT NC 49 AT STOUGH ROAD (SR-1309)

TYPE OF WORK: GRADING, PAVING, DRAINAGE,
CONCRETE MONOLITHIC ISLAND, TRAFFIC SIGNAL
INSTALLATION, AND THERMOPLASTIC PAVEMENT MARKING.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3.102	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.102	HSIP-0049(034)	P.E.	
50138.2.102	HSIP-0049(034)	R/W	
50138.3.102	HSIP-0049(034)	CONST.	



CLEARING ON THIS PROJECT SHALL BE TO THE LIMITS ESTABLISHED BY METHOD II AS DESCRIBED IN THE NCDOT STANDARD DRAWINGS



DESIGN DATA

ADT	=	
DHV	=	%
D	=	%
T	=	%
V	=	MPH

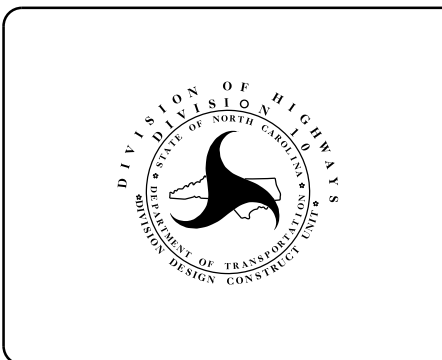
PROJECT LENGTH

LENGTH OF ROADWAY PROJECT 50138.3.102	=	0.35	MILES
TOTAL LENGTH OF STATE PROJECT 50138.3.102	=	0.35	MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
DIVISION TEN
DIVISION DESIGN / CONSTRUCT UNIT

2012 STANDARD SPECIFICATIONS

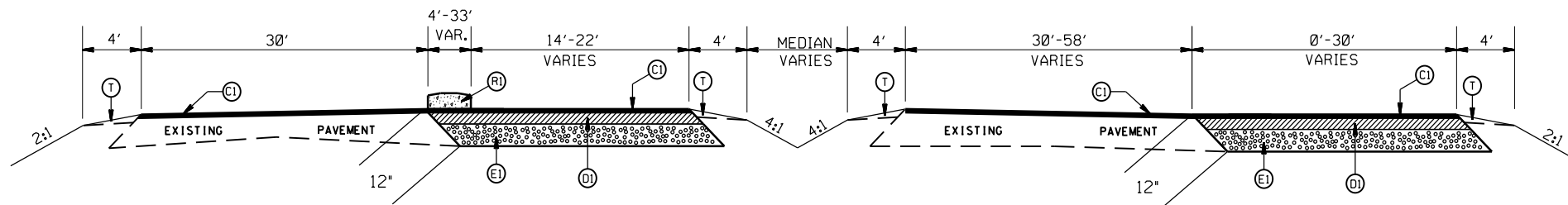
RIGHT OF WAY DATE:	RANDY BOWERS PROJECT ENGINEER
LETTING DATE: FEBRUARY 15, 2017	DONALD HARWARD PROJECT DESIGN ENGINEER



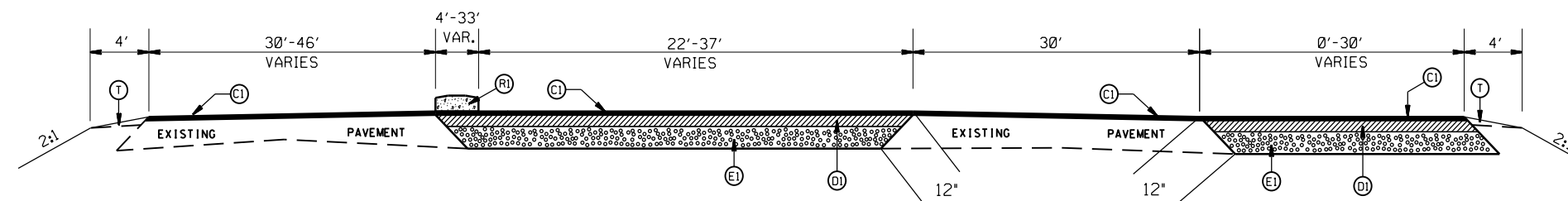
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

APPROVED BY _____ DATE _____
DDC ENGINEER

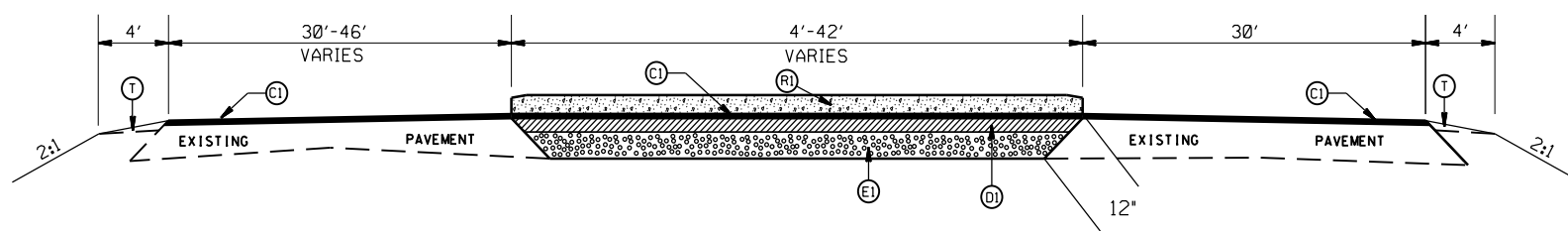
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3J02	2	
F.A. PROJECT NO. HSIP-00490341			



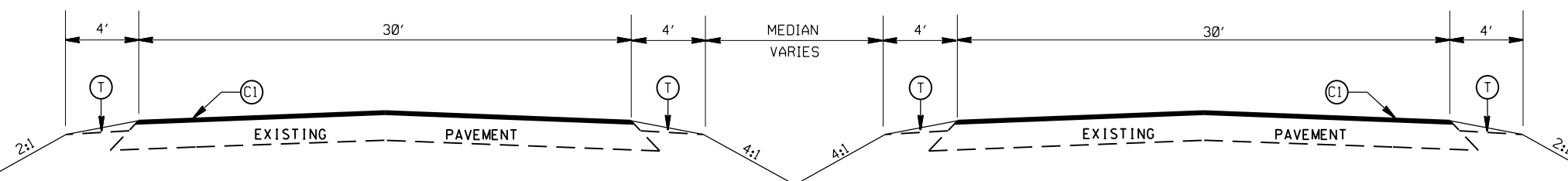
TYPICAL SECTION NO.4
STA 12+58.00 TO 12+97.82 -L-



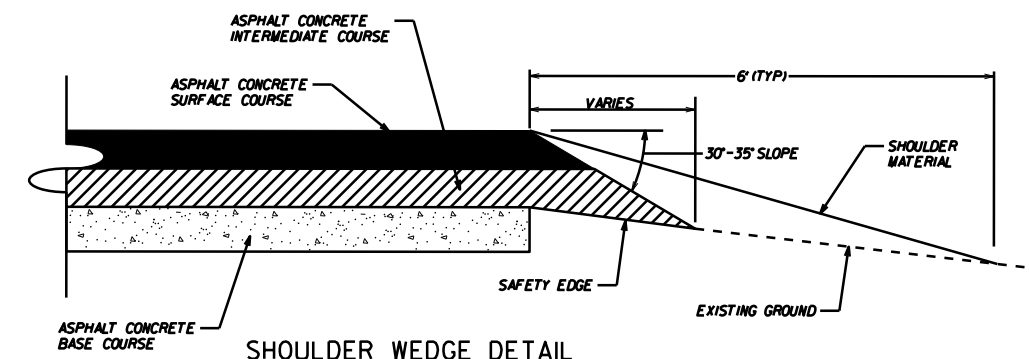
TYPICAL SECTION NO.3
STA 12+03.31 TO 12+58.00 -L-



TYPICAL SECTION NO.2
STA 11+82.00 TO 12+03.31 -L-
STA 21+18.97 TO 21+98.64 -L-



TYPICAL SECTION NO.1
STA 11+50.00 TO 11+82.00 -L-
STA 18+70.00 TO 20+60.00 -L-



PAVEMENT SCHEDULE

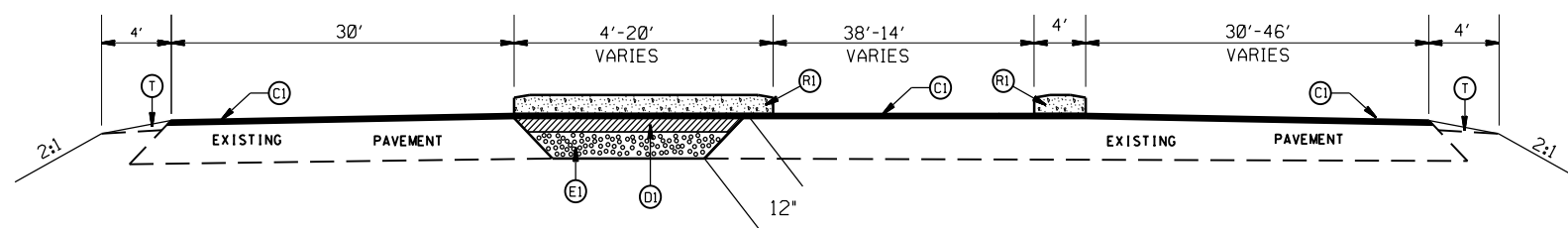
(C1)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(D1)	PROP. APPROX. 2.5 " ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 8.0" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL

NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

LEFTOVERS ON NC 49 AT
STOUGH ROAD (SR 1309)

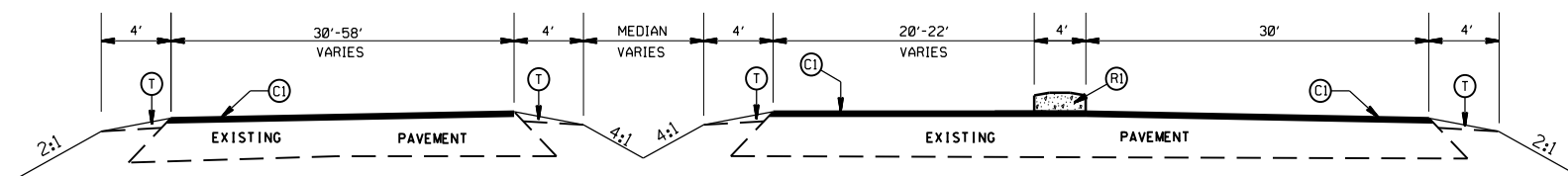
SCALE	r=50'		REVISIONS
DATE	JULY 2016		
DWG. BY	TBL		
DESIGN BY	JDH		
APPROVED	RWB		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3102	2A	
F.A. PROJECT NO. HSIP-00490341			



TYPICAL SECTION NO.8

STA 20+78.97 TO 20+85.72 -L-

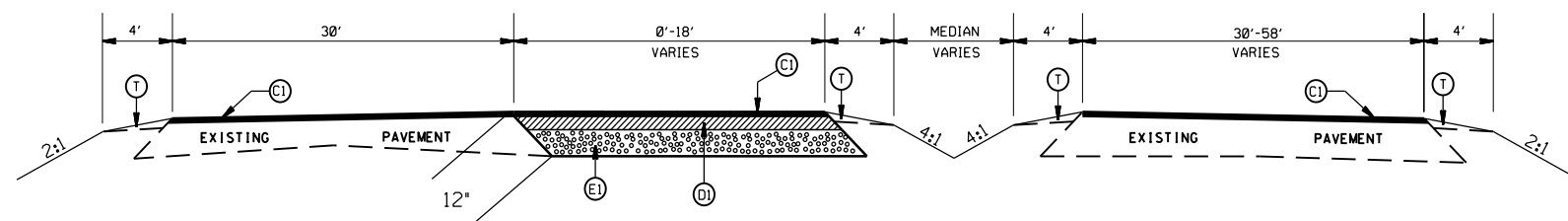


TYPICAL SECTION NO.7

STA 20+60.00 TO 20+78.97 -L-

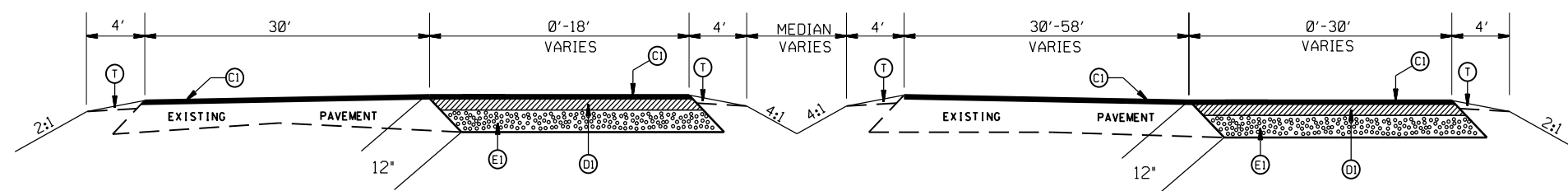
PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(D1)	PROP. APPROX. 2.5 " ASPHALT CONC. INTERMEDATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 8.0" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL



TYPICAL SECTION NO.6

STA 14+26.54 TO 18+70.00 -L-



TYPICAL SECTION NO.5

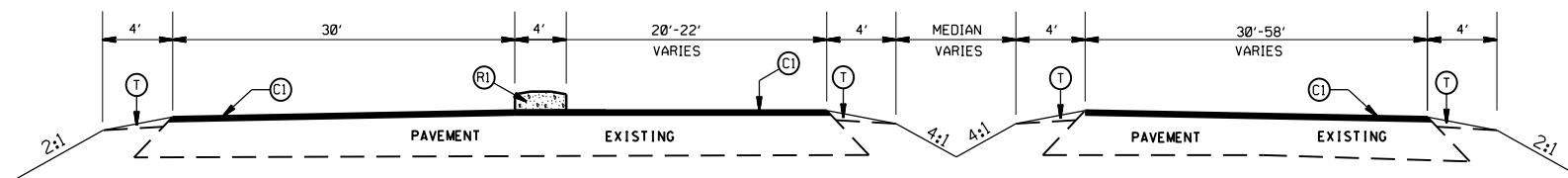
STA 12+97.82 TO 14+26.54 -L-

NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

LEFTOVERS ON NC 49 AT STOUGH ROAD (SR 1309)

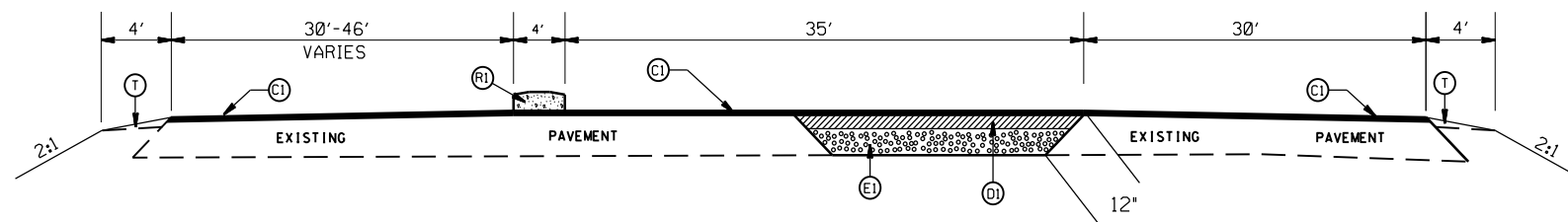
SCALE	1"=50'		REVISIONS
DATE	JULY 2016		
DWG. BY	TBL		
DESIGN BY	JDH		
APPROVED	RWB		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3102	2B	
F.A. PROJECT NO. HSIP-00490341			



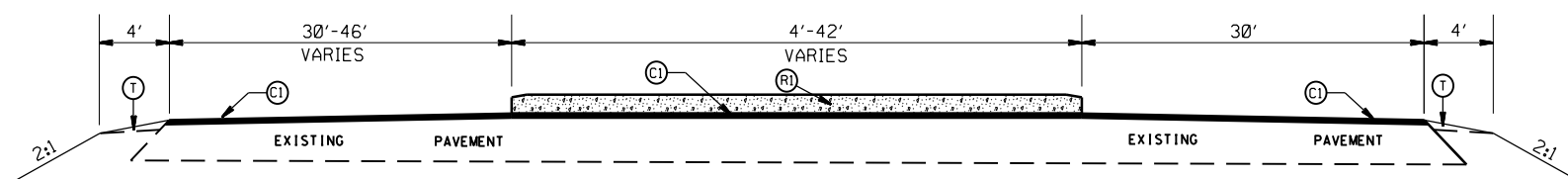
TYPICAL SECTION NO.12

STA 22+21.00 TO 22+50.00 -L-



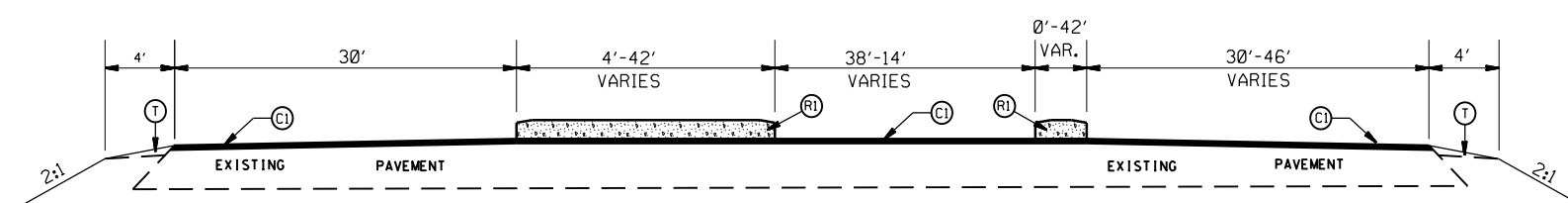
TYPICAL SECTION NO.11

STA 21+98.64 TO 22+21.00 -L-



TYPICAL SECTION NO.10

STA 21+18.97 TO 21+98.64 -L-



TYPICAL SECTION NO.9

STA 20+85.72 TO 21+18.97 -L-

PAVEMENT SCHEDULE

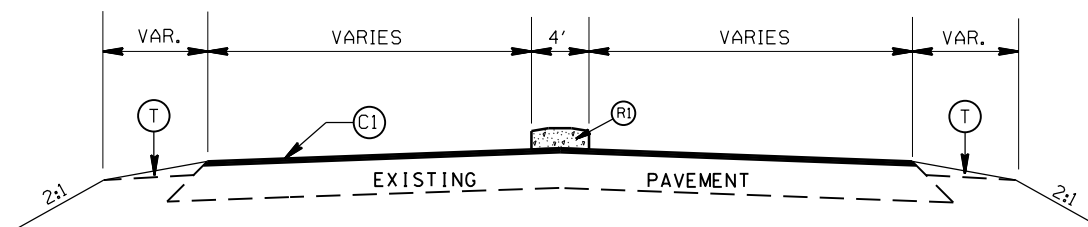
(C1)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(D1)	PROP. APPROX. 2.5 " ASPHALT CONC. INTERMEDATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 8.0" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL

NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

LEFTOVERS ON NC 49 AT STOUGH ROAD (SR 1309)

SCALE	r=50'		REVISIONS
DATE	JULY 2016		
DWG. BY	TBL		
DESIGN BY	JDH		
APPROVED	RWB		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3102	20	
F.A. PROJECT NO. HSIP-00490341			

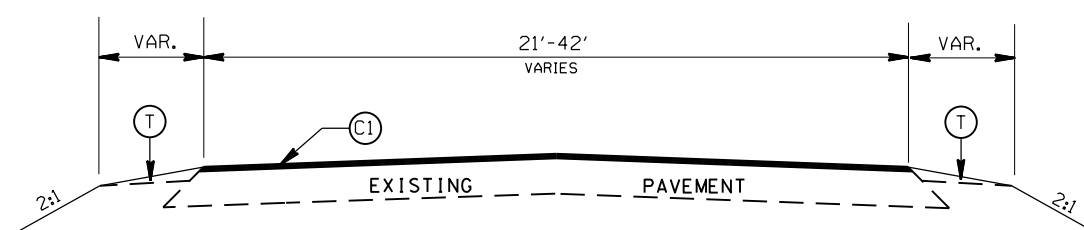


TYPICAL SECTION NO.16

STA 13+30 TO 13+97 -Y-

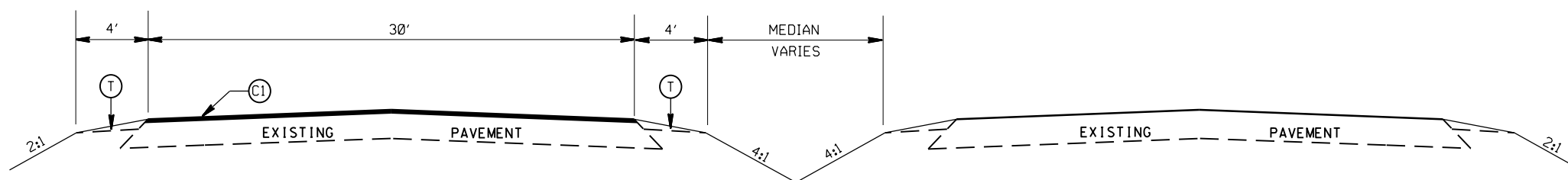
PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(D1)	PROP. APPROX. 2.5 " ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(E1)	PROP. APPROX. 8.0" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
(R1)	PROP. 5" MONOLITHIC ISLAND (SURFACE MOUNTED)
(T)	EARTH MATERIAL



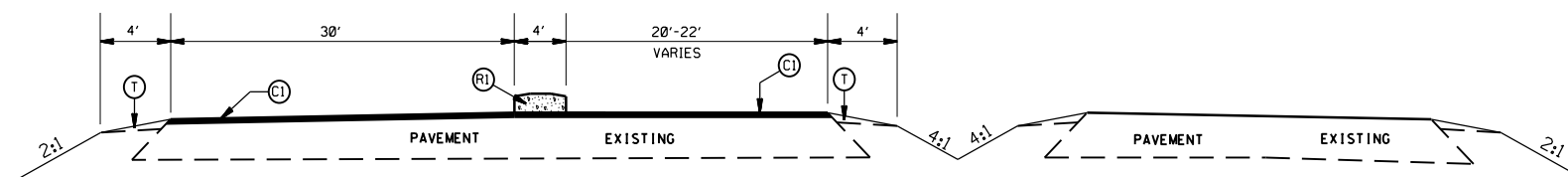
TYPICAL SECTION NO.15

STA 12+50 TO 13+30 -Y-



TYPICAL SECTION NO.14

STA 22+60.00 TO 28+00.00 -L-



TYPICAL SECTION NO.13

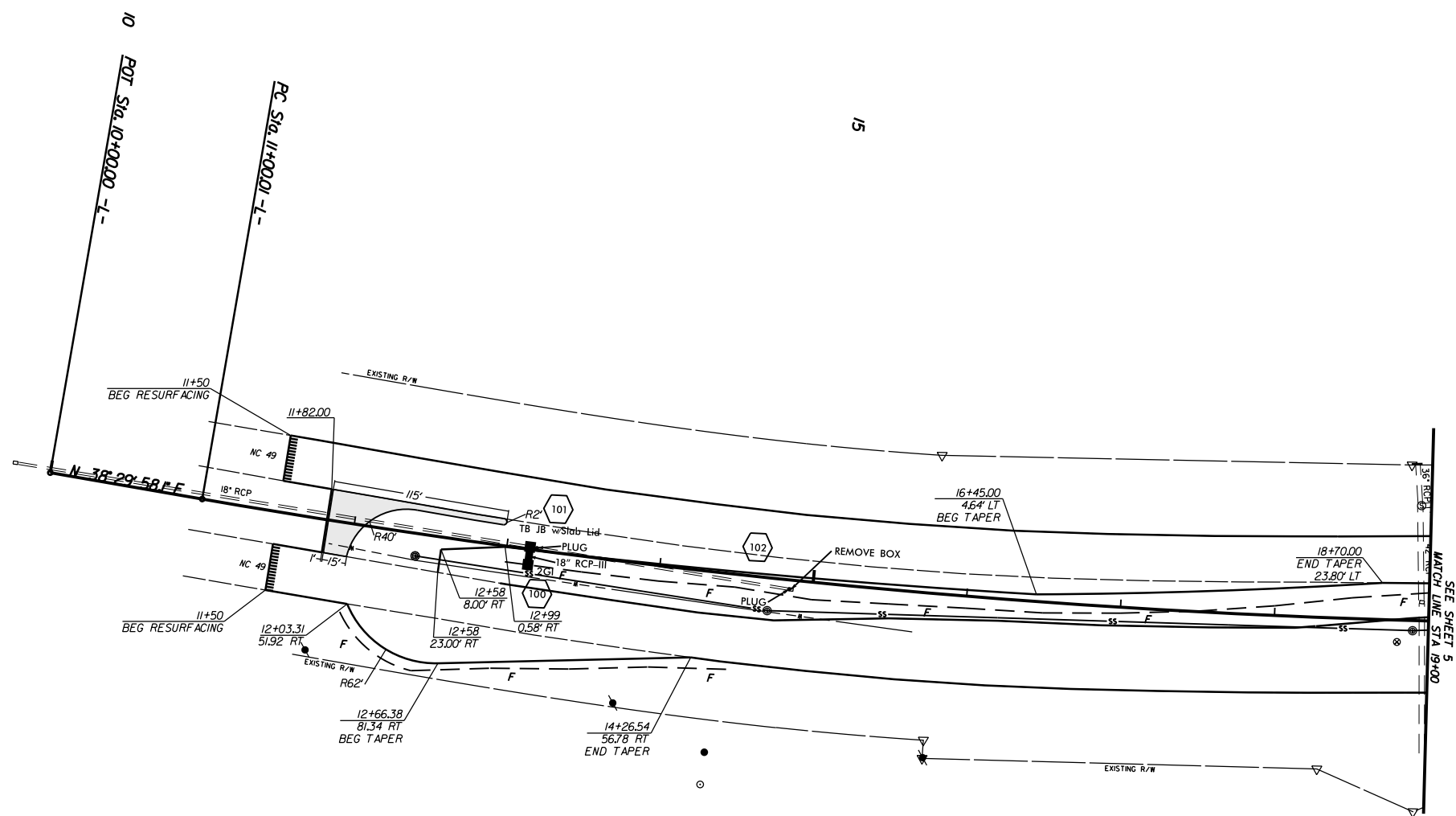
STA 22+50.00 TO 22+60.00 -L-

NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

LEFTOVERS ON NC 49 AT STOUGH ROAD (SR 1309)

SCALE	1"=50'		REVISIONS
DATE	JULY 2016		
DWG. BY	TBL		
DESIGN BY	JDH		
APPROVED	RWB		


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3102	4	
F.A. PROJECT NO. HSIP-00490341			



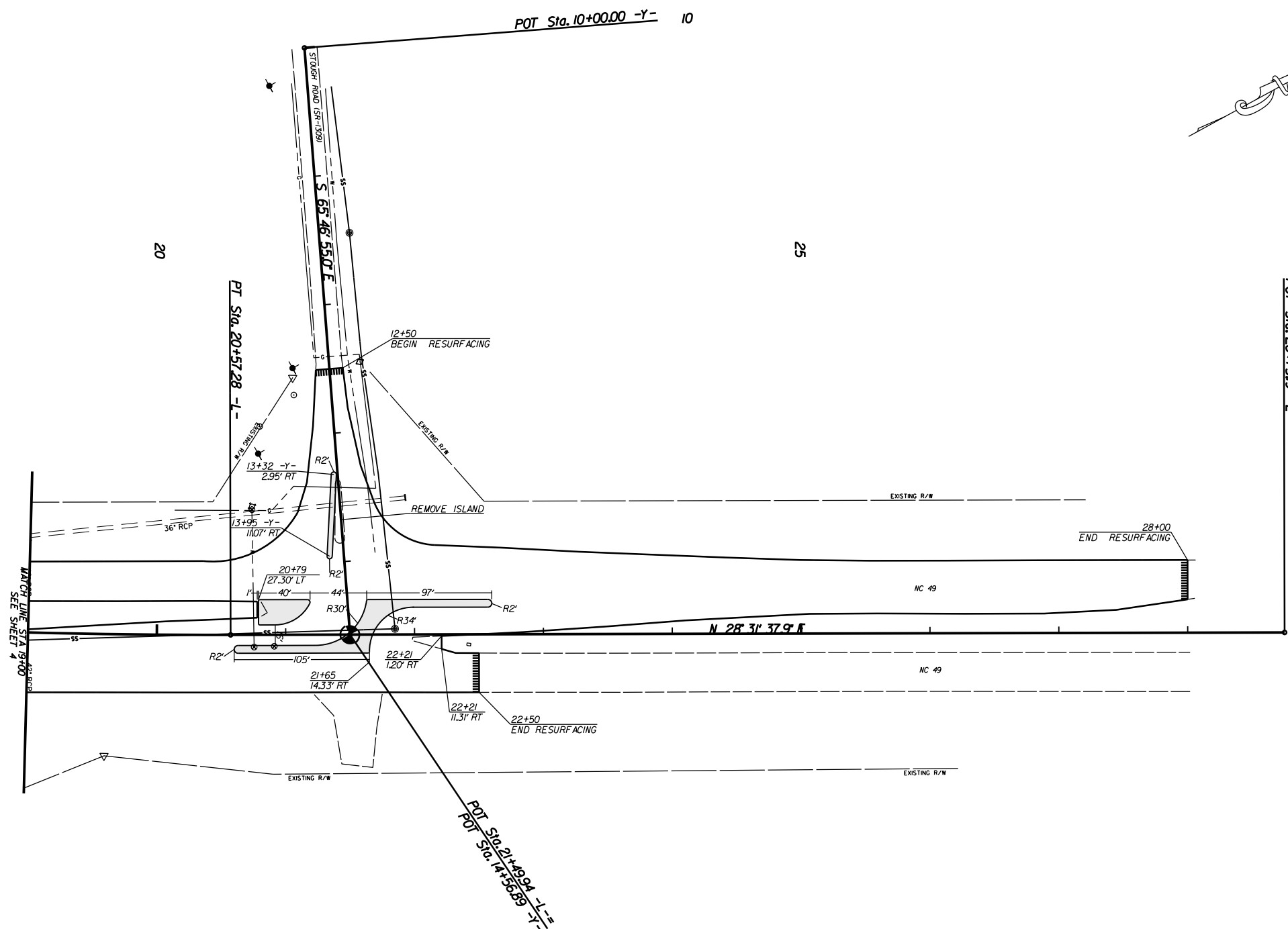
PI Sta 15+79.85 -L-
 $\Delta = 9^{\circ} 58' 20.2''$ (LT)
 $D = 1^{\circ} 02' 30.3''$
 $L = 957.27'$
 $T = 479.85'$
 $R = 5,500.00'$

NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

LEFTOVERS ON NC 49 AT
STOUGH ROAD (SR 1309)

SCALE	1"=50'		REVISIONS
DATE	APRIL 2016		
DWG. BY	TBL		
DESIGN BY	JDH		
APPROVED	RWB		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3102	5	
F.A. PROJECT NO.			HSIP-00490341



NOTE: INCIDENTAL MILL APPROX. 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

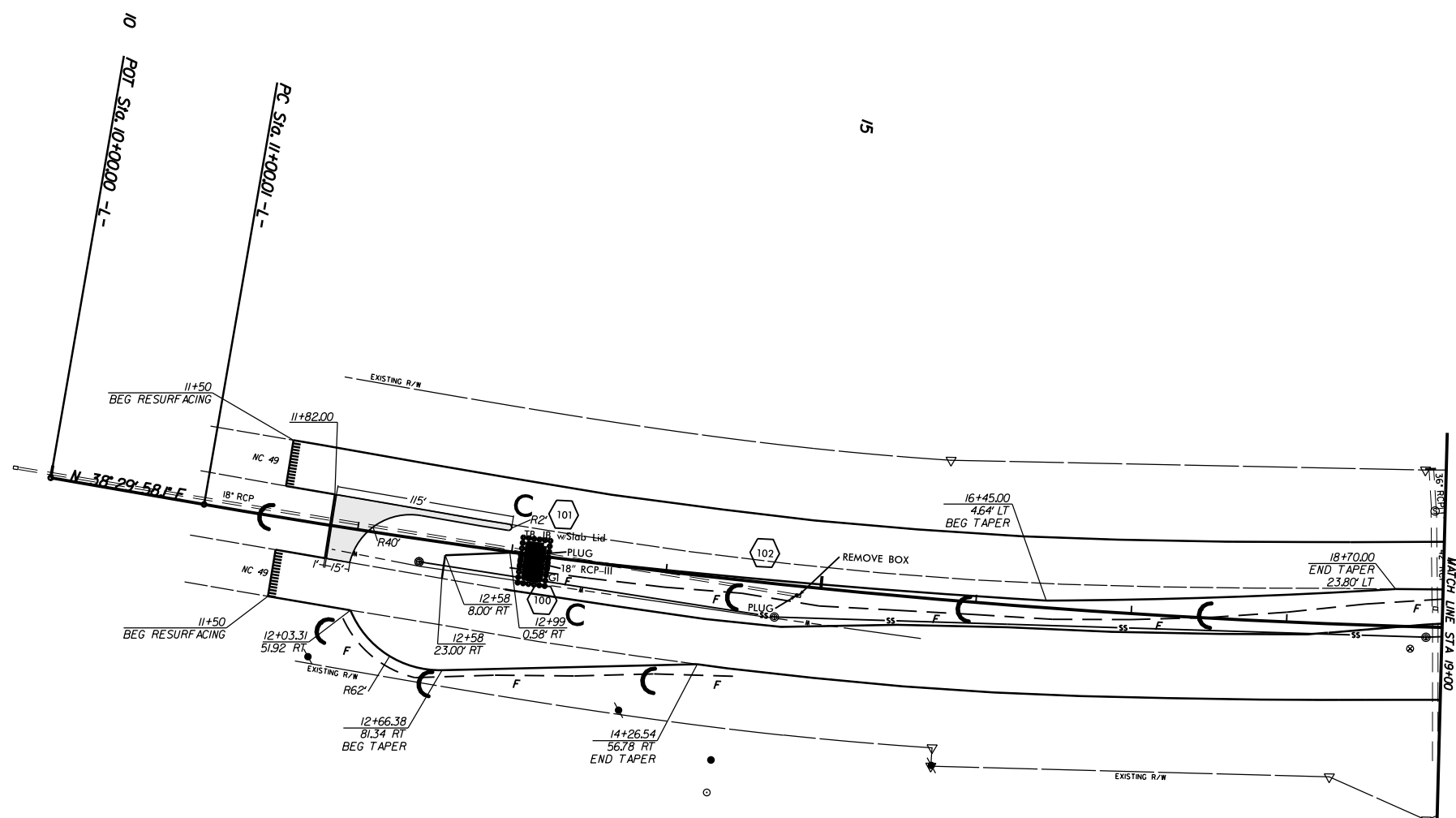
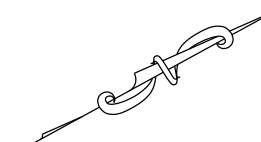
LEFTOVERS ON NC 49 AT
STOUGH ROAD (SR 1309)

SCALE 1"=50'
DATE APRIL 2016
DWG. BY TBL
DESIGN BY JDH
APPROVED RWB



REVISIONS	


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3J02	EC-2	
F.A. PROJECT NO. HSIP-00490341			



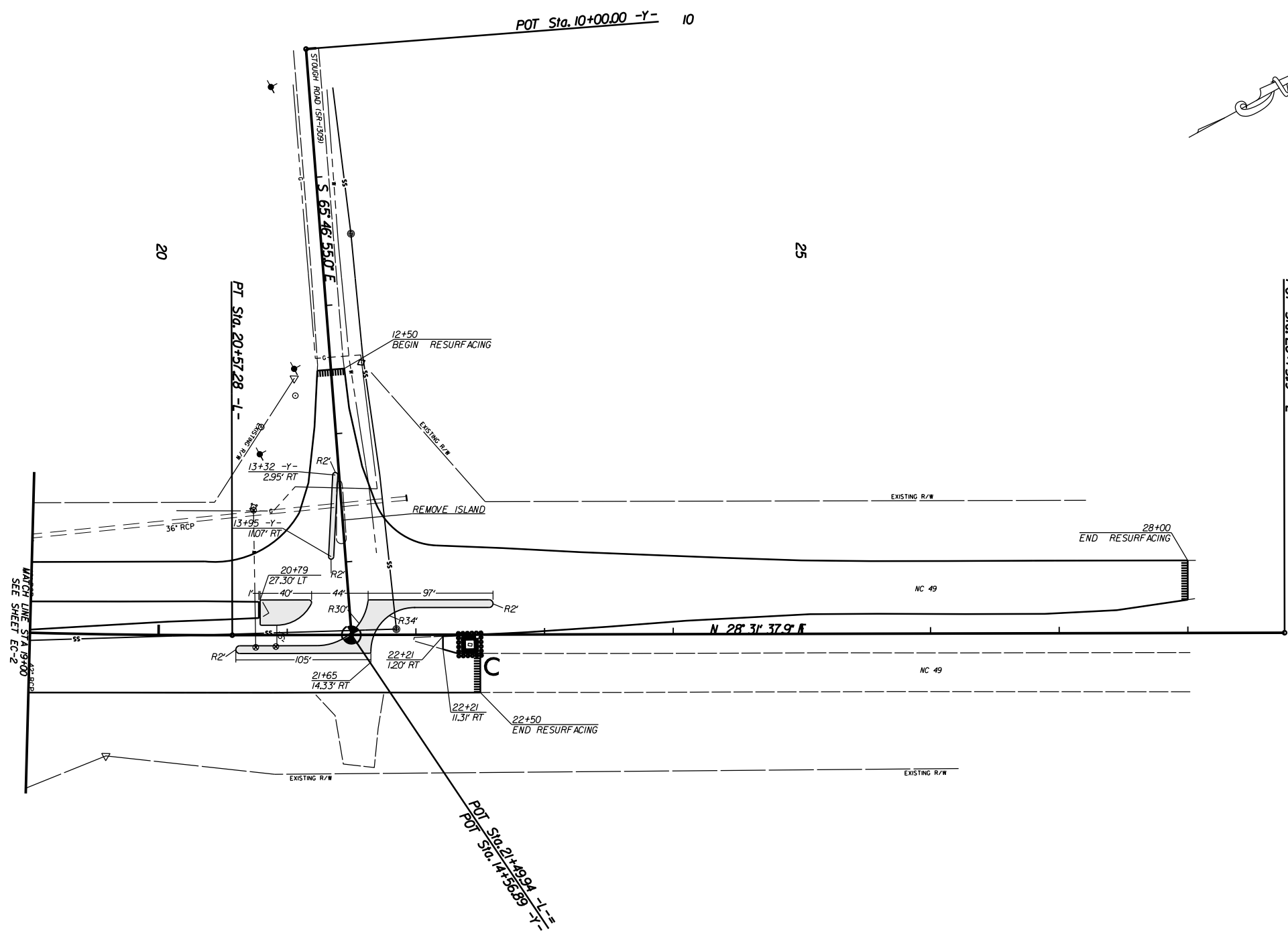
PI Sta 15+79.85 -L-
 $\Delta = 9^\circ 58' 20.2''$ (LT)
 $D = 1^\circ 02' 30.3''$
 $L = 957.27'$
 $T = 479.85'$
 $R = 5,500.00'$

NOTE: EROSION CONTROL MEASURES MAY BE CHANGED IN FIELD AS DIRECTED BY THE ENGINEER.

LEFTOVERS ON NC 49 AT
STOUGH ROAD (SR 1309)

SCALE	1"=50'		REVISIONS
DATE	JULY 2016		
DWG. BY	TBL		
DESIGN BY	JDH		
APPROVED	RWB		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3J02	EC-3	
F.A. PROJECT NO. HSIP-0049(034)			



NOTE: EROSION CONTROL MEASURES MAY BE CHANGED IN FIELD AS DIRECTED BY THE ENGINEER.

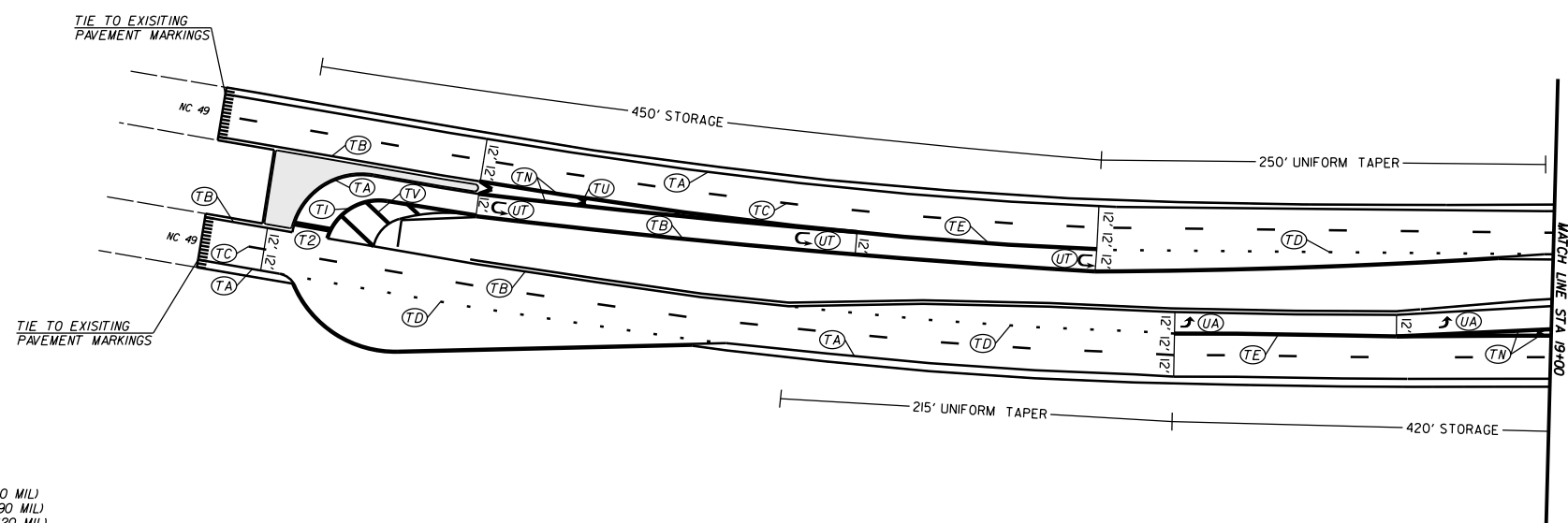
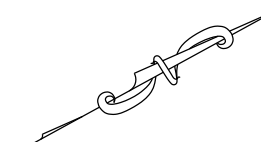
LEFTOVERS ON NC 49 AT
STOUGH ROAD (SR 1309)

SCALE 1"=50'
DATE APRIL 2016
DWG. BY TBL
DESIGN BY JDH
APPROVED RWB



REVISIONS

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3J02	PMP-1	
F.A. PROJECT NO. HSIP-00490341			



PAVEMENT MARKING SCHEDULE

PAVEMENT MARKING LINES

- | | |
|--|---|
| TA - WHITE EDGELINE (4',.90 MIL) | TU - WHITE DIAGONAL (12',.90 MIL) |
| TB - YELLOW EDGELINE (4',.90 MIL) | TV - YELLOW DIAGONAL (12',.90 MIL) |
| TC - 10FT. WHITE SKIP (4',.120 MIL) | TW - WHITE LINE, RR X (16',.120 MIL) |
| TD - 3FT.-9FT./SP WHITE MINISKIP (4',.120 MIL) | TX - WHITE STOPBAR (24',.120 MIL) |
| TE - WHITE SOLID LANE LINE (4',.120 MIL) | T3 - WHITE CROSSWALK LINE (24',.120 MIL) |
| TF - 10FT. YELLOW SKIP (4',.120 MIL) | T4 - WHITE RUMBLE STRIP (4',.240 MIL) |
| TH - YELLOW SINGLE CENTER (4',.120 MIL) | T5 - YELLOW RUMBLE STRIP (4',.240 MIL) |
| TI - YELLOW DOUBLE CENTER (4',.120 MIL) | T6 - WHITE EDGELINE (6',.90 MIL) |
| TJ - 10FT. WHITE SKIP (6',.120 MIL) | T7 - YELLOW EDGELINE (6',.90 MIL) |
| TK - 3FT.-9FT./SP WHITE MINISKIP (6',.120 MIL) | T8 - 2FT.-6FT./SP WHITE MINISKIP (4',.120 MIL) |
| TL - WHITE SOLID LANE LINE (6',.120 MIL) | T9 - 2FT.-6FT./SP YELLOW MINISKIP (4',.120 MIL) |
| TM - 10FT. YELLOW SKIP (6',.120 MIL) | T10 - 3FT.-3FT./SP WHITE MINISKIP (12',.120 MIL) |
| TN - WHITE GORELINE (8',.90 MIL) | T11 - 2FT.-6FT./SP WHITE MINISKIP (6',.120 MIL) |
| TO - WHITE DIAGONAL (8',.90 MIL) | T12 - 2FT.-6FT./SP YELLOW MINISKIP (6',.120 MIL) |
| TP - YELLOW DIAGONAL (8',.90 MIL) | T13 - 3FT.-9FT./SP WHITE MINISKIP (8',.120 MIL) |
| TQ - WHITE CROSSWALK LINE (8',.120 MIL) | T14 - 3FT.-9FT./SP WHITE MINISKIP (12',.120 MIL) |
| TR - WHITE SOLID LANE LINE (8',.120 MIL) | T15 - YELLOW SINGLE CENTER (6',.120 MIL) |
| TS - WHITE GORELINE (12',.90 MIL) | T16 - YELLOW DOUBLE CENTER (6',.120 MIL) |
| TT - WHITE SOLID LANE LINE (12',.120 MIL) | T17 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (8',.120 MIL) |

PAVEMENT MARKING SYMBOLS

- | | |
|--|--|
| UA - LEFT TURN ARROW (90 MIL) | UU - FISH-HOOK STRAIGHT ARROW (90 MIL) |
| UB - RIGHT TURN ARROW (90 MIL) | UV - FISH-HOOK LEFT/STRAIGHT ARROW (90 MIL) |
| UC - STRAIGHT ARROW (90 MIL) | UW - FISH-HOOK RIGHT/STRAIGHT ARROW (90 MIL) |
| UD - COMBO. LEFT/STRAIGHT ARROW (90 MIL) | UX - FISH-HOOK LEFT/RIGHT ARROW (90 MIL) |
| UE - COMBO. RIGHT/STRAIGHT ARROW (90 MIL) | UY - FISH-HOOK LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UF - COMBO. LEFT/RIGHT ARROW (90 MIL) | UZ - FISH-HOOK W/CIRCLE STRAIGHT ARROW (90 MIL) |
| UG - COMBO. LEFT/RIGHT/STRAIGHT ARROW (90 MIL) | WA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL) |
| UH - HANDICAP PARKING (90 MIL) | WB - FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW (90 MIL) |
| UI - ALPHANUMERIC CHAR. (120 MIL) | WC - FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UJ - BICYCLE SYMBOL (90 MIL) | MA - PERMANENT RAISED MARKER (YELLOW & YELLOW) |
| UK - BICYCLE STRAIGHT ARROW (90 MIL) | MB - PERMANENT RAISED MARKER (CRYSTAL & RED) |
| UL - BICYCLE CHAR. (120 MIL) | MC - PERMANENT RAISED MARKER (YELLOW & RED) |
| UM - 12" YIELD LINE TRIANGLE (90 MIL) | MD - PERMANENT RAISED MARKER (YELLOW) |
| UN - 24" YIELD LINE TRIANGLE (90 MIL) | ME - SNOWFLOWABLE MARKER (YELLOW & YELLOW) |
| UO - BICYCLE LEFT ARROW (90 MIL) | MF - SNOWFLOWABLE MARKER (CRYSTAL & RED) |
| UP - MERGE ARROW (90 MIL) | MG - SNOWFLOWABLE MARKER (YELLOW & RED) |
| UQ - RAMP ARROW SYMBOL (90 MIL) | ML - PERMANENT RAISED MARKER (CRYSTAL & CRYSTAL) |
| UR - SHARROW (90 MIL) | MO - SNOWFLOWABLE MARKER (CRYSTAL & CRYSTAL) |
| US - BICYCLE LOOP DETECTOR (90 MIL) | |
| UT - U-TURN ARROW (90 MIL) | |

LEFTOVERS ON NC 49 AT
STOUGH ROAD (SR 1309)

SCALE	1"=50'		REVISIONS
DATE	JULY 2016		
DWG. BY	TBL		
DESIGN BY	JDH		
APPROVED	RWB		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50138.3J02	PMP-2	
F.A. PROJECT NO.			HSIP-0049(034)

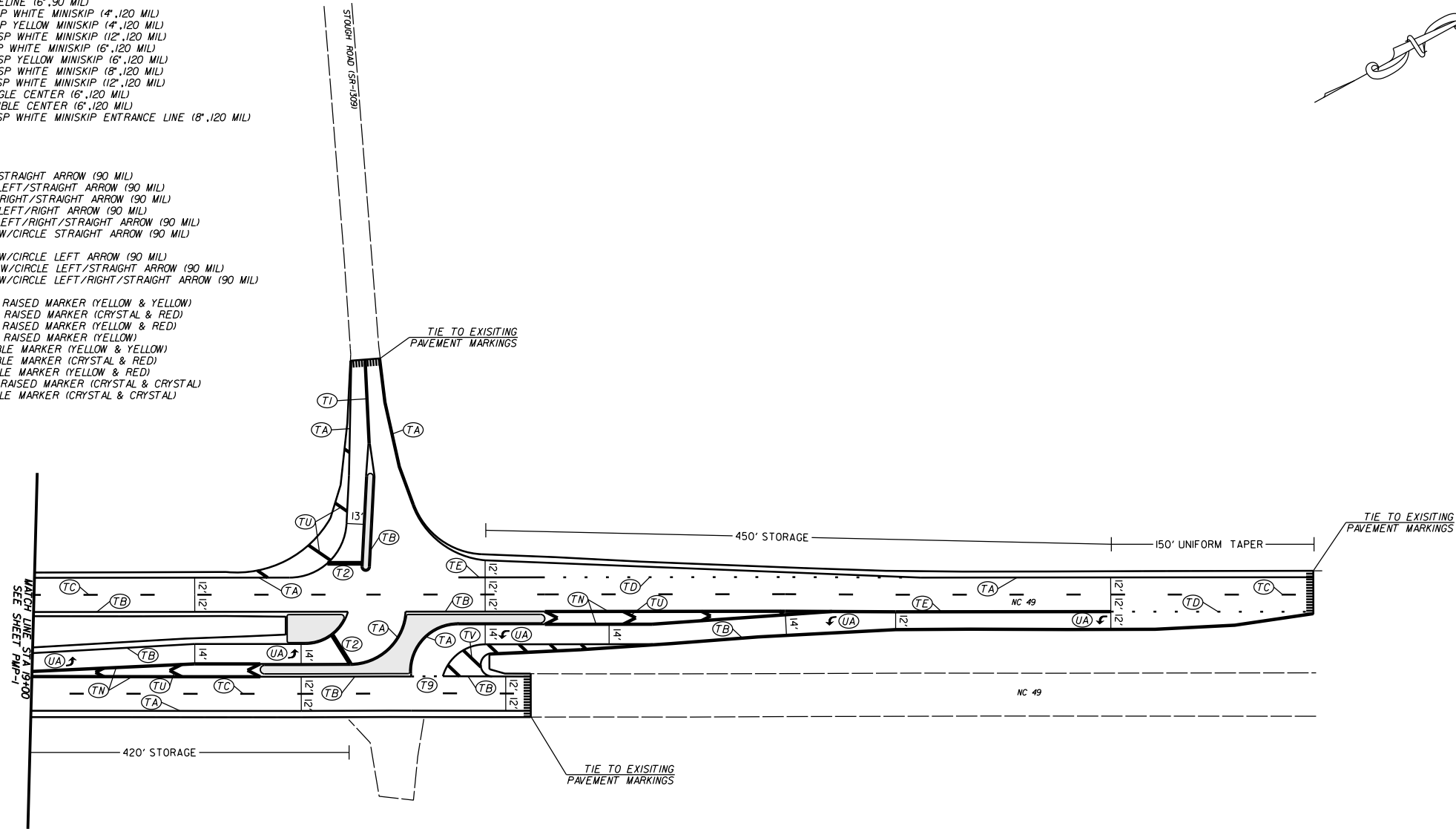
PAVEMENT MARKING SCHEDULE

PAVEMENT MARKING LINES

- | | |
|--|---|
| TA - WHITE EDGELINE (4',.90 MIL) | TU - WHITE DIAGONAL (12',.90 MIL) |
| TB - YELLOW EDGELINE (4',.90 MIL) | TV - YELLOW DIAGONAL (12',.90 MIL) |
| TC - 10FT. WHITE SKIP (4',.120 MIL) | T1 - WHITE LINE, RR X (16',.120 MIL) |
| TD - 3FT.-9FT./SP WHITE MINISKIP (4',.120 MIL) | T2 - WHITE STOPBAR (24',.120 MIL) |
| TE - WHITE SOLID LANE LINE (4',.120 MIL) | T3 - WHITE CROSSWALK LINE (24',.120 MIL) |
| TF - 10FT. YELLOW SKIP (4',.120 MIL) | T4 - WHITE RUMBLE STRIP (4',.240 MIL) |
| TH - YELLOW SINGLE CENTER (4',.120 MIL) | T5 - YELLOW RUMBLE STRIP (4',.240 MIL) |
| TI - YELLOW DOUBLE CENTER (4',.120 MIL) | T6 - WHITE EDGELINE (6',.90 MIL) |
| TJ - 10FT. WHITE SKIP (6',.120 MIL) | T7 - YELLOW EDGELINE (6',.90 MIL) |
| TK - 3FT.-9FT./SP WHITE MINISKIP (6',.120 MIL) | T8 - 2FT.-6FT./SP WHITE MINISKIP (4',.120 MIL) |
| TL - WHITE SOLID LANE LINE (6',.120 MIL) | T9 - 2FT.-6FT./SP YELLOW MINISKIP (4',.120 MIL) |
| TM - 10FT. YELLOW SKIP (6',.120 MIL) | T10 - 3FT.-3FT./SP WHITE MINISKIP (12',.120 MIL) |
| TN - WHITE GORELINE (8',.90 MIL) | T11 - 2FT.-6FT./SP WHITE MINISKIP (6',.120 MIL) |
| TO - WHITE DIAGONAL (8',.90 MIL) | T12 - 2FT.-6FT./SP YELLOW MINISKIP (6',.120 MIL) |
| TP - YELLOW DIAGONAL (8',.90 MIL) | T13 - 3FT.-9FT./SP WHITE MINISKIP (8',.120 MIL) |
| TQ - WHITE CROSSWALK LINE (8',.120 MIL) | T14 - 3FT.-9FT./SP WHITE MINISKIP (12',.120 MIL) |
| TR - WHITE SOLID LANE LINE (8',.120 MIL) | T15 - YELLOW SINGLE CENTER (6',.120 MIL) |
| TS - WHITE GORELINE (12',.90 MIL) | T16 - YELLOW DOUBLE CENTER (6',.120 MIL) |
| TT - WHITE SOLID LANE LINE (12',.120 MIL) | T17 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (8',.120 MIL) |

PAVEMENT MARKING SYMBOLS

- | | |
|--|--|
| UA - LEFT TURN ARROW (90 MIL) | UU - FISH-HOOK STRAIGHT ARROW (90 MIL) |
| UB - RIGHT TURN ARROW (90 MIL) | UV - FISH-HOOK LEFT/STRAIGHT ARROW (90 MIL) |
| UC - STRAIGHT ARROW (90 MIL) | UW - FISH-HOOK RIGHT/STRAIGHT ARROW (90 MIL) |
| UD - COMBO. LEFT/STRAIGHT ARROW (90 MIL) | UX - FISH-HOOK LEFT/RIGHT ARROW (90 MIL) |
| UE - COMBO. RIGHT/STRAIGHT ARROW (90 MIL) | UY - FISH-HOOK LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UF - COMBO. LEFT/RIGHT ARROW (90 MIL) | UZ - FISH-HOOK W/CIRCLE STRAIGHT ARROW (90 MIL) |
| UG - COMBO. LEFT/RIGHT/STRAIGHT ARROW (90 MIL) | |
| UH - HANDICAP PARKING (90 MIL) | WA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL) |
| UI - ALPHANUMERIC CHAR. (120 MIL) | WB - FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW (90 MIL) |
| UJ - BICYCLE SYMBOL (90 MIL) | WC - FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UK - BICYCLE STRAIGHT ARROW (90 MIL) | |
| UL - BICYCLE CHAR. (120 MIL) | MA - PERMANENT RAISED MARKER (YELLOW & YELLOW) |
| UM - 12" YIELD LINE TRIANGLE (90 MIL) | MB - PERMANENT RAISED MARKER (CRYSTAL & RED) |
| UN - 24" YIELD LINE TRIANGLE (90 MIL) | MC - PERMANENT RAISED MARKER (YELLOW & RED) |
| UO - BICYCLE LEFT ARROW (90 MIL) | MD - PERMANENT RAISED MARKER (YELLOW) |
| UP - MERGE ARROW (90 MIL) | ME - SNOWPLOWABLE MARKER (YELLOW & YELLOW) |
| UQ - RAMP ARROW SYMBOL (90 MIL) | MF - SNOWPLOWABLE MARKER (CRYSTAL & RED) |
| UR - SHARROW (90 MIL) | MG - SNOWPLOWABLE MARKER (YELLOW & RED) |
| US - BICYCLE LOOP DETECTOR (90 MIL) | ML - PERMANENT RAISED MARKER (CRYSTAL & CRYSTAL) |
| UT - U-TURN ARROW (90 MIL) | MO - SNOWPLOWABLE MARKER (CRYSTAL & CRYSTAL) |

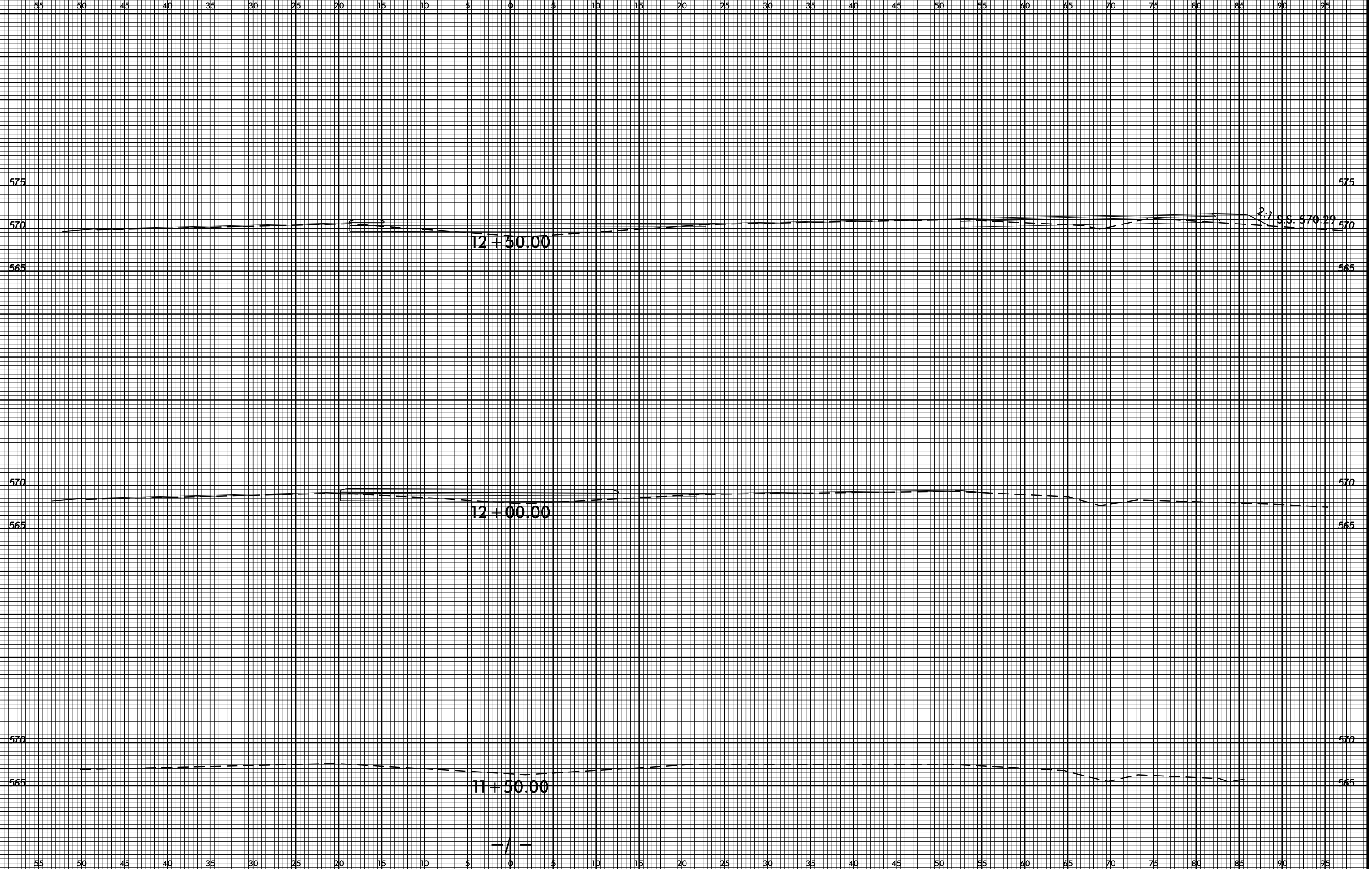


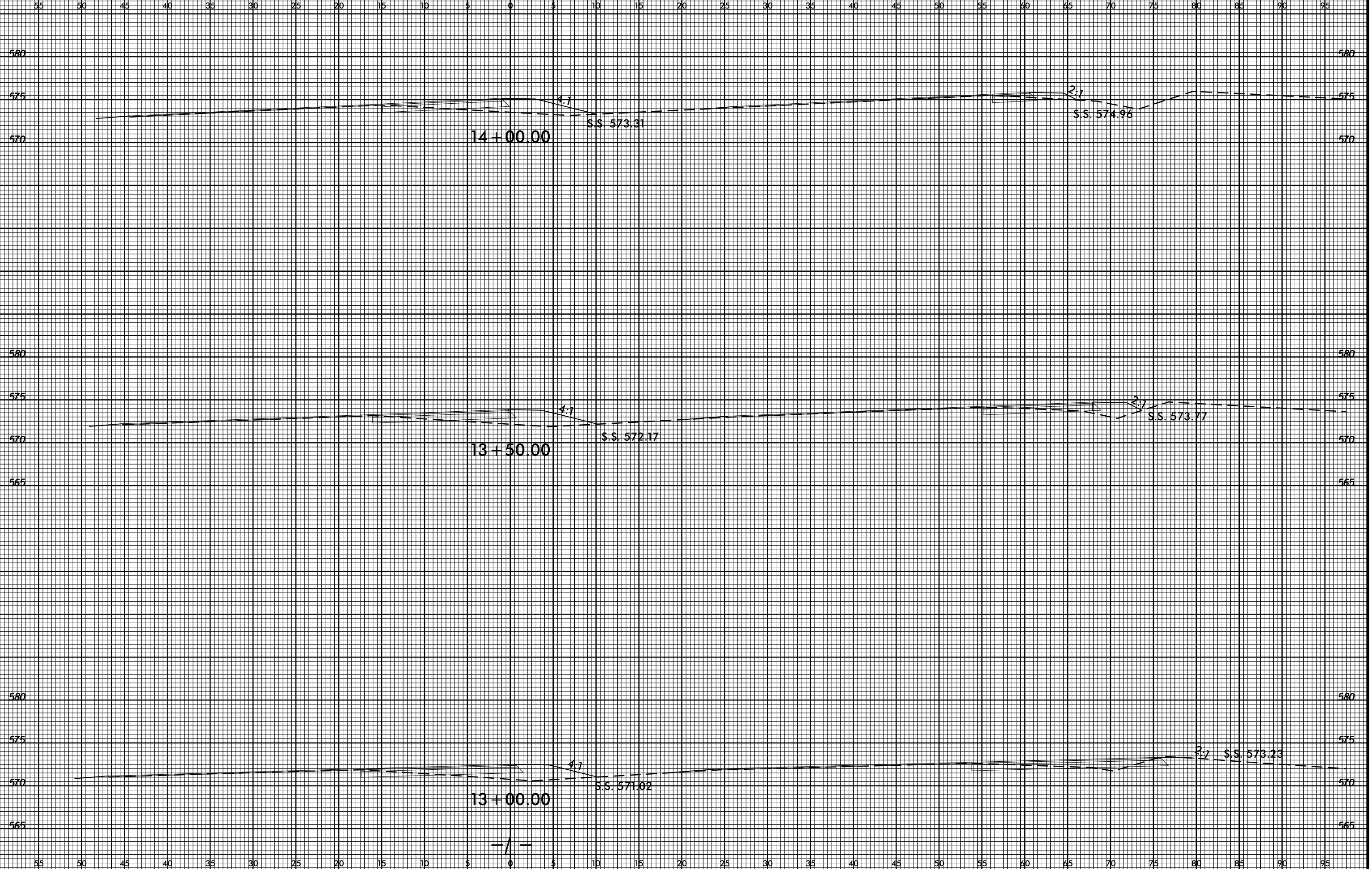
LEFTOVERS ON NC 49 AT
STOUGH ROAD (SR 1309)

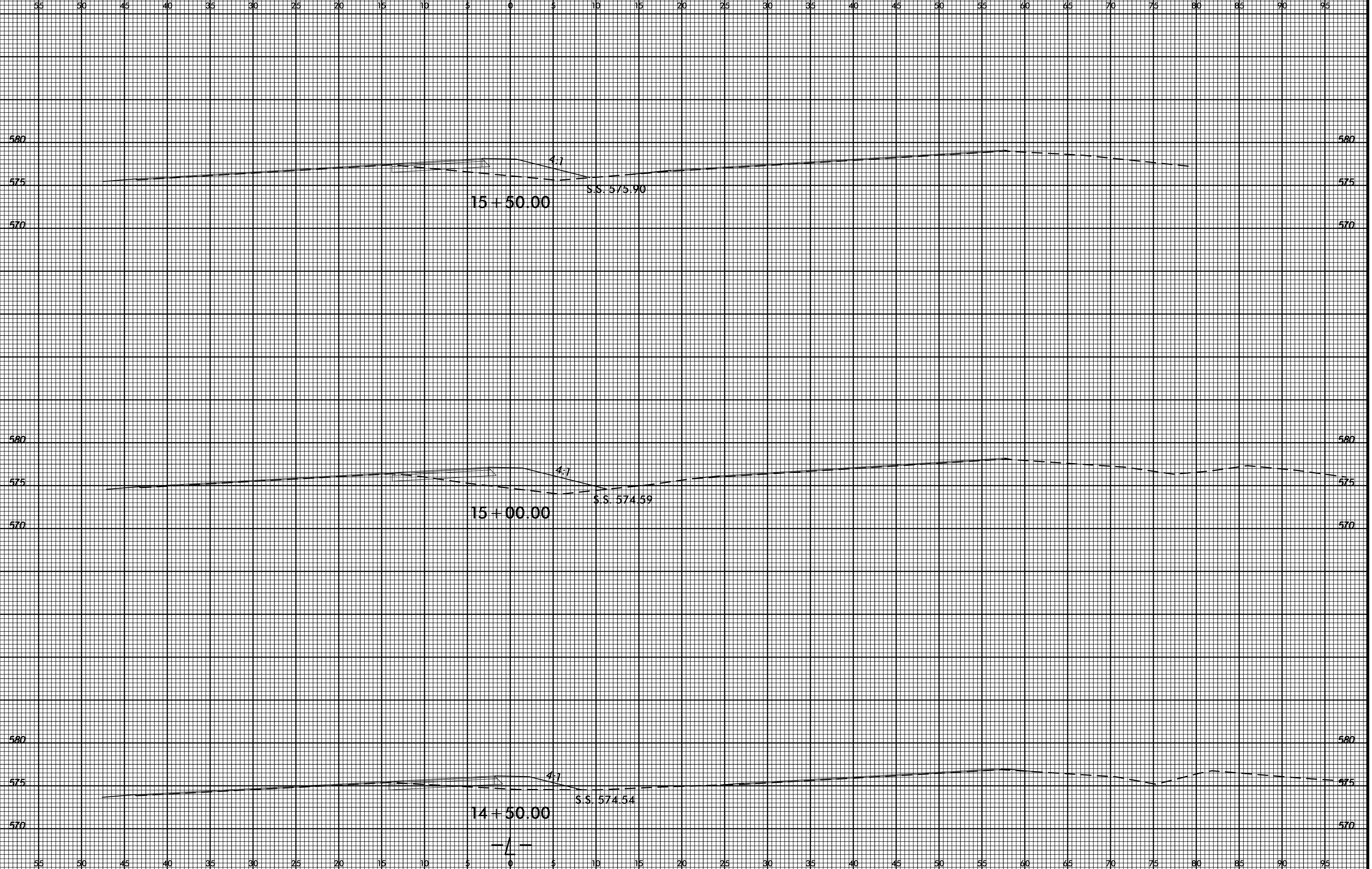
SCALE	1"=50'
DATE	JULY 2016
DWG. BY	TBL
DESIGN BY	JDH
APPROVED	RWB

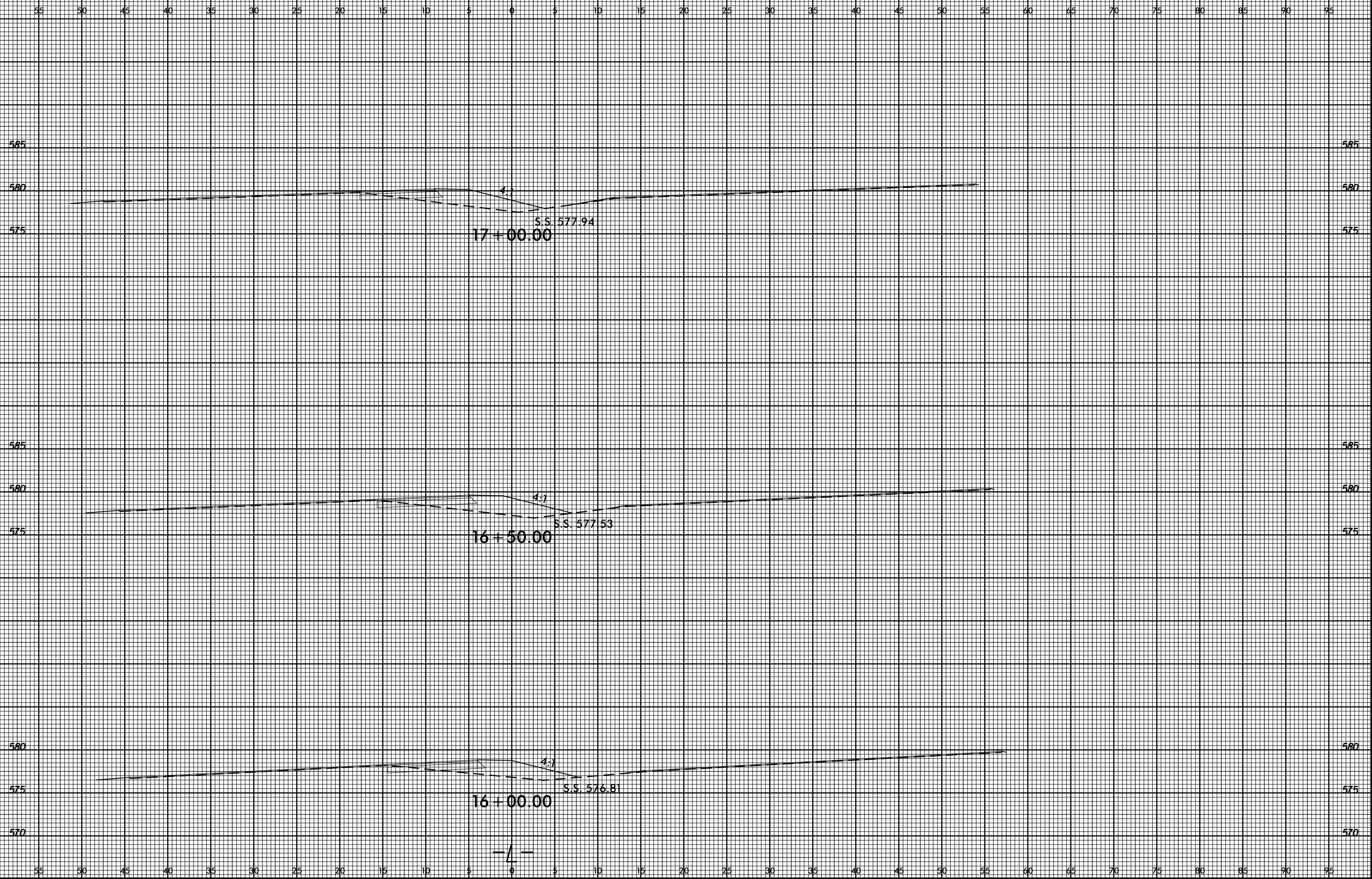


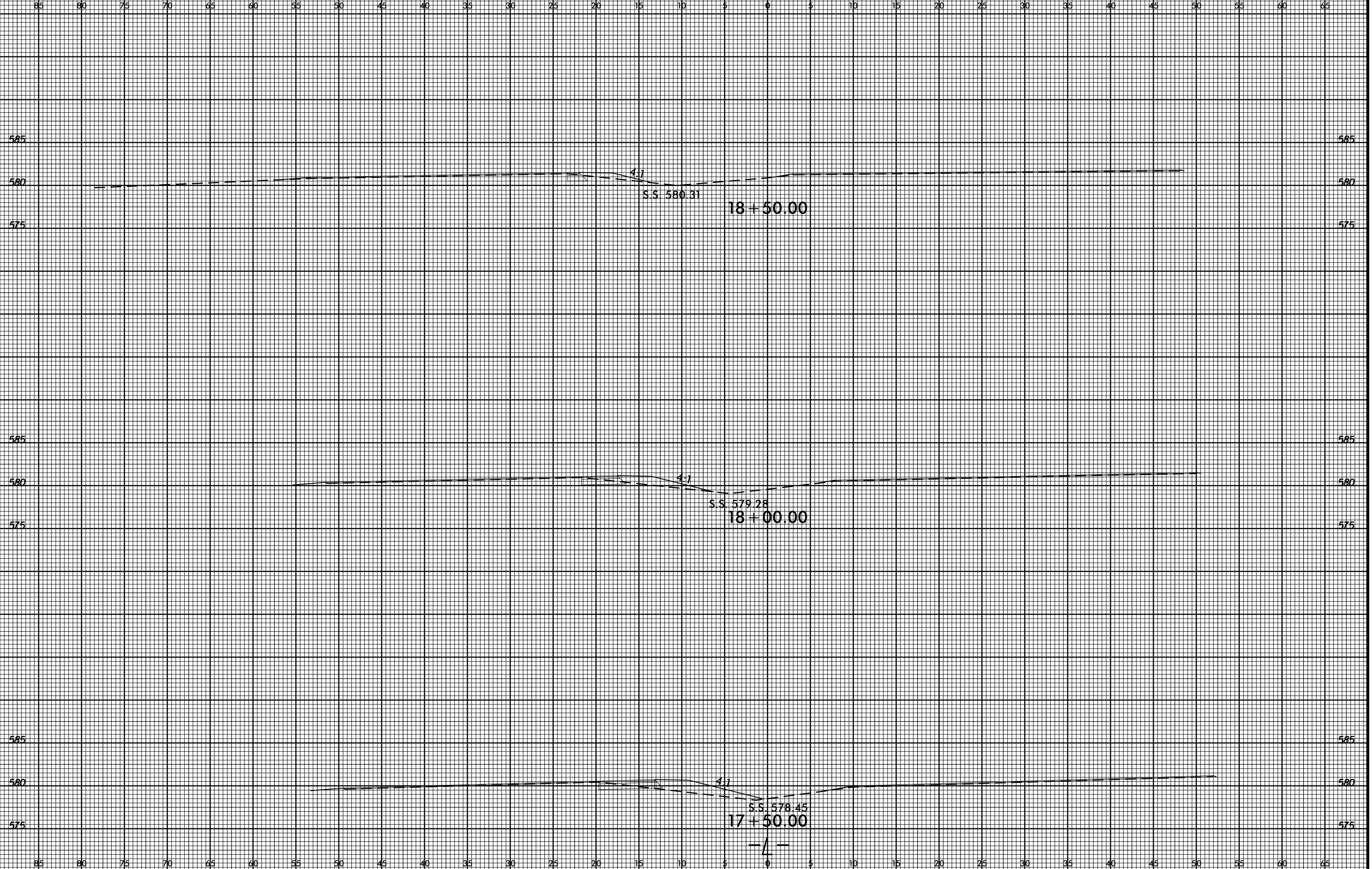
REVISIONS	

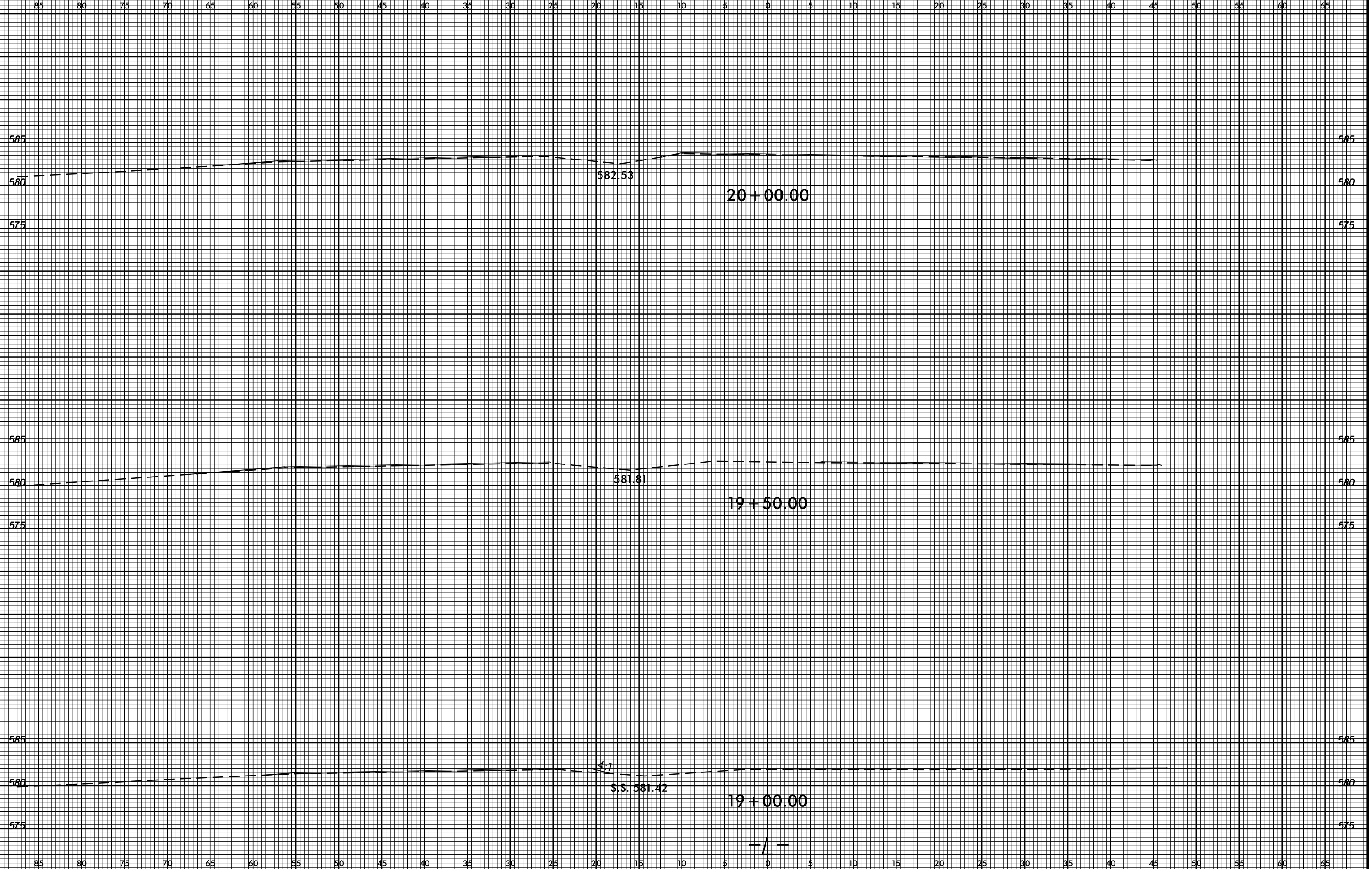


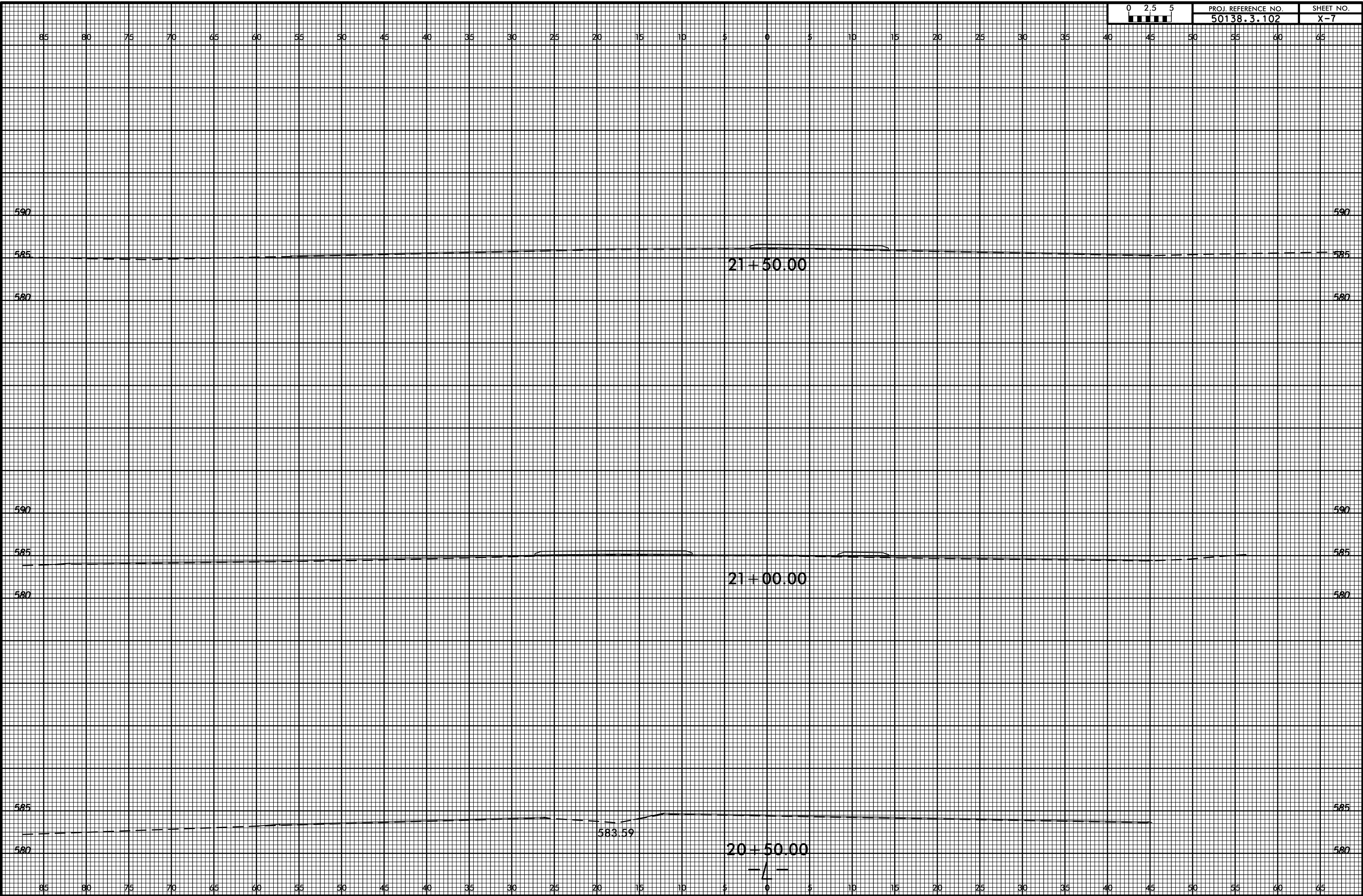


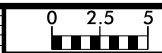




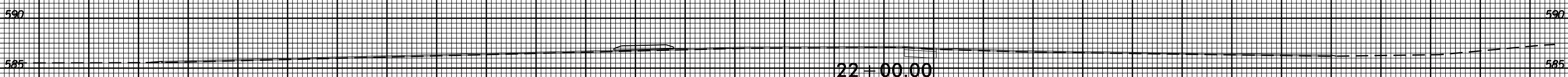
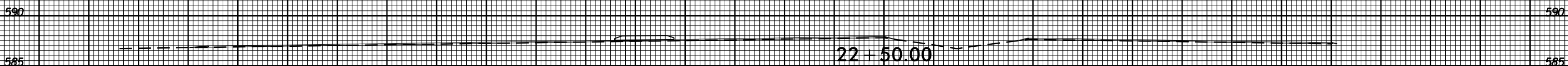
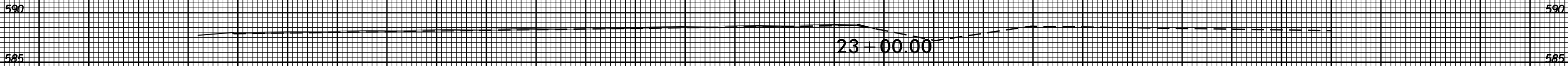




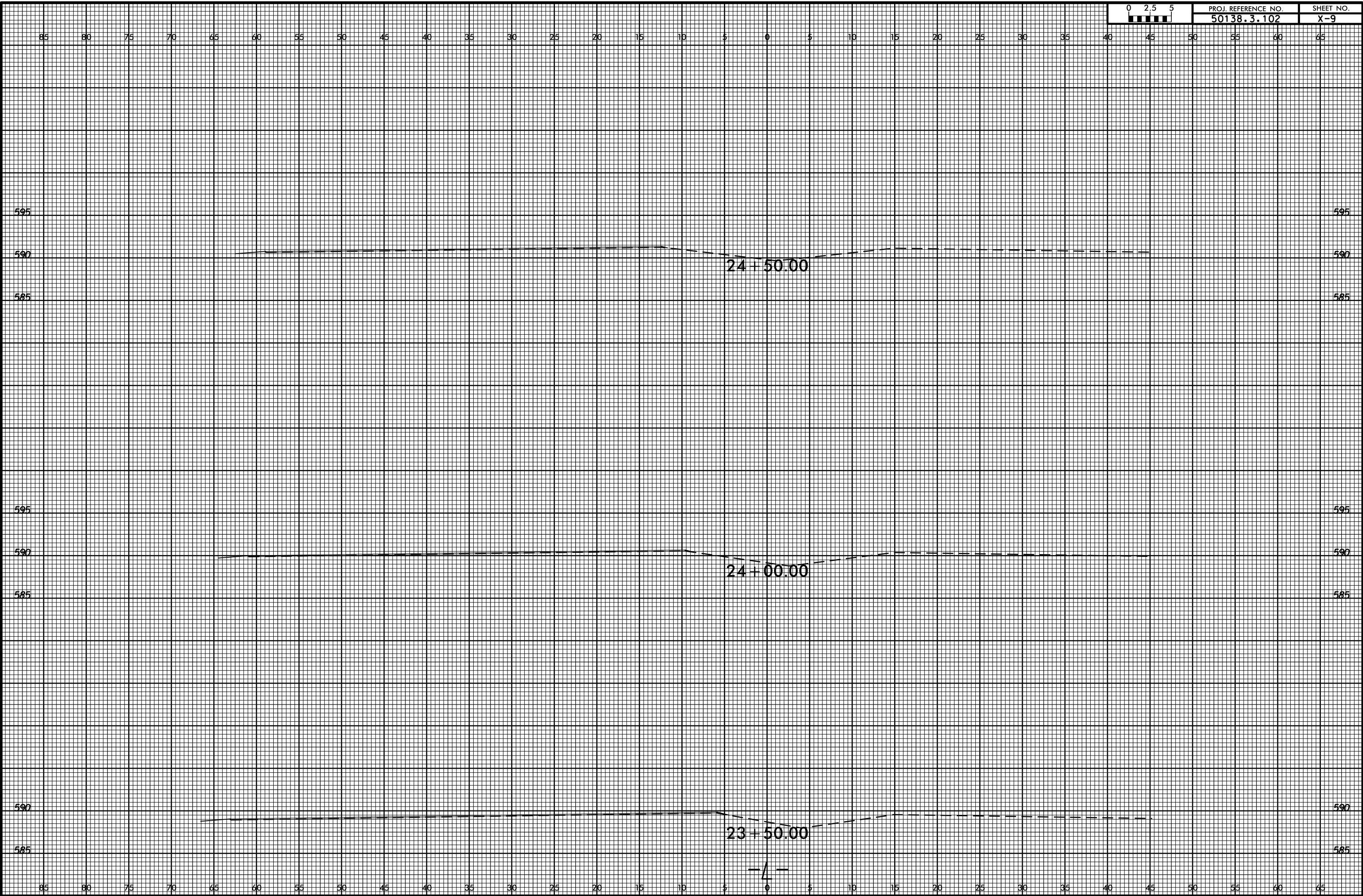


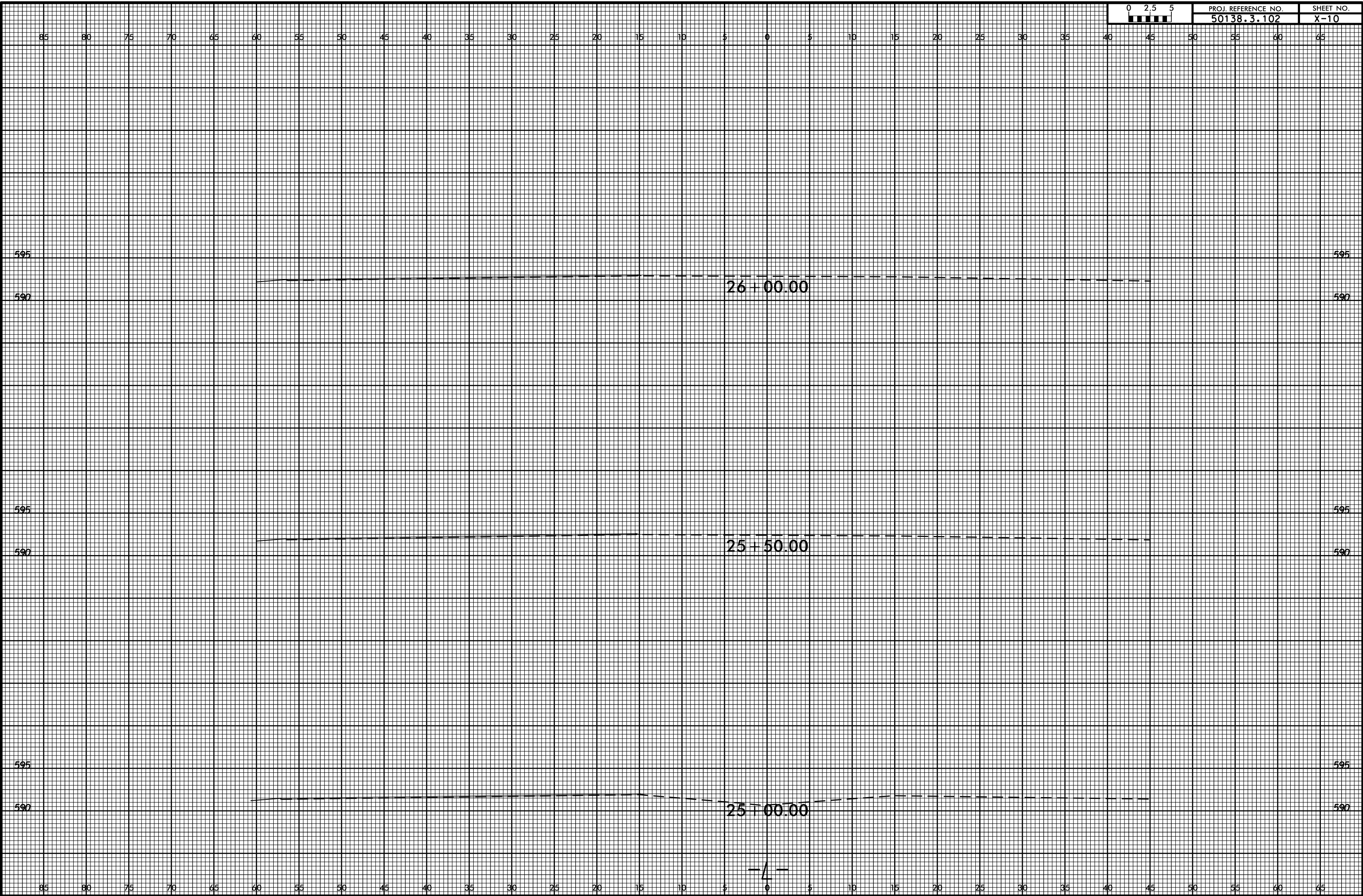


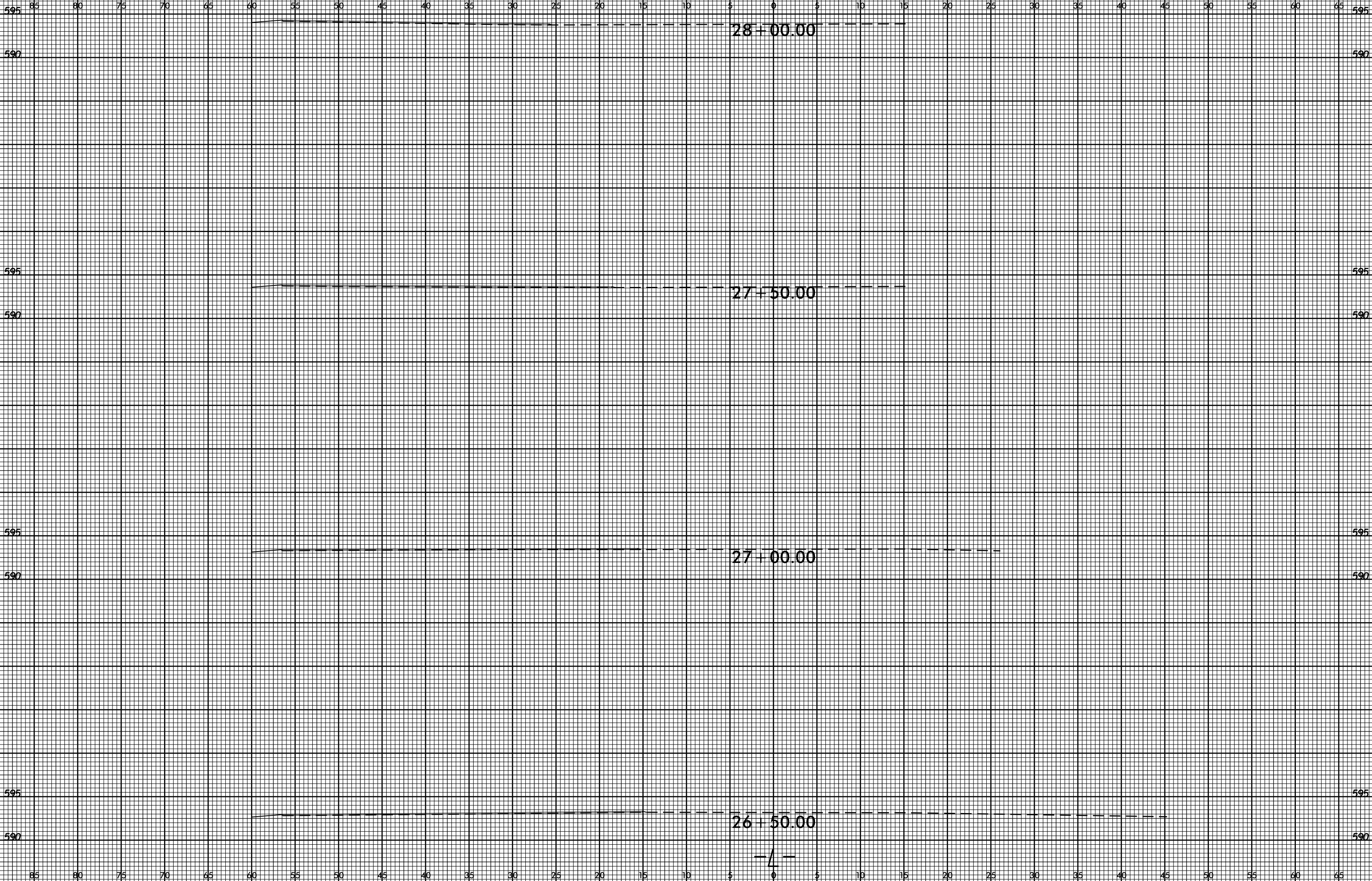
85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65



85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

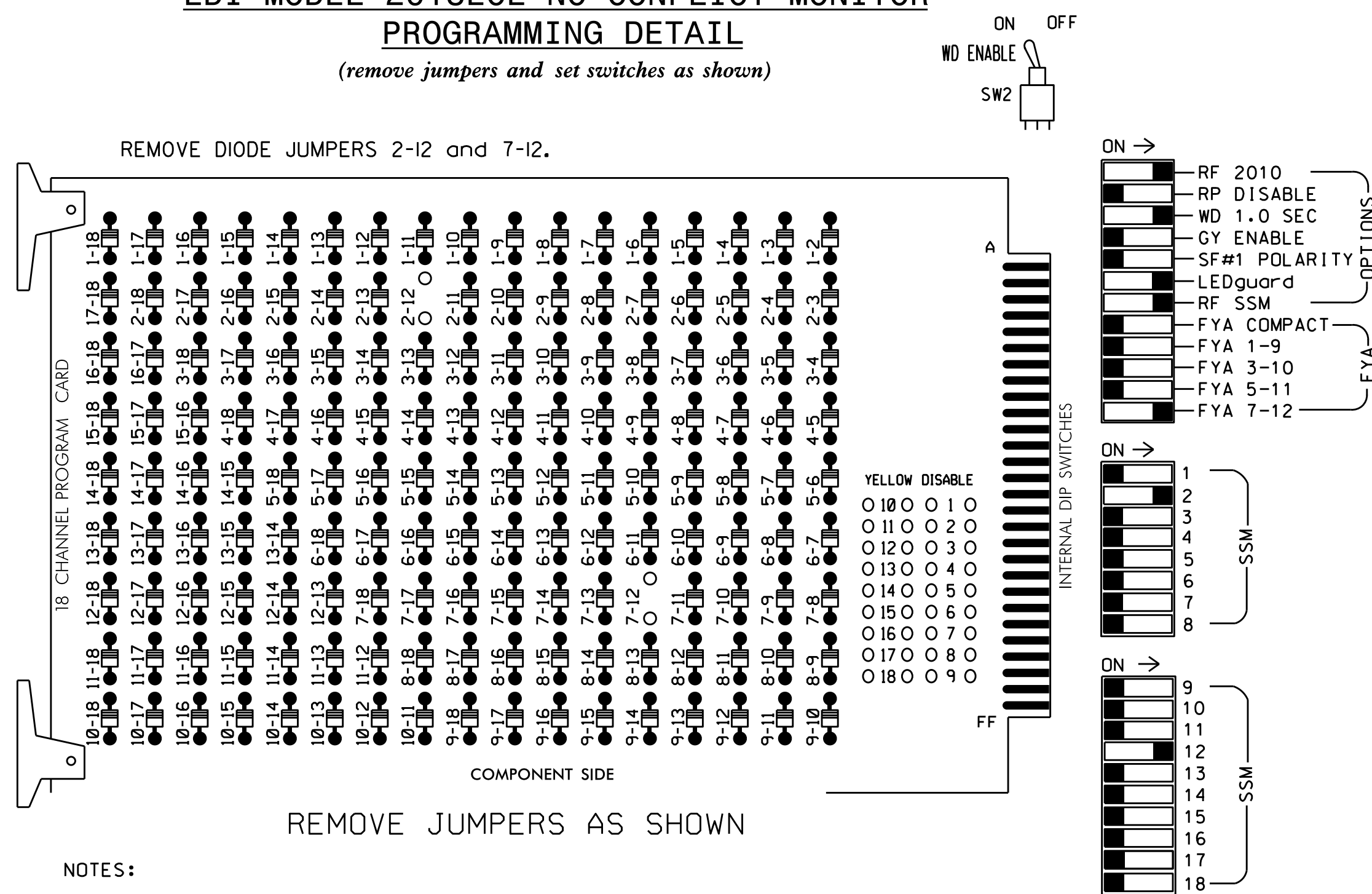






EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Enable Simultaneous Gap-Out for all phases.
3. Program phase 2 for Variable Initial and Gap Reduction.
4. Program phase 2 for Start Up In Green.
5. Program phase 2 for Yellow Flash.
6. The cabinet and controller are part of the NC 49 (Concord) Closed Loop System.

EQUIPMENT INFORMATION

CONTROLLER.....2070
 CABINET.....332 /W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S2,S10,AUX S5
 PHASES USED.....2,7
 OVERLAP "A".....NOT USED
 OVERLAP "B".....NOT USED
 OVERLAP "C".....NOT USED
 OVERLAP "D".....2+7

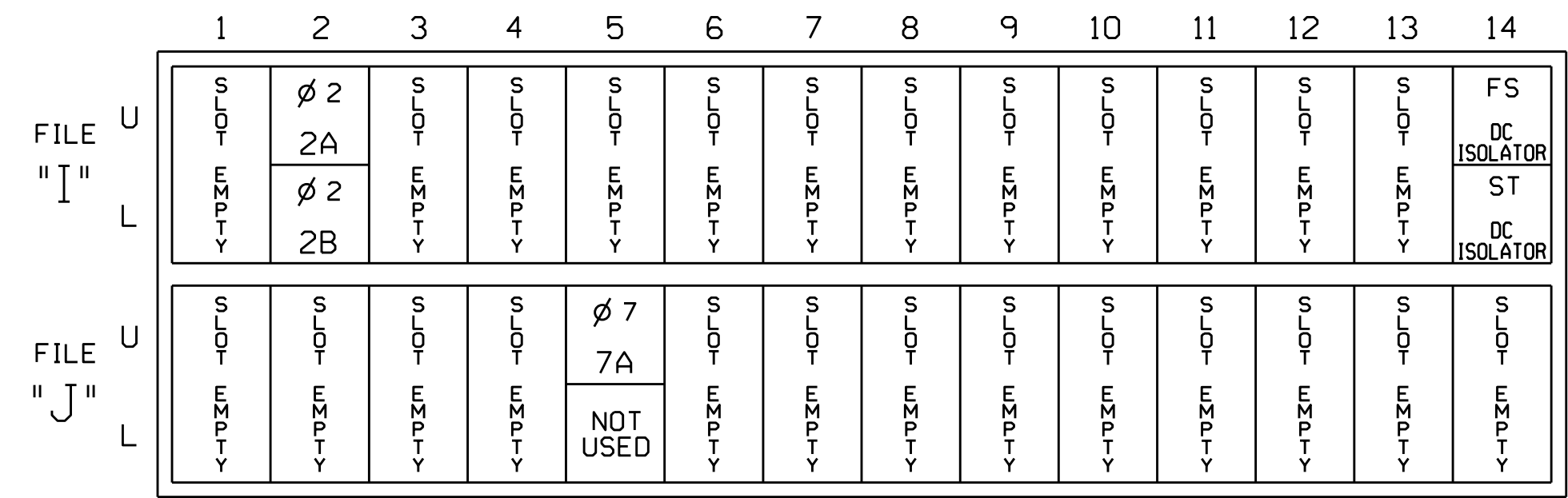
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	NU	21,22	NU	NU	NU	NU	NU	NU	NU	71*	NU	NU	NU	NU	NU	NU	71*	NU
RED		128																
YELLOW		129								*								
GREEN		130																
RED ARROW																		A101
YELLOW ARROW																		A102
FLASHING YELLOW ARROW																		A103
GREEN ARROW										124								

NU = Not Used
 * Denotes install load resistor. See load resistor installation detail this sheet.
 ★ See pictorial of head wiring in detail below.

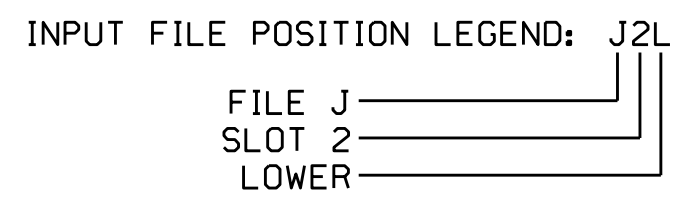
INPUT FILE POSITION LAYOUT

(front view)



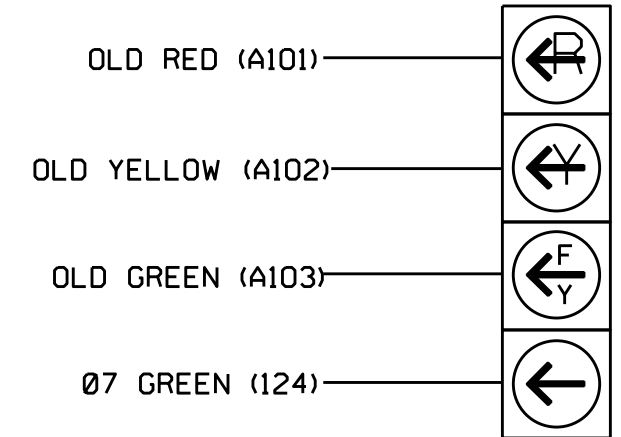
INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
7A	TB5-5,6	J5U	57	19	7	7	Y	Y			



4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)

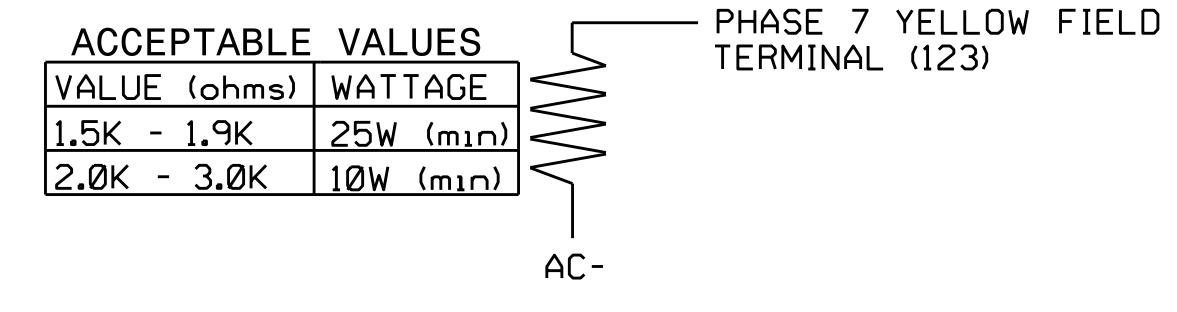


NOTE

1. The sequence display for this signal requires special logic programming. See sheet 2 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)



ELECTRICAL DETAIL SHEET 1 OF 2

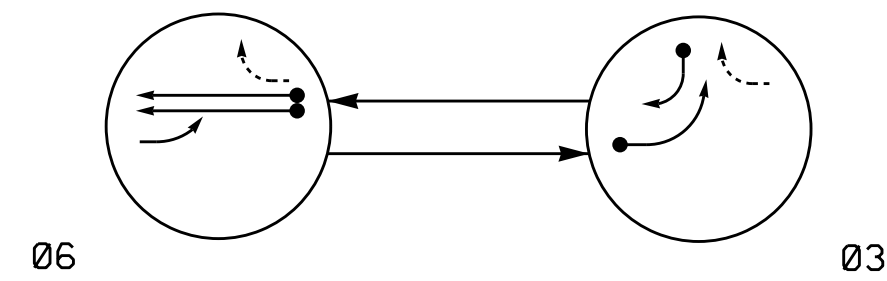
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared In the Offices of:
 Transporatio Mobility and Safety Solutions
 NORTH CAROLINA PROFESSIONAL ENGINEER
 KEITH M. MIMS
 SEAL 036880

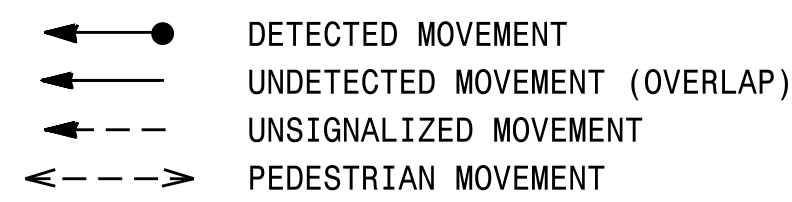
NC 49 Northbound at NC 49 Southbound U-Turn
 Division 10 Cabarrus County Concord
 PLAN DATE: August 2016 REVIEWED BY:
 PREPARED BY: James Peterson REVIEWED BY:
 REVISIONS INIT. DATE
 DocuSigned by: Keith M. Mims 8/16/2016
 SIGNATURE DATE
 SIG. INVENTORY NO. 10-2240

16-AUG-2016 07:24 S:\TCS\511\15_Sigma\work\grouse\51g_Mon\ Peterson\102240_sm.ele_xxx.dgn T Peterson

PHASING DIAGRAM



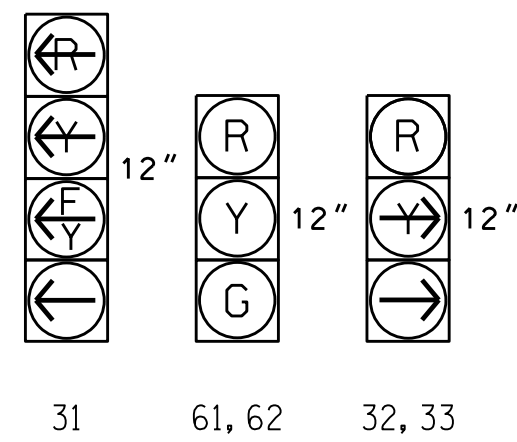
PHASING DIAGRAM DETECTION LEGEND



SIGNAL FACE	PHASE		
	06	03	FLASH
31	F	Y	Y
32, 33	R	Y	R
61, 62	G	R	Y

SIGNAL FACE I.D.

All Heads L.E.D.

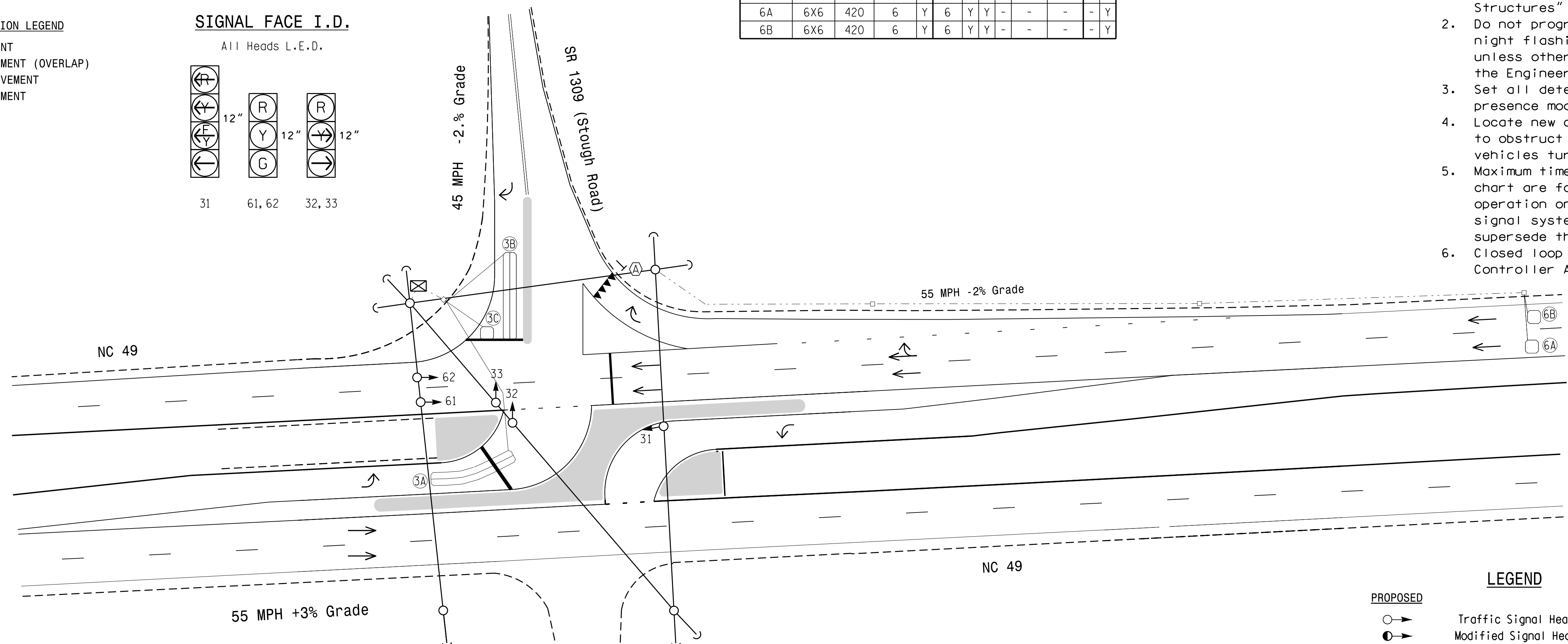


OASIS 2070 LOOP & DETECTOR INSTALLATION CHART												
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	LOOP SYSTEM	NEW CARD
3A	6X40	+10	2-4-2	Y	3	Y	Y	-	-	-	-	Y
3B	6X40	0	2-4-2	Y	3	Y	Y	-	-	10	-	Y
3C	6X40	0	2-4-2	Y	3	Y	Y	-	-	15	-	Y
6A	6X6	420	6	Y	6	Y	Y	-	-	-	-	Y
6B	6X6	420	6	Y	6	Y	Y	-	-	-	-	Y

2 Phase Fully Actuated NC 49 (Concord) CLS

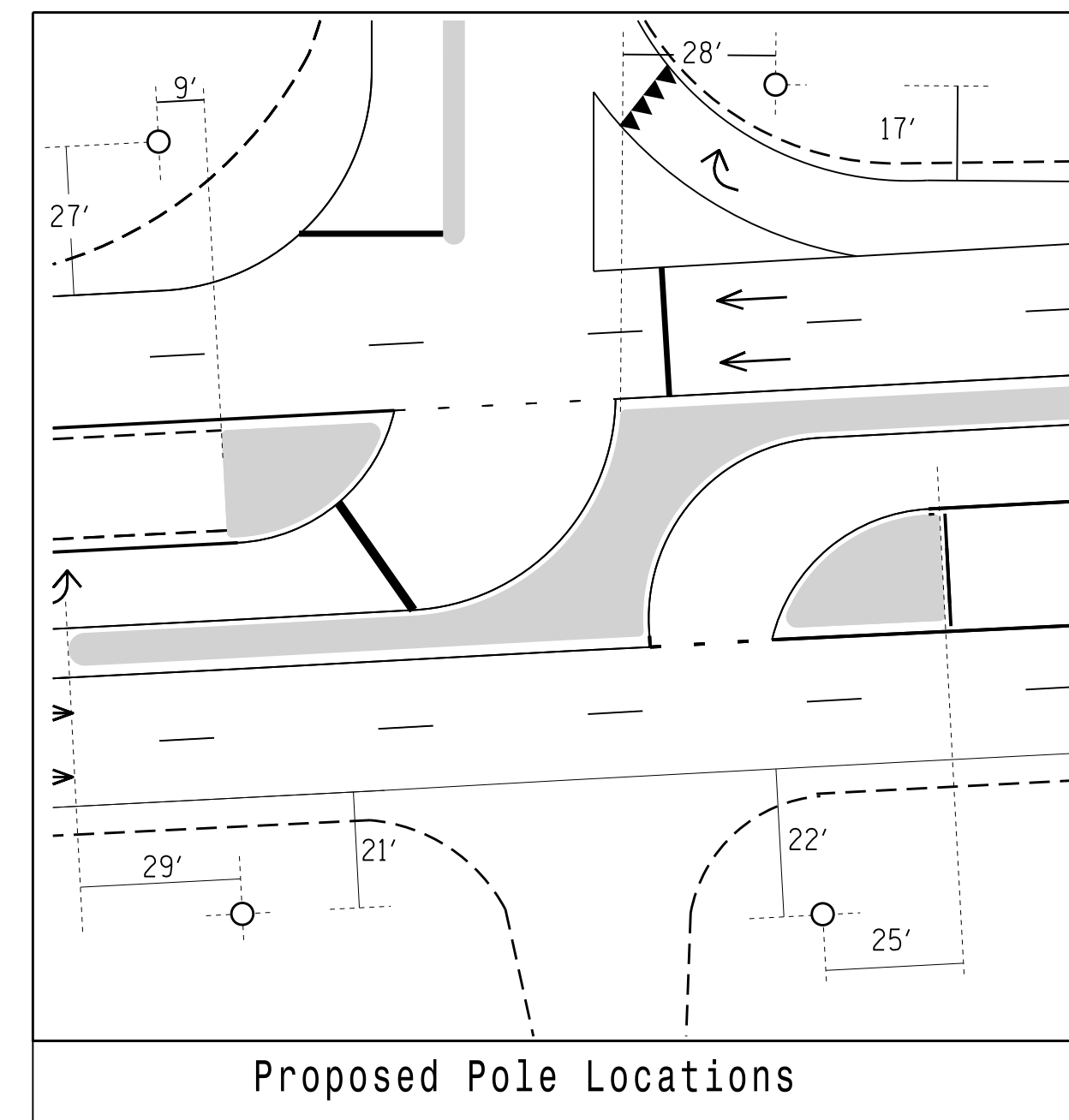
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset # 2226.

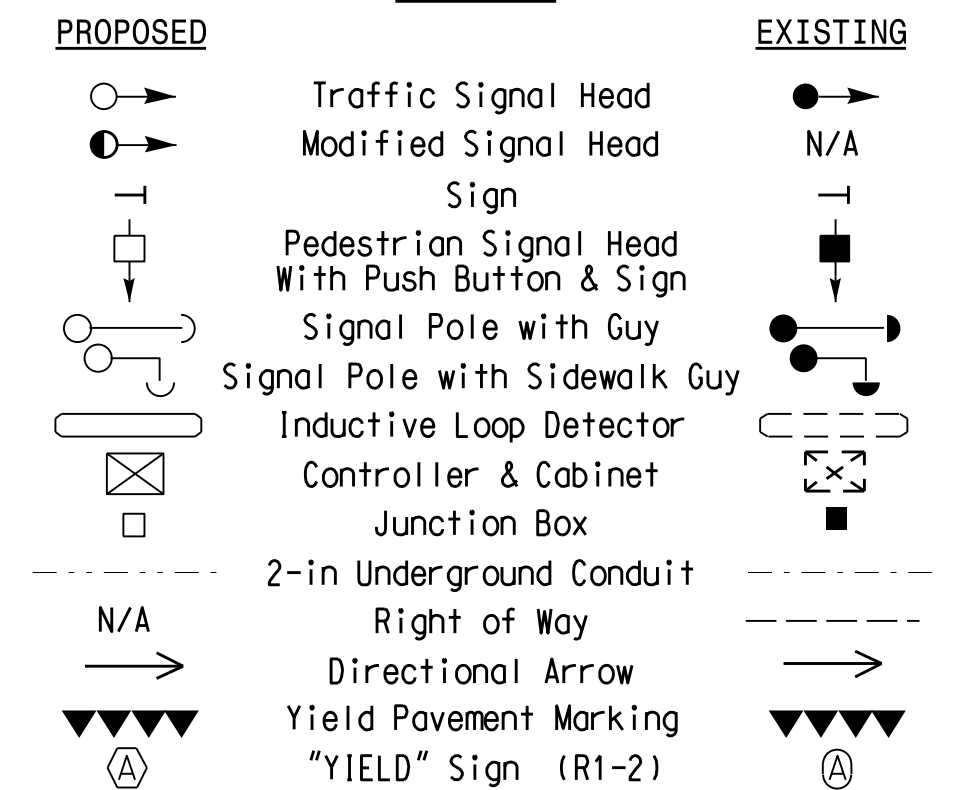


FEATURE	PHASE	
	3	6
Min Green 1 *	7	14
Extension 1 *	2.0	6.0
Max Green 1 *	20	90
Yellow Clearance	3.0	5.4
Red Clearance	2.4	1.0
Red Revert	2.0	2.0
Walk 1 *	-	-
Don't Walk 1	-	-
Seconds Per Actuation *	-	1.8
Max Variable Initial *	-	46
Time Before Reduction *	-	15
Time To Reduce *	-	30
Minimum Gap	-	3.4
Recall Mode	-	MIN RECALL
Vehicle Call Memory	-	YELLOW
Dual Entry	-	-
Simultaneous Gap	ON	ON

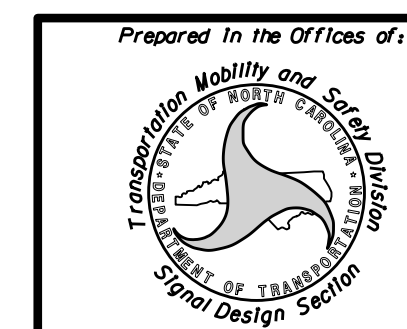
* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



LEGEND

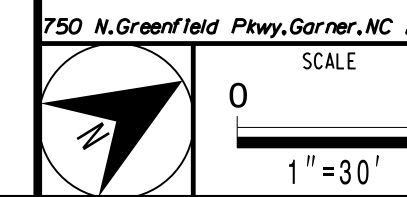
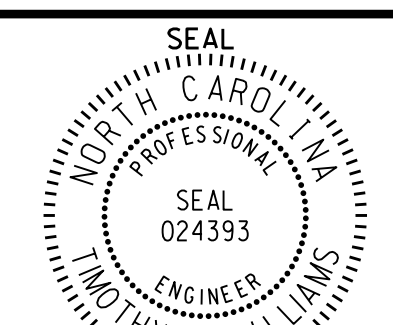


New Installation



NC 49 Southbound at SR 1309 (Stough Road)
 Division 10 Cabarrus County Concord
 PLAN DATE: July 2016 REVIEWED BY: T. Williams
 PREPARED BY: M. Mahbooba REVIEWED BY:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



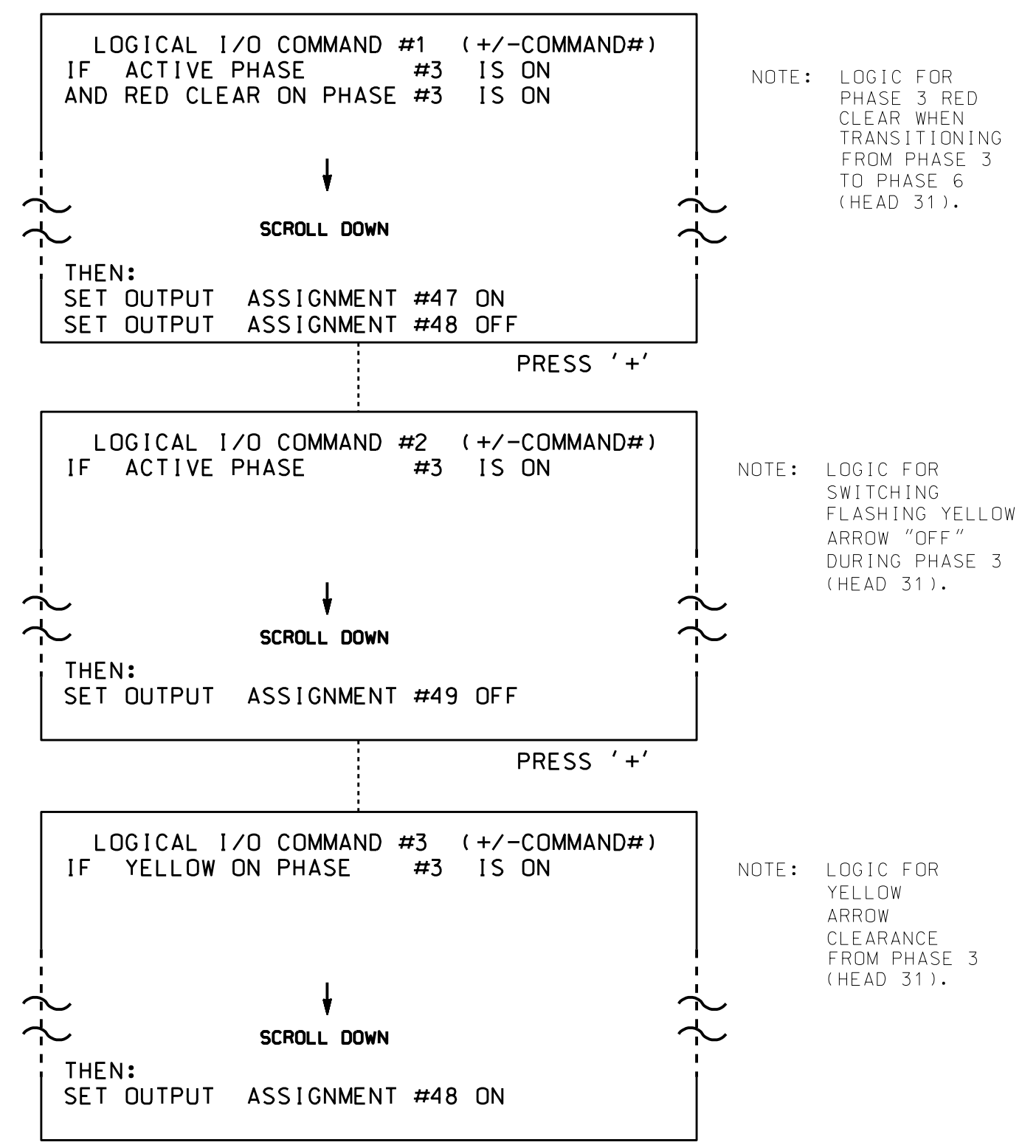
REVISIONS	INIT.	DATE

DocuSigned by: S. J. Williams 8/15/2016
 97AD790E8934CA DATE
 SIG. INVENTORY NO. 10-2226

**LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE**

(program controller as shown below)

- FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE	
OUTPUT 47 =	Overlap B Red
OUTPUT 48 =	Overlap B Yellow
OUTPUT 49 =	Overlap B Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PRESS '+' ONCE

```

    PAGE 1: VEHICLE OVERLAP 'B' SETTINGS
    PHASE: |12345678910111213141516
    VEH OVL PARENTS: | X X
    VEH OVL NOT VEH: |
    VEH OVL NOT PED: |
    VEH OVL GRN EXT: |
    STARTUP COLOR: _ RED _ YELLOW _ GREEN
    FLASH COLORS: _ RED _ YELLOW X GREEN
    SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
    FLASH YELLOW IN CONTROLLER FLASH?...Y
    GREEN EXTENSION (0-255 SEC)...0.0
    YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
    RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
    OUTPUT AS PHASE # (0=NONE, 1-16)...0
  
```

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-2226
DESIGNED: July 2016
SEALED: 8-15-16
REVISED: N/A

16-AUG-2016 07:53 S:\TCS\511\TCS-517\mtd\work\pdp\sig\mtd\peterson\102226_sml.ele...xxx.dgn J.peterson

ELECTRICAL DETAIL SHEET 2 OF 2

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared In the Offices of: 750 N. Greenfield Pkwy, Garner, NC 27529	NC 49 Southbound at SR 1309 (Stough Road)		SEAL
	Division 10 Cabarrus County Concord PLAN DATE: August 2016 REVIEWED BY: PREPARED BY: James Peterson REVIEWED BY:	REVISIONS INIT. DATE	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**