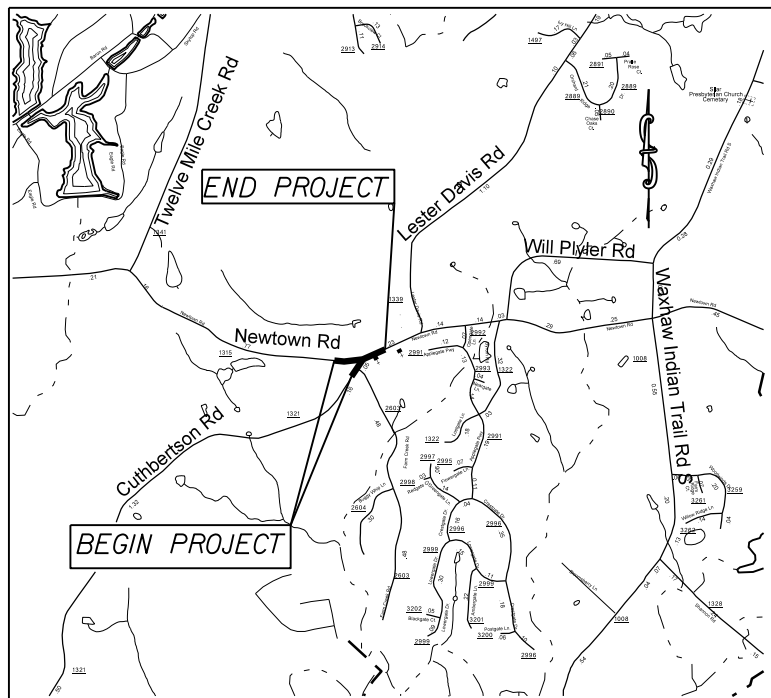


TIP: SS-4910CC

PROJECT: 44720.3.1

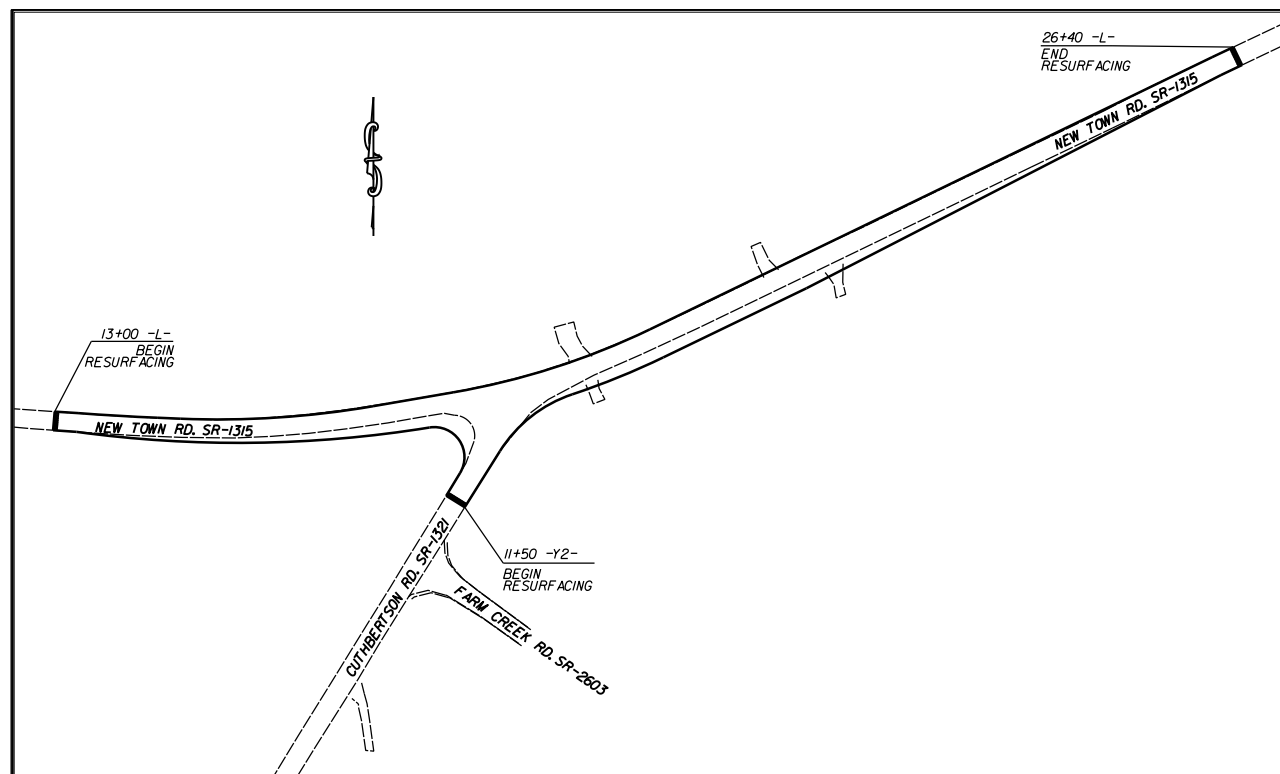


VICINITY MAP NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
UNION COUNTY

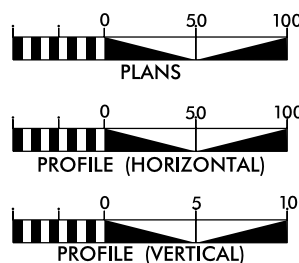
LOCATION: INTERSECTION OF NEW TOWN RD. (SR-1315) AND CUTHBERTSON RD. (SR-1321)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS, AND THERMOPLASTIC PAVEMENT MARKINGS.



| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | 44720.3.1 | 1 | |
| STATE PROJ. NO. | P.A. PROJ. NO. | DESCRIPTION | |
| 44720.1.1 | HSIP-1315(018) | P.E. | |
| 44720.2.1 | HSIP-1315(018) | RW | |
| 44720.3.1 | HSIP-1315(018) | CONST. | |
| | | | |
| | | | |

GRAPHIC SCALES



DESIGN DATA

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

PROJECT LENGTH

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT 44720.3.1 = 0.27 MILES
TOTAL LENGTH OF STATE PROJECT 44720.3.1 = 0.27 MILES

Prepared in the Office of:

DIVISION OF HIGHWAYS

DIVISION TEN
DIVISION DESIGN / CONSTRUCT UNIT

RIGHT OF WAY DATE:

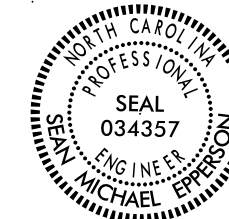
LETTING DATE:
May 16, 2018

DONALD GRIFFITH
PROJECT ENGINEER

DONALD HARWARD
PROJECT DESIGN ENGINEER

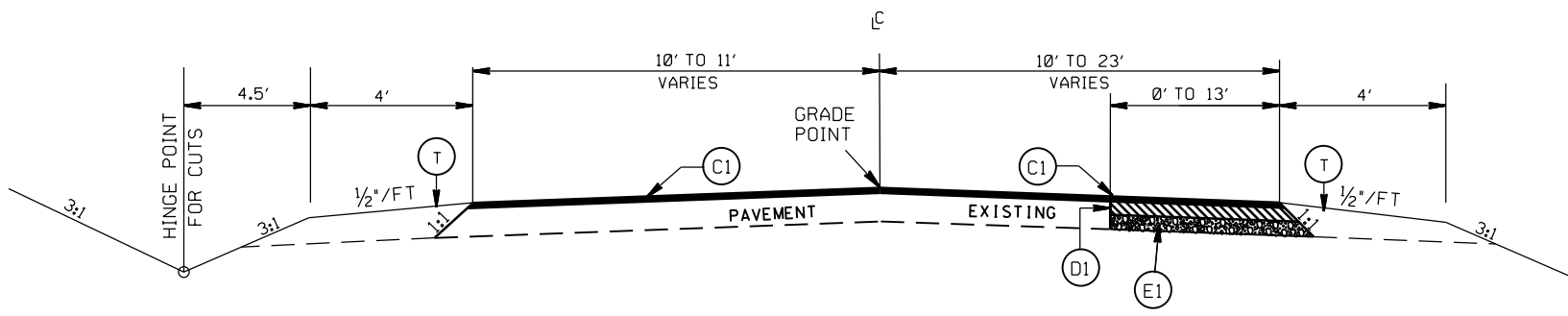
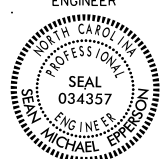


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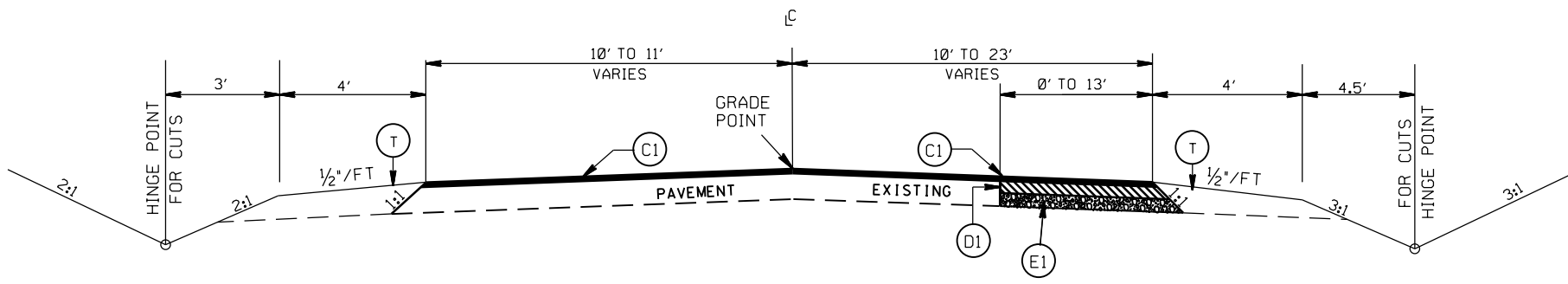


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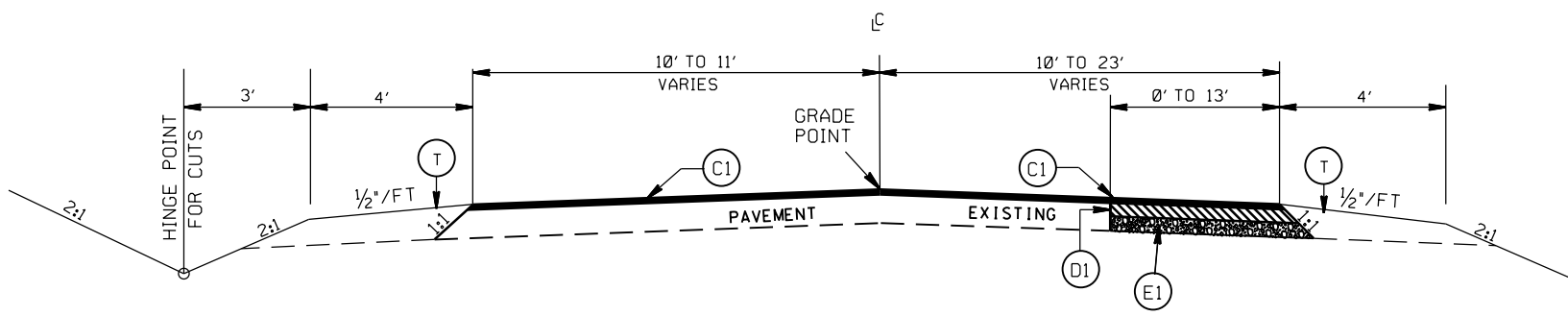
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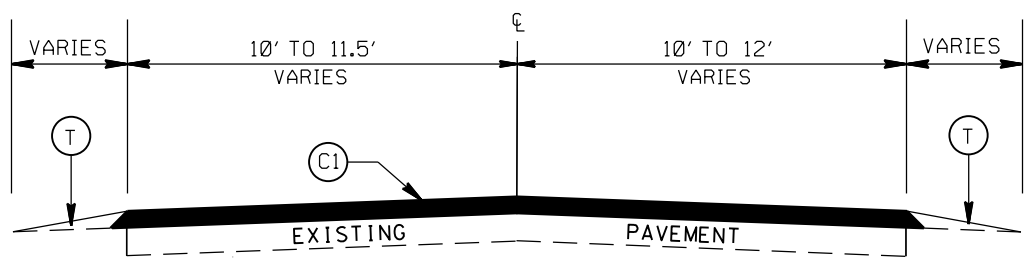
TYPICAL SECTION NO. 4
18+50 TO 26+15 -L-



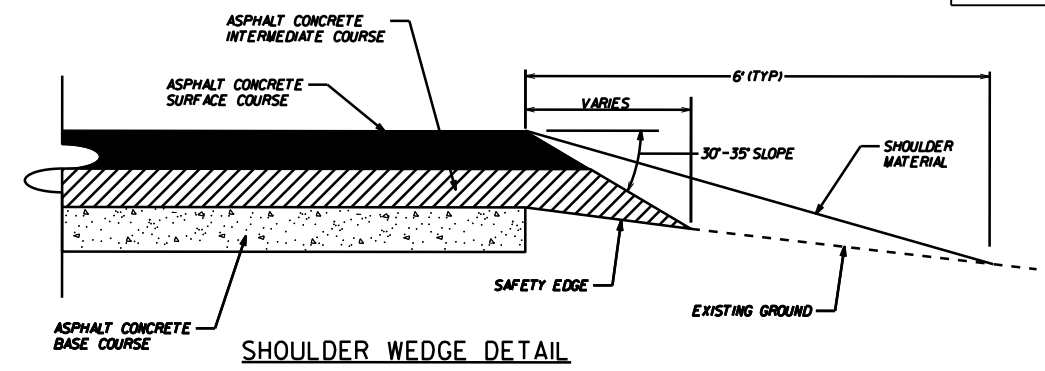
TYPICAL SECTION NO. 3
17+00 TO 18+50 -L-



TYPICAL SECTION NO. 2
13+25 TO 17+00 -L-



TYPICAL SECTION NO. 1
STA. 13+00 TO 13+25 -L-
STA. 26+15 TO 26+40 -L-
STA. 11+50 TO 12+20.21 -Y-



PAVEMENT SCHEDULE

| | |
|----|----------------------------------------------------------------------------------------------------------|
| C1 | PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| D1 | PROP. APPROX. 4.0" ASPHALT CONC. INTERMEDIATE COURSE, I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E1 | PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. |
| T | EARTH MATERIAL |

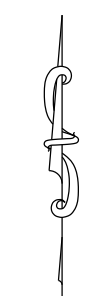
LEFT TURN LANE ON
NEW TOWN RD. (SR-1315)
ONTO CUTHBERTSON RD. (SR-1321)

| | |
|-----------|--------|
| SCALE | r=50' |
| DATE | 3-2018 |
| DWG. BY | TBL |
| DESIGN BY | JDH |
| APPROVED | DCG |



| REVISIONS | |
|-----------|--|
| | |
| | |
| | |
| | |

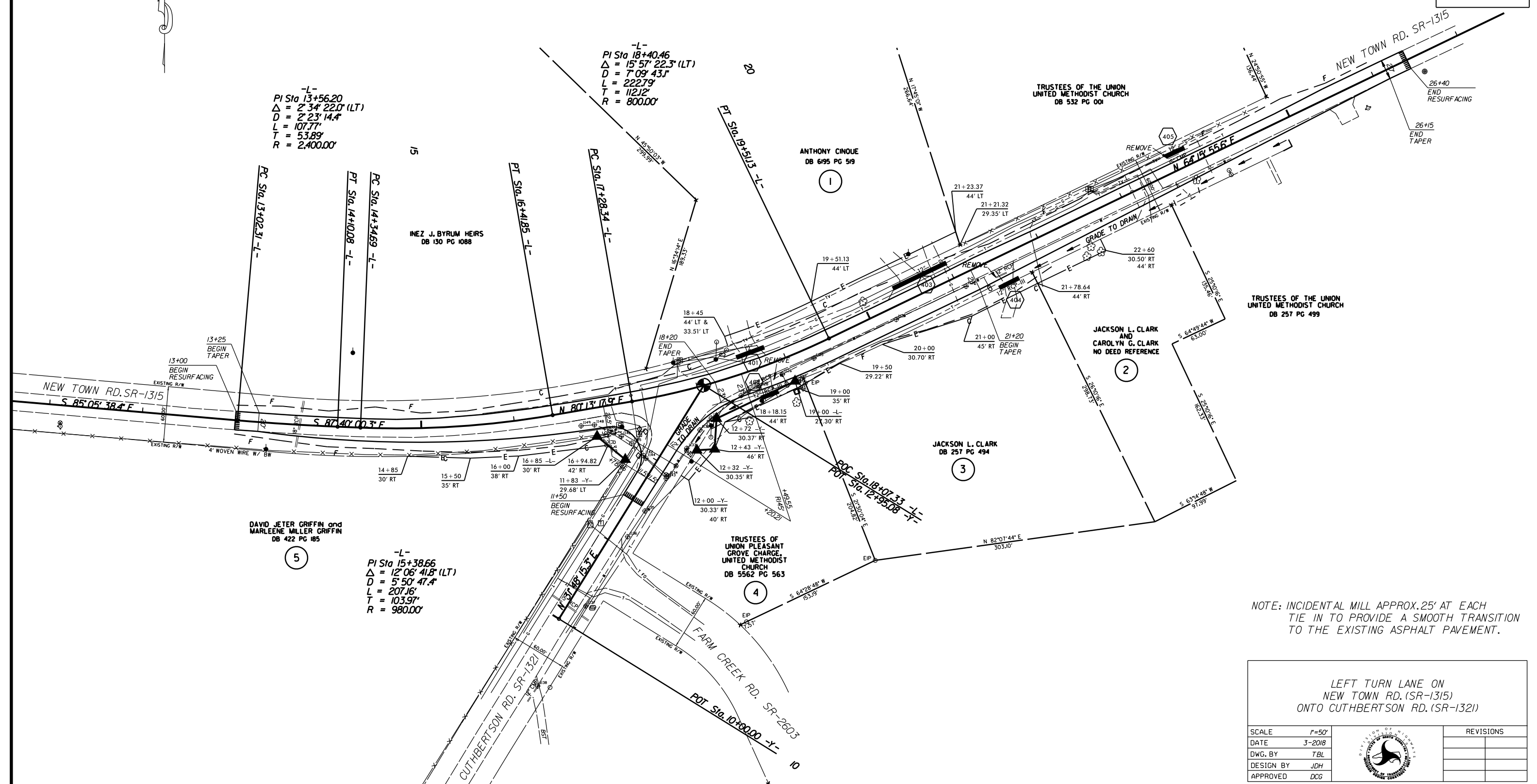
ROADWAY DESIGN
ENGINEER



-L-
PI Sta 13+56.20
Δ = 2° 34' 22.0" (LT)
D = 2' 23' 14.4"
L = 107.77'
T = 53.89'
R = 2,400.00'

-L-
PI Sta 18+40.46
Δ = 15° 57' 22.3" (LT)
D = 7' 09' 43.7"
L = 222.79'
T = 112.12'
R = 800.00'

-L-
PI Sta 15+38.66
Δ = 12° 06' 41.8" (LT)
D = 5' 50' 47.4"
L = 207.16'
T = 103.97'
R = 980.00'



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

| | | | |
|-------------------------------------------------------------------------------|--------|--|-----------|
| LEFT TURN LANE ON NEW TOWN RD. (SR-1315) ONTO CUTHBERTSON RD. (SR-1321) | | | REVISIONS |
| SCALE | 1"=50' | | |
| DATE | 3-2018 | | |
| DWG. BY | TBL | | |
| DESIGN BY | JDH | | |
| APPROVED | DCG | | |

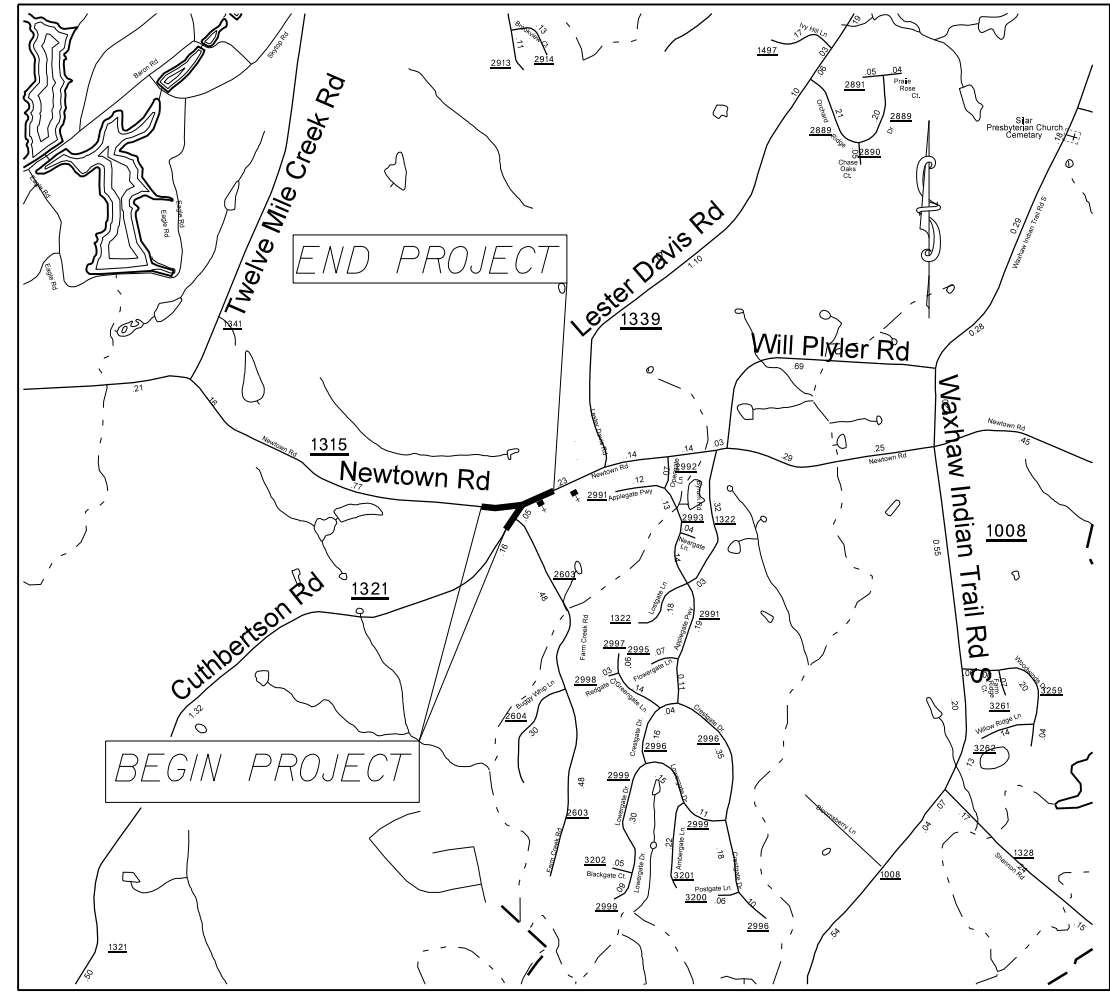
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|-----------------|-----------------------------|-------------|--------------|
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | SS-4910CC | EC-1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| | | | |
| | | | |
| | | | |

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
**PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL**

EROSION AND SEDIMENT CONTROL MEASURES

| Std. # | Description | Symbol |
|---------|------------------------------------------------------------------------|-------------|
| 1630.03 | Temporary Silt Ditch | TD |
| 1630.05 | Temporary Diversion | TD |
| 1605.01 | Temporary Silt Fence | III III III |
| 1606.01 | Special Sediment Control Fence | △△△△△ |
| 1622.01 | Temporary Berms and Slope Drains | — T — |
| 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 | ⌒ |
| | 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 | ▭ |

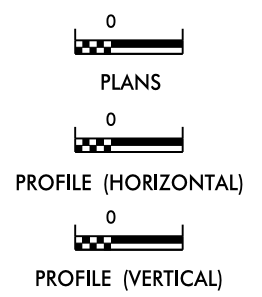
THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.



VICINITY MAP NOT TO SCALE

PROJECT: 44720.3.1 TIP: SS-4910CC

GRAPHIC SCALE



ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

Prepared In the Office of:
DDC UNIT DIVISION 10
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
2018 STANDARD SPECIFICATIONS
TRAVIS LOWDER 3742
EROSION CONTROL DESIGNER LEVEL III CERTIFICATION #

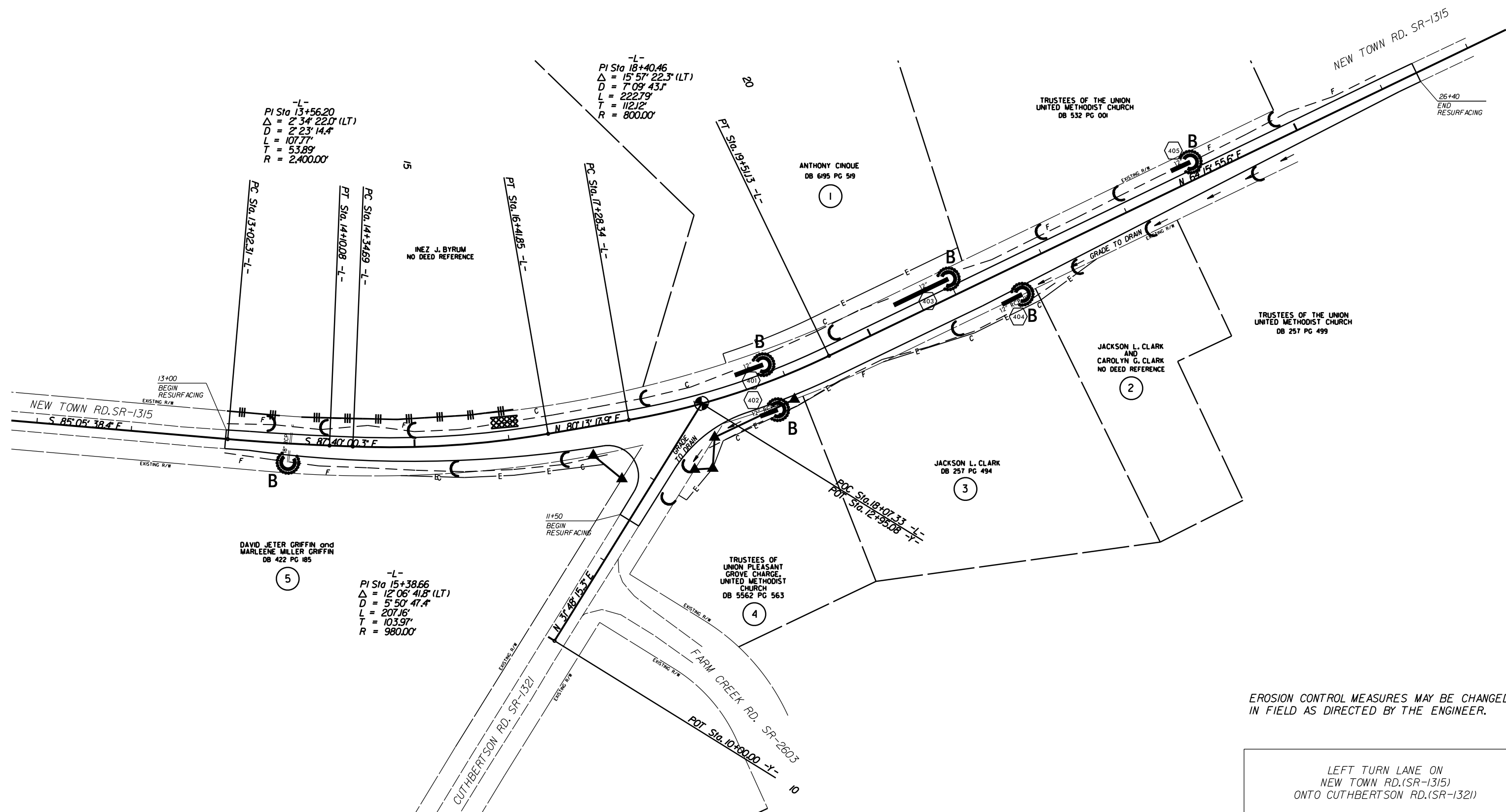
Roadway Standard Drawings

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 revision 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 | |

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| | | | |
|---------------------------------|-------------|-----------|--------------|
| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 44720.3.1 | EC-2 | |
| F.A. PROJECT NO. HSIP-1315(018) | | | |



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

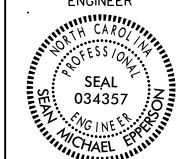
LEFT TURN LANE ON
NEW TOWN RD.(SR-1315)
ONTO CUTHBERTSON RD.(SR-1321)

| | | | |
|-----------|--------|--|-----------|
| SCALE | 1"=50' | | REVISIONS |
| DATE | 8/2016 | | |
| DWG. BY | TBL | | |
| DESIGN BY | JDH | | |
| APPROVED | RWB | | |

PAVEMENT MARKING SCHEDULE

| | |
|------------------|---------------|
| PROJECT NO. | SHEET NO. |
| 44720.3J | PMP-1 |
| F.A. PROJECT NO. | HSP-1315(018) |

ROADWAY DESIGN ENGINEER

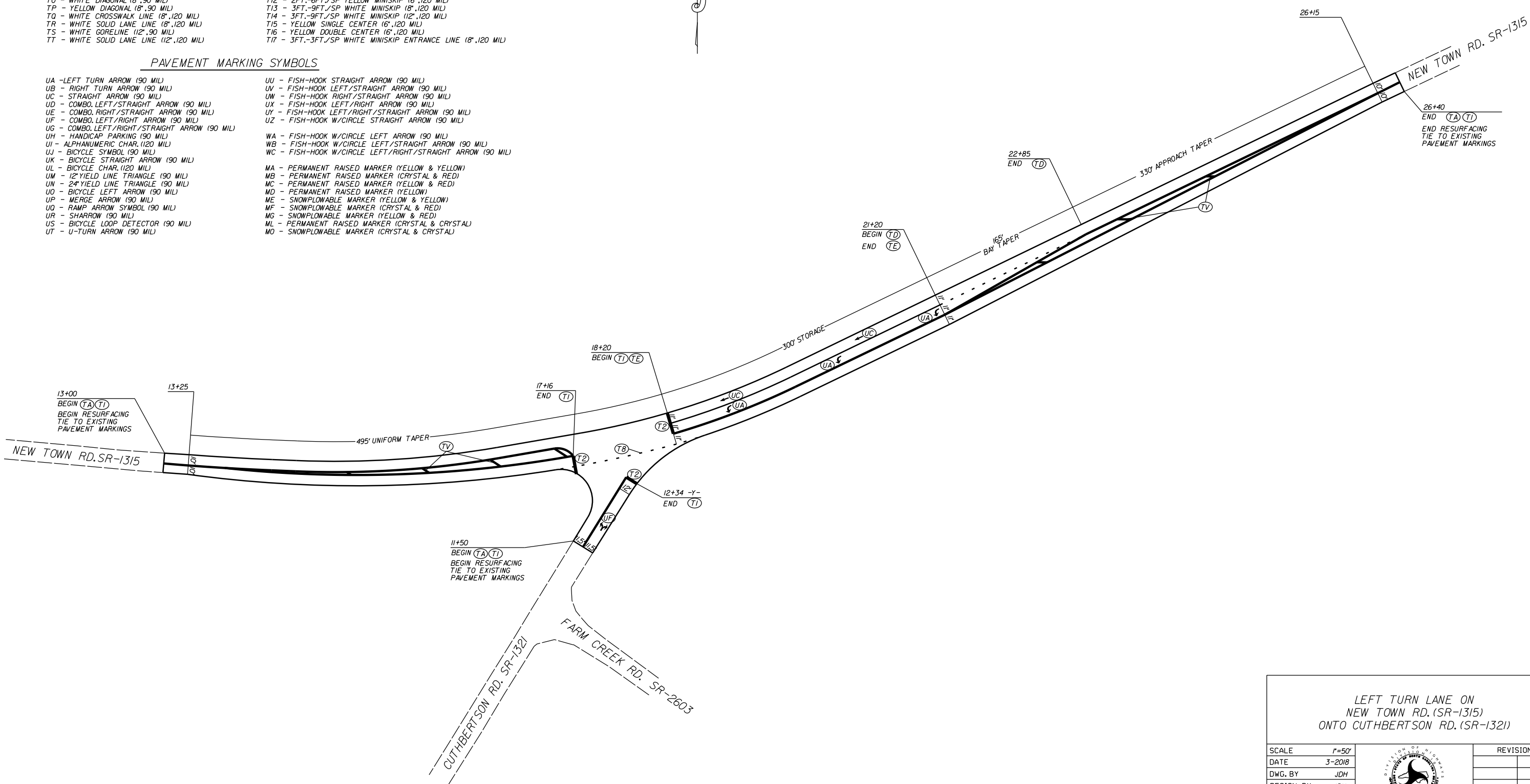


PAVEMENT MARKING LINES

- | | |
|------------------------------------------------|---------------------------------------------------------------|
| 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) | 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 & YELLOW) |
| UL - BICYCLE CHAR. (120 MIL) | MC - PERMANENT RAISED MARKER (CRYSTAL & RED) |
| UM - 12" YIELD LINE TRIANGLE (90 MIL) | MD - PERMANENT RAISED MARKER (YELLOW & RED) |
| UN - 24" YIELD LINE TRIANGLE (90 MIL) | ME - PERMANENT RAISED MARKER (YELLOW) |
| UO - BICYCLE LEFT ARROW (90 MIL) | MF - SNOWPLOWABLE MARKER (YELLOW & YELLOW) |
| UP - MERGE ARROW (90 MIL) | MG - SNOWPLOWABLE MARKER (CRYSTAL & RED) |
| UQ - RAMP ARROW SYMBOL (90 MIL) | MH - SNOWPLOWABLE MARKER (YELLOW & RED) |
| UR - SHARROW (90 MIL) | MI - PERMANENT RAISED MARKER (CRYSTAL & CRYSTAL) |
| US - BICYCLE LOOP DETECTOR (90 MIL) | MO - SNOWPLOWABLE MARKER (CRYSTAL & CRYSTAL) |
| UT - U-TURN ARROW (90 MIL) | |



LEFT TURN LANE ON
NEW TOWN RD. (SR-1315)
ONTO CUTHBERTSON RD. (SR-1321)

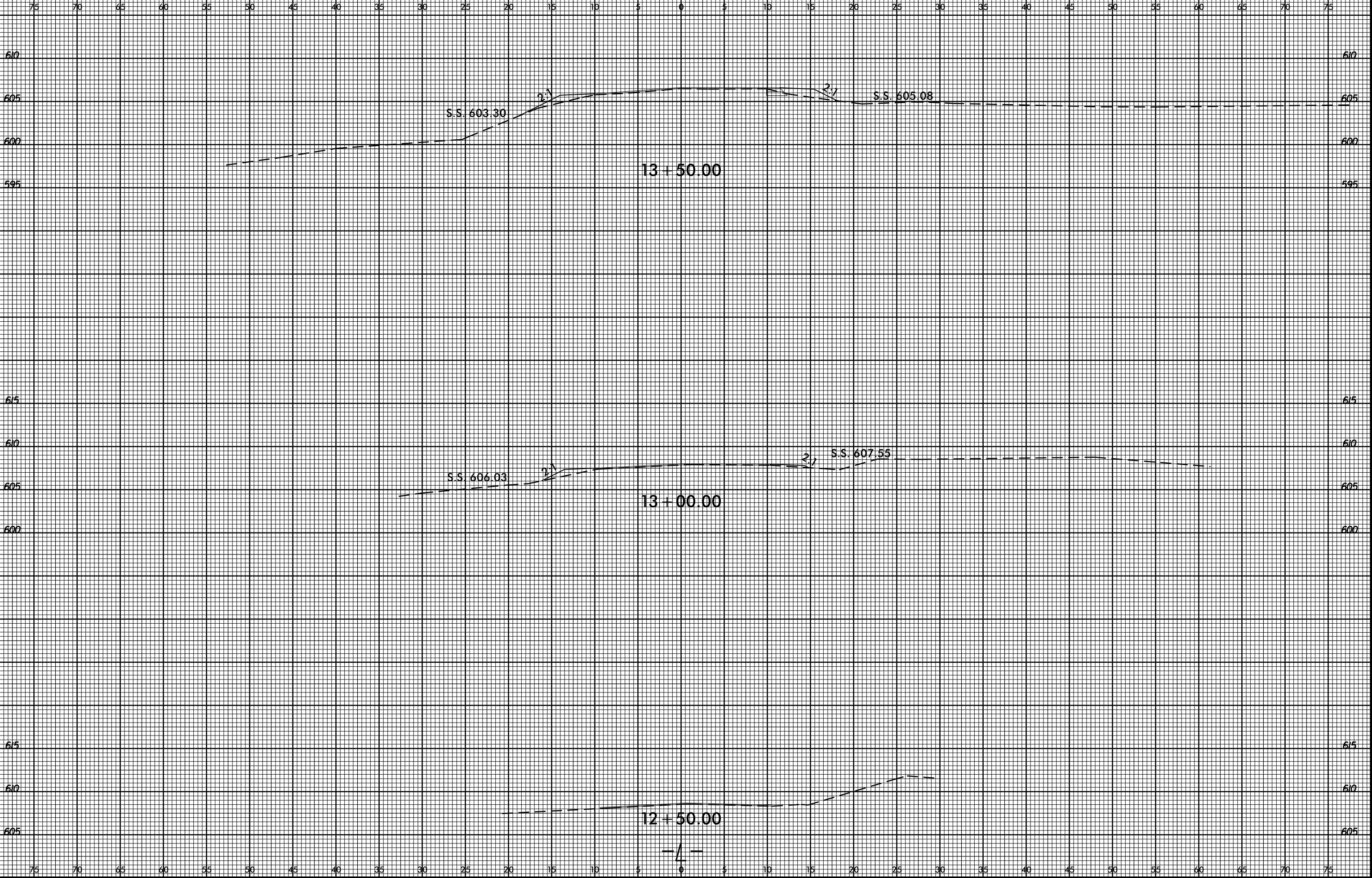
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| SCALE | 1"=50' | | REVISIONS |
| DATE | 3-2018 | | |
| DWG. BY | JDH | | |
| DESIGN BY | JDH | | |
| APPROVED | DCG | | |

6/23/16



PROJ. REFERENCE NO.
44720.3.1

SHEET NO.
X-1



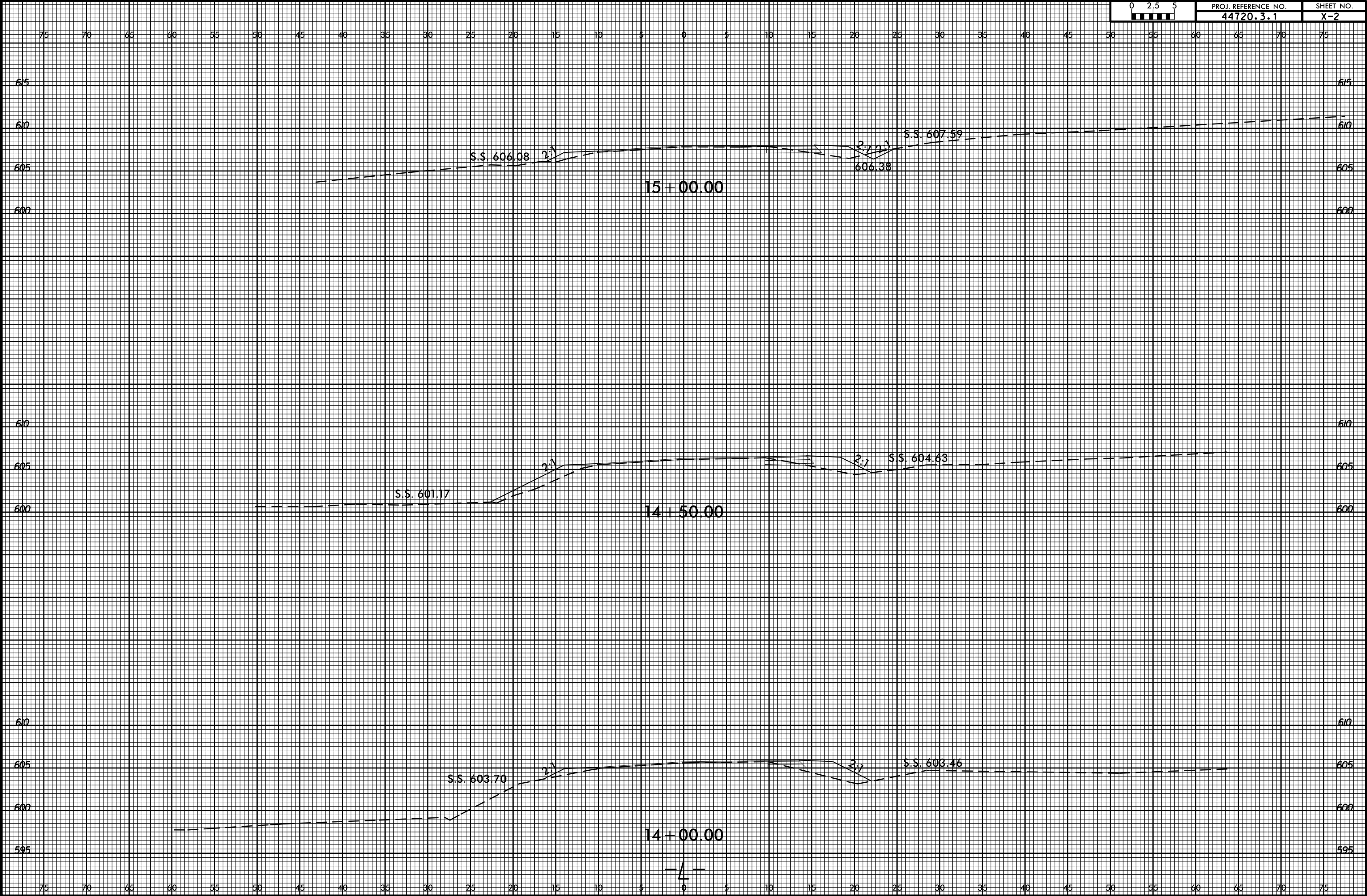
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6/23/16



PROJ. REFERENCE NO.
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SHEET NO.
X-2



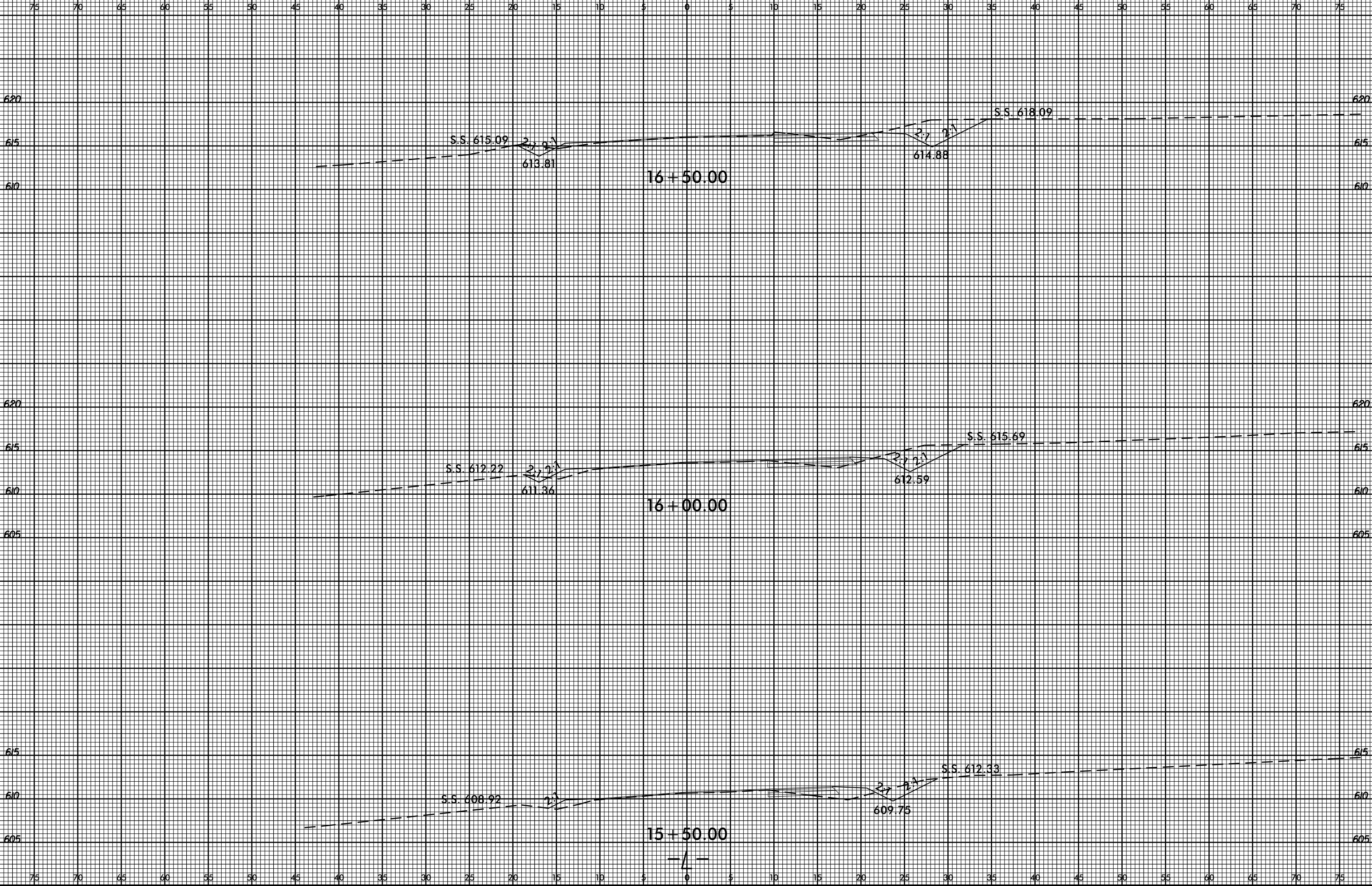
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6/23/16



PROJ. REFERENCE NO.
44720.3.1

SHEET NO.
X-3



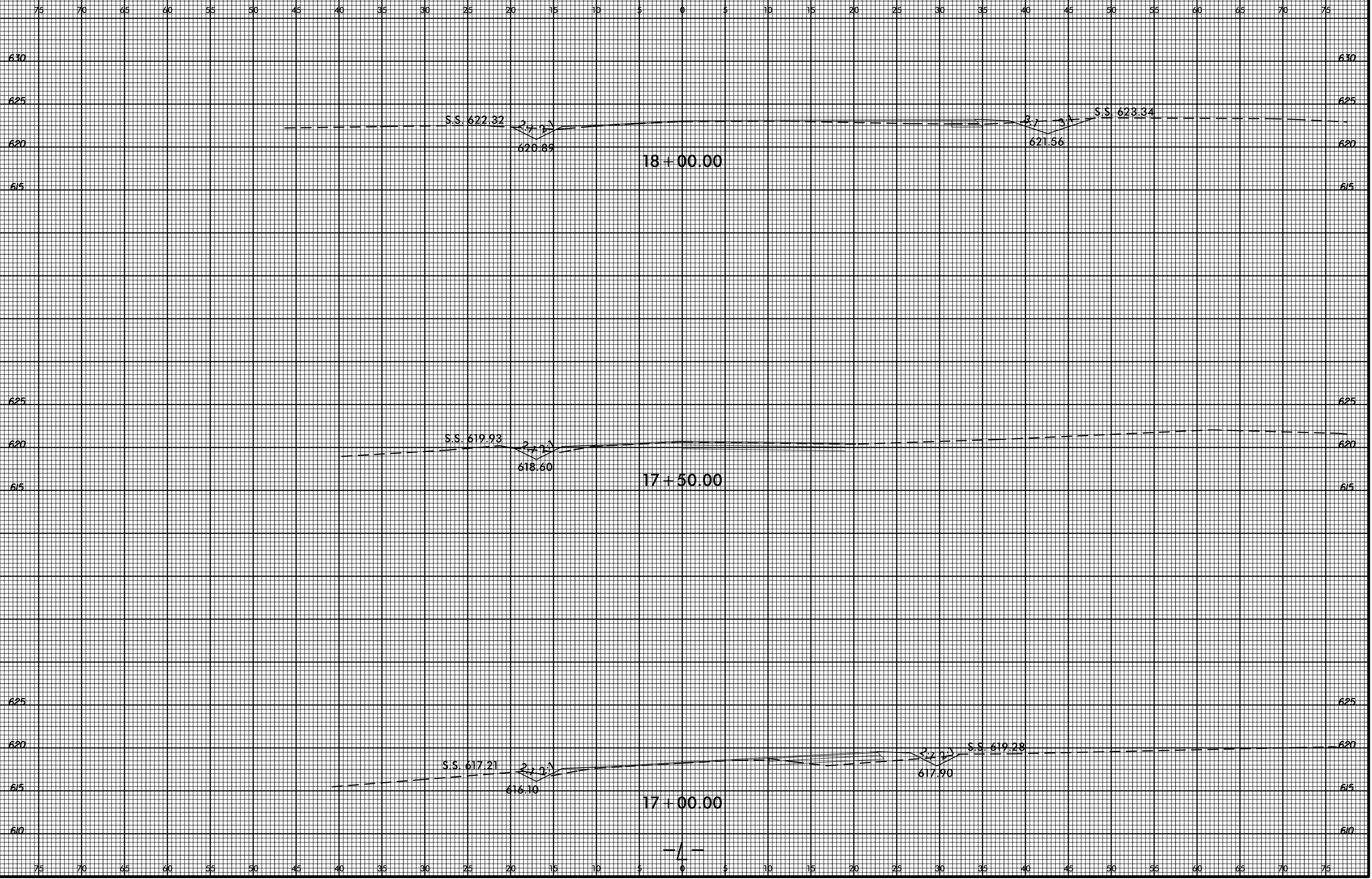
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6/23/16

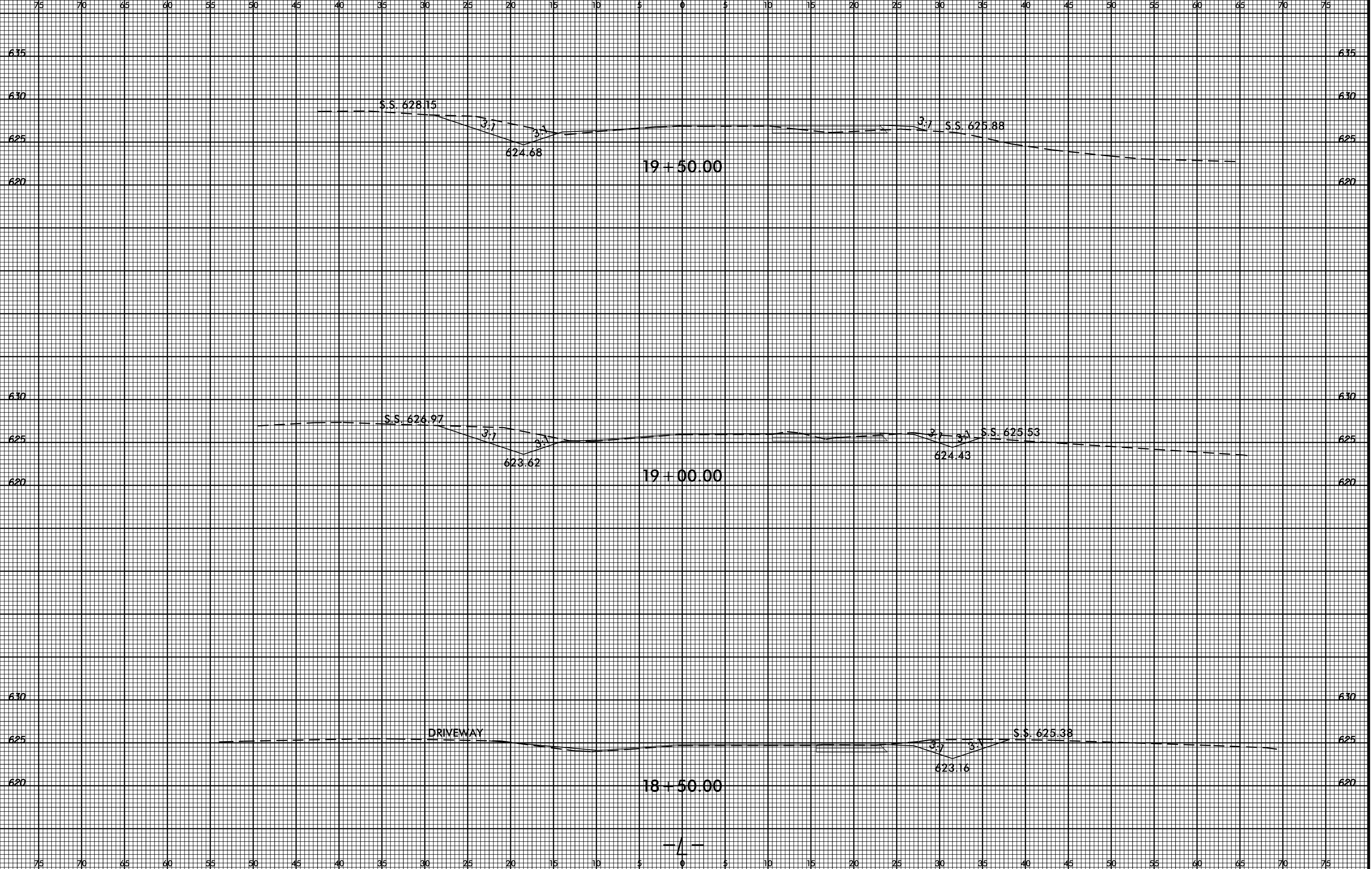


PROJ. REFERENCE NO.
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SHEET NO.
X-4



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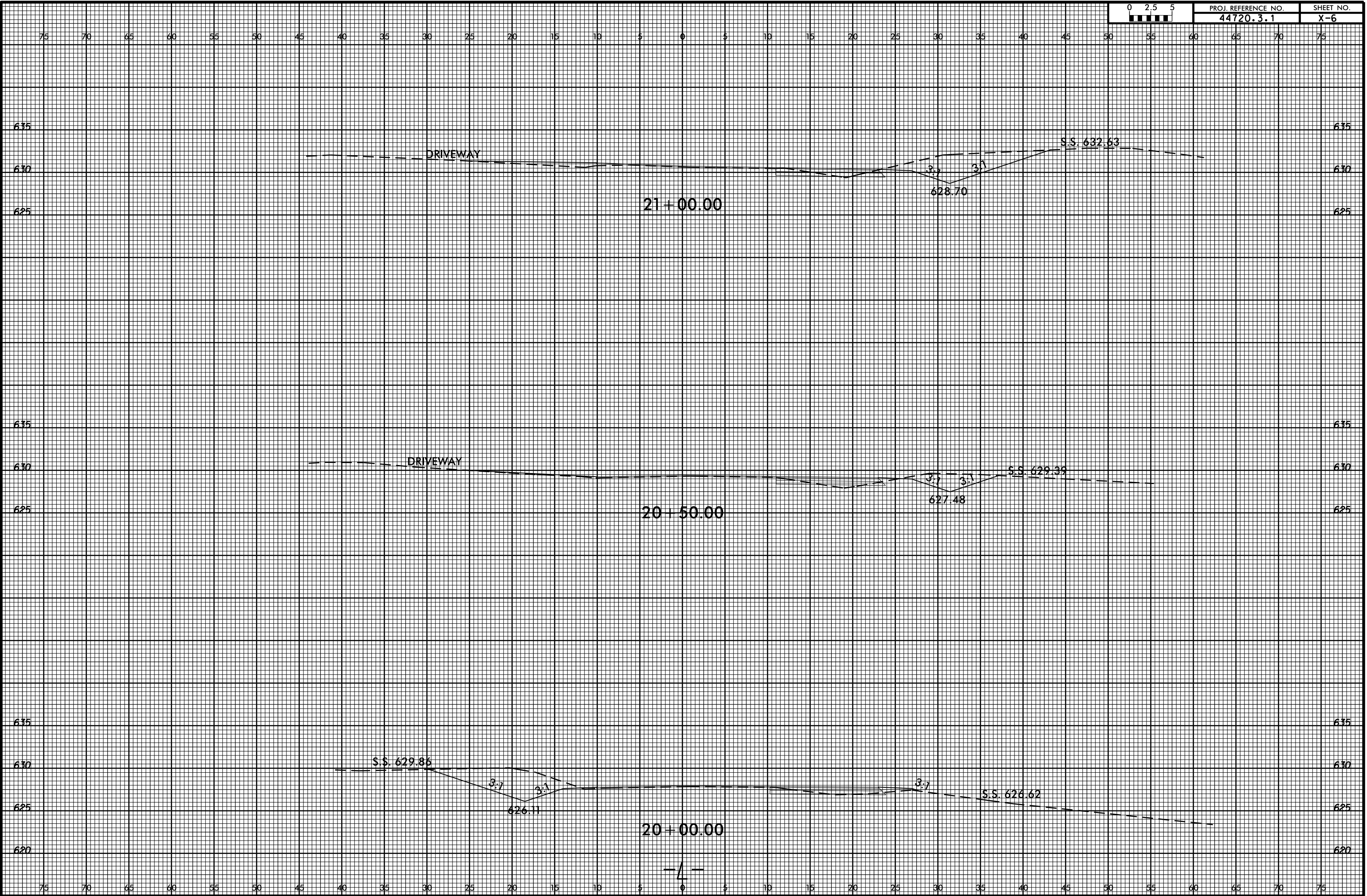


6/23/16

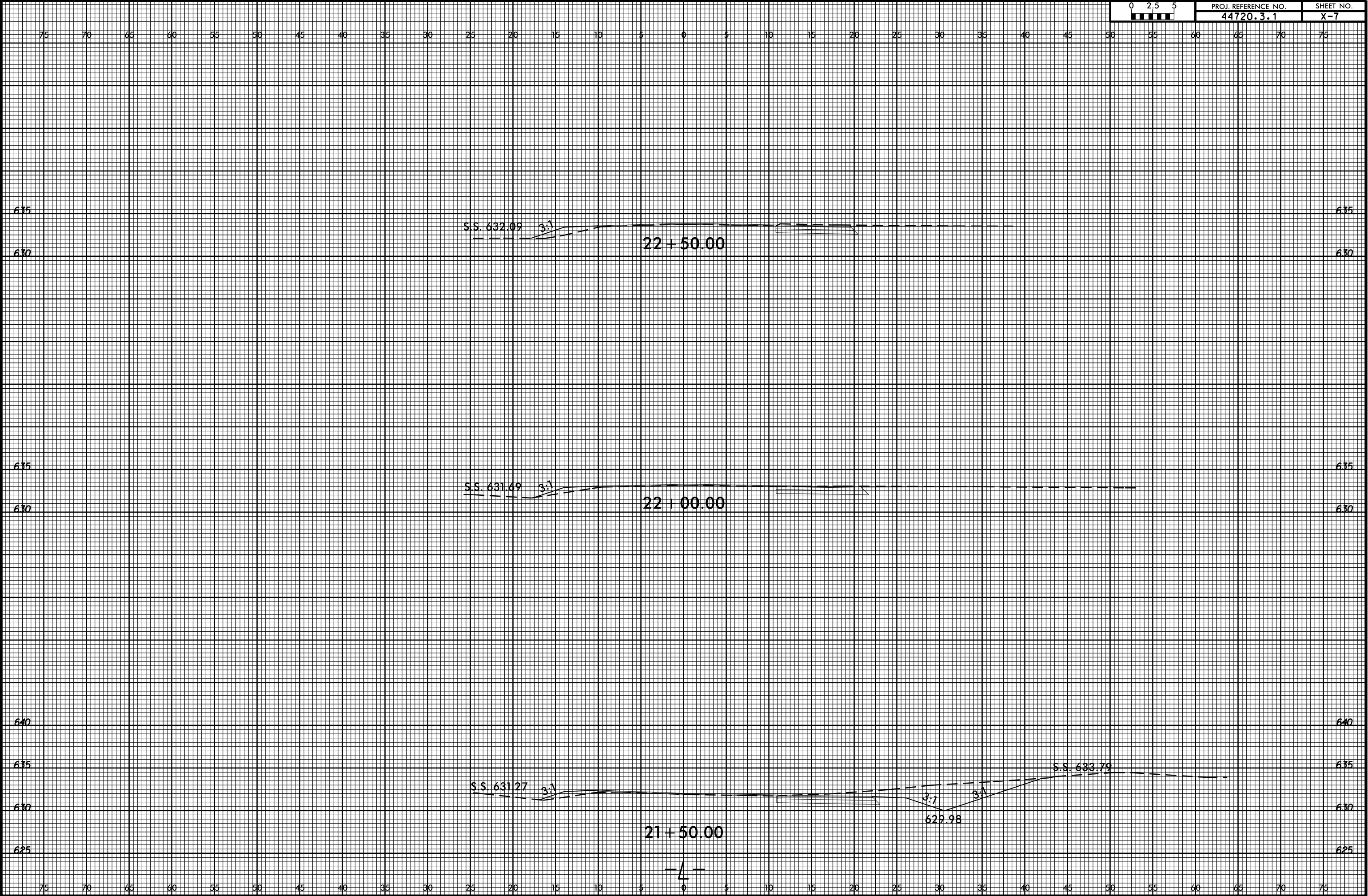


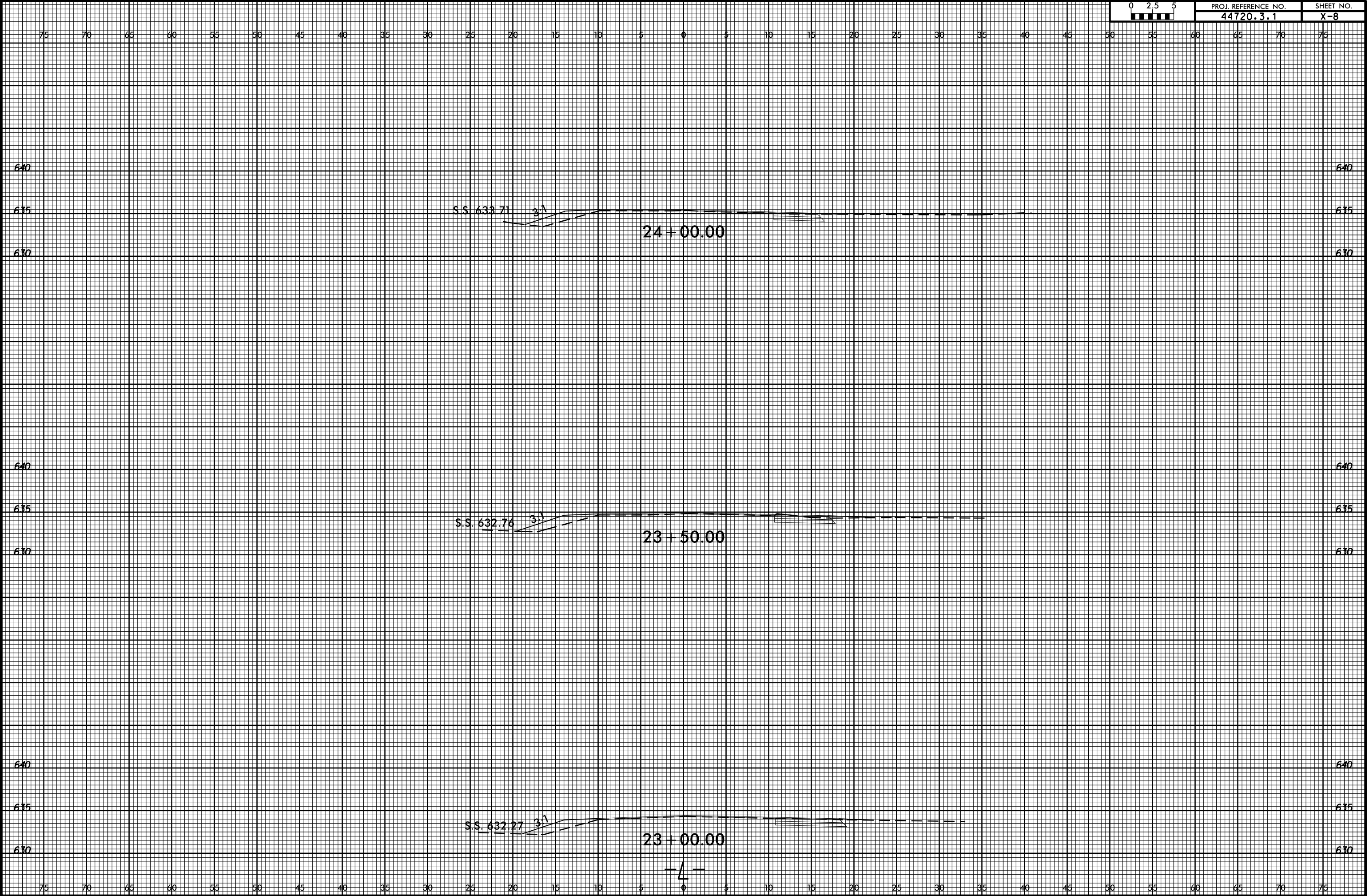
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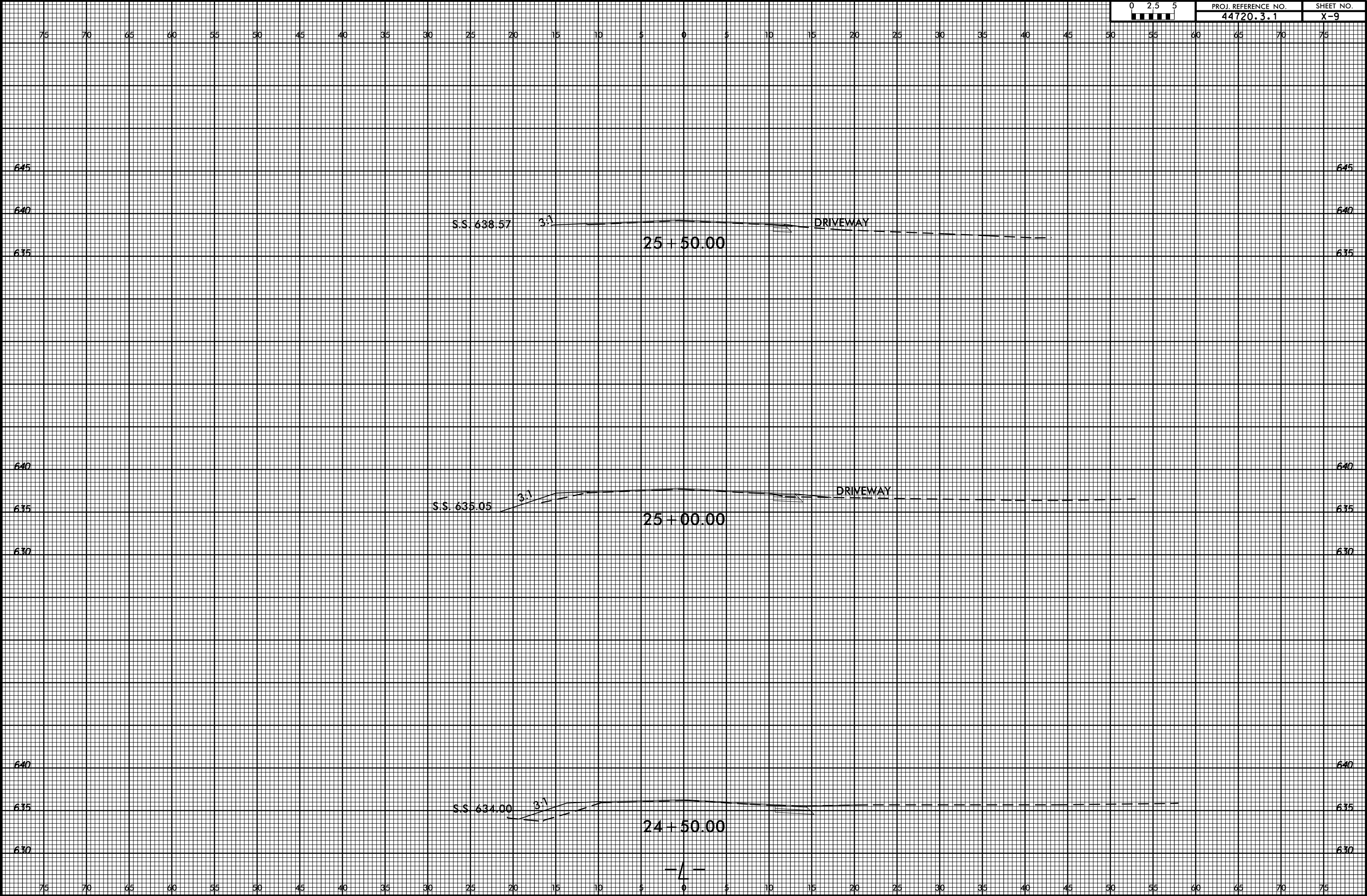
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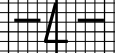
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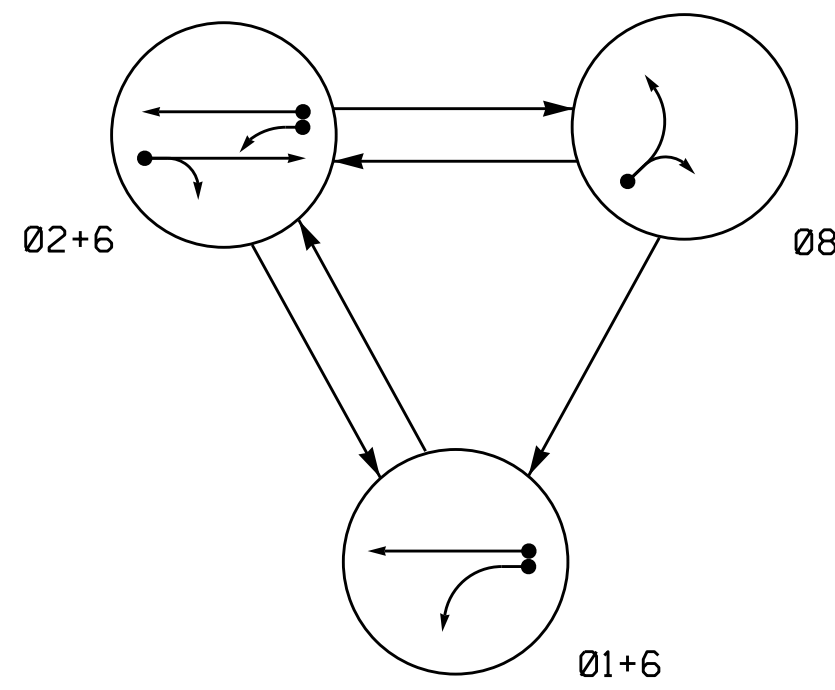
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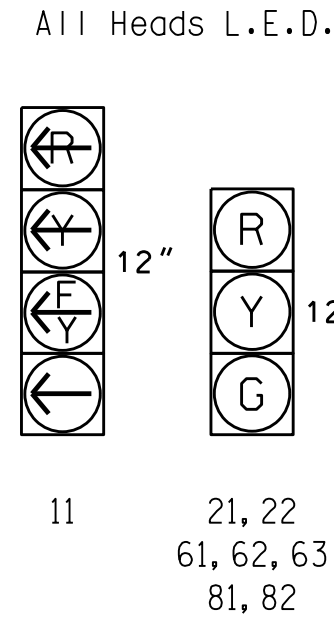


PHASING DIAGRAM



| SIGNAL FACE | PHASE | | | |
|-------------|-------|------|----|-----|
| | 01+6 | 02+6 | 08 | F L |
| 11 | ← | ← | ← | ← |
| 21, 22 | R | G | R | Y |
| 61, 63, 63 | G | G | R | Y |
| 81, 82 | R | R | G | R |

SIGNAL FACE I.D.



| LOOP | SIZE (FT) | DISTANCE FROM STOPBAR (FT) | TURNS | DETECTOR PROGRAMMING | | | | | | | | |
|------|-----------|----------------------------|-------|----------------------|-------|---------|-----------|-----------------|--------------|------------|-------------|----------|
| | | | | NEW LOOP | PHASE | CALLING | EXTENSION | FULL TIME DELAY | STRETCH TIME | DELAY TIME | SYSTEM LOOP | NEW CARD |
| 1A | 6X40 | 0 | 2-4-2 | Y | 1 | Y | Y | - | - | 15 | - | - |
| 2A | 6X6 | 300 | 5 | Y | 2 | Y | Y | - | - | 3 | - | - |
| 6A | 6X6 | 300 | 4 | Y | 6 | Y | Y | - | - | - | - | - |
| 8A | 6X40 | +5 | 2-4-2 | Y | 8 | Y | Y | - | - | 10 | - | - |

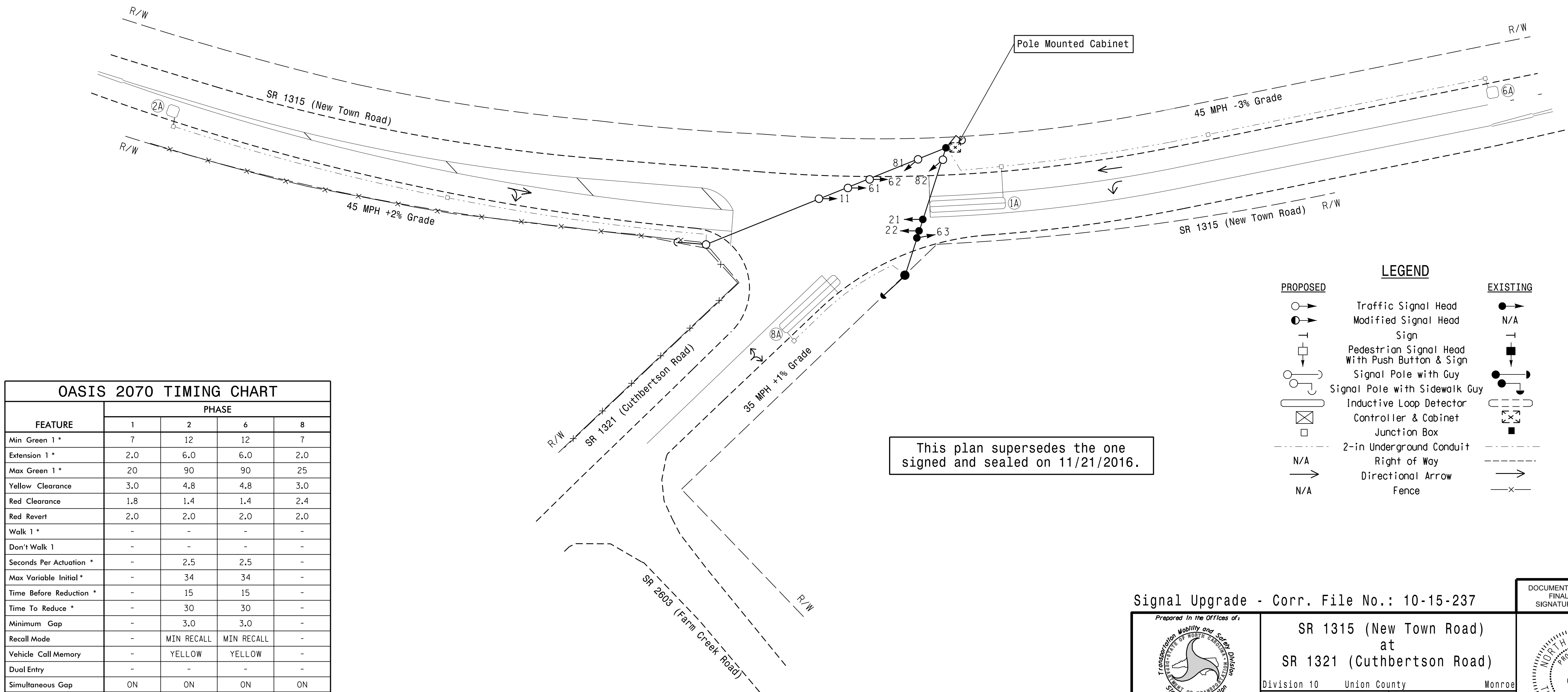
3 Phase Fully Actuated Isolated

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may be lagged.
- Program controller to operate using FYA compact mode.
- Set all detector units to presence mode.

PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT



| FEATURE | PHASE | | | |
|-------------------------|-------|------------|------------|-----|
| | 1 | 2 | 6 | 8 |
| Min Green 1 * | 7 | 12 | 12 | 7 |
| Extension 1 * | 2.0 | 6.0 | 6.0 | 2.0 |
| Max Green 1 * | 20 | 90 | 90 | 25 |
| Yellow Clearance | 3.0 | 4.8 | 4.8 | 3.0 |
| Red Clearance | 1.8 | 1.4 | 1.4 | 2.4 |
| Red Revert | 2.0 | 2.0 | 2.0 | 2.0 |
| Walk 1 * | - | - | - | - |
| Don't Walk 1 | - | - | - | - |
| Seconds Per Actuation * | - | 2.5 | 2.5 | - |
| Max Variable Initial * | - | 34 | 34 | - |
| Time Before Reduction * | - | 15 | 15 | - |
| Time To Reduce * | - | 30 | 30 | - |
| Minimum Gap | - | 3.0 | 3.0 | - |
| Recall Mode | - | MIN RECALL | MIN RECALL | - |
| Vehicle Call Memory | - | YELLOW | YELLOW | - |
| Dual Entry | - | - | - | - |
| Simultaneous Gap | ON | ON | 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.

This plan supersedes the one signed and sealed on 11/21/2016.

LEGEND

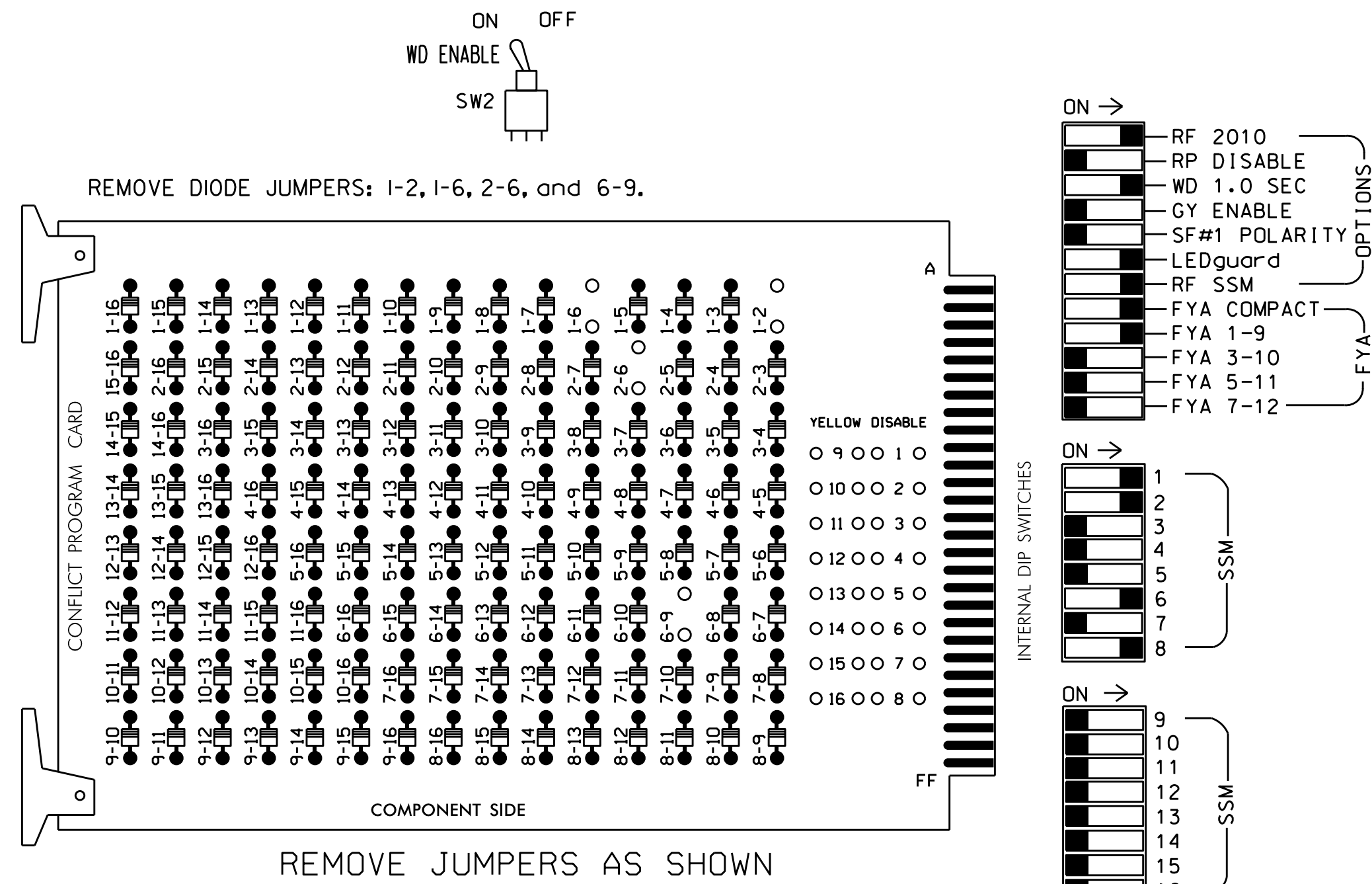
- | PROPOSED | EXISTING |
|----------|----------|
| ○ | ● |
| ○ | N/A |
| + | + |
| □ | □ |
| ○ | ○ |
| ○ | ○ |
| □ | □ |
| □ | □ |
| N/A | N/A |
| → | → |
| N/A | N/A |

Signal Upgrade - Corr. File No.: 10-15-237

| | | | |
|---------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------|
| | SR 1315 (New Town Road) at SR 1321 (Cuthbertson Road) | | SEAL NORTH CAROLINA PROFESSIONAL ENGINEER 024393 TIMOTHY J. WILLIAMS |
| | Division 10 Union County Monroe | PREPARED BY: R.N. Zinser REVIEWED BY: T.J. Williams | |
| PLAN DATE: April 2018 PREPARED BY: R.N. Zinser REVIEWED BY: T.J. Williams | REVISIONS | INIT. DATE | DATE: 4/2/2018 SIG. INVENTORY NO. 10-2054 |

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Make sure jumpers SEL2-SEL5 are present on the monitor board.
- Special cabinet wiring is required to utilize FYA COMPACT mode. See Ped Yellow Conflict Monitor Wiring Detail on this sheet.

■ = DENOTES POSITION OF SWITCH

NOTES

- 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.
- Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 3,4,5,7,9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.

EQUIPMENT INFORMATION

CONTROLLER.....2070
 CABINET.....336
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....POLE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S1,S2,S2P,S6,S8
 PHASES USED.....1,2,6,8
 OVERLAP "A".....1+2
 OVERLAP "B".....NOT USED
 OVERLAP "C".....NOT USED
 OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

| LOAD SWITCH NO. | S1 | S2 | S2P | S3 | S4 | S4P | S5 | S6 | S6P | S7 | S8 | S8P |
|-----------------------|-----|-------|-----------|----|----|-------|----|-------------|-------|----|-------|-------|
| PHASE | OLA | 2 | 1 GRN PED | 3 | 4 | 4 PED | 5 | 6 | 6 PED | 7 | 8 | 8 PED |
| SIGNAL HEAD NO. | 11 | 21,22 | 11 | NU | NU | NU | NU | 61,62 63 | NU | NU | 81,82 | NU |
| RED | | 128 | | | | | | 134 | | | 107 | |
| YELLOW | | 129 | | | | | | 135 | | | 108 | |
| GREEN | | 130 | | | | | | 136 | | | 109 | |
| RED ARROW | | 125 | | | | | | | | | | |
| YELLOW ARROW | | 126 | | | | | | | | | | |
| FLASHING YELLOW ARROW | | 127 | | | | | | | | | | |
| GREEN ARROW | | | 114 | | | | | | | | | |
| | | | | * | | | | | | | | |

NU = Not Used

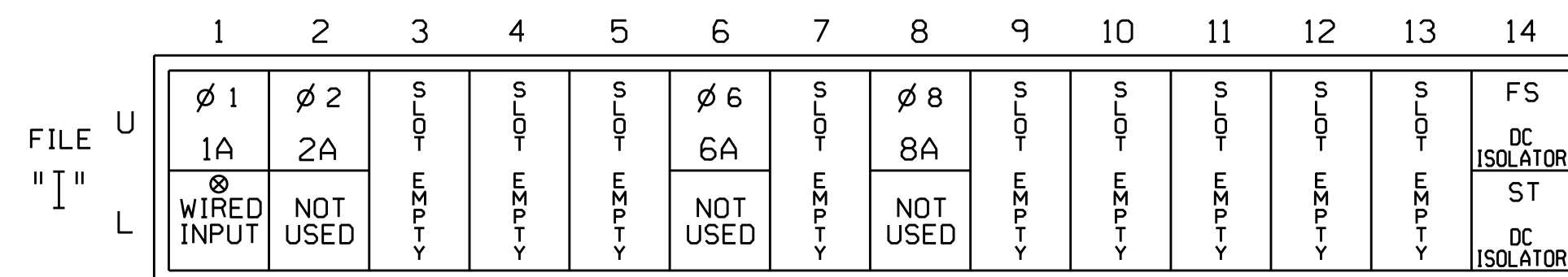
* Denotes install load resistor. See load resistor installation detail on sheet 2.

* See pictorial of head wiring in detail below.

NOTE: Load Switches S1 and S2P require output remapping. See sheet 3 of this electrical detail for instructions.

INPUT FILE POSITION LAYOUT

(front view)



EX.: 1A, 2A, ETC. = LOOP NO.'S

⊗ Wired Input - turn off Channel 2.

FS = FLASH SENSE

ST = STOP TIME

PED YELLOW CONFLICT MONITOR WIRING DETAIL

(make cabinet wiring changes as shown below)

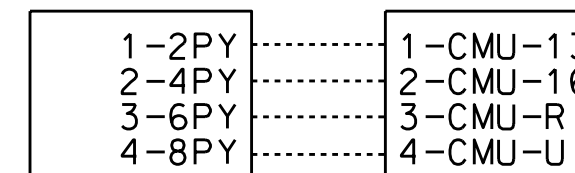
In order to use FYA COMPACT mode with the 2010ECL-NC Monitor, the cabinet must be wired such that the (unused) Ped Yellow load switch outputs are wired to the conflict monitor as follows: From 2 PY (field term. 114) to chan. 9 green (monitor pin 13).

Follow the instructions below to make the appropriate connections:

- STEP 1: Fold down rear panel of output file.
- STEP 2: Find unused wiring harness from conflict monitor card edge connector (which should be tied and bundled together).
- STEP 3: Find the conductors that correspond to the following conflict monitor card edge pins and solder wire to the appropriate terminal on the rear of the output file as shown below:

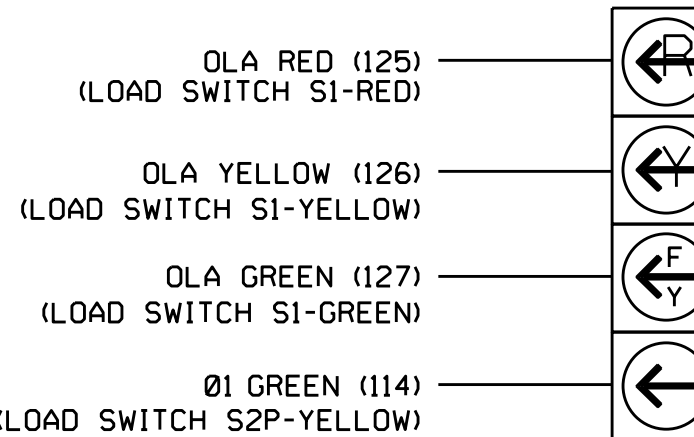
CMU-13 ----- 2PY (term. 114)

NOTE: Some cabinet manufacturers use keyed connectors to accomplish this wiring configuration. If connectors are used, fold down the rear panel of the output file and find the set of 3 keyed connectors and connect them as shown below:



FYA SIGNAL WIRING DETAIL

(wire signal head as shown)



11

NOTE

The sequence display for this signal requires special logic and output remapping. See sheet 2 for programming instructions.

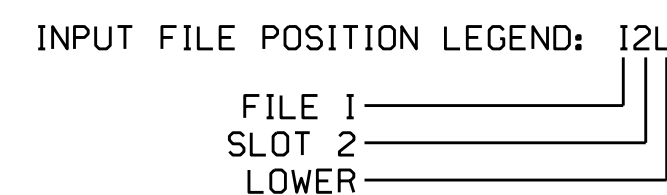
THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL ORIGINALLY SEALED ON 12/8/2016.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 10-2054
 DESIGNED: April 2018
 SEALED: 4/2/2018
 REVISED: N/A

INPUT FILE CONNECTION & PROGRAMMING CHART

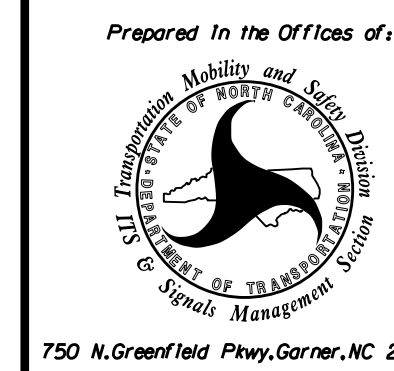
| LOOP NO. | LOOP TERMINAL | INPUT FILE POS. | PIN NO. | INPUT ASSIGNMENT NO. | DETECTOR NO. | NEMA PHASE | CALL | EXTEND | FULL TIME DELAY | STRETCH TIME | DELAY TIME |
|-----------------|---------------|-----------------|---------|----------------------|--------------|------------|------|--------|-----------------|--------------|------------|
| 1A ¹ | TB21-1,2 | I1U | 56 | 18 | 1 | 1 | Y | Y | | | 15 |
| | - | I1L | 47 | 9 | 22 | 6 | Y | Y | Y | | 3 |
| 2A | TB21-3,4 | I2U | 39 | 1 | 2 | 2 | Y | Y | | | |
| 6A | TB21-11,12 | I6U | 40 | 2 | 6 | 6 | Y | Y | | | |
| 8A | TB22-1,2 | I8U | 42 | 4 | 8 | 8 | Y | Y | | | 10 |

¹Add jumper from I1-F to I1-W, on rear of input file.



Electrical Detail - Sheet 1 of 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:



SR 1315 (New Town Road)
 at
 SR 1321 (Cuthbertson Road)

Division 10 Union County Monroe

PLAN DATE: April 2018 REVIEWED BY:

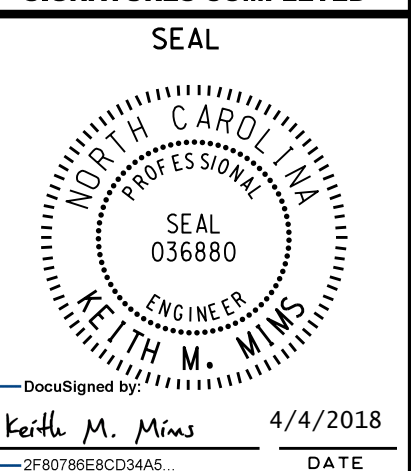
PREPARED BY: S. Armstrong REVIEWED BY:

REVISIONS INIT. DATE

DocuSigned by: Keith M. Miras 4/4/2018

SIG. INVENTORY NO. 10-2054

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

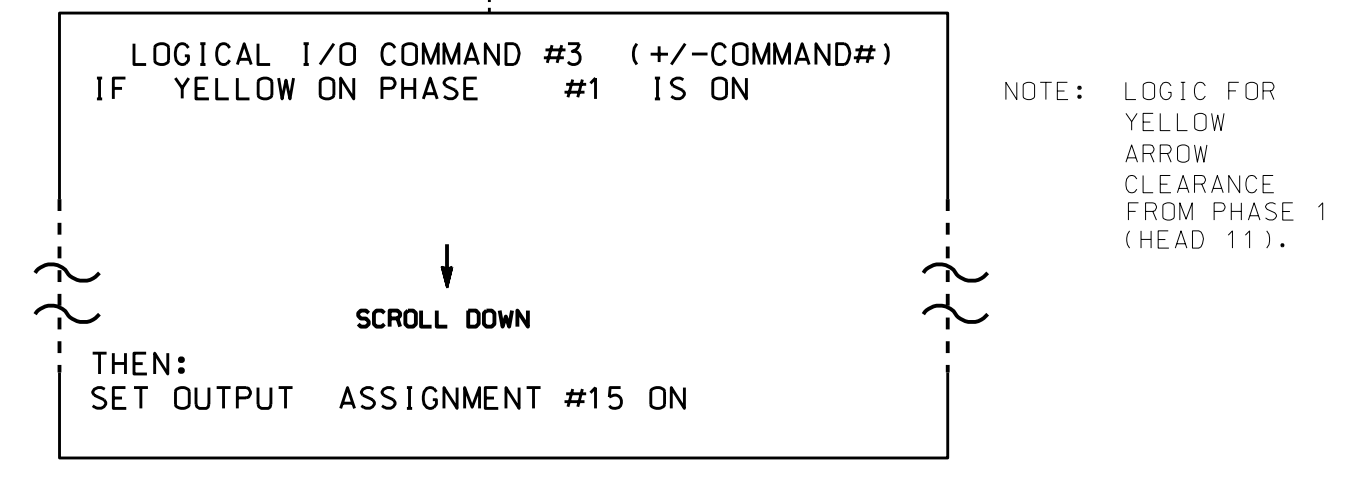
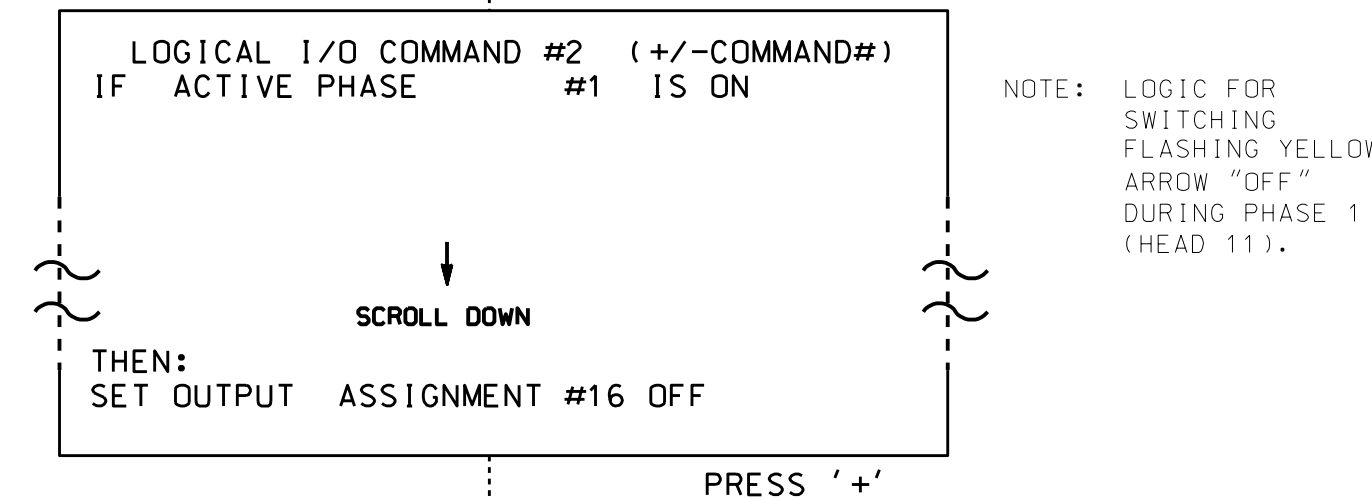
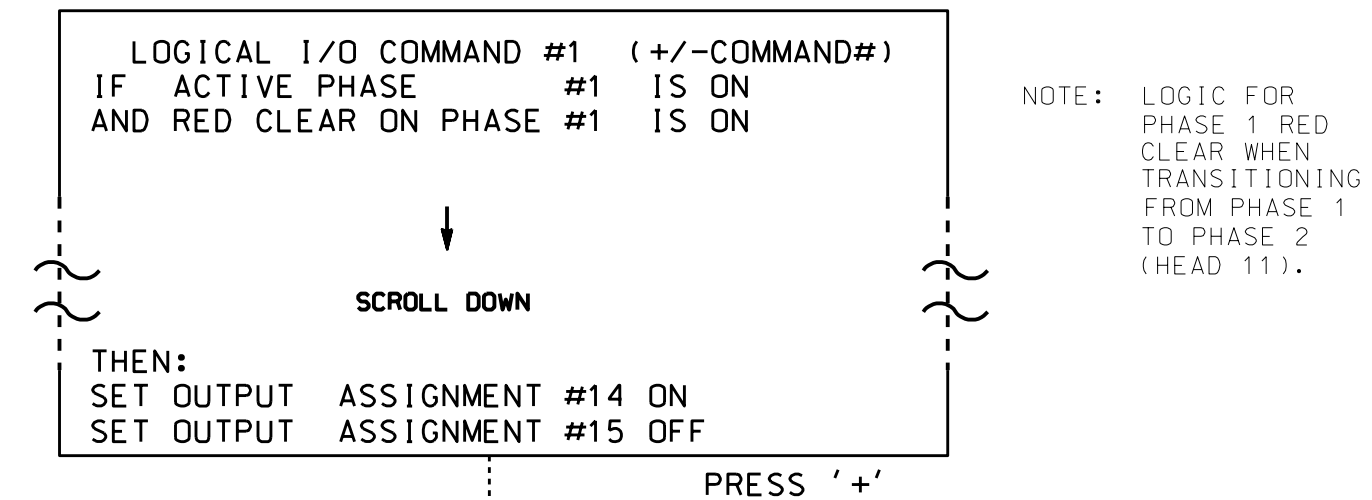


SIG. INVENTORY NO. 10-2054

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

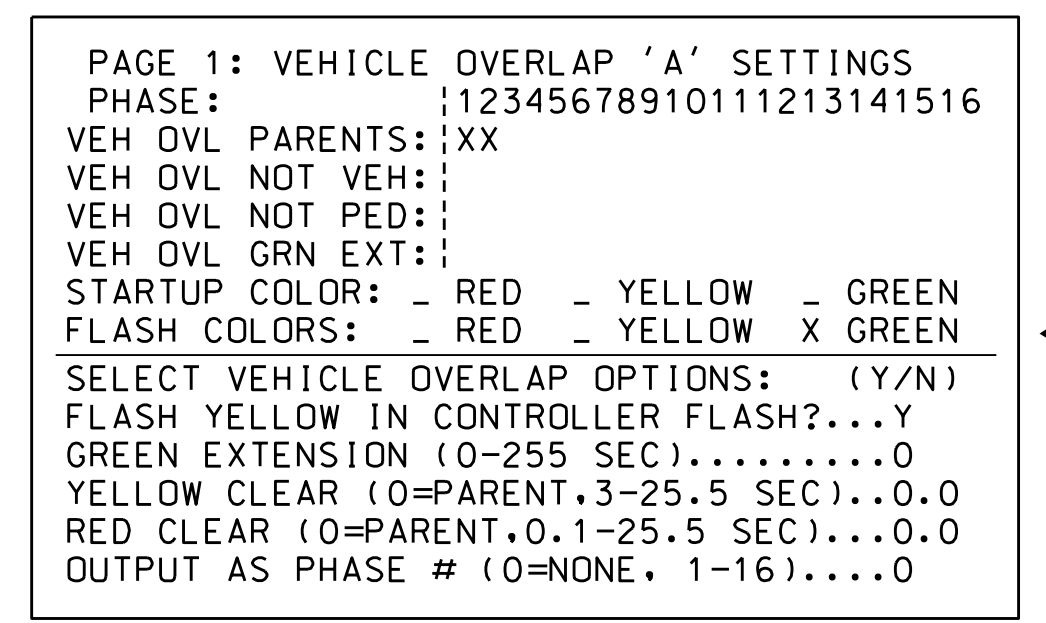
OUTPUT REFERENCE SCHEDULE

- OUTPUT 14 = Overlap A Red
- OUTPUT 15 = Overlap A Yellow
- OUTPUT 16 = Overlap A Green
- OUTPUT 33 = Phase 1 Green

Note: All outputs shown above have been remapped. See sheet 3 of this electrical detail.

OVERLAP PROGRAMMING DETAIL (program controller as shown below)

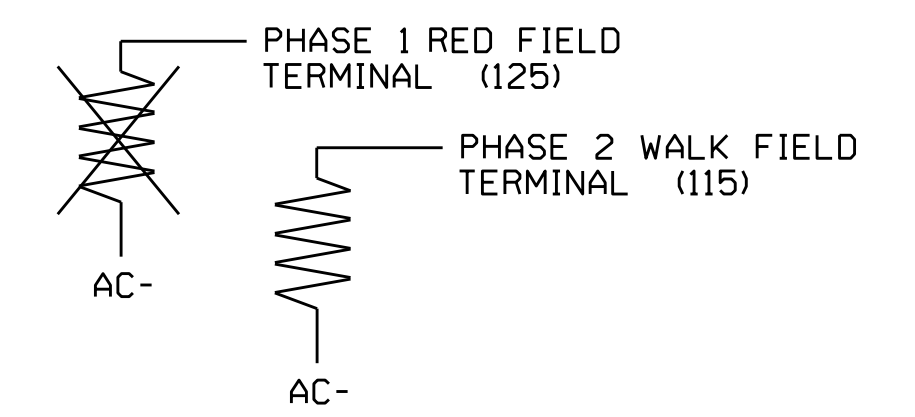
FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).



OVERLAP PROGRAMMING COMPLETE

LOAD RESISTOR INSTALLATION DETAIL (install resistor as shown below)

| ACCEPTABLE VALUES | |
|-------------------|-----------|
| VALUE (ohms) | WATTAGE |
| 1.5K - 1.9K | 25W (min) |
| 2.0K - 3.0K | 10W (min) |



IMPORTANT! Remove resistor as shown above, if present.

THIS ELECTRICAL DETAIL SUPERSEDES THE
DETAIL ORIGINALLY SEALED ON 12/8/2016.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-2054
DESIGNED: April 2018
SEALED: 4/2/2018
REVISED: N/A

03-APR-2018 15:17 C:\IT\SS\115\Sig\10\lework\hgr\oups\sig\Mon\krmstron\02054_sm.elec\xxx.dgn sarmstrong

Electrical Detail - Sheet 2 of 3

| | | | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------|
| ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared In the Offices of: | SR 1315 (New Town Road) at SR 1321 (Cuthbertson Road) | | DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED SEAL |
| | Division 10 Union County Monroe | PLAN DATE: April 2018 REVIEWED BY: | |
| REVISIONS | INIT. | DATE | DocuSigned by: Keith M. Miras 4/4/2018 2F8078658C034465 DATE |
| SIG. INVENTORY NO. 10-2054 | | | 10-2054 |

FYA SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL FOR LOADSWITCHES S1 AND S2P (SIGNAL HEAD 11)

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS), WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "14"

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:16 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....14
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
                
```

```

PAGE:1 C1 PIN:16 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....14
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
                
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:16 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN)...0
                
```

→

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

PRESS "+" KEY FOR OUTPUT 15

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:17 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....15
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
                
```

```

PAGE:1 C1 PIN:17 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....15
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
                
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:17 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN)...1
                
```

→

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

PRESS "+" KEY FOR OUTPUT 16

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:18 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....16
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
                
```

```

PAGE:1 C1 PIN:18 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....16
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
                
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:18 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
                
```

→

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

PRESS "+" UNTIL OUTPUT 33 IS REACHED.

```

PAGE:1 C1 PIN:35 NOT ENABLED
OUTPUT ASSIGNMENT #.....33
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....Y
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
                
```

```

PAGE:1 C1 PIN:35 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....33
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)...0
SELECT ASSIGNMENT:
NOT ENABLED.....
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
                
```

THE OUTPUT IS SET AS "NOT ENABLED" BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.
ENTER A "Y" FOR VEHICLE PHASE.

```

PAGE:1 C1 PIN:35 NOT ENABLED
SELECT VEHICLE PHASE (1-16)...1
SELECT COLOR(0=RED,1=YEL,2=GRN)...2
                
```

→

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.
PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

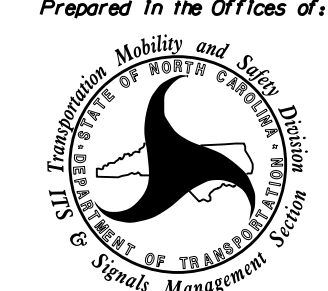
OUTPUT PROGRAMMING FOR HEAD 11 COMPLETE

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL ORIGINALLY SEALED ON 12/8/2016.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 10-2054
DESIGNED: April 2018
SEALED: 4/2/2018
REVISED: N/A

03-APR-2018 15:17 S:\IT\SS\4910\SS-4910-CC\Sig\1.3\FYA_SignalRemapping.dgn

Electrical Detail - Sheet 3 of 3

|  | <p>SR 1315 (New Town Road) at SR 1321 (Cuthbertson Road)</p> | <p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------|------|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------|
| <p>Prepared In the Offices of:</p> <p>TRANSPORTATION MOBILITY AND SAFETY DIVISION STATE OF NORTH CAROLINA SIGNAL MANAGEMENT SECTION</p> <p>750 N. Greenfield Pkwy, Garner, NC 27529</p> | <p>Division 10 Union County Monroe</p> <p>PLAN DATE: April 2018 REVIEWED BY:</p> <p>PREPARED BY: S. Armstrong REVIEWED BY:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> | REVISIONS | INIT. | DATE | | | | <p>SEAL</p> <p>SEAL 036880</p> <p>KEITH M. MIMS</p> <p>DocuSigned by: Keith M. Mims 4/4/2018</p> <p>SIG. INVENTORY NO. 10-2054</p> |
| REVISIONS | INIT. | DATE | | | | | | |
| | | | | | | | | |