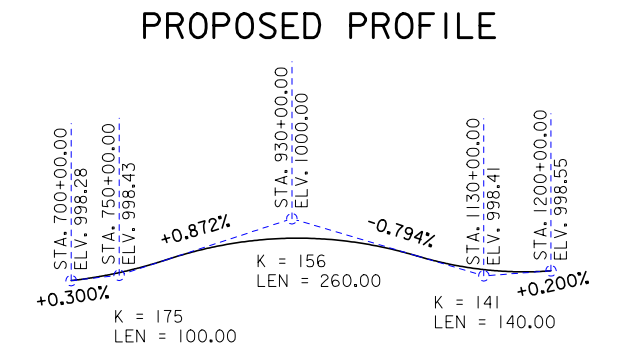
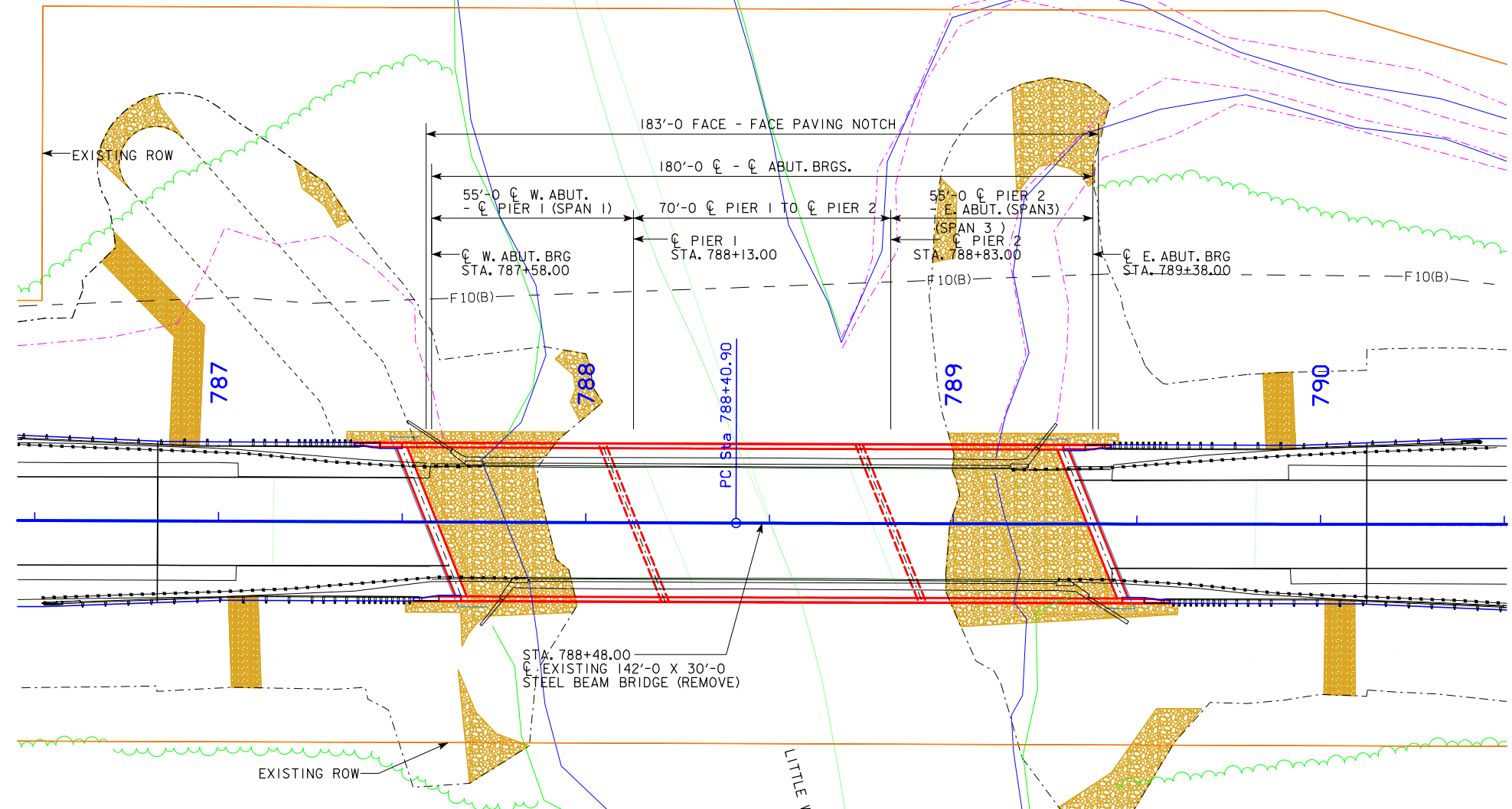
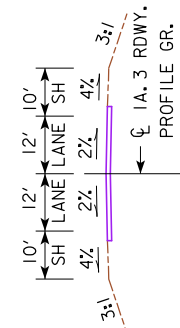


BENCH MARK NO.: I.H.C. 1" PLUG TOP OF CONC. BARRIER RAIL @ S.E. CORNER HWY. #3 BRIDGE OVER LITTLE WAPSI RIVER, EL. 1000.81



TYPICAL APPROACH SECTION



HYDRAULIC DATA

DRAINAGE AREA = 95.7 SQ. MI.
 STREAM SLOPE = 3.63 FT./MI.
 AVG. LOW WATER STAGE = 985.94

Q₂₅ = 9,500 CFS
 STAGE = 995.87

Q₅₀ = 11,400 CFS
 STAGE = 996.20
 BACKWATER = 2.02 FT.
 AVG. BRIDGE VELOCITY = 7.38 FPS

Q₁₀₀ = 13,300 CFS
 STAGE = 996.68
 BACKWATER = 2.06 FT.
 AVG. BRIDGE VELOCITY = 8.62 FPS

Q₂₀₀ = 17,000 CFS
 STAGE = 998.76

Q₅₀₀ = 18,300 CFS
 STAGE = 1,000.19

TRAFFIC ESTIMATE

2018 AADT 1,620 V.P.D.
 TRUCKS 18 %

UTILITIES

—F10(B)— FIBER OPTIC
 UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

NOTES

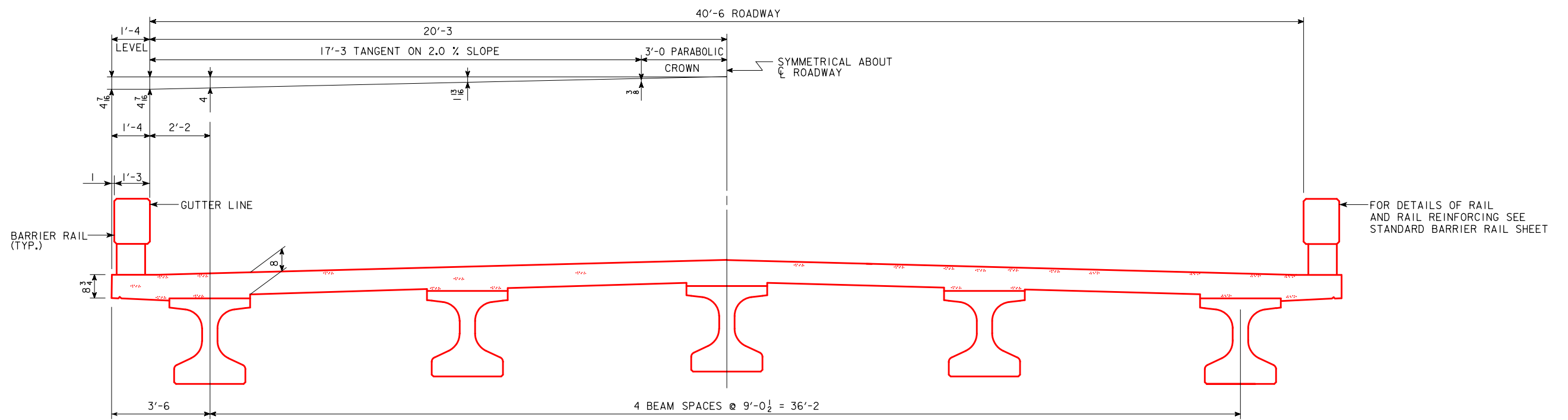
CLASS 'E' REVETMENT IS EMBEDDED.
 ALL DIMENSIONS ARE HORIZONTAL UNLESS OTHERWISE NOTED.
 ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
 USGS GAGING STATION LOCATED ON DOWNSTREAM SIDE OF BRIDGE. CONTRACTOR TO CONTACT USGS TO COORDINATE REMOVAL AND REPLACEMENT.

LOCATION

IA 3 OVER LITTLE WAPSI PINICON RIVER
 T-91N R-10W
 SECTION 5 & 8
 ORAN TOWNSHIP
 FAYETTE COUNTY
 FHWA NO. 24430
 BRIDGE MAINT. NO. 3343.4S003
 LATITUDE 46.9783114°
 LONGITUDE -098.2733641°



DESIGN FOR 22° SKEW (R.A.)
**180'-0" x 40'-0" PRETENSIONED
 PRESTRESSED CONC. BEAM BRIDGE**
 55'-0" END SPANS 70'-0" INTERIOR SPAN
 SITUATION PLAN
 STA. 788+48.00 JULY, 2022
 FAYETTE COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 2 OF 4 FILE NO. ? DESIGN NO. 225



DESIGN FOR 22° SKEW (R.A.)

**180'-0 x 40'-0 PRETENSIONED
PRESTRESSED CONC. BEAM BRIDGE**

55'-0 END SPANS 70'-0 INTERIOR SPAN

TRANSVERSE SECTION

STA. 788+48.00 JULY, 2022

FAYETTE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. 4 OF 4 FILE NO. ? DESIGN NO. 225

Paved Shoulder at Guardrail

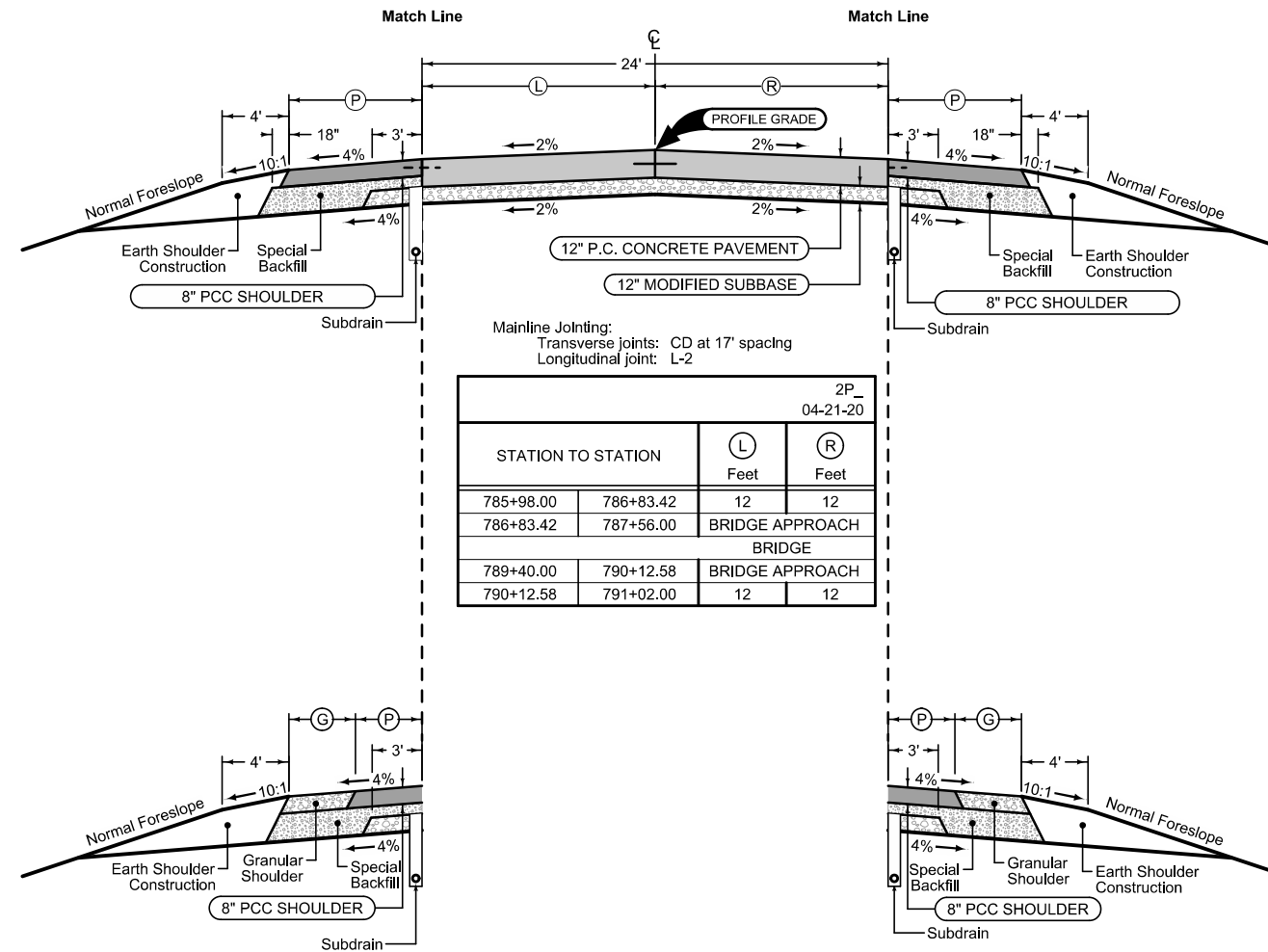
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION		(P) Feet	NOTES
786+24.37	786+44.37	11.35	
786+44.37	786+83.42	11.35-9.74	
786+83.42	787+46.30	9.74-9.58	
786+87.60	787+46.30	9.58	SEE BRIDGE APPROACH DETAIL FOR SHOULDER DETAILS
789+33.54	789+92.06	9.58	
789+92.06	790+12.58	9.58-10.20	
790+12.58	790+35.35	10.20-11.08	
790+35.35	790+55.35	11.08	

Combination Shoulder

Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION		(P) Feet	(G) Feet
785+98.00	786+24.37	4	5 - 7.7
790+55.35	791+02.00	4	7.3 - 5



2P_04-21-20

STATION TO STATION		(L) Feet	(R) Feet
785+98.00	786+83.42	12	12
786+83.42	787+56.00	BRIDGE APPROACH	
BRIDGE			
789+40.00	790+12.58	BRIDGE APPROACH	
790+12.58	791+02.00	12	12

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION		(P) Feet	NOTES
786+36.81	786+60.73	11.35	
786+60.73	786+83.42	11.35-10.40	
786+83.42	787+03.91	10.40-9.58	
787+03.91	787+62.46	9.58	SEE BRIDGE APPROACH DETAIL FOR SHOULDER DETAILS
789+49.69	790+12.58	9.58	
790+12.58	790+08.37	9.58-9.78	
790+08.37	790+51.53	9.78-11.54	
790+51.53	790+71.52	11.54	

Combination Shoulder

Shoulder Jointing:
 Longitudinal joint: B

STATION TO STATION		(P) Feet	(G) Feet
785+98.00	786+36.81	4	5 - 7.3
790+71.52	791+02.00	4	7.7 - 7.2

SURVEY SYMBOLS

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

UTILITY LEGEND

— F010(B) —
 Oran Mutual Telephone Co.
 Dan Lundt
 5038 Main Street
 Oran, Iowa 50664
 319-638-7001

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
Yellow	(4)		Proposed Pavement Shading
Orange	(6)		Proposed Granular Shading
Orange	(70)		Proposed Shoulder Granular Shading
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Orange, Light	(134)		Proposed Granular Entrance Shading
Yellow	(220)		Proposed Paved Entrance Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
Green, Light	(225)		Existing Pavement Shading
Red	(3)		Proposed Structure Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(10)		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
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

- #### RIGHT-OF-WAY LEGEND
- Proposed Right-of-Way
 - Existing Right of Way
 - Existing and Proposed Right-of-Way
 - Easement and Existing Right-of-Way
 - Easement (Temporary)
 - Easement
 - Access Control
 - Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

Survey Information
General Information

Measurement units for this survey are US survey feet. This survey is for the replacement of the Little Wapsipinicon River Bridge on IA 3, 0.2 miles West of County Road V-68 in Fayette County and is in Sections 5 & 8, Township 91N, Range 10W.

Vertical Control

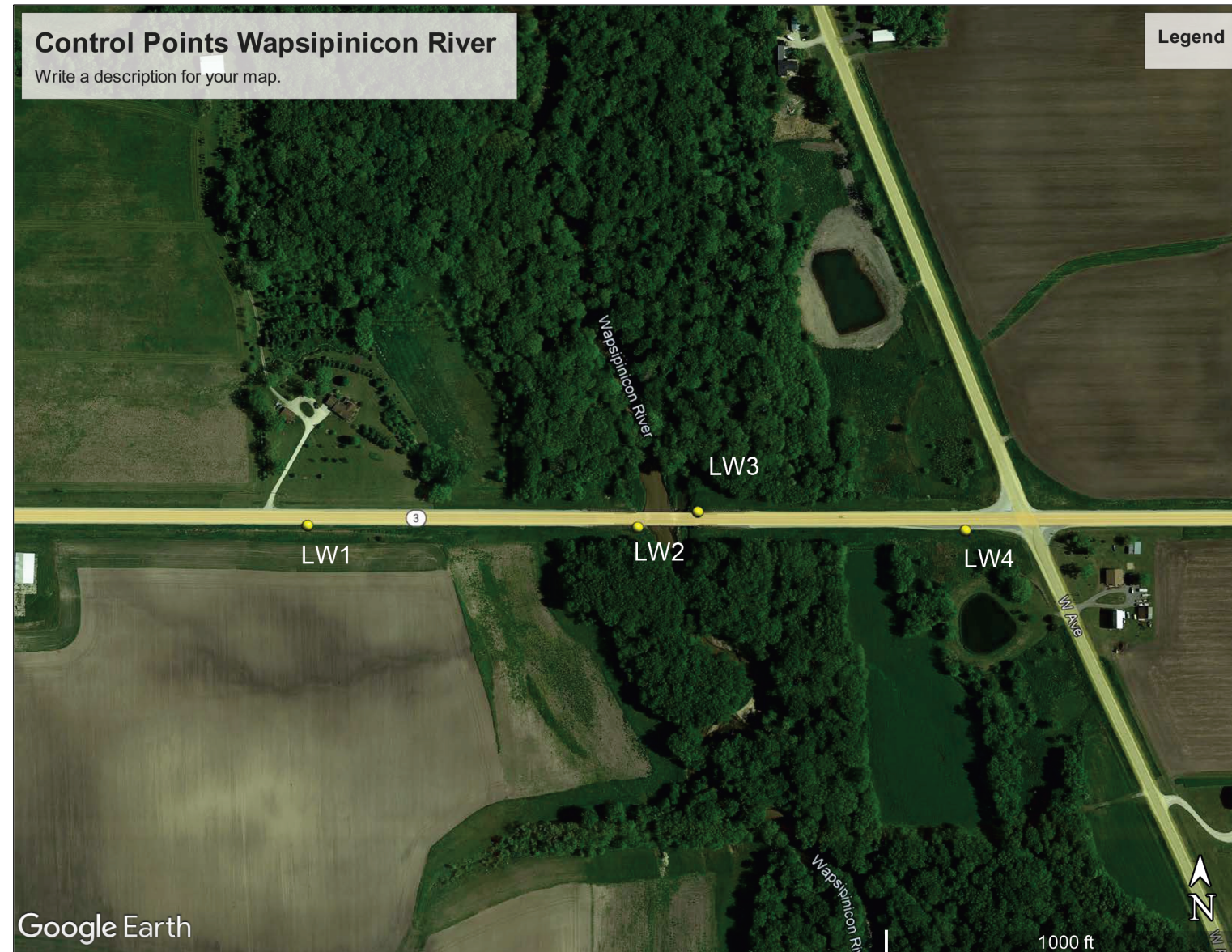
Vertical datum for this survey is NAVD88. The elevations of Bremer County GPS Point 99-025 and 99-026 and Fayette County GPS Points 363 and 370 and NGS Point NJ1008 were used to established Vertical Datum. Then a benchmark circuit was run through the project control points.

Horizontal Control

The project coordinate system for this survey is the Iowa Regional Coordinate System (IaRCS) Zone 5 (U.S. Survey Feet). Converted Bremer County GPS Point 99-025 and 99-026 and Fayette County GPS Points 363 and 370 and NGS Point NJ1008 from Iowa State Plane North Zone to Iowa Regional Coordinate System (IaRCS) Zone 5. Then calibrated to the above control point and established coordinate on the project control points.

CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points. Primary control is for use with RTK base stations and for RTN validation. Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



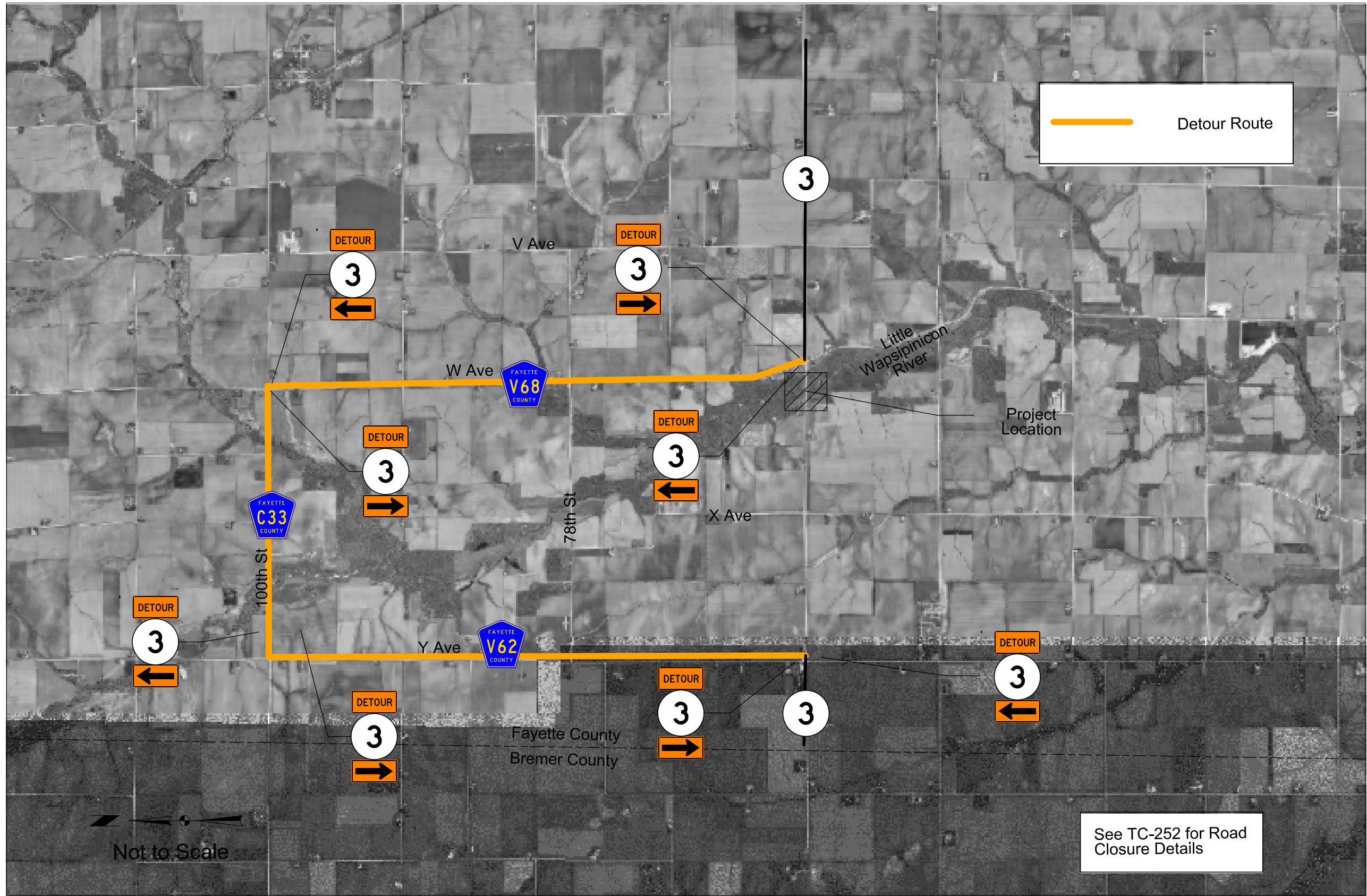
HORIZ. DATUM: IA. REGIONAL COORDINATE SYSTEM ZONE 05
VERT. DATUM: NAVD88

Coordinate listing from next sheet will be used with laRTN for monument recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
 HORIZ. DATUM: IA. REGIONAL COORDINATE SYSTEM ZONE 05
 VERT. DATUM: NAVD88

Project Control Marks are Bench Marks

Point Name	Northing	Easting	Elevation	Description
LW1	8923685.73	15554997.75	1010.79	5/8" REBAR-APPROXIMATELY 1984 FEET WEST OF COUNTY ROAD V-68 (W AVENUE) IN THE SOUTH SHOULDER
LW2	8923682.80	15555913.42	998.27	5/8" REBAR-APPROXIMATELY 1056 FEET WEST OF COUNTY ROAD V-68 (W AVENUE) AT THE WEST END OF BRIDGE IN THE SOUTH SHOULDER
LW3	8923726.16	15556080.29	997.82	5/8" REBAR-APPROXIMATELY 903 FEET WEST OF COUNTY ROAD V-68 (W AVENUE) AT THE EAST END OF BRIDGE IN THE NORTH SHOULDER
LW4	8923676.76	15556822.74	998.95	5/8" REBAR-APPROXIMATELY 168 FEET WEST OF COUNTY ROAD V-68 (W AVENUE) IN THE SOUTH SHOULDER
BM	8923687.49	15556075.70	1000.81	FND 1" PLUG ON TOP CONCRETE BARRIER RAIL AT SE COR. HWY 3 BRIDGE OVER THE LITTLE WAPSI RIVER



CROSS SECTION VIEW COLOR LEGEND

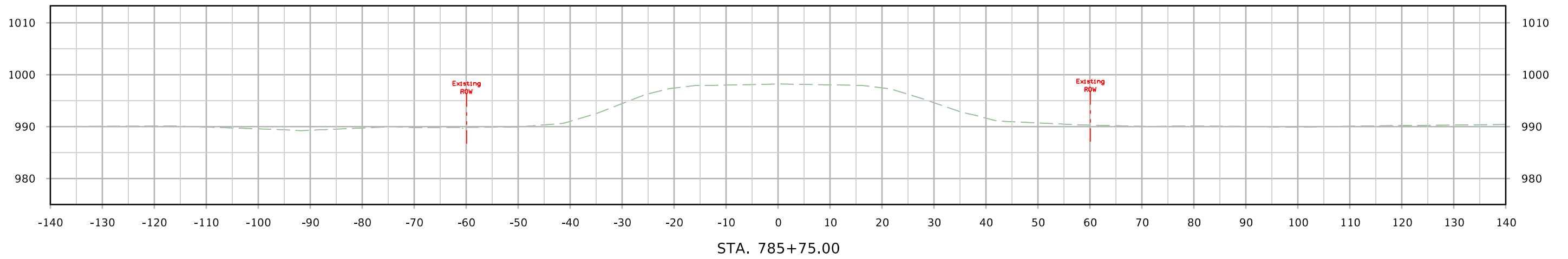
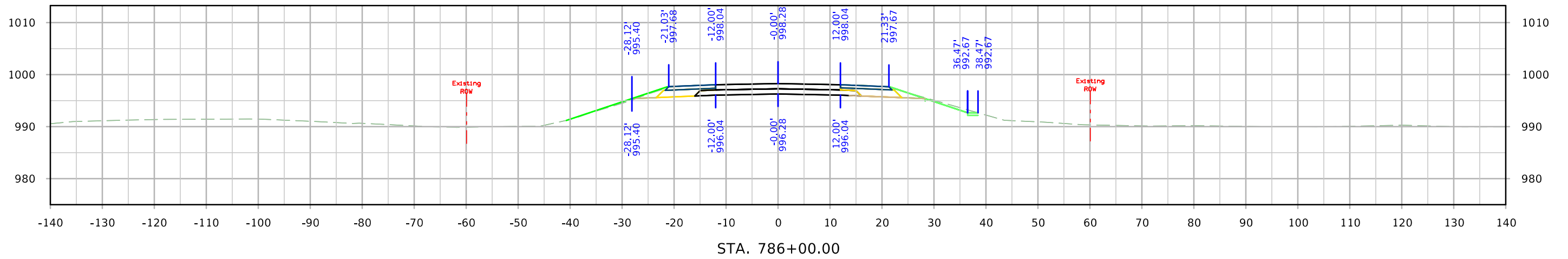
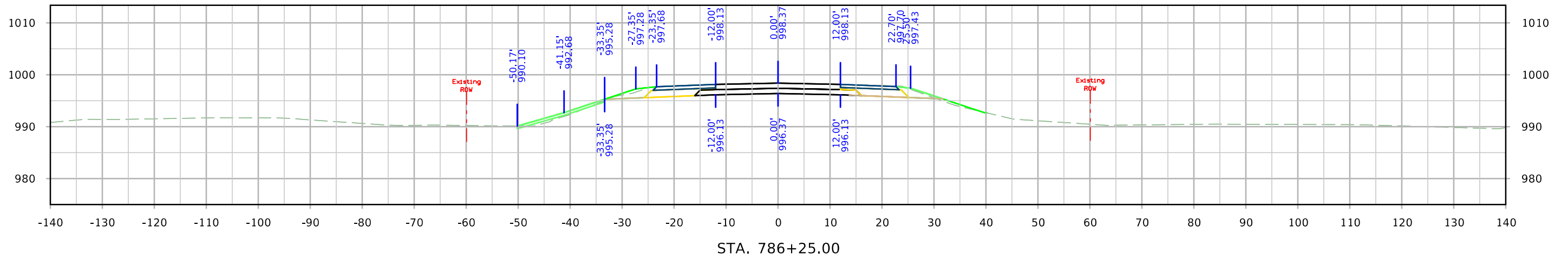
Design Color No.	Feature	Design Color No.	Feature
Aggregate			
(64)	Choke Stone	(112)	Noise Wall
(42)	Engineering Fabric	(112)	Noise Wall Footing
(8)	Flooded Backfill	(112)	Retaining Wall Back
(92)	Macadam Stone	(112)	Retaining Wall Back Excavate
(20)	Modified	(112)	Retaining Wall Face
(12)	Plowing Shaping	(112)	Retaining Wall Front Excavate
(14)	Porous Backfill	(112)	Retaining Wall Front Footing
(8)	Revetment Class A	(112)	Retaining Wall MSE Gutter
(6)	Revetment Class B	(112)	Retaining Wall Reinforced Earth
(62)	Revetment Class C	Grading	
(188)	Revetment Class D	(8)	Behind Curb Cut
(28)	Revetment Class E	(6)	Granular
(12)	Shoulder Special Backfill	(13)	Granular Back Fill
(12)	Special Backfill	(48)	Rock Undercut
(20)	Subbase	(8)	Shoulder Earth Fill
(20)	Subbase Lower	(2)	Side Slopes
(20)	Subbase Upper	(226)	Side Slopes Dressing
(118)	Subgrade Treatment	Substrata	
Asphalt			
(207)	HMA Base Course	(128)	Boulder Substrata
(207)	HMA Interim Course	(48)	Broken Weathered Substrata
(207)	HMA Surface Course	(3)	Core Out Substrata
Concrete			
(0)	Barrier Concrete	(203)	Existing Pavement Substrata
(0)	Barrier Concrete Footing	(6)	Loam Substrata
(0)	Curb Gutter	(80)	Rock Substrata
(48)	Flowable Mortar	(4)	Select Sand Substrata
(0)	Median Concrete	(3)	Shale Substrata
(0)	PCC Pavement	(10)	Topsoil Substrata
(0)	Sidewalk	Unsuitable / Waste	
Shoulder			
(209)	Shoulder HMA	(3)	Unsuitable Type A
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(11)	Unsuitable Type C
(6)	Shoulder Granular	(3)	Waste
Existing			
(0)	Existing Pavement		

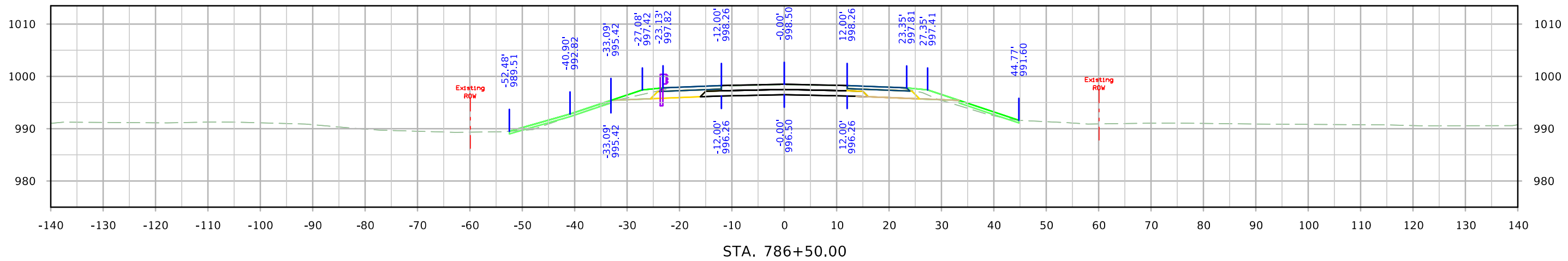
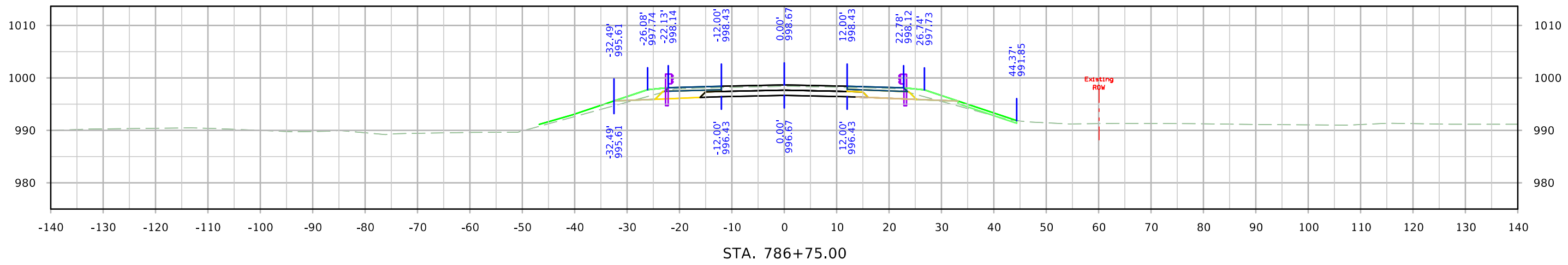
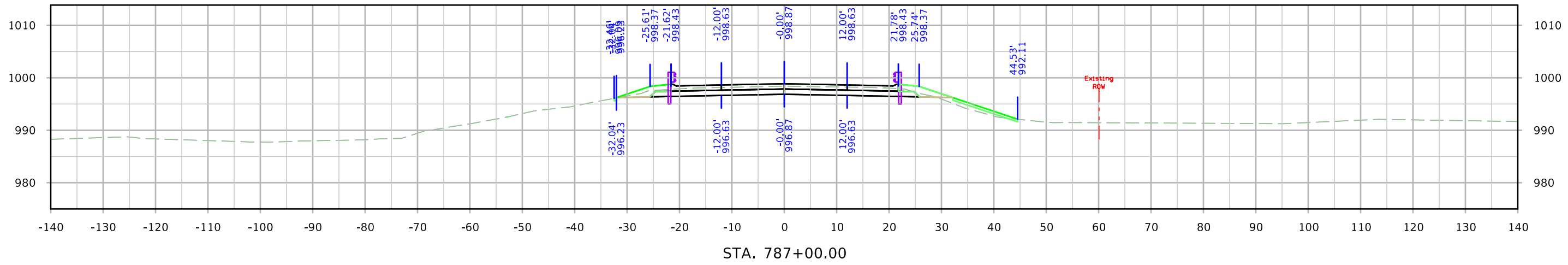
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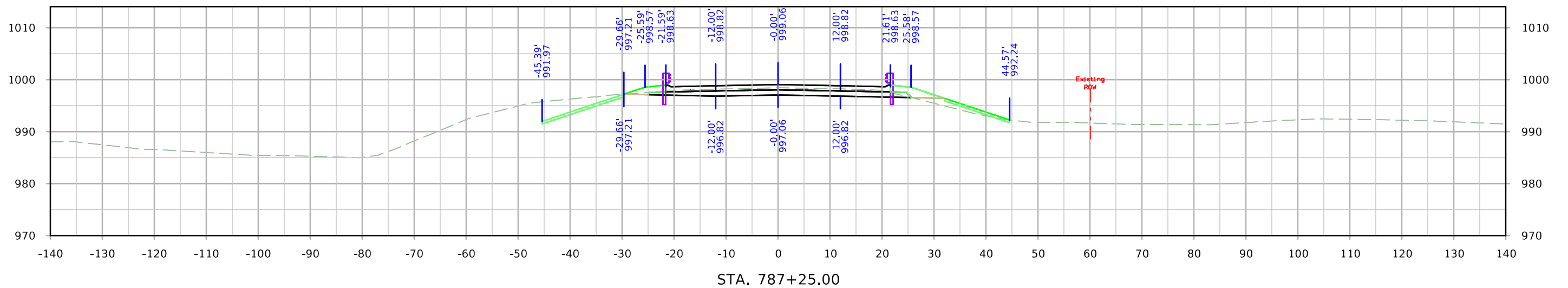
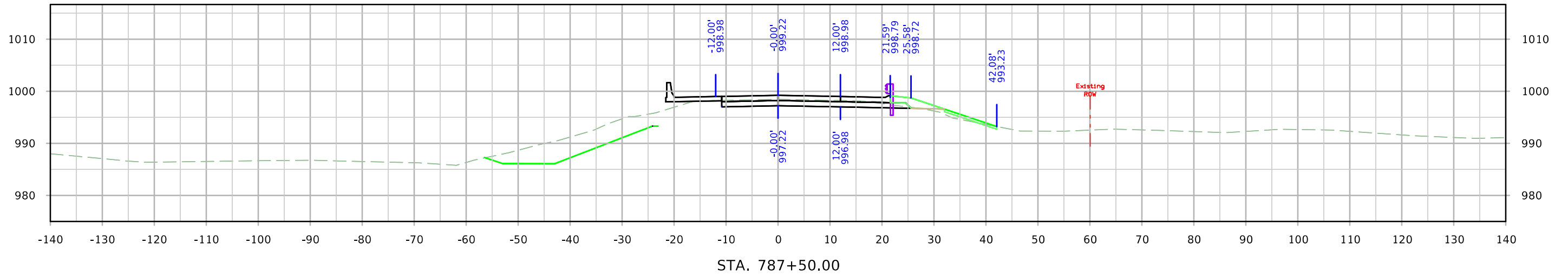
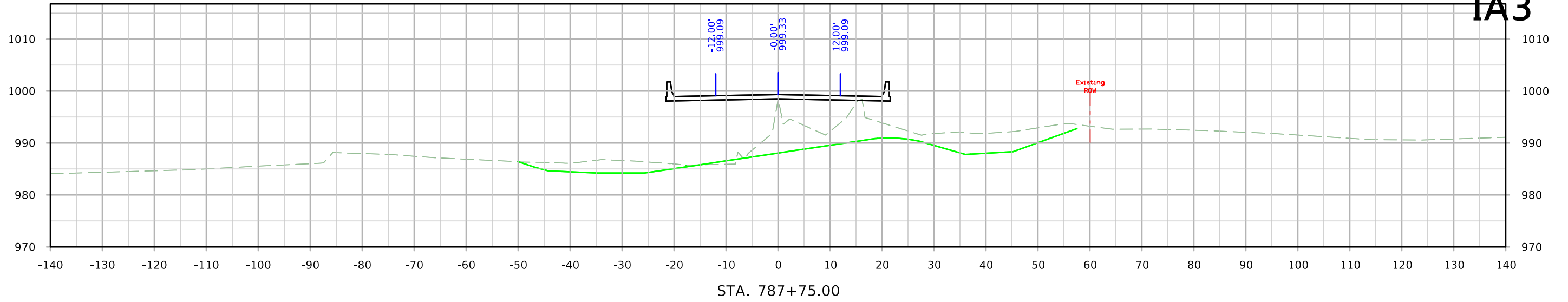
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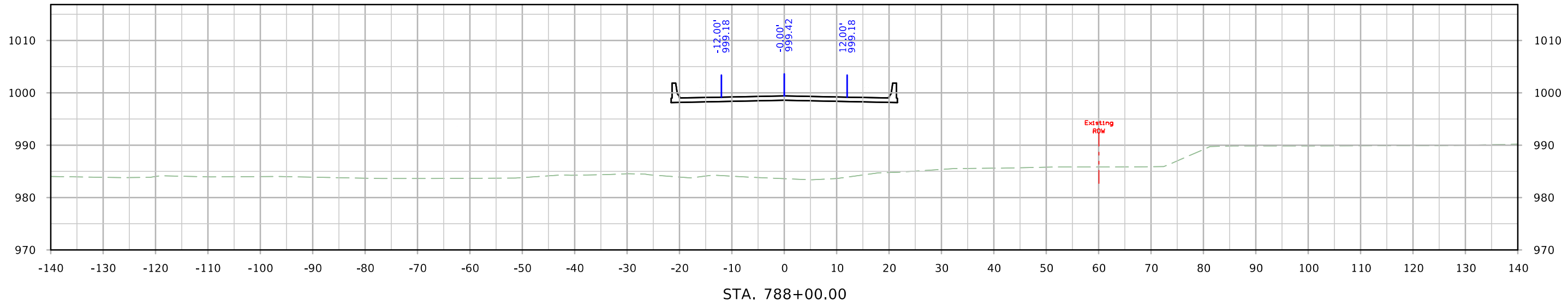
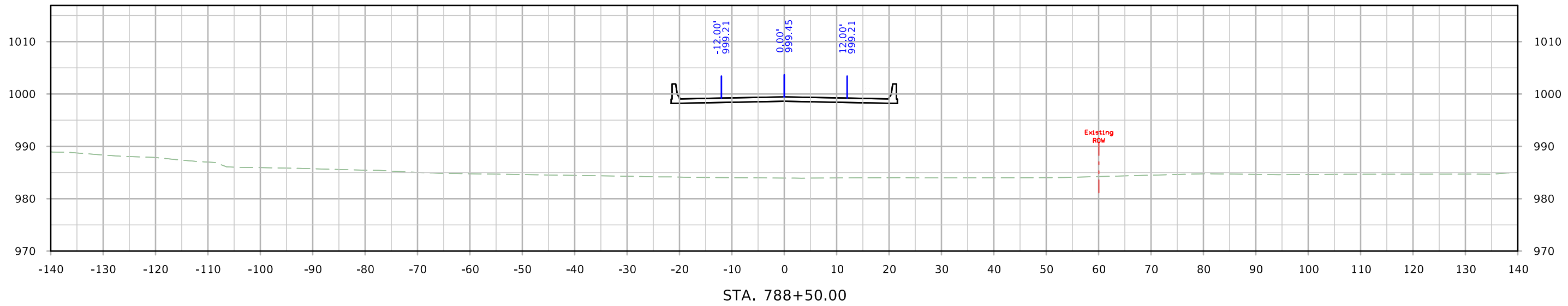
CROSS SECTIONS LEGEND AND INFORMATION SHEET

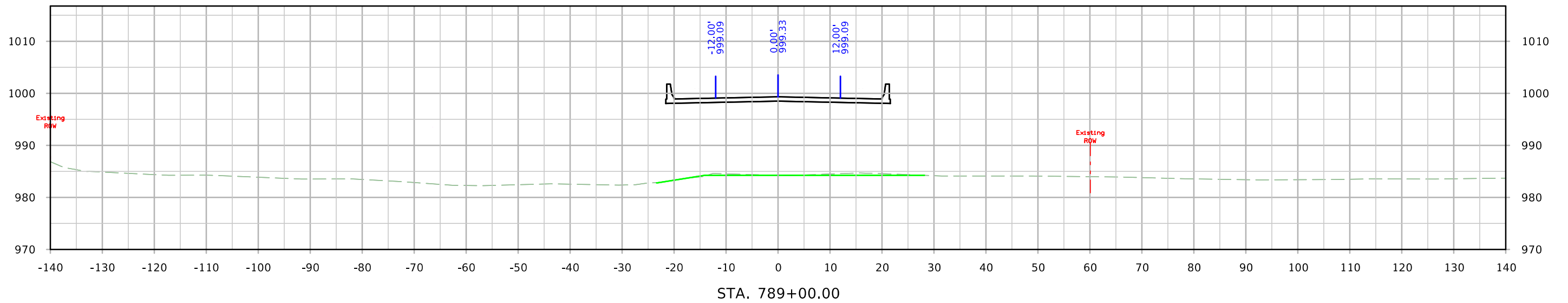
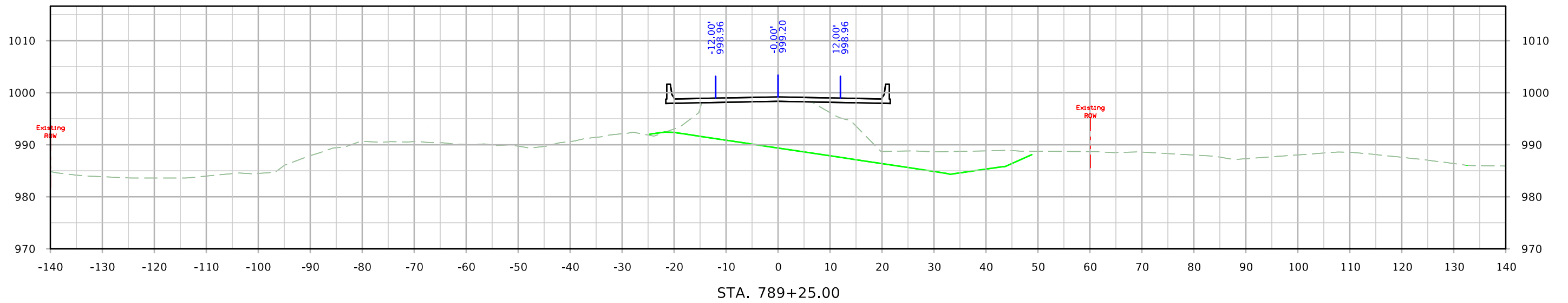
(COVERS SHEET SERIES W, X, Y, & Z)

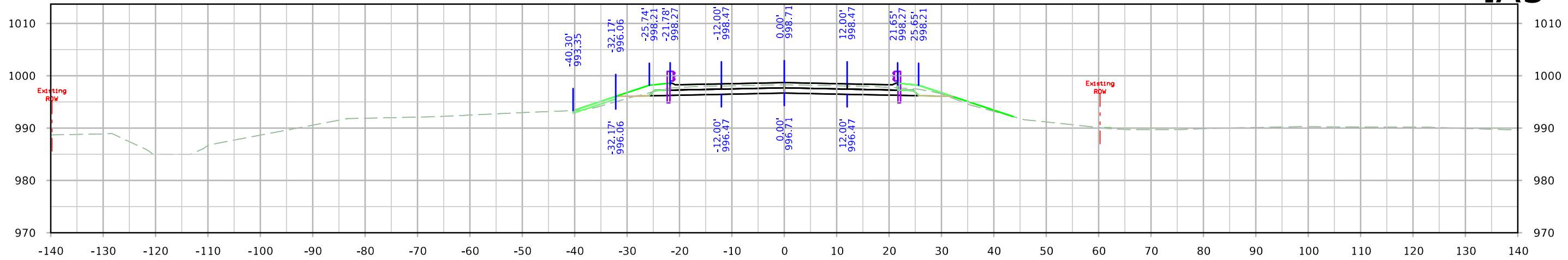




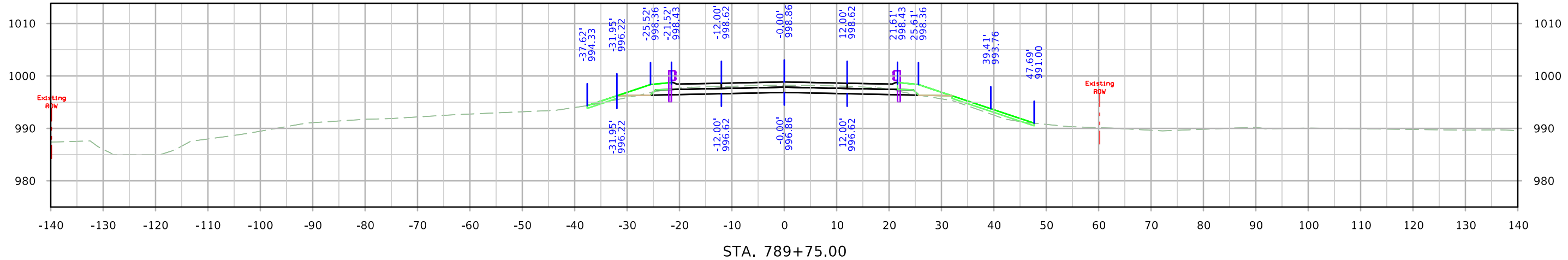




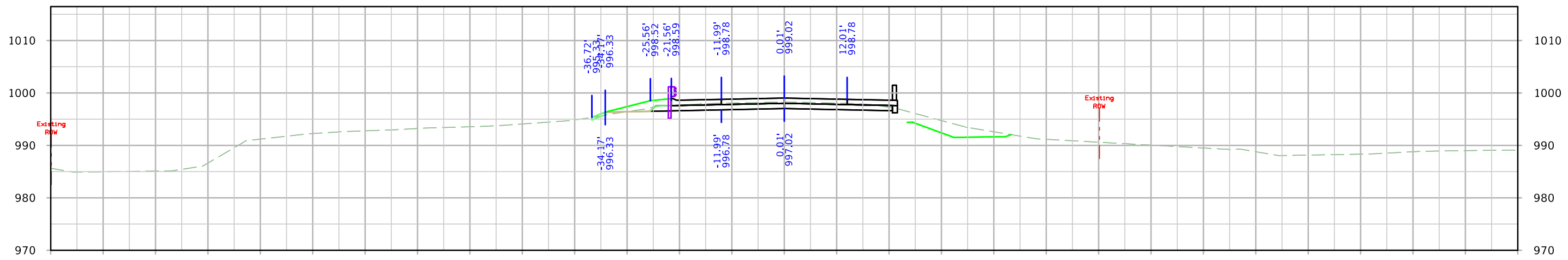




STA. 790+00.00



STA. 789+75.00



STA. 789+50.00

