

**STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION**

## PLAN OF PROPOSED IMPROVEMENT

# CAVOUR - BRULE RIVER

**NBN RR, POPPLE RVR, B-19-4,5, C-001**

**STH 139**  
**FLORENCE**

| STATE PROJECT | FEDERAL PROJECT |          |
|---------------|-----------------|----------|
|               | PROJECT         | CONTRACT |
| 9110-09-60    |                 |          |
|               |                 |          |
|               |                 |          |
|               |                 |          |

## ORDER OF SHEETS

|             |   |                              |
|-------------|---|------------------------------|
| Section No. | 1 | Title                        |
| Section No. | 2 | Typical Sections and Details |
| Section No. | 3 | Estimate of Quantities       |
| Section No. | 3 | Miscellaneous Quantities     |
| Section No. | 4 | Right of Way Plat            |
| Section No. | 5 | Plan and Profile             |
| Section No. | 6 | Standard Detail Drawings     |
| Section No. | 7 | Sign Plates                  |
| Section No. | 8 | Structure Plans              |
| Section No. | 9 | Computer Earthwork Data      |
| Section No. | 9 | Cross Sections               |

TOTAL SHEETS =

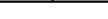
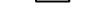


DESIGN DESIGNATION 9110-09-30

|              |      |   |        |
|--------------|------|---|--------|
| A.A.D.T.     | 2021 | = | 770    |
| A.A.D.T.     | 2041 | = | 900    |
| D.H.V.       |      | = | 18.4   |
| D.D.         |      | = | 60/40  |
| T.           |      | = | 18.4   |
| DESIGN SPEED |      | = | 60 MPH |
| ESALS        |      | = | N/A    |

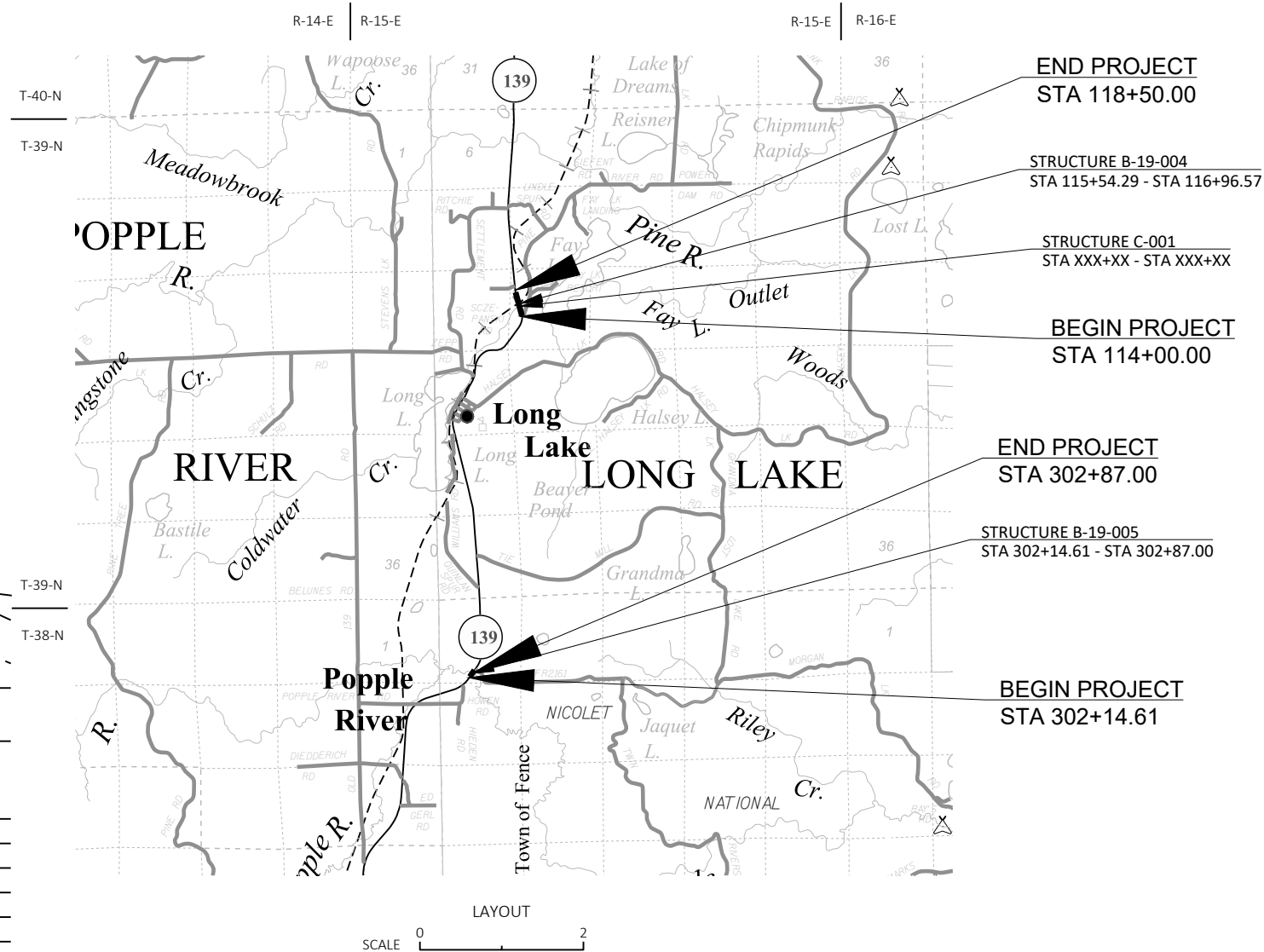
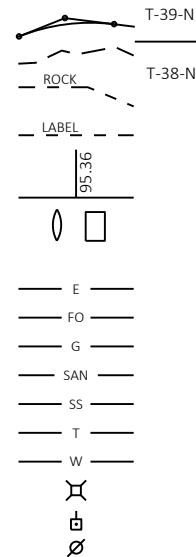
## CONVENTIONAL SYMBOLS

## PLAN

|                                   |                                                                                     |
|-----------------------------------|-------------------------------------------------------------------------------------|
| CORPORATE LIMITS                  |  |
| PROPERTY LINE                     |  |
| LOT LINE                          |  |
| LIMITED HIGHWAY EASEMENT          |  |
| EXISTING RIGHT OF WAY             |  |
| PROPOSED OR NEW R/W LINE          |  |
| SLOPE INTERCEPT                   |  |
| REFERENCE LINE                    |  |
| EXISTING CULVERT                  |  |
| PROPOSED CULVERT<br>(Box or Pipe) |  |
| COMBUSTIBLE FLUIDS                |  |
| MARSH AREA                        |  |
| WOODED OR SHRUB AREA              |  |

## PROFILE

GRADE LINE  
ORIGINAL GROUND  
MARSH OR ROCK PROFILE  
(To be noted as such)  
SPECIAL DITCH  
  
GRADE ELEVATION  
  
CULVERT (Profile View)  
  
UTILITIES  
ELECTRIC  
FIBER OPTIC  
GAS  
SANITARY SEWER  
STORM SEWER  
TELEPHONE  
WATER  
UTILITY PEDESTAL  
POWER POLE  
TELEPHONE POLE



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, FLORENCE COUNTY, NAD83 (YEAR), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ORIGINAL PLANS PREPARED BY

**OMNI**  
ASSOCIATES

DATE: \_\_\_\_\_  
(Professional Engineer Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

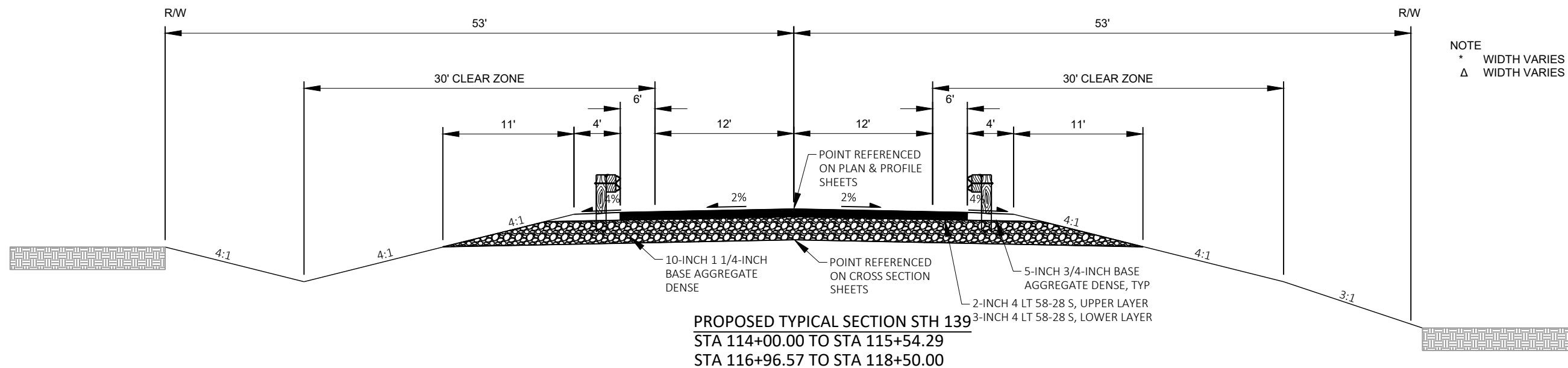
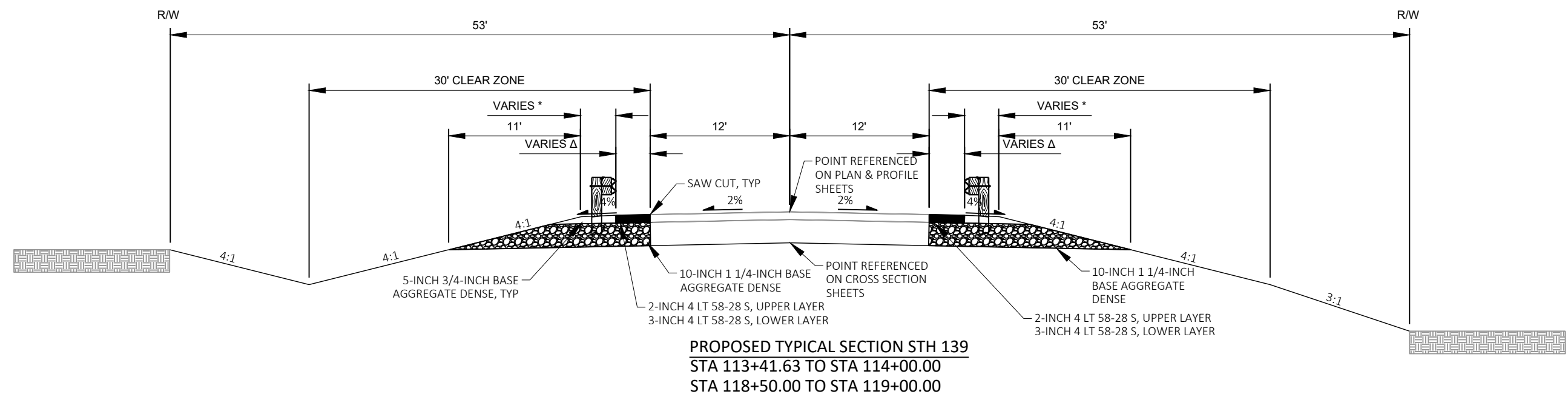
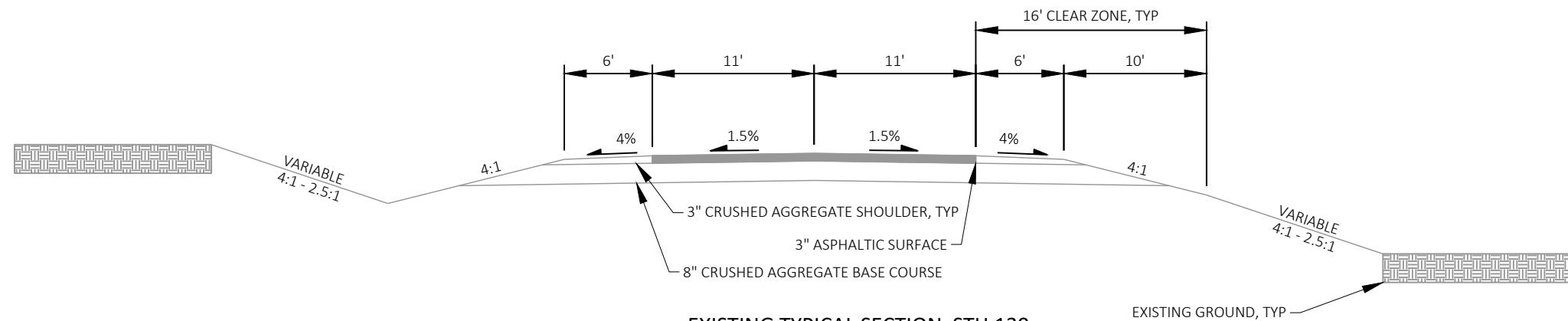
|                     |                  |
|---------------------|------------------|
| PREPARED BY         |                  |
| Surveyor            | OMNNI ASSOCIATES |
| Designer            | OMNNI ASSOCIATES |
| Project Manager     | J. JEFFERSON     |
| Regional Examiner   |                  |
| Regional Supervisor | J. PETERS        |

APPROVED FOR THE DEPARTMENT \_\_\_\_\_

DATE: \_\_\_\_\_ (Signature)

**I**

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                               |                  |                                    |        |   |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------|--------|---|
| 2                      | <div>GENERAL NOTES</div> <div>LOCATIONS OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.</div> <div>CONSIDER DIMENSIONS GIVEN FOR EXISTING FEATURES AS APPROXIMATE AND MEASURE FEATURES IN THE FIELD FOR MATCHING PURPOSES.</div> <div>FILL AS SHOWN ON THE PLANS PERTAINS TO EMBANKMENTS CONSTRUCTED FROM COMMON EXCAVATION. THE ALLOWANCE USED FOR EXPANDING THE FILLS TO COMPUTE THE VOLUME OF MATERIAL REQUIRED IS 30 PERCENT. ALL FILL VOLUMES SHOWN ARE THE ACTUAL VOLUMES.</div> <div>WHEN THE QUANTITY OF THE ITEM OF BASE OR ASPHALT PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.</div> <div>NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.</div> <div>ALL DISTURBED AREAS, NOT OTHERWISE SURFACED ARE TO BE TOPSOILED, FERTILIZED, SEEDED AND COVERED WITH EROSION MAT.</div> <div>CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE THE NORMAL CONSTRUCTION LIMITS.</div> <div>SEED MIXTURE NO. 30 SHALL BE USED ON ALL DISTURBED AREAS.</div> <div>DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.</div> <div>EROSION CONTROL NOTES</div> <div>RUNOFF COEFFICIENT FOR THIS PROJECT: EXISTING PAVEMENT 0.95, EXISTING SLOPES 0.30, NEW PAVEMENT 0.95, NEW SLOPES 0.30.</div> <div>TOTAL PROJECT AREA = ACRES</div> <div>TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES =</div> | <div>OTHER CONTACTS</div> <div>DNR LIAISON</div> <div>DEPARTMENT OF NATURAL RESOURCES<br/>NORTHERN REGION HEADQUARTERS<br/>107 SUTLIFF AVE<br/>RHINELANDER, WI 54501<br/>ATTN: JON SIMONSEN<br/>TELEPHONE: 715-367-1936</div> |                  | 2                                  |        |   |
|                        | <div>THE CONTRACTOR SHALL NOTIFY DIGGER'S HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGER'S HOTLINE MUST BE CONTACTED SEPERATELY.</div> <div>DIGGERSHOTLINE</div> <div>Dial 811 or (800) 242-8511</div> <div>www.DiggersHotline.com</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                               |                  |                                    |        |   |
| PROJECT NO: 9110-09-60 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | HWY: STH 139                                                                                                                                                                                                                  | COUNTY: FLORENCE | GENERAL NOTES AND UTILITY CONTACTS | SHEET: | E |



NOTE  
\* WIDTH VARIES FROM 4' TO 7'  
Δ WIDTH VARIES FROM 2.34' TO 5.24'

| EARTHWORK - STH 139 |                 |          |                               |                       |                              |                    |               |                           |       |                    |
|---------------------|-----------------|----------|-------------------------------|-----------------------|------------------------------|--------------------|---------------|---------------------------|-------|--------------------|
| Division            | From/To Station | Location | 205.0100<br>Common Excavation |                       | Available<br>Material<br>(5) | Unexpanded<br>Fill | Expanded Fill | Mass Ordinate +/-<br>(14) | Waste | 208.0100<br>Borrow |
|                     |                 |          | Cut                           | EBS Excavation<br>(3) |                              |                    |               |                           |       |                    |
| Division 1          |                 |          |                               |                       |                              |                    |               |                           |       |                    |
|                     | 113+50/119+00   | STH 139  | 1,264                         | 0                     | 1,264                        | 462                | 577           | 687                       | 687   | 0                  |
| Total Common Exc    |                 |          | 1,264                         |                       |                              |                    |               |                           |       |                    |

Notes:

(3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.

(4) Salvaged/Unusable Pavement Material

5) Available Material = Cut - Salvaged/Unusuable Pavement Material

(14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

REMOVING SMALL PIPE CULVERTS

| STATION       | DIR | LOCATION | 203.0100<br>REMOVING SMALL<br>PIPE CULVERTS<br>EACH |
|---------------|-----|----------|-----------------------------------------------------|
|               |     |          | CATEGORY 0010                                       |
| 118+90        | LT  | STH 139  | 1                                                   |
| PROJECT TOTAL |     |          | 1                                                   |

REMOVING GUARDRAIL

| STATION       | TO | STATION | LOCATION | DIR | 204.0165<br>REMOVING<br>GUARDRAIL<br>LF |
|---------------|----|---------|----------|-----|-----------------------------------------|
|               |    |         |          |     | CATEGORY 0010                           |
| 113+65        | -  | 115+52  | STH 139  | LT  | 185                                     |
| 113+75        | -  | 115+58  | STH 139  | RT  | 185                                     |
| 116+92        | -  | 118+15  | STH 139  | LT  | 125                                     |
| 117+00        | -  | 118+20  | STH 139  | RT  | 125                                     |
| PROJECT TOTAL |    |         |          |     | 620                                     |

BASE COURSE

|                    |          | 305.0110<br>BASE AGGREGATE<br>DENSE 3/4-INCH | 305.0120<br>BASE AGGREGATE<br>DENSE 1 1/4-INCH | 624.0100<br>WATER |
|--------------------|----------|----------------------------------------------|------------------------------------------------|-------------------|
| STATION TO STATION | LOCATION | TON                                          | TON                                            | MGAL              |
| CATEGORY 0010      |          |                                              |                                                |                   |
| 113+25 - 115+55    | STH 139  | 70                                           | 620                                            | 4                 |
| 116+90 - 119+00    | STH 139  | 80                                           | 610                                            | 4                 |
| DRIVEWAY           | STH 139  | 0                                            | 10                                             | 0                 |
| PROJECT TOTALS     |          | 150                                          | 1,240                                          | 8                 |

ASPHALTIC ITEMS

|               |    |         |          |           |                              |                              |         |
|---------------|----|---------|----------|-----------|------------------------------|------------------------------|---------|
| STATION       | TO | STATION | LOCATION | 455.0605  | 460.6224                     | 460.6223                     | REMARKS |
|               |    |         |          | TACK COAT | HMA PAVEMENT 4<br>MT 58-28 S | HMA PAVEMENT 3<br>MT 58-28 S |         |
|               |    |         |          | GAL       | TON                          | TON                          |         |
| CATEGORY 0010 |    |         |          |           |                              |                              |         |
| 113+25        | -  | 115+55  | STH 139  | 50        | 120                          | 80                           |         |
| 116+90        | -  | 119+00  | STH 139  | 50        | 120                          | 80                           |         |
| PROJECT TOTAL |    |         |          | 100       | 240                          | 160                          |         |

CULVERT PIPES

| STATION | DIR | LOCATION | 521.3118                                          | 522.1018                                          | 650.6000                                        | STEEL<br>THICKNESS<br>(INCHES) |
|---------|-----|----------|---------------------------------------------------|---------------------------------------------------|-------------------------------------------------|--------------------------------|
|         |     |          | CULVERT PIPE<br>CORRUGATED<br>STEEL 18-INCH<br>LF | AEW FOR CULVERT<br>PIPE STEEL 18-<br>INCH<br>EACH | CONSTRUCTION<br>STAKING CULVER<br>PIPES<br>EACH |                                |
| 118+90  | LT  | STH 139  | 30                                                | 2                                                 | 1                                               | 0.064                          |
| TOTALS  |     |          | 30                                                | 2                                                 | 1                                               |                                |

BEAM GUARD

| STATION | TO | STAION | DIR | LOCATION | 614.2300                 | 614.2500                              | 614.2610                                 |
|---------|----|--------|-----|----------|--------------------------|---------------------------------------|------------------------------------------|
|         |    |        |     |          | MGS<br>GUARDRAIL 3<br>LF | MGS THRIE<br>BEAM<br>TRANSITION<br>LF | MGS GUARDRAIL<br>TERMINAL<br>EAT<br>EACH |
| 113+73  | -  | 115+53 | LT  | STH 139  | 87.5                     | 39.4                                  | 1                                        |
| 113+57  | -  | 115+61 | RT  | STH 139  | 112.5                    | 39.4                                  | 1                                        |
| 116+90  | -  | 118+69 | LT  | STH 139  | 87.5                     | 39.4                                  | 1                                        |
| 116+97  | -  | 118+78 | RT  | STH 139  | 87.5                     | 39.4                                  | 1                                        |
| TOTAL   |    |        |     |          | 375                      | 157.6                                 | 4                                        |

LANDSCAPING ITEMS

| STATION TO STATION |   |        | DIR | LOCATION | 625.0500<br><br>SALVAGED<br>TOPSOIL<br>SY | 628.2004<br>EROSION MAT<br>CLASS I<br>TYPE B<br>SY | 629.0210<br><br>FERTILIZER<br>TYPE B<br>CWT | 630.0130<br>SEEDING<br>MIX NO.<br>30<br>LB | 630.0200<br><br>TEMP<br>SEEDING<br>LB |
|--------------------|---|--------|-----|----------|-------------------------------------------|----------------------------------------------------|---------------------------------------------|--------------------------------------------|---------------------------------------|
| CATEGORY 0010      |   |        |     |          |                                           |                                                    |                                             |                                            |                                       |
| 113+25             | - | 115+55 | LT  | STH 139  | 450                                       | 50                                                 | 0.29                                        | 8                                          | 6                                     |
| 113+25             | - | 115+55 | RT  | STH 139  | 790                                       | 90                                                 | 0.50                                        | 14                                         | 11                                    |
| 117+00             | - | 119+00 | LT  | STH 139  | 360                                       | 40                                                 | 0.22                                        | 6                                          | 5                                     |
| 117+00             | - | 119+00 | RT  | STH 139  | 480                                       | 50                                                 | 0.30                                        | 9                                          | 6                                     |
| UNDISTRIBUTED      |   |        |     |          | 420                                       | 50                                                 | 0.26                                        | 7                                          | 6                                     |
| PROJECT TOTALS     |   |        |     |          | 2,500                                     | 280                                                | 1.57                                        | 44                                         | 34                                    |

CONSTRUCTION STAKING

| STATION TO STATION | LOCATION | 650.4500<br>CONSTRUCTION<br>STAKING<br>SUBGRADE<br>LF | 650.5000<br>CONSTRUCTION<br>STAKING<br>BASE<br>LF | 650.9910<br>CONSTRUCTION<br>STAKING<br>SUPPLEMENTAL CONTROL<br>LS | 650.9920<br>CONSTRUCTION<br>STAKING<br>SLOPE STAKES<br>LF |
|--------------------|----------|-------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------|
| CATEGORY 0010      |          |                                                       |                                                   |                                                                   |                                                           |
| 114+00 - 115+55    | STH 139  | 155                                                   | 155                                               | ---                                                               | 155                                                       |
| 116+95 - 118+50    | STH 139  | 155                                                   | 155                                               | ---                                                               | 155                                                       |
| UNDISTRIBUTED      | STH 139  | ---                                                   | ---                                               | 1                                                                 | ---                                                       |
| PROJECT TOTALS     |          | 310                                                   | 310                                               | 1                                                                 | 310                                                       |

SAW CUTTING

| STATION        | TO | STATION | DIR | LOCATION | 690.0150<br>SAWING ASPHALT<br>LF |
|----------------|----|---------|-----|----------|----------------------------------|
| CATEGORY 0010  |    |         |     |          |                                  |
| 113+50         | -  | 114+50  | R/L | STH 139  | 130                              |
| 118+50         | -  | 119+00  | R/L | STH 139  | 115                              |
| PROJECT TOTALS |    |         |     |          | 245                              |

| LEGEND  |                            |
|---------|----------------------------|
| △       | MGS THRIE BEAM TRANSITION  |
| MGS     | MGS GUARDRAIL 3            |
| MGS EAT | MGS GUARDRAIL TERMINAL EAT |
| X       | CLEARING & GRUBBING        |

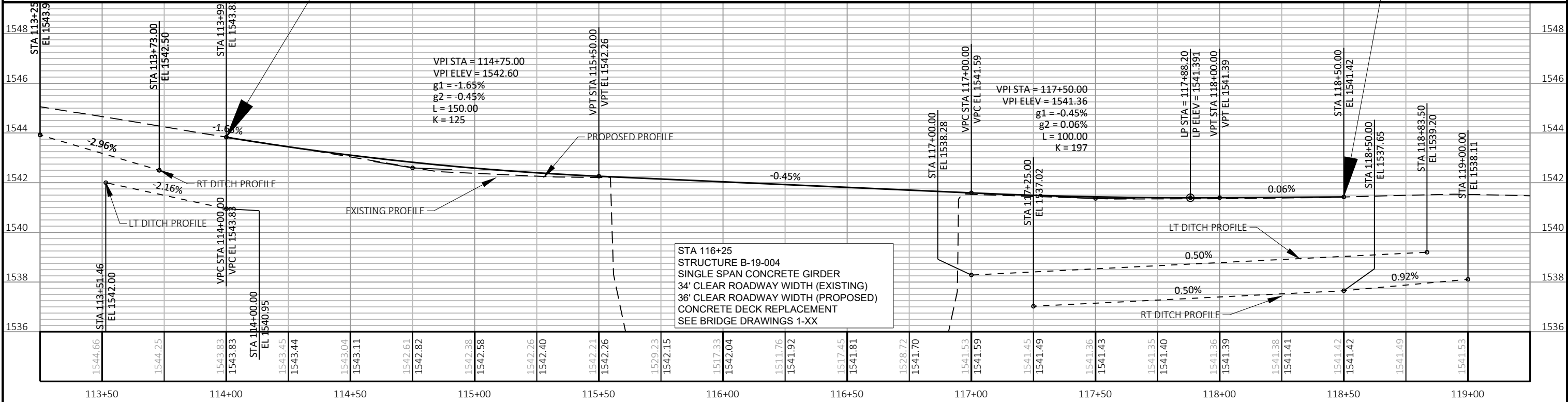
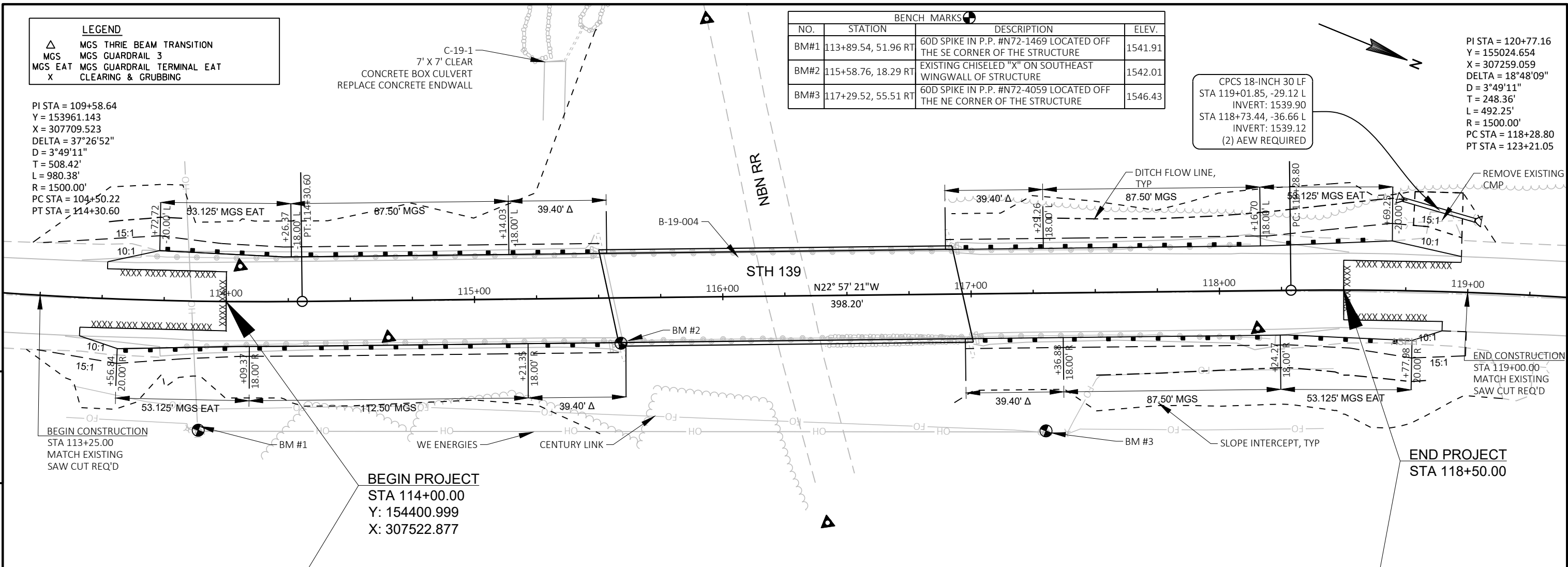
PI STA = 109+58.64  
Y = 153961.143  
X = 307709.523  
DELTA = 37°26'52"  
D = 3°49'11"  
T = 508.42'  
L = 980.38'  
R = 1500.00'  
PC STA = 104+50.22  
PT STA = 114+30.60

C-19-1  
7' X 7' CLEAR  
CONCRETE BOX CULVERT  
REPLACE CONCRETE ENDWALL

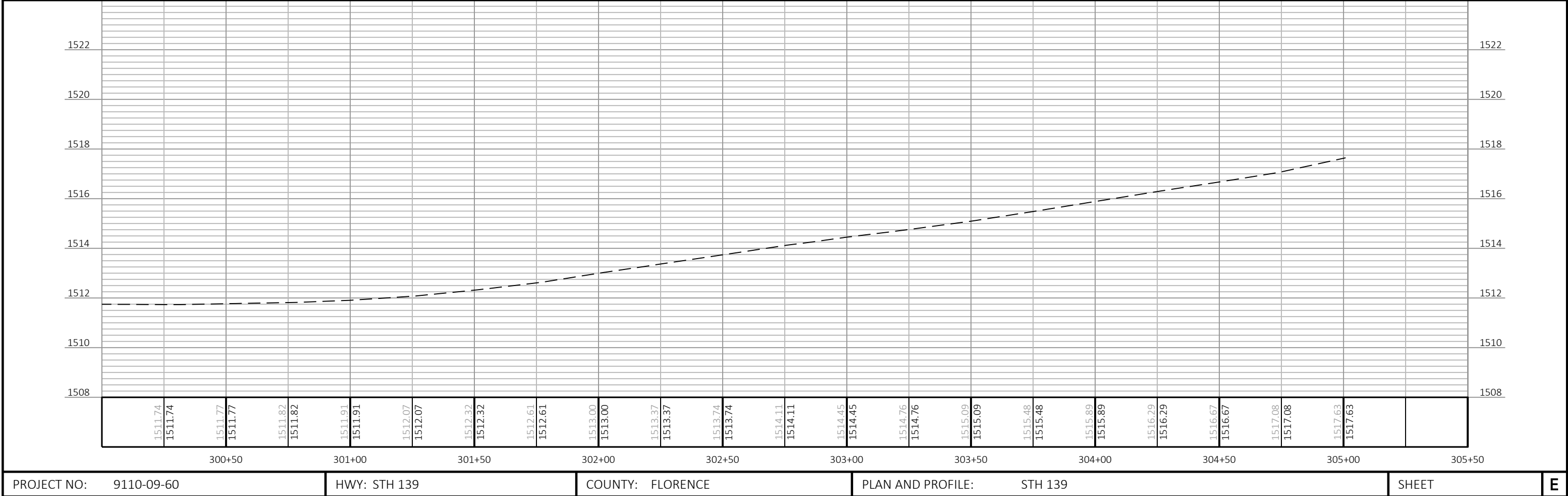
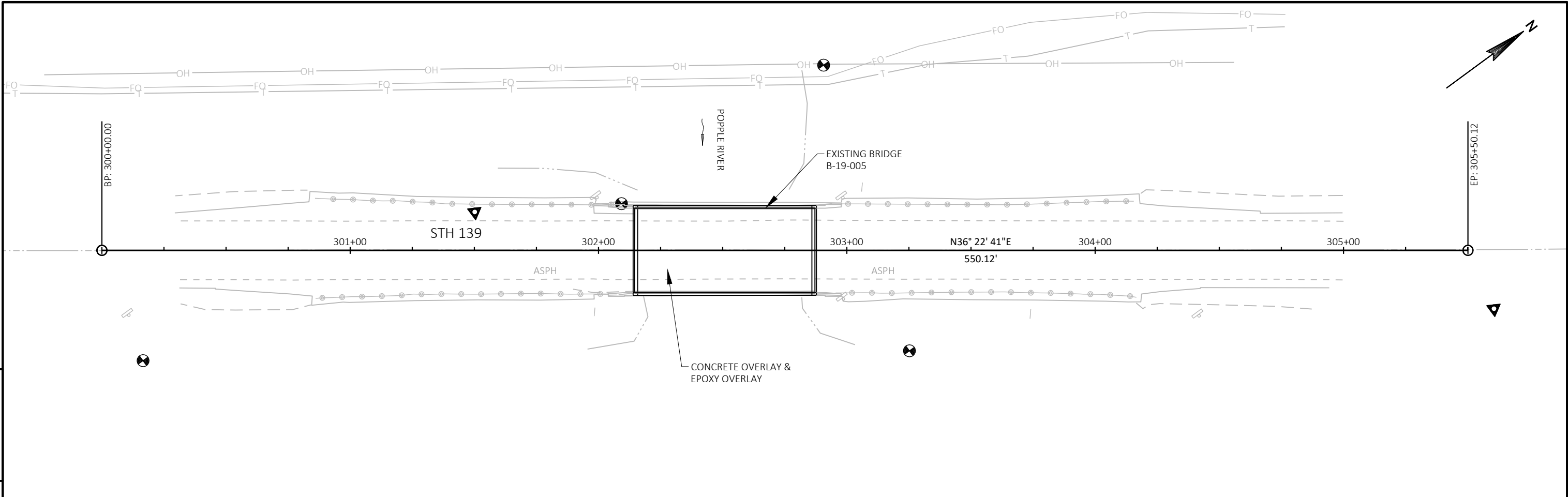
| BENCH MARKS |                     |                                                                        |         |
|-------------|---------------------|------------------------------------------------------------------------|---------|
| NO.         | STATION             | DESCRIPTION                                                            | ELEV.   |
| BM#1        | 113+89.54, 51.96 RT | 60D SPIKE IN P.P. #N72-1469 LOCATED OFF THE SE CORNER OF THE STRUCTURE | 1541.91 |
| BM#2        | 115+58.76, 18.29 RT | EXISTING CHISELED "X" ON SOUTHEAST WINGWALL OF STRUCTURE               | 1542.01 |
| BM#3        | 117+29.52, 55.51 RT | 60D SPIKE IN P.P. #N72-4059 LOCATED OFF THE NE CORNER OF THE STRUCTURE | 1546.43 |

CPCS 18-INCH 30 LF  
STA 119+01.85, -29.12 L  
INVERT: 1539.90  
STA 118+73.44, -36.66 L  
INVERT: 1539.12  
(2) AEW REQUIRED

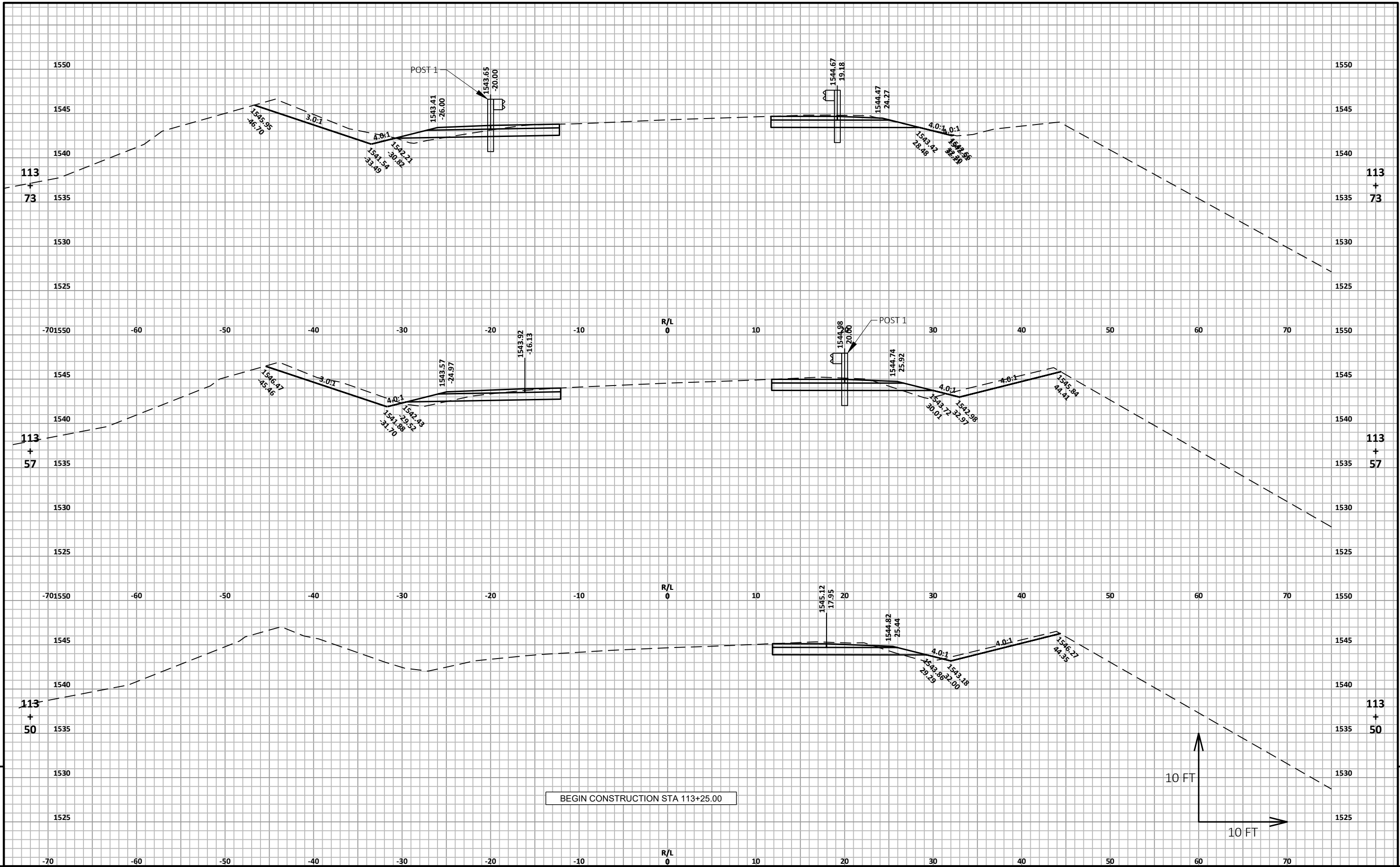
PI STA = 120+77.16  
Y = 155024.654  
X = 307259.059  
DELTA = 18°48'09"  
D = 3°49'11"  
T = 248.36'  
L = 492.25'  
R = 1500.00'  
PC STA = 118+28.80  
PT STA = 123+21.05

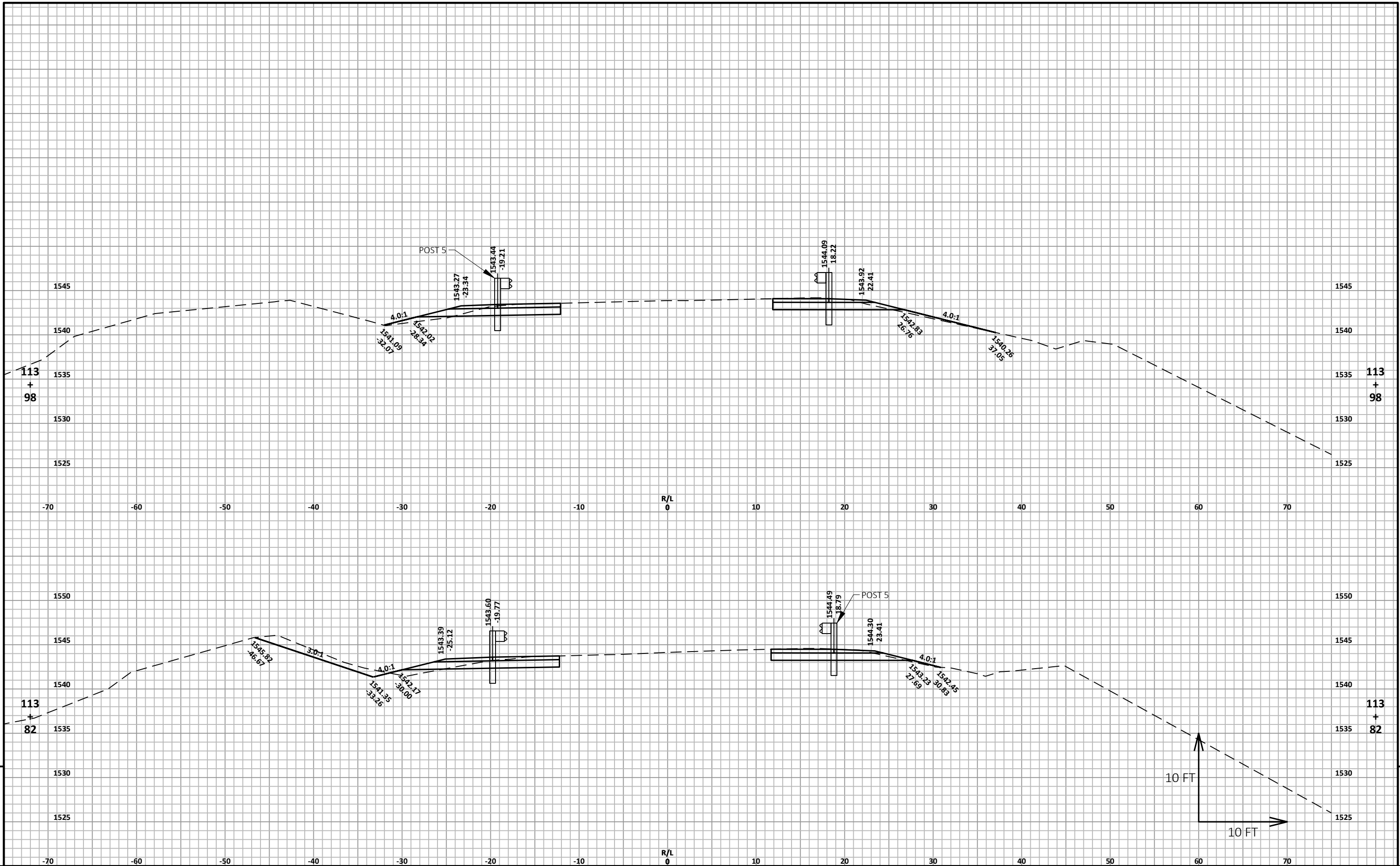


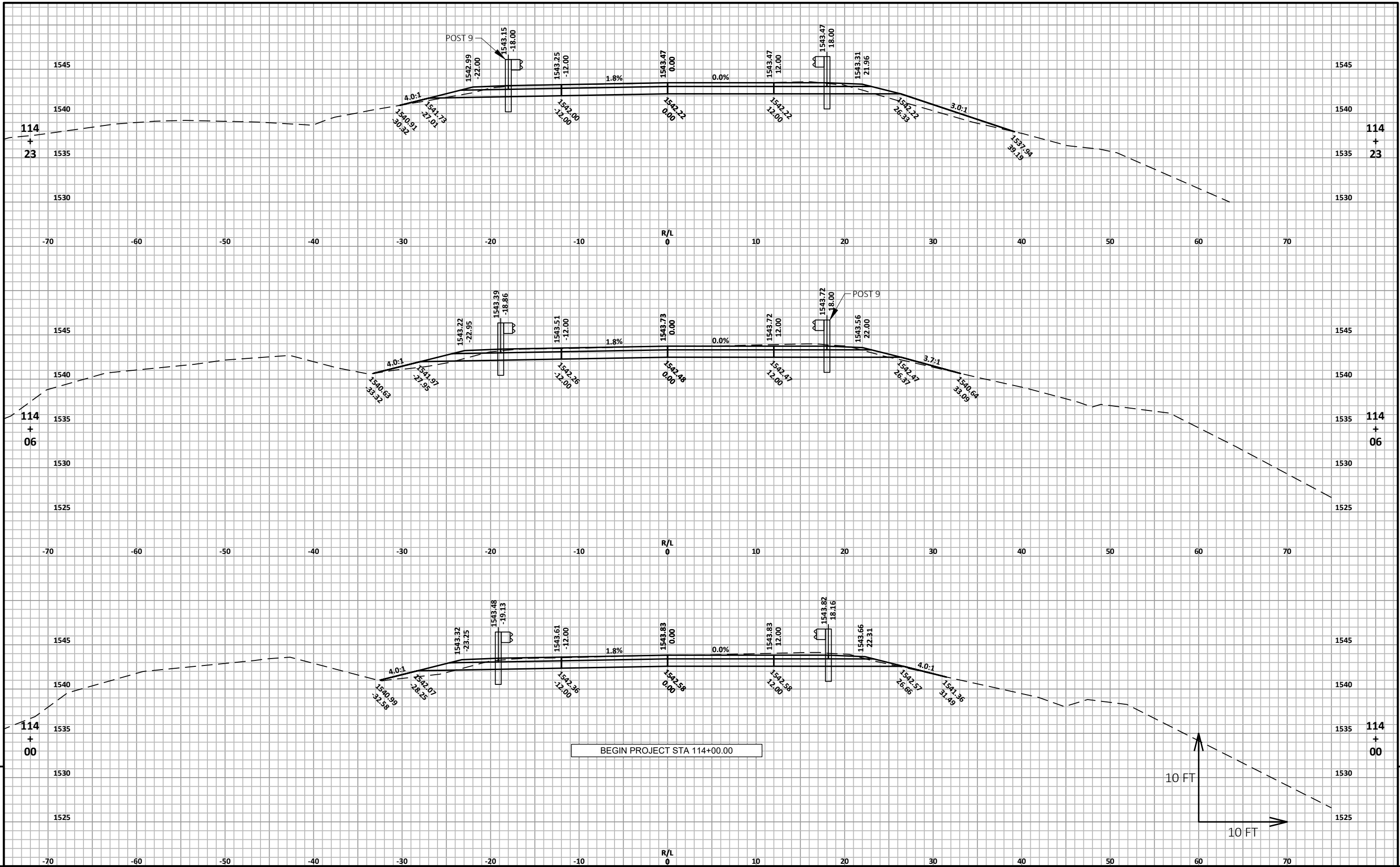
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|------------------------|--------------|------------------|---------------------------|-------|---|
| PROJECT NO: 9110-09-60 | HWY: STH 139 | COUNTY: FLORENCE | PLAN AND PROFILE: STH 139 | SHEET | E |
|------------------------|--------------|------------------|---------------------------|-------|---|

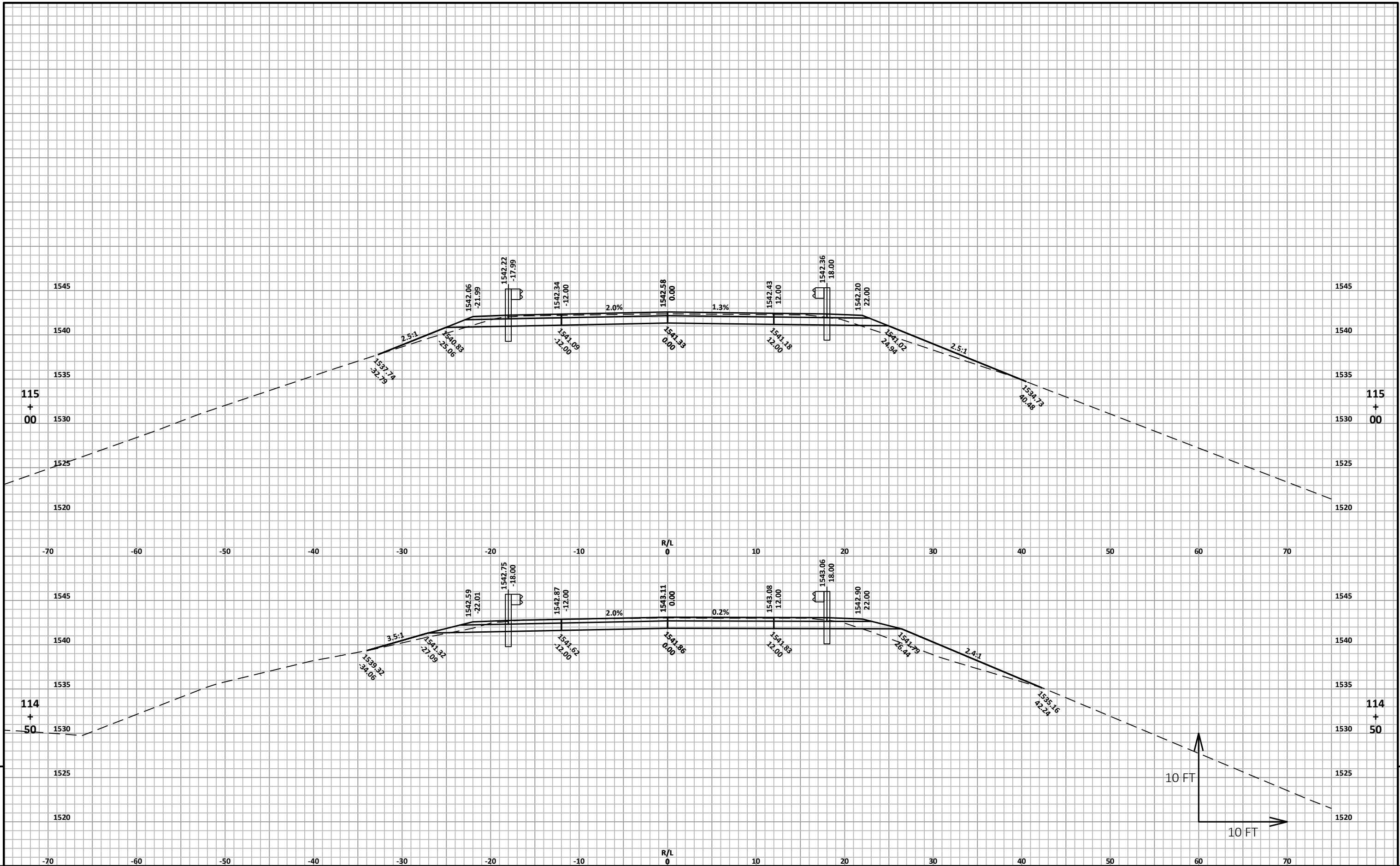


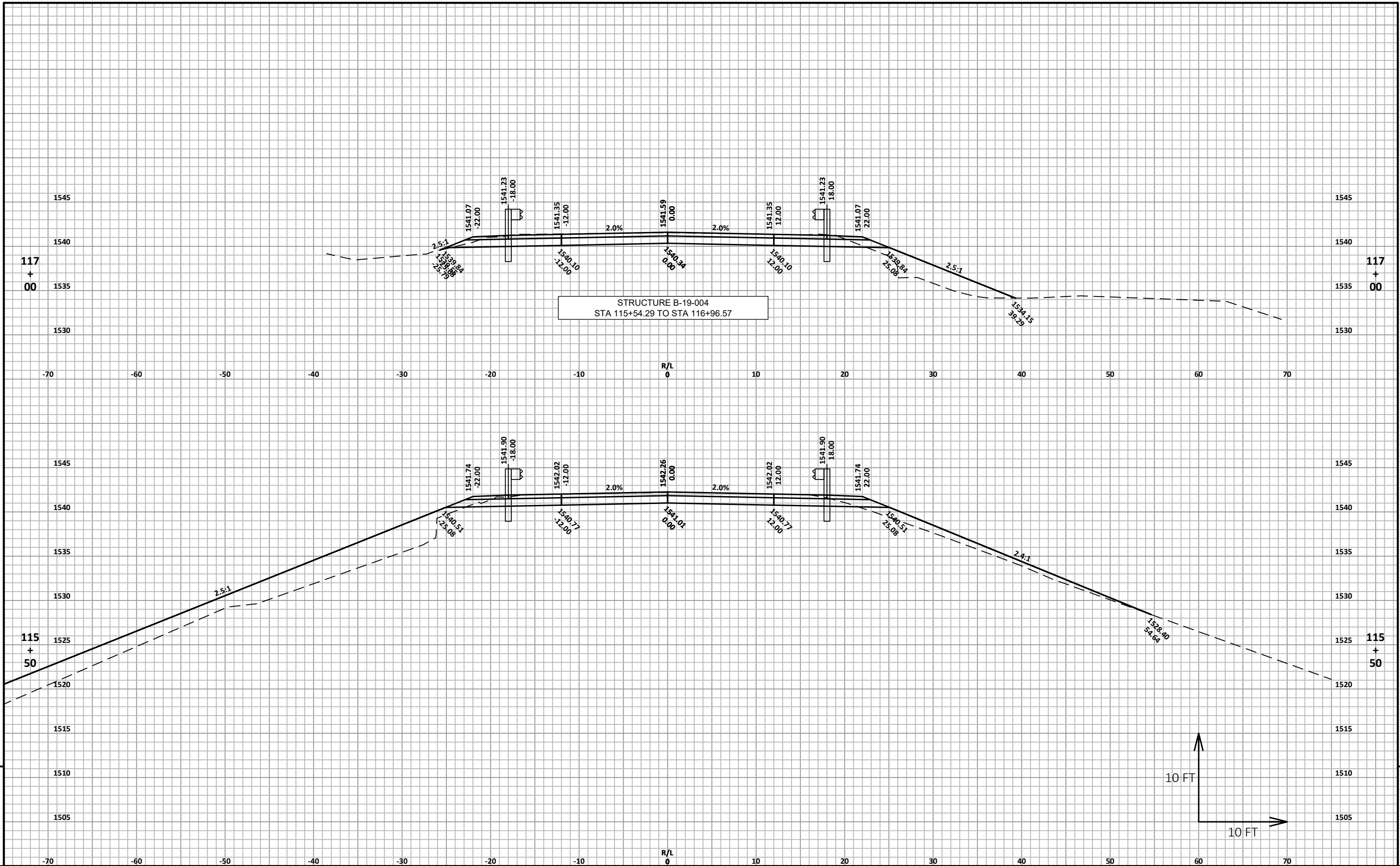
| EARTHWORK - STH 139 |           |        |                                  |        |                     |               |               |
|---------------------|-----------|--------|----------------------------------|--------|---------------------|---------------|---------------|
| STATION             | AREA (SF) |        | Incremental Vol (CY) (Unadjusted |        | Cumulative Vol (CY) |               |               |
|                     | Cut       | Fill   | Cut                              | Fill   | Cut                 | Expanded Fill | Mass Ordinate |
|                     |           |        | Note 1                           | Note 3 | 1.00<br>Note 1      | 1.25          | Note 8        |
| 113+50              | 47.59     | 1.78   | 0                                | 0      | 0                   | 0             | 0             |
| 113+56.84           | 70.58     | 4.14   | 15                               | 1      | 15                  | 1             | 14            |
| 113+72.72           | 75.28     | 1.75   | 43                               | 2      | 58                  | 3             | 55            |
| 113+81.54           | 67.44     | 2.76   | 23                               | 1      | 81                  | 4             | 77            |
| 113+97.99           | 55.57     | 4.06   | 37                               | 2      | 119                 | 7             | 112           |
| 114+06.28           | 56.36     | 4.23   | 17                               | 1      | 136                 | 8             | 128           |
| 114+23.22           | 53.53     | 9.09   | 34                               | 4      | 170                 | 13            | 157           |
| 114+50              | 49.28     | 23.21  | 51                               | 16     | 221                 | 33            | 188           |
| 115+00              | 43.52     | 38.49  | 86                               | 57     | 307                 | 105           | 202           |
| 115+50              | 48.78     | 171.48 | 85                               | 194    | 393                 | 348           | 45            |
| STRUCTURE B-19-004  |           |        |                                  |        |                     |               |               |
| 117+00              | 53.94     | 25.12  | 300                              | 140    | 692                 | 522           | 170           |
| 117+50              | 90.85     | 1.46   | 134                              | 25     | 826                 | 553           | 273           |
| 118+00              | 83.71     | 0.82   | 162                              | 2      | 988                 | 556           | 432           |
| 118+19.83           | 87.86     | 0.00   | 63                               | 0      | 1,051               | 556           | 495           |
| 118+27.39           | 84.19     | 0.23   | 24                               | 0      | 1,075               | 556           | 519           |
| 118+44.65           | 81.59     | 4.13   | 53                               | 1      | 1,128               | 558           | 570           |
| 118+52.61           | 80.29     | 6.06   | 24                               | 2      | 1,152               | 560           | 592           |
| 118+69.33           | 70.80     | 14.32  | 47                               | 6      | 1,199               | 568           | 631           |
| 118+77.88           | 72.52     | 6.33   | 23                               | 3      | 1,221               | 572           | 650           |
| 118+88.2            | 64.35     | 5.46   | 26                               | 2      | 1,248               | 575           | 673           |
| 119+00              | 12.31     | 4.56   | 17                               | 2      | 1,264               | 577           | 687           |

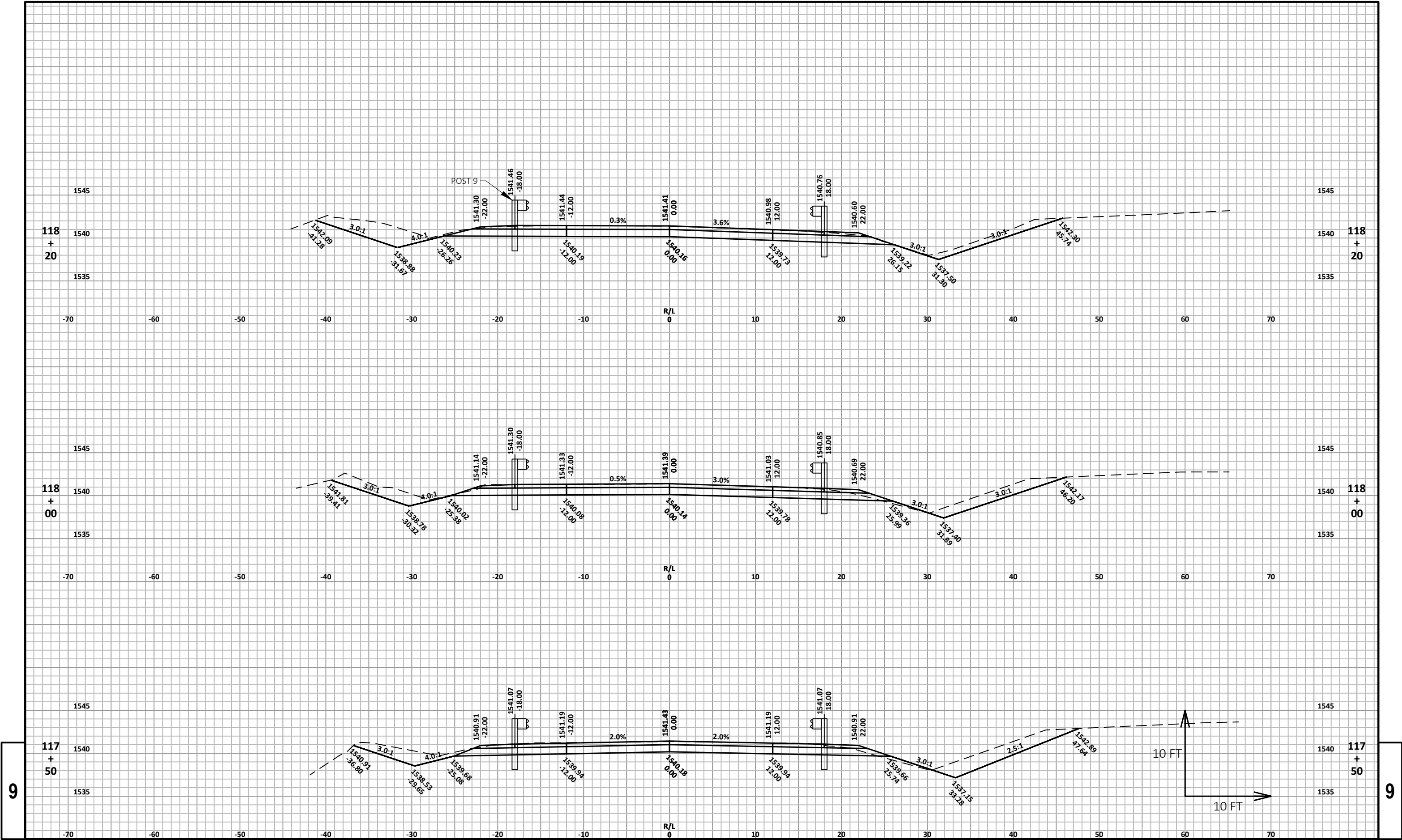


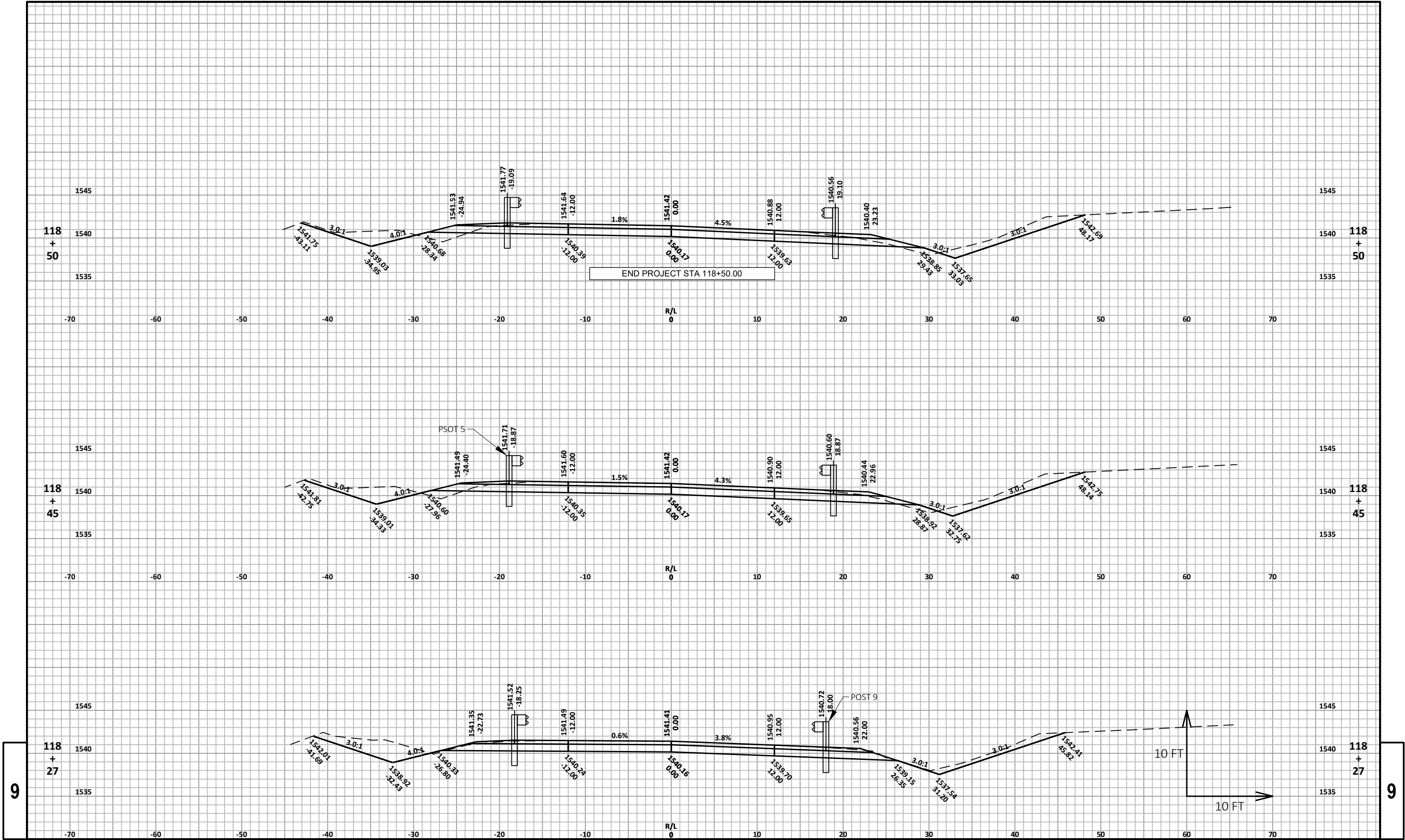


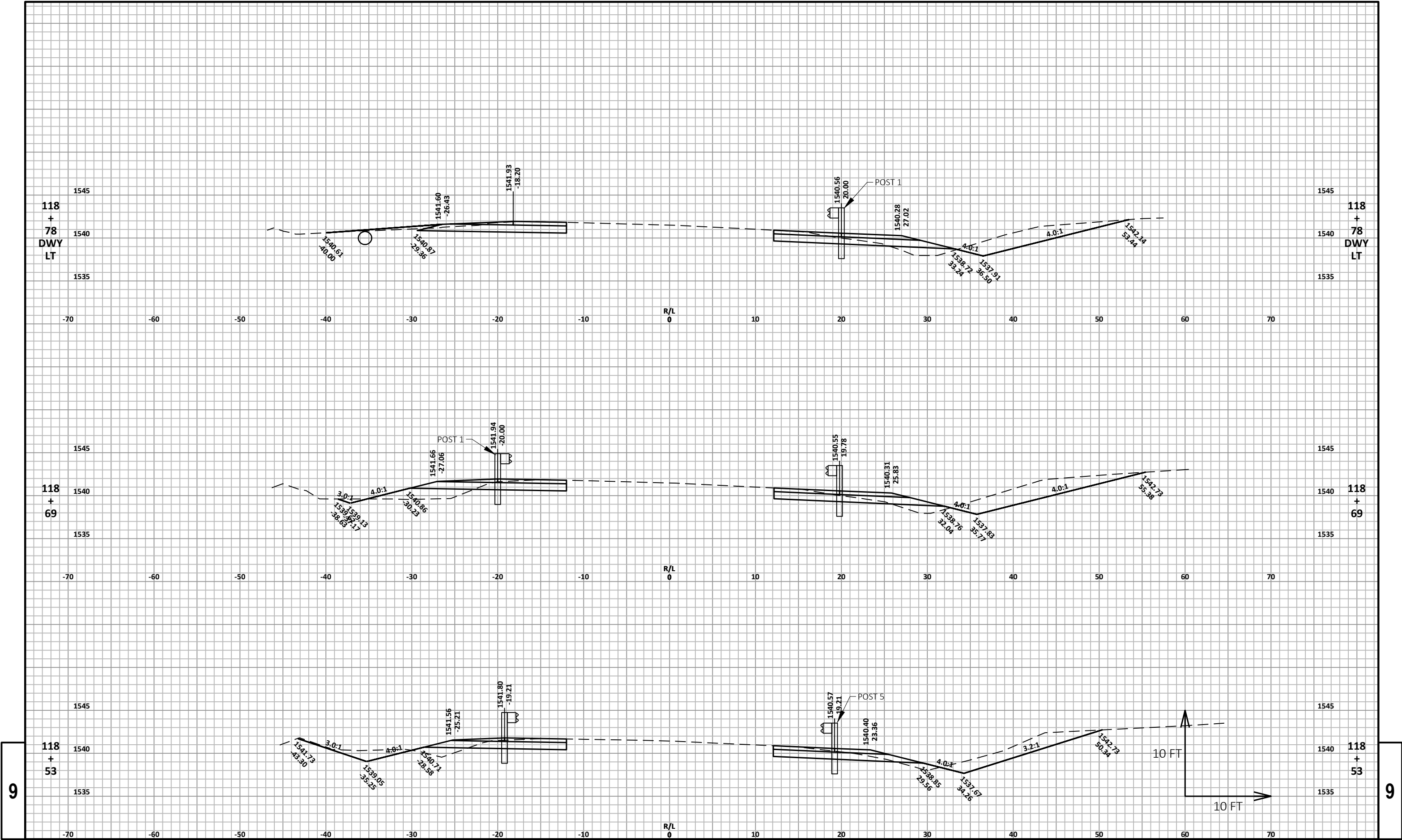












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|------------------------|--------------|------------------|-------------------------|-------|---|
| PROJECT NO: 9110-09-60 | HWY: STH 139 | COUNTY: FLORENCE | CROSS SECTIONS: STH 139 | SHEET | E |
|------------------------|--------------|------------------|-------------------------|-------|---|

