



REVISIONS

TOTAL

PROJECT IDENTIFICATION NUMBER	18-28-013-010
PROJECT NUMBER	NHSX-013-2(42)--3H-28
R.O.W. PROJECT NUMBER	NHSN-013-2(43)--2R-28

LETTING DATE  
Oct 17 2023

UNKNOWN PAVEMENT - GRADE AND REPLACE  
NHSX-013-2(42)--3H-28

DELAWARE COUNTY

STA. 1513+75.00  
END CONSTRUCTION  
Ref. Loc. 53.7

PLANS OF PROPOSED IMPROVEMENT ON THE

# PRIMARY ROAD SYSTEM DELAWARE COUNTY

UNKNOWN PAVEMENT - GRADE AND REPLACE  
Honey Creek 0.2 mi N of Co Rd D13 to S Jct IA 3

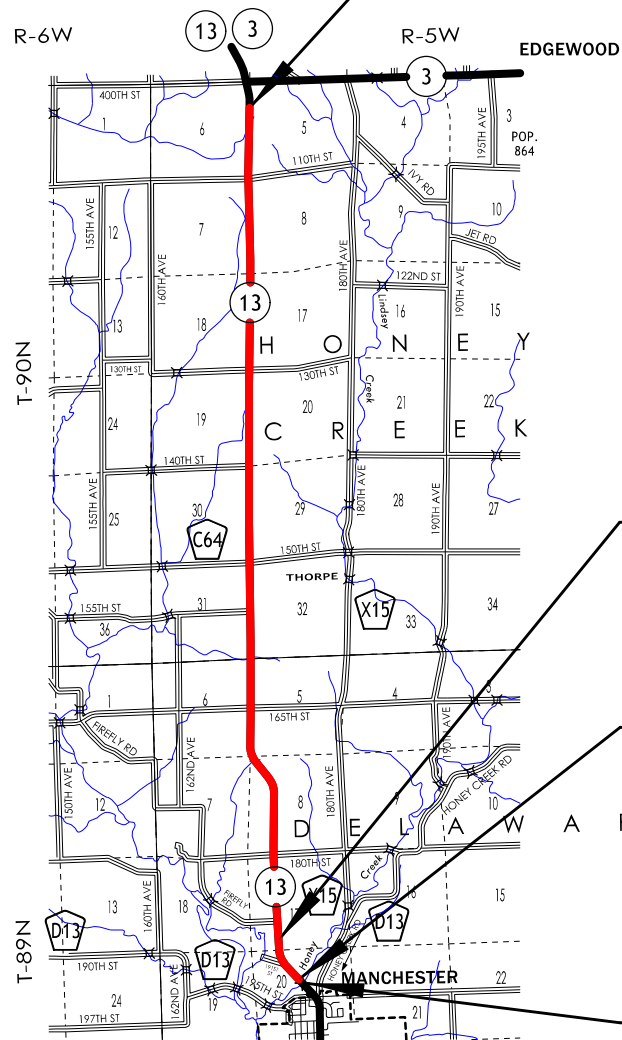
SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



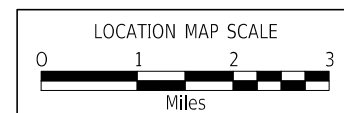
H Sheets----->



STA. 1051+00.00  
END RESURFACING  
BEGIN PAVING

STA. 1025+61.75  
BEGIN CONSTRUCTION  
BEGIN RESURFACING  
Ref. Loc. 44.0

FHWA # 23721



DESIGN DATA RURAL			
2023	AADT	3000	V.P.D.
2043	AADT	3500	V.P.D.
20	--	DHV	--
			V.P.H.
			TRUCKS
			8 %
			Total
			Design ESALs
			--

INDEX OF SEALS		
	X	
X	X	X

INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 5	Typical Cross Sections and Details
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
D.1	Plan & Profile Legend & Symbol Information Sheet
D.2 - 18	IA 13
<b>E Sheets</b>	<b>Side Road Plan and Profile Sheets</b>
E.1	Firefly Road
E.2	185th Street
E.3	188th Street
E.4 - 5	195th Street
E.6	198th Street
E.7 - 8	C-61
E.9	148th Street
E.10 - 11	138th Street
E.12 - 13	118th Street
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1	Reference Ties and Bench Marks
G.2 - 6	Control Point Map & Horizontal & Vertical Control
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Detour
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1 - 398	Mainline Cross Sections
<b>X Sheets</b>	<b>Side Road Cross Sections</b>
X.1	Side Road Cross Sections

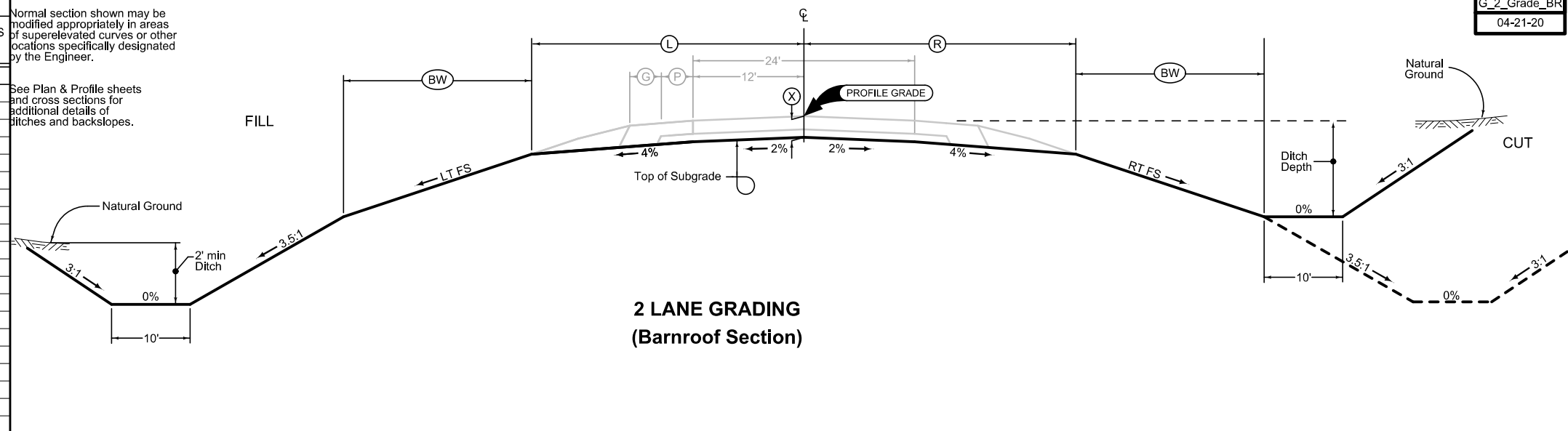
**PRELIMINARY PLANS**

Subject to change by final design.

D5 PLAN - Date: 12/3/2021

LOCATION		DIMENSIONS					
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	(BW) Feet	LT FS	RT FS
IA 13	1051+00.00 - 1513+75.00	34.0	34.0	15	17.2	6:1	6:1
	1059+25.00 - 1059+75.00					6:1-4:1	
	1059+75.00 - 1062+40.00					4:1	
	1062+40.00 - 1062+60.00					4:1-6:1	
	1196+50.00 - 1197+00.00					6:1-4:1	
	1197+00.00 - 1197+50.00					4:1	
	1197+50.00 - 1198+00.00					4:1-6:1	
	1324+70.00 - 1324+75.00					6:1-4:1	
	1324+75.00 - 1326+00.00					4:1	
	1375+50.00 - 1376+00.00					6:1-4:1	
	1376+00.00 - 1377+20.00					4:1	
	1427+50.00 - 1430+00.00					4:1	

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.  
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.



IOWA 13 GRADING

### Full Depth PCC Combination Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_C_FullPCC_04-21-20				
STATION TO STATION		(P) Feet	(G) Feet	
1051+00.00	1085+50.00	6	4	
1089+00.00	1105+00.00	6	4	
1112+50.00	1216+00.00	6	4	
1218+00.00	1234+25.00	6	4	
1236+75.00	1281+75.00	6	4	
1284+75.00	1310+40.00	6	4	
1313+50.00	1326+00.00	6	4	
1329+25.00	1354+25.00	6	4	
1356+50.00	1377+85.00	6	4	
1378+75.00	1427+75.00	6	4	
1430+80.00	1440+00.00	6	4	
1443+00.00	1446+00.00	6	4	
1448+00.00	1511+25.00	6	4	
1513+50.00	1513+75.00	6	4	

### Curbed Shoulder

Shoulder jointing:  
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 16':

Transverse: C at 17' spacing  
 Single pour: L-2  
 Staged: KT-2

1R_Curb_04-21-20					
BEGIN STATION	END STATION	(P) Feet	(G) Feet	Curb Type	See PV-102
1085+50.00	1086+50.00	11	13	4" Sloped	
1086+50.00	1086+75.00	11	13 - 5	4" Sloped	
1086+75.00	1089+00.00	11	5	4" Sloped	
1105+00.00	1112+50.00	11	13	4" Sloped	
1216+00.00	1218+00.00	11	13	4" Sloped	
1233+78.00	1234+28.00	11	13 - 4	4" Sloped	
1234+28.00	1236+65.00	11	4	4" Sloped	
1281+75.00	1284+75.00	11	13	4" Sloped	
1281+75.00	1284+75.00	11	13	4" Sloped	
1310+40.00	1313+50.00	11	13	4" Sloped	
1326+00.00	1329+25.00	11	13	4" Sloped	
1354+25.00	1356+50.00	11	13	4" Sloped	
1377+20.00	1379+75.00	11	4	4" Sloped	
1427+75.00	1430+80.00	11	13	4" Sloped	
1440+00.00	1443+00.00	11	13	4" Sloped	
1446+00.00	1448+00.00	11	13	4" Sloped	
1511+25.00	1513+50.00	11	13	4" Sloped	

### Auxiliary Lane

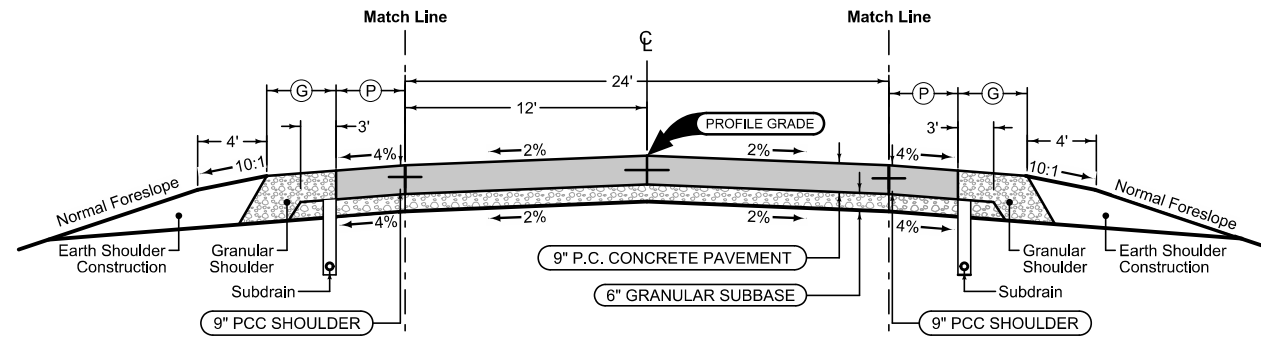
Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

2_AuxLane_PCC_10-18-16			
STATION TO STATION		(AL) Feet	
1252+15.5	1260+91.7	0-16	
1260+91.7	1266+61.3	16	
1266+61.3	1275+37.5	16-0	

### Full Depth PCC Combination Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_C_FullPCC_04-21-20			
STATION TO STATION		(P) Feet	(G) Feet
1252+15.5	1275+37.5	6	4



Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

2P_04-21-20	
STATION TO STATION	
1051+00	1513+75

### Full Depth PCC Combination Shoulder

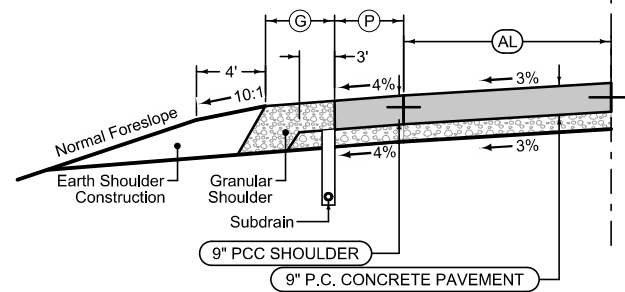
Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_C_FullPCC_04-21-20				
STATION TO STATION		(P) Feet	(G) Feet	
1051+00.00	1167+50.00	6	4	
1171+00.00	1292+50.00	6	4	
1297+00.00	1377+00.00	6	4	
1380+00.00	1402+62.96	6	4	
1404+80.00	1423+00.00	6	4	
1429+00.00	1445+50.00	6	4	
1448+50.00	1513+75.00	6	4	

### Curbed Shoulder

Shoulder jointing:  
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 16':

Transverse: C at 17' spacing  
 Single pour: L-2  
 Staged: KT-2



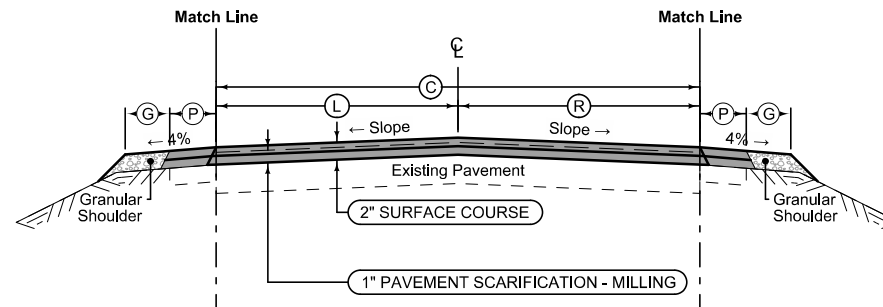
1R_Curb_04-21-20					
BEGIN STATION	END STATION	(P) Feet	(G) Feet	Curb Type	See PV-102
1167+50.00	1171+00.00	11	13	4" Sloped	
1292+50.00	1297+00.00	11	13	4" Sloped	
1376+75.00	1377+25.00	11	10.2 - 3	4" Sloped	
1377+25.00	1379+90.00	11	3	4" Sloped	
1379+90.00	1380+50.00	11	3 - 10.6	4" Sloped	
1402+62.96	1404+80.00	11		4" Sloped	
1423+00.00	1429+00.00	11		4" Sloped	
1445+50.00	1448+50.00	11		4" Sloped	

See Tab 100-24 or 100-25 for pavement quantities.  
 See Tab 112-9 for shoulder quantities.

## IOWA 13 PCC PAVING

**Combination Shoulder**

3R_Shldr_C_Overlay_04-19-11			
STATION TO STATION		(P) Feet	(G) Feet
1025+61.75	1051+00.00	6	0



**Combination Shoulder**

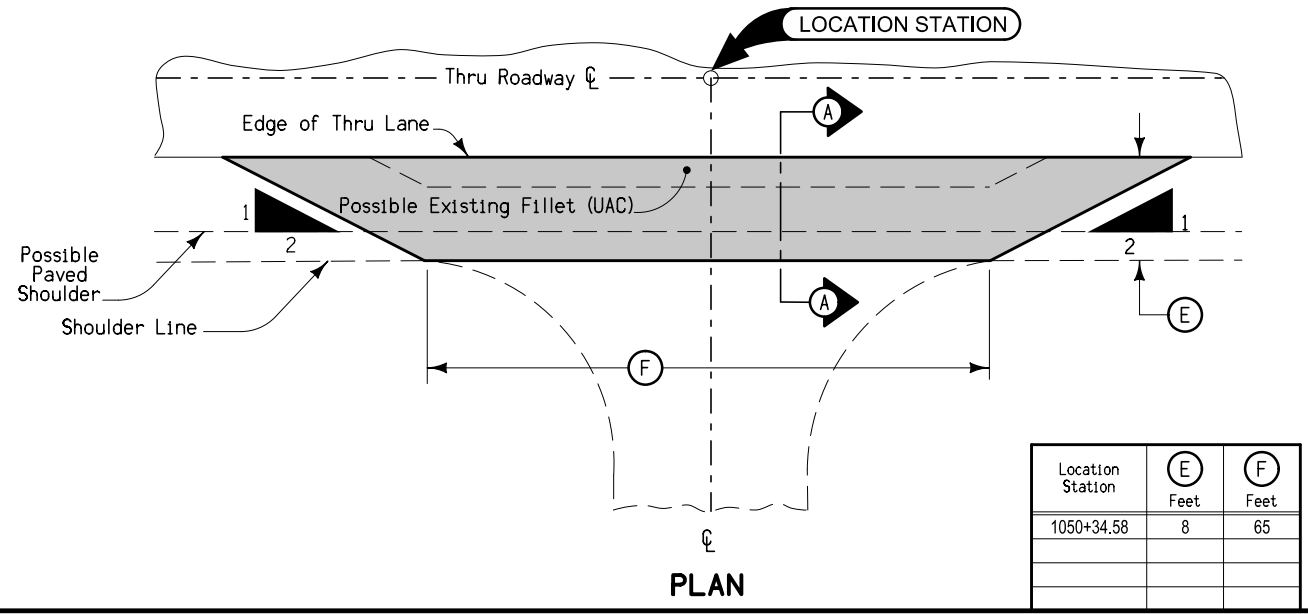
3R_Shldr_C_Overlay_04-19-11			
STATION TO STATION		(P) Feet	(G) Feet
1025+61.75	1051+00.00	6	0

3R_MillingOverlay_04-19-11					
STATION TO STATION		(C) Feet	(L) Feet	(R) Feet	Pavement Scarification SY
1025+61.75	1051+00.00	24	12	12	6,768.67

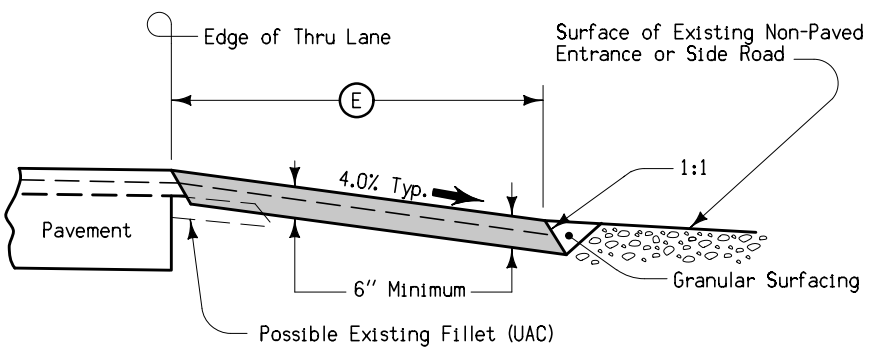
See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**IOWA 13 MILLING / RESURFACING**





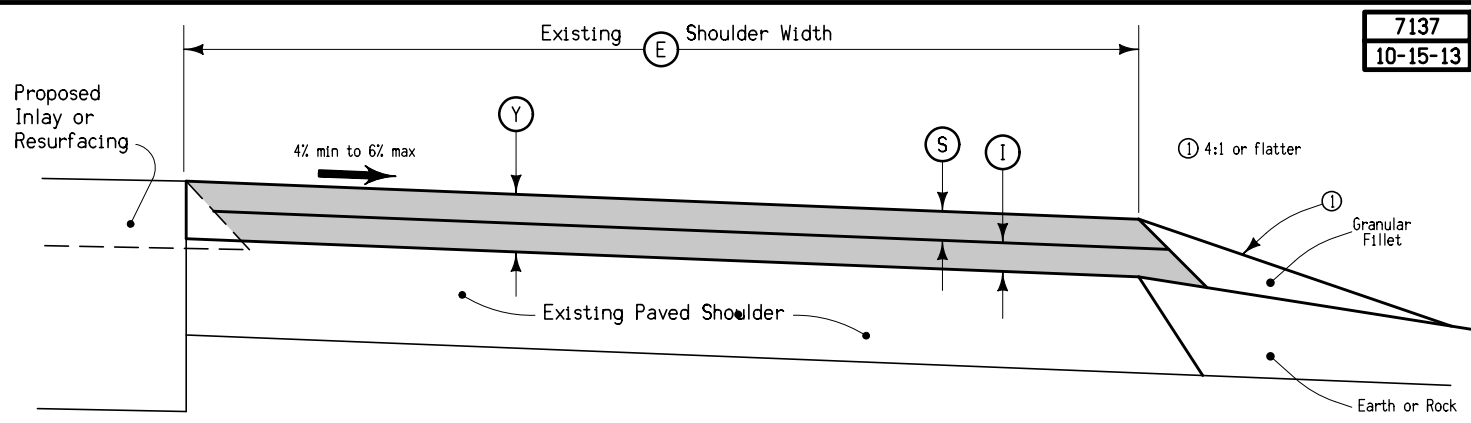
Location Station	(E) Feet	(F) Feet
1050+34.58	8	65



SECTION A-A

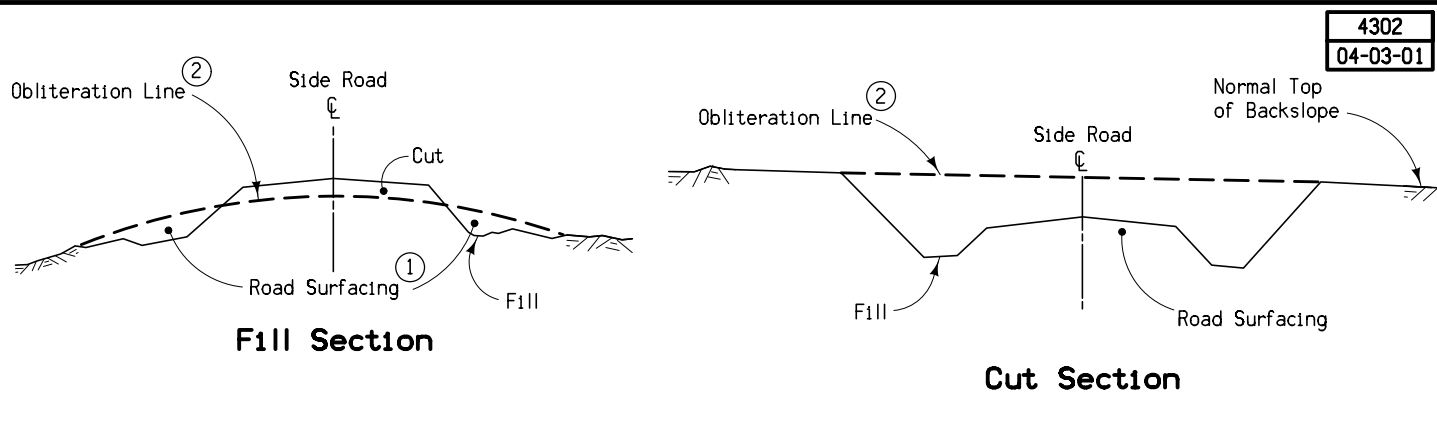
Special shaping of existing surface prior to placement of fillet may be required by the Engineer and is incidental to other work on the project.  
Quantities included with mainline quantities.

FILLET FOR NON-PAVED ENTRANCES OR SIDE ROADS



STATION TO STATION	DIRECTION OF TRAVEL	SIDE	(Y)	(E)	(S)	(I)
			Inches	Feet	Inches	Inches

HMA SHOULDER RESURFACING



- ① Existing road surfacing (granular material) shall be placed as shown unless otherwise directed by the Engineer or provided for in the detail project plans.
- ② When specified, the upper 1' to be suitable for vegetation (grass or crops).

Note:  
The work of obliterating or reshaping old roadbeds shall be done at the direction of the Engineer.

TYPICAL DETAILS FOR OBLITERATION EXISTING ROADBED

### SURVEY SYMBOLS

- |  |                                   |  |                              |
|--|-----------------------------------|--|------------------------------|
|  | Interstate Highway Symbol         |  | Septic Tank                  |
|  | U.S. Highway Symbol               |  | Cistern                      |
|  | Iowa Highway Symbol               |  | L.P. Gas Tank (No Footing)   |
|  | County Road Highway Symbol        |  | Underground Storage Tank     |
|  | Evergreen Tree                    |  | Latrine                      |
|  | Deciduous Tree                    |  | Satellite TV Dish            |
|  | Fruit Tree                        |  | Water Hook Up                |
|  | Shrub (Bushes)                    |  | Radio Tower                  |
|  | Timber                            |  | Tower Anchor                 |
|  | Hedge                             |  | Guardrail (Beam or Cable)    |
|  | Stump                             |  | Guard Post (one or two)      |
|  | Swamp                             |  | Guard Post (over two)        |
|  | Rock Outcrop                      |  | Filler Pipe                  |
|  | Broken Concrete                   |  | Gas Valve                    |
|  | Revetment (Rip Rap)               |  | Water Valve                  |
|  | Cemetery                          |  | Speed Limit Sign             |
|  | Grave                             |  | Mile Marker Post             |
|  | Cave                              |  | Sign                         |
|  | Sink Hole                         |  | Traffic Signal Control Box   |
|  | Board Fence                       |  | Rail Road Signal Control Box |
|  | Chain Link or Security Fence      |  | Telephone Switch Box         |
|  | Wire Fence                        |  | Electric Box                 |
|  | Terrace                           |  |                              |
|  | Earth Dam or Dike (Existing)      |  |                              |
|  | Earth Dam or Dike (Proposed)      |  |                              |
|  | Tile Outlet                       |  |                              |
|  | Edge of Water                     |  |                              |
|  | Existing Drainage                 |  |                              |
|  | Proposed Drainage                 |  |                              |
|  | Right of Way Rail or Lot Corner   |  |                              |
|  | Concrete Monument                 |  |                              |
|  | Well                              |  |                              |
|  | Windmill                          |  |                              |
|  | Beehive Intake                    |  |                              |
|  | Existing Intake                   |  |                              |
|  | Proposed Intake                   |  |                              |
|  | Existing Utility Access (Manhole) |  |                              |
|  | Proposed Utility Access (Manhole) |  |                              |
|  | Fire Hydrant                      |  |                              |
|  | Water Hydrant (Rural)             |  |                              |

### UTILITY LEGEND

- EL1D Iowa DOT - Quality D**  
Jason Dale  
800 Lincoln Way  
Ames IA, 50010  
(515) 239-1995  
Jason.Dale@iowadot.us
- EL2D Alliant Energy - Quality D**  
Mary Montgomery  
PO Box 351  
Cedar Rapids IA, 52406-9874  
(319) 786-4768  
MaryMontgomery@alliantenergy.com
- FO2D Iowa Communications Network - Quality D**  
Mike Broderick  
400 E 14th St, Grimes State Office Building  
Des Moines IA, 50319  
(515) 725-4610  
Mike.Broderick@iowa.gov
- GL1D Black Hills - Quality D**  
Brad Fleming  
1102 E. First St.  
Papillion NE, 68046-7641  
(402) 221-2714  
brad.fleming@blackhillscorp.com
- TL1D Windstream Communications - Quality D**  
Steve Kness  
1450 N. Center Pt. Rd.  
Hiawatha IA, 52233  
(319) 790-7678  
stephen.kness@windstream.com
- WL1D Central Iowa Water Association - Quality D**  
Matt Mahler  
1351 Iowa Speedway Drive  
Newton IA, 50208  
(800) 400-6066  
mmahler@irua.net

### PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING		Design Color No.	
Lavender	(9)		Temporary Pavement Shading
Gray, Light	(48)		Proposed Pavement Shading
Gray, Med	(80)		Proposed Granular Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading

### PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

- |  |                             |  |                          |
|--|-----------------------------|--|--------------------------|
|  | Reference Point             |  | Survey Line              |
|  | Station                     |  | Section Corner           |
|  | Ground Line Intercept       |  | Saw Cut                  |
|  | Guardrail                   |  | Trench Drain             |
|  | HighTension Cable Guardrail |  | Sheet Pile               |
|  | Pavement Removal            |  | Clearing & Grubbing Area |

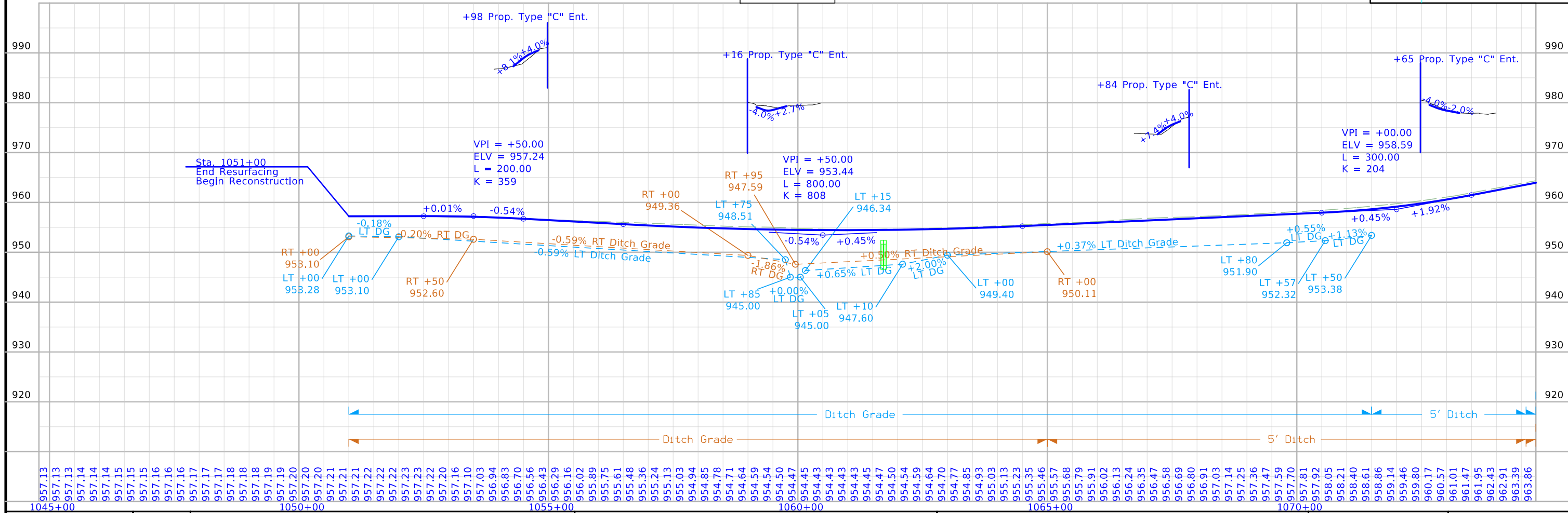
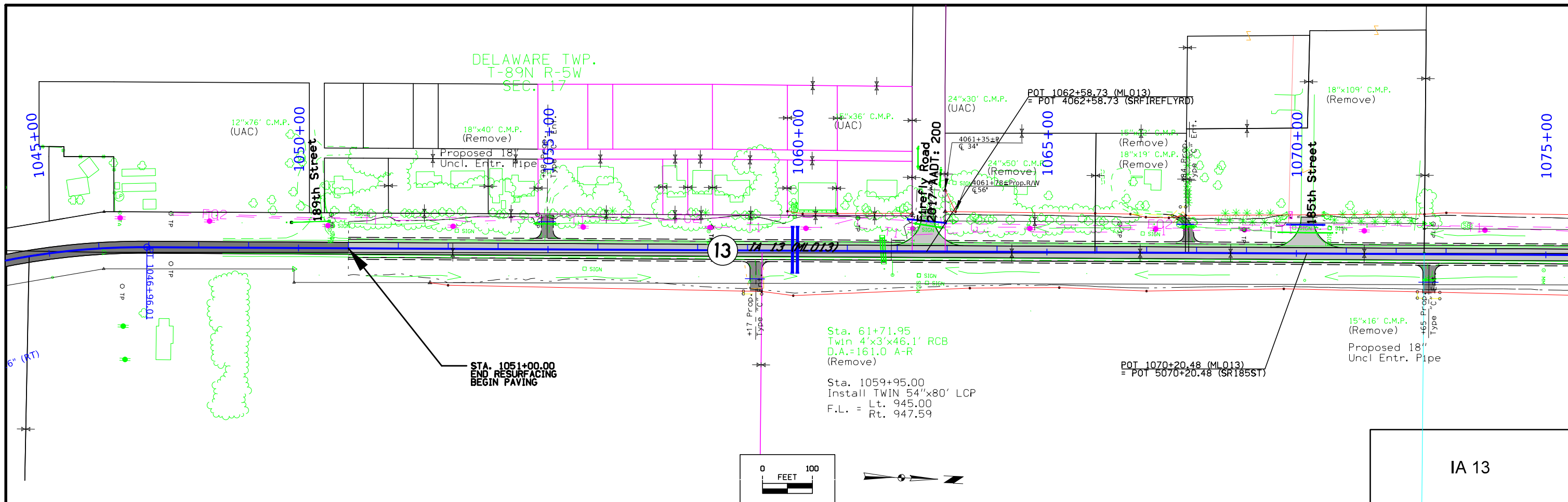
- ### RIGHT-OF-WAY LEGEND
- - 
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## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)

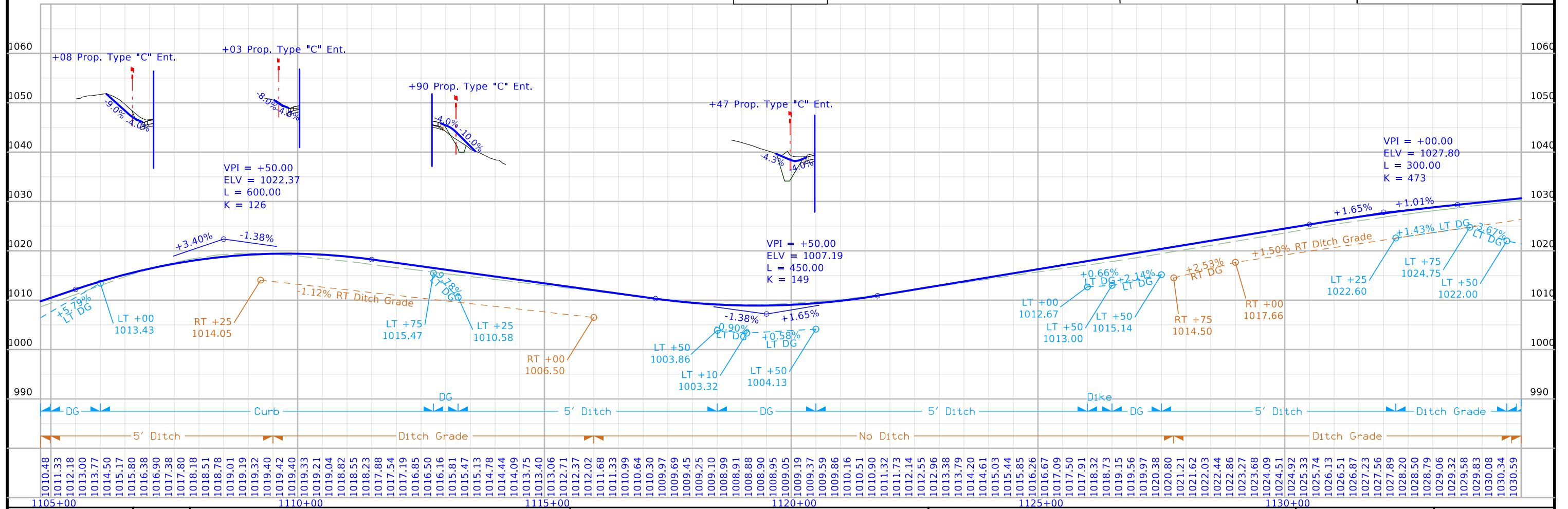
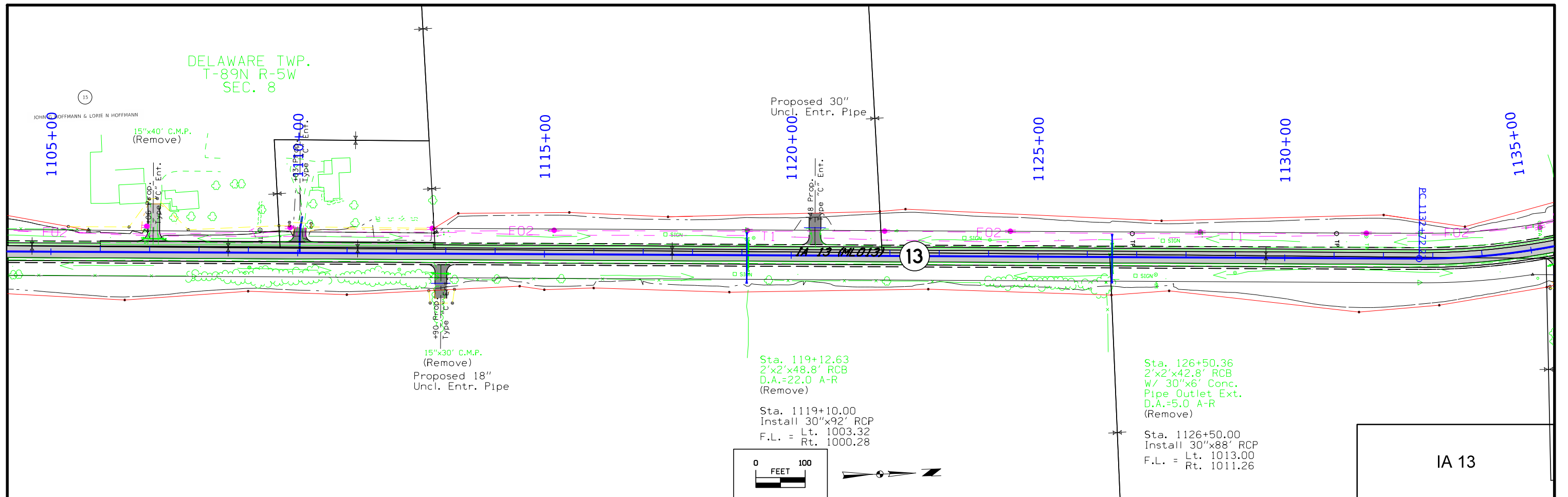


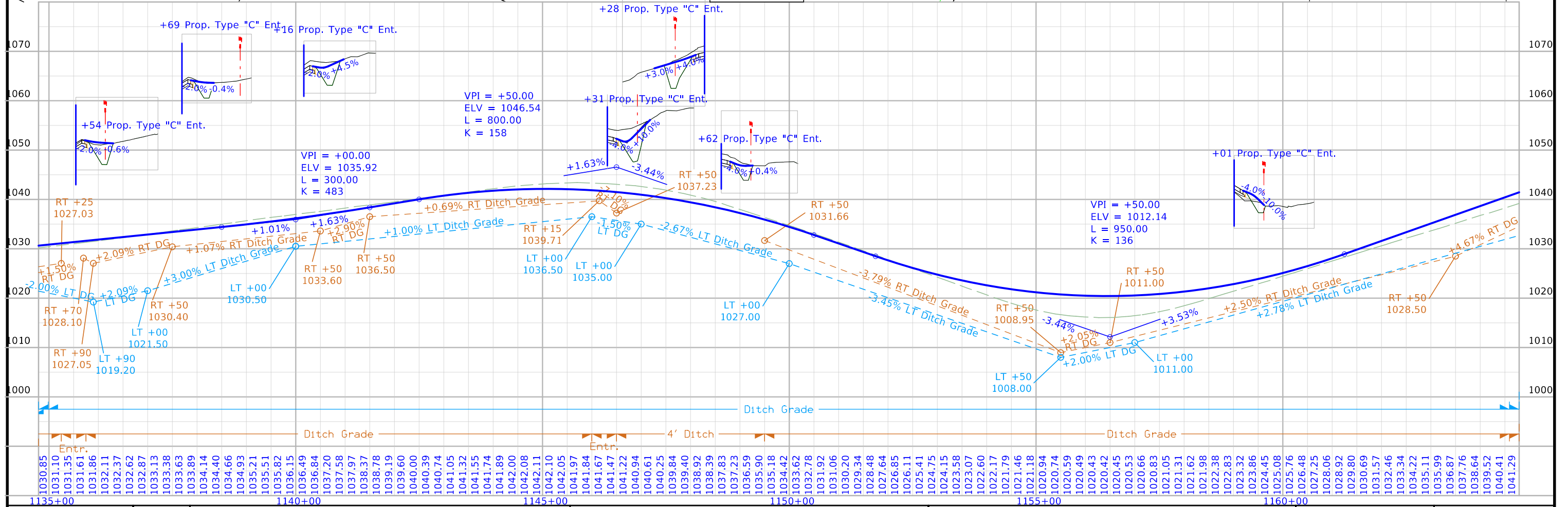
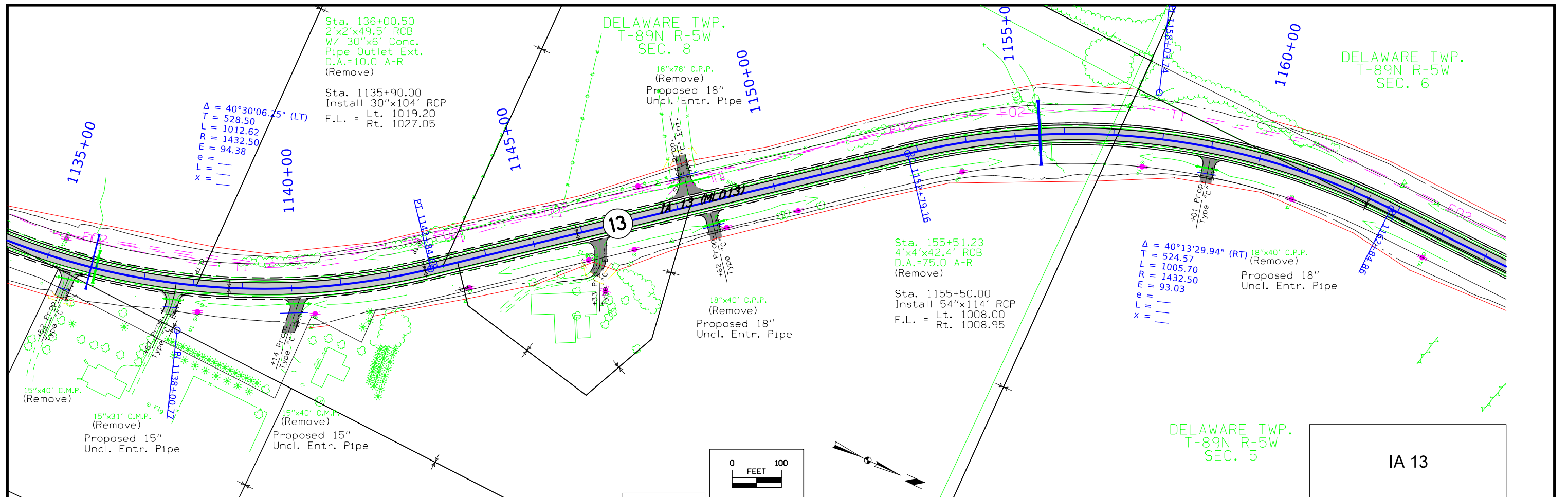




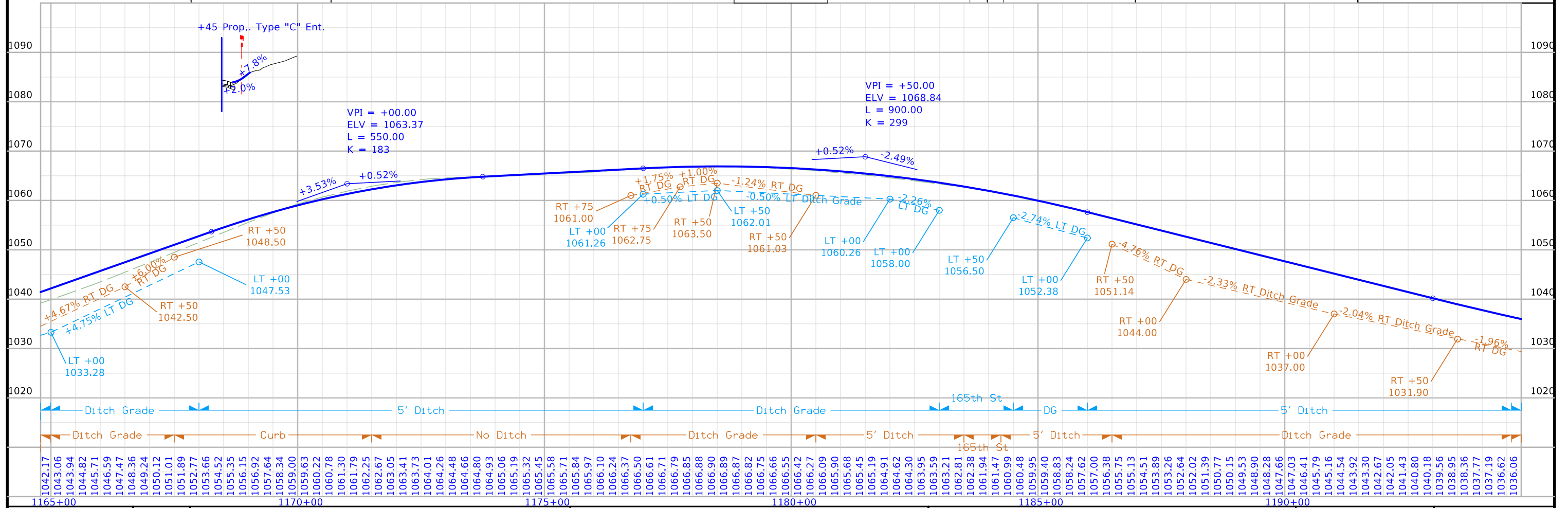
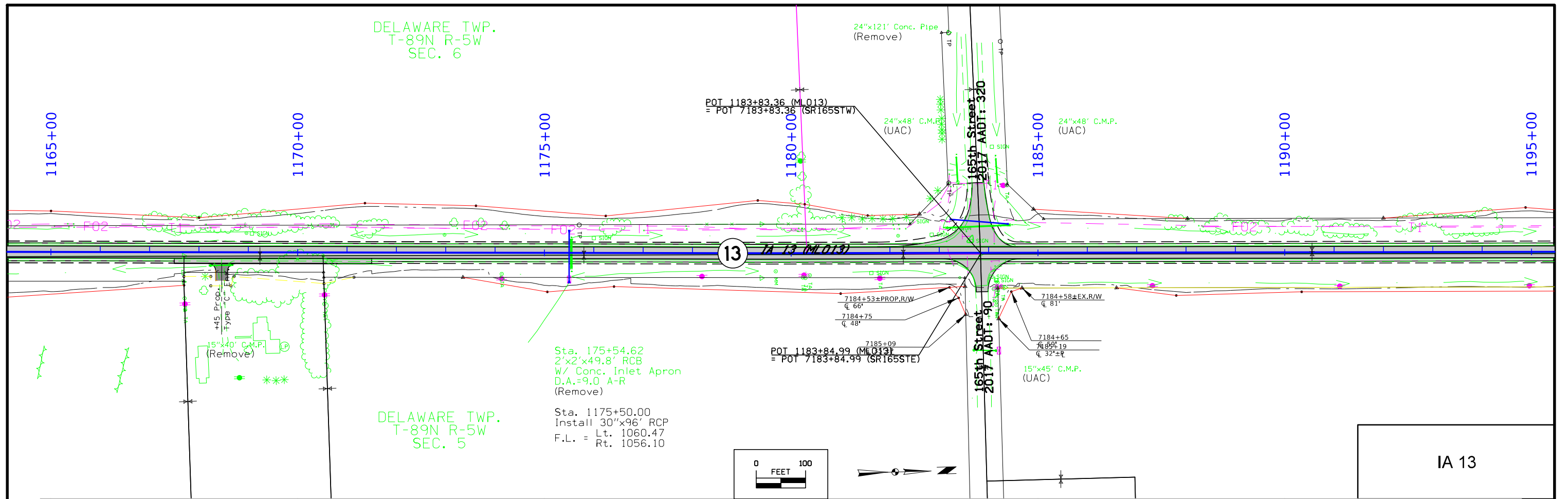
FILE NO.	ENGLISH	DESIGN TEAM	DELAWARE COUNTY	PROJECT NUMBER	SHEET NUMBER
1045+00		Strum \ Prindle \ McNamara		NHSX-013-2(42)--3H-28	D.3











FILE NO.	ENGLISH	DESIGN TEAM	DELAWARE COUNTY	PROJECT NUMBER	SHEET NUMBER
1165+00	Strum \ Prindle \ McNamara	NHSX-013-2(42)--3H-28	D.7		

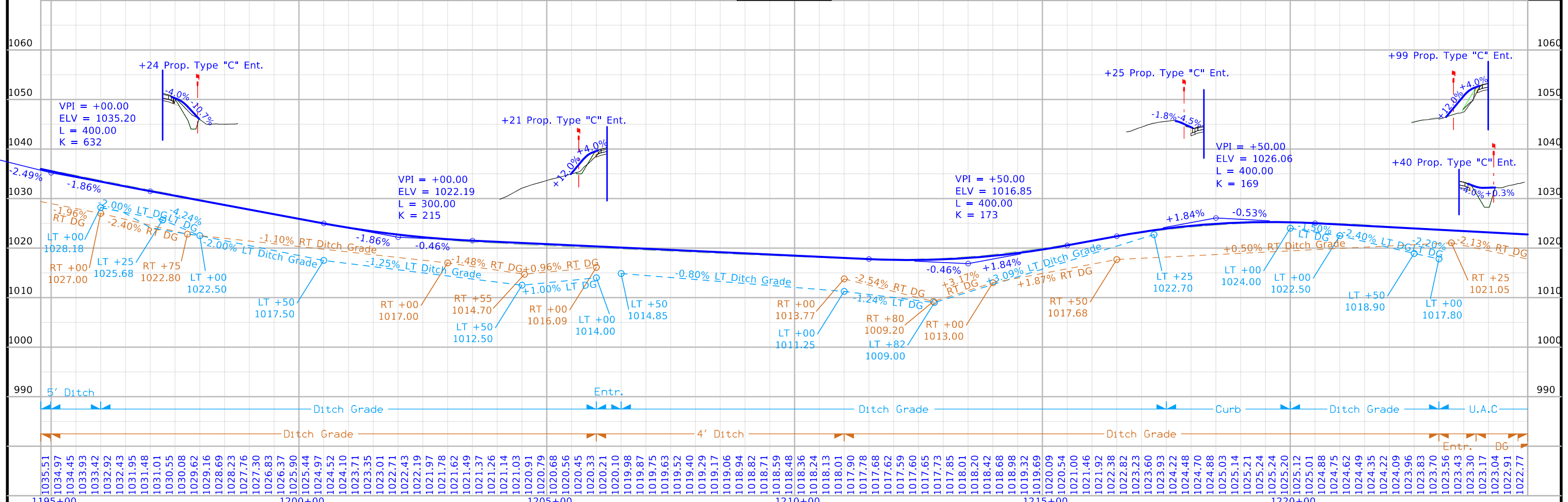
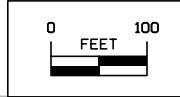
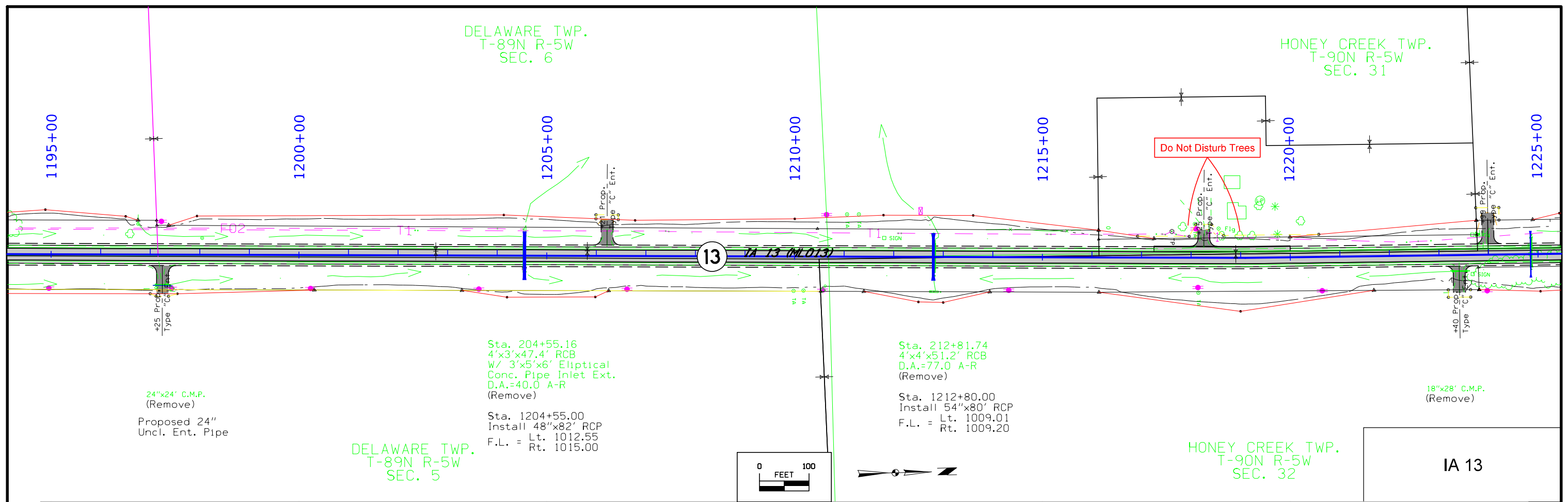
DELAWARE TWP.  
T-89N R-5W  
SEC. 6

HONEY CREEK TWP.  
T-90N R-5W  
SEC. 31

DELAWARE TWP.  
T-89N R-5W  
SEC. 5

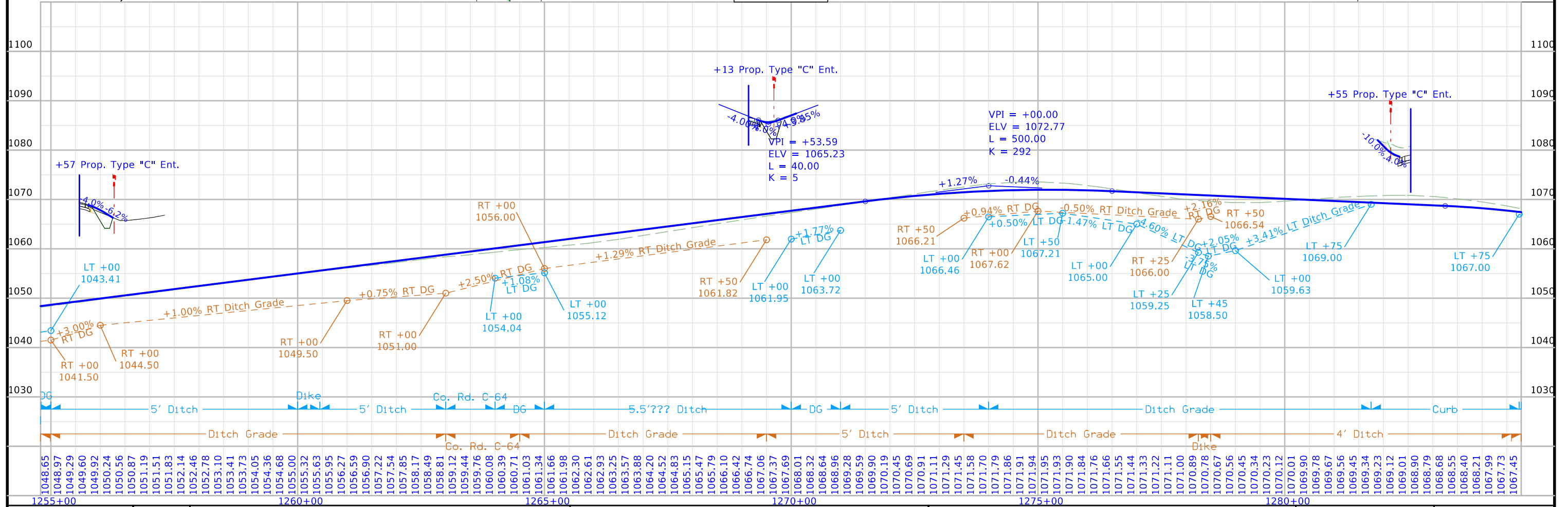
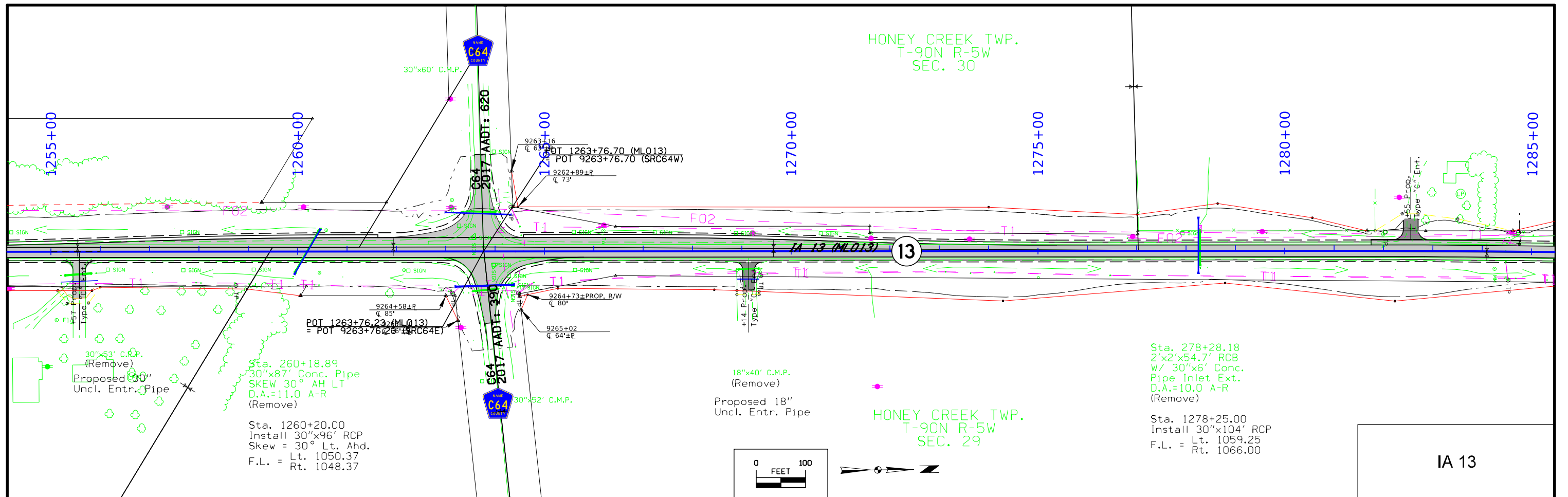
HONEY CREEK TWP.  
T-90N R-5W  
SEC. 32

IA 13

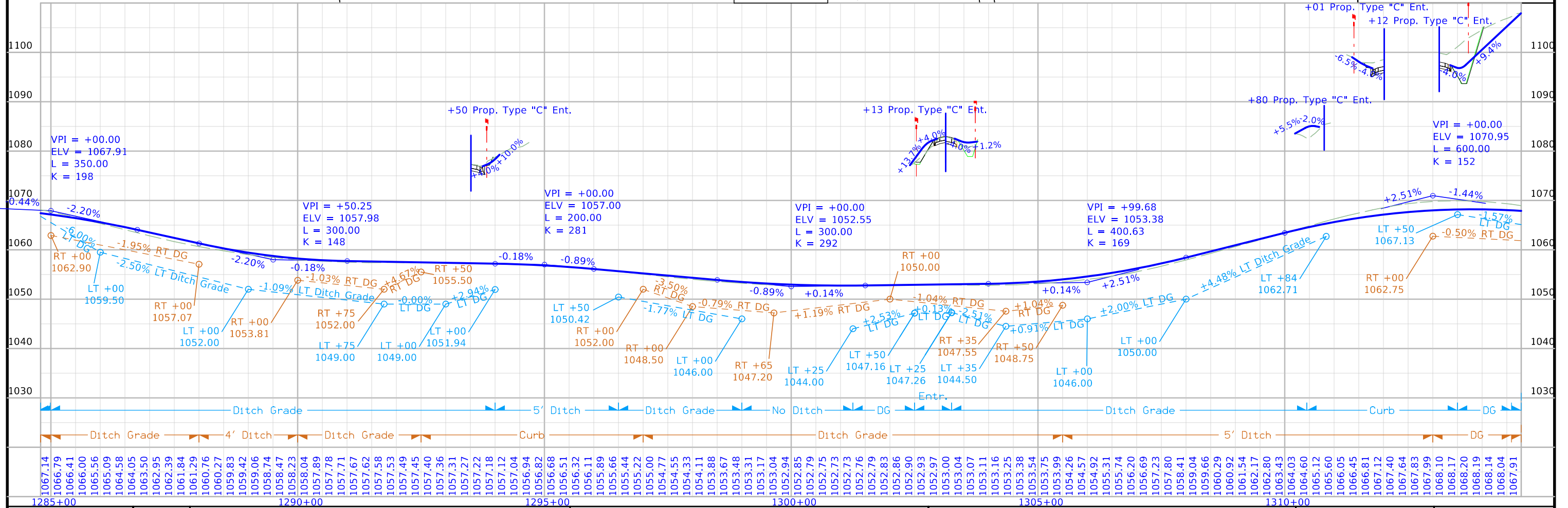
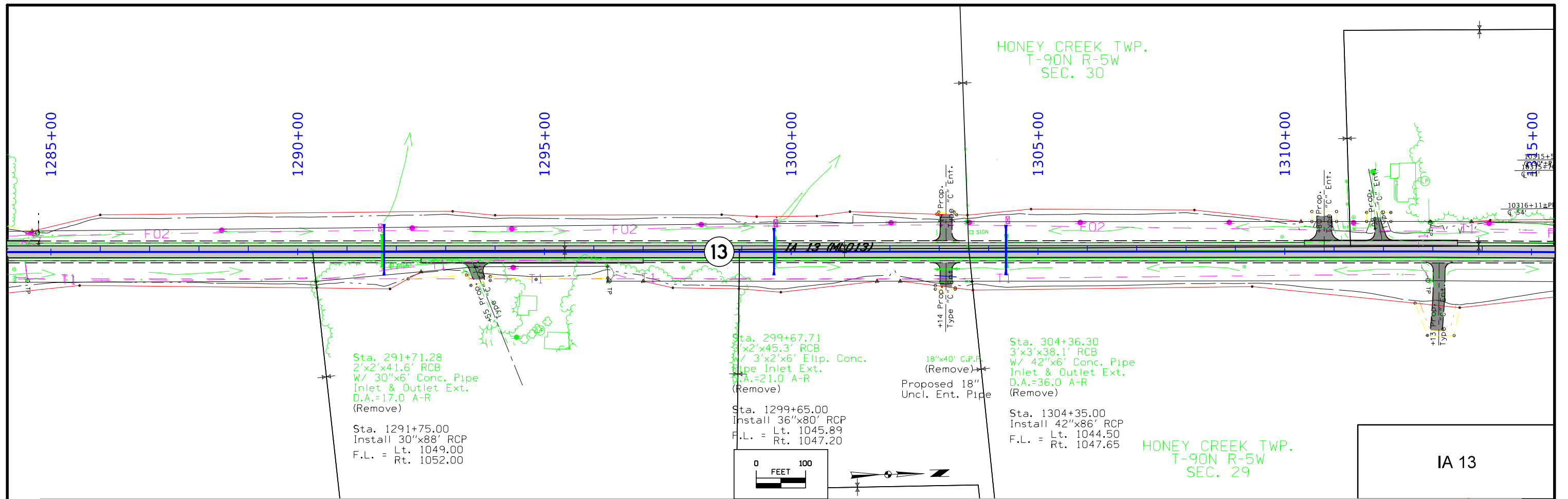


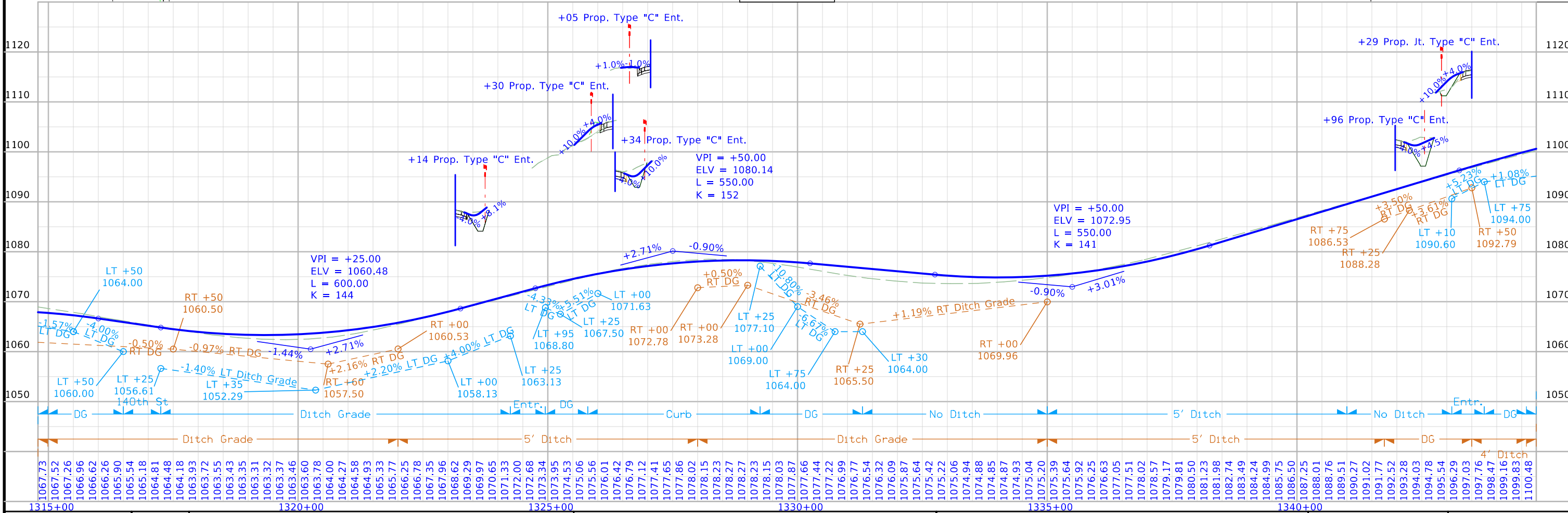
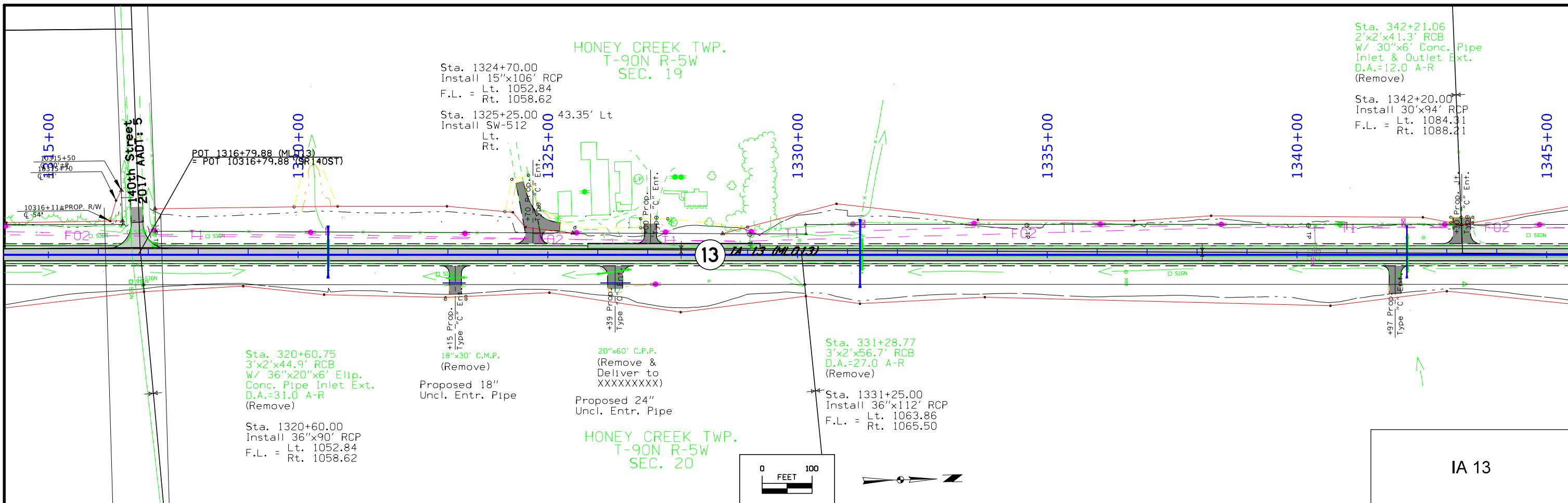
FILE NO.	ENGLISH	DESIGN TEAM	DELAWARE COUNTY	PROJECT NUMBER	SHEET NUMBER
1195+00		Strum \ Prindle \ McNamara		NHSX-013-2(42)--3H-28	D.8

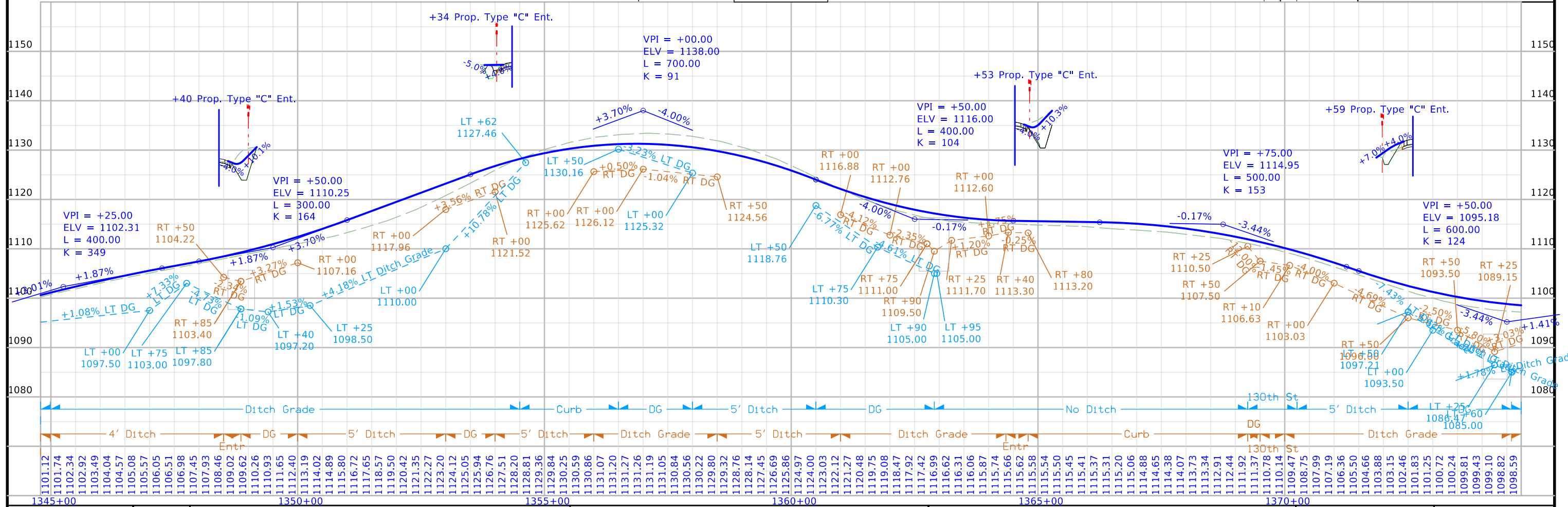
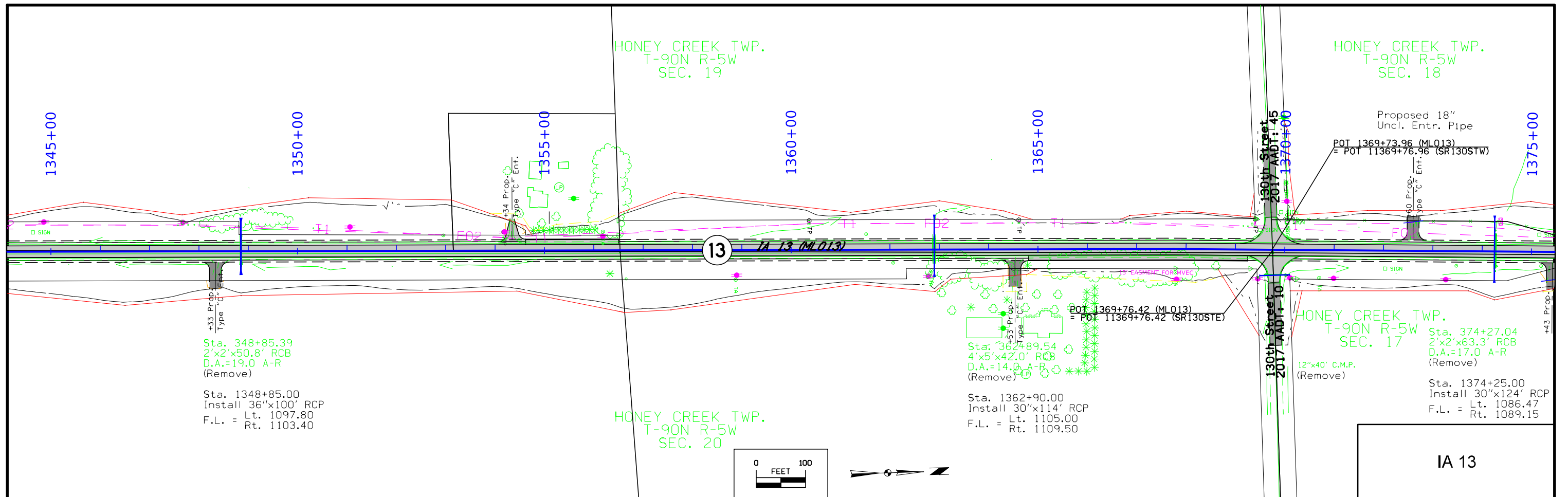










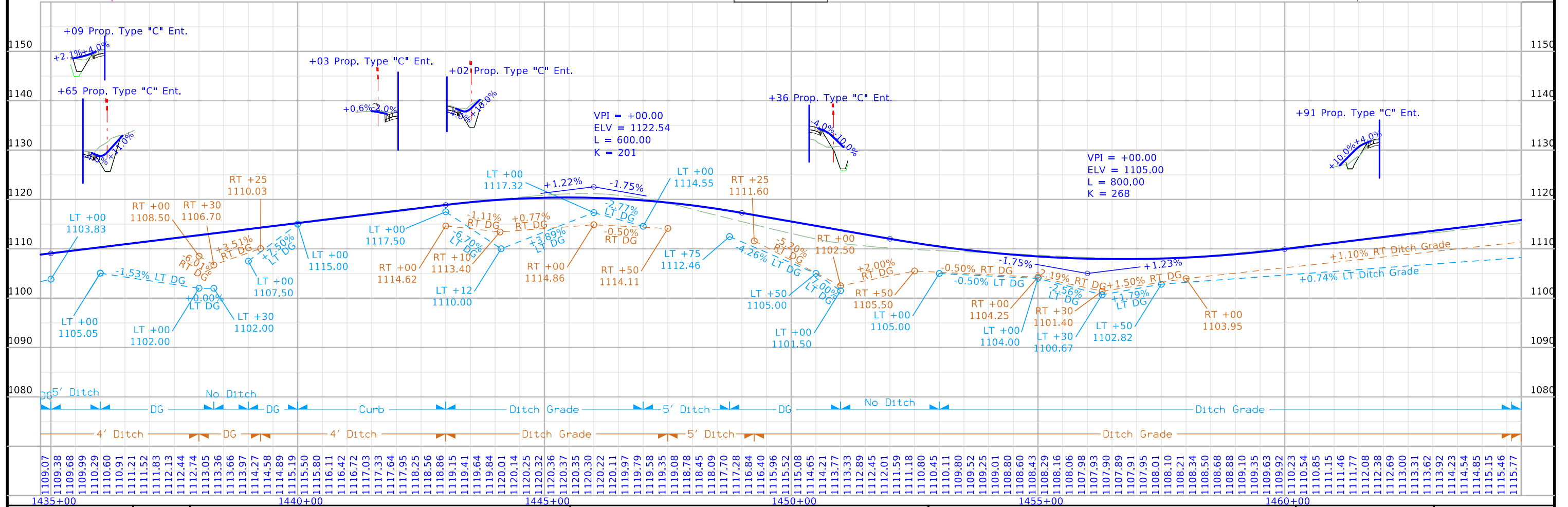
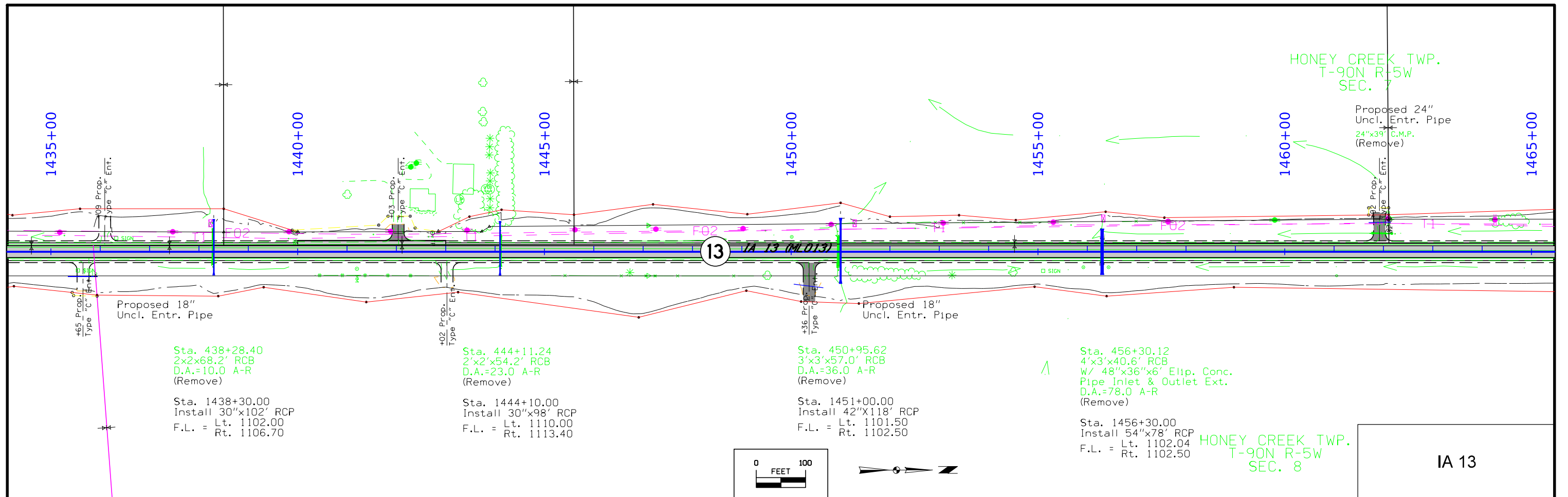


FILE NO.	ENGLISH	DESIGN TEAM	DELAWARE COUNTY	PROJECT NUMBER	SHEET NUMBER
		Strum \ Prindle \ McNamara		NHSX-013-2(42)--3H-28	D.13

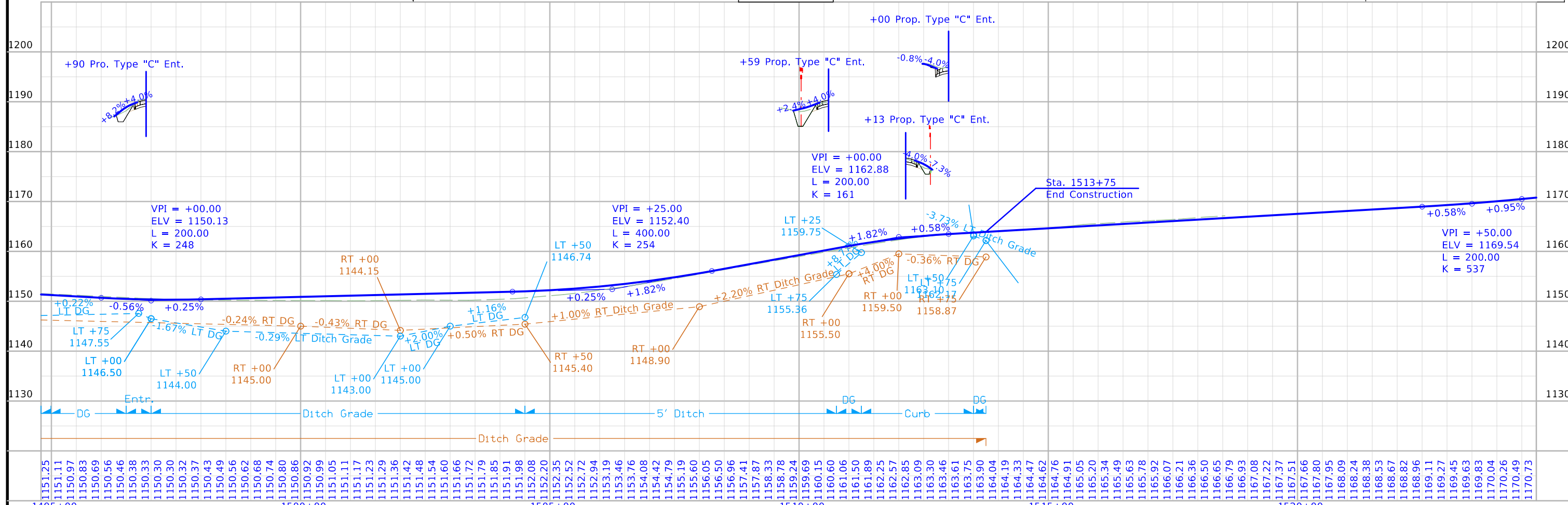
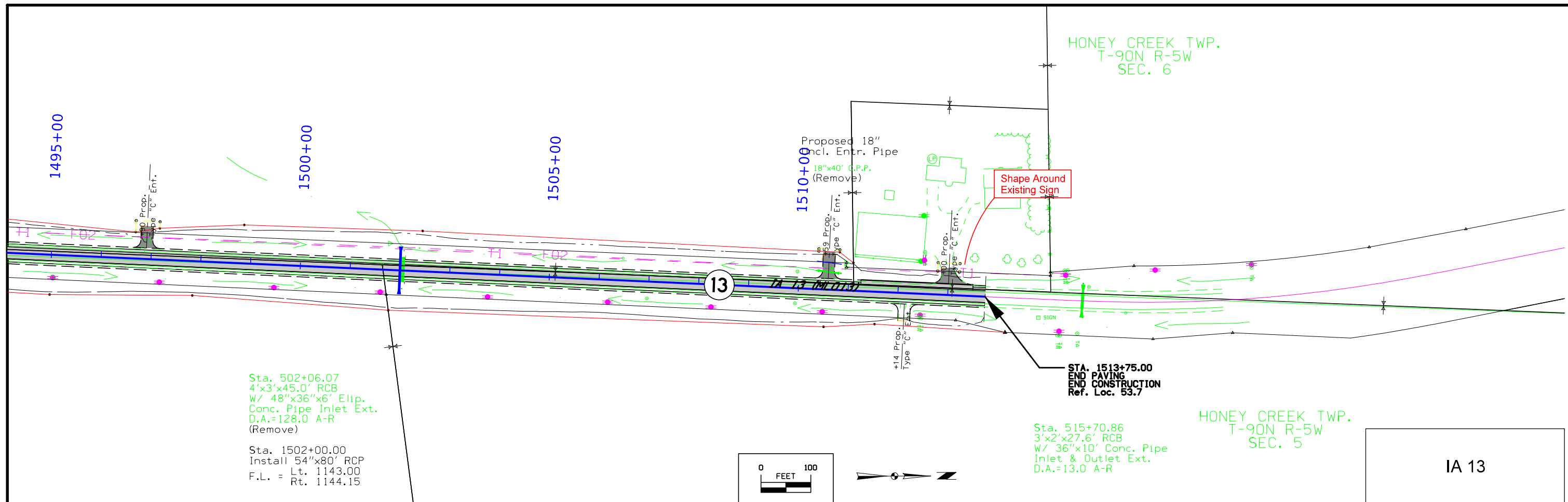






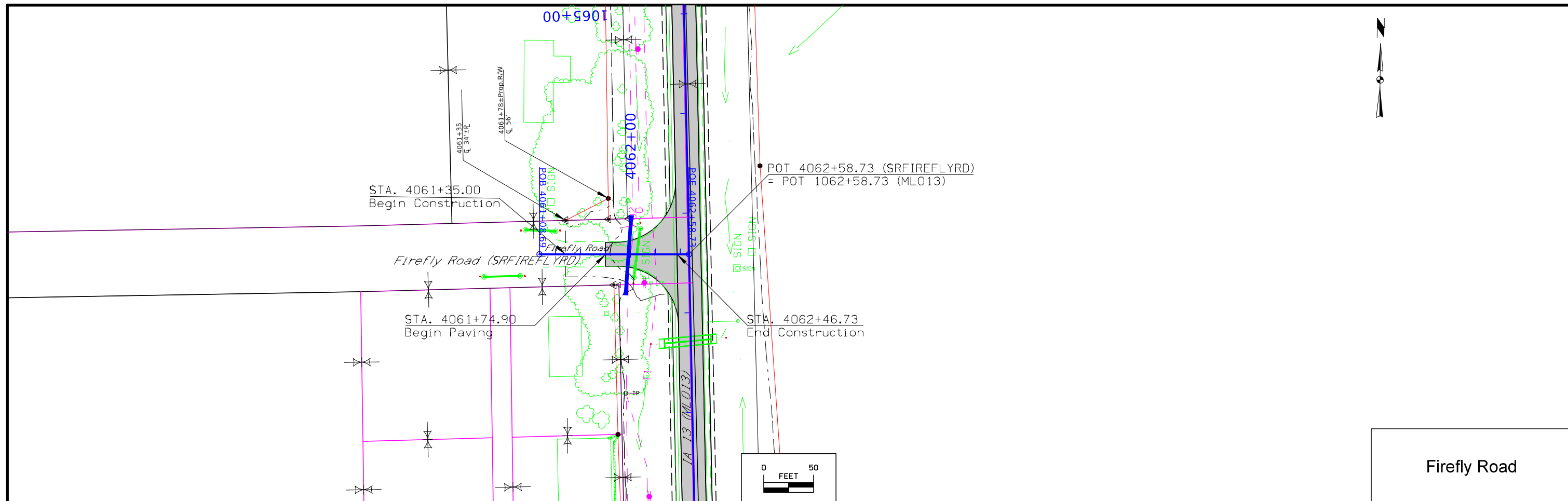




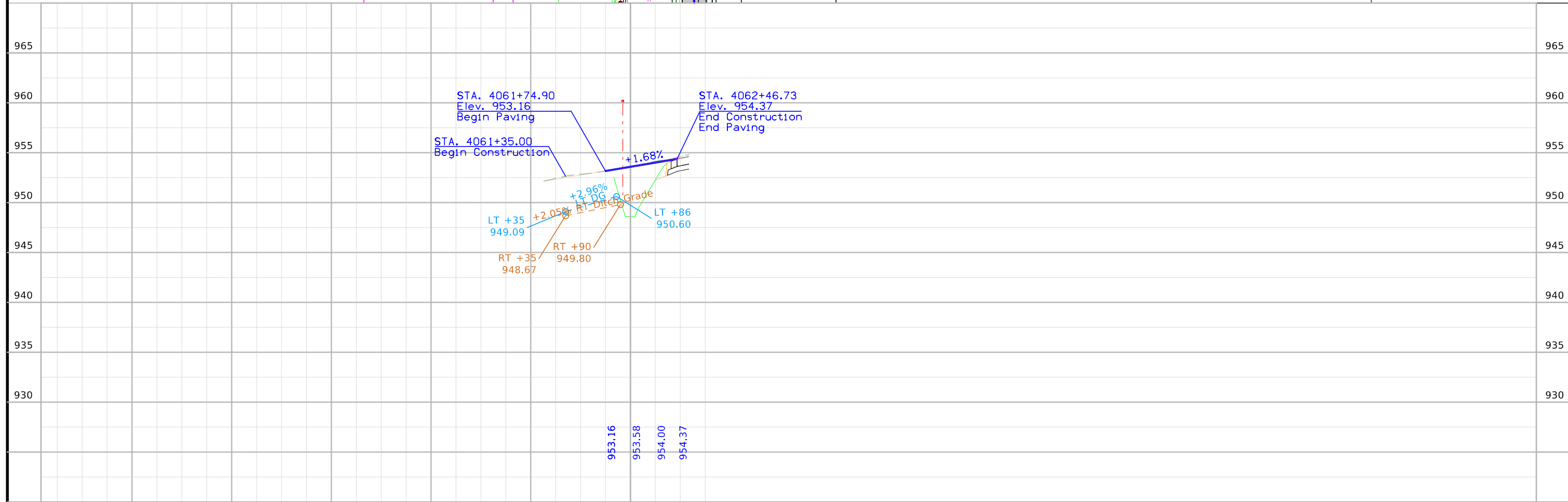


FILE NO.	ENGLISH	DESIGN TEAM	DELAWARE COUNTY	PROJECT NUMBER	SHEET NUMBER
Strum \ Prindle \ McNamara			NHSX-013-2(42)--3H-28	D.18	

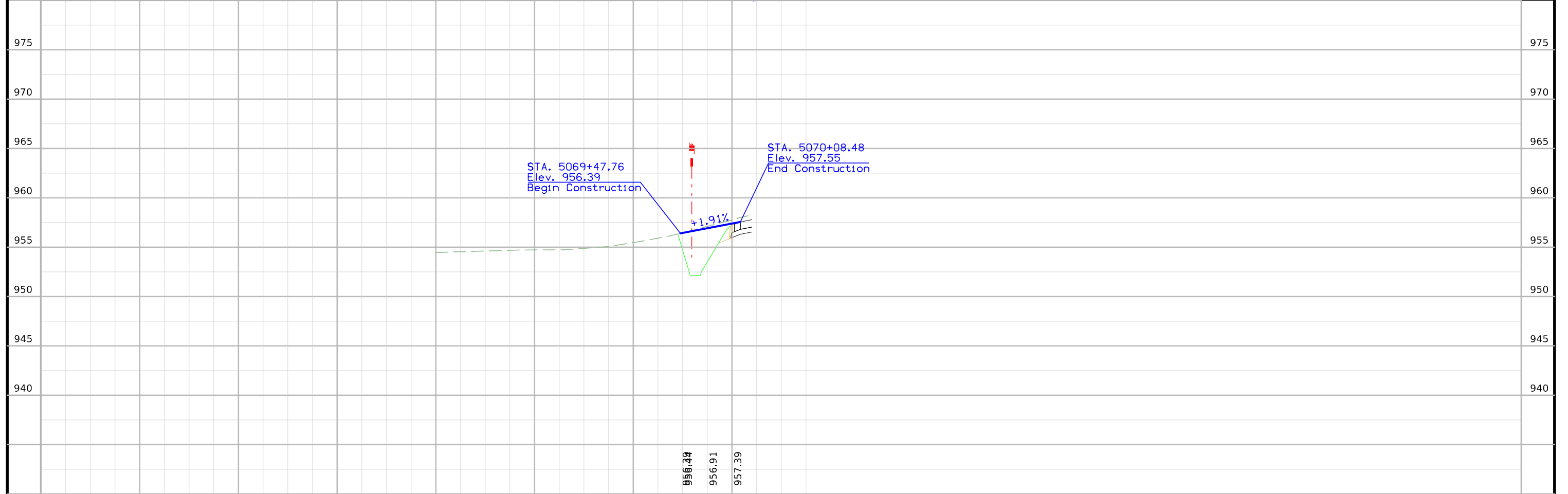
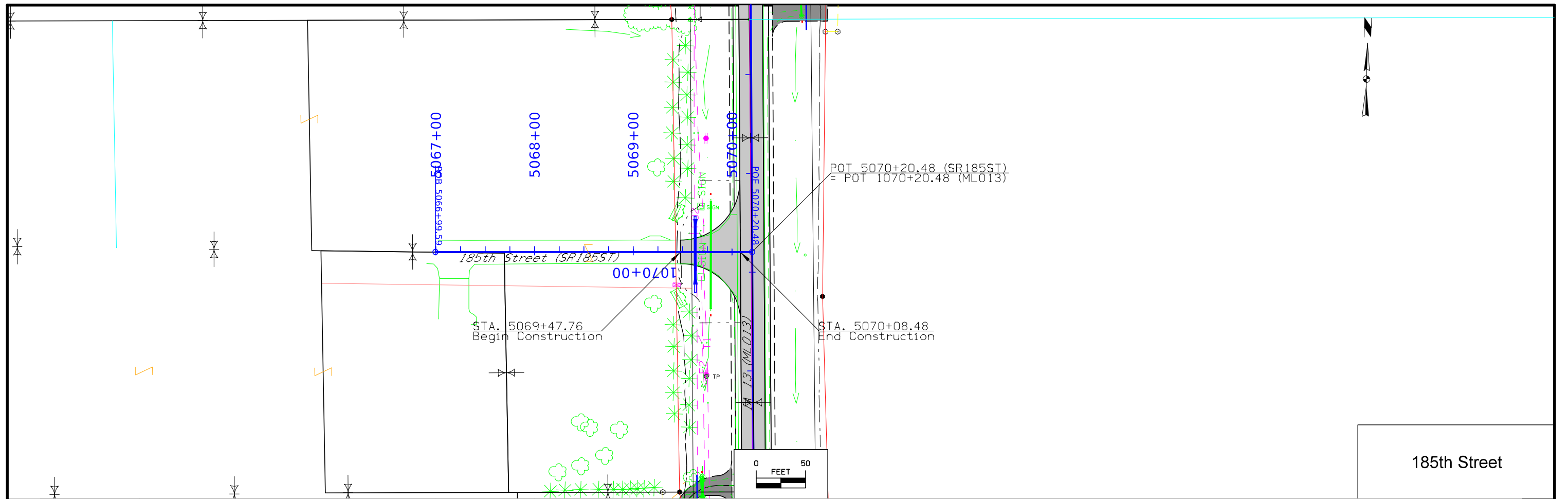




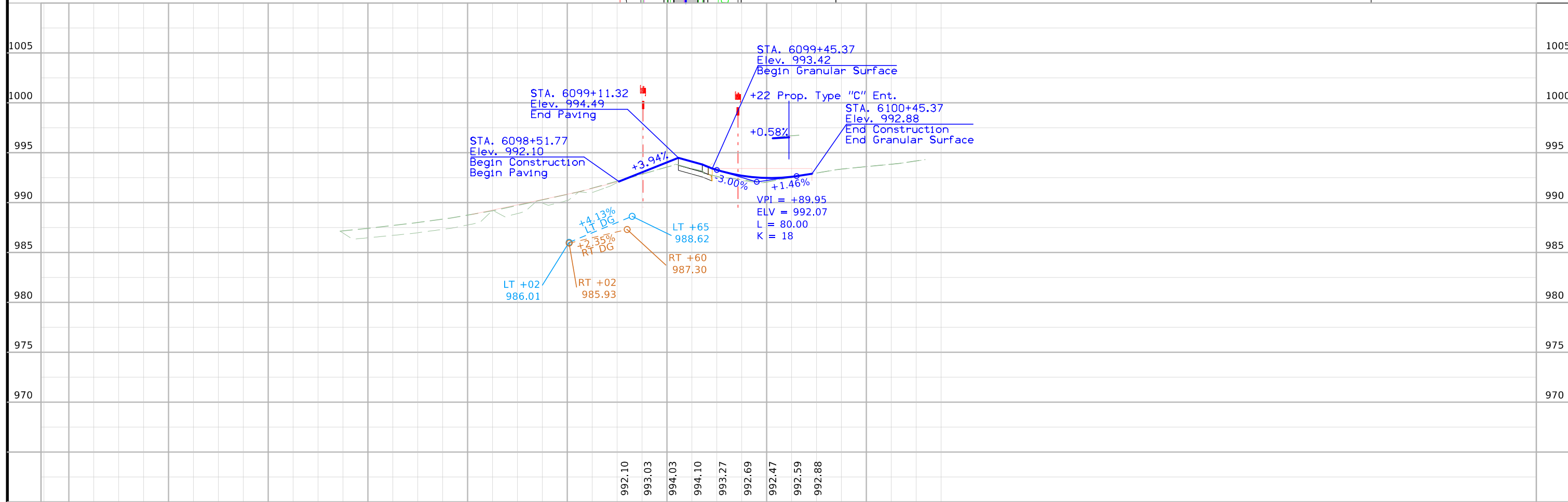
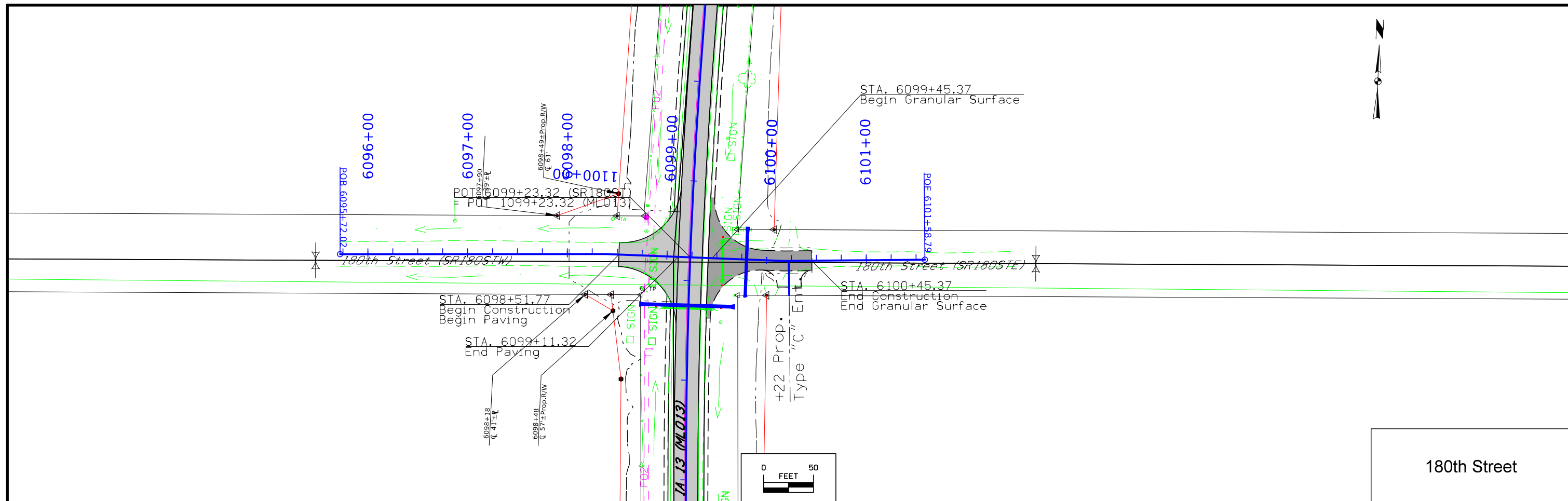
Firefly Road



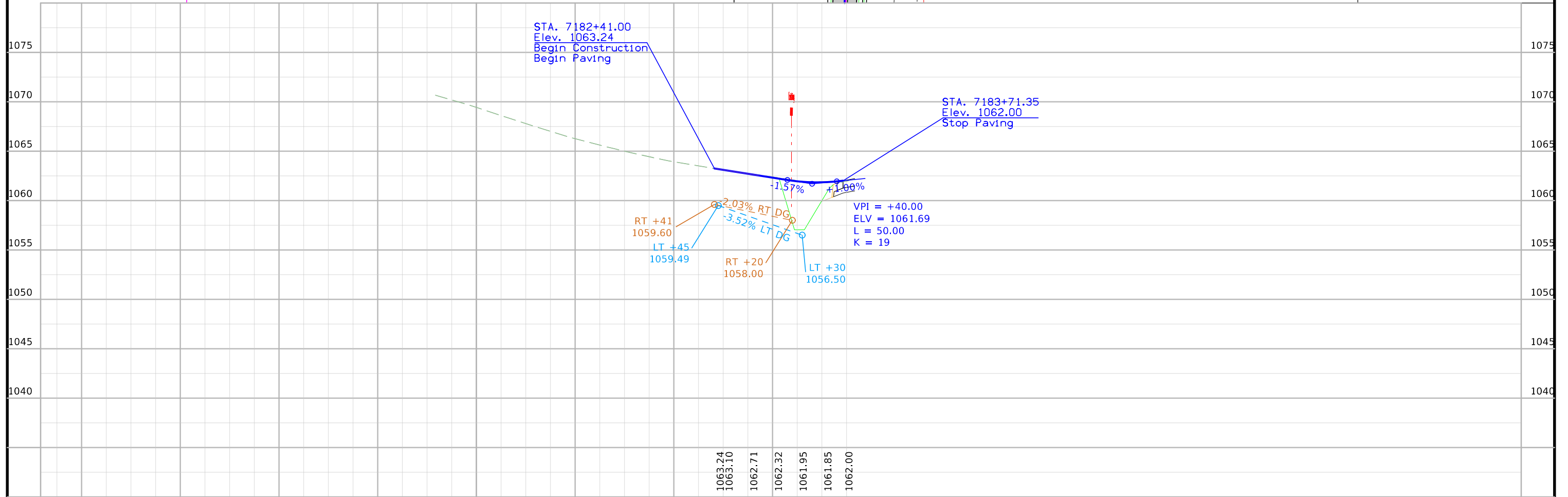
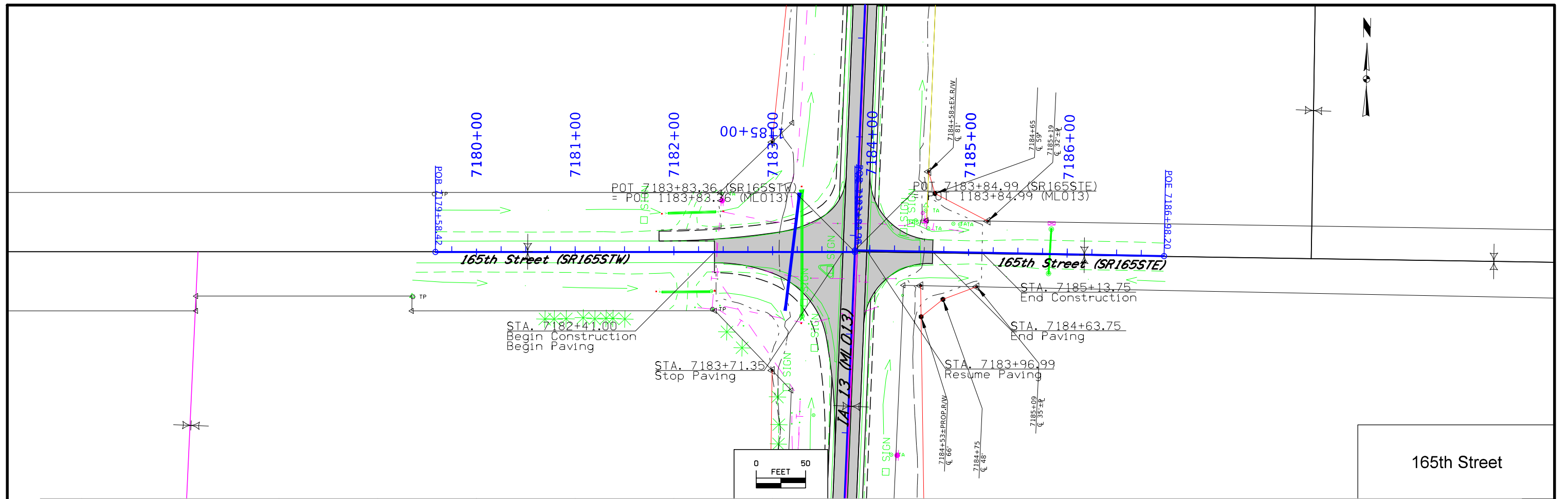
4057+00	4058+00	4059+00	4060+00	4061+00	4062+00	DELAWARE COUNTY	PROJECT NUMBER NHSX-013-2(42)--3H-28	SHEET NUMBER E.1
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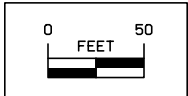
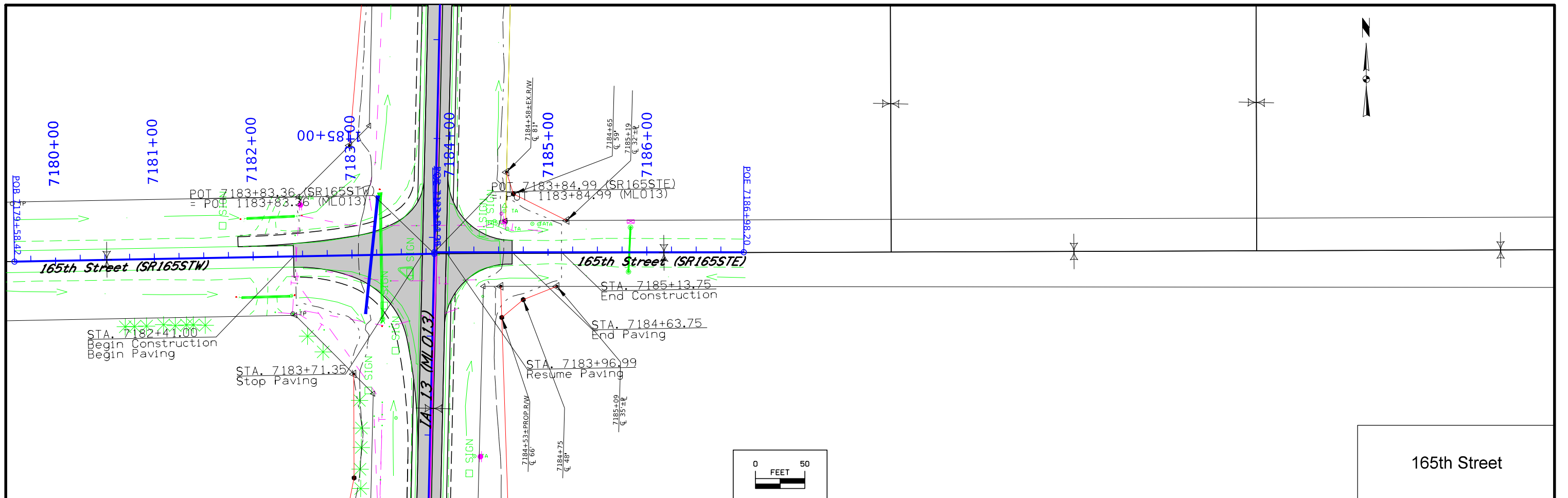
5063+00	5064+00	5065+00	5066+00	5067+00	5068+00	5069+00	5070+00	DELAWARE COUNTY	PROJECT NUMBER NHSX-013-2(42)--3H-28	SHEET NUMBER E.2
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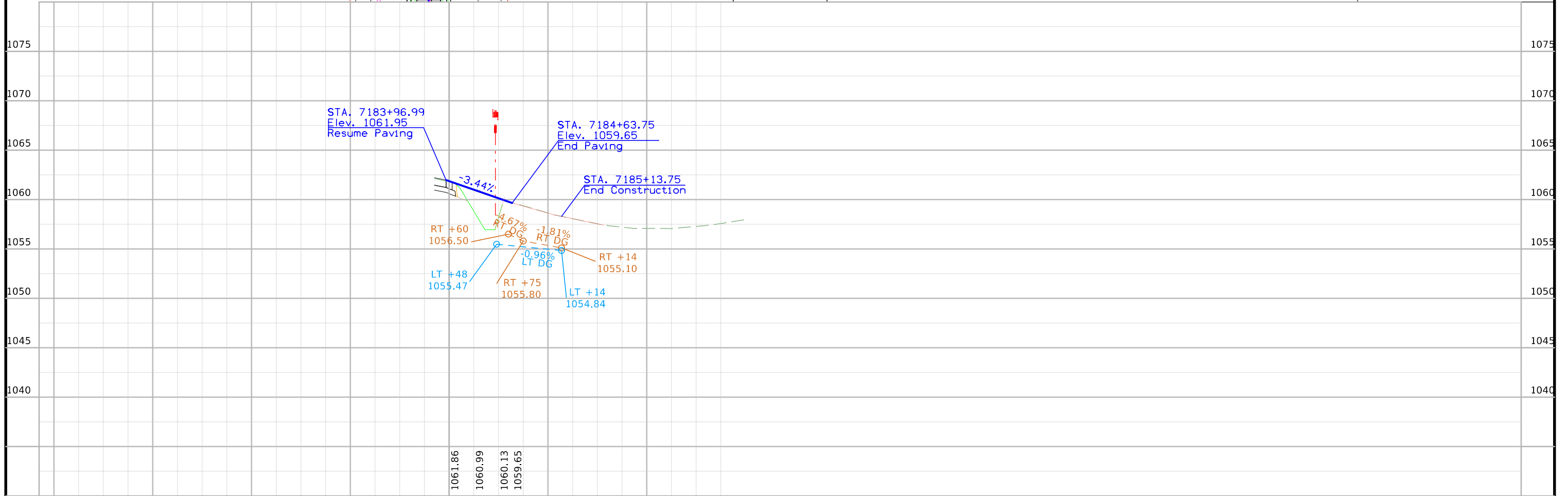
6093+00	6094+00	6095+00	6096+00	6097+00	6098+00	6099+00	6100+00	6101+00
FILE NO.	ENGLISH	DESIGN TEAM Strum \ Prindle \ McNamara				DELAWARE COUNTY	PROJECT NUMBER NHSX-013-2(42)--3H-28	SHEET NUMBER E.3



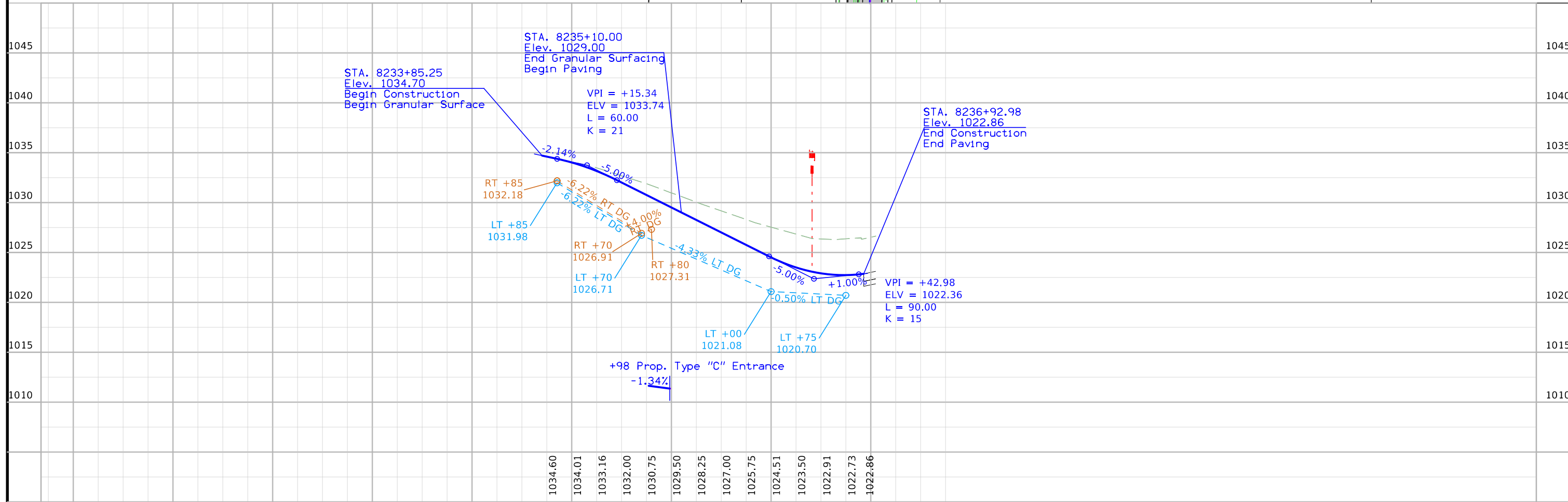
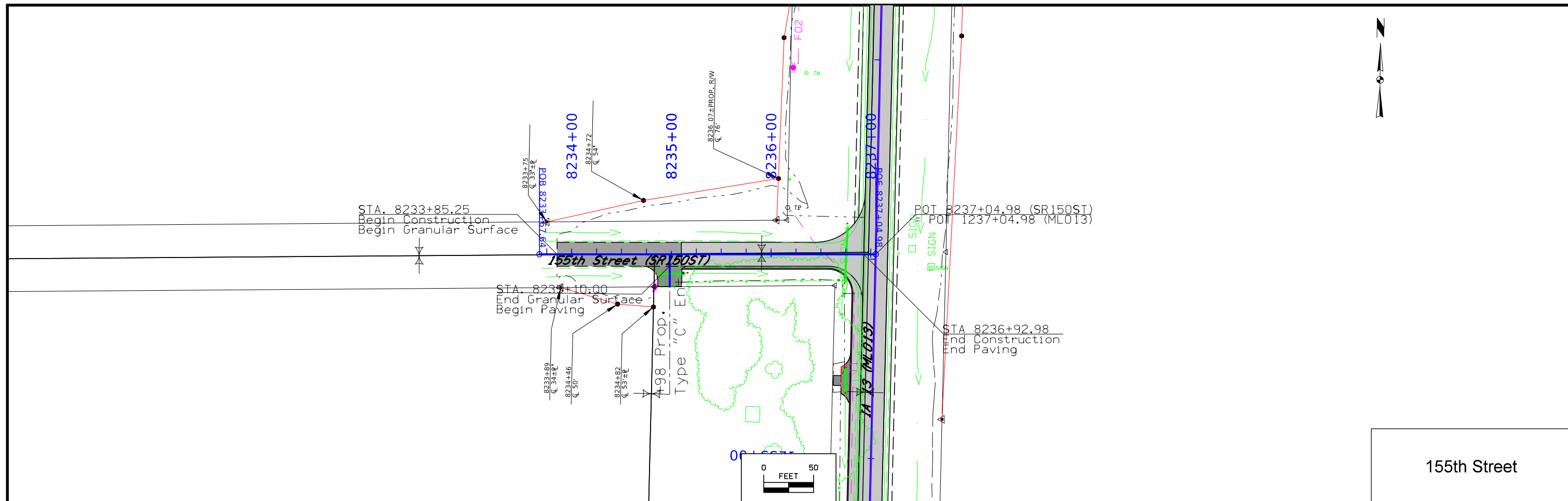
7176+00	7177+00	7178+00	7179+00	7180+00	7181+00	7182+00	7183+00	DELAWARE COUNTY	PROJECT NUMBER NH5X-013-2(42)--3H-28	SHEET NUMBER E.4
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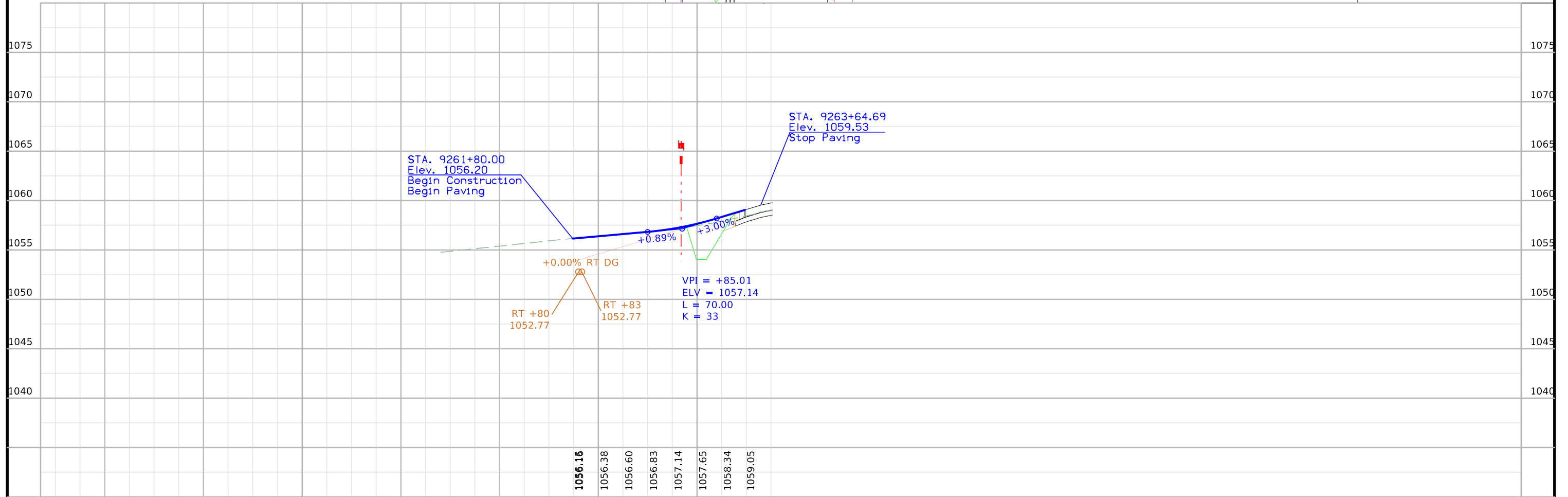
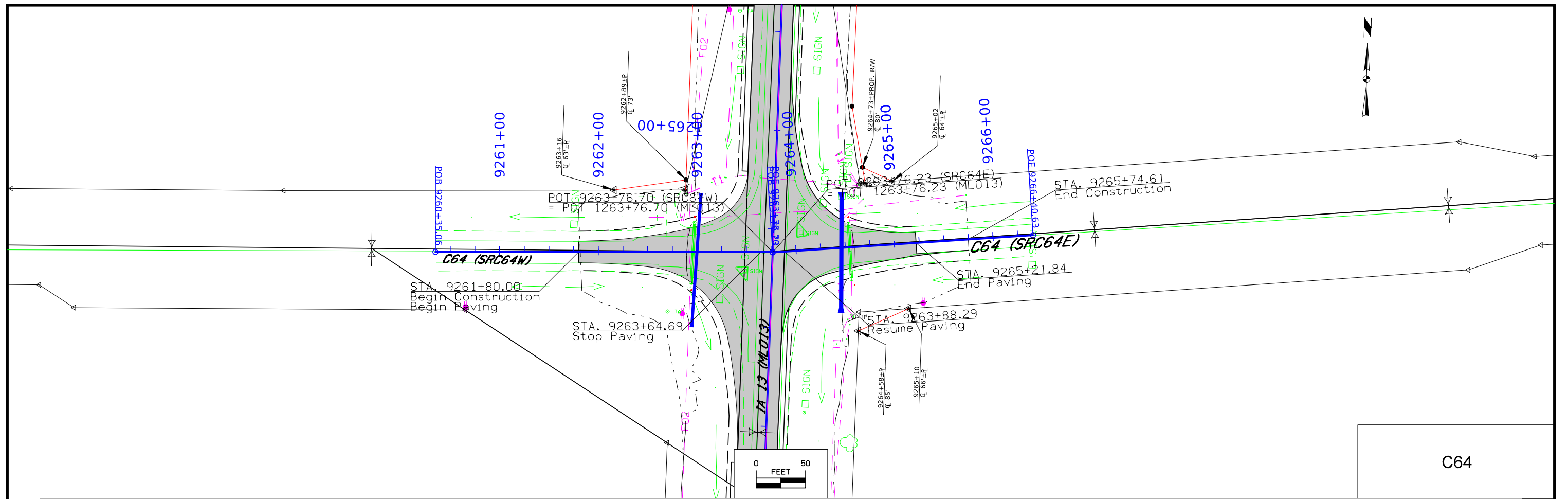
165th Street

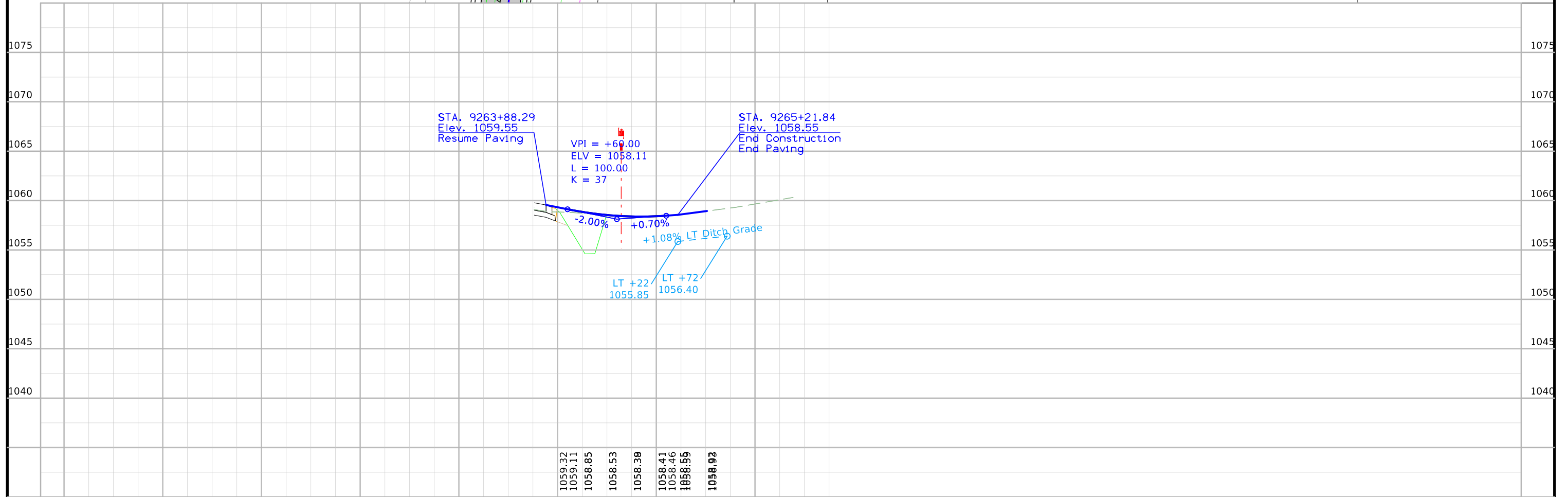
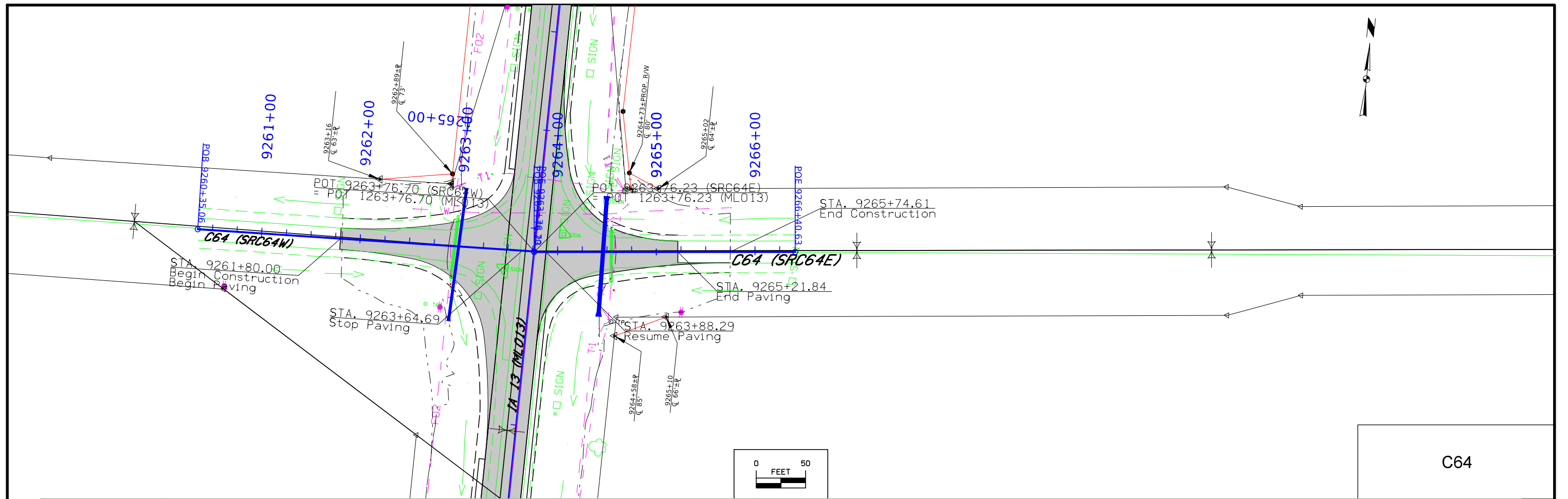


7180+00	7181+00	7182+00	7183+00	7184+00	7185+00	7186+00	DELAWARE COUNTY	PROJECT NUMBER NHSX-013-2(42)--3H-28	SHEET NUMBER E.5
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8229+00	8230+00	8231+00	8232+00	8233+00	8234+00	8235+00	8236+00	8237+00	DELAWARE COUNTY	PROJECT NUMBER NH5X-013-2(42)--3H-28	SHEET NUMBER E.6
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9259+00	9260+00	9261+00	9262+00	9263+00	9264+00	9265+00	9266+00	DELAWARE COUNTY	PROJECT NUMBER NHSX-013-2(42)--3H-28	SHEET NUMBER E.8
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