

10/15/2024 11:47:09 Pdu\_psh\_4.dgn

-RNDI-

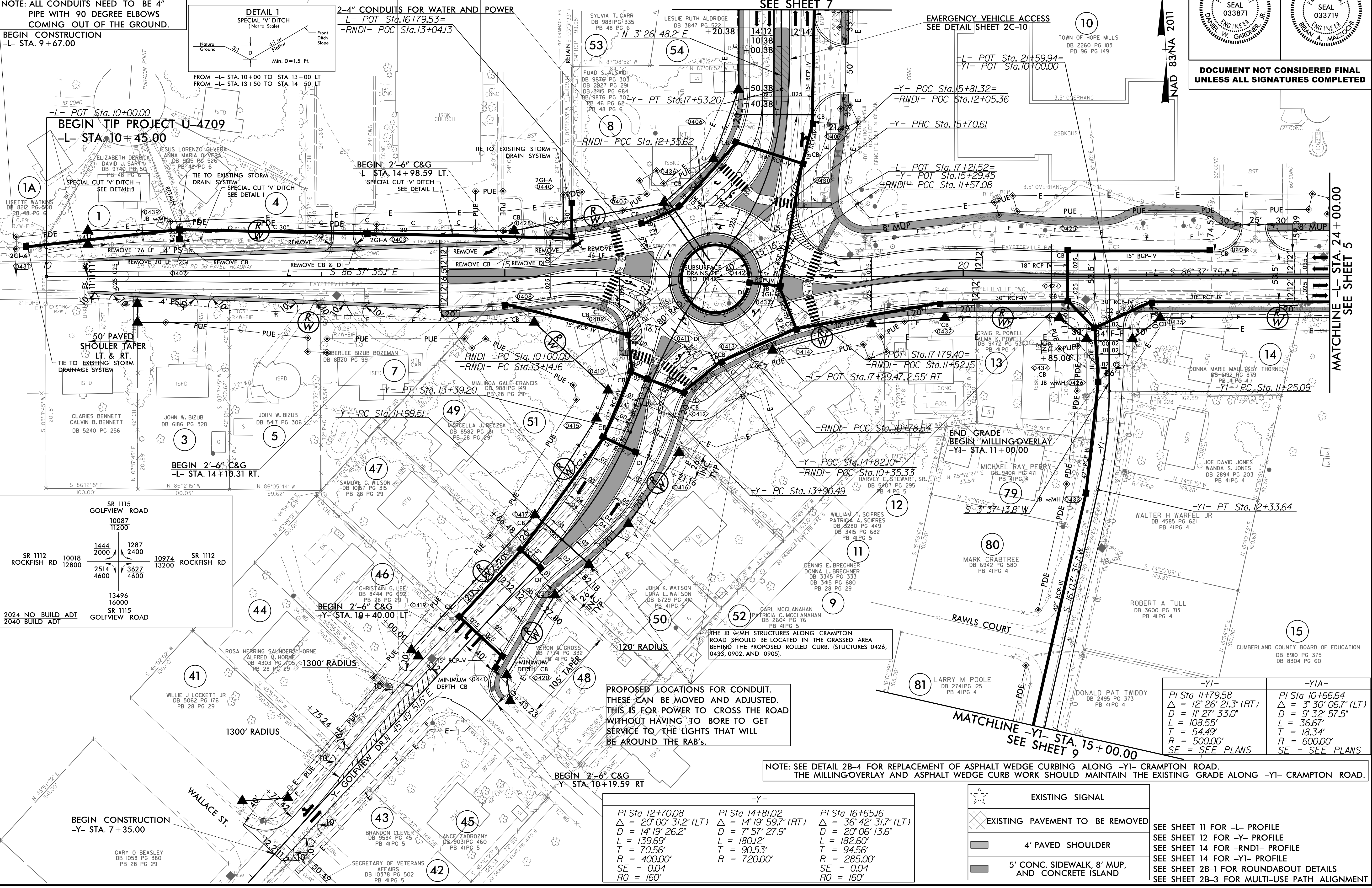
|   |   |   |   |
|---|---|---|---|
| PI Sta 10+50.00<br>Δ = 90° 00' 00.0" (LT)<br>D = 114' 35" 29.6"<br>L = 78.54'<br>T = 50.00'<br>R = 50.00' | PI Sta 11+28.54<br>Δ = 90° 00' 00.0" (LT)<br>D = 114' 35" 29.6"<br>L = 78.54'<br>T = 50.00'<br>R = 50.00' | PI Sta 12+07.08<br>Δ = 90° 00' 00.0" (LT)<br>D = 114' 35" 29.6"<br>L = 78.54'<br>T = 50.00'<br>R = 50.00' | PI Sta 12+85.62<br>Δ = 90° 00' 00.0" (LT)<br>D = 114' 35" 29.6"<br>L = 78.54'<br>T = 50.00'<br>R = 50.00' |
|---|---|---|---|

THE CHURCH OF JESUS CHRIST  
OF LATTER-DAY SAINTS  
DB 2689 PG 165  
PB 46 PG 62

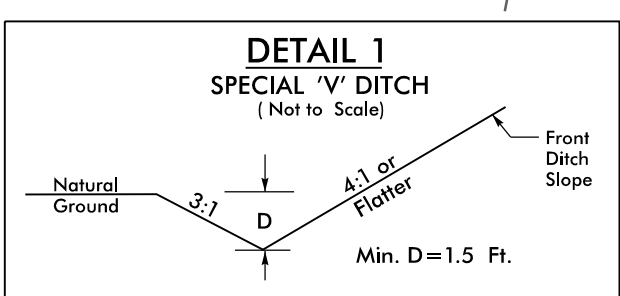
**TRANSYSTEMS**  
1 Glenwood Avenue  
Raleigh, NC 27603  
Tel: 919.789.9977  
Fax: 919.789.9591  
License: F-0453

|  |                                 |
|--|---------------------------------|
| PROJECT REFERENCE NO.<br><b>U-4709</b> | SHEET NO.<br><b>4</b>           |
| ROADWAY DESIGN ENGINEER                | HYDRAULICS ENGINEER             |
| SEAL 033871<br>DANIEL W. GARDNER, JR.  | SEAL 033719<br>BRIAN A. MATCOCH |

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



NOTE: ALL CONDUITS NEED TO BE 4" PIPE WITH 90 DEGREE ELBOWS COMING OUT OF THE GROUND.



2-4" CONDUITS FOR WATER AND POWER  
-L- POT Sta. 16+79.53=  
-RNDI- POC Sta. 13+04.13

BEGIN CONSTRUCTION  
-L- STA. 9+67.00

BEGIN TIP PROJECT U-4709  
-L- STA. 10+45.00

BEGIN 2'-6" C&G  
-L- STA. 14+98.59 LT.

50' PAVED SHOULDER TAPER LT. & RT. TIE TO EXISTING STORM DRAINAGE SYSTEM

BEGIN 2'-6" C&G  
-L- STA. 14+10.31 RT.

|   |                                       |                                       |
|---|---------------------------------------|---------------------------------------|
| SR 1115 GOLFVIEW ROAD<br>10087<br>11200 | SR 1112 ROCKFISH RD<br>10018<br>12800 | SR 1112 ROCKFISH RD<br>10974<br>13200 |
| 1444<br>2000                            | 1287<br>2400                          | 2514<br>4600                          |
| 13496<br>16000                          | 3627<br>4600                          |                                       |

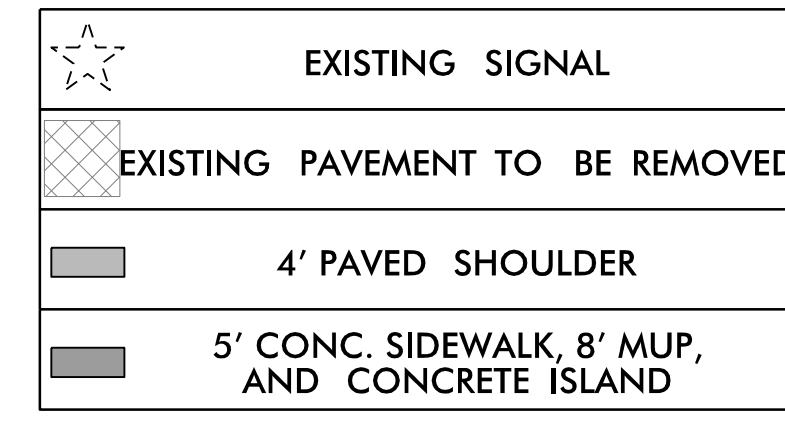
2024 NO BUILD ADT  
2040 BUILD ADT

BEGIN CONSTRUCTION  
-Y- STA. 7+35.00

PROPOSED LOCATIONS FOR CONDUIT. THESE CAN BE MOVED AND ADJUSTED. THIS IS FOR POWER TO CROSS THE ROAD WITHOUT HAVING TO BORE TO GET SERVICE TO THE LIGHTS THAT WILL BE AROUND THE RAB'S.

NOTE: SEE DETAIL 2B-4 FOR REPLACEMENT OF ASPHALT WEDGE CURBING ALONG -Y1- CRAMPTON ROAD. THE MILLING/OVERLAY AND ASPHALT WEDGE CURB WORK SHOULD MAINTAIN THE EXISTING GRADE ALONG -Y1- CRAMPTON ROAD.

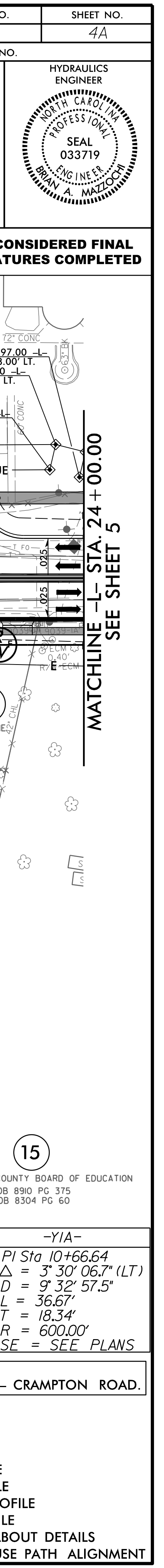
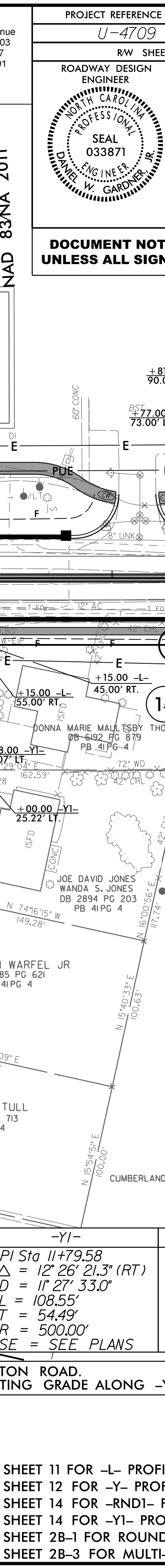
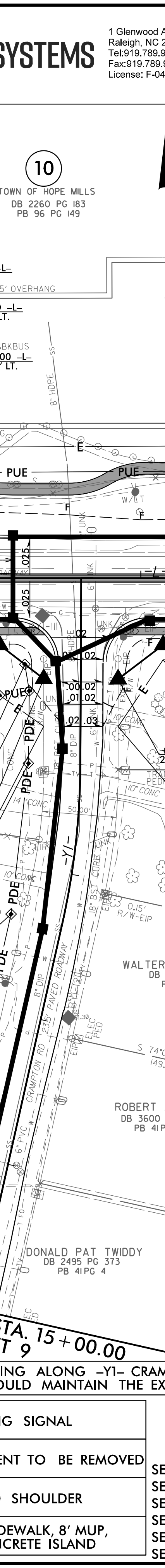
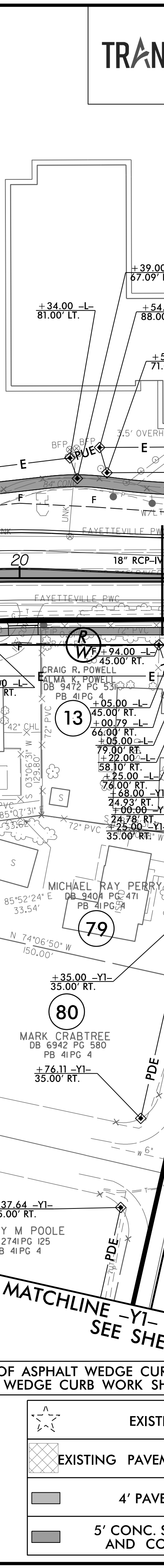
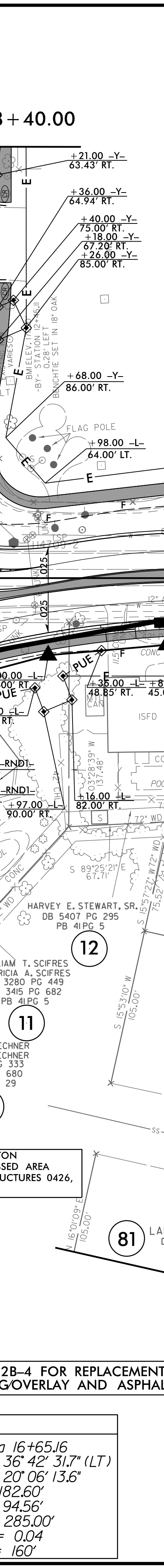
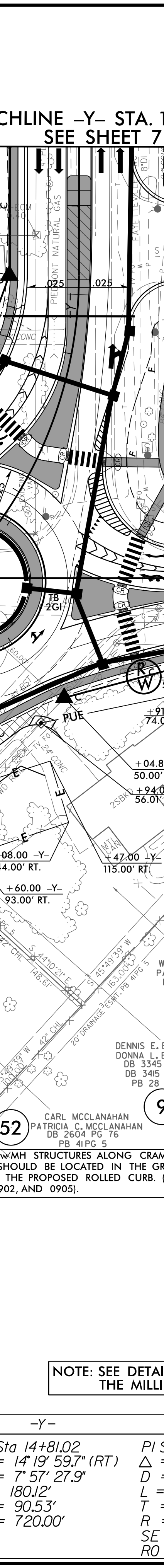
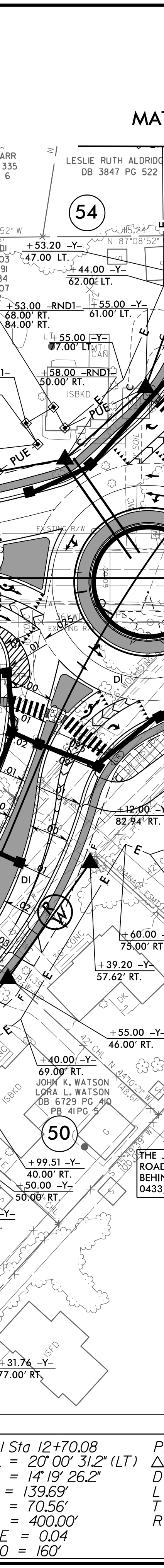
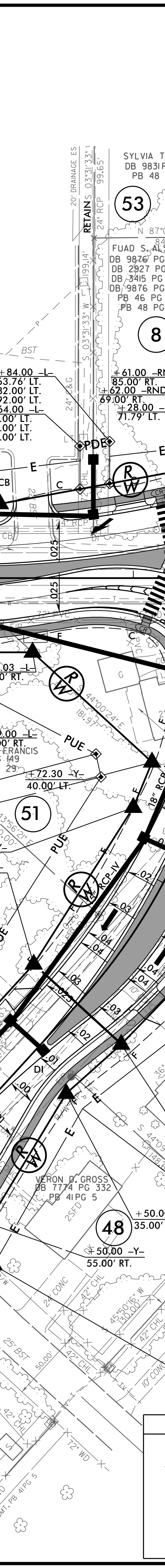
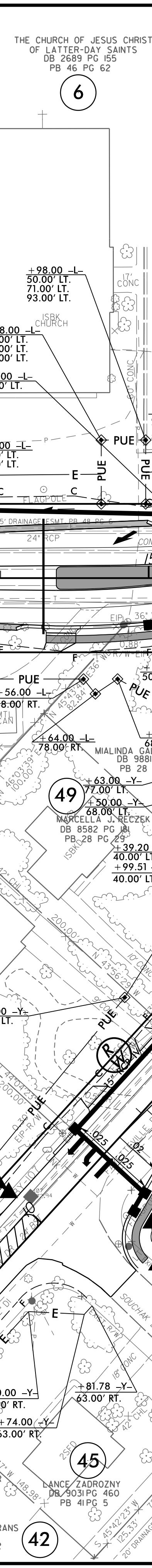
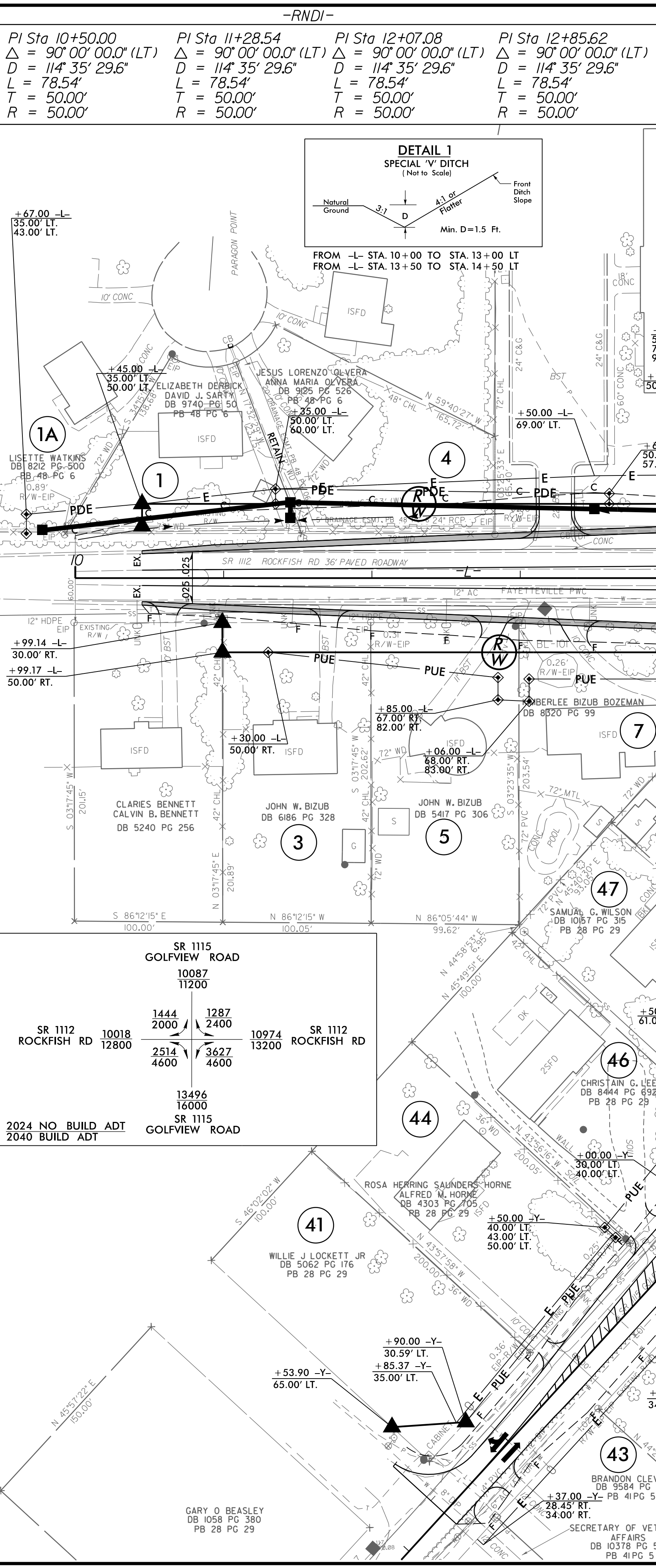
|  |   |  |
|--|---|--|
| PI Sta 12+70.08<br>Δ = 20° 00' 31.2" (LT)<br>D = 14' 19" 26.2"<br>L = 139.69'<br>T = 70.56'<br>R = 400.00'<br>SE = 0.04<br>RO = 160' | PI Sta 14+81.02<br>Δ = 14° 19' 59.7" (RT)<br>D = 7' 57" 27.9"<br>L = 180.12'<br>T = 90.53'<br>R = 720.00' | PI Sta 16+65.16<br>Δ = 36° 42' 31.7" (LT)<br>D = 20' 06" 13.6"<br>L = 182.60'<br>T = 94.56'<br>R = 285.00'<br>SE = 0.04<br>RO = 160' |
|--|---|--|



|  |  |
|--|--|
| -Y1-<br>PI Sta 11+79.58<br>Δ = 12° 26' 21.3" (RT)<br>D = 11' 27" 33.0"<br>L = 108.55'<br>T = 54.49'<br>R = 500.00'<br>SE = SEE PLANS | -Y1A-<br>PI Sta 10+66.64<br>Δ = 3° 30' 06.7" (LT)<br>D = 9' 32" 57.5"<br>L = 36.67'<br>T = 18.34'<br>R = 600.00'<br>SE = SEE PLANS |
|--|--|

SEE SHEET 11 FOR -L- PROFILE  
SEE SHEET 12 FOR -Y- PROFILE  
SEE SHEET 14 FOR -RNDI- PROFILE  
SEE SHEET 14 FOR -Y1- PROFILE  
SEE SHEET 2B-1 FOR ROUNDABOUT DETAILS  
SEE SHEET 2B-3 FOR MULTI-USE PATH ALIGNMENT

10/15/2024 11:47:09 Pdu\_psh\_44.dgn  
 8.17/79.9



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|  |  |
|--|--|
| PROJECT REFERENCE NO.<br><b>U-4709</b>                   | SHEET NO.<br><b>4A</b>                         |
| Roadway Design Engineer<br><b>DANIEL W. GARDNER, JR.</b> | Hydraulics Engineer<br><b>BRIAN A. MATCOCH</b> |
| Professional Seal<br>SEAL 033871                         | Professional Seal<br>SEAL 033719               |

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

|  |  |  |  |
|--|--|--|--|
| <b>PI Sta 10+50.00</b><br>$\Delta = 90^{\circ} 00' 00.0" (LT)$<br>$D = 114' 35" 29.6"$<br>$L = 78.54'$<br>$T = 50.00'$<br>$R = 50.00'$ | <b>PI Sta 11+28.54</b><br>$\Delta = 90^{\circ} 00' 00.0" (LT)$<br>$D = 114' 35" 29.6"$<br>$L = 78.54'$<br>$T = 50.00'$<br>$R = 50.00'$ | <b>PI Sta 12+07.08</b><br>$\Delta = 90^{\circ} 00' 00.0" (LT)$<br>$D = 114' 35" 29.6"$<br>$L = 78.54'$<br>$T = 50.00'$<br>$R = 50.00'$ | <b>PI Sta 12+85.62</b><br>$\Delta = 90^{\circ} 00' 00.0" (LT)$<br>$D = 114' 35" 29.6"$<br>$L = 78.54'$<br>$T = 50.00'$<br>$R = 50.00'$ |
|--|--|--|--|

THE CHURCH OF JESUS CHRIST  
 OF LATTER-DAY SAINTS  
 DB 2689 PG 165  
 PB 46 PG 62

SYLVIA T. CARR  
 DB 9831 PG 335  
 PB 48 PG 6

LESLIE RUTH ALDRIDGE  
 DB 3847 PG 522

FUAD S. ALSAIDI  
 DB 9876 PG 303  
 DB 2927 PG 291  
 DB 3415 PG 684  
 DB 9876 PG 307  
 PB 46 PG 62  
 PB 48 PG 6

WALTER H. WARFEL JR.  
 DB 4585 PG 621  
 PB 41 PG 4

MARK CRABTREE  
 DB 6342 PG 580  
 PB 41 PG 4

ROBERT A. TULL  
 DB 3600 PG 713  
 PB 41 PG 4

WILLIE J. LOCKETT JR.  
 DB 5062 PG 176  
 PB 28 PG 29

WILLIE J. LOCKETT JR.  
 DB 5062 PG 176  
 PB 28 PG 29

|   |                                    |                                    |   |
|---|------------------------------------|------------------------------------|---|
| SR 1115 GOLFVIEW ROAD<br>10087<br>11200 | SR 1112 ROCKFISH RD 10018<br>12800 | SR 1112 ROCKFISH RD 10974<br>13200 | SR 1112 GOLFVIEW ROAD<br>13496<br>16000 |
| 1444<br>2000                            | 1287<br>2400                       | 2514<br>4600                       | 3627<br>4600                            |
| 2024 NO BUILD ADT<br>2040 BUILD ADT     |                                    |                                    |   |

NOTE: SEE DETAIL 2B-4 FOR REPLACEMENT OF ASPHALT WEDGE CURBING ALONG -Y1- CRAMPTON ROAD. THE MILLING/OVERLAY AND ASPHALT WEDGE CURB WORK SHOULD MAINTAIN THE EXISTING GRADE ALONG -Y1- CRAMPTON ROAD.

|   |   |  |
|---|---|--|
| <b>PI Sta 12+70.08</b><br>$\Delta = 20^{\circ} 00' 31.2" (LT)$<br>$D = 14' 19" 26.2"$<br>$L = 139.69'$<br>$T = 70.56'$<br>$R = 400.00'$<br>$SE = 0.04$<br>$RO = 160'$ | <b>PI Sta 14+81.02</b><br>$\Delta = 14' 19" 59.7" (RT)$<br>$D = 7' 57" 27.9"$<br>$L = 180.12'$<br>$T = 90.53'$<br>$R = 720.00'$ | <b>PI Sta 16+65.16</b><br>$\Delta = 36' 42" 31.7" (LT)$<br>$D = 20' 06" 13.6"$<br>$L = 182.60'$<br>$T = 94.56'$<br>$R = 285.00'$<br>$SE = 0.04$<br>$RO = 160'$ |
|---|---|--|

|  |
|--|
| EXISTING SIGNAL                                |
| EXISTING PAVEMENT TO BE REMOVED                |
| 4' PAVED SHOULDER                              |
| 5' CONC. SIDEWALK, 8' MUP, AND CONCRETE ISLAND |

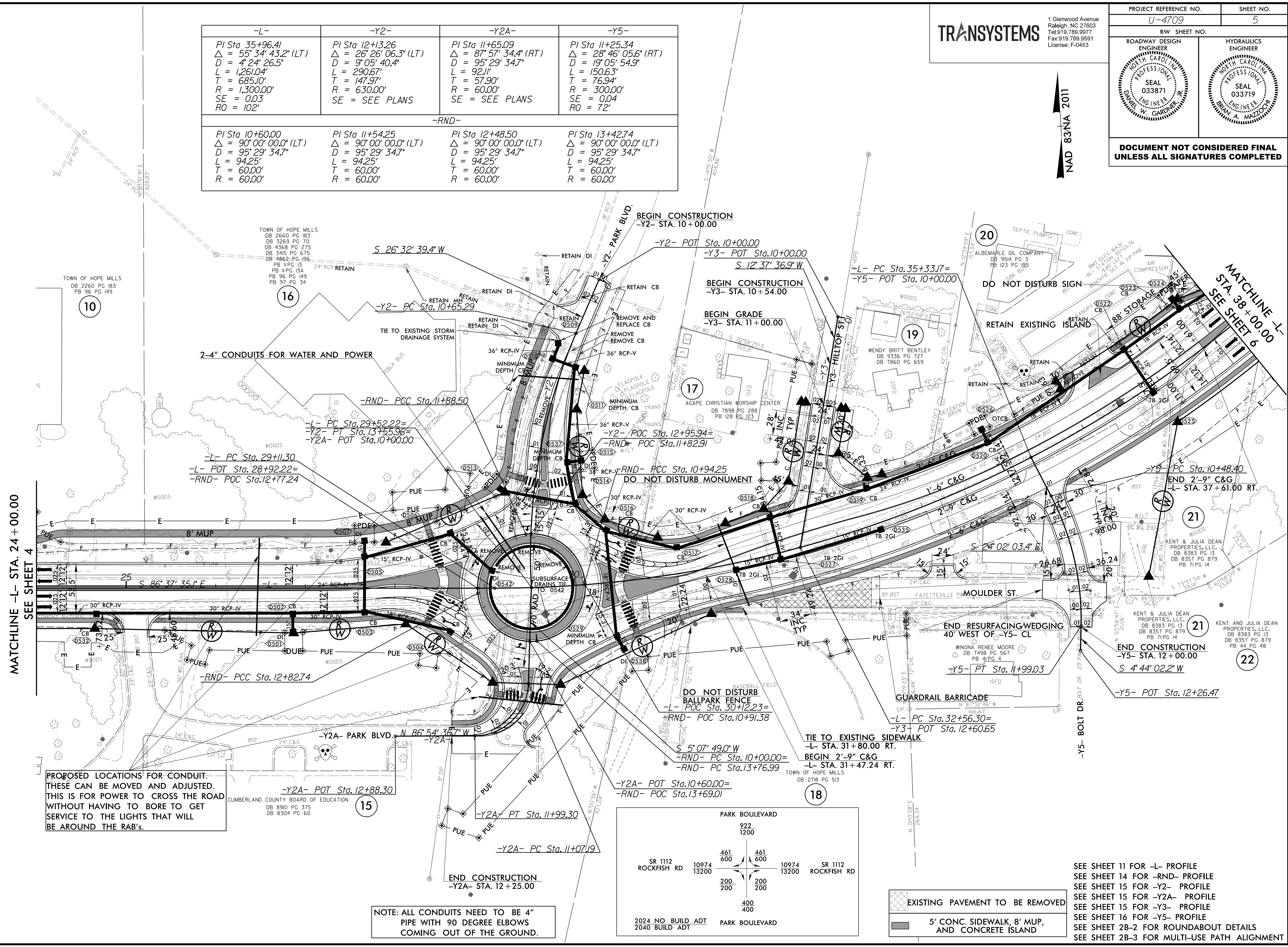
SEE SHEET 11 FOR -L- PROFILE  
 SEE SHEET 12 FOR -Y- PROFILE  
 SEE SHEET 14 FOR -RND1- PROFILE  
 SEE SHEET 14 FOR -Y1- PROFILE  
 SEE SHEET 2B-1 FOR ROUNDABOUT DETAILS  
 SEE SHEET 2B-3 FOR MULTI-USE PATH ALIGNMENT

8/17/99  
9/27/2004  
U:\14709\_Pdy\_esh\_5.dgn  
11:51:00 AM

| -L-  | -Y2-   | -Y2A-  | -Y5-  |
|--|--|--|---|
| PI Sta 35+96.41<br>Δ = 55° 34' 43.2" (LT)<br>D = 4' 24" 26.5"<br>L = 1,261.04'<br>T = 685.10'<br>R = 1,300.00'<br>SE = 0.03<br>RO = 102' | PI Sta 12+13.26<br>Δ = 26° 26' 06.3" (LT)<br>D = 9' 05" 40.4"<br>L = 290.67'<br>T = 147.97'<br>R = 630.00'<br>SE = SEE PLANS | PI Sta 12+65.09<br>Δ = 87° 57' 34.4" (RT)<br>D = 95' 29' 34.7"<br>L = 92.11'<br>T = 57.90'<br>R = 60.00'<br>SE = SEE PLANS | PI Sta 12+25.34<br>Δ = 28° 46' 05.6" (RT)<br>D = 19' 05" 54.9"<br>L = 150.63'<br>T = 76.94'<br>R = 300.00'<br>SE = 0.04<br>RO = 72' |
| -RND-  |  |  |   |
| PI Sta 10+60.00<br>Δ = 90° 00' 00.0" (LT)<br>D = 95' 29' 34.7"<br>L = 94.25'<br>T = 60.00'<br>R = 60.00'                                 | PI Sta 11+54.25<br>Δ = 90° 00' 00.0" (LT)<br>D = 95' 29' 34.7"<br>L = 94.25'<br>T = 60.00'<br>R = 60.00'                     | PI Sta 12+48.50<br>Δ = 90° 00' 00.0" (LT)<br>D = 95' 29' 34.7"<br>L = 94.25'<br>T = 60.00'<br>R = 60.00'                   | PI Sta 13+42.74<br>Δ = 90° 00' 00.0" (LT)<br>D = 95' 29' 34.7"<br>L = 94.25'<br>T = 60.00'<br>R = 60.00'                            |

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|  |                        |
|--|------------------------|
| PROJECT REFERENCE NO.<br><b>U-4709</b>                           | SHEET NO.<br><b>5</b>  |
| RW SHEET NO.   |                        |
| ROADWAY DESIGN<br>ENGINEER                                       | HYDRAULICS<br>ENGINEER |
|  |                        |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED |                        |

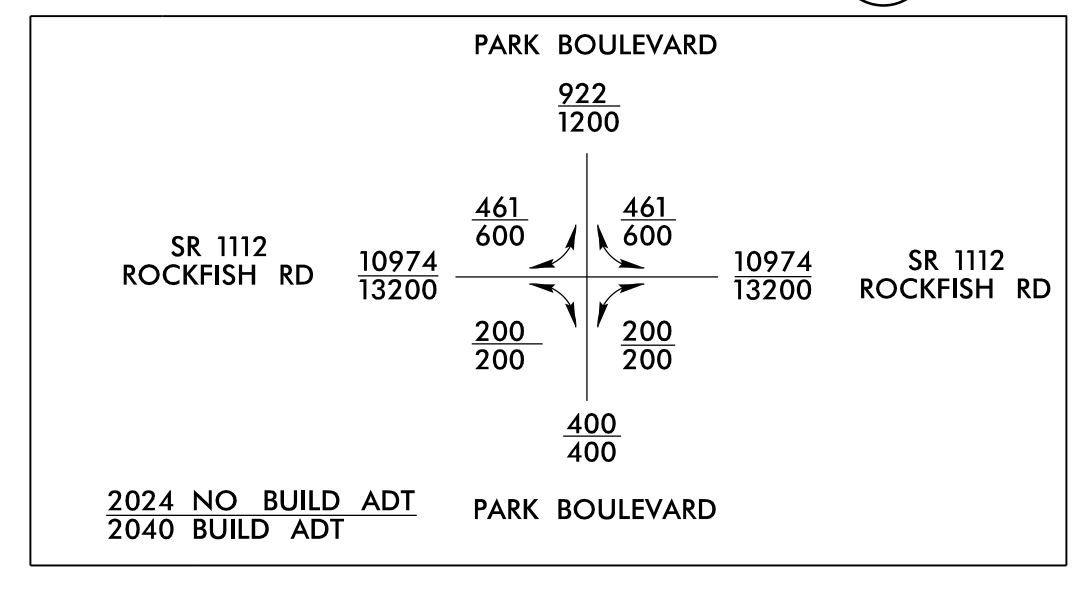


MATCHLINE -L- STA. 24+00.00  
SEE SHEET 4

MATCHLINE -L- STA. 38+00.00  
SEE SHEET 6

PROPOSED LOCATIONS FOR CONDUIT. THESE CAN BE MOVED AND ADJUSTED. THIS IS FOR POWER TO CROSS THE ROAD WITHOUT HAVING TO BORE TO GET SERVICE TO THE LIGHTS THAT WILL BE AROUND THE RAB'S.

NOTE: ALL CONDUITS NEED TO BE 4" PIPE WITH 90 DEGREE ELBOWS COMING OUT OF THE GROUND.



EXISTING PAVEMENT TO BE REMOVED  
5' CONC. SIDEWALK, 8' MUP, AND CONCRETE ISLAND

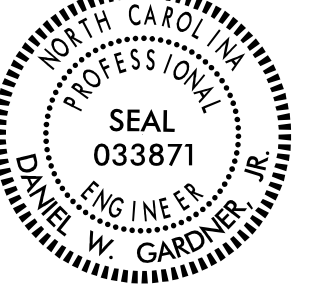
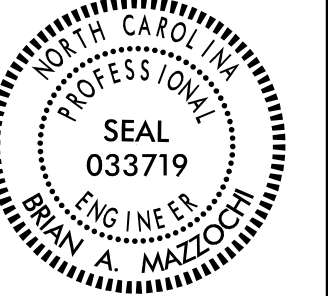
SEE SHEET 11 FOR -L- PROFILE  
SEE SHEET 14 FOR -RND- PROFILE  
SEE SHEET 15 FOR -Y2- PROFILE  
SEE SHEET 15 FOR -Y2A- PROFILE  
SEE SHEET 15 FOR -Y3- PROFILE  
SEE SHEET 16 FOR -Y5- PROFILE  
SEE SHEET 2B-2 FOR ROUNDABOUT DETAILS  
SEE SHEET 2B-3 FOR MULTI-USE PATH ALIGNMENT

8.17.2014

9/23/2014 U:\14709\_Pdu\_esh\_5A.dgn  
11:51:40 am

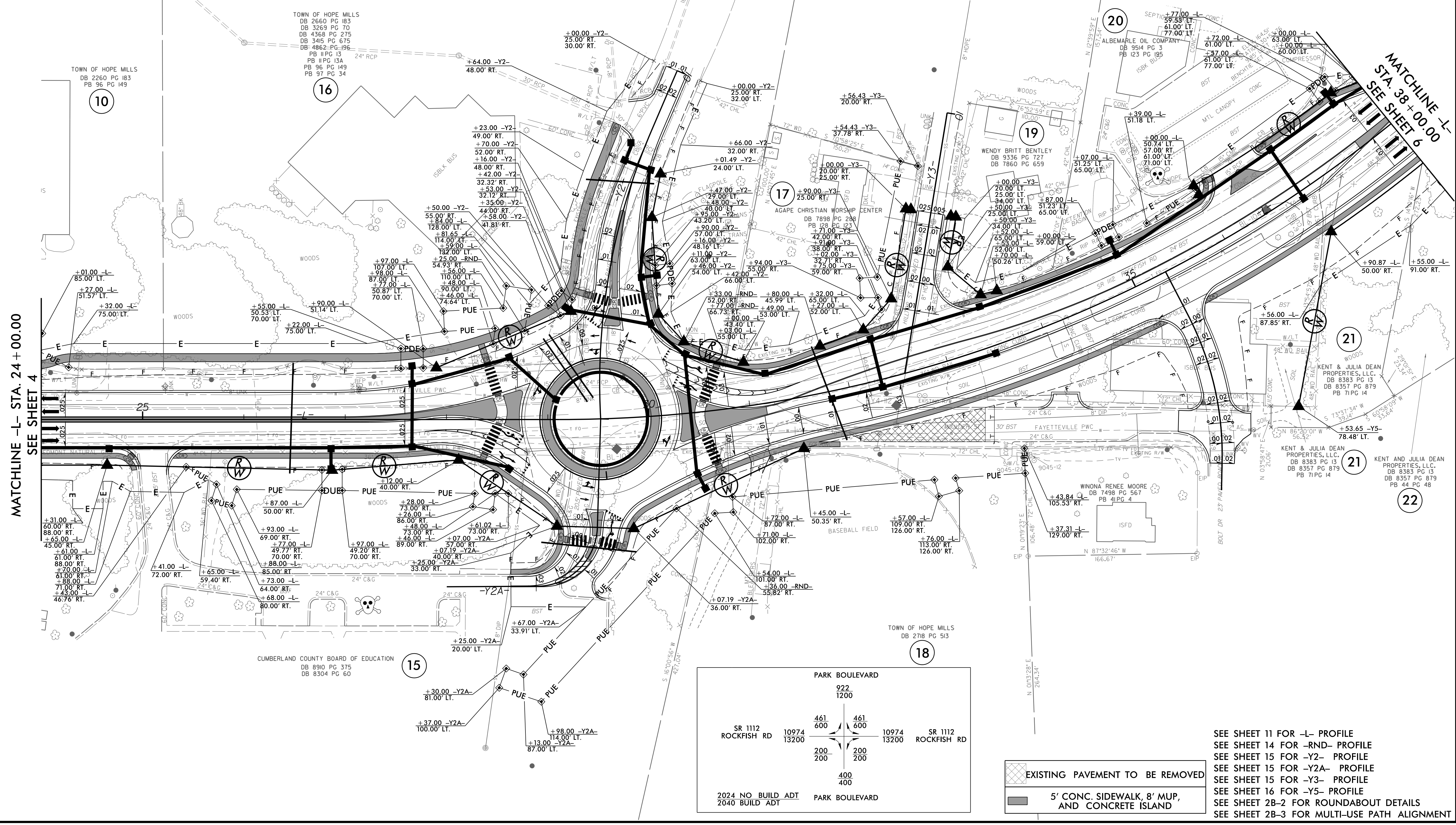
| -L-  | -Y2-   | -Y2A-  | -Y5-  |
|--|--|--|---|
| PI Sta 35+96.41<br>Δ = 55° 34' 43.2" (LT)<br>D = 4' 24' 26.5"<br>L = 1,261.04'<br>T = 685.10'<br>R = 1,300.00'<br>SE = 0.03<br>RO = 102' | PI Sta 12+13.26<br>Δ = 26° 26' 06.3" (LT)<br>D = 9' 05' 40.4"<br>L = 290.67'<br>T = 147.97'<br>R = 630.00'<br>SE = SEE PLANS | PI Sta 11+65.09<br>Δ = 87° 57' 34.4" (RT)<br>D = 95' 29' 34.7"<br>L = 92.11'<br>T = 57.90'<br>R = 60.00'<br>SE = SEE PLANS | PI Sta 11+25.34<br>Δ = 28° 46' 05.6" (RT)<br>D = 19' 05' 54.9"<br>L = 150.63'<br>T = 76.94'<br>R = 300.00'<br>SE = 0.04<br>RO = 72' |
| -RND-  |  |  |   |
| PI Sta 10+60.00<br>Δ = 90° 00' 00.0" (LT)<br>D = 95' 29' 34.7"<br>L = 94.25'<br>T = 60.00'<br>R = 60.00'                                 | PI Sta 11+54.25<br>Δ = 90° 00' 00.0" (LT)<br>D = 95' 29' 34.7"<br>L = 94.25'<br>T = 60.00'<br>R = 60.00'                     | PI Sta 12+48.50<br>Δ = 90° 00' 00.0" (LT)<br>D = 95' 29' 34.7"<br>L = 94.25'<br>T = 60.00'<br>R = 60.00'                   | PI Sta 13+42.74<br>Δ = 90° 00' 00.0" (LT)<br>D = 95' 29' 34.7"<br>L = 94.25'<br>T = 60.00'<br>R = 60.00'                            |

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|   |   |
|---|---|
| PROJECT REFERENCE NO.<br><b>U-4709</b>  | SHEET NO.<br><b>5A</b>  |
| RW SHEET NO.  |   |
| ROADWAY DESIGN<br>ENGINEER<br> | HYDRAULICS<br>ENGINEER<br> |

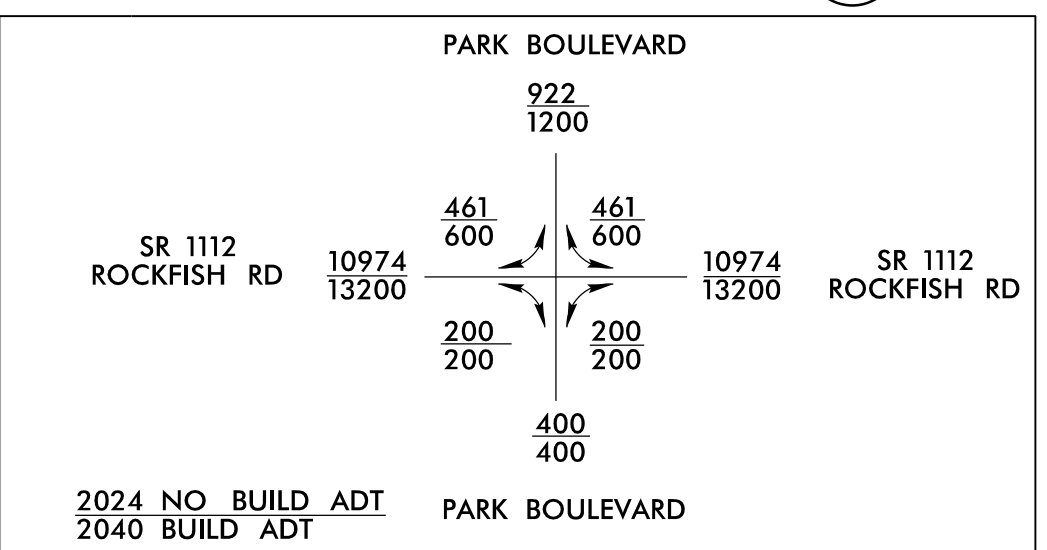
**DOCUMENT NOT CONSIDERED FINAL  
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NAD 83 NA 2011



MATCHLINE -L- STA. 24 +00.00  
SEE SHEET 4

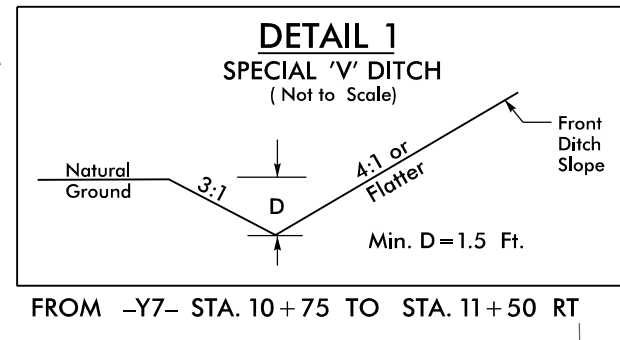
MATCHLINE -L-  
STA. 38 +00.00  
SEE SHEET 6



 EXISTING PAVEMENT TO BE REMOVED  
 5' CONC. SIDEWALK, 8' MUP, AND CONCRETE ISLAND

SEE SHEET 11 FOR -L- PROFILE  
SEE SHEET 14 FOR -RND- PROFILE  
SEE SHEET 15 FOR -Y2- PROFILE  
SEE SHEET 15 FOR -Y2A- PROFILE  
SEE SHEET 15 FOR -Y3- PROFILE  
SEE SHEET 16 FOR -Y5- PROFILE  
SEE SHEET 2B-2 FOR ROUNDABOUT DETAILS  
SEE SHEET 2B-3 FOR MULTI-USE PATH ALIGNMENT

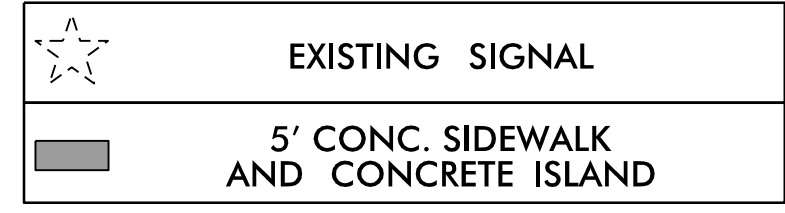
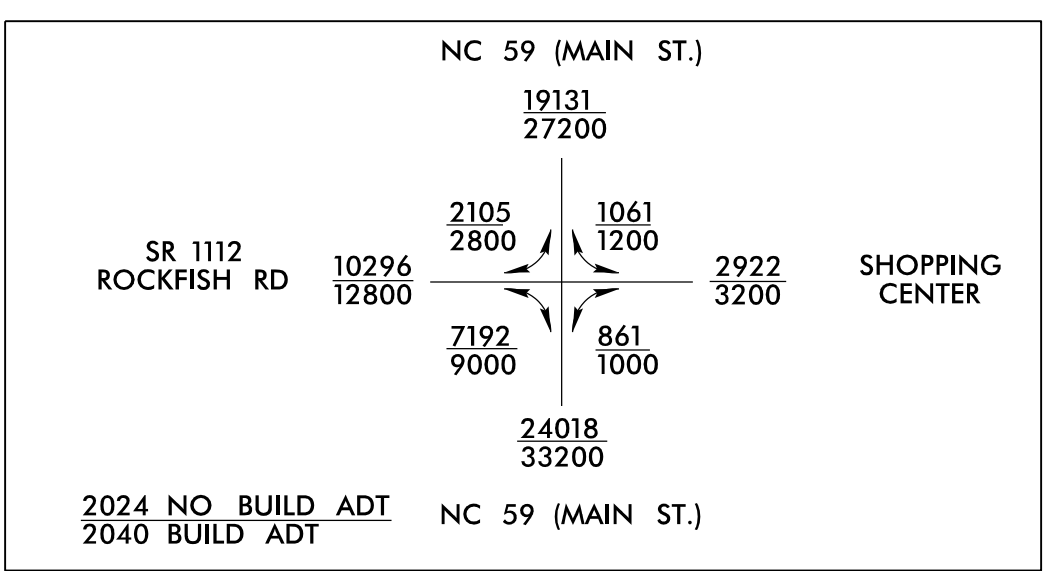
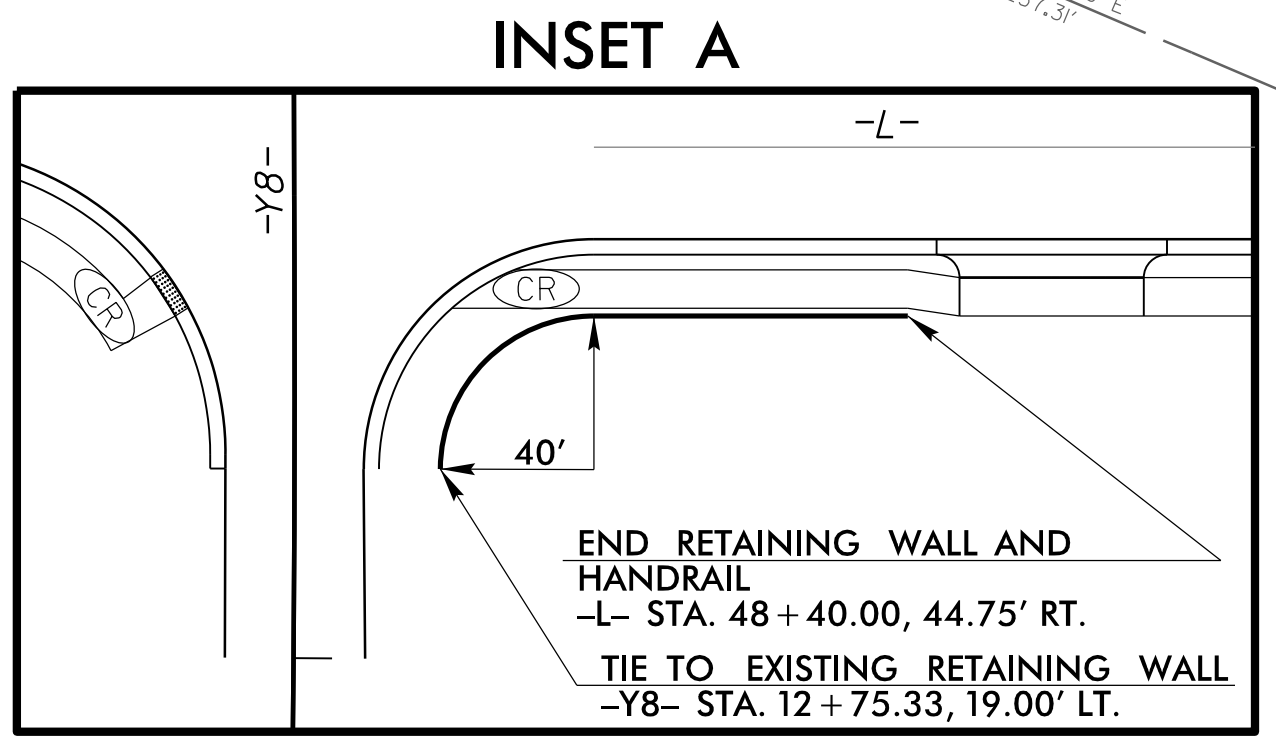
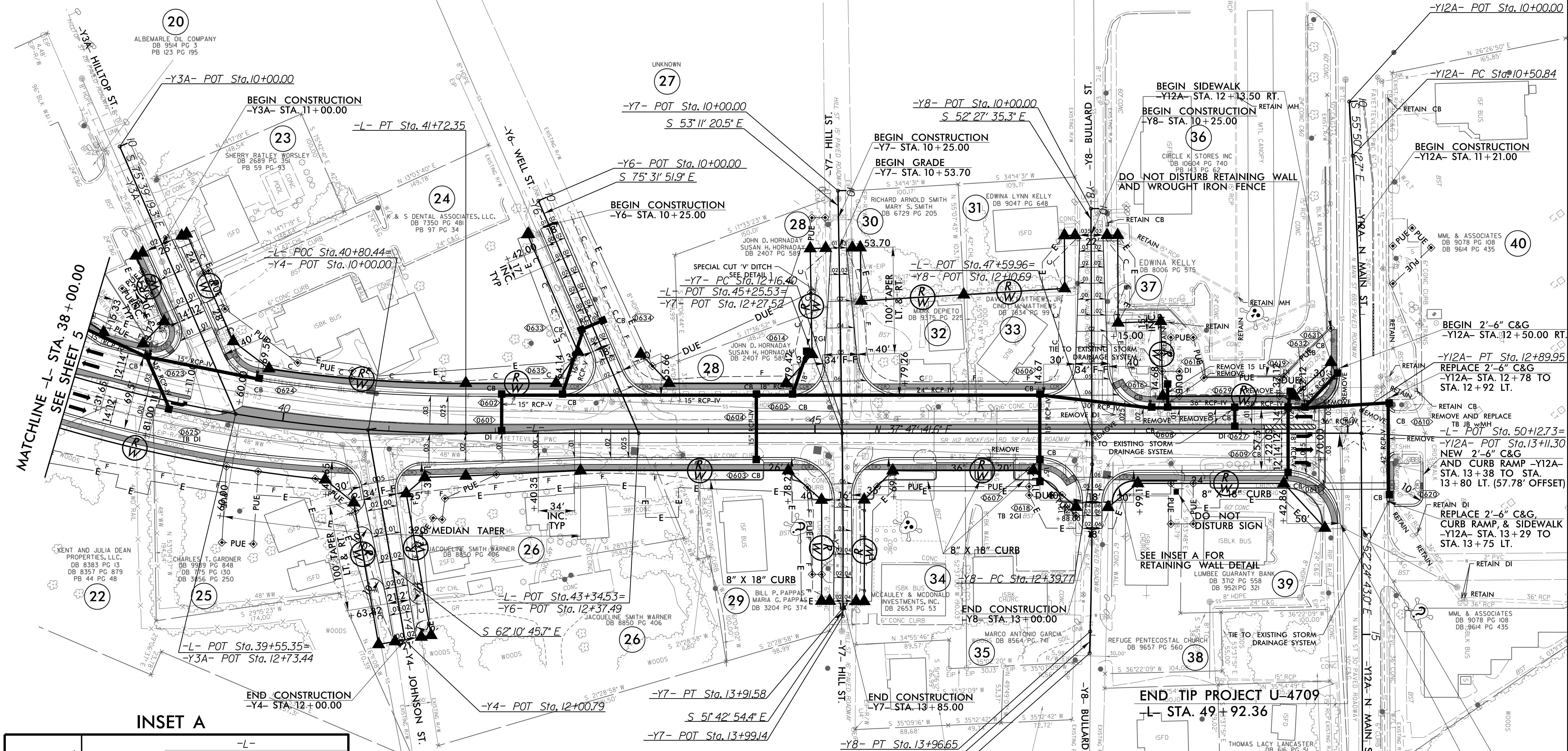
| -L-                                   | -Y7-                                 | -Y8-                                 | -Y12A-                               |
|---------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| PI Sta 35+96.41                       | PI Sta 13+04.00                      | PI Sta 13+18.22                      | PI Sta 11+70.43                      |
| $\Delta = 55^{\circ} 34' 43.2''$ (LT) | $\Delta = 1^{\circ} 28' 26.1''$ (RT) | $\Delta = 1^{\circ} 48' 40.0''$ (RT) | $\Delta = 3^{\circ} 25' 29.7''$ (RT) |
| D = 4' 24" 26.5"                      | D = 0' 50" 28.8"                     | D = 1' 09" 16.0"                     | D = 1' 25" 56.6"                     |
| L = 1,261.04'                         | L = 175.19'                          | L = 156.88'                          | L = 2,391.0'                         |
| T = 685.10'                           | T = 87.60'                           | T = 78.45'                           | T = 119.59'                          |
| R = 1,300.00'                         | R = 6,810.04'                        | R = 4,963.06'                        | R = 4,000.00'                        |
| SE = 0.03                             | SE = SEE PLANS                       | SE = SEE PLANS                       | SE = SEE PLANS                       |
| RO = 102'                             |                                      |                                      |                                      |



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| RW SHEET NO.                    | HYDRAULICS ENGINEER |
| ROADWAY DESIGN ENGINEER         | SEAL 033871         |
| DANIEL W. GARDNER, JR.          | BRAND A. MAZZOCCO   |

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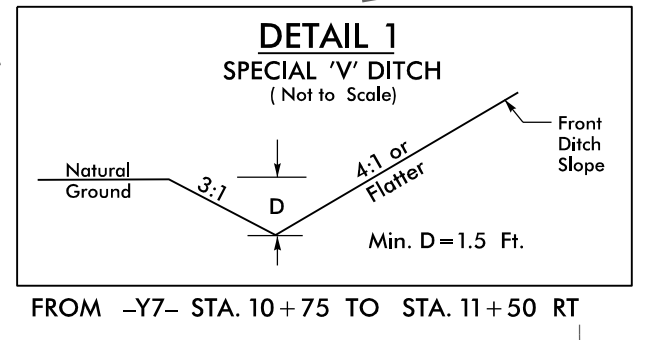


SEE SHEET 12 FOR -L- PROFILE  
 SEE SHEET 16 FOR -Y3A- PROFILE  
 SEE SHEET 16 FOR -Y4- PROFILE  
 SEE SHEET 16 FOR -Y6- PROFILE  
 SEE SHEET 17 FOR -Y7- PROFILE  
 SEE SHEET 17 FOR -Y8- PROFILE  
 SEE SHEET 18 FOR -Y12A- PROFILE

9/23/2024 U:\14709\_Rdwy\_psh\_6.dgn

8.17.799

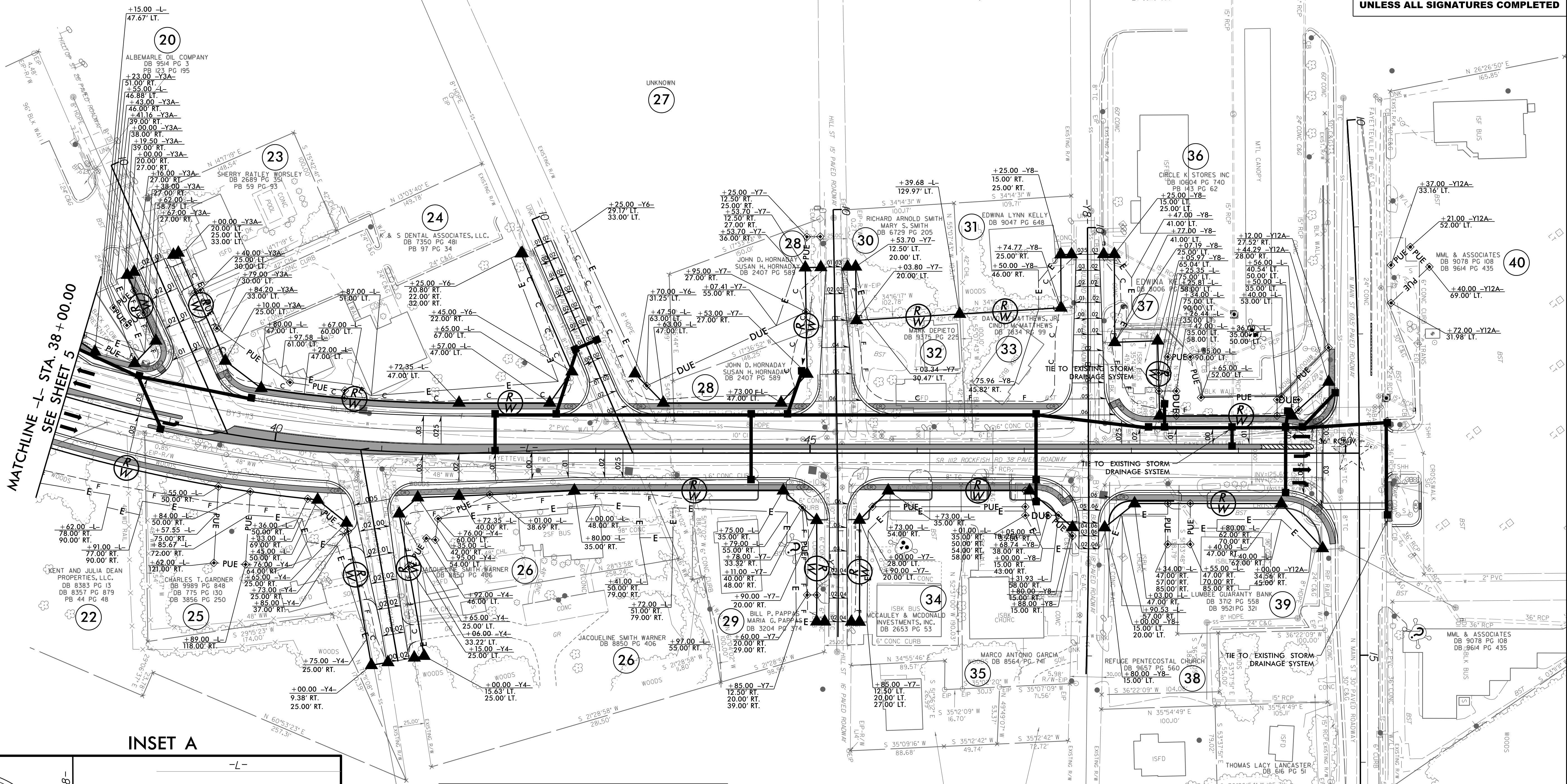
| -L-                                   | -Y7-                                 | -Y8-                                 | -Y12A-                               |
|---------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| PI Sta 35+96.41                       | PI Sta 13+04.00                      | PI Sta 13+18.22                      | PI Sta 11+70.43                      |
| $\Delta = 55^{\circ} 34' 43.2''$ (LT) | $\Delta = 1^{\circ} 28' 26.1''$ (RT) | $\Delta = 1^{\circ} 48' 40.0''$ (RT) | $\Delta = 3^{\circ} 25' 29.7''$ (RT) |
| $D = 4' 24' 26.5''$                   | $D = 0' 50' 28.8''$                  | $D = 1' 09' 16.0''$                  | $D = 1' 25' 56.6''$                  |
| $L = 1,261.04'$                       | $L = 175.19'$                        | $L = 156.88'$                        | $L = 2,391.0'$                       |
| $T = 685.10'$                         | $T = 87.60'$                         | $T = 78.45'$                         | $T = 119.59'$                        |
| $R = 1,300.00'$                       | $R = 6,810.04'$                      | $R = 4,963.06'$                      | $R = 4,000.00'$                      |
| $SE = 0.03$                           | $SE = SEE PLANS$                     | $SE = SEE PLANS$                     |                                      |
| $RO = 102'$                           |                                      |                                      |                                      |



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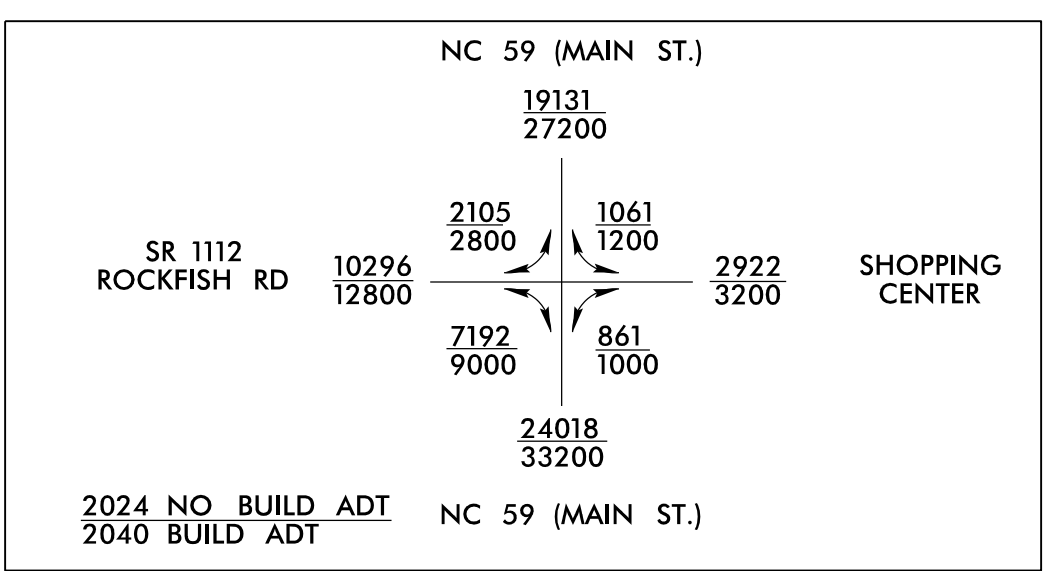
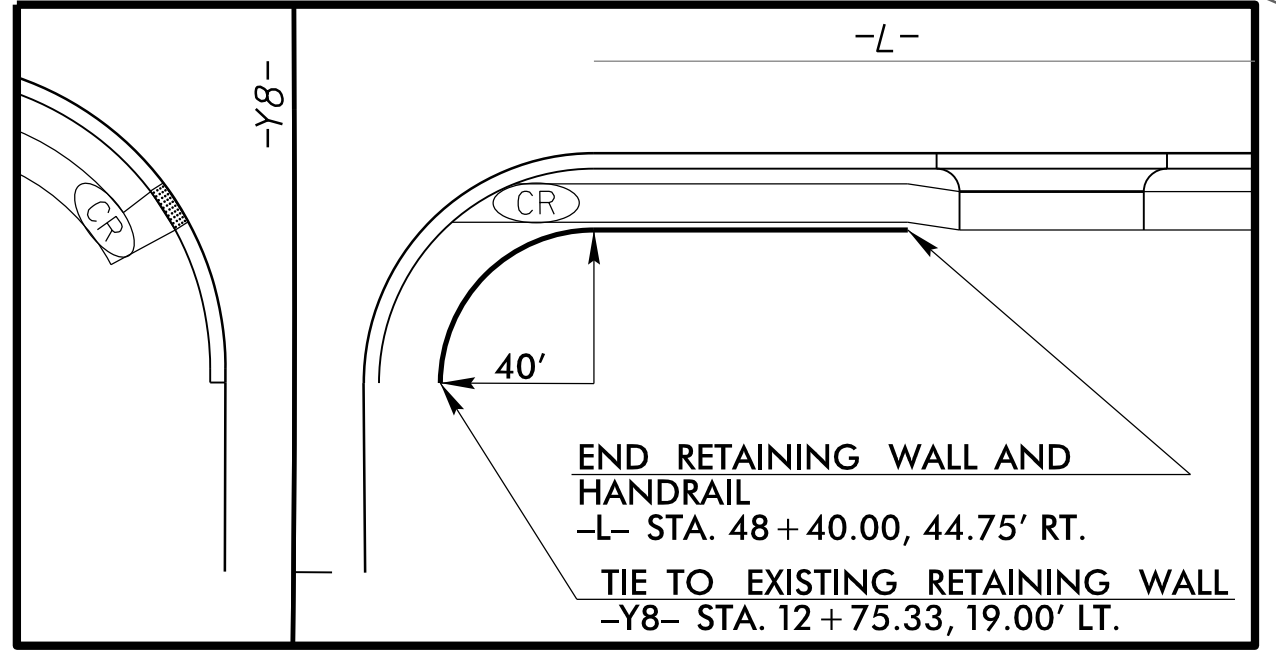
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|--|------------------------|
| PROJECT REFERENCE NO.<br><b>U-4709</b> | SHEET NO.<br><b>6A</b> |
| RW SHEET NO.                           | HYDRAULICS ENGINEER    |
| ROADWAY DESIGN ENGINEER                | SEAL 033871            |
| PROFESSIONAL ENGINEER                  | SEAL 033719            |
| DAVID W. GARDNER, JR.                  | DAVID W. GARDNER, JR.  |

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UNLESS ALL SIGNATURES COMPLETED**



MATCHLINE -L- STA. 38+00.00  
SEE SHEET 5

**INSET A**



EXISTING SIGNAL  
 5' CONC. SIDEWALK AND CONCRETE ISLAND

SEE SHEET 12 FOR -L- PROFILE  
 SEE SHEET 16 FOR -Y3A- PROFILE  
 SEE SHEET 16 FOR -Y4- PROFILE  
 SEE SHEET 16 FOR -Y6- PROFILE  
 SEE SHEET 17 FOR -Y7- PROFILE  
 SEE SHEET 17 FOR -Y8- PROFILE  
 SEE SHEET 18 FOR -Y12A- PROFILE

9/23/2004 11:47:09 Pdu\_esh\_6A.dgn  
 US:R:\cadd\pdr

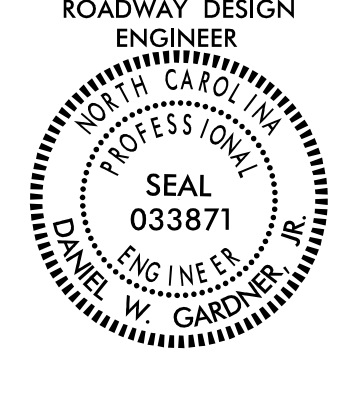
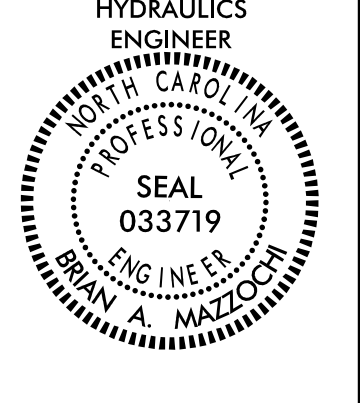
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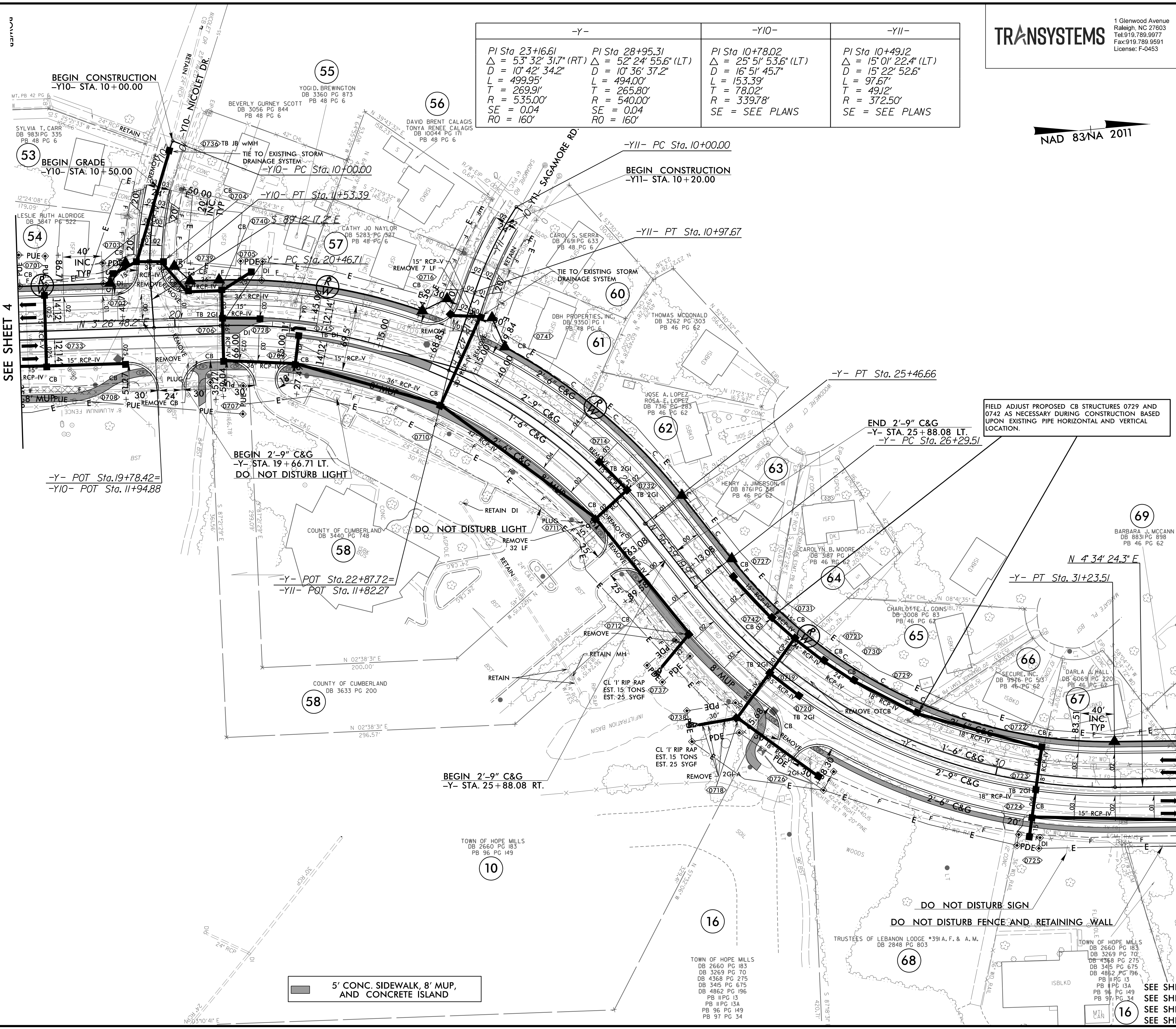
MATCHLINE -Y- STA. 18+40.00  
 SEE SHEET 4

MATCHLINE -Y- STA. 31+90.00  
 SEE SHEET 8

| -Y-   | -Y10-  | -Y11-   |
|---|--|---|
| PI Sta 23+16.61<br>$\Delta = 53^\circ 32' 31.7" (RT)$<br>$D = 10^\circ 42' 34.2"$<br>$L = 499.95'$<br>$T = 269.9'$<br>$R = 535.00'$<br>$SE = 0.04$<br>$RO = 160'$ | PI Sta 28+95.31<br>$\Delta = 52^\circ 24' 55.6" (LT)$<br>$D = 10^\circ 36' 37.2"$<br>$L = 494.00'$<br>$T = 265.80'$<br>$R = 540.00'$<br>$SE = 0.04$<br>$RO = 160'$ | PI Sta 10+78.02<br>$\Delta = 25^\circ 51' 53.6" (LT)$<br>$D = 16^\circ 51' 45.7"$<br>$L = 153.39'$<br>$T = 78.02'$<br>$R = 339.78'$<br>$SE = SEE PLANS$ |
| PI Sta 10+49.12<br>$\Delta = 15^\circ 01' 22.4" (LT)$<br>$D = 15^\circ 22' 52.6"$<br>$L = 97.67'$<br>$T = 49.12'$<br>$R = 372.50'$<br>$SE = SEE PLANS$            |  |   |

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|  |  |
|--|--|
| PROJECT REFERENCE NO.<br>U-4709  | SHEET NO.<br>7   |
| RW SHEET NO.   |  |
| ROADWAY DESIGN ENGINEER<br> | HYDRAULICS ENGINEER<br> |
| <b>DOCUMENT NOT CONSIDERED FINAL<br/>       UNLESS ALL SIGNATURES COMPLETED</b>                                |  |



FIELD ADJUST PROPOSED CB STRUCTURES 0729 AND 0742 AS NECESSARY DURING CONSTRUCTION BASED UPON EXISTING PIPE HORIZONTAL AND VERTICAL LOCATION.

SEE SHEET 13 FOR -Y- PROFILE  
 SEE SHEET 17 FOR -Y10- PROFILE  
 SEE SHEET 17 FOR -Y11- PROFILE  
 SEE SHEET 2B-3 FOR MULTI-USE PATH ALIGNMENT

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MATCHLINE -Y- STA. 18 + 40.00  
 SEE SHEET 4

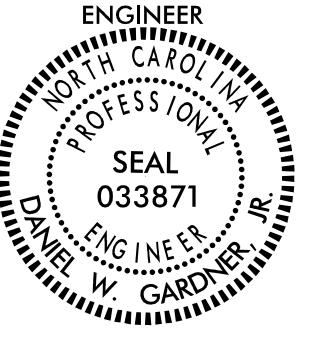
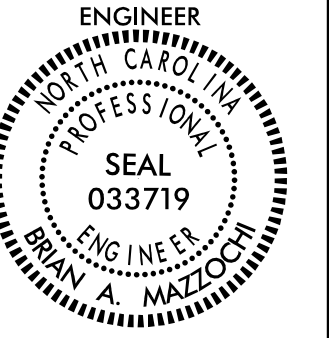
MATCHLINE -Y- STA. 31 + 90.00  
 SEE SHEET 8

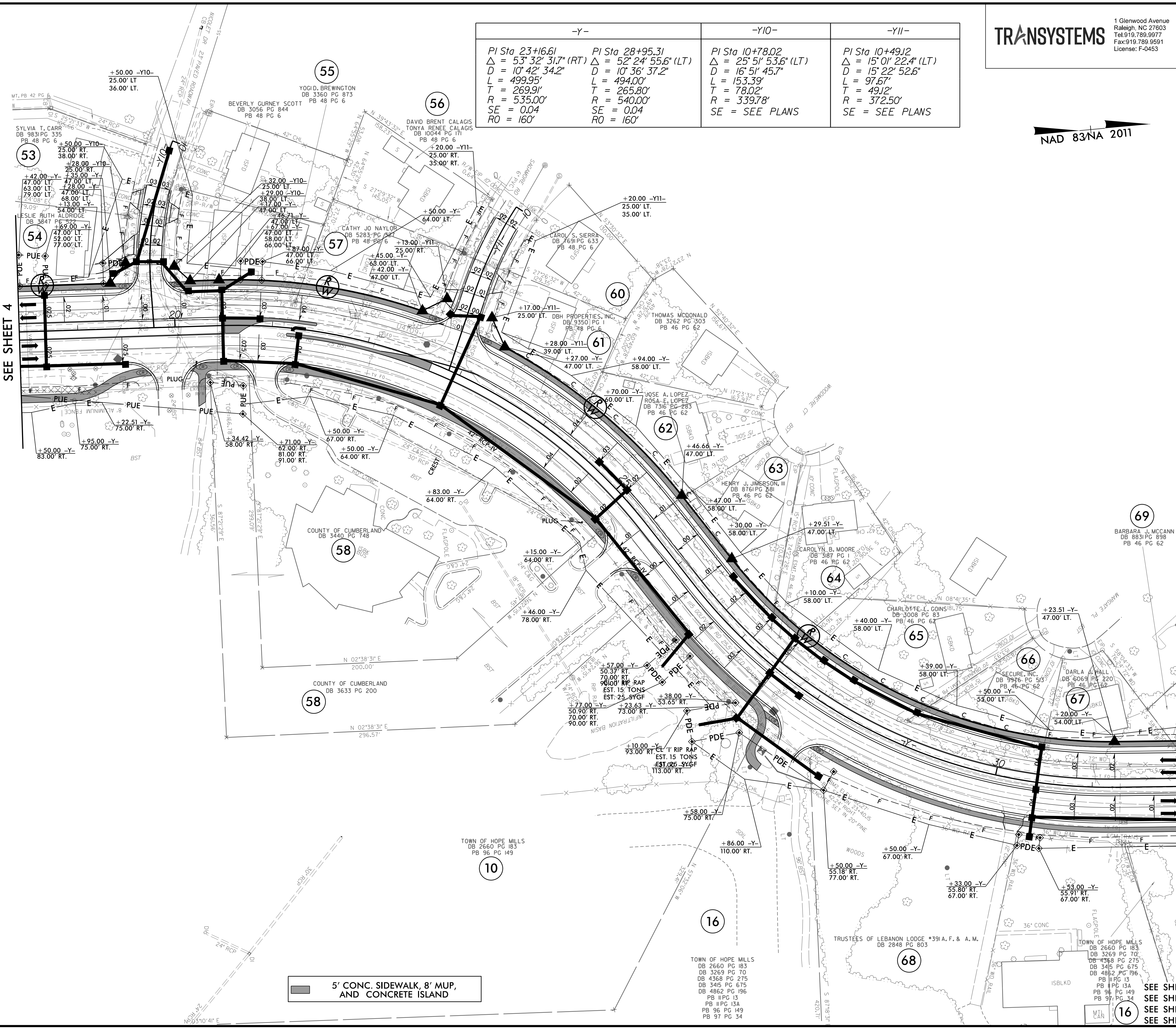
| -Y-   | -Y10-  | -Y11-   |
|---|--|---|
| PI Sta 23+16.61<br>$\Delta = 53^{\circ} 32' 31.7" (RT)$<br>$D = 10^{\circ} 42' 34.2"$<br>$L = 499.95'$<br>$T = 269.9'$<br>$R = 535.00'$<br>$SE = 0.04$<br>$RO = 160'$ | PI Sta 28+95.31<br>$\Delta = 52^{\circ} 24' 55.6" (LT)$<br>$D = 10^{\circ} 36' 37.2"$<br>$L = 494.00'$<br>$T = 265.80'$<br>$R = 540.00'$<br>$SE = 0.04$<br>$RO = 160'$ | PI Sta 10+78.02<br>$\Delta = 25^{\circ} 51' 53.6" (LT)$<br>$D = 16^{\circ} 51' 45.7"$<br>$L = 153.39'$<br>$T = 78.02'$<br>$R = 339.78'$<br>$SE = SEE PLANS$ |
| PI Sta 10+49.12<br>$\Delta = 15^{\circ} 01' 22.4" (LT)$<br>$D = 15^{\circ} 22' 52.6"$<br>$L = 97.67'$<br>$T = 49.12'$<br>$R = 372.50'$<br>$SE = SEE PLANS$            |  |   |

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|--|--|
| PROJECT REFERENCE NO.<br><b>U-4709</b>   | SHEET NO.<br><b>7A</b>   |
| RW SHEET NO.   |  |
| ROADWAY DESIGN ENGINEER<br> | HYDRAULICS ENGINEER<br> |
| <b>DOCUMENT NOT CONSIDERED FINAL<br/>UNLESS ALL SIGNATURES COMPLETED</b>                                       |  |

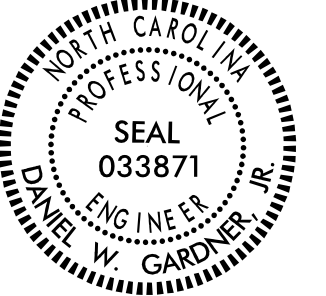
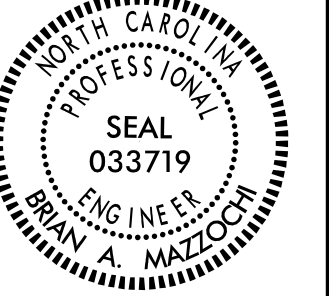


5' CONC. SIDEWALK, 8' MUP,  
AND CONCRETE ISLAND

SEE SHEET 13 FOR -Y- PROFILE  
 SEE SHEET 17 FOR -Y10- PROFILE  
 SEE SHEET 17 FOR -Y11- PROFILE  
 SEE SHEET 2B-3 FOR MULTI-USE PATH ALIGNMENT



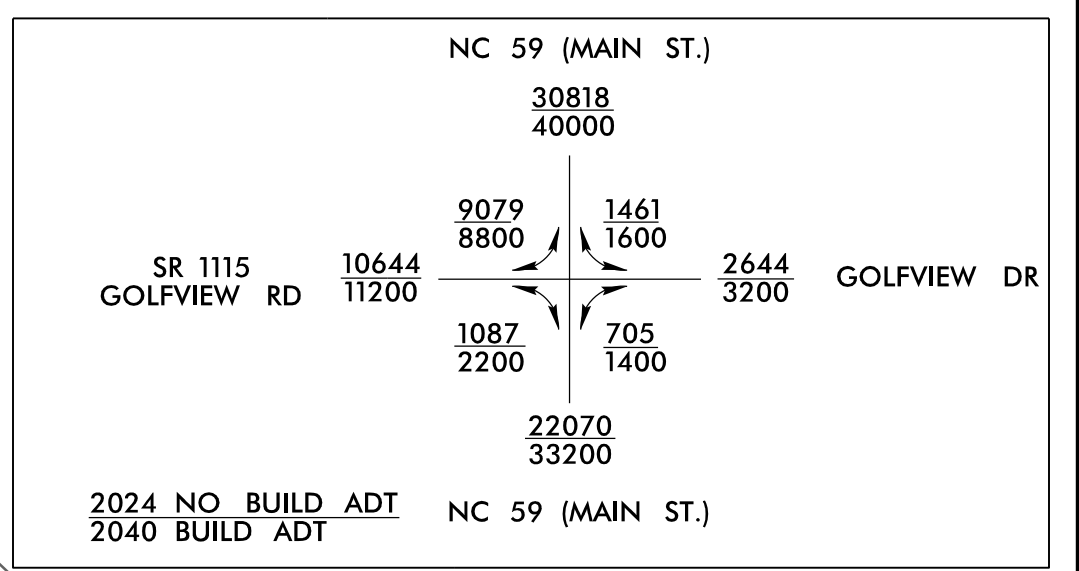
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|   |  |   |  |
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| PROJECT REFERENCE NO.<br><b>U-4709</b>  |  | SHEET NO.<br><b>8</b>   |  |
| RW SHEET NO.  |  |   |  |
| ROADWAY DESIGN ENGINEER   |  | HYDRAULICS ENGINEER   |  |
|  |  |  |  |

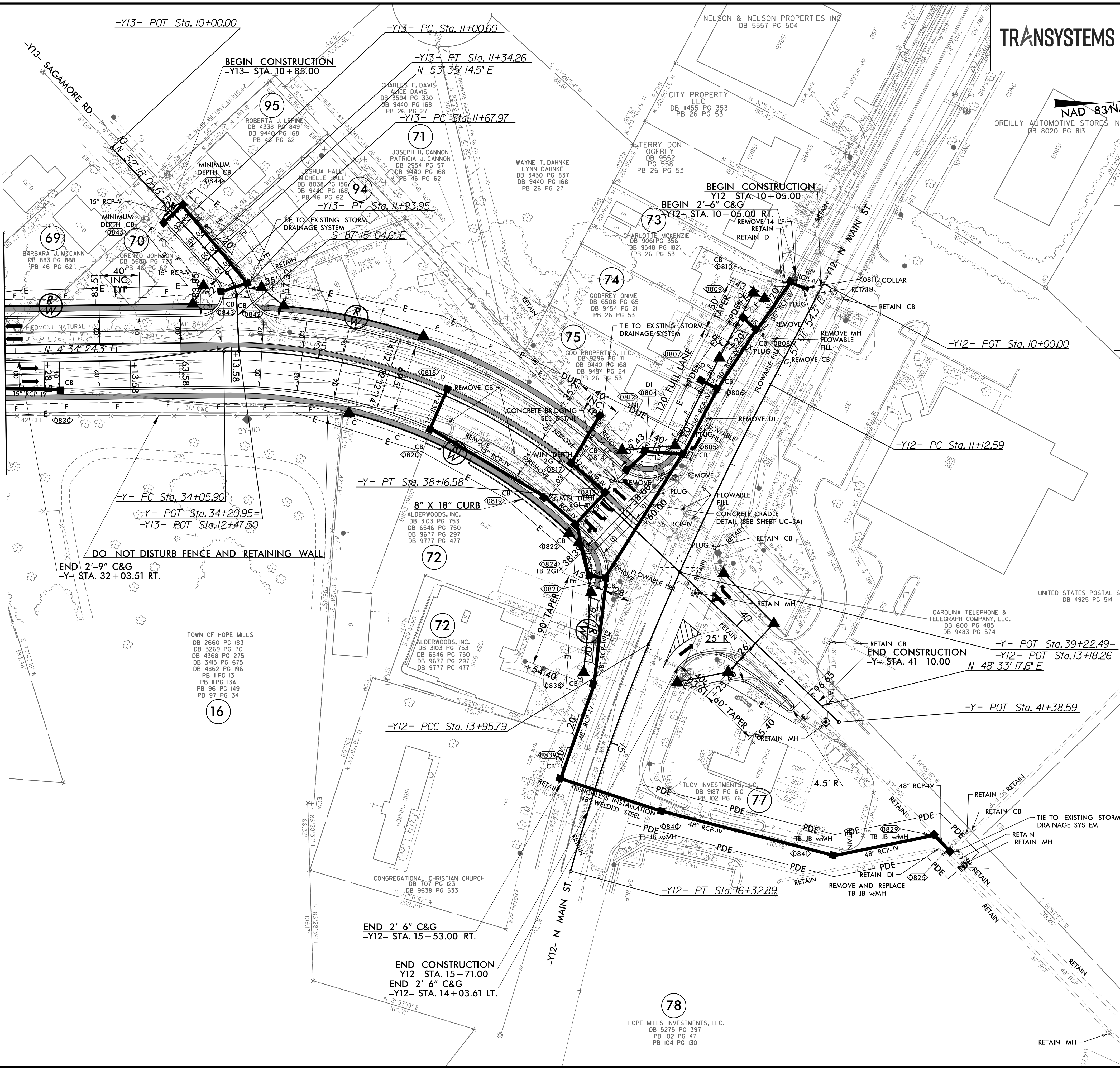
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UNLESS ALL SIGNATURES COMPLETED**



MATCHLINE -Y- STA. 31+90.00  
SEE SHEET 7



-Y-


|                                      |
|--------------------------------------|
| PI Sta 36+21.95                      |
| $\Delta = 43^{\circ} 58' 53.3" (RT)$ |
| $D = 10^{\circ} 42' 34.2"$           |
| $L = 410.68'$                        |
| $T = 216.05'$                        |
| $R = 535.00'$                        |
| $SE = 0.04$                          |
| $RO = 160'$                          |


-Y12-

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| PI Sta 12+54.27                     | PI Sta 15+14.51                     |
| $\Delta = 4^{\circ} 52' 25.5" (LT)$ | $\Delta = 7^{\circ} 35' 56.9" (LT)$ |
| $D = 1^{\circ} 43' 15.6"$           | $D = 3^{\circ} 12' 18.2"$           |
| $L = 283.20'$                       | $L = 237.10'$                       |
| $T = 141.68'$                       | $T = 118.72'$                       |
| $R = 3,329.24'$                     | $R = 1,787.68'$                     |

-Y13-

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| PI Sta 11+17.43                     | PI Sta 11+81.49                      |
| $\Delta = 1^{\circ} 17' 08.0" (RT)$ | $\Delta = 39^{\circ} 09' 40.8" (RT)$ |
| $D = 3^{\circ} 49' 11.0"$           | $D = 150^{\circ} 46' 42.1"$          |
| $L = 33.66'$                        | $L = 25.97'$                         |
| $T = 16.83'$                        | $T = 13.52'$                         |
| $R = 1,500.00'$                     | $R = 38.00'$                         |

 EXISTING SIGNAL

 5' CONC. SIDEWALK AND CONCRETE ISLAND

SEE SHEET 13 FOR -Y- PROFILE  
SEE SHEET 18 FOR -Y12- PROFILE  
SEE SHEET 18 FOR -Y13- PROFILE

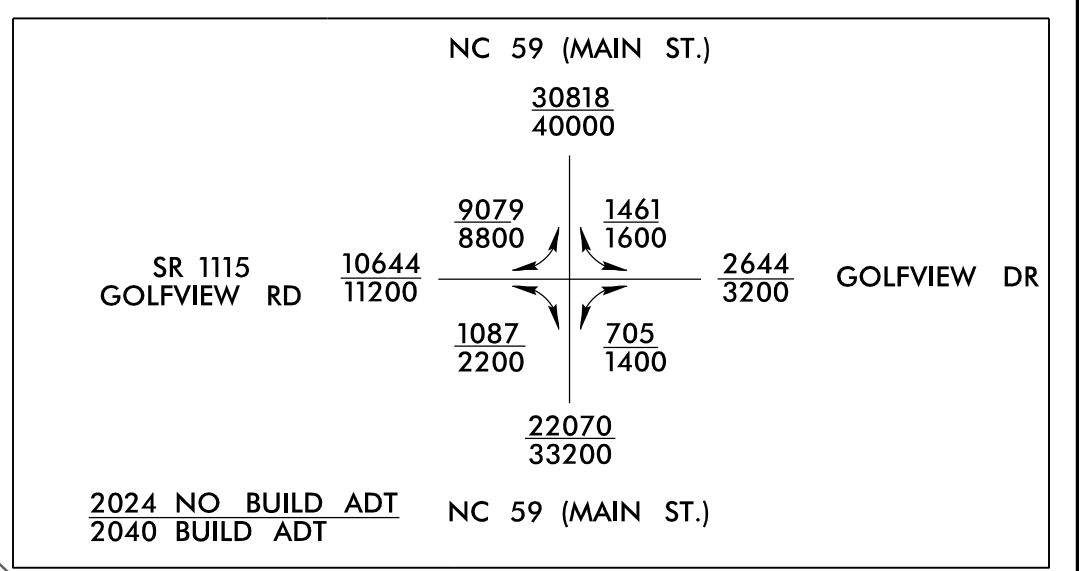
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US:Rdwr

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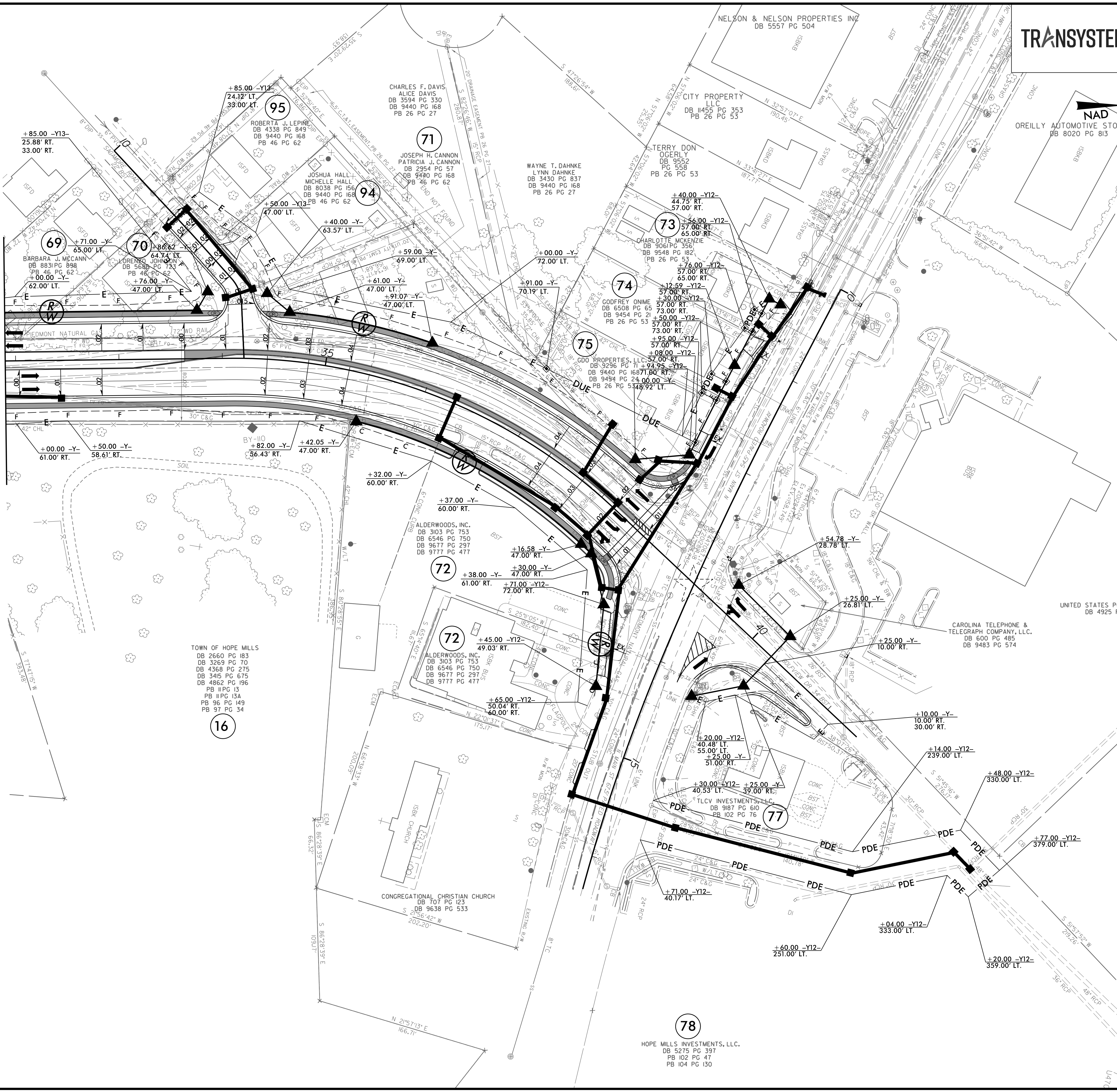
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|  |                        |
|--|------------------------|
| PROJECT REFERENCE NO.<br><b>U-4709</b> | SHEET NO.<br><b>8A</b> |
| RW SHEET NO.                           |                        |
| ROADWAY DESIGN ENGINEER                | HYDRAULICS ENGINEER    |
|  |                        |

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MATCHLINE -Y- STA. 31 + 90.00  
 SEE SHEET 7



-Y-

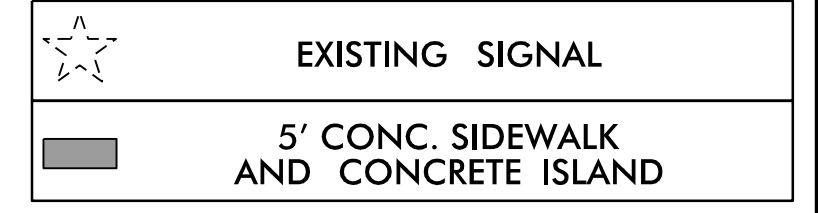
|  |
|--|
| $PI\ Sta\ 36+21.95$<br>$\Delta = 43^{\circ}58'53.3\" (RT)$<br>$D = 10^{\circ}42'34.2\"$<br>$L = 410.68'$<br>$T = 216.05'$<br>$R = 535.00'$<br>$SE = 0.04$<br>$RO = 160'$ |
|--|

-Y12-

|  |  |
|--|--|
| $PI\ Sta\ 12+54.27$<br>$\Delta = 4^{\circ}52'25.5\" (LT)$<br>$D = 1^{\circ}43'15.6\"$<br>$L = 283.20'$<br>$T = 141.68'$<br>$R = 3,329.24'$ | $PI\ Sta\ 15+14.51$<br>$\Delta = 7^{\circ}35'56.9\" (LT)$<br>$D = 3^{\circ}12'18.2\"$<br>$L = 237.10'$<br>$T = 118.72'$<br>$R = 1,787.68'$ |
|--|--|


-Y13-

|  |  |
|--|--|
| $PI\ Sta\ 11+17.43$<br>$\Delta = 1^{\circ}17'08.0\" (RT)$<br>$D = 3^{\circ}49'11.0\"$<br>$L = 33.66'$<br>$R = 1,500.00'$ | $PI\ Sta\ 11+81.49$<br>$\Delta = 39^{\circ}09'40.8\" (RT)$<br>$D = 150^{\circ}46'42.1\"$<br>$L = 25.97'$<br>$T = 13.52'$<br>$R = 38.00'$ |
|--|--|





SEE SHEET 13 FOR -Y- PROFILE  
 SEE SHEET 18 FOR -Y12- PROFILE

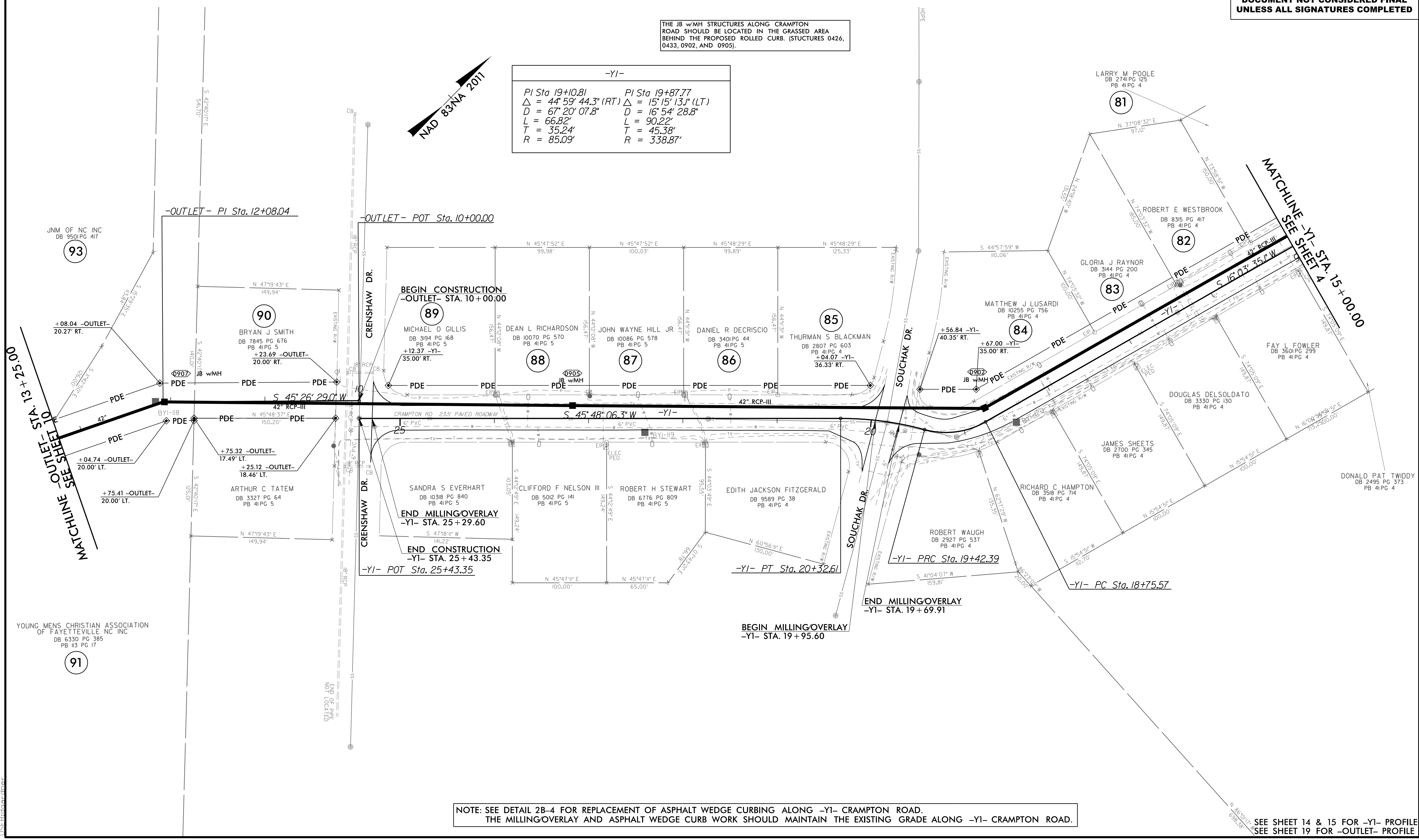
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|   |   |
|---|---|
| PROJECT REFERENCE NO.<br><b>U-4709</b>  | SHEET NO.<br><b>9</b>   |
| RW SHEET NO.  |   |
| ROADWAY DESIGN<br>ENGINEER  | HYDRAULICS<br>ENGINEER  |
| <br>SEAL<br>033871<br>DANIEL W. HURDNER, JR.<br>ENGINEER | <br>SEAL<br>033719<br>BRIAN A. MATZOCH<br>ENGINEER |

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THE JB w/MH STRUCTURES ALONG CRAMPTON ROAD SHOULD BE LOCATED IN THE GRASSED AREA BEHIND THE PROPOSED ROLLED CURB. (STRUCTURES 0426, 0433, 0902, AND 0905).

| -YI-                                |                                     |
|-------------------------------------|-------------------------------------|
| PI Sta 19+10.81                     | PI Sta 19+87.77                     |
| $\Delta = 44^{\circ}59'44.3''$ (RT) | $\Delta = 15^{\circ}15'13.1''$ (LT) |
| $D = 67^{\circ}20'07.8''$           | $D = 16^{\circ}54'28.8''$           |
| $L = 66.82'$                        | $L = 90.22'$                        |
| $T = 35.24'$                        | $T = 45.38'$                        |
| $R = 85.09'$                        | $R = 338.87'$                       |

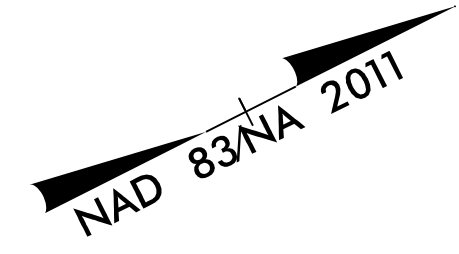
NOTE: SEE DETAIL 2B-4 FOR REPLACEMENT OF ASPHALT WEDGE CURBING ALONG -YI- CRAMPTON ROAD. THE MILLING/OVERLAY AND ASPHALT WEDGE CURB WORK SHOULD MAINTAIN THE EXISTING GRADE ALONG -YI- CRAMPTON ROAD.

SEE SHEET 14 & 15 FOR -YI- PROFILE  
SEE SHEET 19 FOR -OUTLET- PROFILE

8/17/99  
 9/23/2004  
 U:\Projects\14709\_Rd4\_psh\_10.dgn  
 J:\Users\jg\Documents\14709\_Rd4\_psh\_10.dgn

|  |                                 |
|--|---------------------------------|
| PROJECT REFERENCE NO.<br><b>U-4709</b> | SHEET NO.<br><b>10</b>          |
| RW SHEET NO.                           | HYDRAULICS ENGINEER             |
| ROADWAY DESIGN ENGINEER                | SEAL 033719<br>BRIAN A. MAZZOCH |
| SEAL 033871<br>DANIEL W. GARDNER, JR.  |                                 |

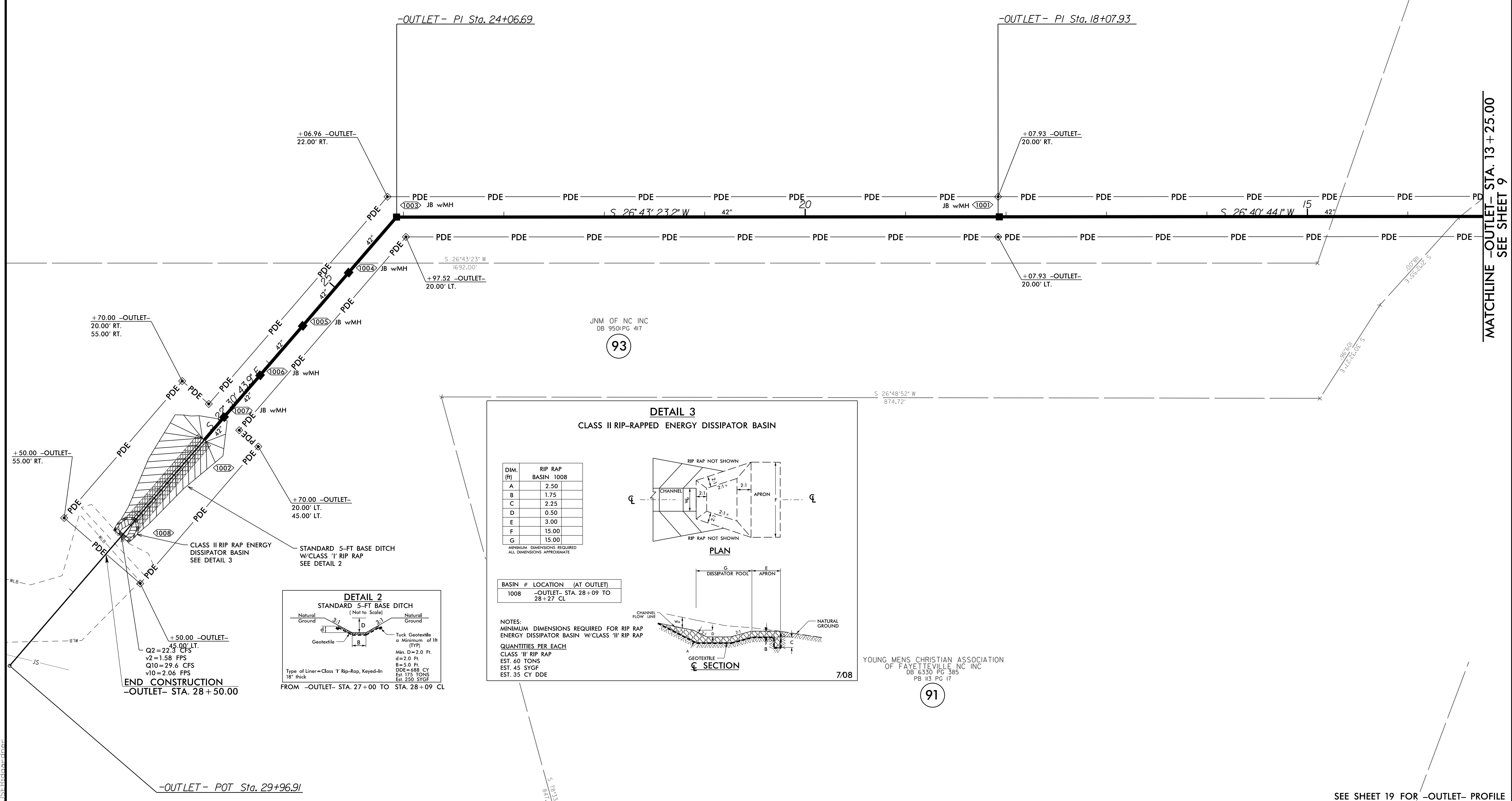
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TOWN OF HOPE MILLS  
 DB 2762 PG 299  
**92**

JNM OF NC INC  
 DB 9501 PG 417  
**93**

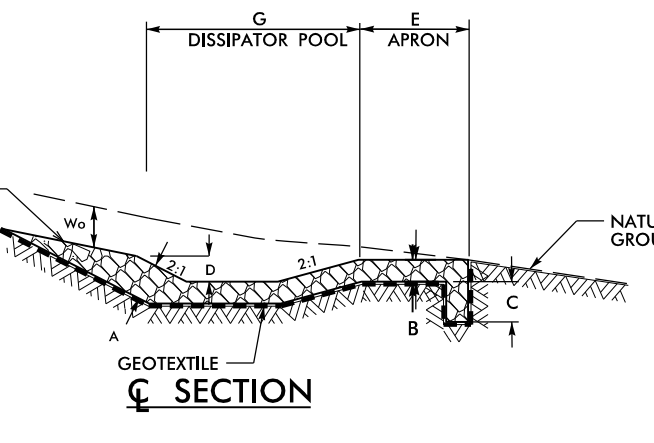
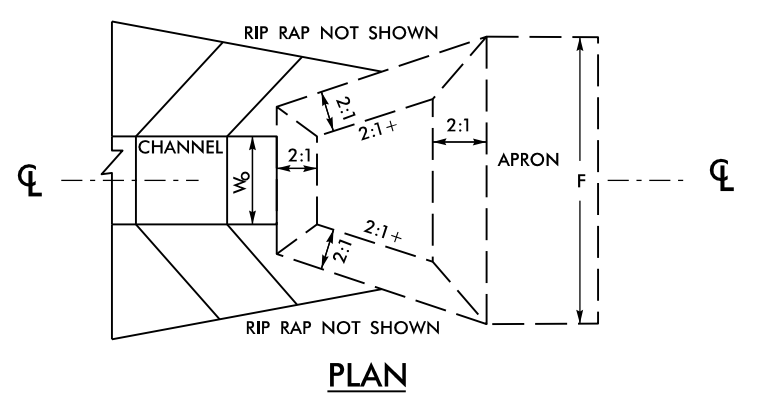
**91**



**DETAIL 3**  
CLASS II RIP-RAPPED ENERGY DISSIPATOR BASIN

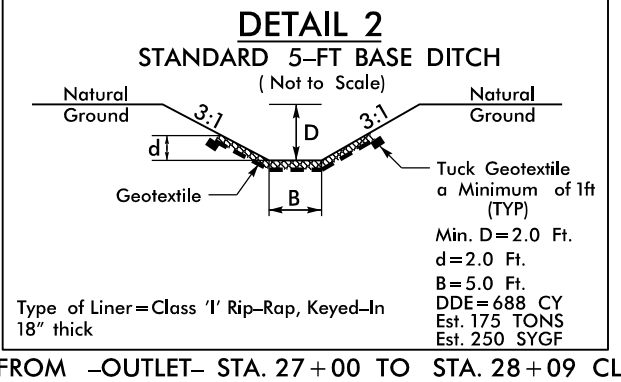
| DIM. (ft) | RIP RAP BASIN 1008 |
|-----------|--------------------|
| A         | 2.50               |
| B         | 1.75               |
| C         | 2.25               |
| D         | 0.50               |
| E         | 3.00               |
| F         | 15.00              |
| G         | 15.00              |

MINIMUM DIMENSIONS REQUIRED  
ALL DIMENSIONS APPROXIMATE



| BASIN # | LOCATION (AT OUTLET)            |
|---------|---------------------------------|
| 1008    | -OUTLET- STA. 28+09 TO 28+27 CL |

NOTES:  
 MINIMUM DIMENSIONS REQUIRED FOR RIP RAP ENERGY DISSIPATOR BASIN W/CLASS II RIP RAP  
 QUANTITIES PER EACH  
 CLASS II RIP RAP  
 EST. 60 TONS  
 EST. 45 SYGF  
 EST. 35 CY DDE



CLASS II RIP RAP ENERGY DISSIPATOR BASIN SEE DETAIL 3  
 STANDARD 5-FT BASE DITCH W/CLASS 'I' RIP RAP SEE DETAIL 2


END CONSTRUCTION  
 -OUTLET- STA. 28 + 50.00

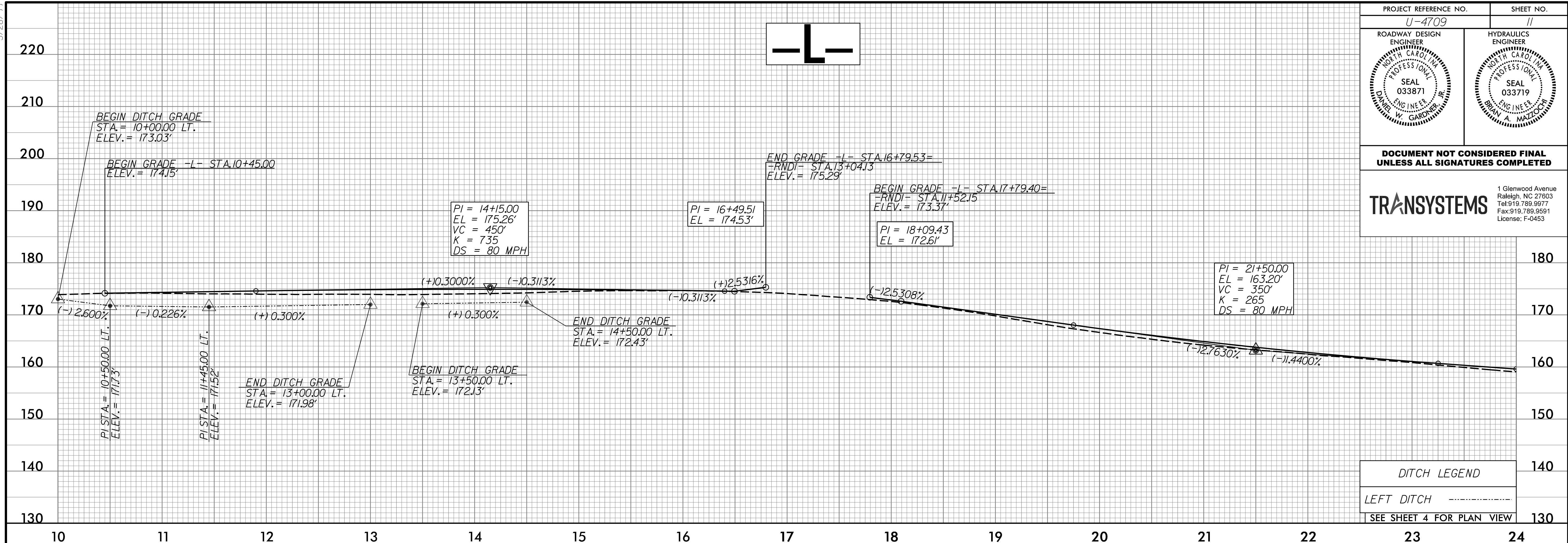
-OUTLET- POT Sta. 29+96.91

MATCHLINE -OUTLET- STA. 13 + 25.00 SEE SHEET 9

SEE SHEET 19 FOR -OUTLET- PROFILE

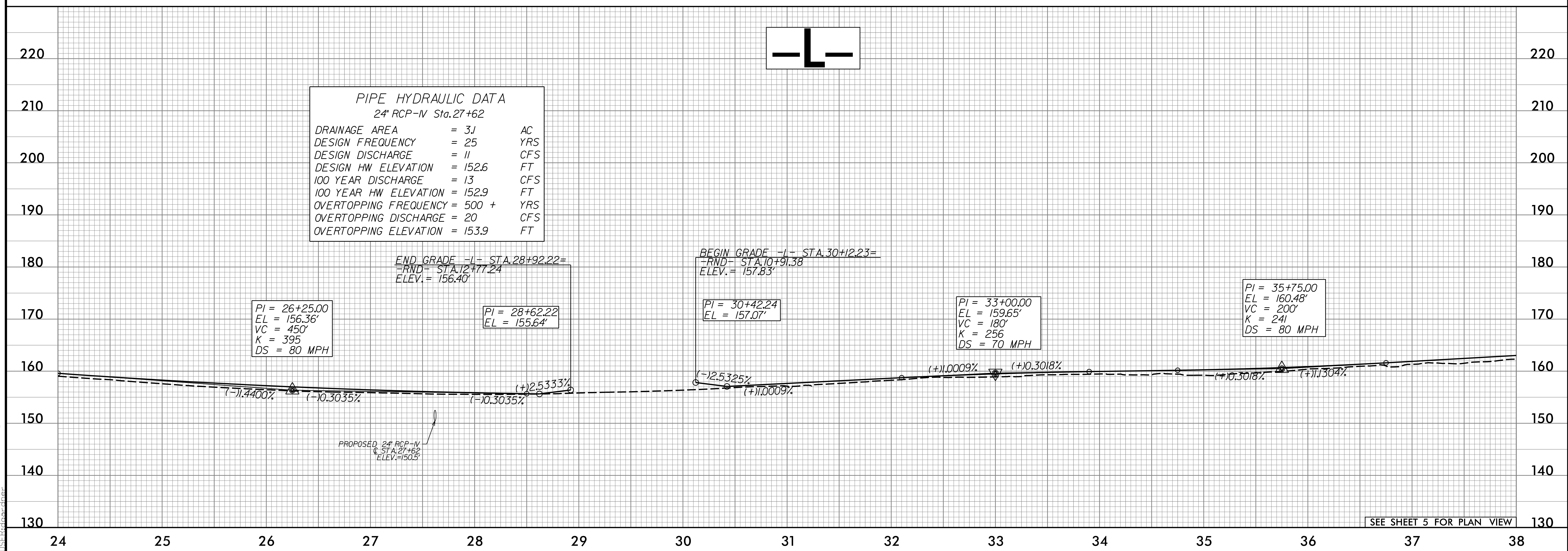
5/28/99

|   |  |
|---|--|
| PROJECT REFERENCE NO.<br>U-4709   | SHEET NO.<br>11  |
| ROADWAY DESIGN<br>ENGINEER<br>SEAL<br>033871<br>DANIEL W. GARDNER, R.                               | HYDRAULICS<br>ENGINEER<br>SEAL<br>033719<br>BRIAN A. MAZZOCCHI, R. |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED                                    |  |
|                  |  |
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**PIPE HYDRAULIC DATA**  
24" RCP-N Sta. 27+62

|                       |         |     |
|-----------------------|---------|-----|
| DRAINAGE AREA         | = 31    | AC  |
| DESIGN FREQUENCY      | = 25    | YRS |
| DESIGN DISCHARGE      | = 11    | CFS |
| DESIGN HW ELEVATION   | = 152.6 | FT  |
| 100 YEAR DISCHARGE    | = 13    | CFS |
| 100 YEAR HW ELEVATION | = 152.9 | FT  |
| OVERTOPPING FREQUENCY | = 500 + | YRS |
| OVERTOPPING DISCHARGE | = 20    | CFS |
| OVERTOPPING ELEVATION | = 153.9 | FT  |



9/27/2004 11:51:09 AM U:\4709\_Pdu\p1\_11.dgn

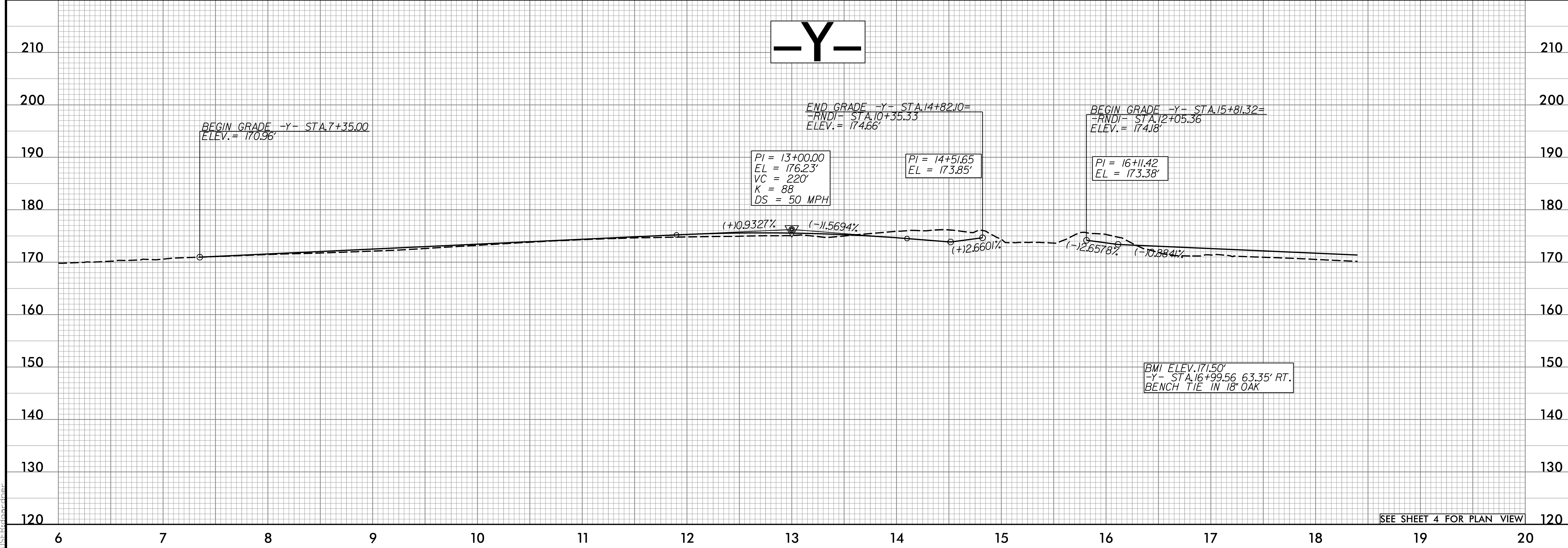
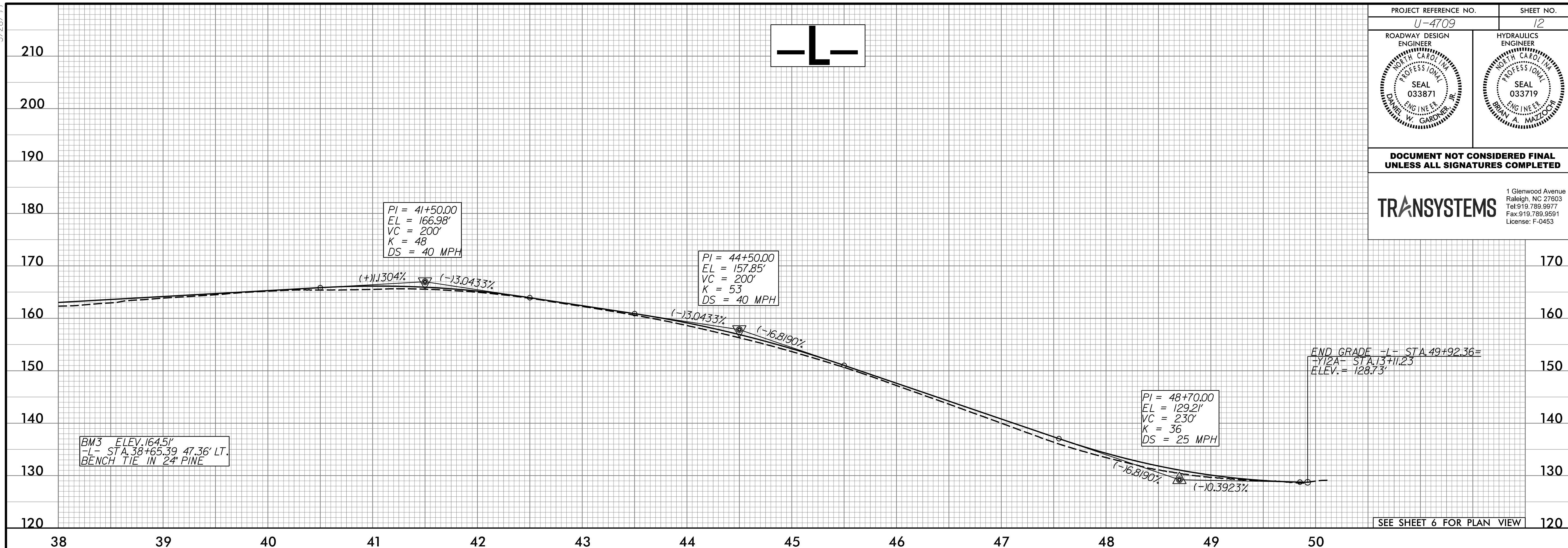
5/28/99

|  |  |
|--|--|
| PROJECT REFERENCE NO.<br>U-4709  | SHEET NO.<br>12  |
| ROADWAY DESIGN<br>ENGINEER<br>SEAL<br>033871<br>DANIEL W. GARDNER, JR. | HYDRAULICS<br>ENGINEER<br>SEAL<br>033719<br>BRYAN A. MAZDOCH |

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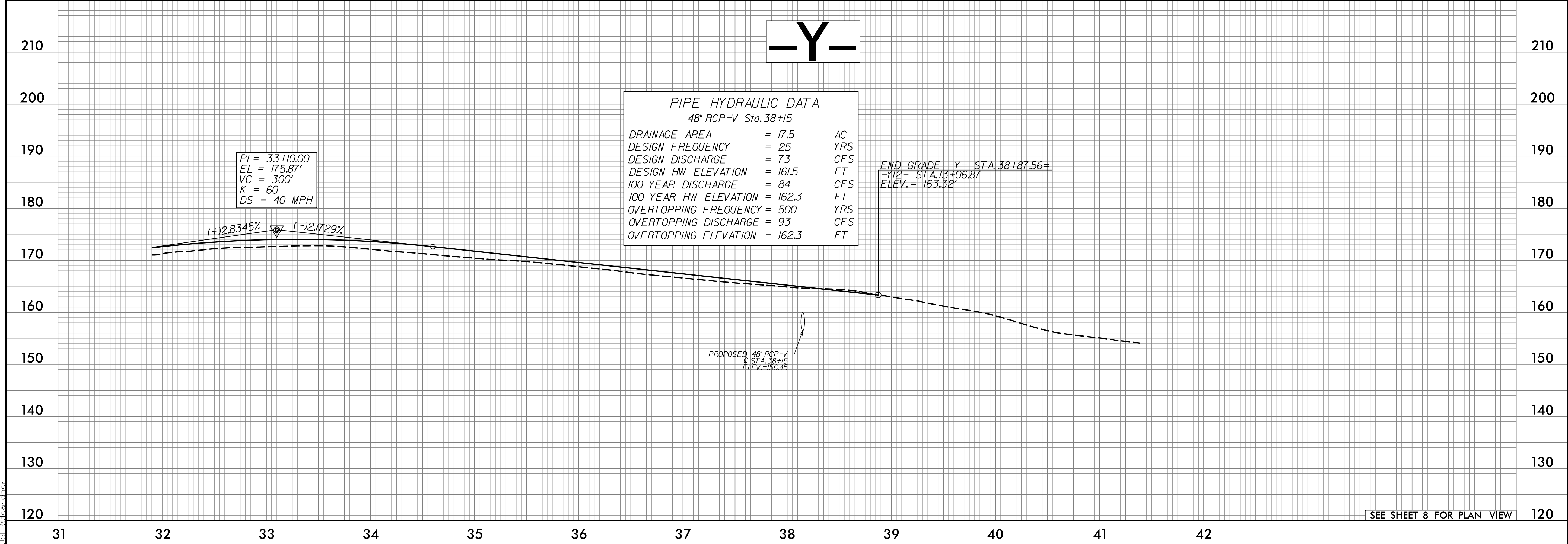
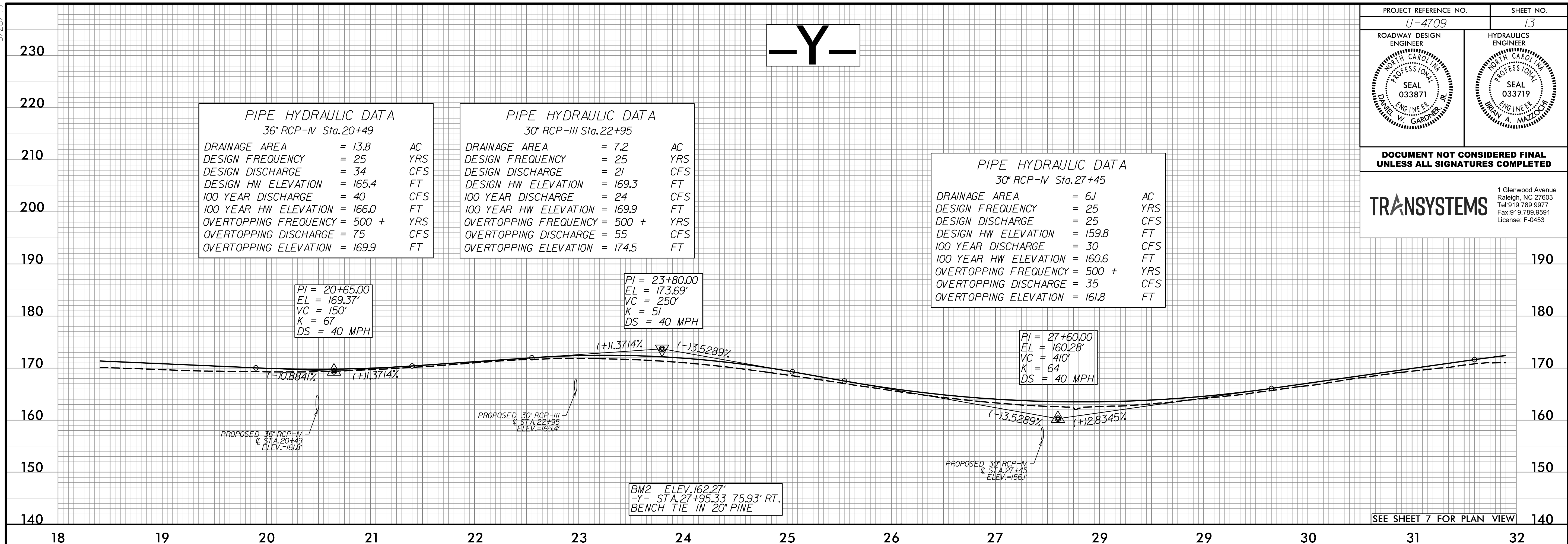
5/28/99

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| PROJECT REFERENCE NO.<br>U-4709  | SHEET NO.<br>13   |
| ROADWAY DESIGN ENGINEER<br>DAVID W. GARDNER, JR.<br>NORTH CAROLINA PROFESSIONAL SEAL<br>033871 | HYDRAULICS ENGINEER<br>BRIAN A. MAZOUCH<br>NORTH CAROLINA PROFESSIONAL SEAL<br>033719 |

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**TRANSYSTEMS**

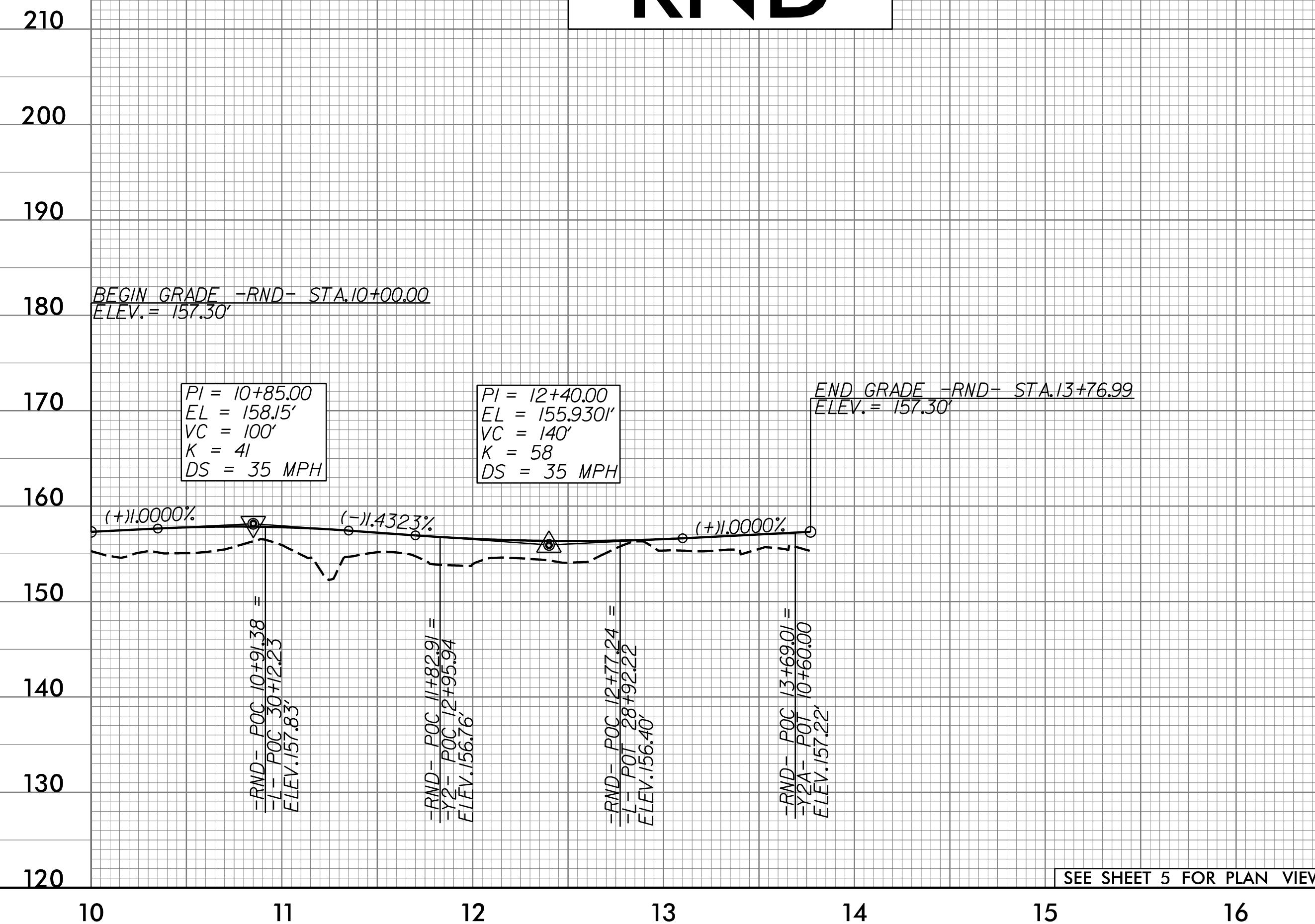
1 Glenwood Avenue  
Raleigh, NC 27603  
Tel: 919.789.9977  
Fax: 919.789.9591  
License: F-0453



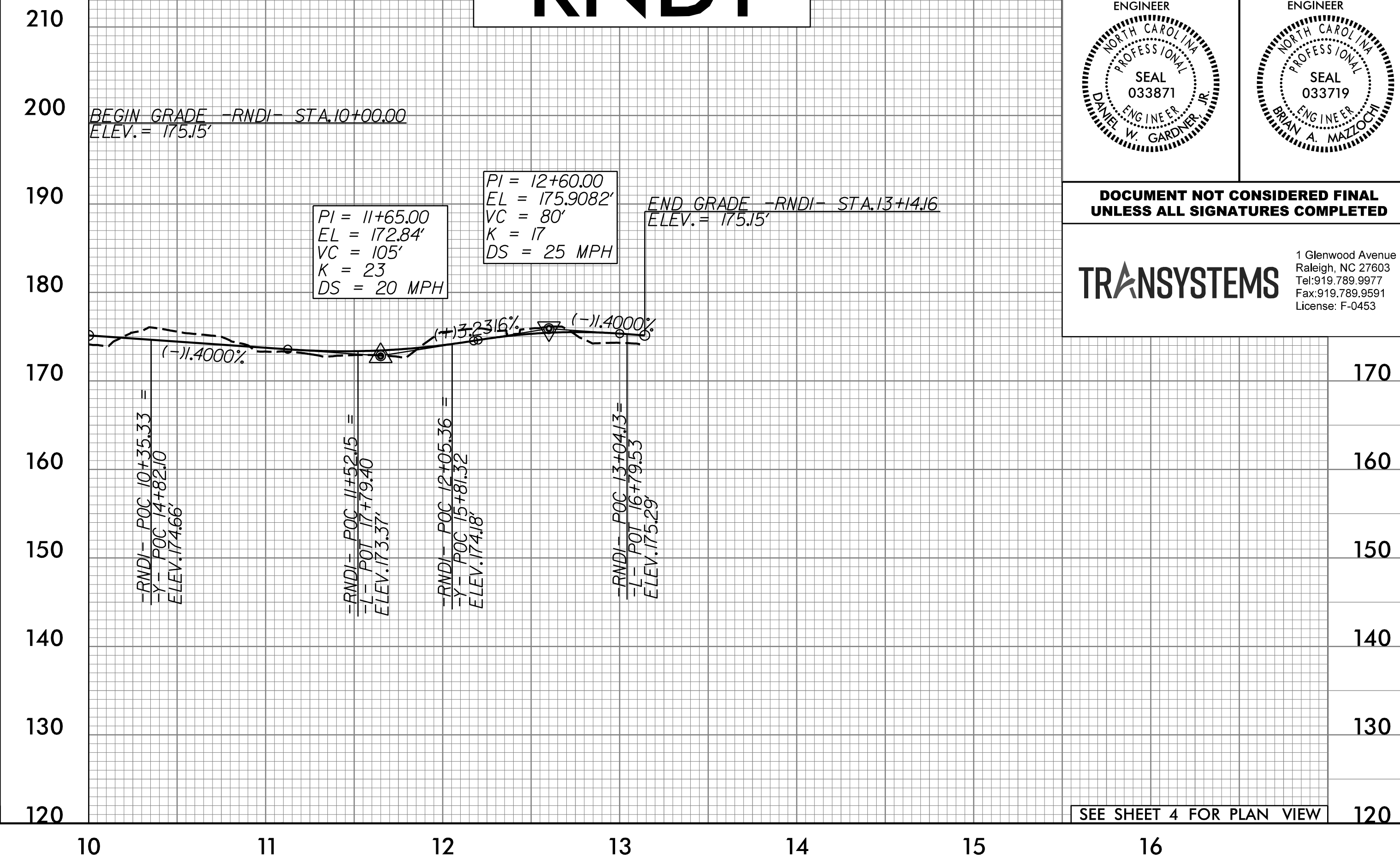
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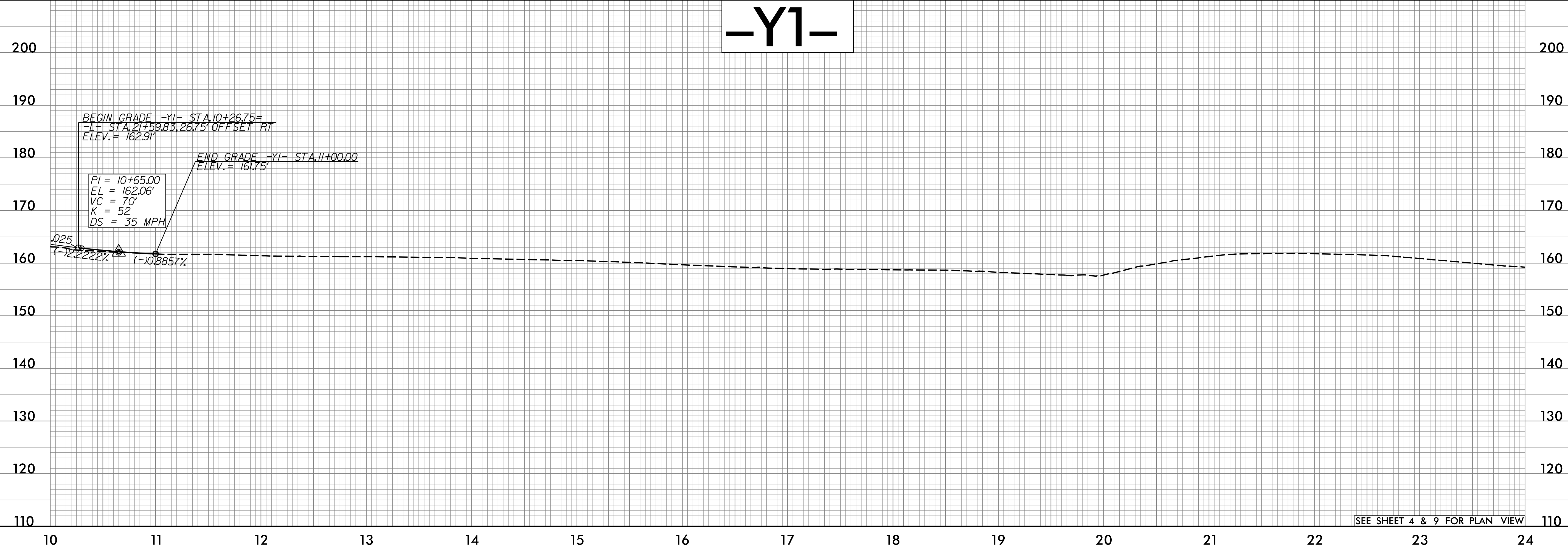
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# -RND1-



# -Y1-



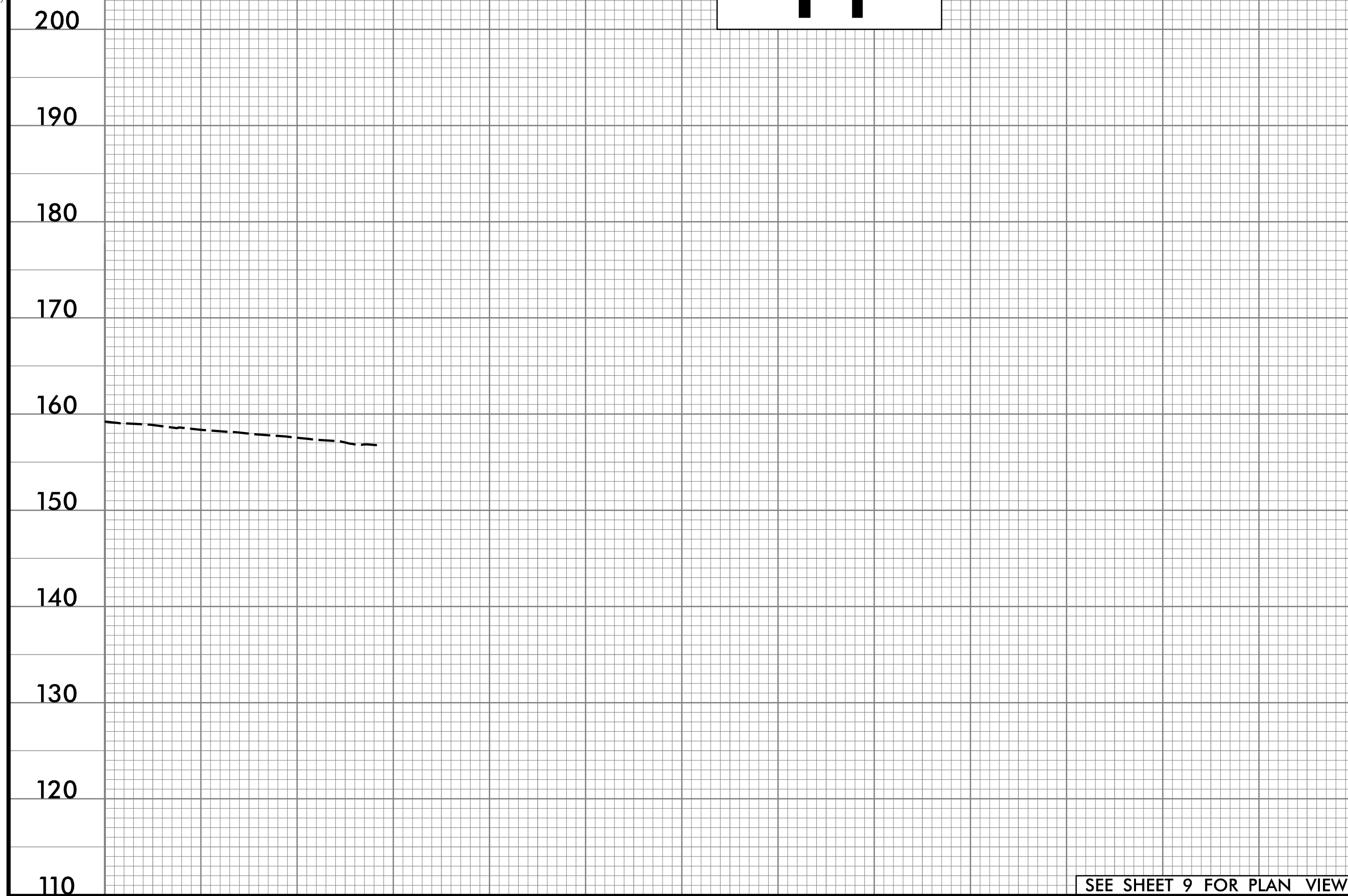
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| PROJECT REFERENCE NO.<br>U-4709   | SHEET NO.<br>14   |
| ROADWAY DESIGN ENGINEER<br>SEAL 033871<br>DAVID W. GARDNER  | HYDRAULICS ENGINEER<br>SEAL 033719<br>MORIN A. MAZZOCHI |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED  |   |
| <b>TRANSYSTEMS</b><br>1 Glenwood Avenue<br>Raleigh, NC 27603<br>Tel: 919.789.9977<br>Fax: 919.789.9591<br>License: F-0453 |   |

9/28/2001 14:09: Pdy-pl-14.dgn  
115: David Gardner



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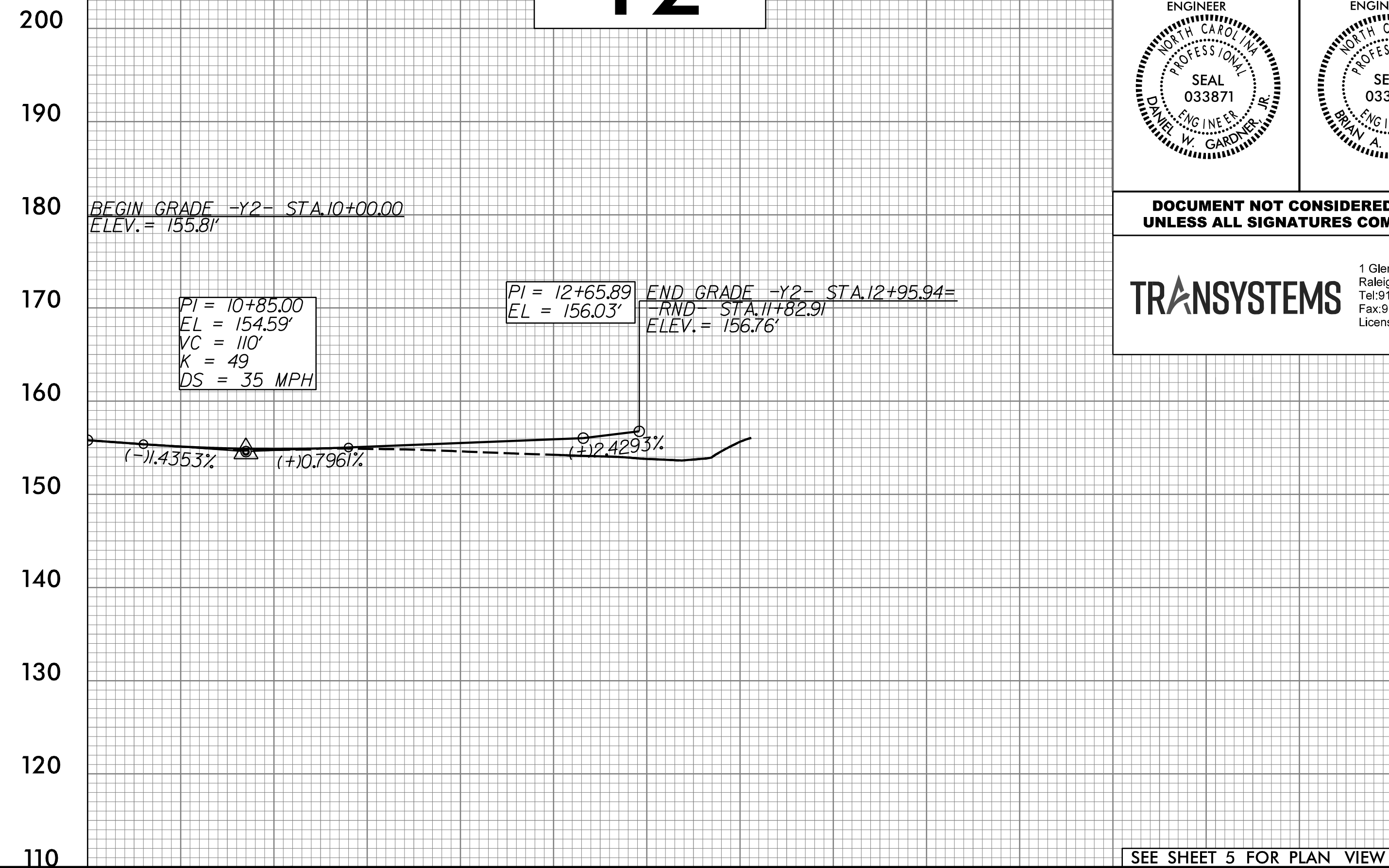
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# -Y2-



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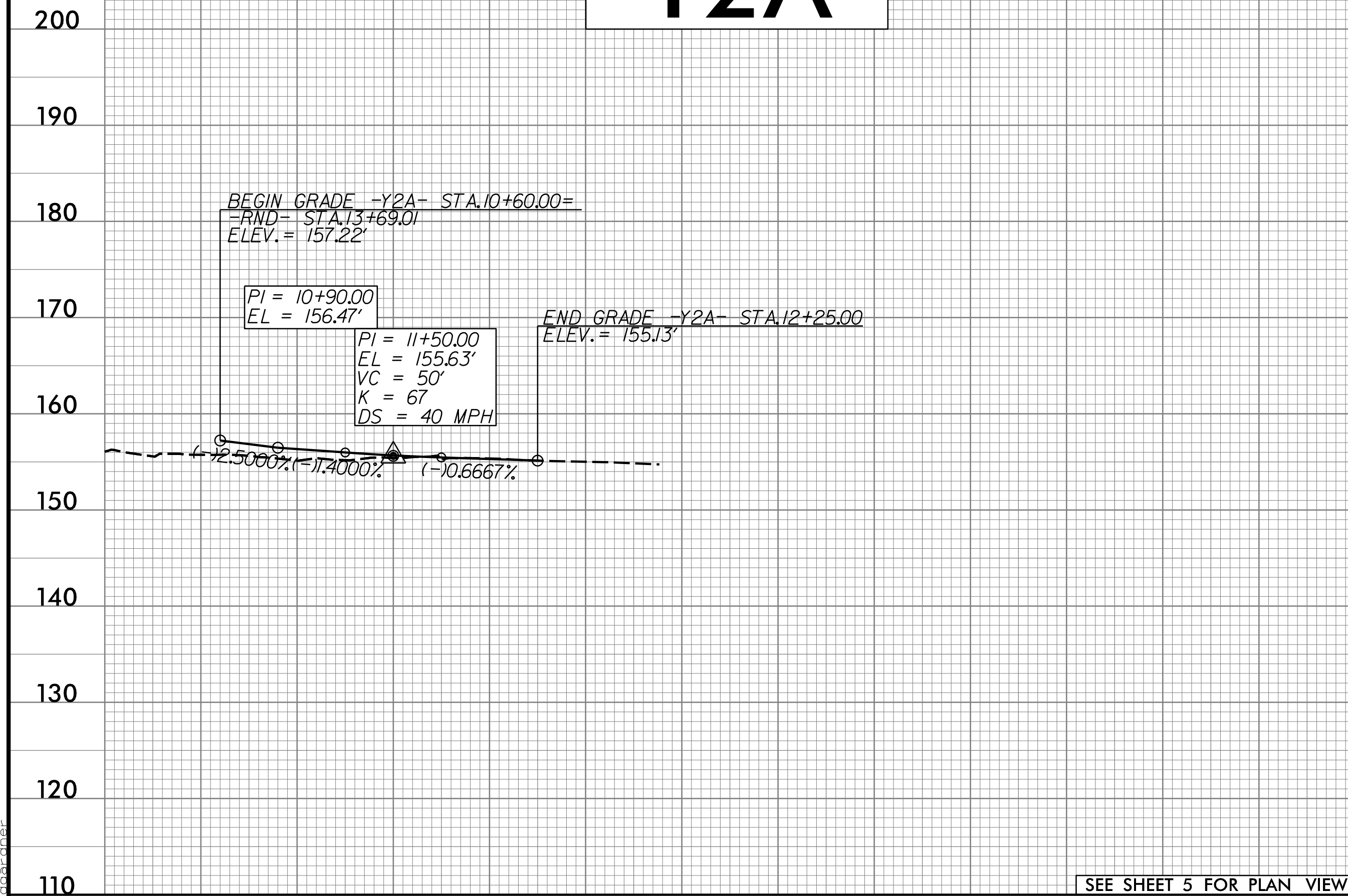
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SEE SHEET 5 FOR PLAN VIEW

# -Y2A-



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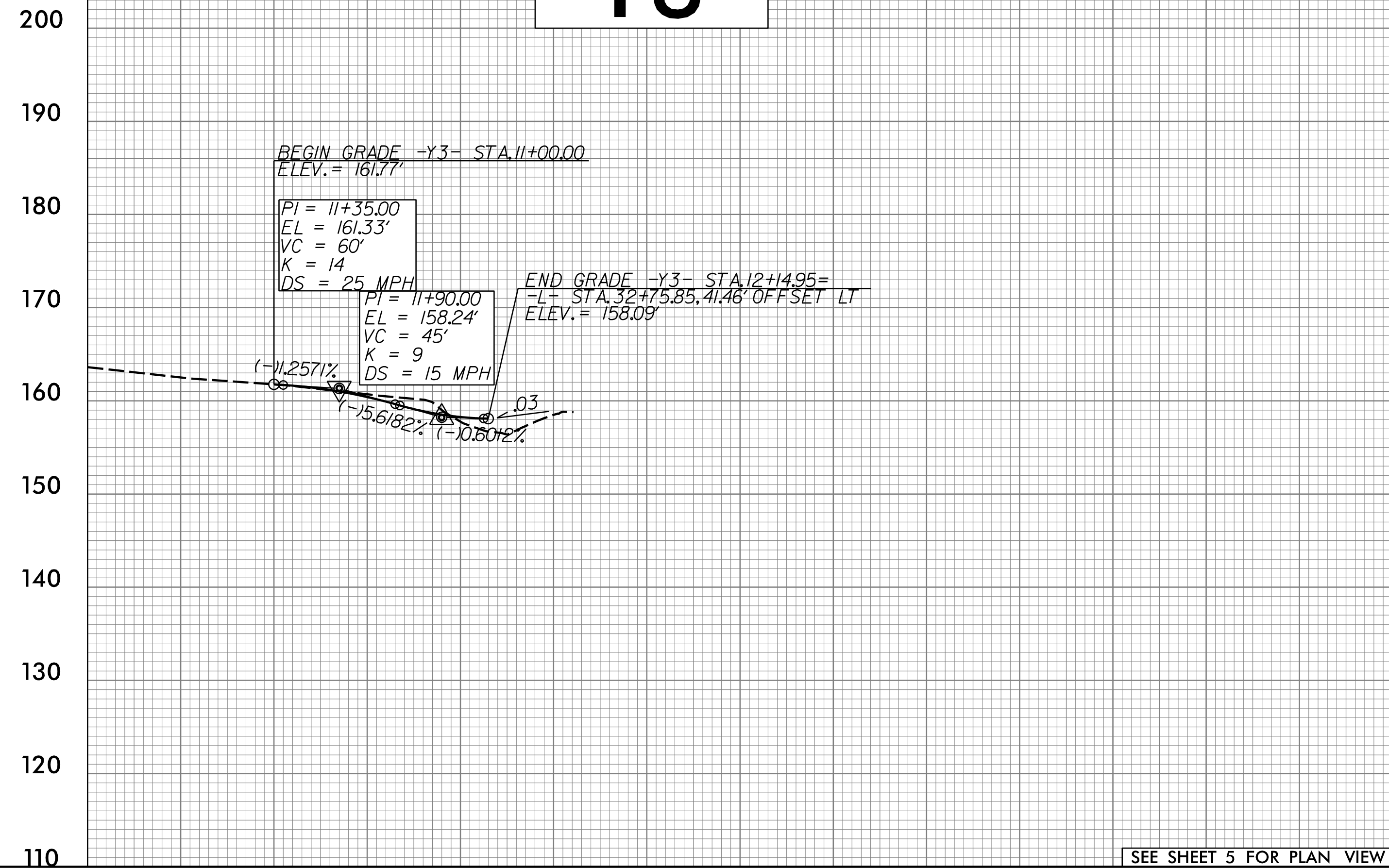
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SEE SHEET 5 FOR PLAN VIEW

# -Y3-



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SEE SHEET 5 FOR PLAN VIEW

|   |   |
|---|---|
| PROJECT REFERENCE NO.<br>U-4709   | SHEET NO.<br>15   |
| ROADWAY DESIGN ENGINEER<br>SEAL 033871<br>DAVID W. GARDNER JR.  | HYDRAULICS ENGINEER<br>SEAL 033719<br>BRIAN A. MAZDOCHI |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED  |   |
| <b>TRANSYSTEMS</b><br>1 Glenwood Avenue<br>Raleigh, NC 27603<br>Tel: 919.789.9977<br>Fax: 919.789.9591<br>License: F-0453 |   |

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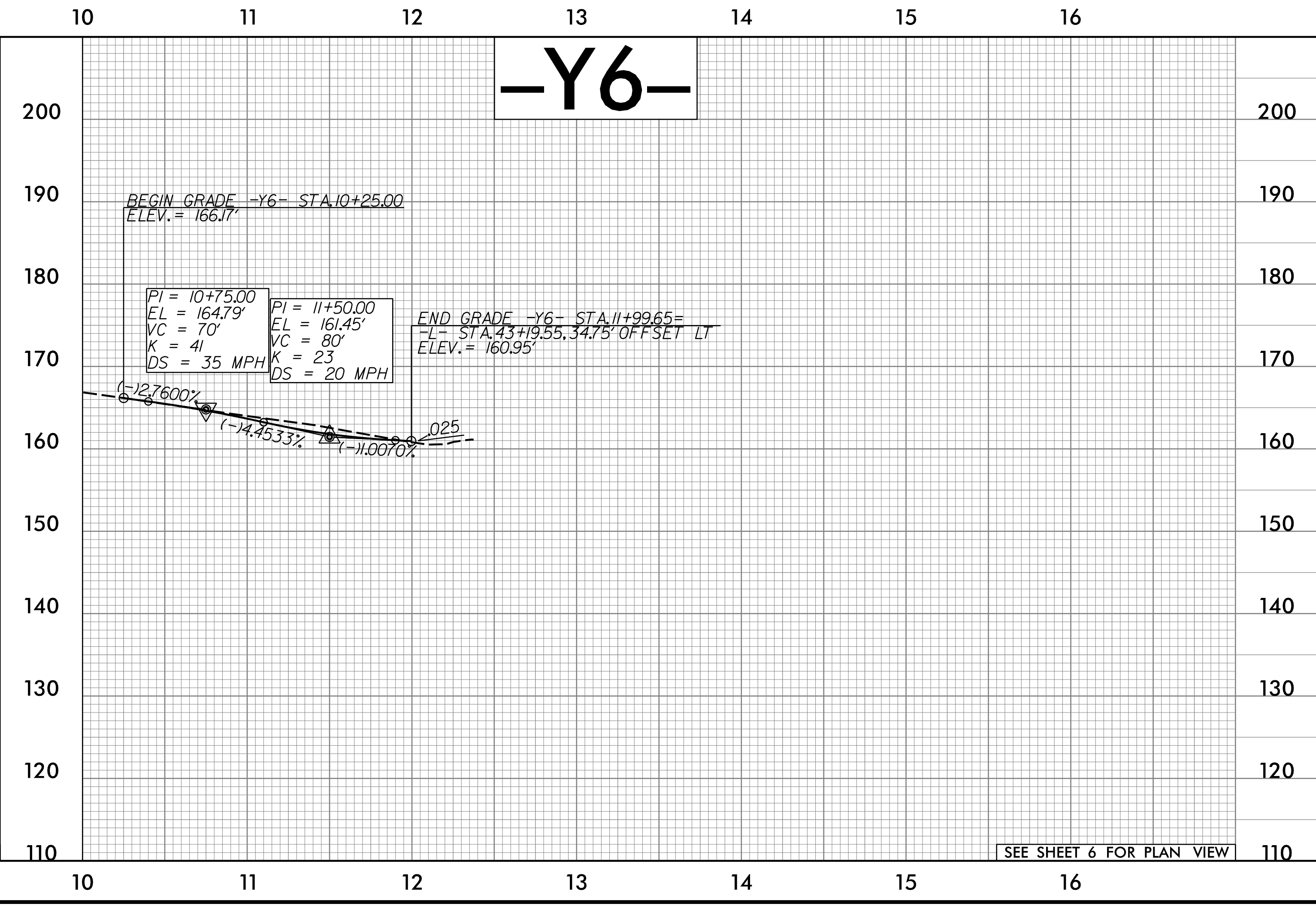
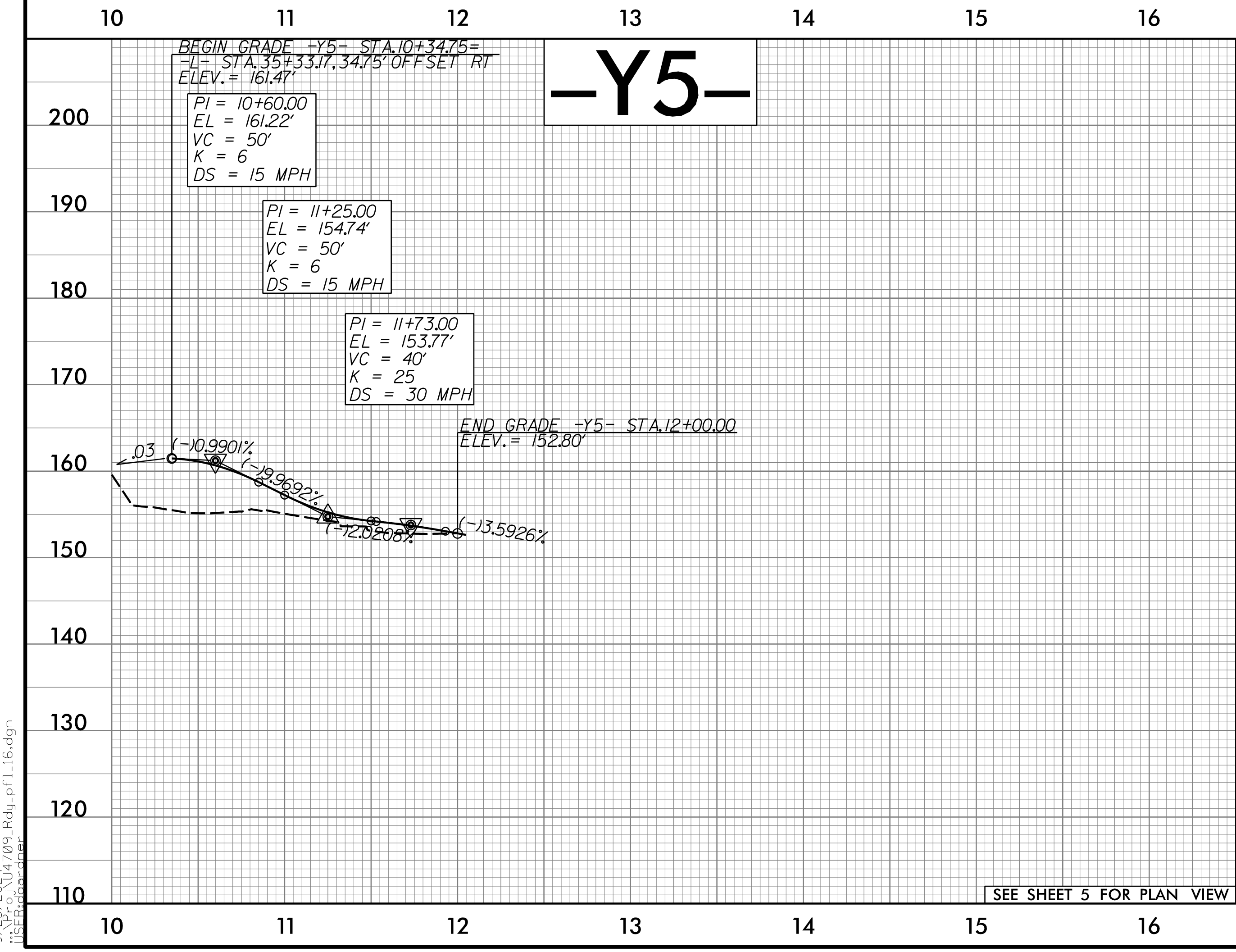
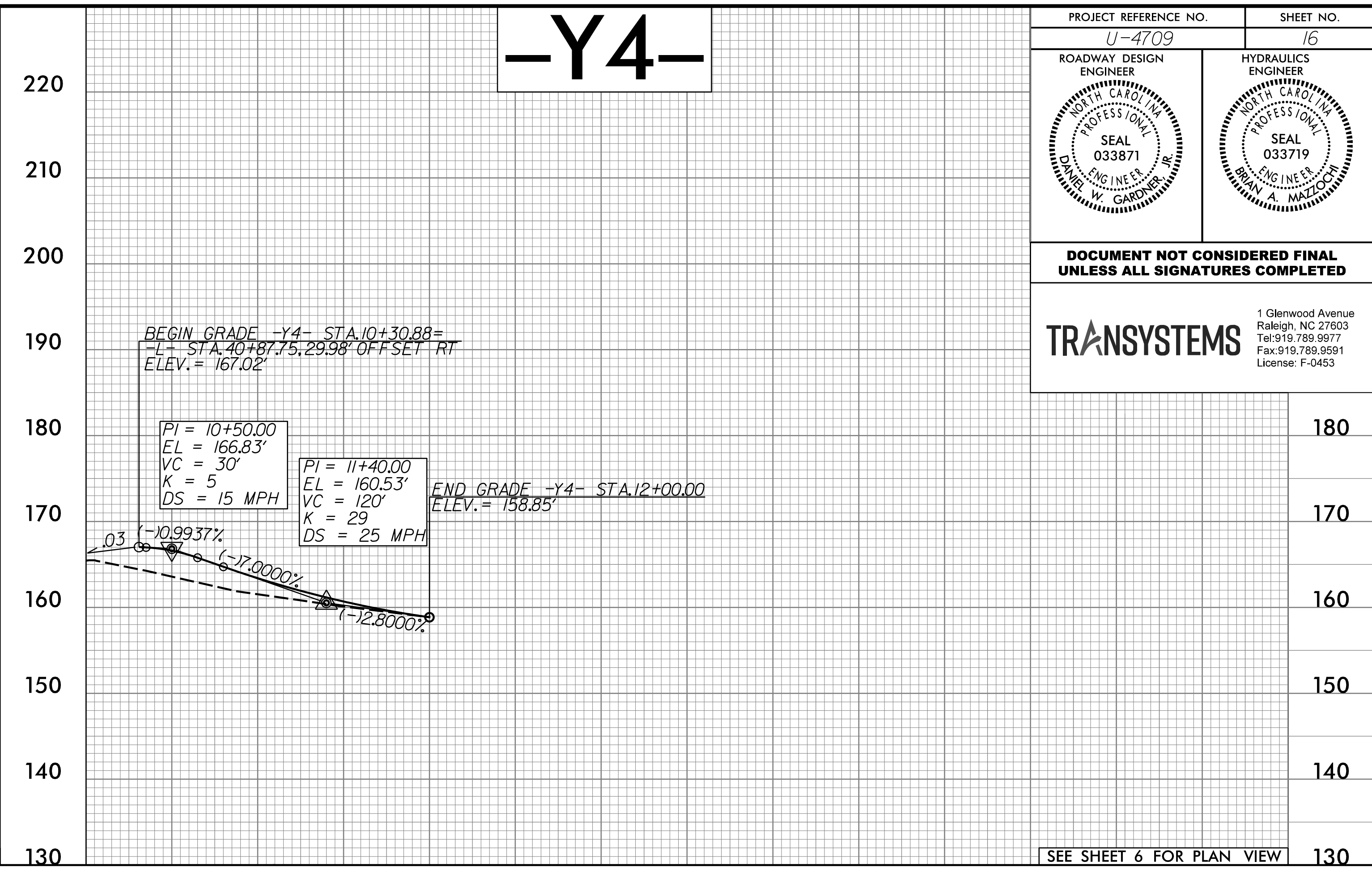
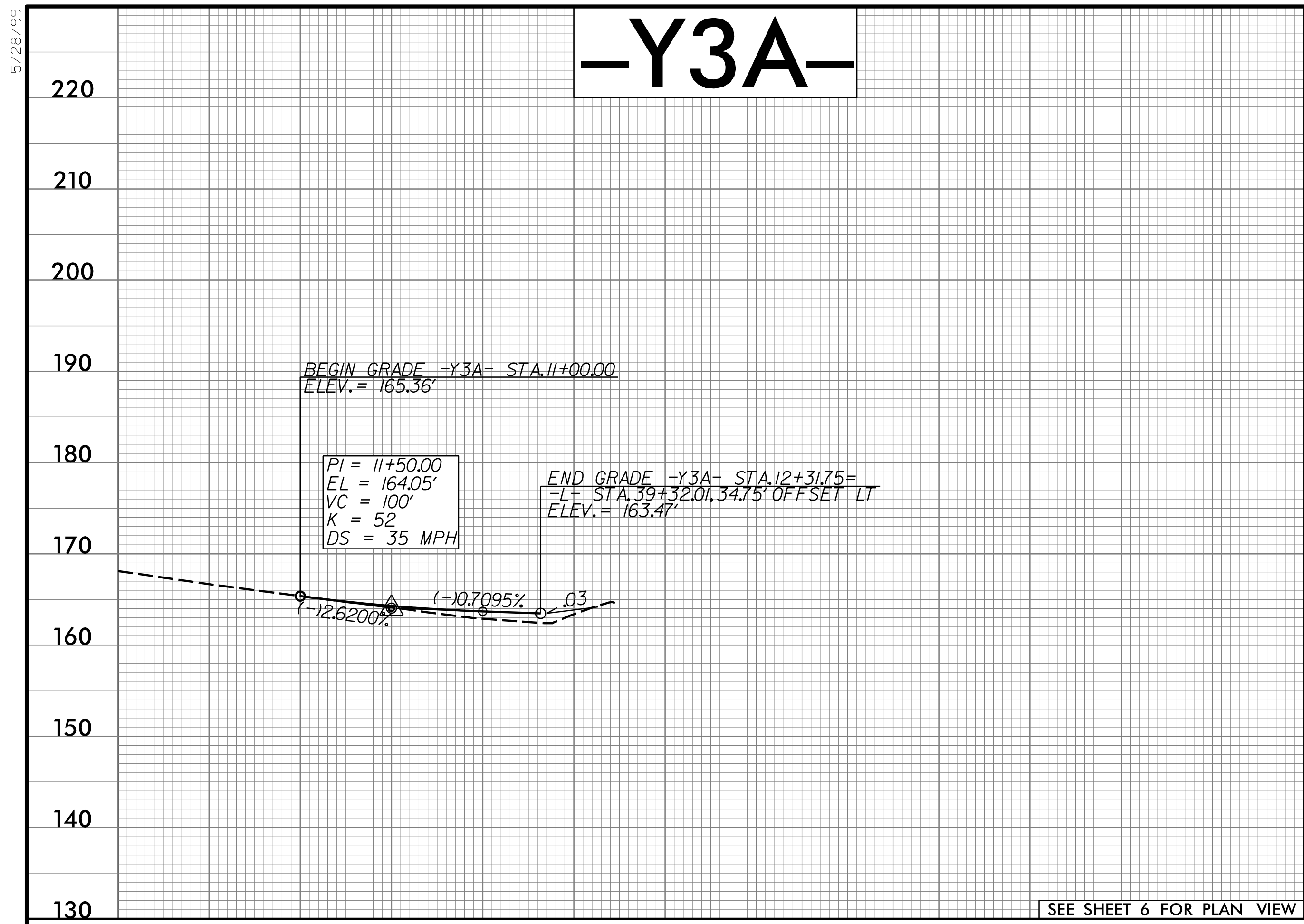
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155: David Gardner

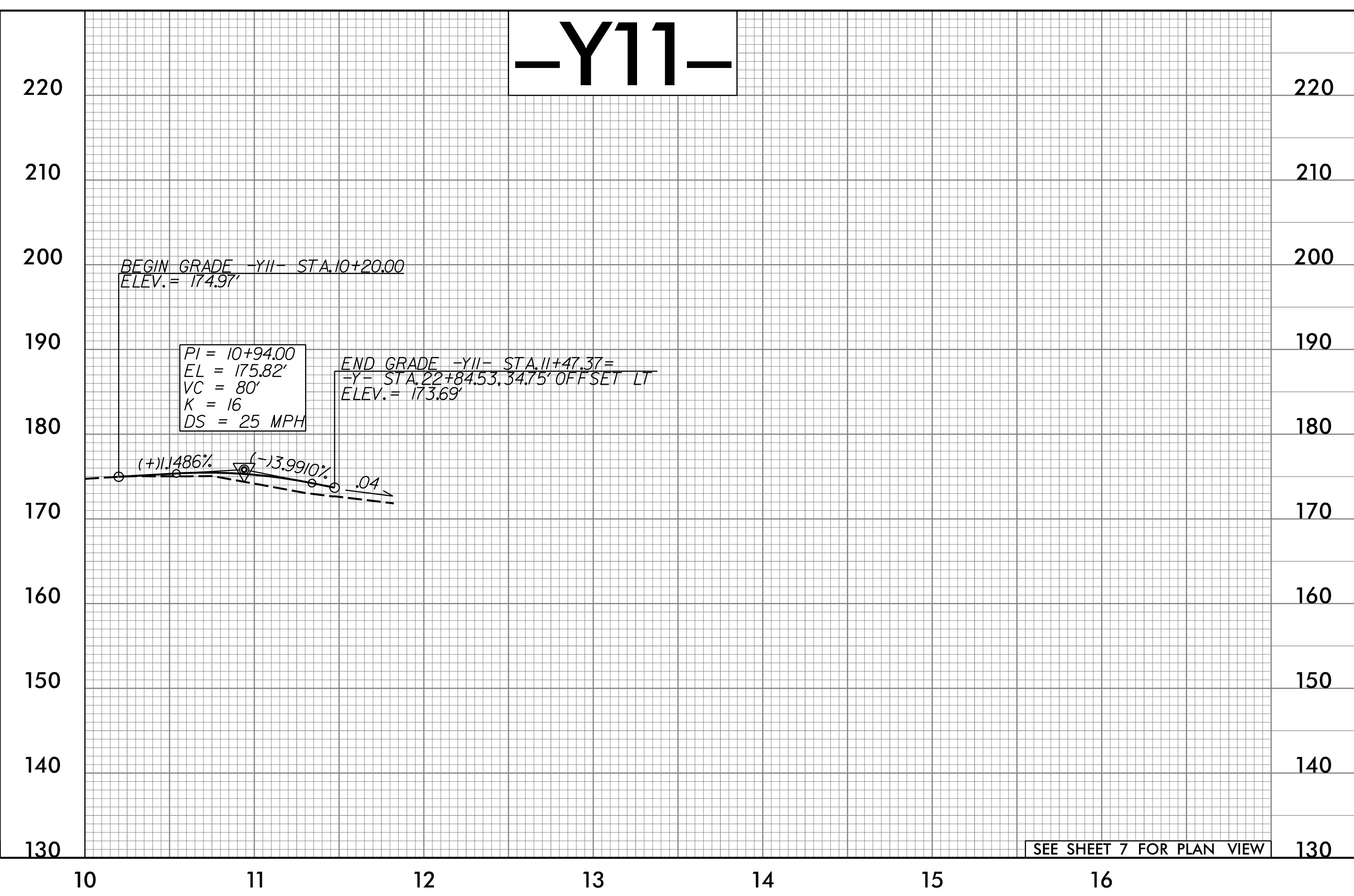
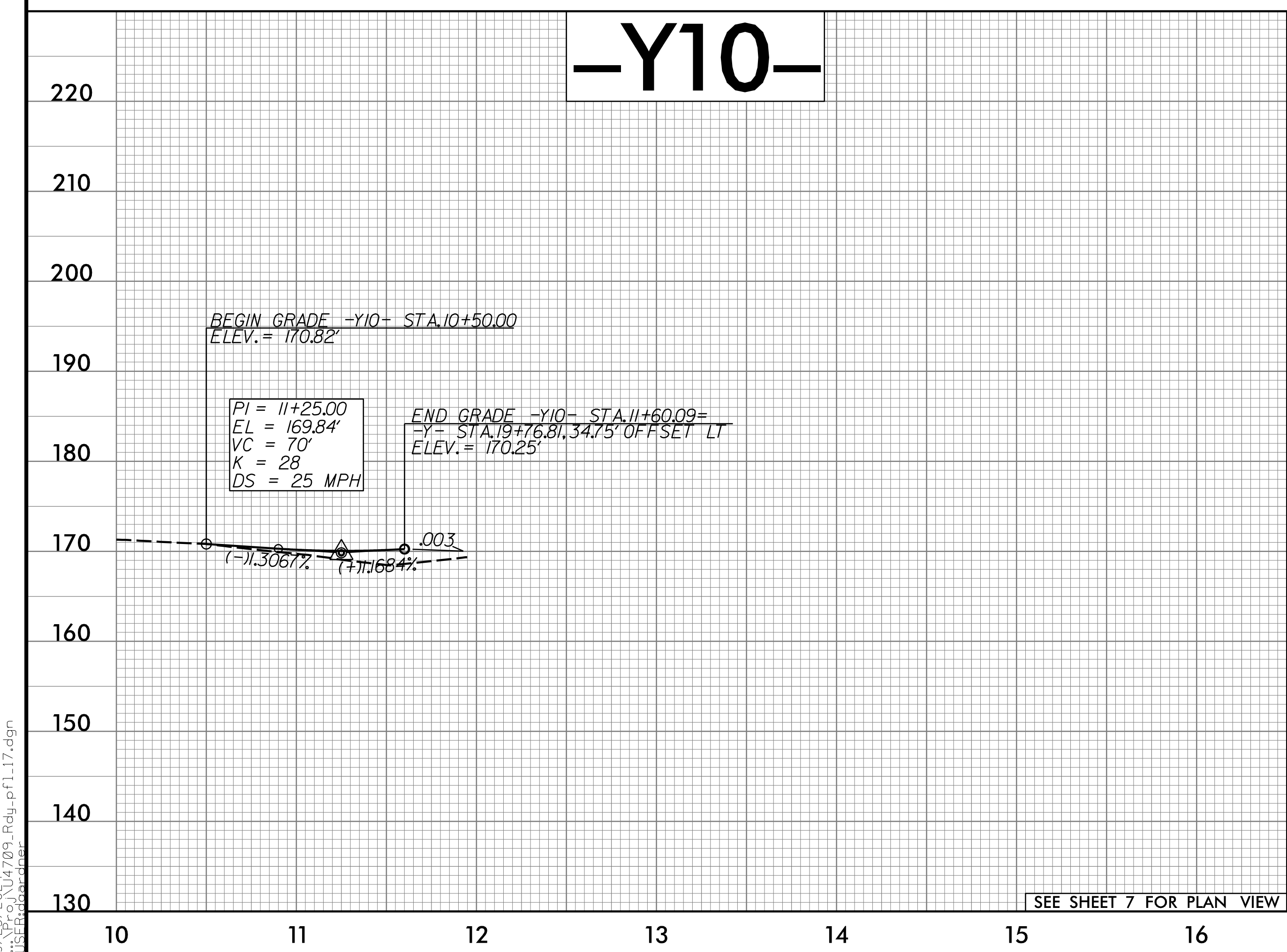
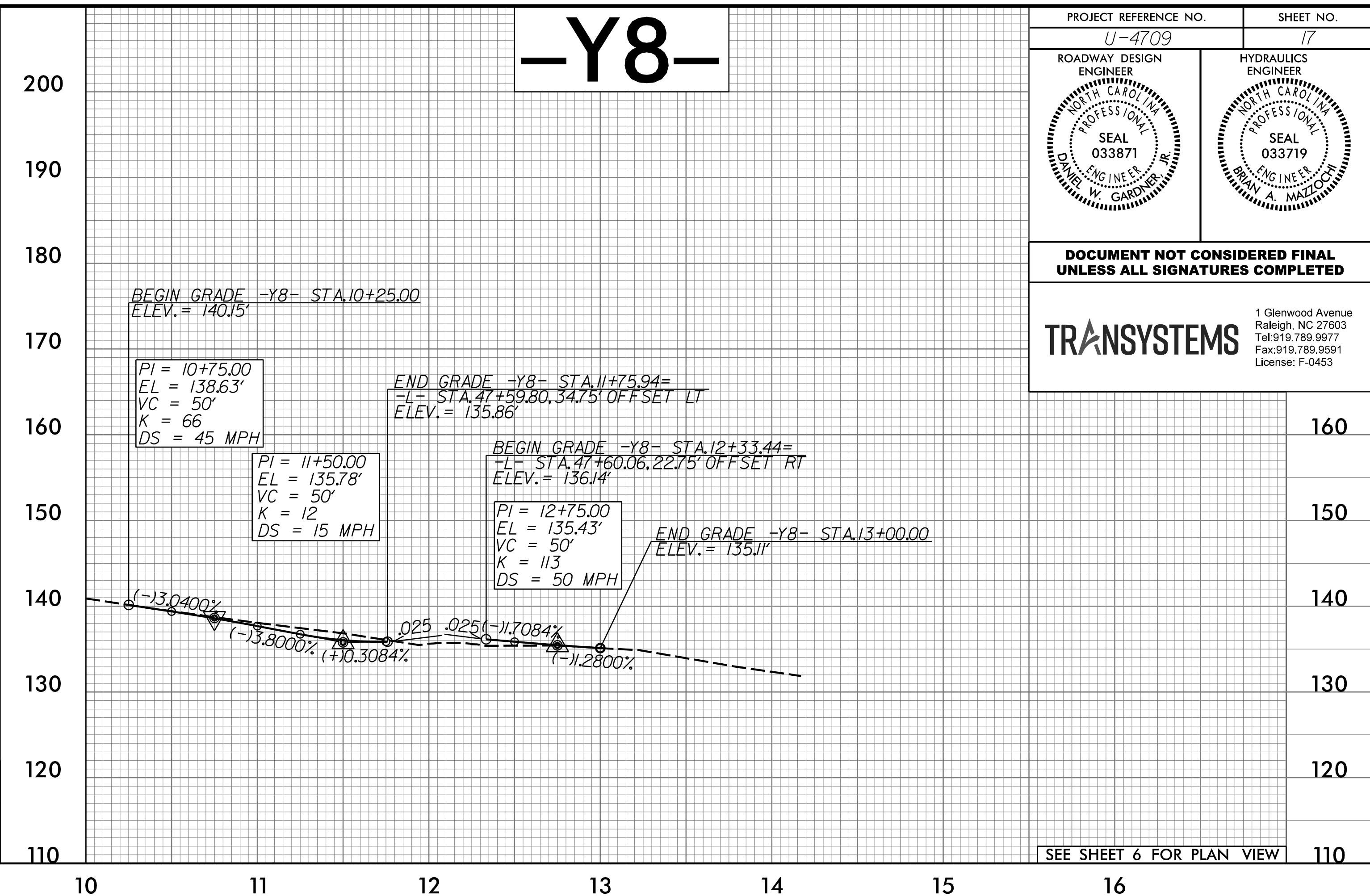
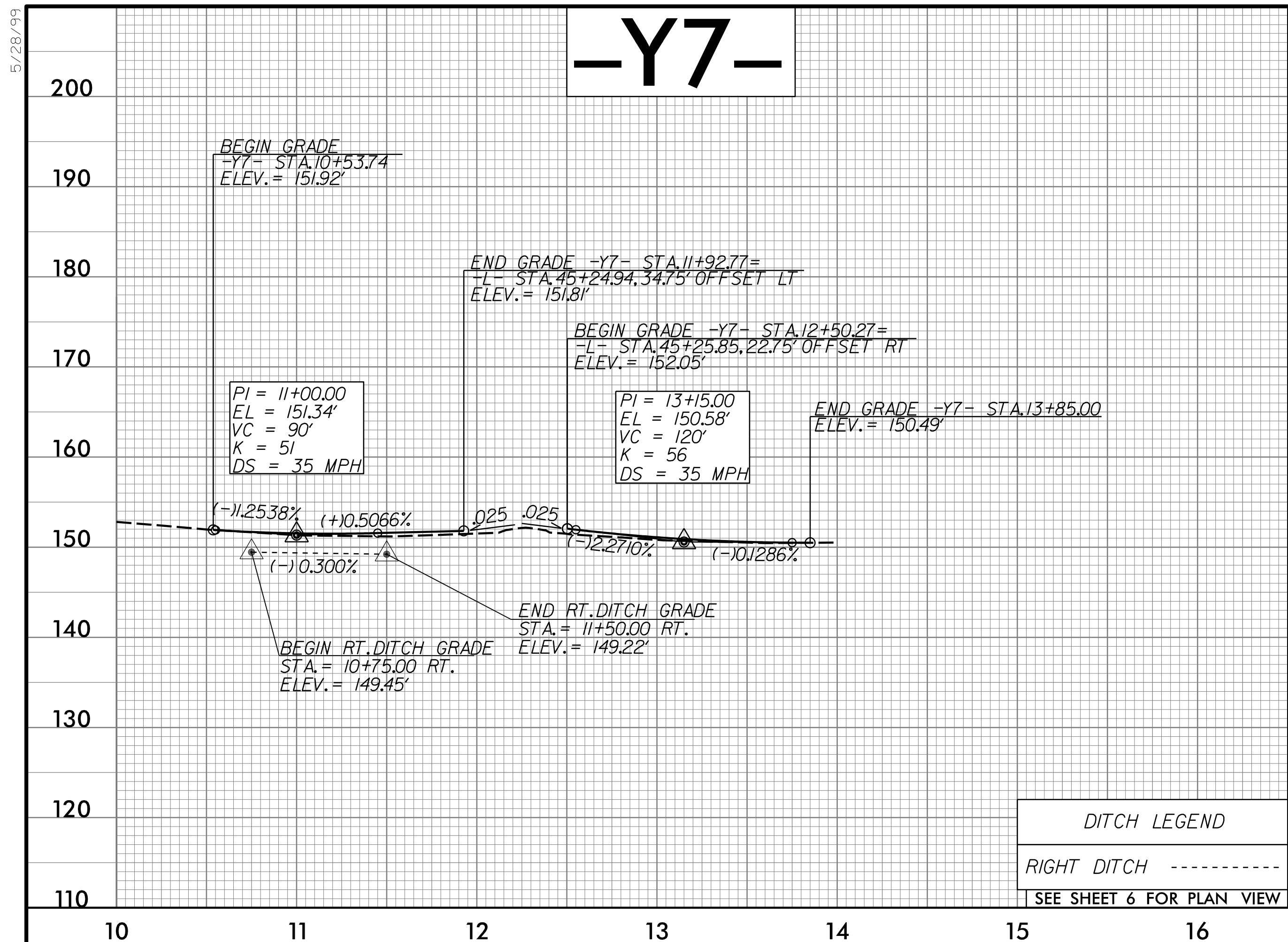
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| PROJECT REFERENCE NO.<br>U-4709   | SHEET NO.<br>16   |
| ROADWAY DESIGN ENGINEER<br>DAVID W. GARDNER, INC.<br>SEAL 033871<br>ENGINEER  | HYDRAULICS ENGINEER<br>BRIAN A. MAZUCH<br>SEAL 033719<br>ENGINEER |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED  |   |
| <b>TRANSYSTEMS</b><br>1 Glenwood Avenue<br>Raleigh, NC 27603<br>Tel: 919.789.9977<br>Fax: 919.789.9591<br>License: F-0453 |   |



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9/23/2004 14709\_P04.dwg  
115:16:00

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| PROJECT REFERENCE NO.<br>U-4709   | SHEET NO.<br>17  |
| ROADWAY DESIGN<br>ENGINEER<br>SEAL<br>033871<br>DANIEL W. GARDNER, JR.  | HYDRAULICS<br>ENGINEER<br>SEAL<br>033719<br>BRIAN A. MAZDOCH |
| <b>DOCUMENT NOT CONSIDERED FINAL<br/>UNLESS ALL SIGNATURES COMPLETED</b>  |  |
| <b>TRANSYSTEMS</b><br>1 Glenwood Avenue<br>Raleigh, NC 27603<br>Tel: 919.789.9977<br>Fax: 919.789.9591<br>License: F-0453 |  |



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9/23/2004 U-4709\_P04.plt  
115:11:00

5/28/99

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| PROJECT REFERENCE NO.<br>U-4709   | SHEET NO.<br>18  |
| ROADWAY DESIGN ENGINEER<br>DAVID W. GARDNER, JR.<br>SEAL 033871<br>NORTH CAROLINA PROFESSIONAL ENGINEER   | HYDRAULICS ENGINEER<br>BRIAN A. MAZOUCH<br>SEAL 033719<br>NORTH CAROLINA PROFESSIONAL ENGINEER |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED  |  |
|  1 Glenwood Avenue<br>Raleigh, NC 27603<br>Tel: 919.789.9977<br>Fax: 919.789.9591<br>License: F-0453 |  |

# -Y12-

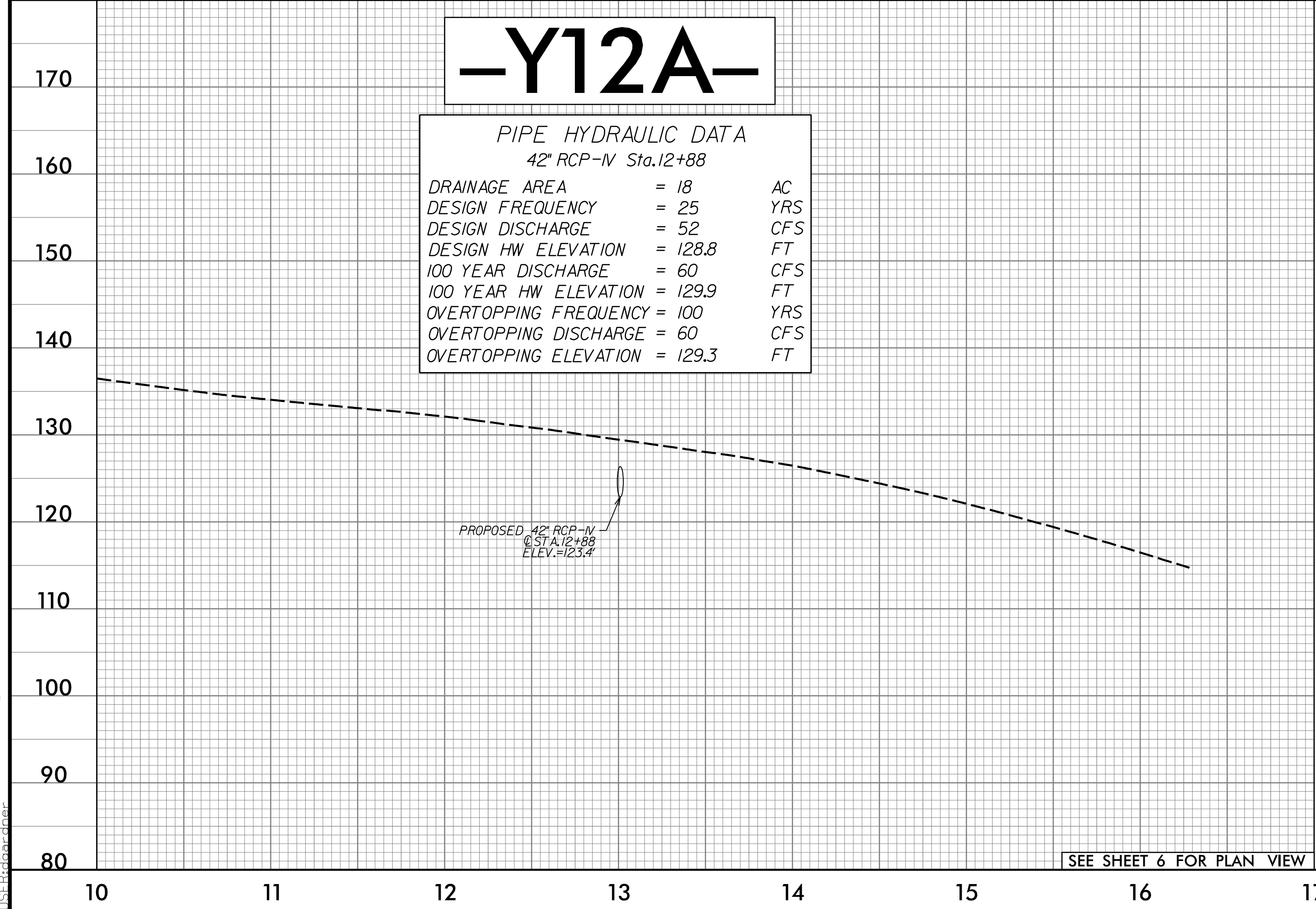


SEE SHEET 8 FOR PLAN VIEW

# -Y12A-

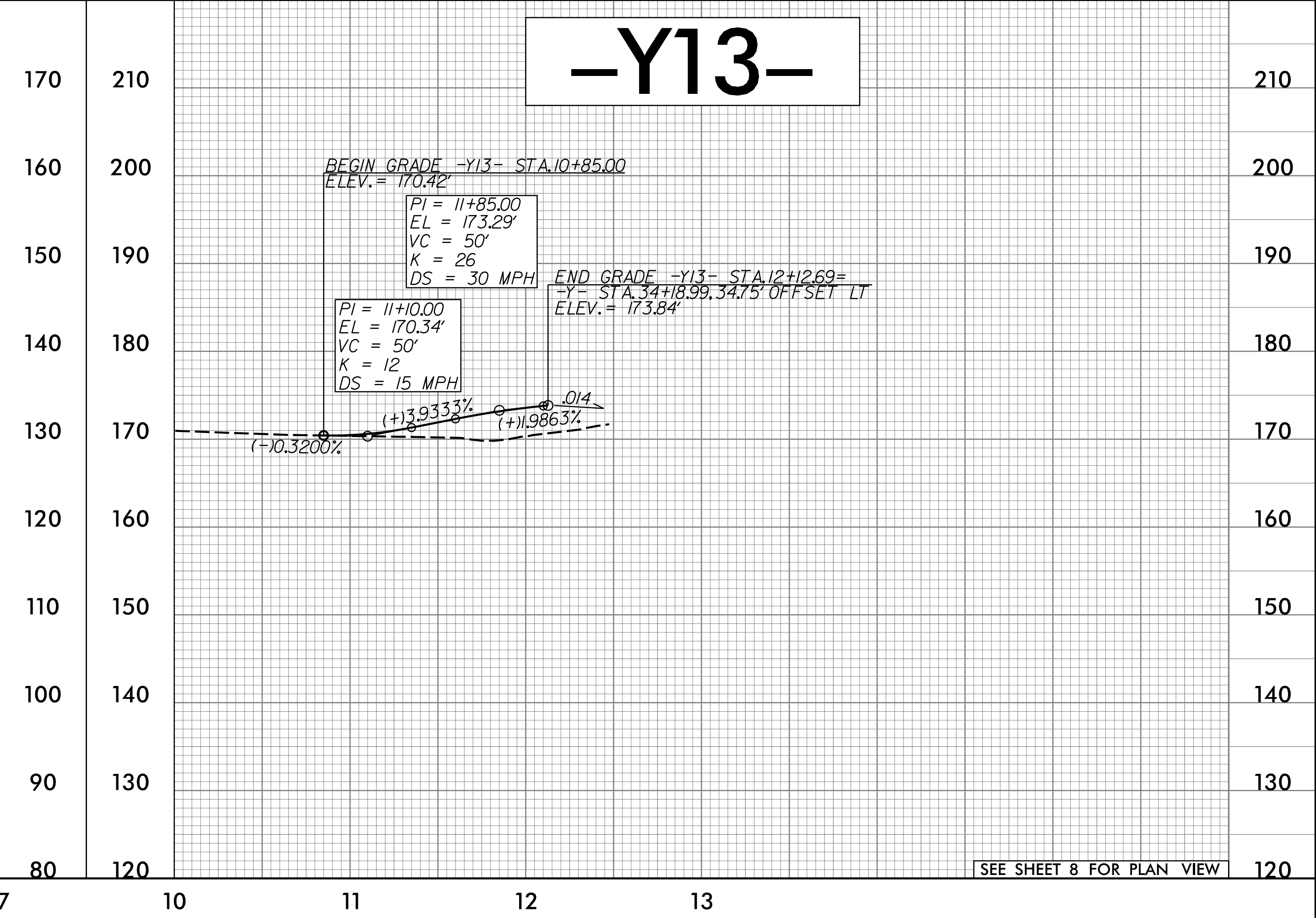
| PIPE HYDRAULIC DATA   |         |     |
|-----------------------|---------|-----|
| 42" RCP-N Sta.12+88   |         |     |
| DRAINAGE AREA         | = 18    | AC  |
| DESIGN FREQUENCY      | = 25    | YRS |
| DESIGN DISCHARGE      | = 52    | CFS |
| DESIGN HW ELEVATION   | = 128.8 | FT  |
| 100 YEAR DISCHARGE    | = 60    | CFS |
| 100 YEAR HW ELEVATION | = 129.9 | FT  |
| OVERTOPPING FREQUENCY | = 100   | YRS |
| OVERTOPPING DISCHARGE | = 60    | CFS |
| OVERTOPPING ELEVATION | = 129.3 | FT  |

PROPOSED 42" RCP-N  
@ STA.12+88  
ELEV.=123.4'



SEE SHEET 6 FOR PLAN VIEW

# -Y13-



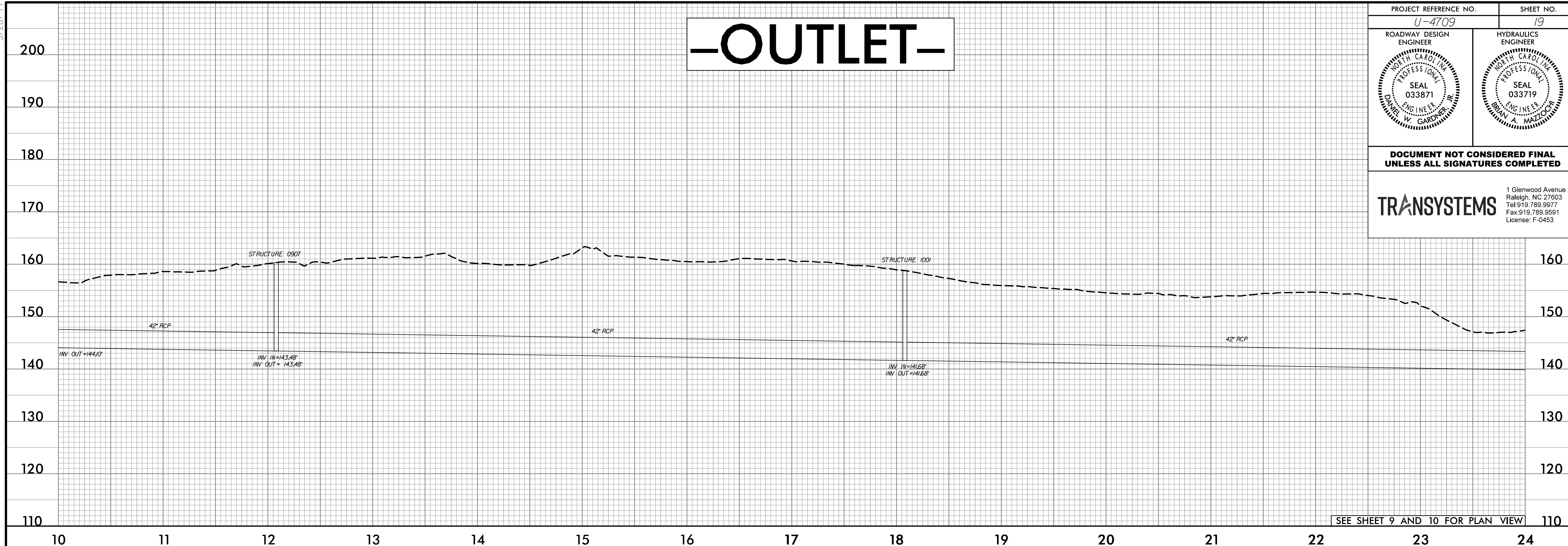
SEE SHEET 8 FOR PLAN VIEW

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11:51:00 am

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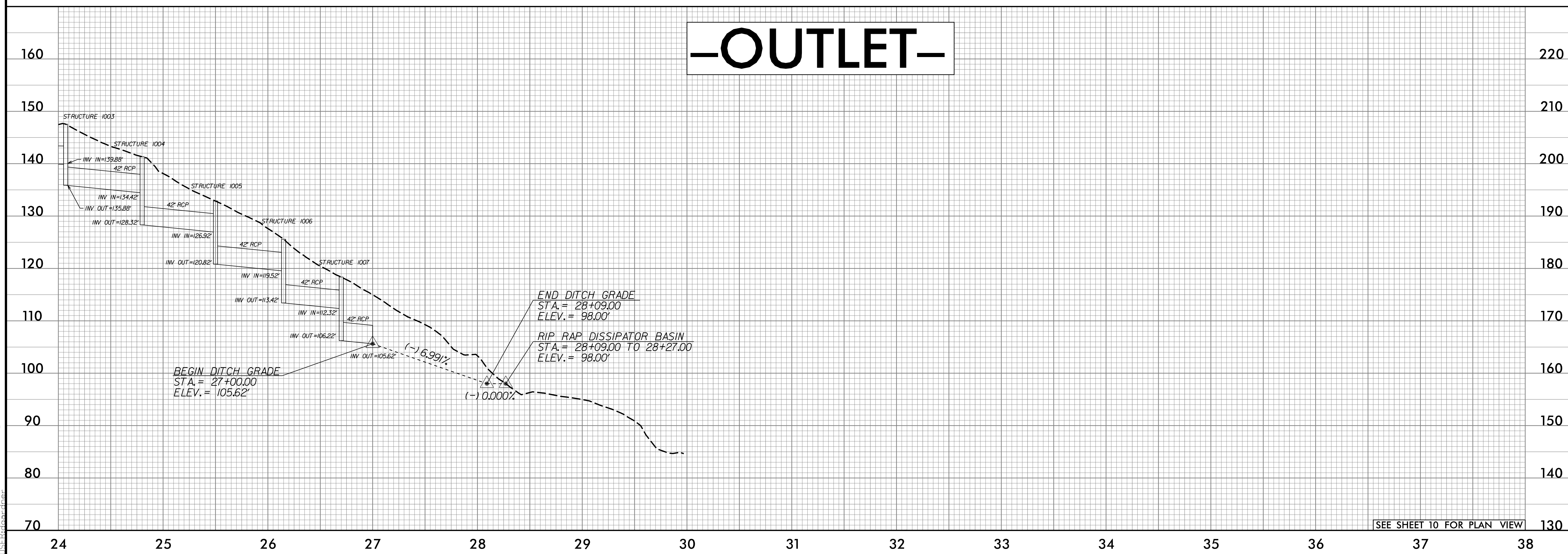
# -OUTLET-

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| PROJECT REFERENCE NO.<br>U-4709   | SHEET NO.<br>19   |
| ROADWAY DESIGN ENGINEER<br>SEAL 033871<br>DANIEL W. GARDNER, JR.  | HYDRAULICS ENGINEER<br>SEAL 033719<br>MORRIS A. MAZZOCCHI |
| DOCUMENT NOT CONSIDERED FINAL<br>UNLESS ALL SIGNATURES COMPLETED  |   |
| <b>TRANSYSTEMS</b><br>1 Glenwood Avenue<br>Raleigh, NC 27603<br>Tel: 919.789.9977<br>Fax: 919.789.9591<br>License: F-0453 |   |



SEE SHEET 9 AND 10 FOR PLAN VIEW

# -OUTLET-



SEE SHEET 10 FOR PLAN VIEW

9/27/2004  
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T:\E:\dave