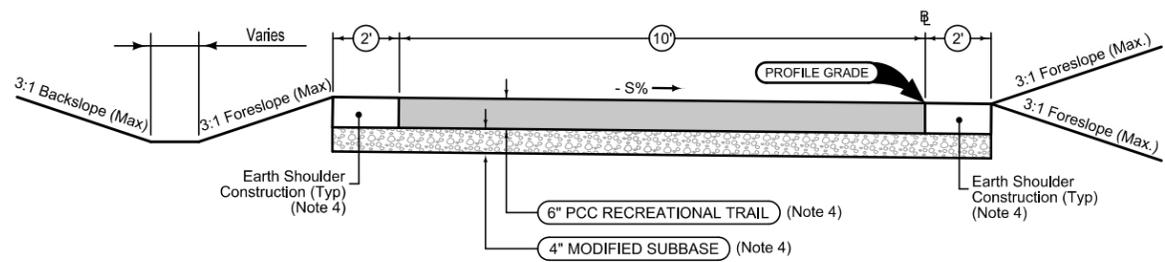
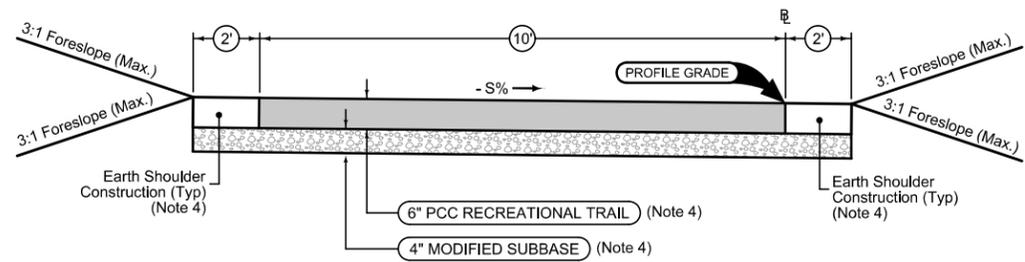


**PHASE 2
PROJECT
LOCATION**





STATION TO STATION		(Note 5) S %
54+50.00	54+75.00	-1.5

STATION TO STATION		(Note 5) S %
54+75.00	55+97.00	-1.5
BRIDGE STRUCTURE 55+97.00 to 56+60.00		
56+60.00	58+00.00	-1.5
64+25.00	65+90.00	-1.5
BRIDGE STRUCTURE 65+90.00 to 66+44.00		
66+44.00	68+25.00	-1.5
95+75.00	98+75.00	+1.5
BRIDGE STRUCTURE 98+75.00 to 99+99.00		
99+99.00	100+10.00	+1.5

- Notes:**
- Normal section shown may be modified appropriately in areas of superelevated curves or other location specifically designated by the Engineer.
 - See Plan and Profile sheets and Cross Sections for additional details of ditches and backslopes.
 - Refer to project plan and cross sections for specific location of foreslope change.
 - Future construction; not constructed with this project. Area backfilled with Embankment-in-place, Contractor furnished.
 - Negative value drains to right, following the - 5% in the typical. Positive value drains to left, opposing the - 5% in the typical.

Clear Creek Trail

BID ITEMS				
Item No.	Item Code	Item	Quantity	Unit
1	2101-0850001	CLEARING AND GRUBBING	0.5	ACRE
2	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	3370	CY
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	107	CY
4	2102-2710080	EXCAVATION, CLASS 10, UNSUITABLE OR UNSTABLE MATERIAL	54	CY
5	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	750	CY
6	2107-0875000	COMPACTION WITH MOISTURE AND DENSITY CONTROL	3370	CY
7	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	66.3	TON
8	2416-0100024	APRONS, CONCRETE 24 IN. DIA	2	EA
9	2435-0140160	MANHOLE, STORM SEWER, SW-401, 60 IN.	1	EA
10	2435-0251224	INTAKE, SW-512, 24 IN	2	EA
11	2502-8212034	SUBDRAIN, LONGITUDINAL , (SHOULDER) 4 IN. DIA	250	LF
12	2502-8215806	SUBDRAIN , TILE, 6 IN.	100	LF
13	2505-8221305	SUBDRAIN OUTLET, DR-305	12	EA
14	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.	184	LF
15	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.	310	LF
16	2519-3300400	FIELD FENCE BRACE PANELS	5	EA
17	2519-4200040	REMOVAL AND REINSTALLATION OF FENCE, FIELD	871	LF
18	2526-8285000	CONSTRUCTION SURVEY	1	LS
19	2526-8285010	CONSTRUCTION SURVEY, MONUMENT PRESERVATION	1	LS
20	2528-8445110	TRAFFIC CONTROL	1	LS
21	2528-8445113	FLAGGER	10	EA
22	2533-4980005	MOBILIZATION	1	LS
23	2552-0000300	TRENCH COMPACTION TESTING	1	LS
24	2599-9999005	CONNECTION TO EXISTING WING WALL	1	EA
25	2599-9999009	EASEMENT LIMIT FENCE	1260	LF
26	2601-2634100	MULCHING	1	ACRE
27	2601-2634105	MULCHING, BONDED FIBER MATRIX	1	ACRE
28	2601-2636043	SEEDING AND FERTILIZING (RURAL)	1	ACRE
29	2601-2638352	SLOPE PROTECTION, WOOD EXCELSIOR MAT	32	SQ
30	2601-2642100	STABILIZE CROP - SEED+FERTILIZE	1	ACRE
31	2602-0000020	SILT FENCE	1875	LF
32	2602-0000030	SILT FENCE FOR DITCH CHECKS	579	LF
33	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	1227	LF
34	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	245	LF
35	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	180	LF
36	2602-0010010	MOBILIZATIONS, EROSION CONTROL	12	EA
37	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	3	EA

ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Item
1	2101-0850001	CLEARING AND GRUBBING Trees will be felled by Johnson County Conservation.
2	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED Refer to T-Sheets for information. Includes 408 CY to backfill the area of future trail pavement, subbase, and earth shoulder construction.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW Refer to T-Sheets for information.
4	2102-2710080	EXCAVATION, CLASS 10, UNSUITABLE OR UNSTABLE MATERIAL Item includes excavation and waste of unsuitable material discovered during construction of trail and bridge infrastructure. Engineer must authorize this bid item in writing prior to the work. Replacement of the material will be paid at the contract unit price for EMBANKMENT IN PLACE, CONTRACTOR FURNISHED.
5	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD Estimated existing depth is 6 IN. Spread evenly to utilize the full amount stripped. Refer to T-Sheets for information.
6	2107-0875000	COMPACTION WITH MOISTURE AND DENSITY CONTROL This item is equivalent to item 2102-2625001.
7	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE This item is applied at a depth of 6 IN and includes quantity for an interim and final application.
8	2416-0100024	APRONS, CONCRETE 24 IN. DIA Refer to M-Sheets for information.
9	2435-0140160	MANHOLE, STORM SEWER, SW-401, 60 IN. Refer to M-Sheets for information.
10	2435-0251224	INTAKE, SW-512, 24 IN Refer to M-Sheets for information.
11	2502-8212034	SUBDRAIN, LONGITUDINAL , (SHOULDER) 4 IN. DIA This item is intended to repair existing longitudinal subdrains along US 6. Cost includes coupling devices to connect new pipe to existing pipe.
12	2502-8215806	SUBDRAIN , TILE, 6 IN. This item is intended to repair existing field or ditch tiles located during construction. Cost includes coupling devices to connect new pipe to existing pipe.
13	2505-8221305	SUBDRAIN OUTLET, DR-305 This item is intended to repair existing subdrain outlets along US6. Cost includes coupling devices to connect new pipe to existing and new pipe.
14	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN. Refer to M-Sheets for information.
15	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN. Refer to M-Sheets for information.
16	2519-3300400	FIELD FENCE BRACE PANELS This item is replace any field fence brace panels encountered during reinstallation of field fence.
17	2519-4200040	REMOVAL AND REINSTALLATION OF FENCE, FIELD Limits match the limits of grading and is intended to allow space for grading. Existing fence is in poor condition and new field fence is anticipated.
18	2526-8285000	CONSTRUCTION SURVEY Applies to all bid items requiring construction survey.

ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Item
19	2526-8285010	CONSTRUCTION SURVEY, MONUMENT PRESERVATION --
20	2528-8445110	TRAFFIC CONTROL Refer to J-Sheets for information.
21	2528-8445113	FLAGGER Refer to J-Sheets for information.
22	2533-4980005	MOBILIZATION --
23	2552-0000300	TRENCH COMPACTION TESTING --
24	2599-9999005	CONNECTION TO EXISTING WING WALL Description: This item is to connect new storm sewer to the existing wall. Refer to SRP SW-211 and M-Sheets for additional information. Materials: Apply Articles 4149.04 and 4149.05. Construction: Apply Articles 2435.03, F, 1, 435.03, F, 2, and 435.03, F, 4. Method of Measurement: Each connection to existing wall will be counted. Basis of Payment: Payment is full compensation for excavation, coring into the existing wall, removal of existing fillet, pipe connections, replacement of fillet, grout, and backfill.
25	2599-9999009	EASEMENT LIMIT FENCE Description: This item is intended to be a temporary fence to prevent accidental crossing onto private property. Materials: The fence shall be of suitable material to prevent accidental crossing onto private property. Construction: Furnish and erect fence along the temporary easement line or the right of way line, whichever is further from the trail. Method of Measurement: This item will be measured in linear feet constructed. Basis of Payment: This item will be paid for per linear foot and payment is full compensation for furnishing all material and for construction of fence as provided herein, including clean up after the work is complete.
26	2601-2634100	MULCHING --
27	2601-2634105	MULCHING, BONDED FIBER MATRIX --
28	2601-2636043	SEEDING AND FERTILIZING (RURAL) --
29	2601-2638352	SLOPE PROTECTION, WOOD EXCELSIOR MAT --
30	2601-2642100	STABILIZE CROP - SEED+FERTILIZE Use rural cover seed mix.
31	2602-0000020	SILT FENCE This item includes estimated locations for placement of Silt Fence to address possible erosion during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.

ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Item
32	2602-0000030	SILT FENCE FOR DITCH CHECKS This item includes estimated locations for placement of Silt Fence for Ditch Checks to address possible erosion during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 50% additional quantity for field adjustments and replacements.
33	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS This item is included for silt fence and silt fence for ditch check removal required for staging reasons, for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth. Quantity is 50% of Silt Fence and Silt Fence for Ditch Checks.
34	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS This item is included for cleanout and repair of the silt fence and silt fence for ditch checks during the project. Quantity is 10% of Silt Fence and Silt Fence for Ditch Checks.
35	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303 This item includes 6 entrances (1 per side of each bridge) 30 FT in length.
36	2602-0010010	MOBILIZATIONS, EROSION CONTROL This item includes 2 mobilizations on each side of each bridge. Per DOT 2602.05 bid price shall be a mandatory \$600 per each mobilization.
37	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL This item includes 1 mobilization per bridge. Per DOT 2602.05 bid price shall be a mandatory \$1200 per each mobilization.

SURVEY SYMBOLS

	PROPERTY CORNER(S), FOUND (as noted)		
	PROPERTY CORNERS SET 5/8" REBAR W/YELLOW, PLASTIC LS CAP NO. 8165 UNLESS NOTED OTHERWISE		
	SET CUT "X" IN CONCRETE UNLESS NOTED OTHERWISE		
	PROPERTY &/or BOUNDARY LINES		
	CONGRESSIONAL SECTION LINES		
	RIGHT-OF-WAY LINES		
	CENTER LINES		
	LOT LINES, PLATTED OR BY DEED		
	EXISTING EASEMENT LINES, PURPOSE NOTED		
	STORM SEWER LINES		
	SANITARY SEWER LINES		
	HOT & CHILLED WATER LINES		
	WATER MAIN WITH SIZE		
	WATER MAIN LINES		
	TELECOMMUNICATION LINES		
	ELECTRICAL LINES UNDERGROUND		
	ELECTRICAL LINES OVERHEAD		
	ELECTRICAL LINES		
	FIBER OPTIC LINES		
	GAS LINES		
	WALL (TYPE NOTE)		
	FENCE		
	FENCE CORNER		TELEPHONE MANHOLE
	FENCE LINE SHOT		FUEL MANHOLE
	EVERGREEN TREE WITH SIZE		TRAFFIC CONTROL BOX
	BUSH LINE		TRAFFIC LIGHT BASE
	DECIDUOUS TREE WITH SIZE		PAY PHONE
	RECORDED DIMENSIONS		BOLLARD
	MEASURED DIMENSIONS		VERTICAL HAND RAIL POST
	HYDRANT METER		SOIL BORING LOCATION
	FIRE HYDRANT		BENCHMARK LOCATION
	WATER VALVE		
	SIGN		
	UTILITY CLEANOUT		
	SANITARY MANHOLE		
	STORM MANHOLE		
	STORM GRATE INLET		
	STORM CURB INLET		
	STORM DRAINAGE MANHOLE		
	MANHOLE (UNKNOWN)		
	MONITORING WELL		
	TELEPHONE CAN		
	GAS SHUTOFF		
	GAS METER		
	AIR CONDITIONER		
	GUY WIRE		
	POWER POLE WITH TRANSFORMER		
	LIGHT POLE		
	POWER POLE WITH LIGHT		
	POWER POLE		
	ELECTRIC TRANSFORMER/PAD		
	ELECTRIC MANHOLE		

UTILITY LEGEND

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(WINIA)WINDSTREAM COMMUNICATIONS
LOCATE DESK
8002891901
LOCATE.DESK@WINDSTREAM.COM

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.	Transparency
Pink, Dark	(13)		Temporary Pavement Shading 50%
Yellow	(4)		Proposed Pavement Shading 50%
Orange	(6)		Proposed Granular Shading 50%
Orange	(70)		Proposed Shoulder Granular Shading 50%
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading 50%
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading 50%
Brown, Light	(236)		Grading Shading 50%
Orange, Light	(134)		Proposed Granular Entrance Shading 50%
Yellow	(220)		Proposed Paved Entrance Shading 50%
Tan	(8)		Proposed Sidewalk Shading 50%
Blue, Light	(230)		Proposed Sidewalk Landing Shading 50%
Pink	(11)		Proposed Sidewalk Ramp Shading 50%
Red	(3)		Proposed Structure Shading 50%
Red	(3)		Delineates Restricted Areas 0%

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

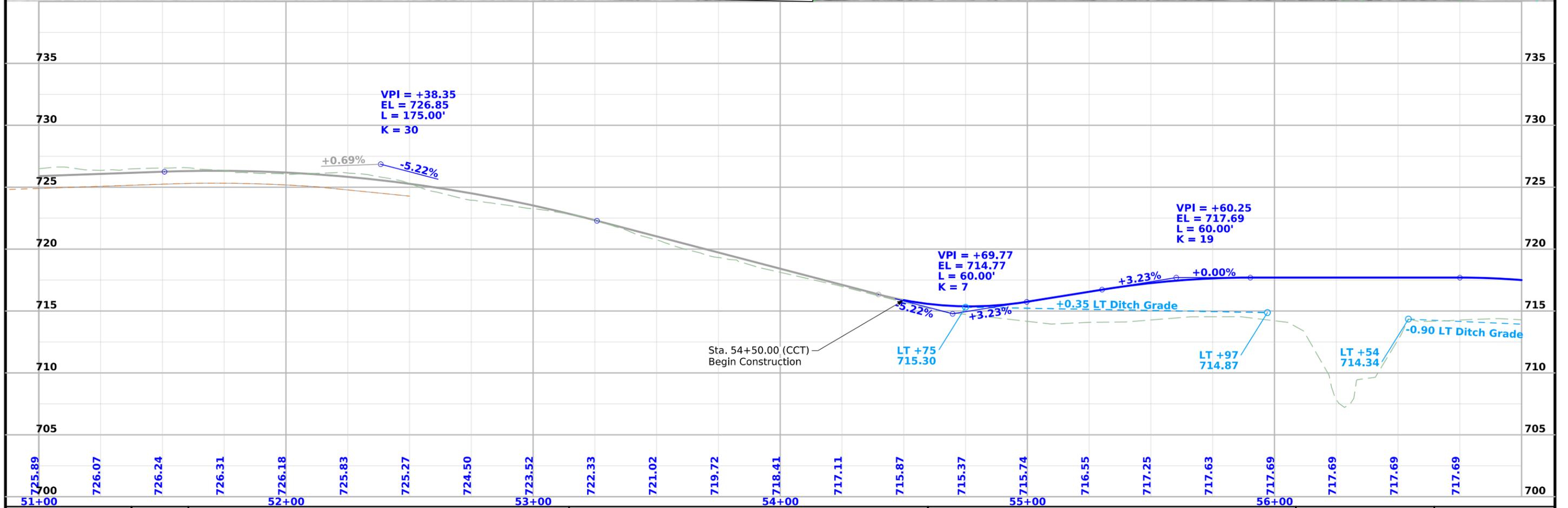
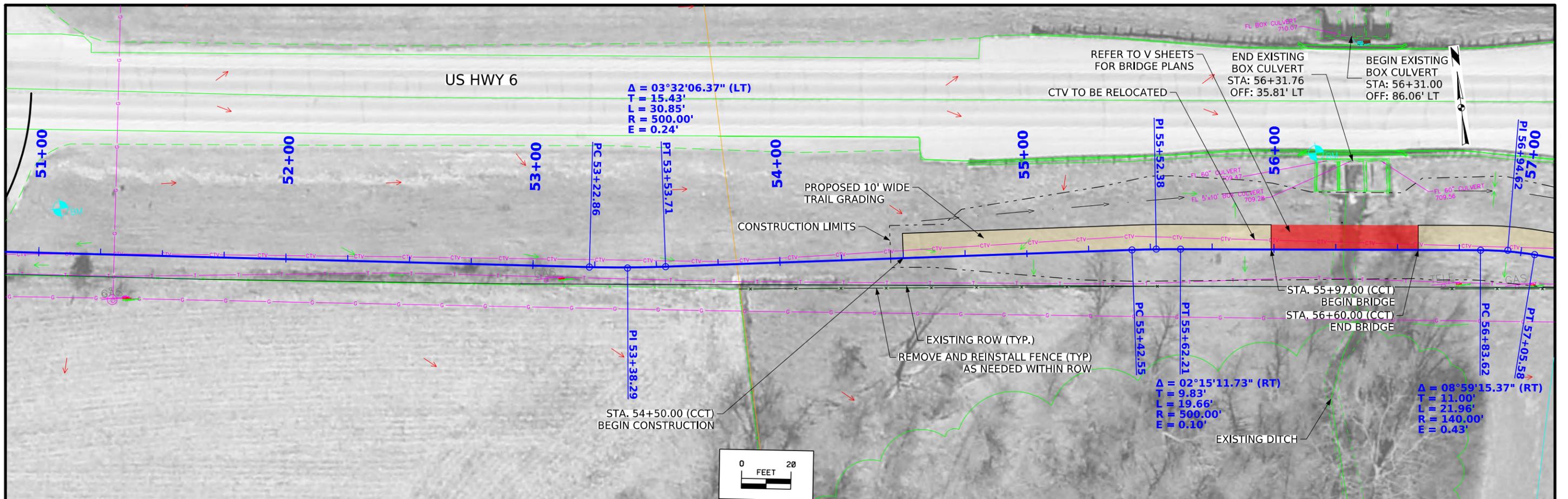
Reference Point	
	Survey Line
	Station
	Section Corner
	Ground Line Intercept
	Saw Cut
	Guardrail
	Trench Drain
	HighTension Cable Guardrail
	Sheet Pile
	Pavement Removal
	Clearing & Grubbing Area

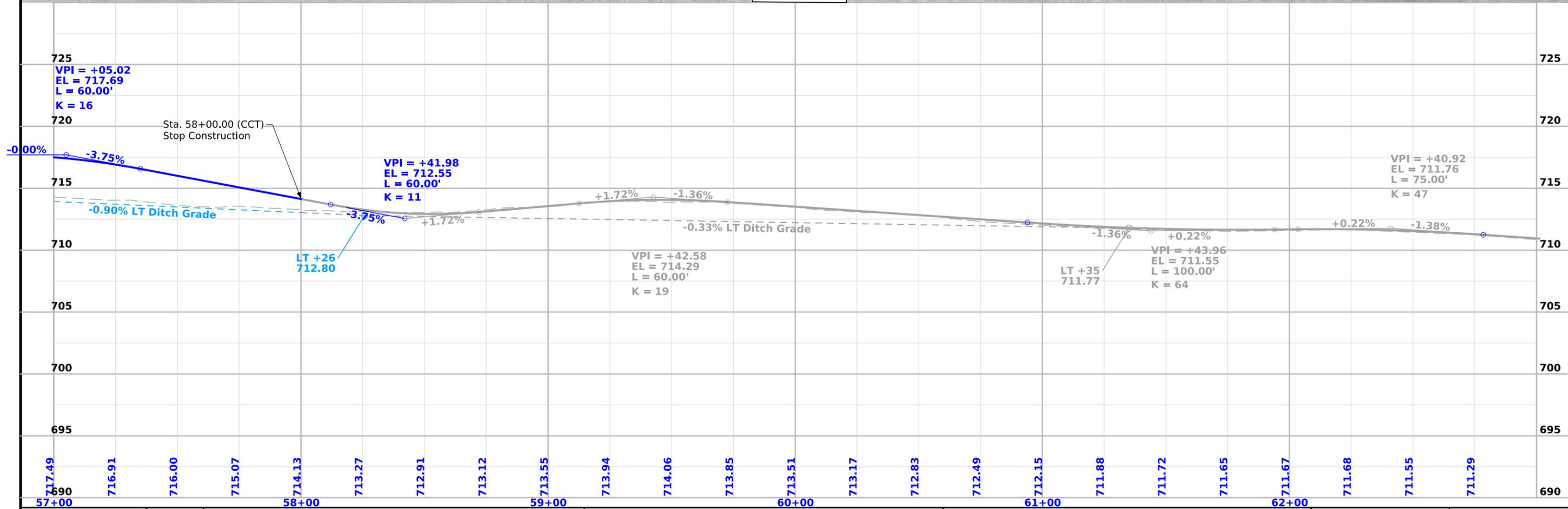
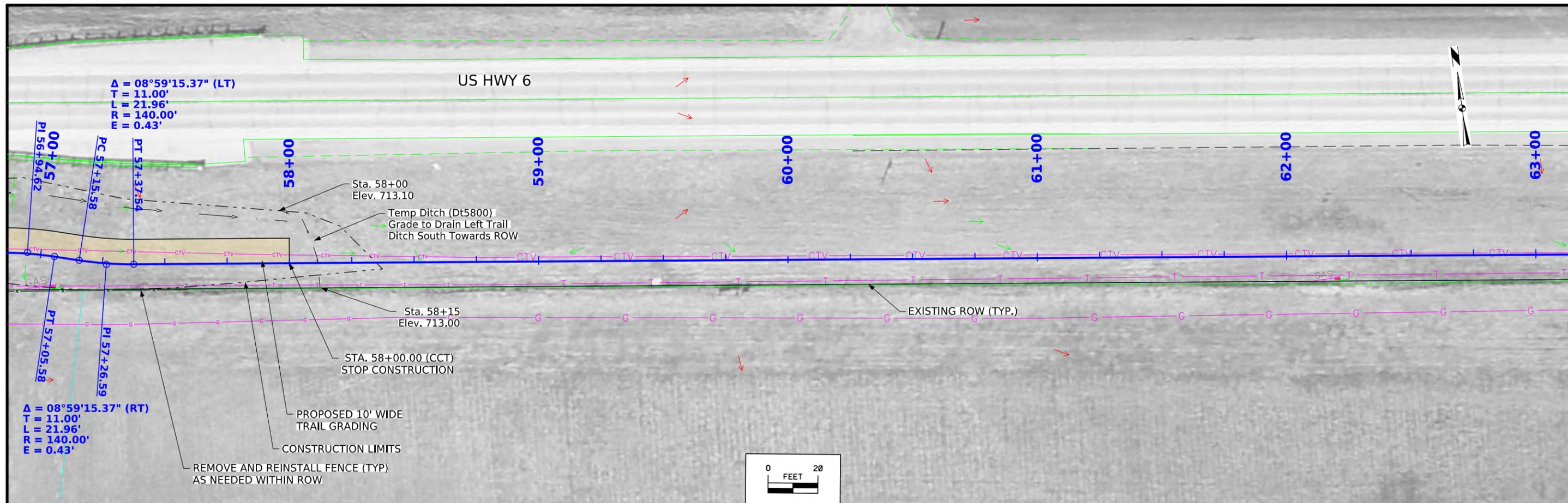
RIGHT-OF-WAY LEGEND

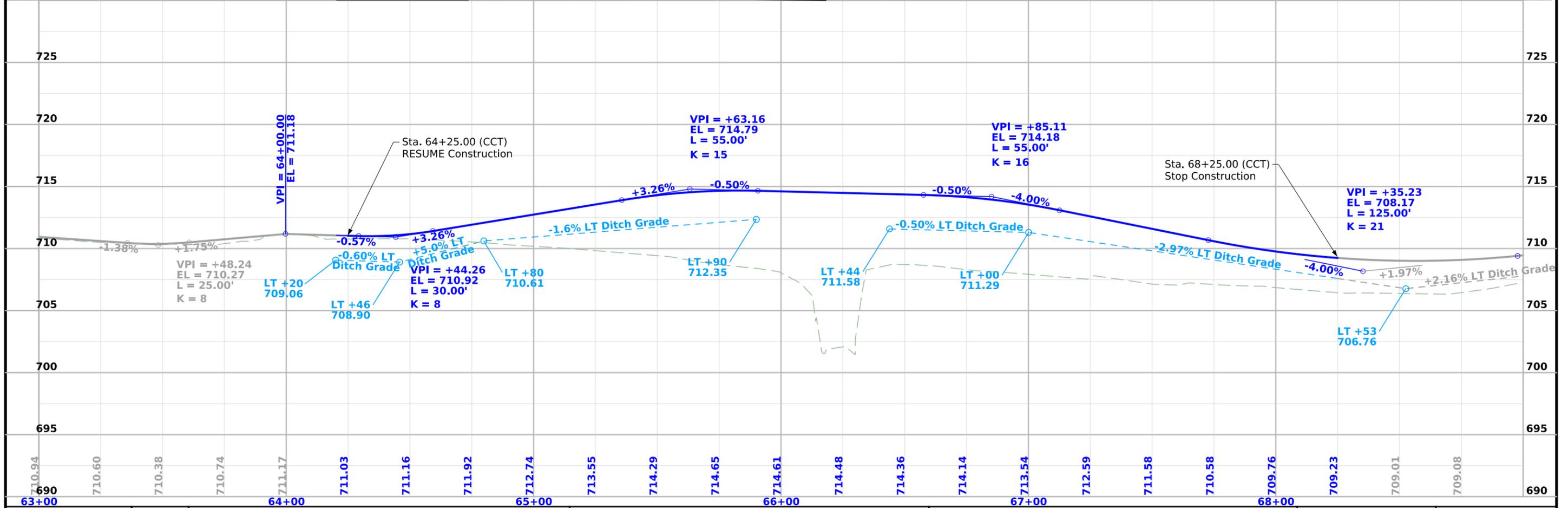
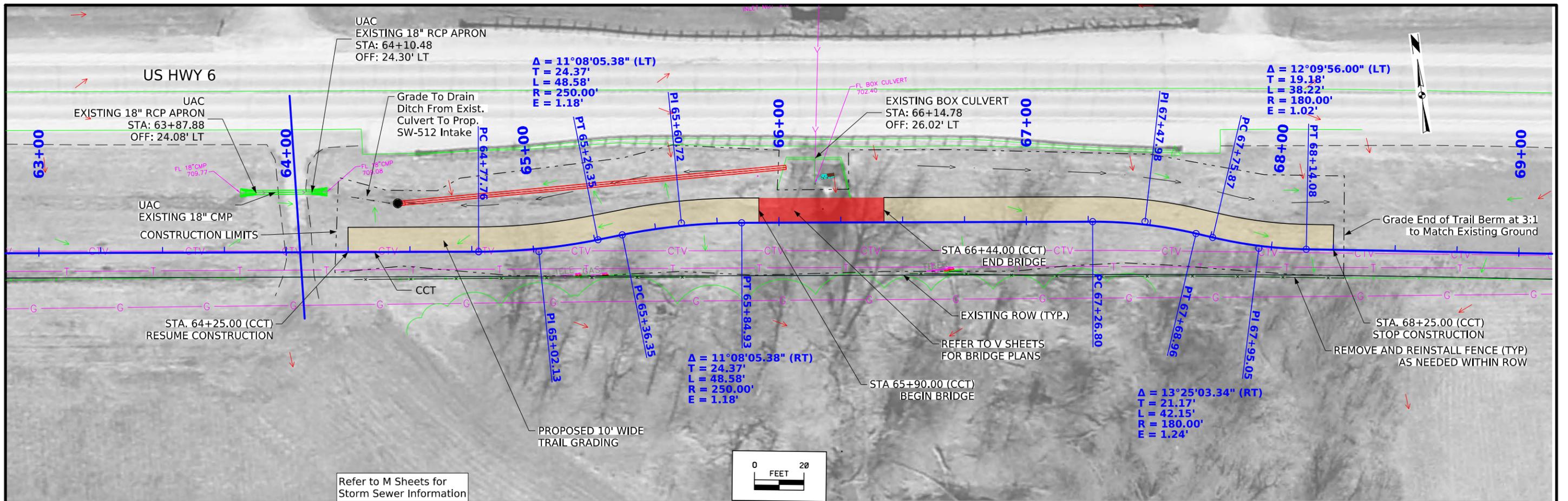
	Proposed Right-of-Way Symbol
	Proposed Right-of-Way Line
	Existing Right of Way
	Existing and Proposed Right-of-Way
	Easement and Existing Right-of-Way
	Easement (Temporary) Symbol
	Easement (Temporary) Line
	Easement
	Access Control
	Property Line Symbol
	Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

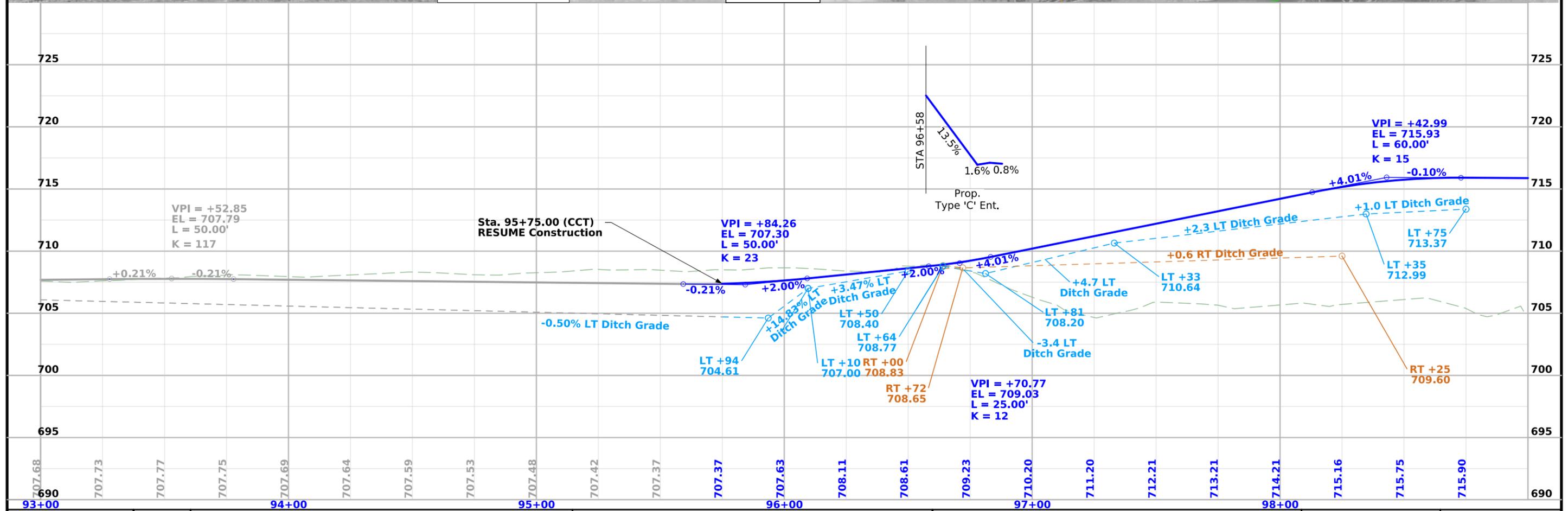
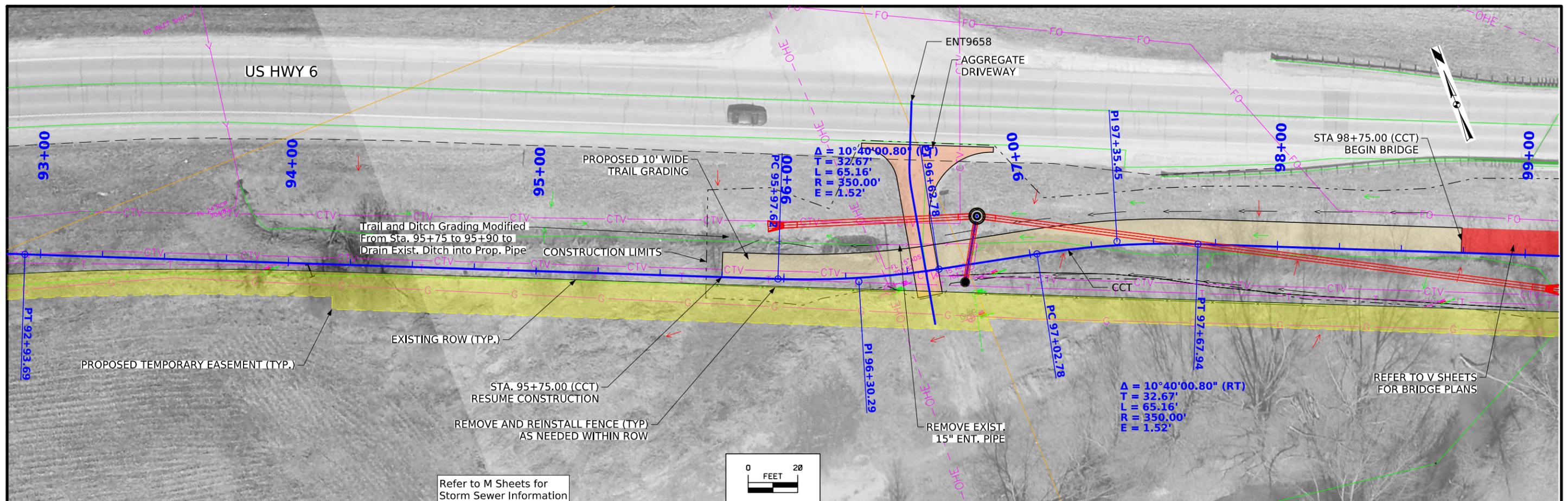
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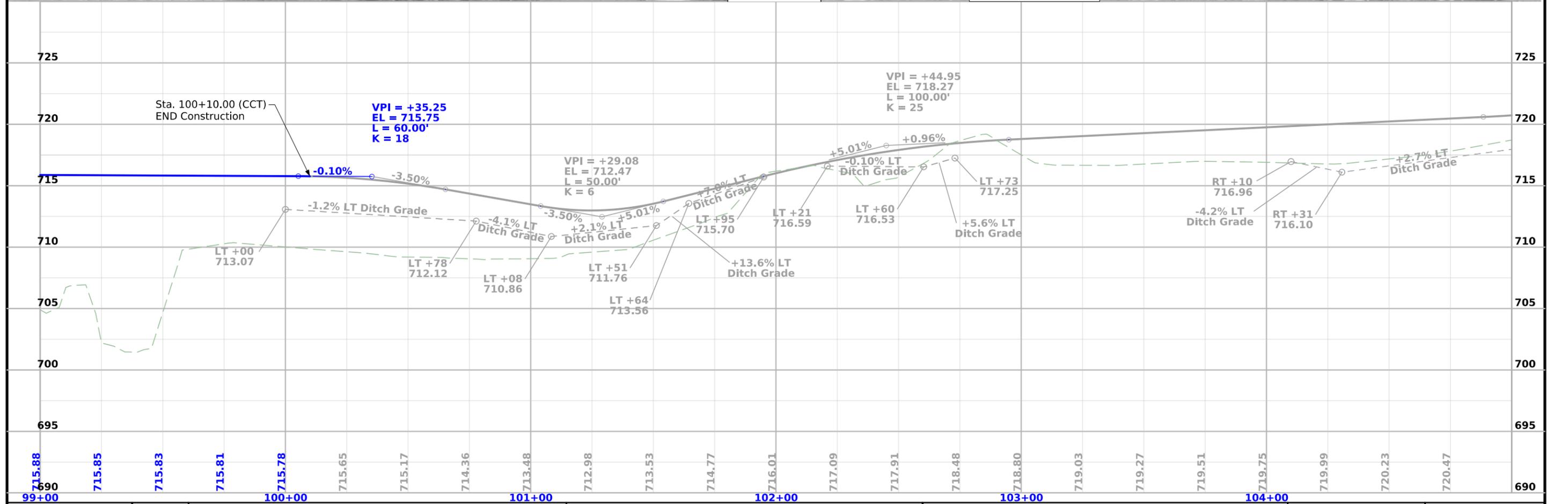
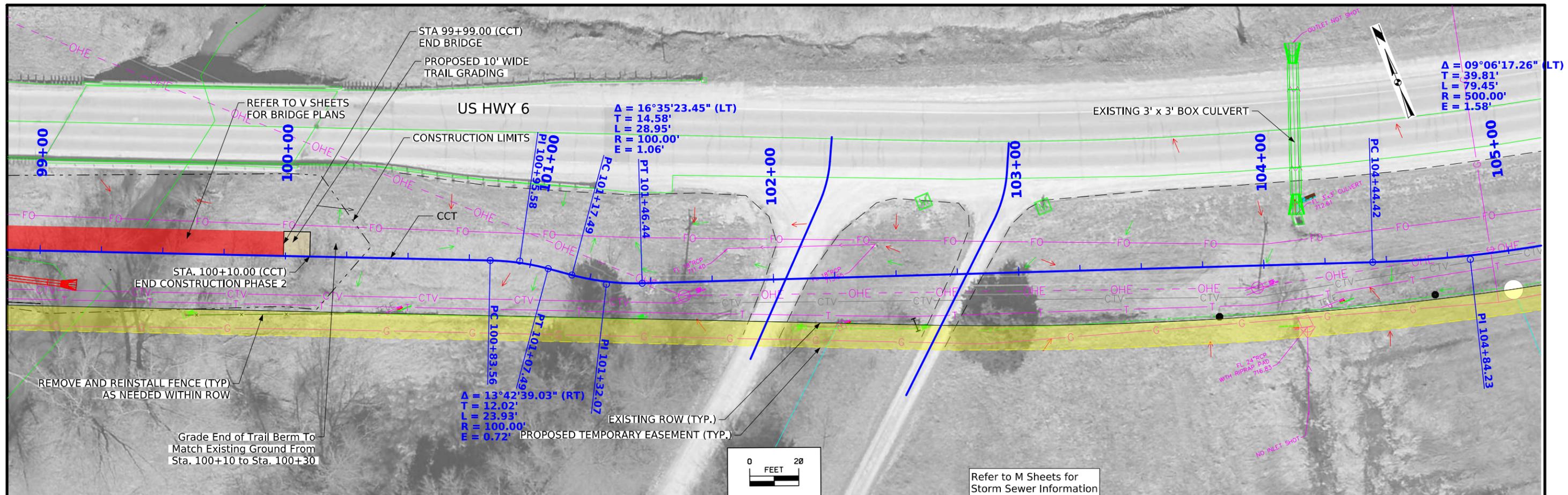






FILE NO.	ENGLISH	DESIGN TEAM	JOHNSON COUNTY	PROJECT NUMBER	SHEET NUMBER
		Stanley Consultants		32284.01	D.4

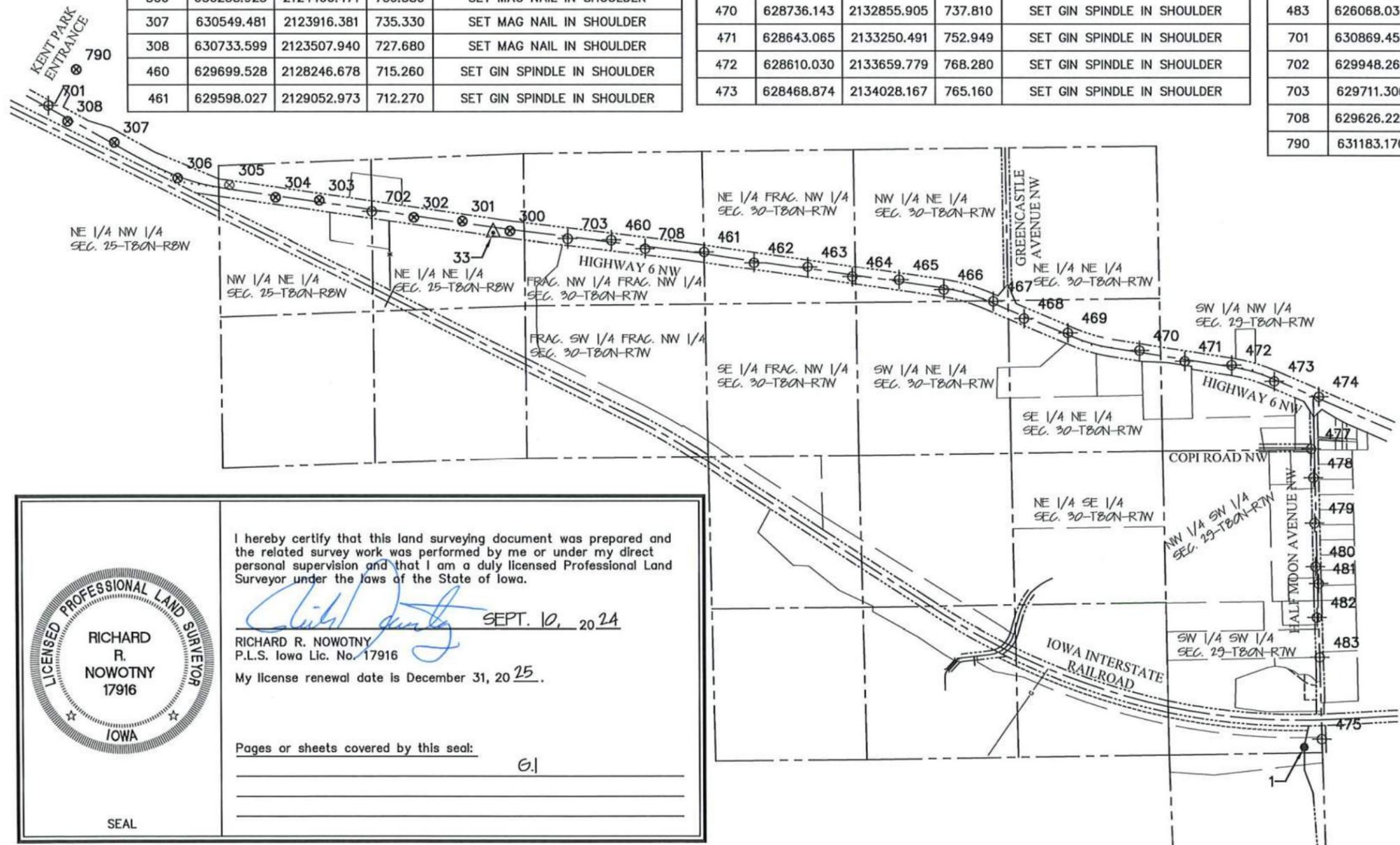




Point Table				
Point #	Northing	Easting	Elevation	Full Description
1	625287.855	2134278.086	0.000	FOUND 5/8" RBR W/OPC JOCO 12802
33			726.320	JOHNSON CO. GPS MON. 92-33
300	629777.160	2127367.773	725.650	SET MAG NAIL IN SHOULDER
301	629862.965	2126955.578	727.140	SET MAG NAIL IN SHOULDER
302	629895.741	2126528.536	728.910	SET MAG NAIL IN SHOULDER
303	630044.312	2125701.196	737.235	SET MAG NAIL IN SHOULDER
304	630069.684	2125320.038	734.500	SET MAG NAIL IN SHOULDER
305	630177.469	2124918.527	733.835	CUT X EAST ON TOP OF RCP
306	630238.925	2124466.471	736.380	SET MAG NAIL IN SHOULDER
307	630549.481	2123916.381	735.330	SET MAG NAIL IN SHOULDER
308	630733.599	2123507.940	727.680	SET MAG NAIL IN SHOULDER
460	629699.528	2128246.678	715.260	SET GIN SPINDLE IN SHOULDER
461	629598.027	2129052.973	712.270	SET GIN SPINDLE IN SHOULDER

Point Table				
Point #	Northing	Easting	Elevation	Full Description
462	629503.148	2129496.513	710.390	SET GIN SPINDLE IN SHOULDER
463	629467.054	2129964.692	710.230	SET GIN SPINDLE IN SHOULDER
464	629380.314	2130354.593	710.530	SET GIN SPINDLE IN SHOULDER
465	629352.930	2130759.145	711.880	SET GIN SPINDLE IN SHOULDER
466	629265.948	2131148.046	713.170	SET GIN SPINDLE IN SHOULDER
467	629164.624	2131577.890	715.758	SET GIN SPINDLE IN SHOULDER
468	629015.183	2131846.481	714.010	SET GIN SPINDLE IN SHOULDER
469	628889.760	2132228.318	715.510	SET GIN SPINDLE IN SHOULDER
470	628736.143	2132855.905	737.810	SET GIN SPINDLE IN SHOULDER
471	628643.065	2133250.491	752.949	SET GIN SPINDLE IN SHOULDER
472	628610.030	2133659.779	768.280	SET GIN SPINDLE IN SHOULDER
473	628468.874	2134028.167	765.160	SET GIN SPINDLE IN SHOULDER

Point Table				
Point #	Northing	Easting	Elevation	Full Description
474	628334.284	2134414.665	761.900	SET GIN SPINDLE IN SHOULDER
475	625355.983	2134431.614	707.100	SET GIN SPINDLE
477	627881.328	2134346.514	790.110	SET GIN SPINDLE
478	627625.225	2134365.585	796.370	SET 5/8" REBAR WITH PINK MMS CAP
479	627231.454	2134374.625	764.986	SET GIN SPINDLE
480	626853.271	2134381.339	766.960	SET GIN SPINDLE
481	626705.405	2134409.135	770.600	SET GIN SPINDLE
482	626410.826	2134392.010	749.746	SET GIN SPINDLE
483	626068.034	2134415.137	724.700	FOUND MAG NAIL
701	630869.453	2123339.739	722.699	SET GIN SPINDLE IN SHOULDER
702	629948.269	2126160.088	735.660	SET GIN SPINDLE IN SHOULDER
703	629711.306	2127868.775	716.340	SET GIN SPINDLE IN SHOULDER
708	629626.225	2128540.936	713.892	SET GIN SPINDLE IN SHOULDER
790	631183.170	2123586.022	732.896	SET MAG NAIL



SURVEY INDEX
 COUNTY: JOHNSON
 PROJECT NUMBER: TAP-U-CO52(127)--8I-52
 LOCATION: U.S. HIGHWAY #6 FROM HALF MOON AVENUE TO KENT PARK
 TYPE OF WORK: MULTI-PURPOSE TRAIL

PROJECT CONTROL:
 HORIZONTAL DATUM: GROUND SCALED IOWA STATE PLANE COORDINATES SOUTH ZONE-RTN DERIVED. NAD83(2011) (EPOCH 2010.000) A COMPUTED COMBINATION SCALE FACTOR OF 1.0000414080 WAS APPLIED FROM POINT NUMBER 1.

VERTICAL DATUM: NAVD88 - A SINGLE POINT VERTICAL CALIBRATION WAS PERFORMED USING THE PUBLISHED DATA FROM JOHNSON COUNTY GPS MONUMENT 92-33 (POINT #33)

ADDITIONAL CONTROL POINTS WERE ESTABLISHED USING A COMBINATION OF GNSS OBSERVATIONS AND ROBOTIC TOTAL STATIONS. VERTICAL DATA WAS TRANSFERRED USING TRIGONOMETRIC LEVELING WITH ROBOTIC TOTAL STATIONS FROM POINT #33.

CONTROL MONUMENTATION CONSISTS OF COTTON GIN SPINDLES AND MAG NAILS DRIVEN INTO THE ASPHALT SHOULDERS ALONG HIGHWAY 6 AND IN THE SEALCOAT SURFACING ON HALF MOON AVENUE.

THE MAJORITY OF THE TOPOGRAPHIC DATA WAS COLLECTED IN THE SPRING OF 2021 AND THE SPRING OF 2022. IT IS NOTEWORTHY THAT THE CONTROL POINTS ALONG HALF MOON AVENUE ARE MORE SUBJECT TO HORIZONTAL AND VERTICAL MOVEMENT THAN THE POINTS ALONG HIGHWAY 6. HORIZONTAL AND VERTICAL CONTROL SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.



I hereby certify that this land surveying document was prepared and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Professional Land Surveyor under the laws of the State of Iowa.

Richard R. Nowotny SEPT. 10, 2024

RICHARD R. NOWOTNY
 P.L.S. Iowa Lic. No. 17916

My license renewal date is December 31, 2025.

Pages or sheets covered by this seal: 6.1

SEAL

ALIGNMENT COORDINATES

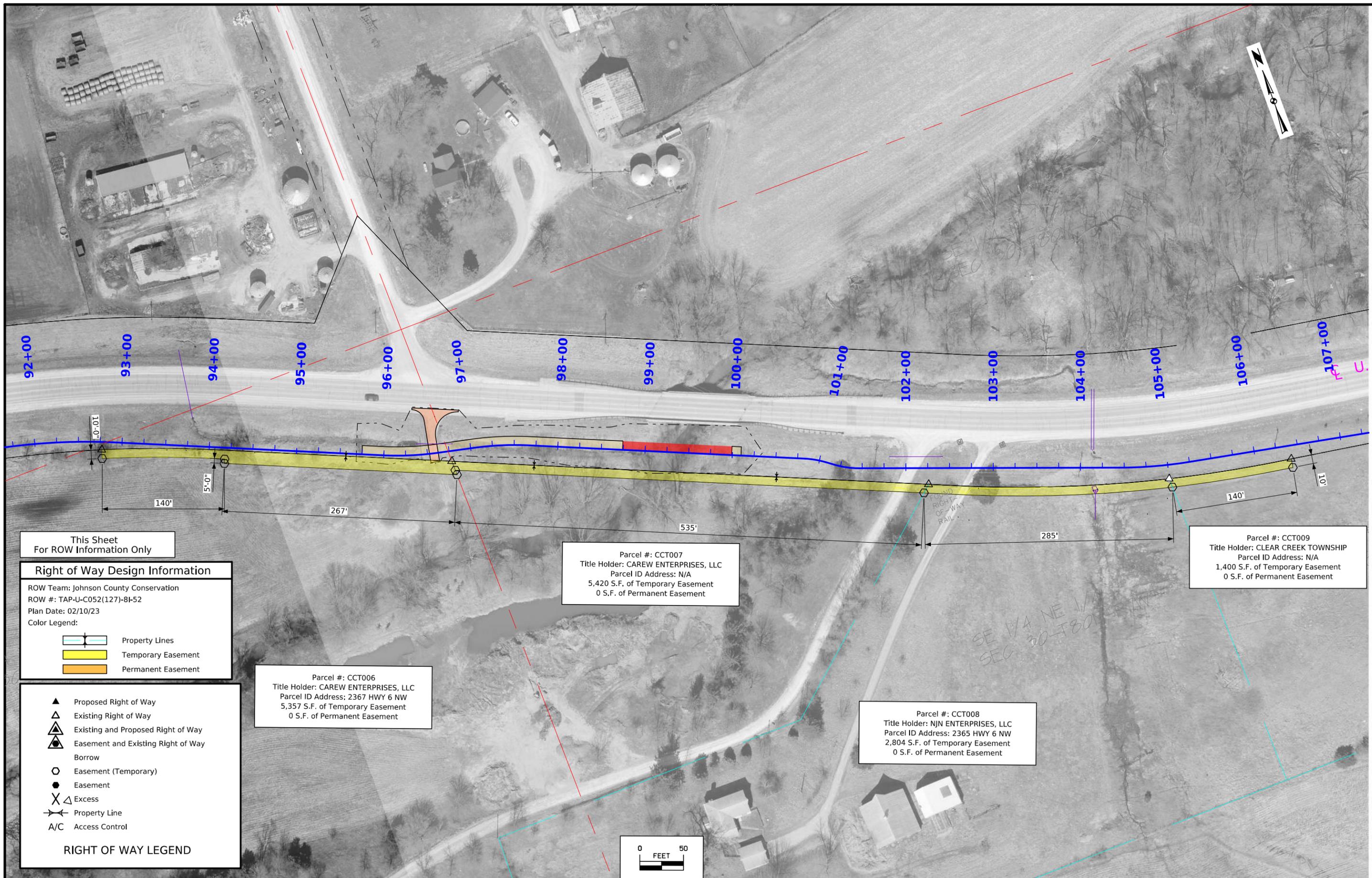
Line No.	Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
1.0		CCT	10+00.00	630996.726	2123492.792															
2.0		CCT							13+18.68	630761.039	2123707.293	13+60.34	630730.23	2123735.332	14+01.24	630710.178	2123771.847			
3.0		CCT							18+54.24	630492.129	2124168.911	18+60.78	630488.978	2124174.649	18+67.33	630485.928	2124180.44			
4.0		CCT							22+33.96	630315.086	2124504.836	22+84.08	630291.73	2124549.184	23+33.87	630277.642	2124597.286			
5.0		CCT							25+19.91	630225.352	2124775.819	25+45.17	630218.252	2124800.063	25+69.76	630221.123	2124825.161			
6.0		CCT							25+74.71	630221.686	2124830.085	25+84.41	630222.788	2124839.715	25+93.99	630221.405	2124849.308			
7.0		CCT							27+56.71	630198.192	2125010.364	27+69.64	630196.349	2125023.157	27+82.31	630190.329	2125034.595			
8.0		CCT							27+92.31	630185.672	2125043.444	28+05.24	630179.652	2125054.882	28+17.91	630177.808	2125067.675			
9.0		CCT							35+41.36	630074.605	2125783.722	36+03.47	630065.744	2125845.205	36+59.14	630016.009	2125882.422			
10.0		CCT							38+66.79	629849.754	2126006.832	39+16.98	629809.571	2126036.901	39+55.25	629822.041	2126085.515			
11.0		CCT							41+36.42	629867.054	2126261.006	41+76.37	629876.978	2126299.695	42+15.27	629871.28	2126339.228			
12.0		CCT							45+64.30	629821.49	2126684.685	45+75.57	629819.881	2126695.847	45+86.70	629821.421	2126707.019			
13.0		CCT							45+96.70	629822.786	2126716.926	46+07.98	629824.326	2126728.098	46+19.11	629822.717	2126739.26			
14.0		CCT							47+53.11	629803.601	2126871.89	47+64.39	629801.992	2126883.052	47+75.52	629797.36	2126893.335			
15.0		CCT							47+85.52	629793.253	2126902.453	47+96.80	629788.621	2126912.735	48+07.93	629787.012	2126923.898			
16.0		CCT							53+22.86	629713.555	2127433.564	53+38.29	629711.353	2127448.836	53+53.71	629710.098	2127464.215			
17.0		CCT							55+42.55	629694.735	2127652.429	55+52.38	629693.935	2127662.229	55+62.21	629692.751	2127671.991			
18.0		CCT							56+83.62	629678.124	2127792.514	56+94.63	629676.798	2127803.437	57+05.58	629673.782	2127814.018			
19.0		CCT							57+15.58	629671.042	2127823.635	57+26.59	629668.026	2127834.217	57+37.54	629666.7	2127845.14			
20.0		CCT							64+77.76	629577.521	2128579.968	65+02.13	629574.585	2128604.159	65+26.35	629576.376	2128628.463			
21.0		CCT							65+36.35	629577.111	2128638.436	65+60.72	629578.902	2128662.739	65+84.93	629575.966	2128686.93			
22.0		CCT							67+26.80	629558.874	2128827.768	67+47.98	629556.323	2128848.786	67+68.96	629548.964	2128868.64			
23.0		CCT							67+75.86	629546.563	2128875.119	67+95.05	629539.896	2128893.105	68+14.09	629537.17	2128912.092			
24.0		CCT							73+10.88	629466.556	2129403.84	73+24.74	629464.586	2129417.559	73+38.46	629465.932	2129431.354			
25.0		CCT							73+43.46	629466.418	2129436.331	73+57.32	629467.764	2129450.126	73+71.05	629465.793	2129463.845			
26.0		CCT							74+40.28	629455.954	2129532.367	74+54.36	629453.953	2129546.304	74+68.30	629448.648	2129559.346			
27.0		CCT							74+73.30	629446.764	2129563.978	74+87.38	629441.46	2129577.02	75+01.32	629439.458	2129590.957			
28.0		CCT							82+10.92	629338.596	2130293.352	82+25.00	629336.595	2130307.289	82+38.94	629338.015	2130321.297			
29.0		CCT							82+43.94	629338.519	2130326.272	82+58.02	629339.939	2130340.28	82+71.96	629337.938	2130354.217			
30.0		CCT							83+39.83	629328.291	2130421.4	83+53.91	629326.289	2130435.337	83+67.85	629320.985	2130448.379			
31.0		CCT							83+72.85	629319.101	2130453.011	83+86.93	629313.796	2130466.053	84+00.87	629311.795	2130479.99			
32.0		CCT							91+14.09	629210.418	2131185.968	92+04.39	629197.584	2131275.346	92+93.69	629162.488	2131358.541			
33.0		CCT							95+97.62	629044.358	2131638.577	96+30.29	629031.659	2131668.682	96+62.78	629024.751	2131700.618			
34.0		CCT							97+02.78	629016.294	2131739.714	97+35.45	629009.387	2131771.65	97+67.94	628996.687	2131801.756			
35.0		CCT							100+83.56	628874.015	2132092.558	100+95.58	628869.342	2132103.636	101+07.49	628862.177	2132113.289			
36.0		CCT							101+17.49	628856.217	2132121.319	101+32.07	628847.528	2132133.027	101+46.44	628842.543	2132146.727			
37.0		CCT							104+44.42	628740.662	2132426.75	104+84.24	628727.05	2132464.162	105+23.88	628719.53	2132503.256			
38.0		CCT							108+99.79	628648.524	2132872.397	109+08.22	628646.932	2132880.677	109+16.62	628646.564	2132889.1			
39.0		CCT							111+19.00	628637.73	2133091.287	111+25.40	628637.451	2133097.682	111+31.79	628636.464	2133104.007			
40.0		CCT							113+33.27	628605.385	2133303.079	113+37.31	628604.762	2133307.064	113+41.34	628603.862	2133310.997			
41.0		CCT							113+51.34	628601.631	2133320.745	113+54.28	628600.975	2133323.613	113+57.22	628600.466	2133326.511			
42.0		CCT							117+06.58	628540.04	2133670.605	117+46.80	628533.083	2133710.223	117+86.85	628519.882	2133748.22			
43.0		CCT							119+28.38	628473.435	2133881.905	119+46.84	628467.375	2133899.348	119+65.29	628460.044	2133916.297			
44.0		CCT							123+68.85	628299.842	2134286.695	124+33.98	628273.988	2134346.471	124+84.31	628208.861	2134346.994			
45.0		CCT	127+97.93	627895.246	2134349.51															
46.0		CCT	129+15.30	627777.893	2134350.997															
47.0		CCT							129+88.50	627704.742	2134353.669	129+93.50	627699.745	2134353.851	129+96.35	627699.927	2134358.848			
48.0		CCT							130+26.35	627701.022	2134388.828	130+31.35	627701.205	2134393.824	130+34.20	627696.208	2134394.007			
49.0		CCT	131+07.29	627623.168	2134396.674															
50.0		CCT	133+40.91	627389.566	2134399.085															
51.0		CCT	137+76.31	626954.225	2134406.541															
52.0		CCT	140+01.24	626729.381	2134412.858															
53.0		CCT	144+90.50	626240.25	2134423.834															
54.0		CCT	148+58.60	625872.203	2134430.238															
55.0		CCT							151+59.70	625571.109	2134432.594	151+64.81	625566.005	2134432.634	151+69.70	625561.544	2134435.115			
56.0		CCT							151+77.55	625554.688	2134438.928	151+82.42	625550.425	2134441.3	151+87.11	625545.548	2134441.441			
57.0		CCT							152+25.52	625507.161	2134442.556	152+29.59	625503.087	2134442.674	152+33.56	625499.292	2134441.189			

ALIGNMENT COORDINATES

Line No.	Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
58.0		CCT							152+39.51	625493.749	2134439.02	154+26.01	625320.074	2134371.055	153+90.66	625421.541	2134527.538			
59.0		CCT							154+52.08	625454.962	2134579.079	154+71.31	625465.424	2134595.214	154+89.48	625465.424	2134614.443			
60.0		CCT							155+29.95	625465.424	2134654.921	155+63.12	625465.424	2134688.088	155+94.00	625445.604	2134714.681			
61.0		CCT							156+00.81	625441.54	2134720.134	156+54.11	625409.685	2134762.874	156+98.75	625427.41	2134813.146			
62.0		CCT	157+24.80	625436.071	2134837.709															

SPIRAL OR CIRCULAR CURVE DATA

Line No.	Name	Location	SCS	S	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	C	T	L	R	E	Remarks
1.0	C1	CCT										18.921	41.658	82.558	250	3.447	
2.0	C2	CCT										1	6.546	13.091	750	0.029	
3.0	C3	CCT										11.449	50.122	99.911	500	2.506	
4.0	C4	CCT										22.85	25.262	49.852	125	2.527	
5.0	C5	CCT										14.727	9.693	19.278	75	0.624	
6.0	C6	CCT										19.556	12.925	25.599	75	1.106	
7.0	C7	CCT										19.556	12.925	25.599	75	1.106	
8.0	C8	CCT										44.991	62.118	117.785	150	12.353	
9.0	C9	CCT										67.578	50.188	88.46	75	15.243	
10.0	C10	CCT										22.588	39.942	78.846	200	3.949	
11.0	C11	CCT										16.048	11.278	22.408	80	0.791	
12.0	C12	CCT										16.048	11.278	22.408	80	0.791	
13.0	C13	CCT										16.048	11.278	22.408	80	0.791	
14.0	C14	CCT										16.048	11.278	22.408	80	0.791	
15.0	C15	CCT										3.535	15.43	30.85	500	0.238	
16.0	C16	CCT										2.253	9.833	19.663	500	0.097	
17.0	C17	CCT										8.988	11.003	21.961	140	0.432	
18.0	C18	CCT										8.988	11.003	21.961	140	0.432	
19.0	C19	CCT										11.135	24.369	48.585	250	1.185	
20.0	C20	CCT										11.135	24.369	48.585	250	1.185	
21.0	C21	CCT										13.418	21.173	42.153	180	1.241	
22.0	C22	CCT										12.166	19.182	38.219	180	1.019	
23.0	C23	CCT										13.745	13.86	27.588	115	0.832	
24.0	C24	CCT										13.745	13.86	27.588	115	0.832	
25.0	C25	CCT										13.961	14.08	28.021	115	0.859	
26.0	C26	CCT										13.961	14.08	28.021	115	0.859	
27.0	C27	CCT										13.961	14.08	28.021	115	0.859	
28.0	C28	CCT										13.961	14.08	28.021	115	0.859	
29.0	C29	CCT										13.961	14.08	28.021	115	0.859	
30.0	C30	CCT										13.961	14.08	28.021	115	0.859	
31.0	C31	CCT										14.7	90.295	179.598	700	5.8	
32.0	C32	CCT										10.667	32.675	65.16	350	1.522	
33.0	C33	CCT										10.667	32.675	65.16	350	1.522	
34.0	C34	CCT										13.711	12.022	23.93	100	0.72	
35.0	C35	CCT										16.59	14.579	28.955	100	1.057	
36.0	C36	CCT										9.105	39.811	79.454	500	1.582	
37.0	C37	CCT										8.387	8.432	16.833	115	0.309	
38.0	C38	CCT										6.372	6.401	12.789	115	0.178	
39.0	C39	CCT										4.018	4.034	8.065	115	0.071	
40.0	C40	CCT										2.931	2.942	5.884	115	0.038	
41.0	C41	CCT										9.199	40.224	80.276	500	1.615	
42.0	C42	CCT										4.23	18.466	36.916	500	0.341	
43.0	C43	CCT										66.151	65.128	115.455	100	19.339	
44.0	C44	CCT										90	5	7.854	5	2.071	
45.0	C45	CCT										90	5	7.854	5	2.071	
46.0	C46	CCT										28.633	5.104	9.995	20	0.641	
47.0	C47	CCT										27.419	4.879	9.571	20	0.586	
48.0	C48	CCT										23.035	4.075	8.041	20	0.411	
49.0	C49	CCT										144.332	186.5	151.145	60	135.914	
50.0	C50	CCT										32.96	19.229	37.392	65	2.785	
51.0	C51	CCT										36.698	33.167	64.05	100	5.357	
52.0	C52	CCT										56.12	53.306	97.948	100	13.32	



This Sheet
For ROW Information Only

Right of Way Design Information

ROW Team: Johnson County Conservation
 ROW #: TAP-U-C052(127)-8F-52
 Plan Date: 02/10/23
 Color Legend:

- Property Lines
- Temporary Easement
- Permanent Easement

- RIGHT OF WAY LEGEND**
- Proposed Right of Way
 - Existing Right of Way
 - Existing and Proposed Right of Way
 - Easement and Existing Right of Way
 - Borrow
 - Easement (Temporary)
 - Easement
 - Excess
 - Property Line
 - A/C Access Control

Parcel #: CCT007
 Title Holder: CAREW ENTERPRISES, LLC
 Parcel ID Address: N/A
 5,420 S.F. of Temporary Easement
 0 S.F. of Permanent Easement

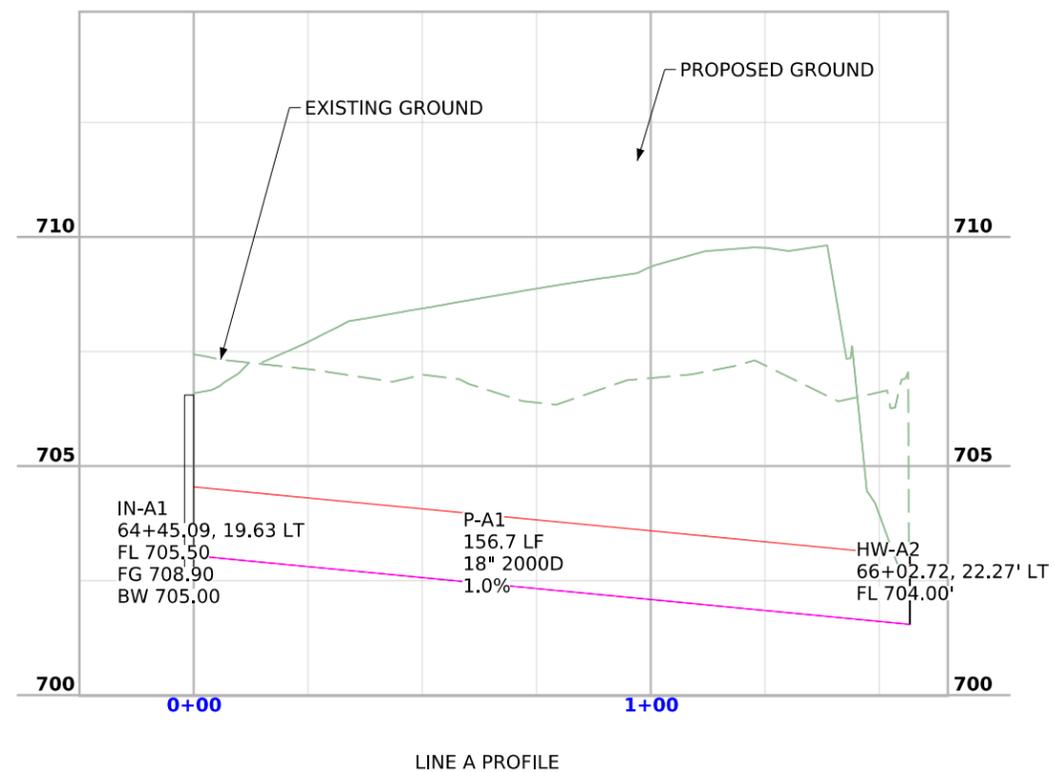
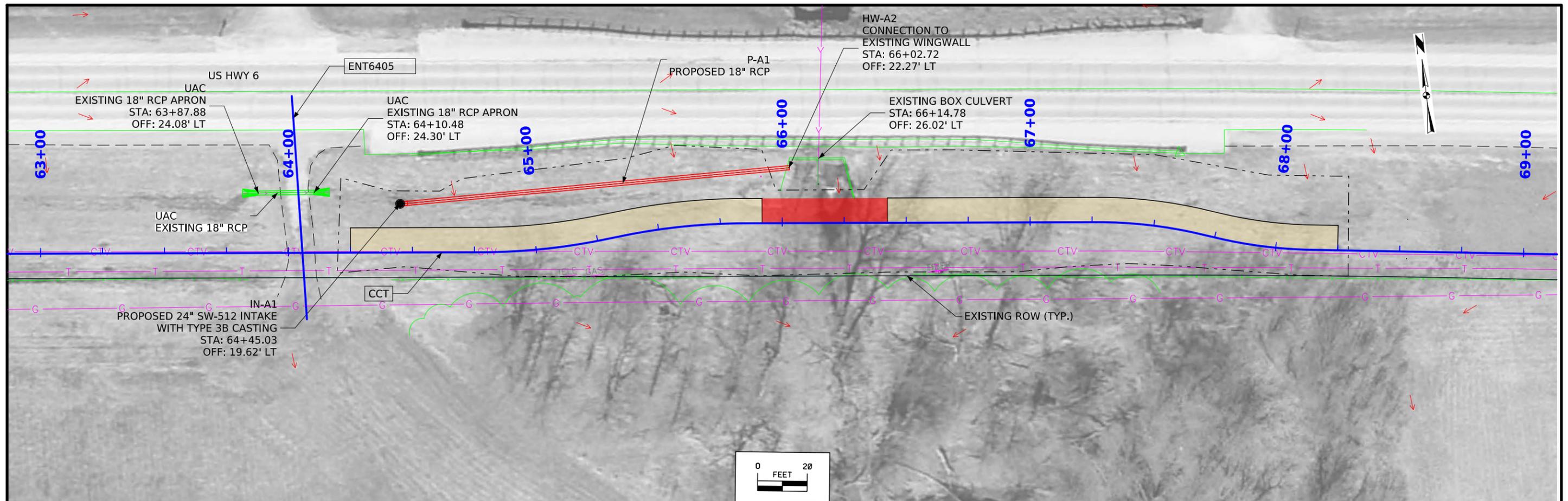
Parcel #: CCT006
 Title Holder: CAREW ENTERPRISES, LLC
 Parcel ID Address: 2367 HWY 6 NW
 5,357 S.F. of Temporary Easement
 0 S.F. of Permanent Easement

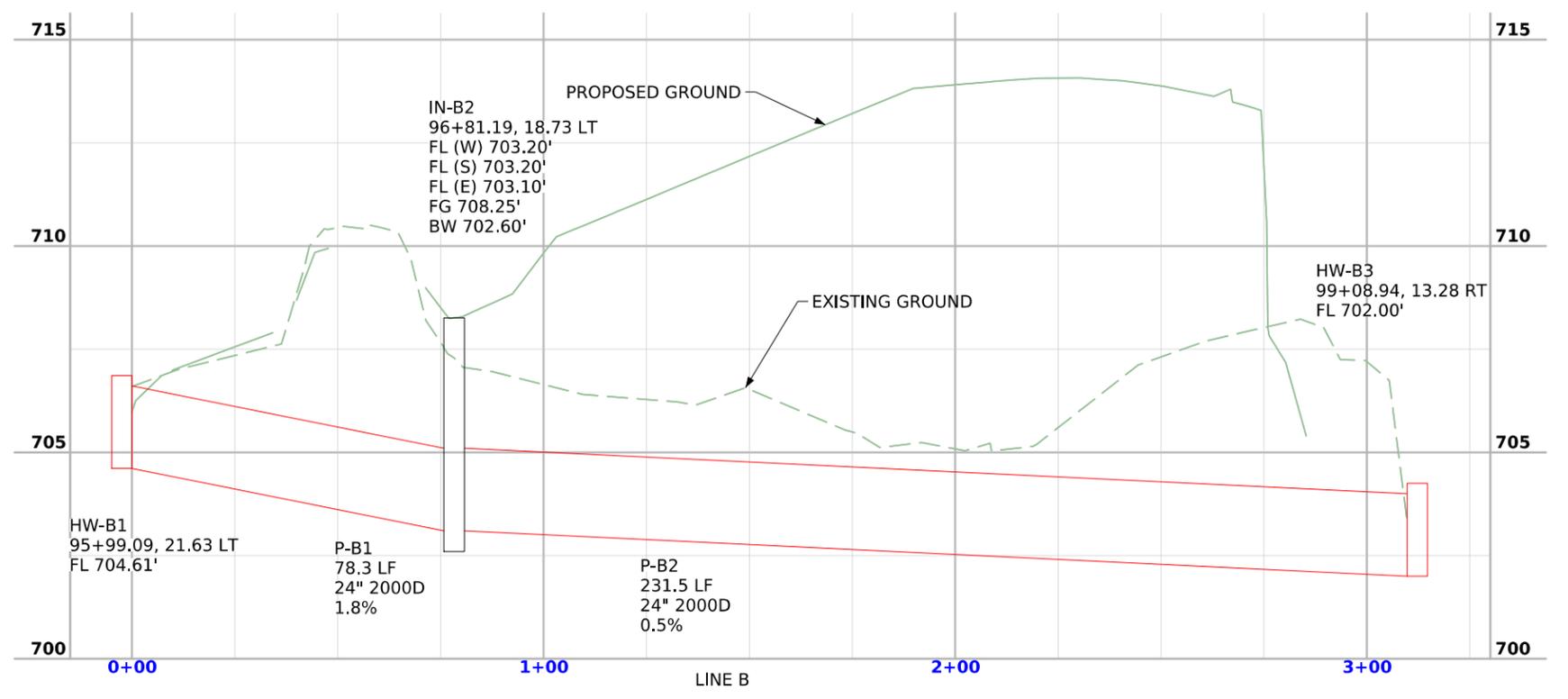
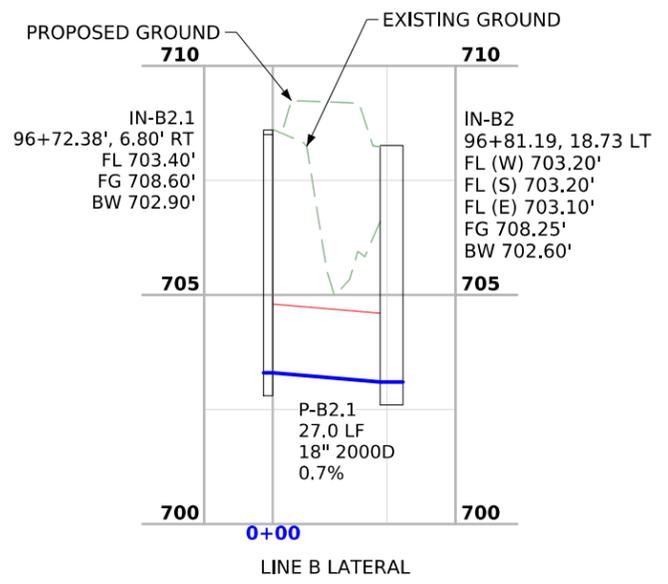
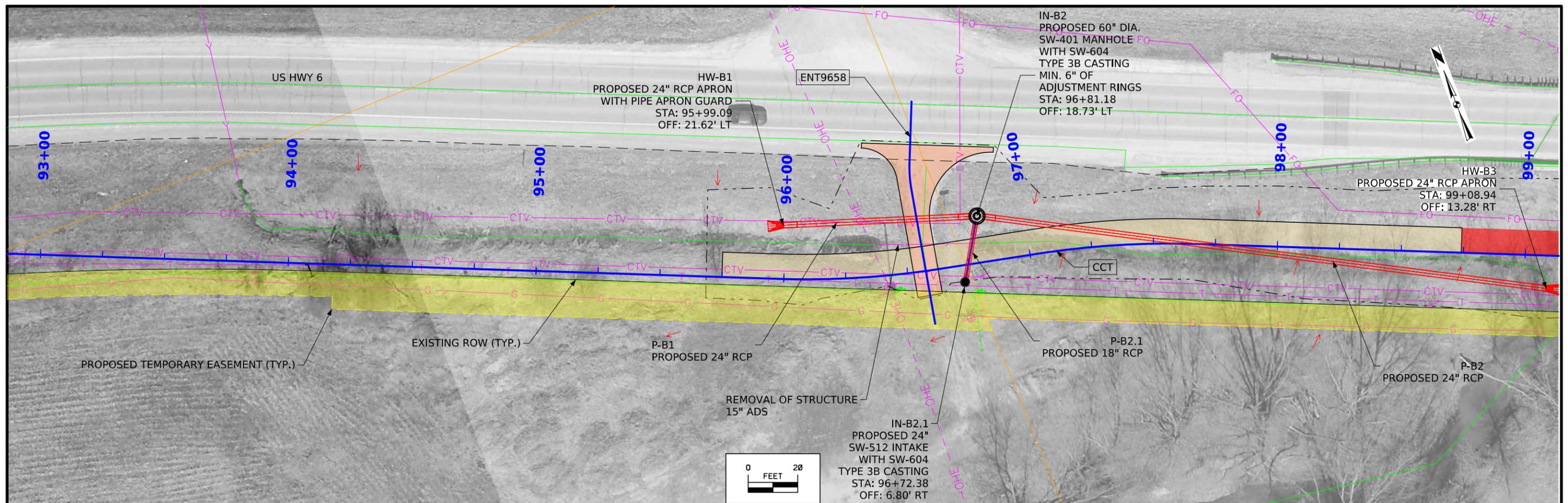
Parcel #: CCT008
 Title Holder: NJN ENTERPRISES, LLC
 Parcel ID Address: 2365 HWY 6 NW
 2,804 S.F. of Temporary Easement
 0 S.F. of Permanent Easement

Parcel #: CCT009
 Title Holder: CLEAR CREEK TOWNSHIP
 Parcel ID Address: N/A
 1,400 S.F. of Temporary Easement
 0 S.F. of Permanent Easement

TRAFFIC CONTROL PLAN

1. Hwy 6 will remain open for the duration of the project. Intermittent lane closures using flaggers (SRP TC-213) may be necessary during construction of bridges. A bid quantity has been estimated to establish a unit price.
2. Driveway access will be maintained through the entire project.
3. Use SRP TC-1 for work not affecting traffic.
4. Use SRP TC-202 for work within 15-ft of the traveled way.
5. Place Easement Limit Fence along temporary easement or existing ROW line within the limits of construction.





POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITIES

A. Designer:

1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

B. Contractor:

1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

C. Subcontractors:

1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or performing work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Implement good housekeeping practices according to Paragraph III, C, 2.

D. RCE/Project Engineer:

1. Is Project Storm Water Manager.
2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
7. Is familiar with the Project PPP and storm water site map.
8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
10. Is signature authority on Notice of Discontinuation.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

POLLUTION PREVENTION PLAN

E. Inspector:

1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

- A. This Pollution Prevention Plan (PPP) is for the construction of a Clear Creek Pedestrian Trail.
- B. This PPP covers approximately 1.1 acres with an estimated 1.1 acres being disturbed. The portion of the PPP covered by this contract has 1.1 acres disturbed.
- C. The PPP is located in an area of one soil association Otley - Ladoga soil association. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.25.
- D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
- E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.
- F. Runoff from this work will flow into tributaries and branches of Buffalo Creek.

III. CONTROLS

- A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.

1. EROSION AND SEDIMENT CONTROLS

a. Stabilization Practices

- 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
- 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
 - a) Permanently ceased on any portion of the site, or
 - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
- 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
- 4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
- 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
- 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.

b. Structural Practices

- 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
- 2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.

POLLUTION PREVENTION PLAN

c. Storm Water Management

Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. DOTHER CDNTRDLS

Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

- a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
- b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
- c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
- d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
- e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
- f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
- g. Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
- h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
- i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
- j. Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPRDVED STATE DR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PRDCEURES

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTIDN REQUIREMENTS

- A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
 - 1. Date of the inspection.
 - 2. Summary of the scope of the inspection.
 - 3. Name and qualifications of the personnel making the inspection.
 - 5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
 - 6. Major observations related to the implementation of the PPP.
 - 7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

POLLUTION PREVENTION PLAN

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES DF DFF RIGHT-OF-WAY (RDW) POLLUTION

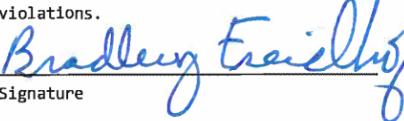
Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIDNS

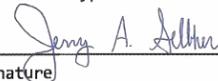
- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
- C. Fieldbook Entries - This contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


Signature

Brad H. Freidhof
Printed or Typed Name


Signature

Jerry A. Selbher
Printed or Typed Name

LINE STYLE LEGEND OF LANDSCAPE SHEETS

LINETYPE	Design Element
-----	Living Snow Fence Single Row
- - - - -	Living Snow Fence Double Row
—————	Mechanical Edge

CELL LEGEND OF LANDSCAPE SHEETS

CELL	Design Element	Plant Diameter
⊕	Clearing	
⊙	Proposed Shrub	6 FT
⊙	Proposed Understory Tree	12 FT
⊙	Proposed Conifer Tree	18 FT
⊙	Proposed Overstory Tree	30 FT

PATTERN LEGEND OF LANDSCAPE SHEETS

	Brush Clearing		Spray Area
	Clearing & Grubbing		

LINE STYLE LEGEND OF EROSION CONTROL SHEETS

LINETYPE	Design Element
	Silt Fence
	Perimeter and Slope Sediment Control Device (9")
	Perimeter and Slope Sediment Control Device (12")
	Perimeter and Slope Sediment Control Device (20")
	Open-Throat Curb Intake Sediment Filter
	Concentrated Flow
	Rock Check and Rock Check Dam
	Sheet Flow

CELL LEGEND OF EROSION CONTROL SHEETS

CELL	Design Element
	Temporary Sediment Control basin
	Erosion Control for Circular Intake or Manhole Well
	Erosion Control for Rectangular Intake or Manhole Well
	Grate Intake Sediment Filter Bag
	Silt Basin
	Silt Fence Tail
	Stormwater Drainage Basin Discharge Point

PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS

LINWORK	Design Color No.	Design Element
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
Black	(0)	Permanent Erosion Control Features
Blaze Orange	(222)	Temporary Erosion Control Features

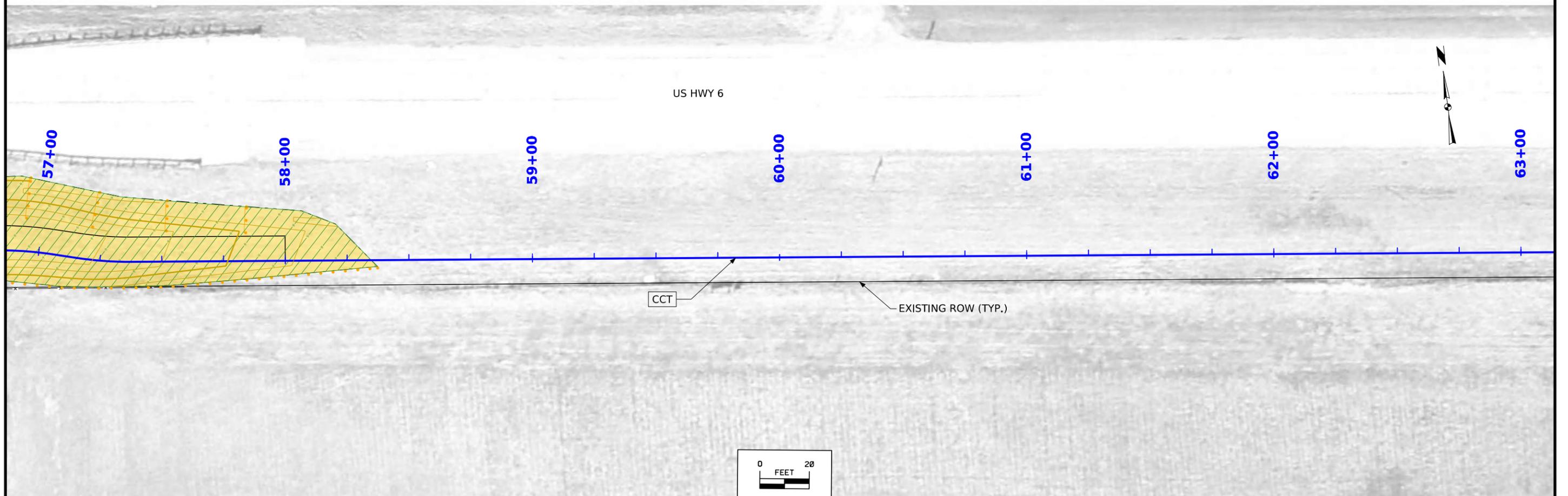
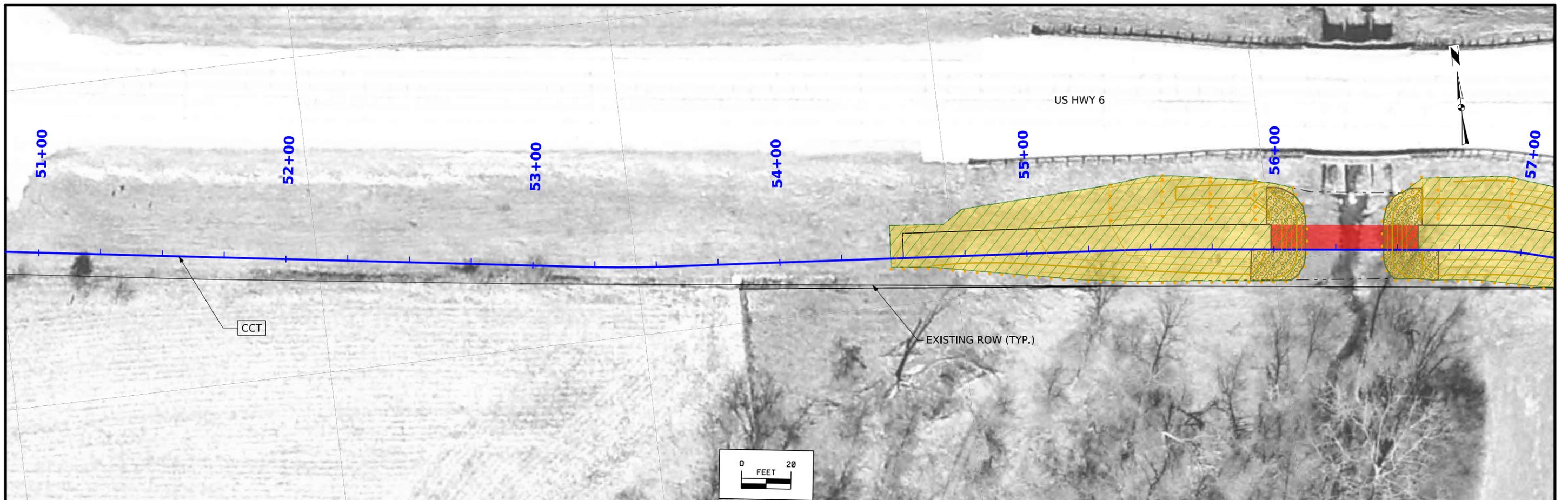
SHADING	Design Color No.	Design Element	Transparency
Citron	(234)	Mulching, All Types	50%
Light Brown	(238)	Special Ditch Control, Wood Excelsior Mat	0%
Grass Green	(233)	8FT Mow Strip	50%
Red	(3)	Delineates Restricted Areas	0%

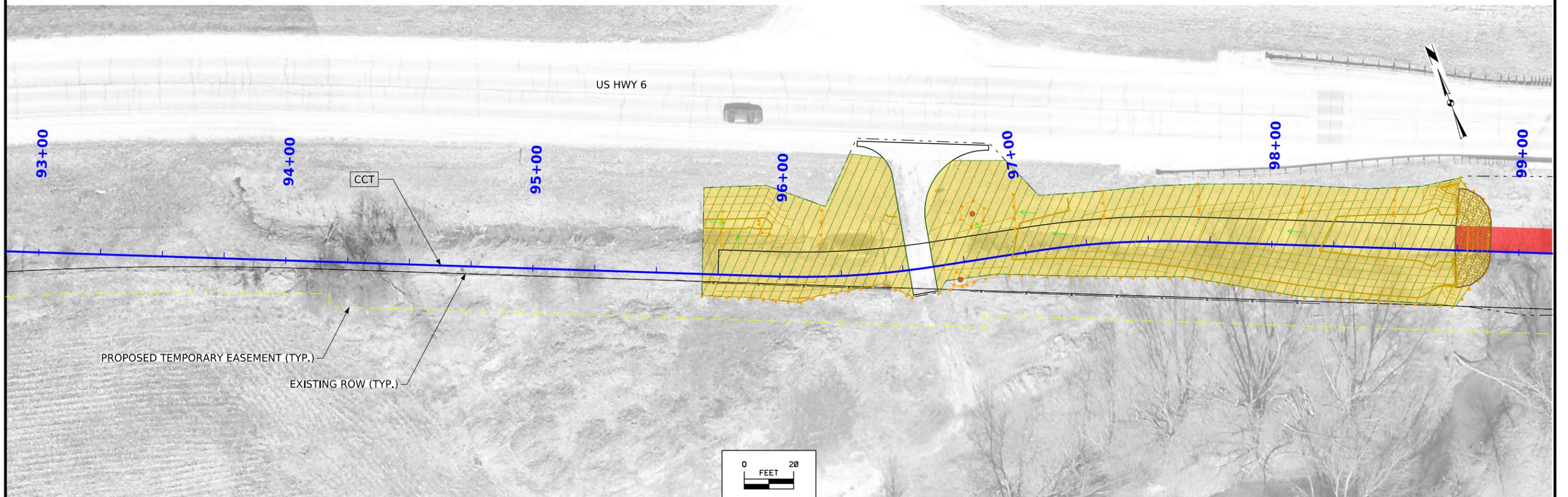
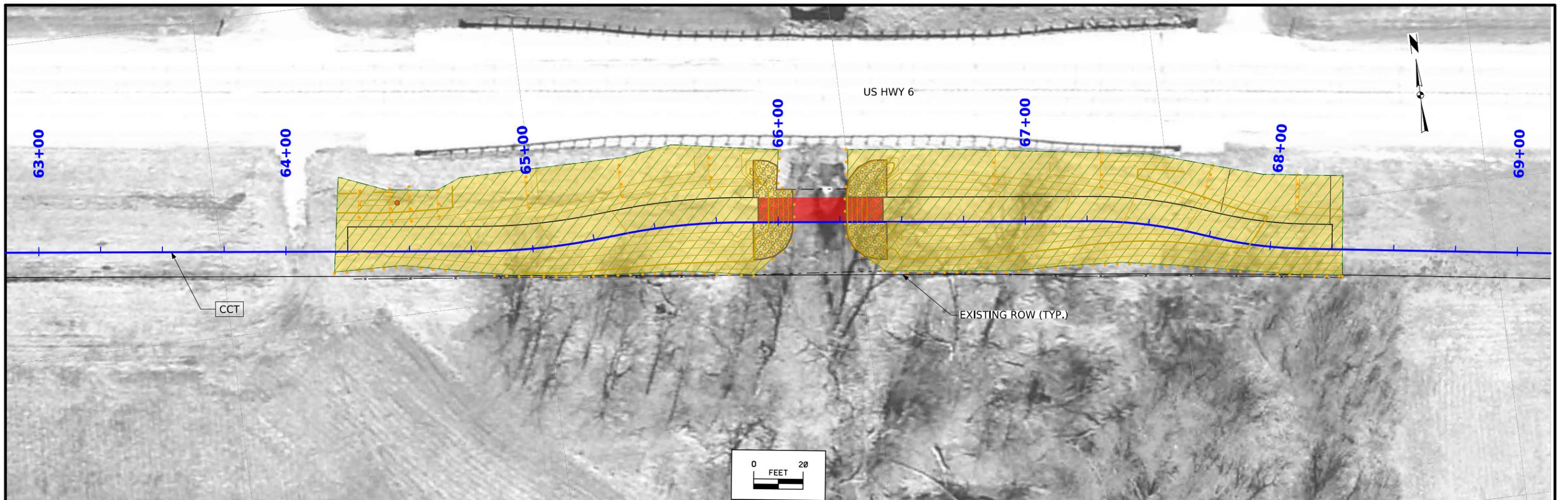
PATTERN LEGEND OF EROSION CONTROL SHEETS

	Seeding and Fertilizing		Turf Reinforcement Mat Type 1
	Seeding and Fertilizing (Rural)		Turf Reinforcement Mat Type 2
	Seeding and Fertilizing (Urban)		Turf Reinforcement Mat Type 3
	Native Grass Seeding		Turf Reinforcement Mat Type 4
	Salt Tolerant Seeding		Slope Protection, Wood Excelsior Mat
	Wetland Grass Seeding		Transition Mat
	Wildflower Seeding		Rock Features, Permanent
	Sodding		Rock Features, Temporary

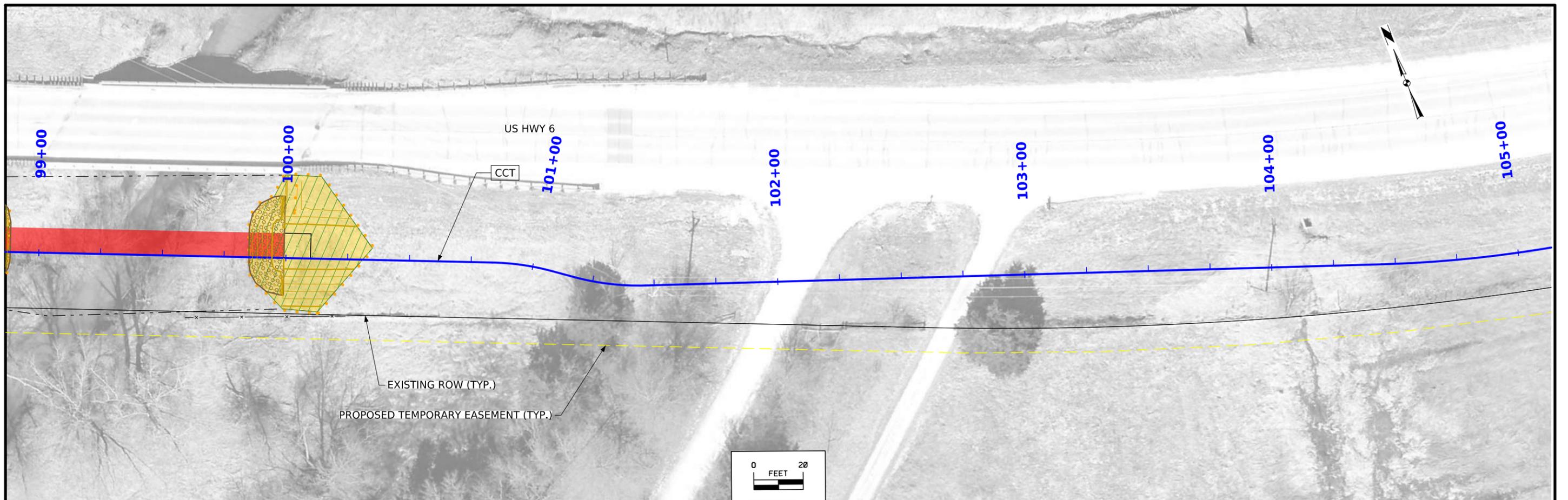
EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)

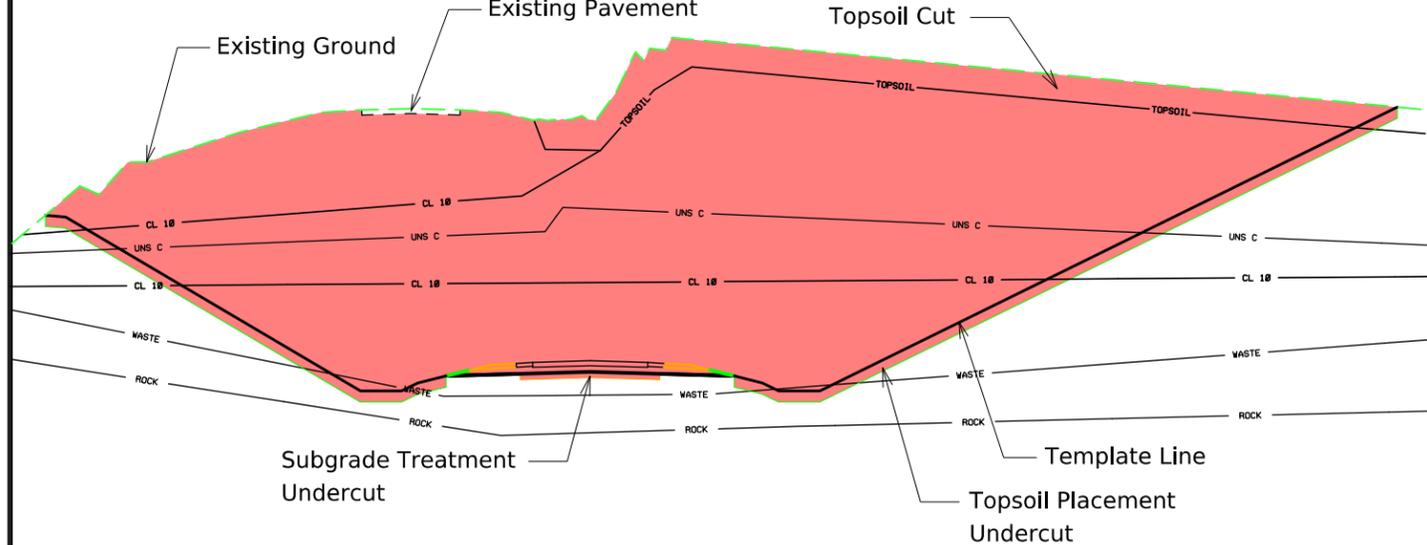




FILE NO.	ENGLISH	DESIGN TEAM Stanley Consultants	JOHNSON COUNTY	PROJECT NUMBER 32284.01	SHEET NUMBER RR.3
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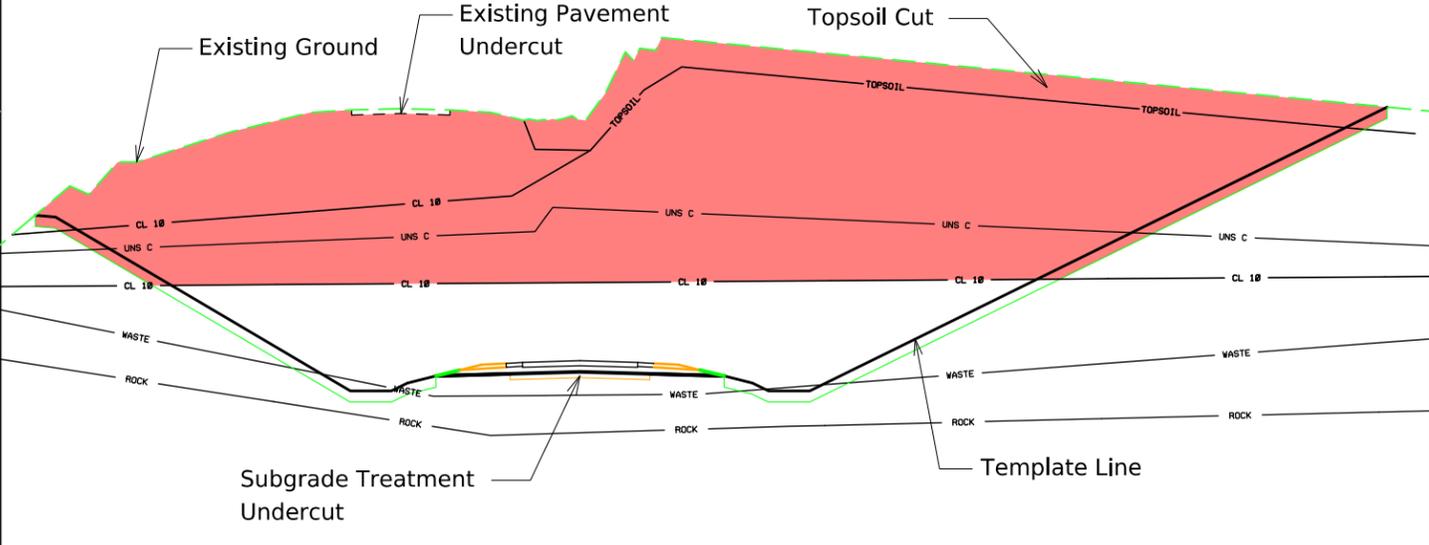
CUT SIDE Total Cut Unadjusted RURAL



Notes:

1. "Total Cut Unadjusted" Column includes all cut values in the Station Range based on Typical, Topsoil and Subgrade Treatment needs.
2. "Total Cut Unadjusted" does not include and Existing Pavement values inside or outside the cut template as shown on cross sections.
3. Tabulated Plowing and Shaping operations are included in the "Total Cut Unadjusted" values.

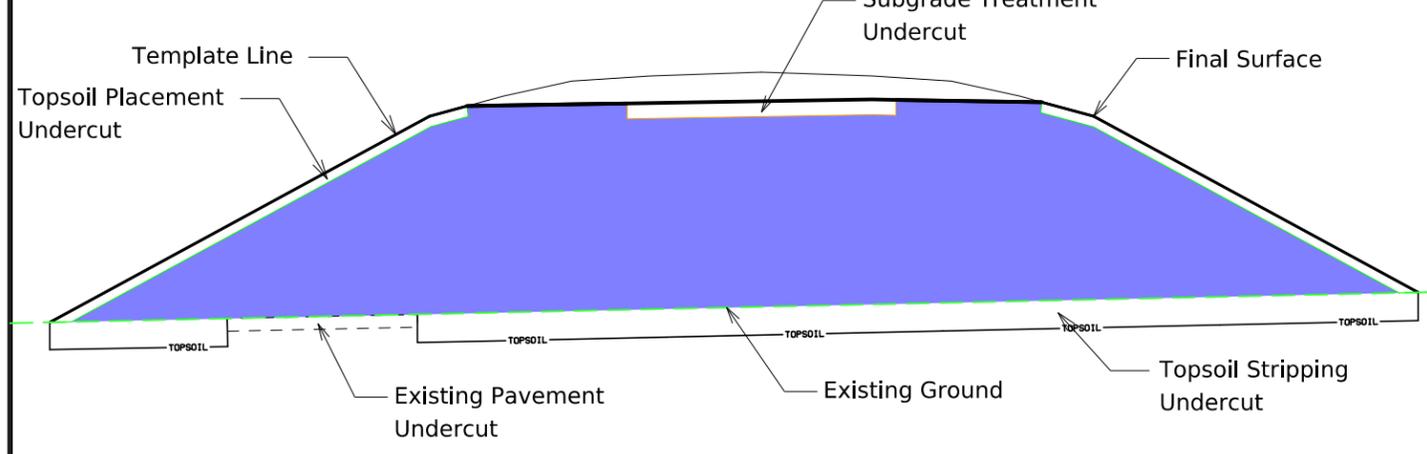
CUT SIDE Total Cut Adjusted



Notes:

1. "Total Cut Adjusted" Column includes all cut values usable as Class 10 material.
2. "Total Cut Adjusted" does not include and Existing Pavement , Existing Topsoil, or material to be wasted.

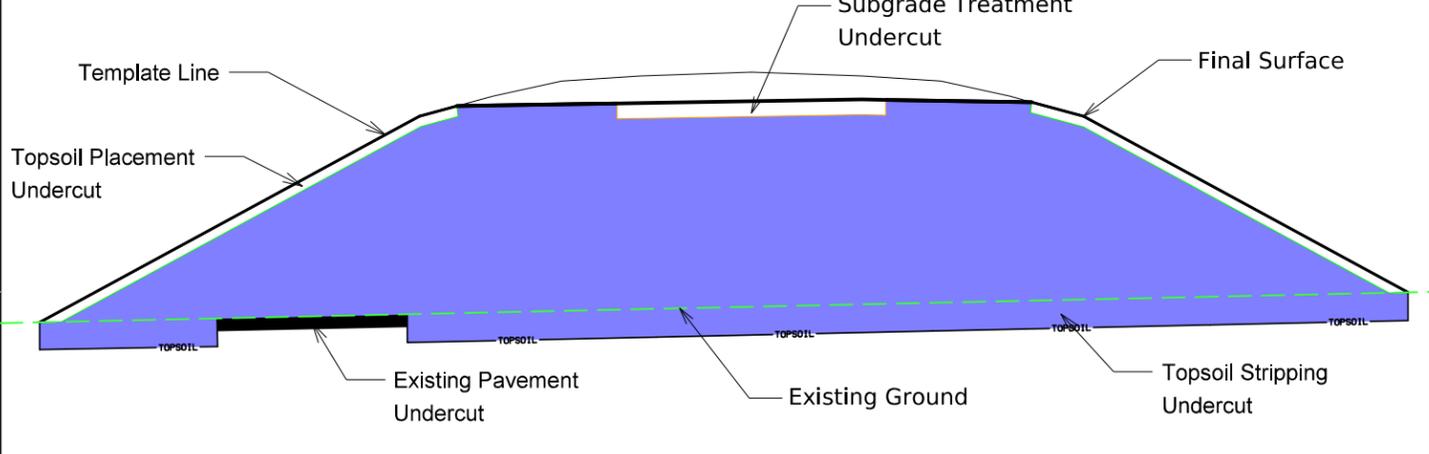
FILL SIDE Total Fill Unadjusted RURAL



Notes:

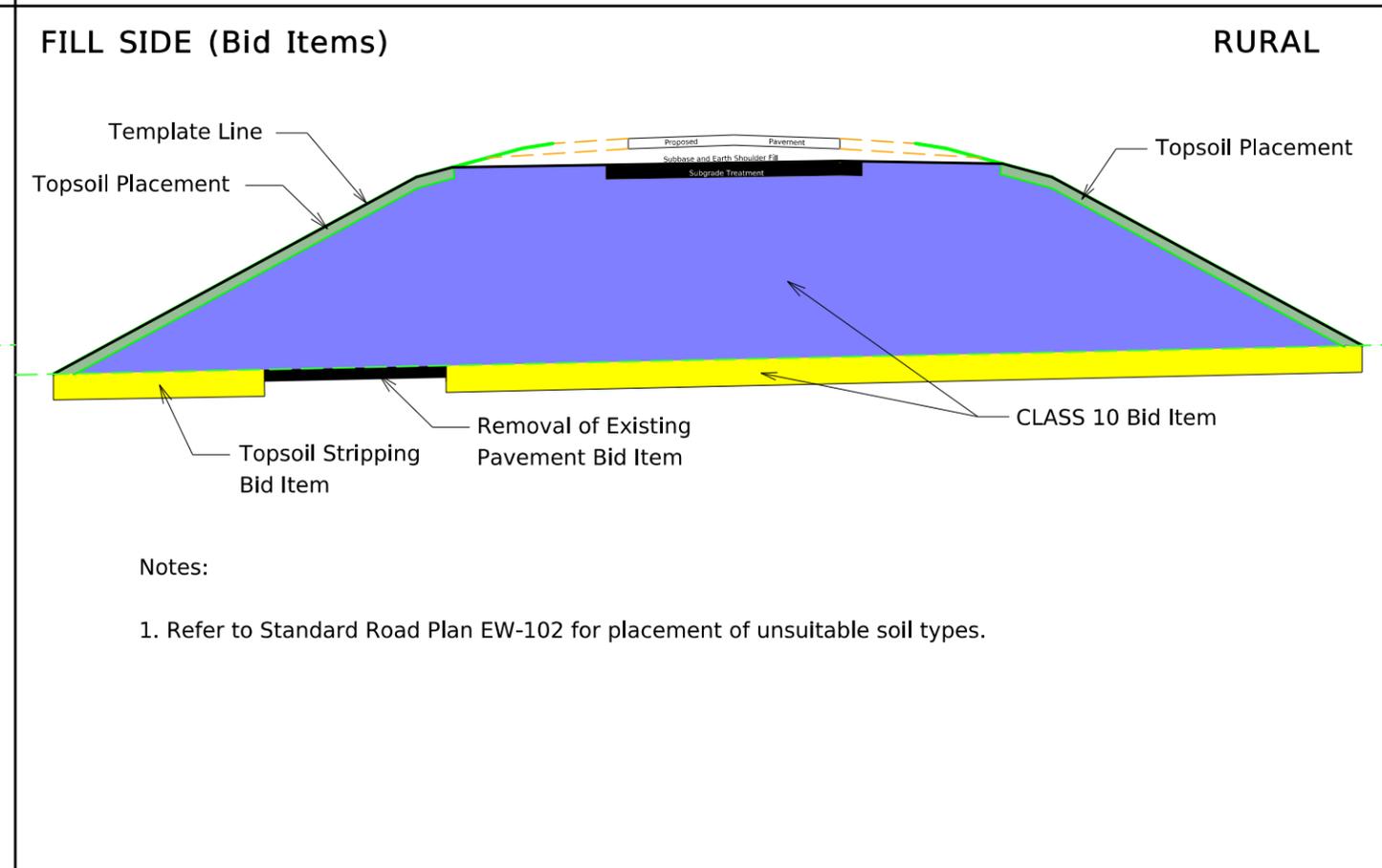
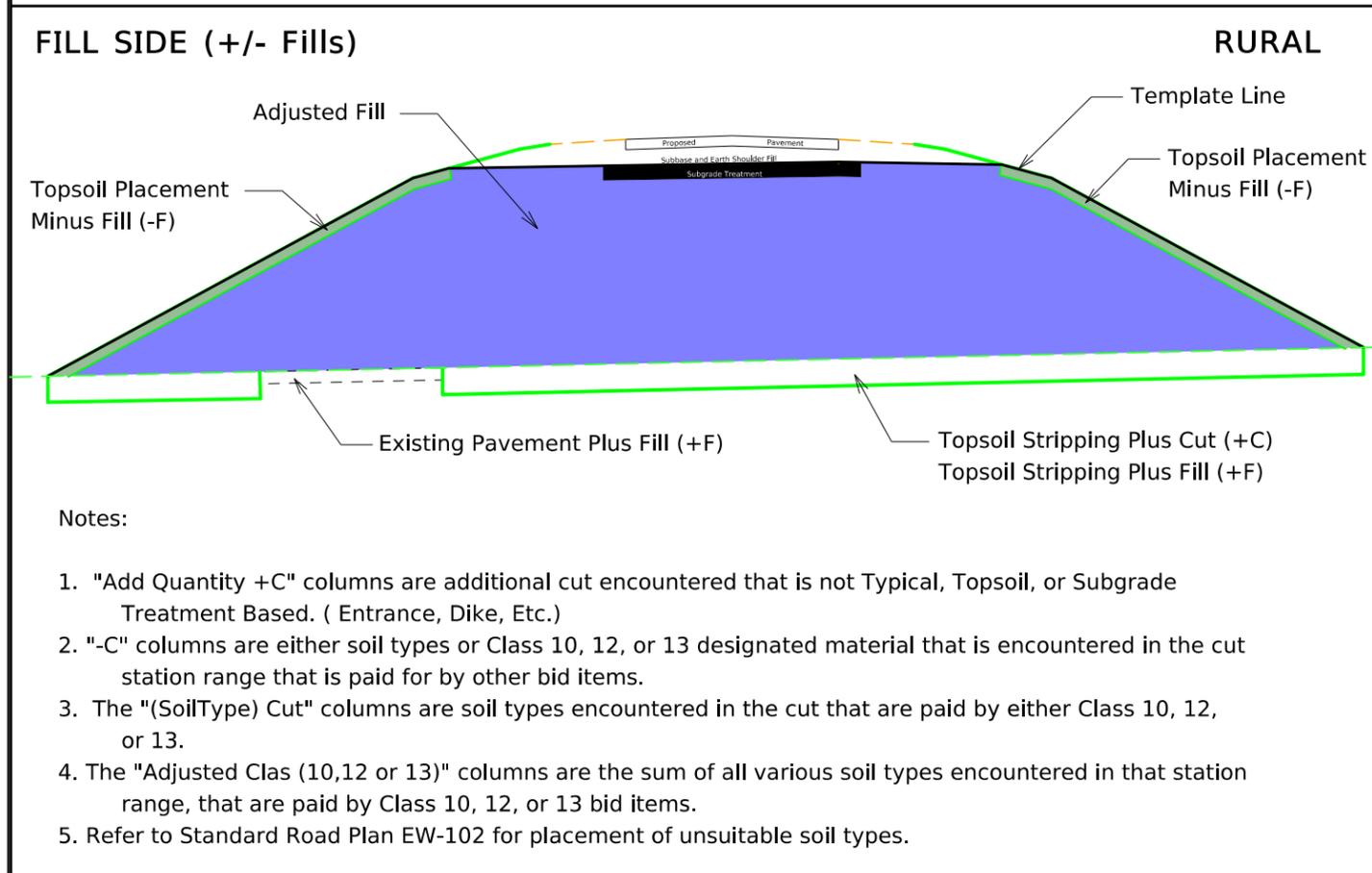
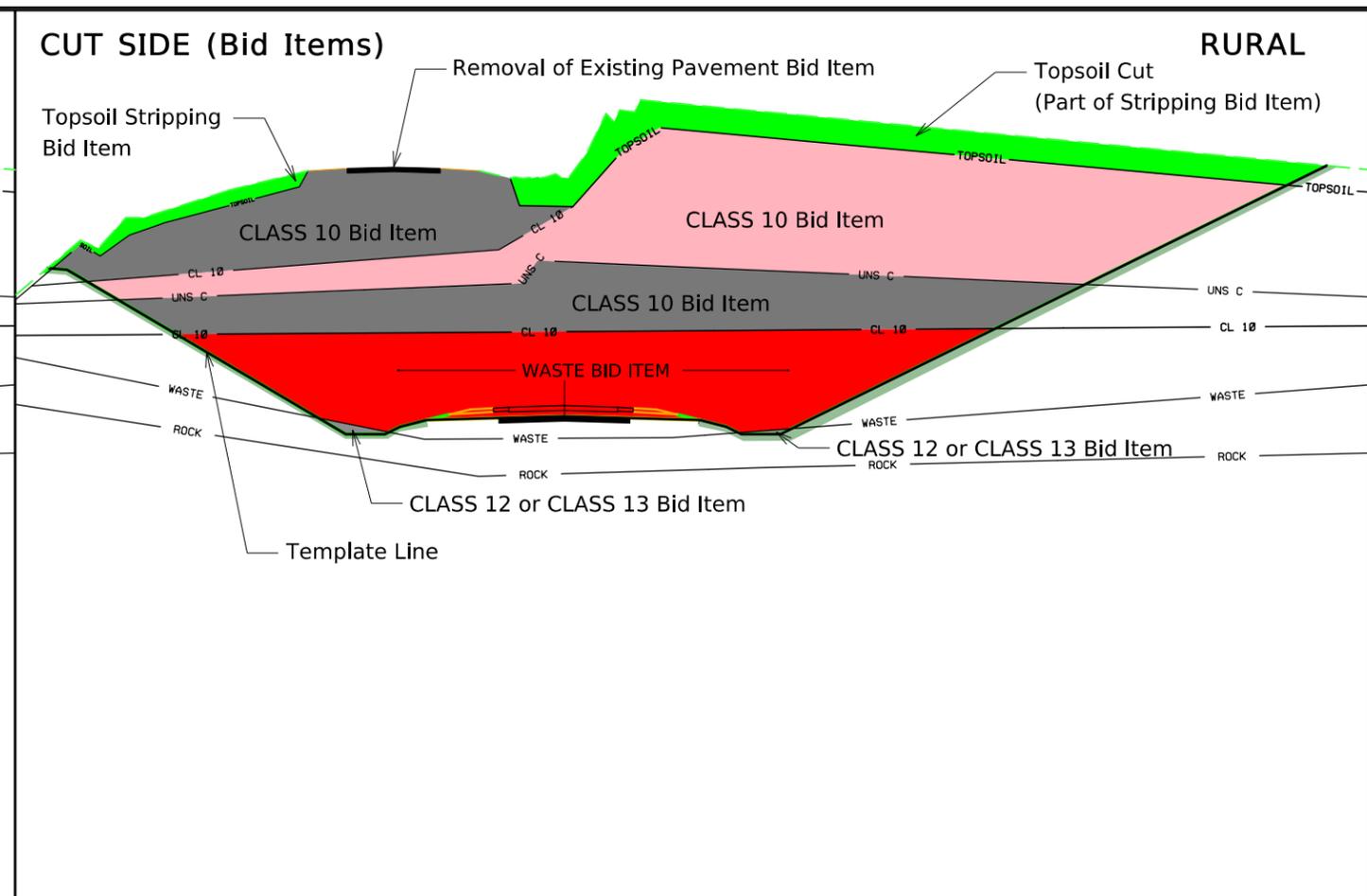
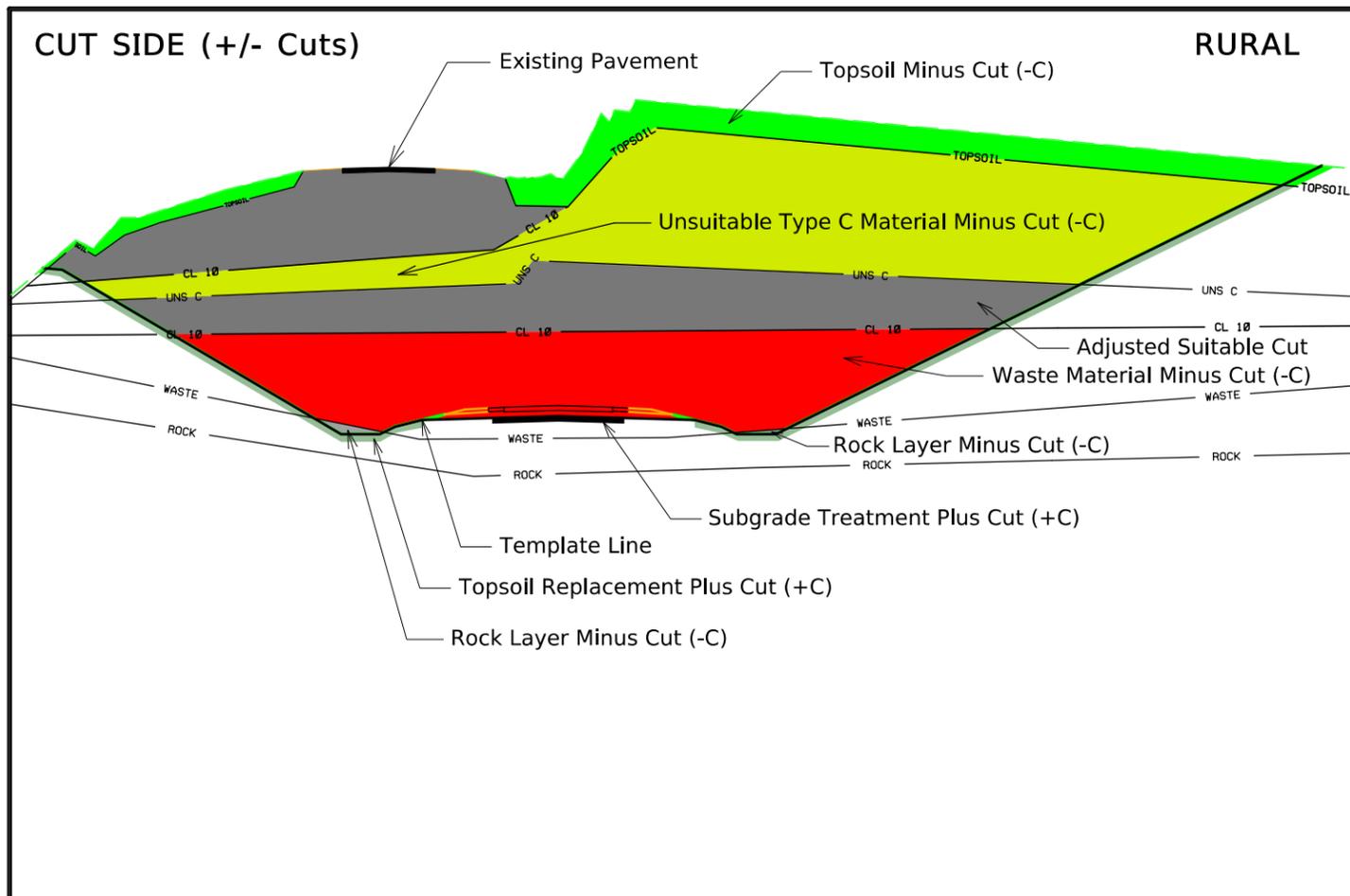
1. "Total Fill Unadjusted" Column includes all Class 10, 12, and 13 fill. This excludes the topsoil, subgrade treatment, subbase, new pavement, and shoulder fill needs in that station range.
2. "Total Fill Unadjusted" Column does not include adjustments for additional fill from cuts such as existing pavement removed, plowing and shaping operations, entrances, dikes, or topsoil stripping.

FILL SIDE Total Fill Adjusted



Notes:

1. "Total Fill Adjusted" Column includes all Class 10, 12, and 13 fill and adjustments for additional fill from cuts such as existing pavement, plowing and shaping operations, entrances, dikes, and topsoil stripping.
2. The available area to place unsuitable materials in the T Sheet tabulation does not include the undercut values from the topsoil stripping, existing pavement, or plowing and shaping



- Notes:
1. "Add Quantity +C" columns are additional cut encountered that is not Typical, Topsoil, or Subgrade Treatment Based. (Entrance, Dike, Etc.)
 2. "-C" columns are either soil types or Class 10, 12, or 13 designated material that is encountered in the cut station range that is paid for by other bid items.
 3. The "(SoilType) Cut" columns are soil types encountered in the cut that are paid by either Class 10, 12, or 13.
 4. The "Adjusted Clas (10,12 or 13)" columns are the sum of all various soil types encountered in that station range, that are paid by Class 10, 12, or 13 bid items.
 5. Refer to Standard Road Plan EW-102 for placement of unsuitable soil types.

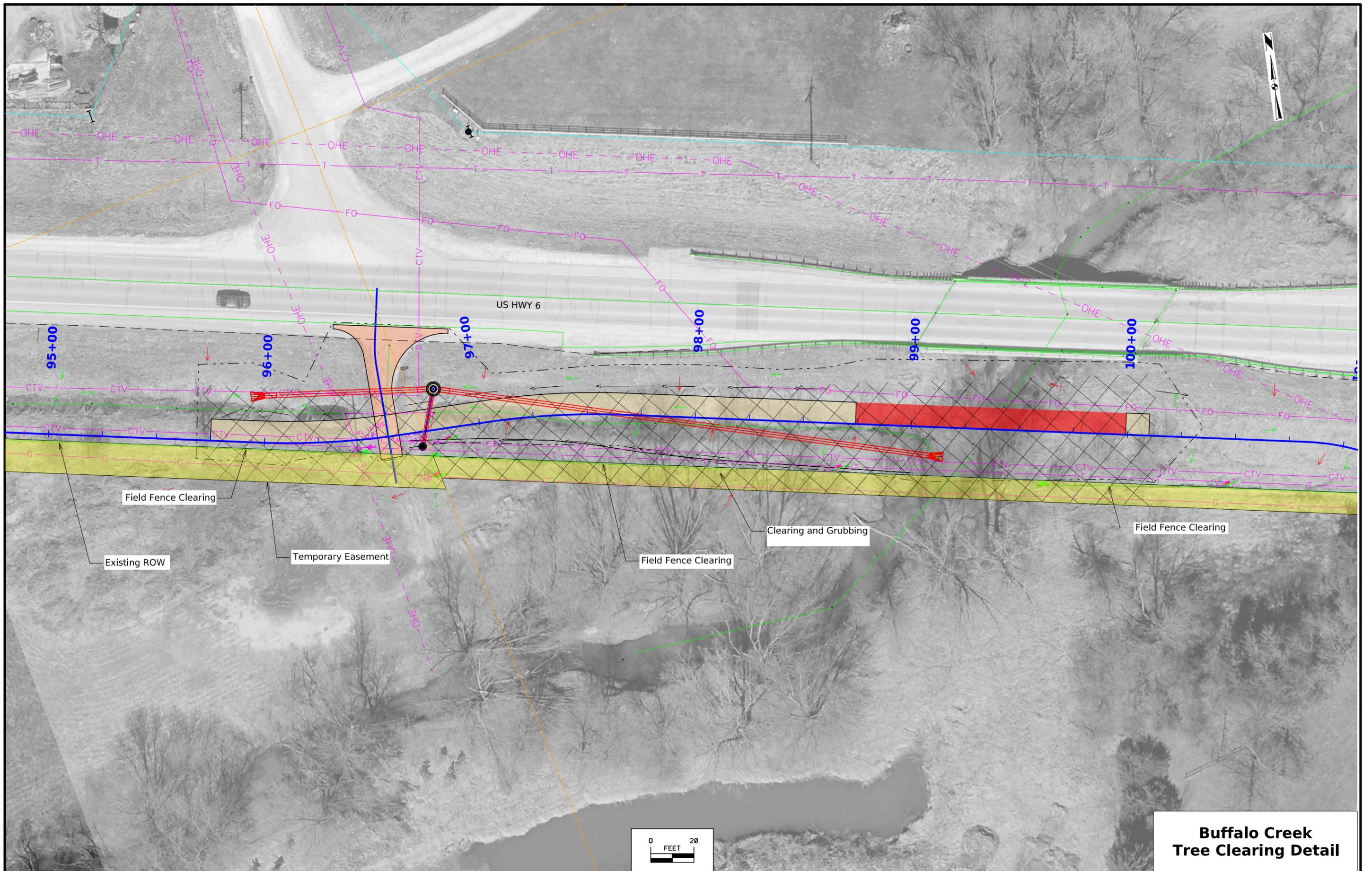
- Notes:
1. Refer to Standard Road Plan EW-102 for placement of unsuitable soil types.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill				Checks (EW-102)		Topsoil				[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]								
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
CCT																						
54+50.00	13	3	10	3	2	2	3	0	0	0	10	2	3	7								
54+75.00	13	1	13	1	14	14	18	-17	0	0	13	5	7	6								
55+00.00	16	0	16	0	31	31	41	-41	0	0	16	7	10	6								
55+25.00	19	1	18	1	46	46	60	-60	0	0	18	9	13	5								
55+50.00	20	1	19	1	57	57	74	-73	0	0	19	10	15	5								
55+75.00	24	6	19	6	31	31	40	-35	0	0	19	5	7	11								
56+00.00	20	5	14	5	1	1	1	5	0	0	14	0	0	15								
56+25.00	11	0	11	0	1	1	1	-1	0	0	11	0	0	11								
56+50.00	17	2	15	2	36	36	46	-45	0	0	15	5	7	8								
56+75.00	23	3	19	3	68	68	88	-85	0	0	19	10	14	5								
57+00.00	21	3	18	3	61	61	79	-76	0	0	18	9	13	5								
57+25.00	19	2	17	2	49	49	63	-61	0	0	17	8	11	5								
57+50.00	17	2	15	2	32	32	41	-40	0	0	15	6	9	6								
57+75.00	15	2	13	2	15	15	20	-19	0	0	13	5	6	7								
58+00.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
64+25.00	25	12	12	12	3	3	5	8	0	0	12	0	0	13								
64+50.00	17	2	15	2	19	19	25	-23	0	0	15	0	0	15								
64+75.00	19	0	18	0	53	53	69	-68	0	0	18	0	0	18								
65+00.00	21	0	21	0	91	91	119	-119	0	0	21	0	0	21								
65+25.00	22	0	22	0	126	126	164	-164	0	0	22	0	0	22								
65+50.00	21	0	21	0	152	152	198	-198	0	0	21	0	0	21								
65+75.00	13	0	13	0	98	98	128	-127	0	0	13	0	0	13								
66+00.00	7	0	7	0	16	16	21	-21	0	0	7	0	0	7								
66+25.00	12	0	12	0	76	76	99	-99	0	0	12	0	0	12								
66+50.00	20	0	20	0	155	155	202	-202	0	0	20	0	0	20								
66+75.00	22	0	22	0	151	151	197	-197	0	0	22	0	0	22								
67+00.00	21	0	21	0	131	131	170	-170	0	0	21	0	0	21								
67+25.00	21	1	20	1	106	106	138	-138	0	0	20	0	0	20								
67+50.00	20	1	19	1	86	86	112	-111	0	0	19	0	0	19								
67+75.00	19	0	19	0	71	71	92	-92	0	0	19	0	0	19								
68+00.00	19	0	19	0	55	55	72	-72	0	0	19	9	13	6								
68+25.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
95+75.00	38	18	20	18	7	7	10	9	0	0	20	11	16	4								
96+00.00	27	9	17	9	20	20	26	-16	0	0	17	8	12	6								
96+25.00	25	13	12	13	14	14	19	-6	0	0	12	6	9	4								
96+50.00	21	11	10	11	12	12	16	-5	0	0	10	5	7	3								
96+75.00	12	1	11	1	49	49	64	-63	0	0	11	5	7	4								
97+00.00	15	1	14	1	83	83	108	-108	0	0	14	6	9	6								
97+25.00	16	0	16	0	98	98	128	-128	0	0	16	7	10	7								
97+50.00	18	0	18	0	119	119	155	-155	0	0	18	8	12	6								
97+75.00	19	0	19	0	148	148	192	-192	0	0	19	10	14	5								
98+00.00	20	0	20	0	178	178	231	-231	0	0	20	12	17	4								
98+25.00	19	0	19	0	194	194	252	-252	0	0	19	13	18	1								
98+50.00	15	2	12	2	111	111	144	-142	0	0	12	7	10	3								
98+75.00	2	1	2	1	9	9	12	-11	0	0	2	0	0	2								
98+80.00	4	1	3	1	14	14	18	-18	0	0	3	0	0	3								
98+90.00	3	0	3	0	2	2	3	-3	0	0	3	0	0	3								
99+00.00	8	0	8	0	0	0	0	0	0	0	8	0	0	8								
99+25.00	8	0	8	0	0	0	0	0	0	0	8	0	0	8								
99+50.00	8	0	8	0	0	0	0	0	0	0	8	0	0	8								
99+75.00	3	0	3	0	0	0	0	0	0	0	3	0	0	3								
99+85.00	3	0	3	0	2	2	3	-3	0	0	3	0	0	3								
99+95.00	2	1	2	1	12	12	15	-15	0	0	2	2	3	-1								
100+00.00	7	2	5	2	53	53	69	-68	0	0	5	7	10	-5								
100+10.00	8	0	8	0	49	49	64	-64	0	0	8	7	9	-2								
100+20.00	9	0	9	0	33	33	43	-43	0	0	9	7	9	0								
100+30.00																						
CCT																						
Totals:	856	107	750	107	3,041	3,041	3,955	-3,851	0	0	750	213	299	453								

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut				Fill				Checks (EW-102)		Topsoil				[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]									
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink									
Summary:																							
CCT	856	107	750	107	3,041	3,041	3,955	-3,851	0	0	750	213	299	453									
Project Totals:	856	107	750	107	3,041	3,041	3,955	-3,851	0	0	750	213	299	453									
	<u>Excavation, Class 10, Roadway & Borrow</u> [4] 107										<u>Topsoil, Strip, Salvage & Spread</u> [11] 750												
	<u>Embankment in Place, Contractor Furnished</u> 3,851 / 1.3 = 2,962 [8] / 1.3																						



**Buffalo Creek
Tree Clearing Detail**

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL
1	2402-2720000	EXCAVATION, CLASS 20	CY	95
2	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	66.3
3	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	6156
4	2414-6460000	ORNAMENTAL METAL RAILING	LF	80
5	2429-0000100	PRE-ENGINEERED BRIDGE	EACH	3
6	2501-0201057	PILES, STEEL, HP 10 X 57	LF	1560

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2402-2720000	EXCAVATION, CLASS 20 Includes excavation for west & east abutment for all three bridges. Includes furnishing and placing subdrains (including excavation) and subdrain outlet at abutments. Includes furnishing and placing porous backfill, geotextile fabric, and water flooding. See Sheet V.02.
2	2403-0100010	STRUCTURAL CONCRETE (BRIDGE) Includes furnishing and placing concrete for six abutments, and twelve abutment wings. Structural concrete shall be class C. Contractor shall provide certified plant inspection. Includes furnishing and placing 3 inch diameter pvc plastic pipe and expanding foam in the abutment wings. See Sheet V.02.
3	2404-7775005	REINFORCING STEEL, EPOXY COATED
4	2414-6460000	ORNAMENTAL METAL RAILING Refer to Sheet V.13.
5	2429-0000100	PRE-ENGINEERED BRIDGE Bridge shall be manufactured by a company on the approved list as per I.M. 557. Finish of bridge shall be weathering steel. Bridges shall be steel-truss superstructures at 60'-0" x 12'-0", 50'-0" x 12'-0", and 125'-0" x 12'-0". Includes all costs associated with design, fabrication, delivery, erection, and assembly of the pre-engineered steel truss bridges. Includes the cost of all materials, equipment, and labor necessary to install the bridge. The bridge manufacturer shall design the bridge to fit within the substructure as detailed in these plans. These plans assume the anchor bolts at each abutment will be located on the inside face of the truss below the deck. Includes cost of epoxy coated rebar, structural concrete deck, and metal form pan and all labor and equipment to install these items. A Certified Plant Inspection shall be required for the reinforced concrete deck of the trail bridges. See V Sheets for additional information.
6	2501-0201057	PILE, STEEL, HP 10X57 Includes cost to furnish and install all piles at abutments. Refer to sheet V.11.

Structural Design

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.	
	Signature Tim McDermott	Date 01-28-2026
	Printed or Typed Name	
	My license renewal date is December 31, 2027	
Pages or sheets covered by this seal: Sheet V.1 through V.14		

DESIGN FOR 0°SKEW
**PEDESTRIAN BRIDGES
STEEL TRUSS**

BRIDGE QUANTITIES
CLEAR CREEK TRAIL
JOHNSON COUNTY

JANUARY, 2026

DESIGN SHEET NO. 1 OF 14

General Notes:

This design is for the construction of three pre-engineered steel truss trail bridges as a part of the Clear Creek Trail. The three bridges are as follows:

1. 60'x12' West Bridge over unnamed creek.
2. 50'x12' Middle Bridge over Pig Run.
3. 125'x12' East Bridge over Buffalo Creek.

These bridges shall be designed based on the following live loads:
90 psf uniform live load on the full deck area or one 20,000 lb vehicle load.

Utility companies whose facilities are shown on the plans or known to be within the construction limits shall be notified by the bridge contractor of the starting date.

Class 20 excavation material unsuitable for backfilling shall be disposed of in a manner that will leave the site in a neat condition. It shall be the Bridge Contractor's responsibility to provide sites for excess excavated material. No payment for overhaul will be allowed for material hauled to these sites.

Minimum clear distance from face to face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

No waiting time required between completion of abutment fill and driving piles.

Concrete forms are required to remain in place 5 days or longer in accordance with Article 2403.03,M,2, of the Standard Specifications, except the minimum concrete flexural strength required before removal of forms shall be 575 psi.

The Bridge Contractor is to install subdrains behind the abutments as detailed. The subdrains shall be 4" diameter perforated subdrain (polyethylene corrugated tubing). The subdrain shall include a metal pipe outlet section with a removable rodent guard as detailed in these plans.

Keyway dimensions shown on the plans are based on nominal dimensions unless stated otherwise. In addition, the bevel used on the keyway shall be limited to a maximum of 10 degrees from vertical.

These bridge plans label all reinforcing steel with english notation (5a1 is $\frac{5}{8}$ inch diameter bar). English reinforcing steel received in the field may display the following "Bar Designation". The "Bar Designation" is the stamped impression on the reinforcing bars, and is equivalent to the bar diameter in millimeters.

English Size	3	4	5	6	7	8	9	10	11
Bar Designation	10	13	16	19	22	25	29	32	36

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise noted or shown.

Specifications:

Design: AASHTO LRFD 10th Ed, Series of 2024, except as noted in the current Iowa Bridge Design Manual.

Construction: Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, Series 2023, Plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and special provisions shall apply to construction work on this project.

Design Stresses:

Design stresses for the following materials are in accordance with the AASHTO LRFD Bridge Design Specifications, 10th Ed, Series of 2024, except as noted in the current Iowa Bridge Design Manual.

Reinforcing steel in accordance with AASHTO LRFD Section 5, Grade 60 for epoxy coated and non-coated, and Grade 60 or 75 for stainless.

Concrete in accordance with AASHTO LRFD Section 5, $f'c = 4.0$ ksi.

Structural steel in accordance with AASHTO LRFD Section 6, ASTM A709 Grade 36, Grade 50, and Grade 50w (AASHTO M270 Grade 36, Grade 50, and Grade 50w).

Pre-Engineered Bridge Notes:

Values noted here are taken from AASHTO LRFD Guide Specification for the Design of Pedestrian Bridges, 2009.

The pre-engineered bridge shall be designed as specified in the General Notes.

Vertical and lateral deflections shall be limited to L/360, due to vertical and lateral loads, respectively.

The pre-engineered bridge shall be a steel-truss, fabricated using weathering steel.

Safety and rub rails shall be horizontal, with the top railings a minimum of 48 inches above the bridge deck.

The bridge railings shall extend as required to meet the wingwall safety fence.

The bridges shall be designed to withstand applicable effects of ice and horizontal stream loads as well as uplift forces associated with the Q_s flood elevation.

Truss bearing values for substructure design shall not exceed (per bearing):

Maximum Allowable Bearing Loads (kips)					
	DL	LL	WL (transverse) (2 bearings)	WL (uplift)	Thermal (longitudinal)
West Bridge (60'-0" x 12'-0")					
West Abut.	7.3	8.1	6.1	2.9	1.1
East Abut.	7.3	8.1	6.1	2.9	1.1
Middle Bridge (50'-0" x 12'-0")					
West Abut.	6.1	6.8	4.9	2.3	0.9
East Abut.	6.1	6.8	4.9	2.3	0.9
East Bridge (125'-0" x 12'-0")					
West Abut.	18.8	17.6	20.9	6.5	2.8
East Abut.	18.8	17.6	20.9	6.5	2.8

If these values are exceeded, contact Engineer.

A deck joint cover plate shall be furnished and installed by the truss manufacturer.

Contractor to provide and place all reinforcing steel per pre-engineered bridge drawings.

All rebar provided in the concrete deck shall be Grade 60 and be epoxy coated.

Concrete deck shall be structural concrete with a minimum compressive strength ($F'c$) of 4000psi. Concrete deck finish to receive a transverse broom finish.

Any changes in quantities due to the change of dimensions shown on these plans shall be incidental to the price bid for "PRE_ENGINEERED STEEL TRUSS TRAIL BRIDGE."

Certain dimensions as shown in these plans may require adjustment to match the dimensions of the actual truss provided. All adjusted dimensions, anchor bolt requirements, and anchor bolt loads shall be submitted to the Engineer for review prior to construction. The truss bearing plate shall be sized so that the allowable bearing stress on the abutment is not exceeded.

Abutment details shown in these plans have been established for a 2'-6" height from the bottom of truss bearing to the top of the deck. For other heights, the contractor may modify dimensions shown in these plans. The contractor shall submit details of all modifications to the Engineer for approval before work has started. All proposed changes must maintain the specified grade and camber.

Working Drawing and Calculation Submittals

No.	Working Drawing Description	Certified by Iowa P.E. (Yes/No)
1	Ornamental Metal Railing	No
2	Pre-Engineered Pedestrian Bridge, 50'-0" x 12'-0"	Yes
3	Pre-Engineered Pedestrian Bridge, 60'-0" x 12'-0"	Yes
4	Pre-Engineered Pedestrian Bridge, 125'-0" x 12'-0"	Yes
5		
No.	Calculation Description	Certified by Iowa P.E. (Yes/No)
6	Pre-Engineered Pedestrian Bridge Design	Yes
7		

Submit drawings & calculations to:
Tim McDermott, P.E.
mcdermotttim@stanleygroup.com

Stanley Consultants, Inc.
100 Court Ave, Ste 300
Des Moines, IA 50309

Class 20 excavation quantities are based on the assumption that the channel excavation is completed prior to starting construction of the abutments.

The channel excavation is shown on the trail plans and is to be completed before abutment piles are driven. the bridge contractor is to level off and shape the berms at abutment locations to the elevations and dimensions shown.

It shall be the bridge contractor's responsibility to provide sites for excess excavated material. no payment for overhaul will be allowed for material hauled to these sites.

Utility companies whose facilities are shown on the plans or known to be within the construction limits shall be notified by the bridge contractor of the starting date.

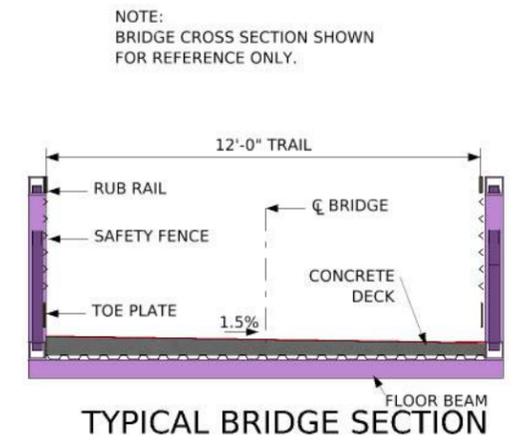
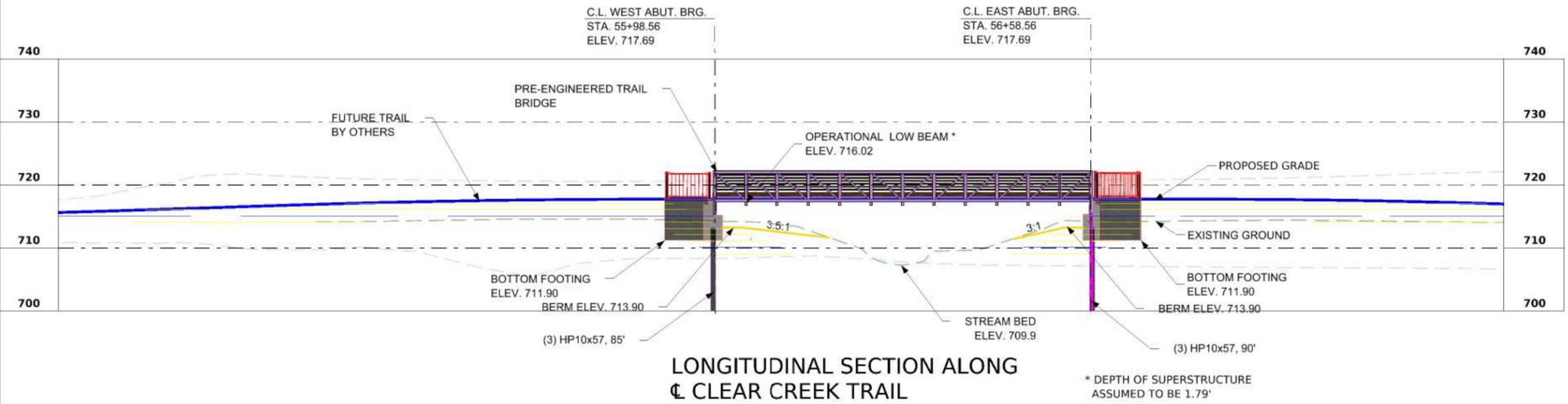
The contractor shall visit the site to ensure he or she is familiar with the existing conditions.

All bridge concrete incorporated into this project shall require Iowa DOT certified plant inspection. It is the contractor's responsibility to supply an Iowa DOT certified plant inspector for these activities. the certified plant inspector shall coordinate his or her activities with the grade inspector and the project Engineer.

All concrete for this project shall use class 3 aggregates.

All exposed corners 90 degrees or sharper are to be filleted with a $\frac{3}{4}$ " dressed and beveled strip.

DESIGN FOR 0°SKEW	
PEDESTRIAN BRIDGES STEEL TRUSS	
GENERAL NOTES	
CLEAR CREEK TRAIL	JANUARY, 2026
JOHNSON COUNTY	
DESIGN SHEET NO. <u> 3 </u> OF <u> 14 </u>	



HYDRAULIC DATA

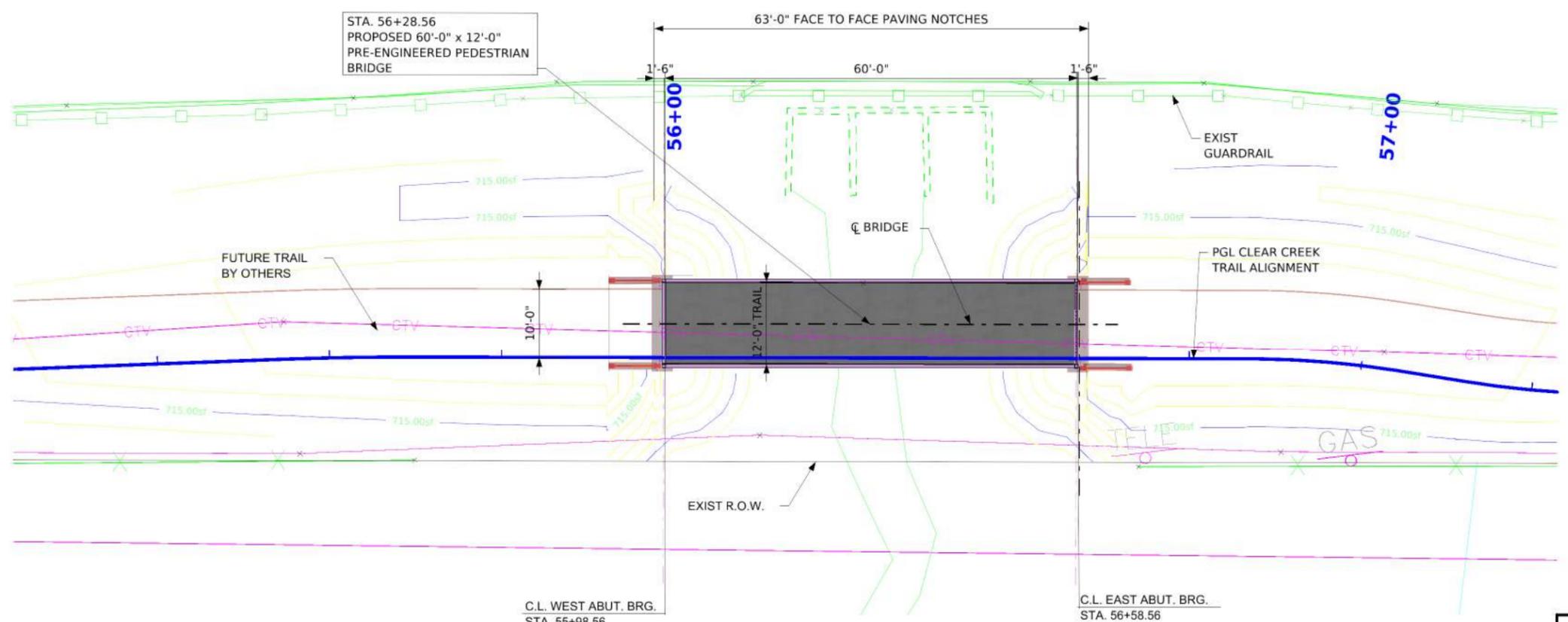
DRAINAGE AREA = 0.22 SQ. MI.
 STREAM SLOPE = 0.009 FT./FT.
 AVG. LOW WATER STAGE = 706.28

$Q_{10} = 481$ CFS
 STAGE = 713.24
 OPERATIONAL LOW BEAM = 716.02
 AVG. BRIDGE VELOCITY = 3.10 FPS

$Q_{20} = 587$ CFS
 STAGE = 713.74
 AVG. BRIDGE VELOCITY = 3.33 FPS

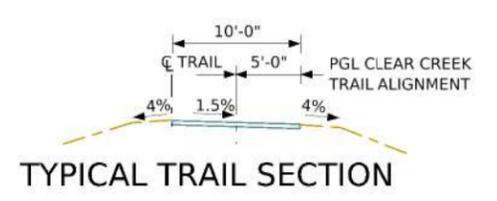
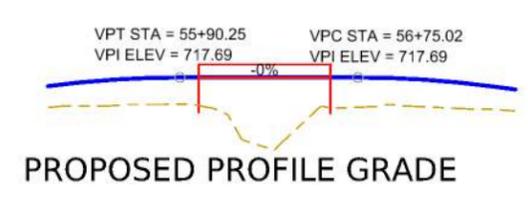
$Q_{50} = 703$ CFS
 STAGE = 714.24
 AVG. BRIDGE VELOCITY = 3.49 FPS

$Q_{100} = 869$ CFS



UTILITIES LEGEND

G - EXISTING GAS LINE
 T - EXISTING TELEPHONE LINE
 CTV - EXISTING CTV



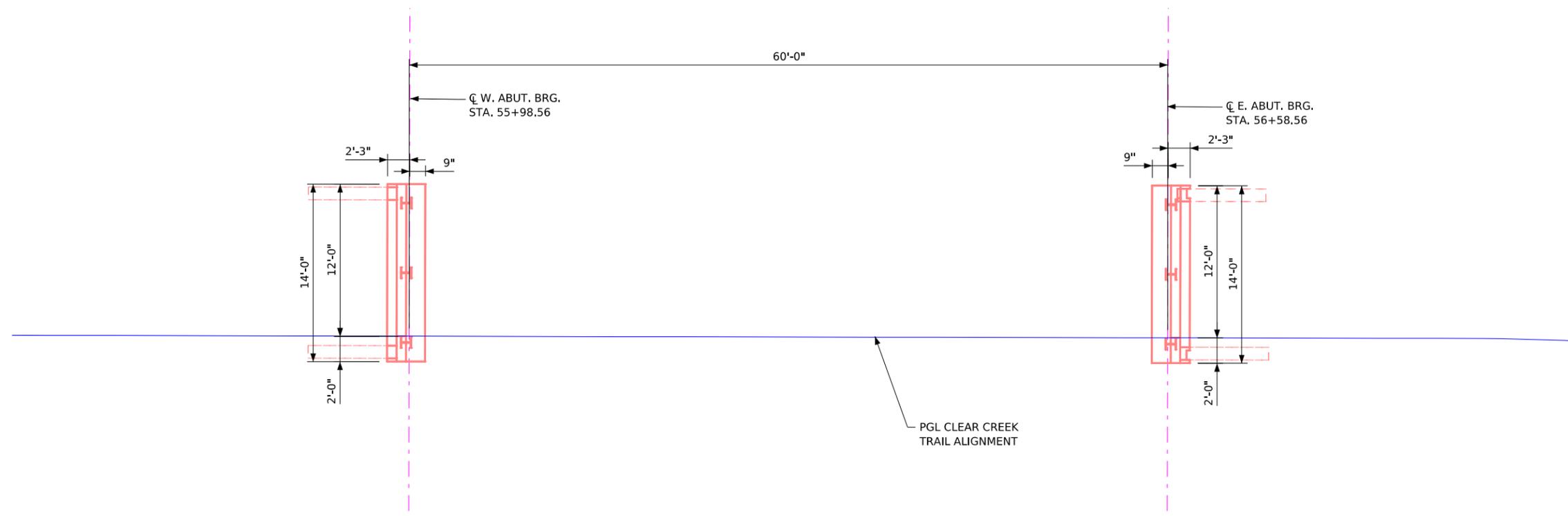
LOCATION
 JOHNSON COUNTY
 CLEAR CREEK TRAIL
 OVER UNNAMED CREEK
 T-80N R-07W
 SECTION 30

DESIGN FOR 0°SKEW

60'-0" x 12'-0" PRE-ENGINEERED PEDESTRIAN BRIDGE

WEST BRIDGE SITUATION PLAN
 STA. 56+28.56 CLEAR CREEK TRAIL
 JOHNSON COUNTY
 JANUARY, 2026

DESIGN SHEET NO. 4 OF 14



STAKING PLAN



West Bridge Coordinates				
Point Location	Northing	Easting	Base line Station	Base line Offset
West_Abut_Lt	629700.284	2127709.519	55+98.56	-12.00
West_Abut_PGL	629688.372	2127708.073	55+98.56	0.00
West_Abut_Rt	629686.386	2127707.832	55+98.56	2.00
East_Abut_Lt	629693.056	2127769.081	56+58.56	-12.00
East_Abut_PGL	629681.143	2127767.635	56+58.56	0.00
East_Abut_Rt	629679.158	2127767.395	56+58.56	2.00

DESIGN FOR 0°SKEW

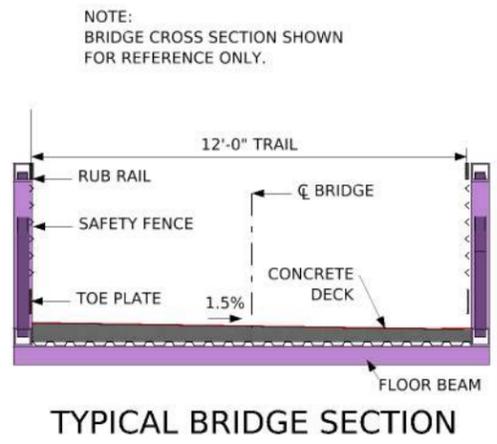
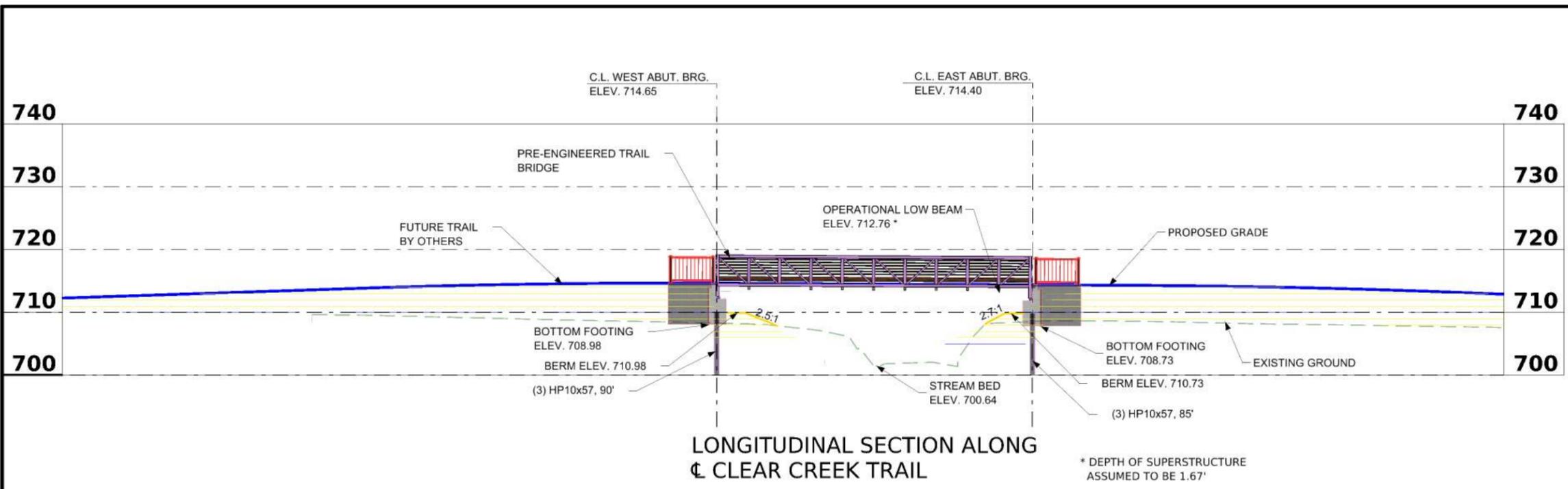
**60'-0" x 12'-0" PRE-ENGINEERED
PEDESTRIAN BRIDGE**

WEST BRIDGE STAKING PLAN

STA. 56+28.56 CLEAR CREEK TRAIL JANUARY, 2026

JOHNSON COUNTY

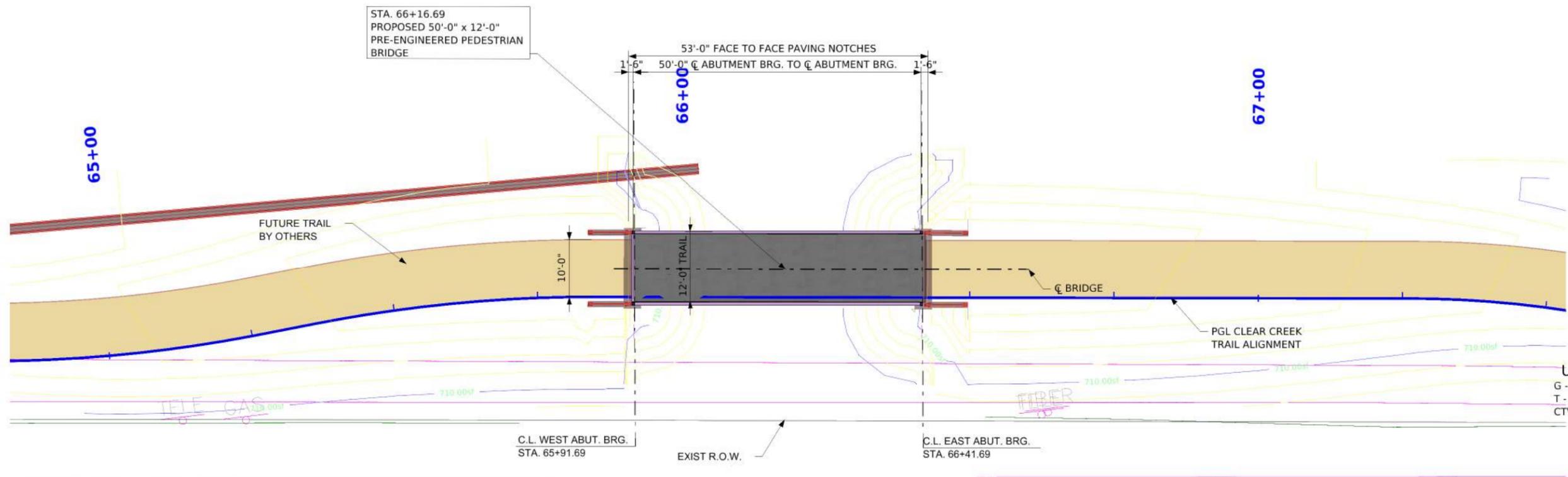
DESIGN SHEET NO. 5 OF 14



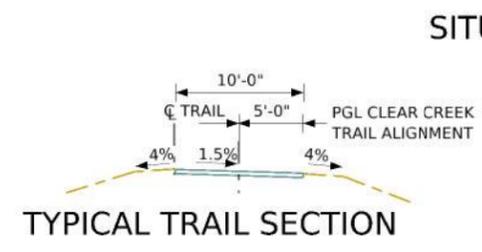
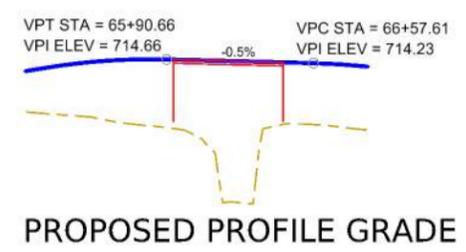
HYDRAULIC DATA
 DRAINAGE AREA = 0.93 SQ. MI.
 STREAM SLOPE = 0.007 FT./FT.
 AVG. LOW WATER STAGE = 701.59

$Q_{10} = 445$ CFS
 STAGE = 708.28
 OPERATIONAL LOW BEAM = 712.76
 AVG. BRIDGE VELOCITY = 3.59 FPS

$Q_{25} = 534$ CFS
 STAGE = 708.86
 AVG. BRIDGE VELOCITY = 3.61 FPS

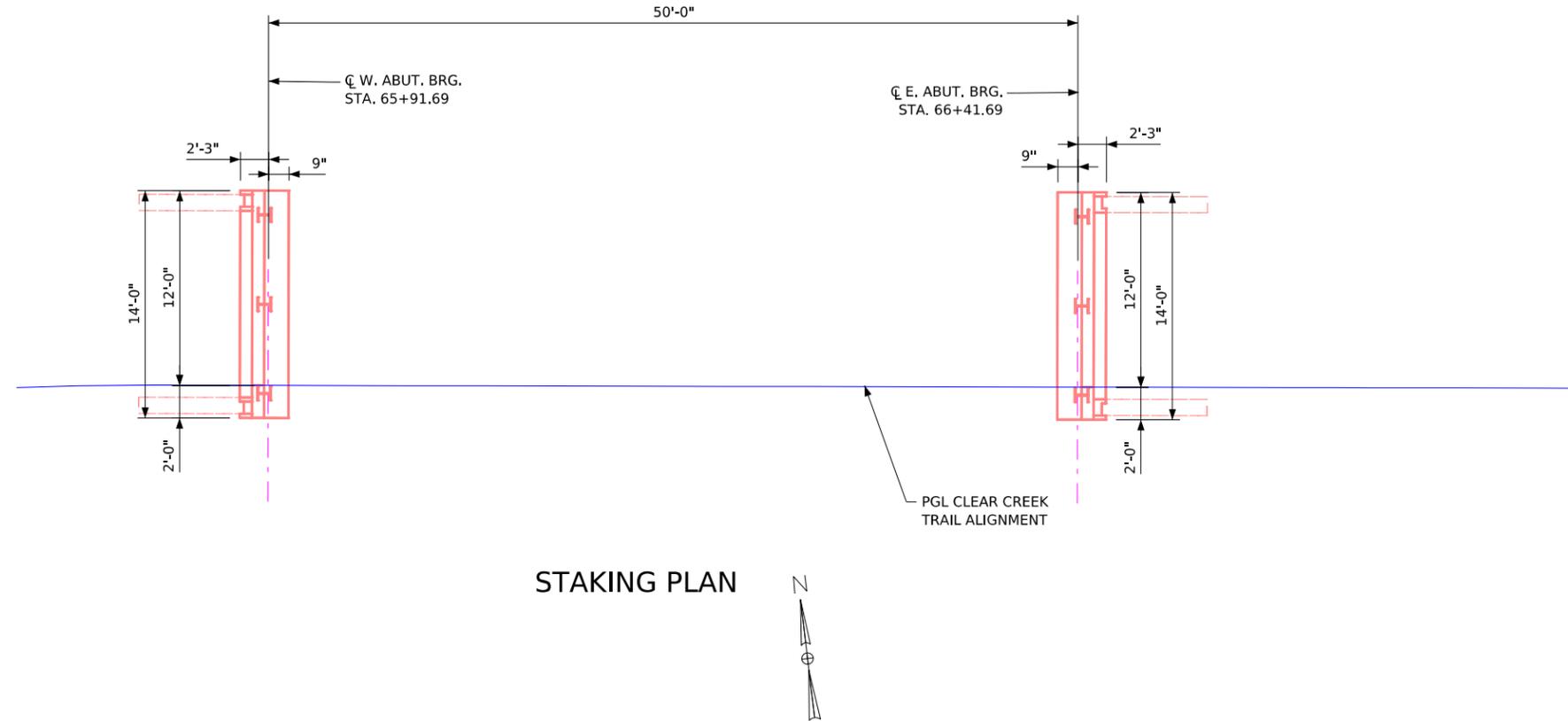


UTILITIES LEGEND
 G - EXISTING GAS LINE
 T - EXISTING TELEPHONE LINE
 CTV - EXISTING CTV



LOCATION
 JOHNSON COUNTY
 CLEAR CREEK TRAIL
 OVER PIG RUN
 T-80N R-07W
 SECTION 30

DESIGN FOR 0° SKEW
50'-0" x 12'-0" PRE-ENGINEERED PEDESTRIAN BRIDGE
MIDDLE BRIDGE SITUATION PLAN
 STA. 66+16.69 CLEAR CREEK TRAIL
JOHNSON COUNTY
 JANUARY, 2026
 DESIGN SHEET NO. 6 OF 14



STAKING PLAN



Middle Bridge Coordinates				
Point Location	Northing	Easting	Base line Station	Base line Offset
West_Abut_Lt	629587.065	2128695.084	65+91.69	-12.00
West_Abut_PGL	629575.152	2128693.639	65+91.69	0.00
West_Abut_Rt	629573.167	2128693.398	65+91.69	2.00
East_Abut_Lt	629581.041	2128744.720	66+41.69	-12.00
East_Abut_PGL	629569.128	2128743.274	66+41.69	0.00
East_Abut_Rt	629567.143	2128743.033	66+41.69	2.00

DESIGN FOR 0°SKEW

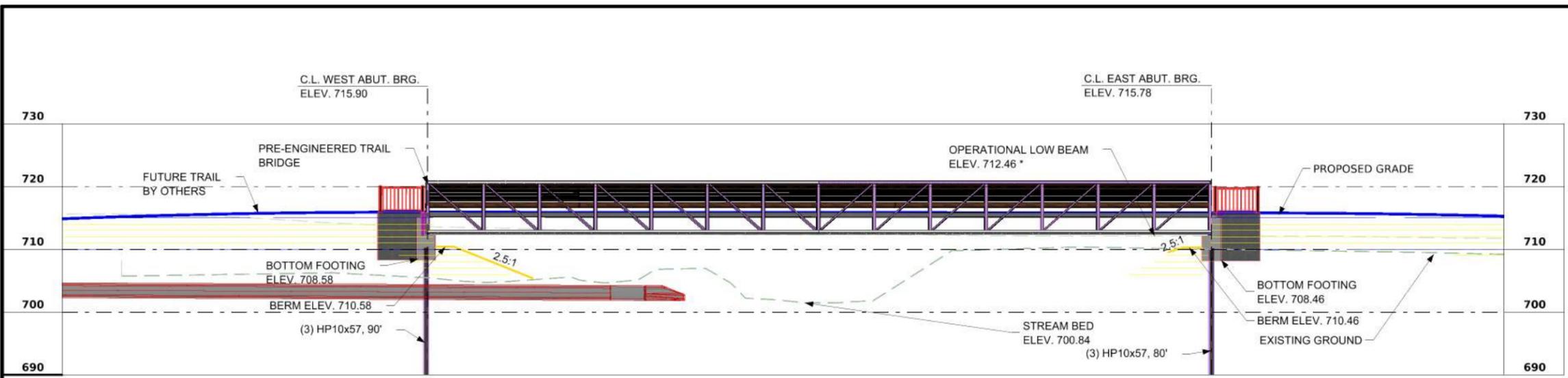
50'-0" x 12'-0" PRE-ENGINEERED PEDESTRIAN BRIDGE

MIDDLE BRIDGE STAKING PLAN

STA. 66+16.69 CLEAR CREEK TRAIL JANUARY, 2026

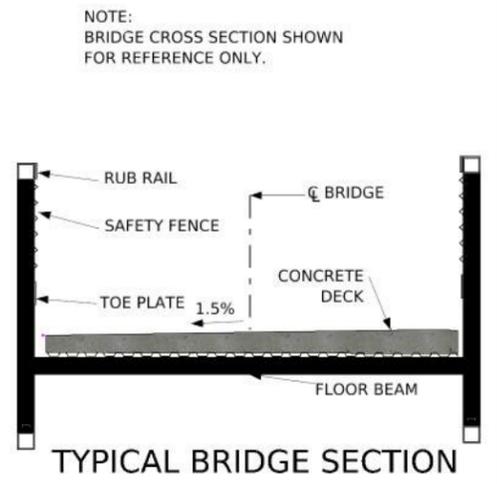
JOHNSON COUNTY

DESIGN SHEET NO. 7 OF 14

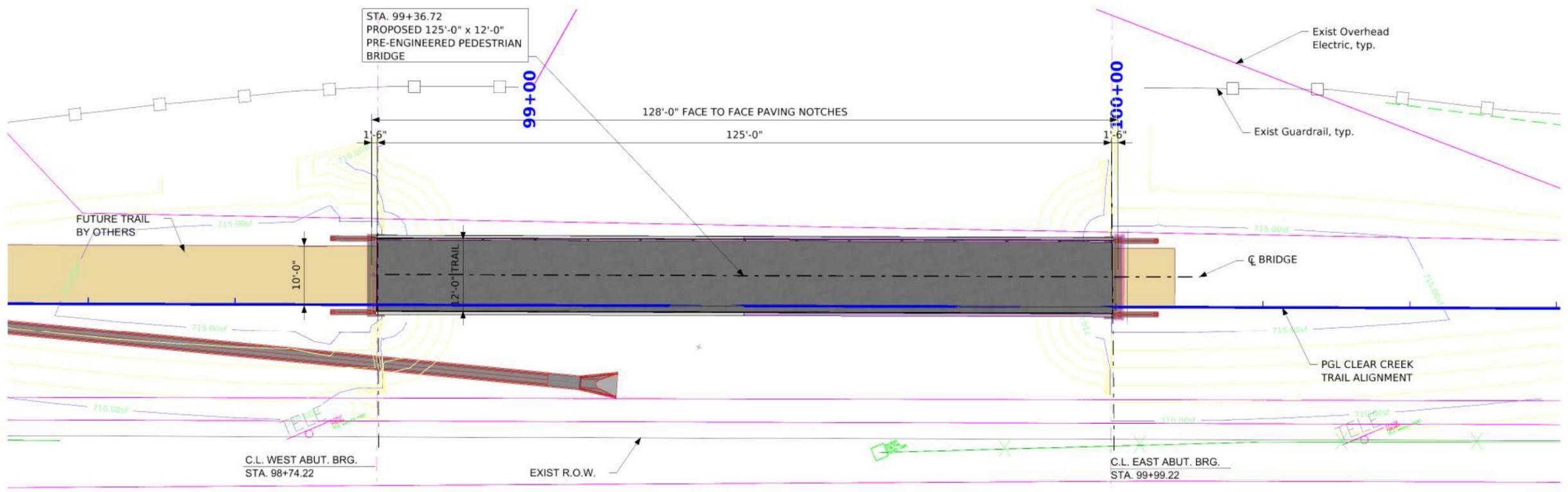


LONGITUDINAL SECTION ALONG
 CLEAR CREEK TRAIL

* DEPTH OF SUPERSTRUCTURE
 ASSUMED TO BE 3.32'



NOTE:
 BRIDGE CROSS SECTION SHOWN
 FOR REFERENCE ONLY.



HYDRAULIC DATA

DRAINAGE AREA = 7.62 SQ. MI.
 STREAM SLOPE = 0.003 FT./FT.

$Q_{10} = 3,190$ CFS
 STAGE = 711.84
 OPERATIONAL LOW BEAM = 712.46

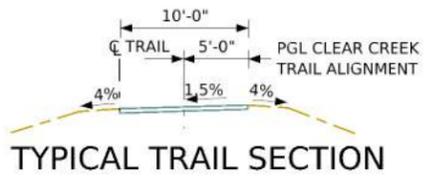
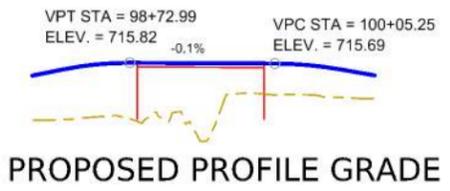
$Q_{50} = 3,790$ CFS
 STAGE = 712.19

$Q_{100} = 4,920$ CFS
 STAGE = 714.33
 AVG. BRIDGE VELOCITY = 6.0 FPS

$Q_{200} = 5,410$ CFS

UTILITIES LEGEND

G - EXISTING GAS LINE
 T - EXISTING TELEPHONE LINE
 CTV - EXISTING CTV



SITUATION PLAN

LOCATION
 JOHNSON COUNTY
 CLEAR CREEK TRAIL
 OVER BUFFALO CREEK
 T-80N R-07W
 SECTION 30

DESIGN FOR 0° SKEW

**125'-0" x 12'-0" PRE-ENGINEERED
 PEDESTRIAN BRIDGE**

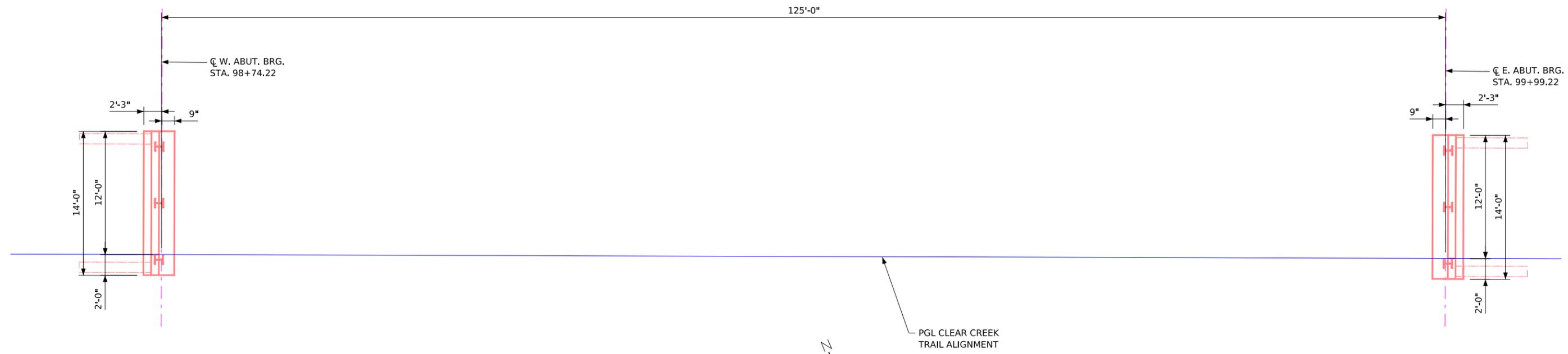
EAST BRIDGE SITUATION PLAN

STA. 99+36.72 CLEAR CREEK TRAIL

JOHNSON COUNTY

JANUARY, 2026

DESIGN SHEET NO. 8 OF 14



STAKING PLAN



East Bridge Coordinates				
Point Location	Northing	Easting	Base line Station	Base line Offset
West_Abut_Lt	628966.437	2131904.340	98+74.22	-12.00
West_Abut_PGL	628955.380	2131899.676	98+74.22	0.00
West_Abut_Rt	628953.537	2131898.899	98+74.22	2.00
East_Abut_Lt	628917.853	2132019.512	99+99.22	-12.00
East_Abut_PGL	628906.796	2132014.848	99+99.22	0.00
East_Abut_Rt	628904.953	2132014.071	99+99.22	2.00

DESIGN FOR 0°SKEW

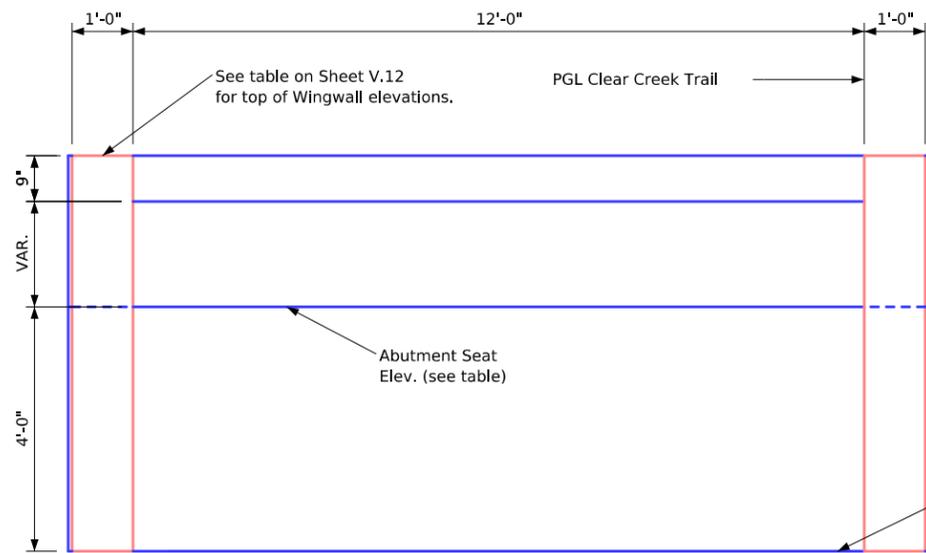
125'-0" x 12'-0" PRE-ENGINEERED PEDESTRIAN BRIDGE

EAST BRIDGE STAKING PLAN

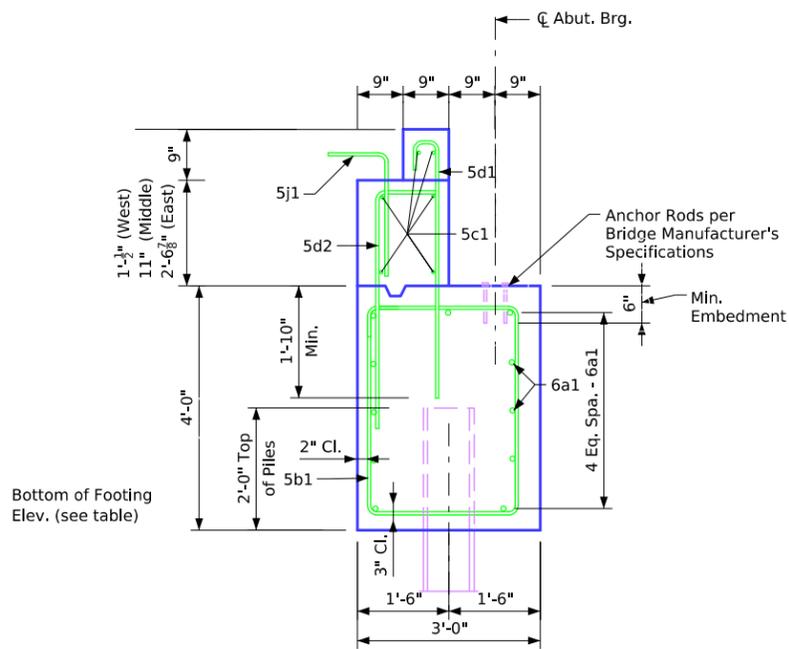
STA. 99+36.72 CLEAR CREEK TRAIL JANUARY, 2026

JOHNSON COUNTY

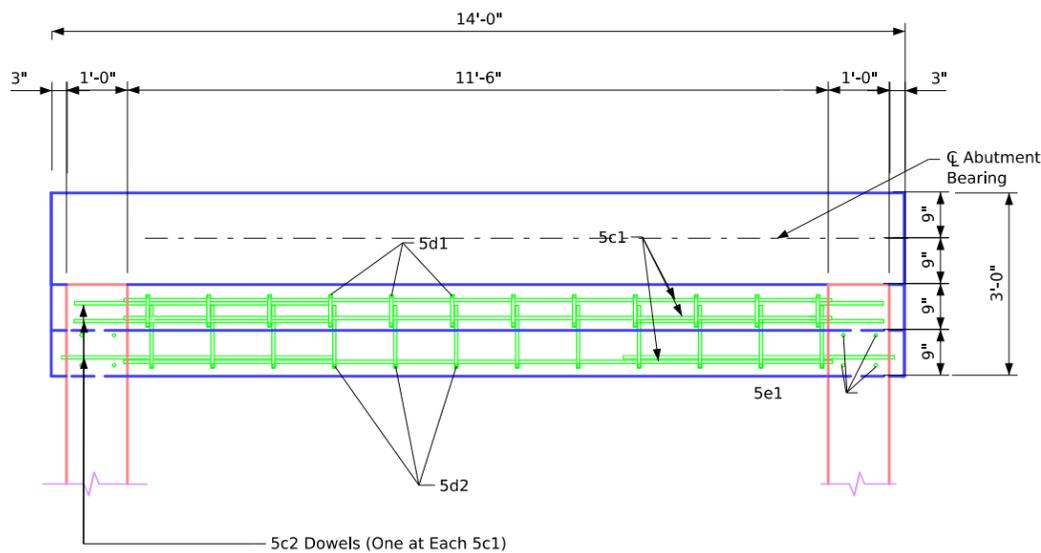
DESIGN SHEET NO. 9 OF 14



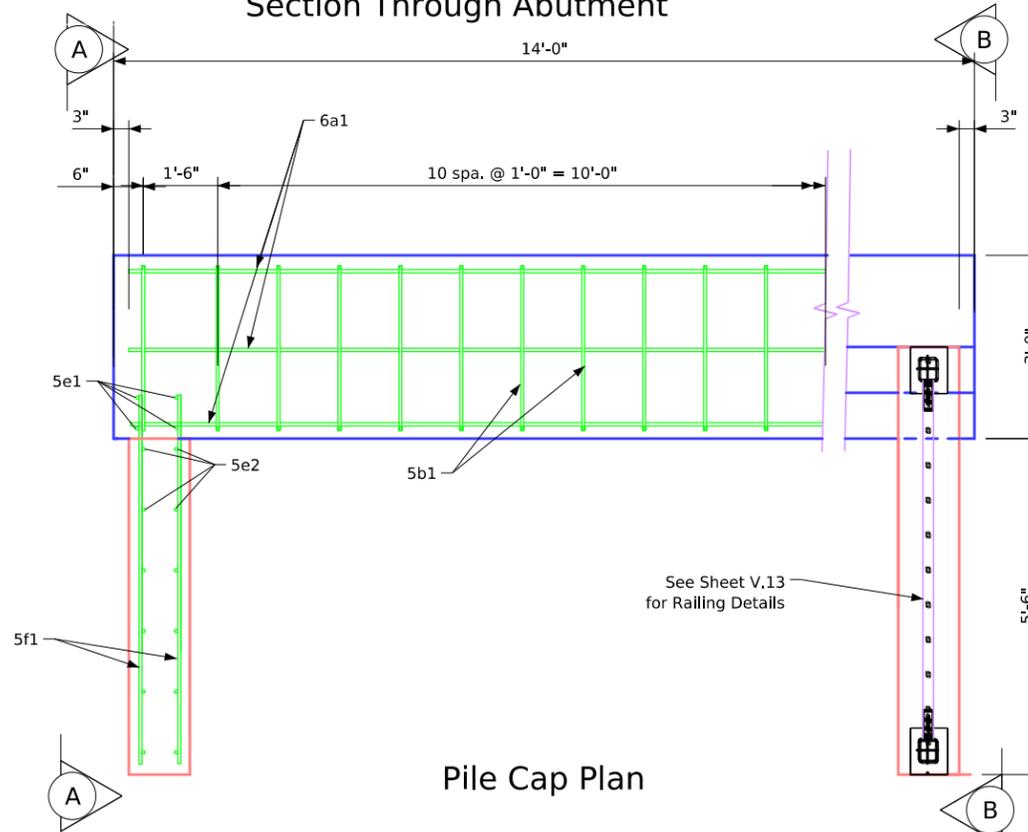
Rear Elevation



Section Through Abutment



Abutment Plan

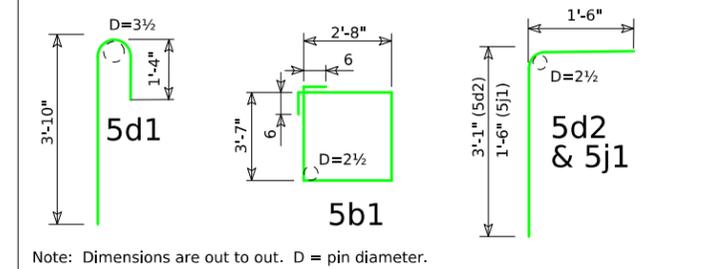


Pile Cap Plan

REINFORCING STEEL - ONE ABUTMENT

MARK	LOCATION	SHAPE	LENGTH	NO.	WEIGHT
6a1	Abutment Footing Longit.		13'-6"	11	223
5b1	Abutment Footing Hoops		13'-6"	14	197
5c1	Backwall Longit.		11'-6"	6	72
5c2	Backwall to Wing Dowels		4'-5"	12	55
5d1	Backwall Vertical		5'-2"	12	65
5d2	Backwall Vertical		4'-7"	12	57
5e1	Wingwall Vertical		5'-3"	8	44
5e2	Wingwall Vertical		6'-0"	24	150
5f1	Wingwall Longit.		6'-0"	20	125
5j1	Approach Sidewalk Slab Dowels		3'-0"	12	38
REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)					1026

BENT BAR DETAILS



Note: Dimensions are out to out. D = pin diameter.

ESTIMATED QUANTITIES - ONE ABUT.

LOCATION	UNIT	QUANTITY
Structural Concrete (Bridge), West Bridge*	C.Y.	10.7
Structural Concrete (Bridge), Middle Bridge*	C.Y.	10.6
Structural Concrete (Bridge), East Bridge*	C.Y.	11.9
Reinforcing Steel Epoxy Coated	LBS.	1026

* Includes 2 wingwalls @ 1.68 CY

ABUTMENT NOTES:

The minimum clear distance from the face of the concrete to near reinforcing bar is to be 2 inches unless otherwise noted or shown.

All reinforcing steel is to be grade 60.

Note: See Sheet V.12 for wingwall sections A-A and B-B

Abutment Seat Elevations		
Bridge	West Abutment	East Abutment
West	715.90	715.90
Middle	712.98	712.73
East	712.58	712.46

Abutment Bottom of Footing Elevations		
Bridge	West Abutment	East Abutment
West	711.90	711.90
Middle	708.98	708.73
East	708.58	708.46

DESIGN FOR 0° SKEW
PEDESTRIAN BRIDGES
STEEL TRUSS
ABUTMENT DETAILS
 CLEAR CREEK TRAIL JANUARY, 2026
JOHNSON COUNTY

DESIGN SHEET NO. 10 OF 14

WEST BRIDGE

WEST ABUTMENT PILE DRIVING NOTES

THE CONTRACT LENGTH OF 85 FEET FOR THE WEST ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 32 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. TO ACCOUNT FOR SOIL CONSOLIDATION UNDER THE NEW FILL, THE FACTORED AXIAL LOAD INCLUDES A FACTORED DOWNDRAG LOAD OF 6 KIPS.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR WEST ABUTMENT PILES IS 36 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

EAST ABUTMENT PILE DRIVING NOTES

THE CONTRACT LENGTH OF 90 FEET FOR THE EAST ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 42 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. TO ACCOUNT FOR SOIL CONSOLIDATION UNDER THE NEW FILL, THE FACTORED AXIAL LOAD INCLUDES A FACTORED DOWNDRAG LOAD OF 16 KIPS.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR EAST ABUTMENT PILES IS 41 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

MIDDLE BRIDGE

WEST ABUTMENT PILE DRIVING NOTES

THE CONTRACT LENGTH OF 90 FEET FOR THE WEST ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 37 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. TO ACCOUNT FOR SOIL CONSOLIDATION UNDER THE NEW FILL, THE FACTORED AXIAL LOAD INCLUDES A FACTORED DOWNDRAG LOAD OF 13 KIPS.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR WEST ABUTMENT PILES IS 35 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

EAST ABUTMENT PILE DRIVING NOTES

THE CONTRACT LENGTH OF 85 FEET FOR THE EAST ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 31 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. TO ACCOUNT FOR SOIL CONSOLIDATION UNDER THE NEW FILL, THE FACTORED AXIAL LOAD INCLUDES A FACTORED DOWNDRAG LOAD OF 7 KIPS.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR EAST ABUTMENT PILES IS 27 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

EAST BRIDGE

WEST ABUTMENT PILE DRIVING NOTES

THE CONTRACT LENGTH OF 90 FEET FOR THE WEST ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 76 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. TO ACCOUNT FOR SOIL CONSOLIDATION UNDER THE NEW FILL, THE FACTORED AXIAL LOAD INCLUDES A FACTORED DOWNDRAG LOAD OF 29 KIPS.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

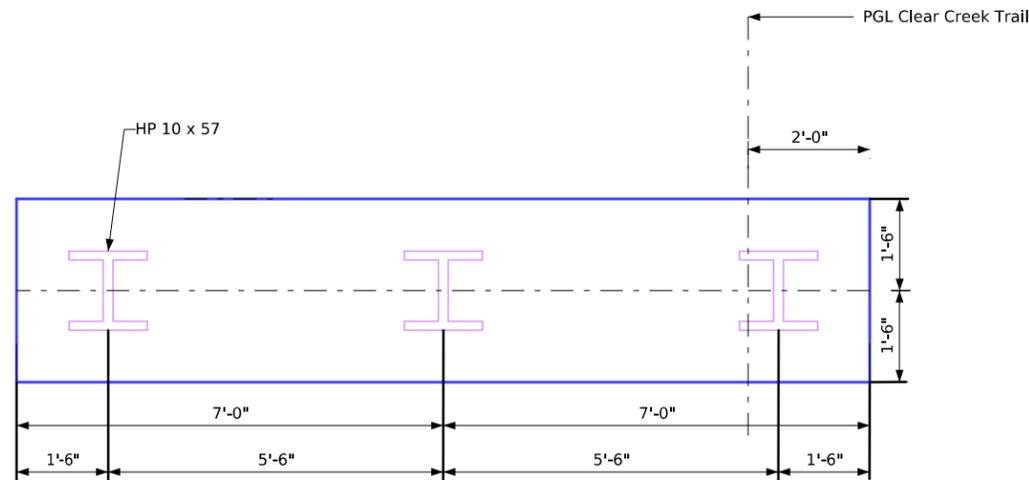
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR WEST ABUTMENT PILES IS 73 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

EAST ABUTMENT PILE DRIVING NOTES

THE CONTRACT LENGTH OF 80 FEET FOR THE EAST ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 53 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. TO ACCOUNT FOR SOIL CONSOLIDATION UNDER THE NEW FILL, THE FACTORED AXIAL LOAD INCLUDES A FACTORED DOWNDRAG LOAD OF 7 KIPS.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.7 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR EAST ABUTMENT PILES IS 44 TONS AT END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.



ABUTMENT PILING LAYOUT

ABUTMENT PILE NOTES:

3 - HP 10x57 steel bearing piling required at each abutment.

Details on this sheet are to be used only when abutments are placed on steel piles. If rock is encountered closer than 12' below abutment footing, special analysis may be required.

Steel abutment piles shall be driven to full penetration if practicable but in no case to a bearing value less than shown in design plans.

Abutment piling was designed for the greater of the following live loads:

1. 90 psf uniform live load on the full deck area.
2. One 20,000 lb vehicle load (HS10 Truck).

Dimensions shown on Piling Layout are at bottom of footing.

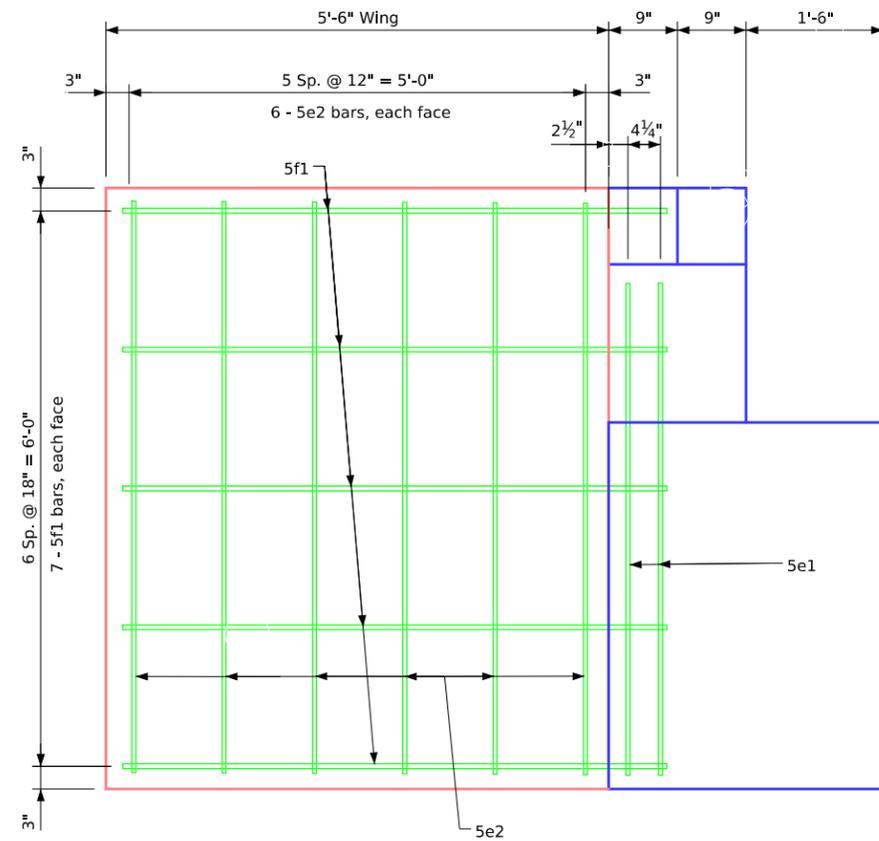
DESIGN FOR 0°SKEW
**PEDESTRIAN BRIDGES
 STEEL TRUSS**

ABUTMENT DETAILS
 CLEAR CREEK TRAIL
JOHNSON COUNTY

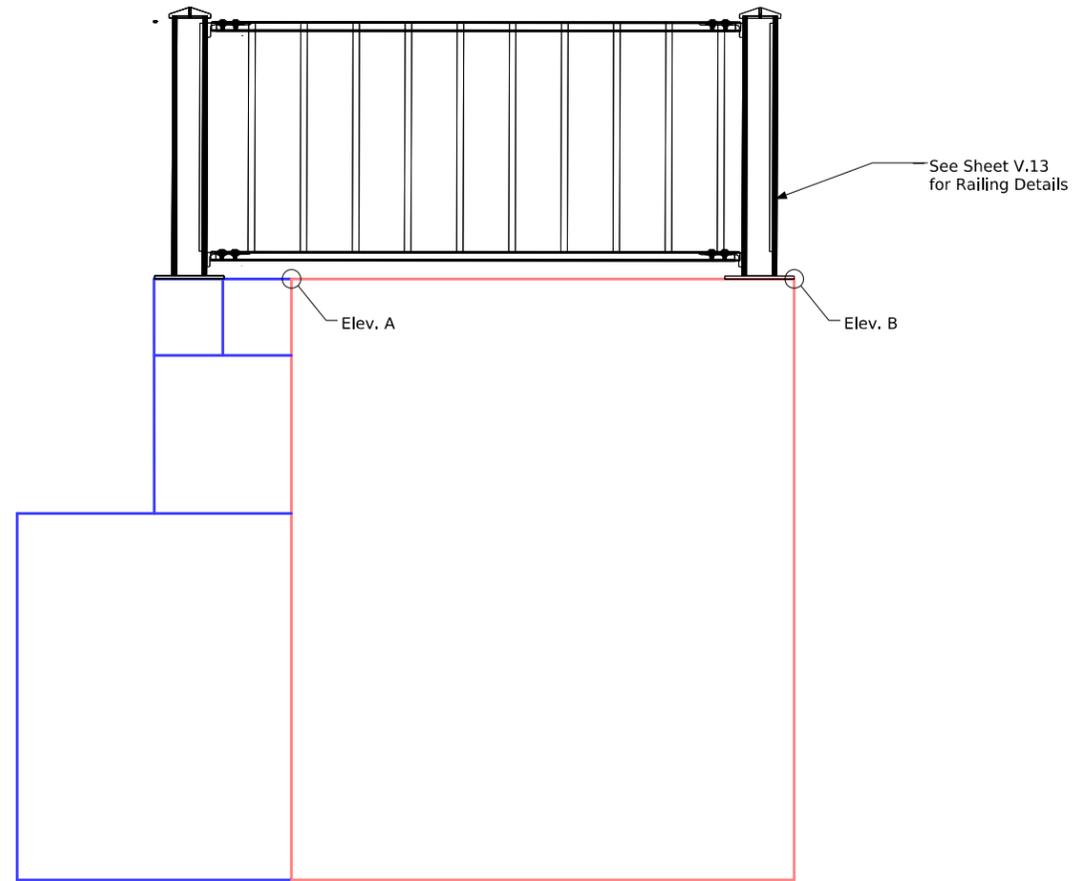
JANUARY, 2026

DESIGN SHEET NO. 11 OF 14

FILE NO.	ENGLISH	DESIGN TEAM	JOHNSON COUNTY	PROJECT NUMBER	SHEET NUMBER
2/19/2026	9925	Stanley Consultants Inc.	JOHNSON COUNTY	32284.01	V.11



View A-A

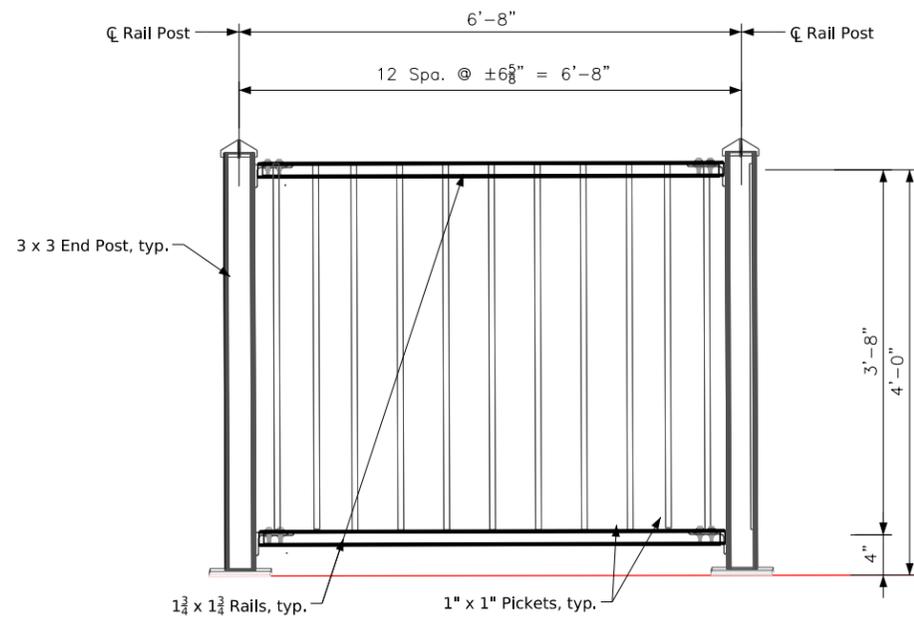


View B-B

Note: See Sheet V.10 for cut locations of sections A-A and B-B.

Table of Wingwall Elevations				
Bridge	West Abutment		East Abutment	
	Elev. A	Elev. B	Elev. A	Elev. B
West	Left 717.78	Left 717.78	Left 717.84	Left 717.84
	Right 717.70	Right 717.70	Right 717.71	Right 717.71
Middle	Left 714.85	Left 714.91	Left 714.55	Left 714.59
	Right 714.70	Right 714.66	Right 714.41	Right 714.37
East	Left 715.74	Left 715.73	Left 715.61	Left 715.61
	Right 715.89	Right 715.88	Right 715.76	Right 715.76

DESIGN FOR 0°SKEW
**PEDESTRIAN BRIDGES
 STEEL TRUSS**
WINGWALL DETAILS
 CLEAR CREEK TRAIL
JOHNSON COUNTY JANUARY, 2026
 DESIGN SHEET NO. 12 OF 14



Typical Rail Section

Ornamental Metal Rail Notes:

The railing is to be bid on a linear foot basis measured from C to C of end posts. The ornamental metal railing system shall be a 2-rail fence manufactured by the following approved manufacturers:

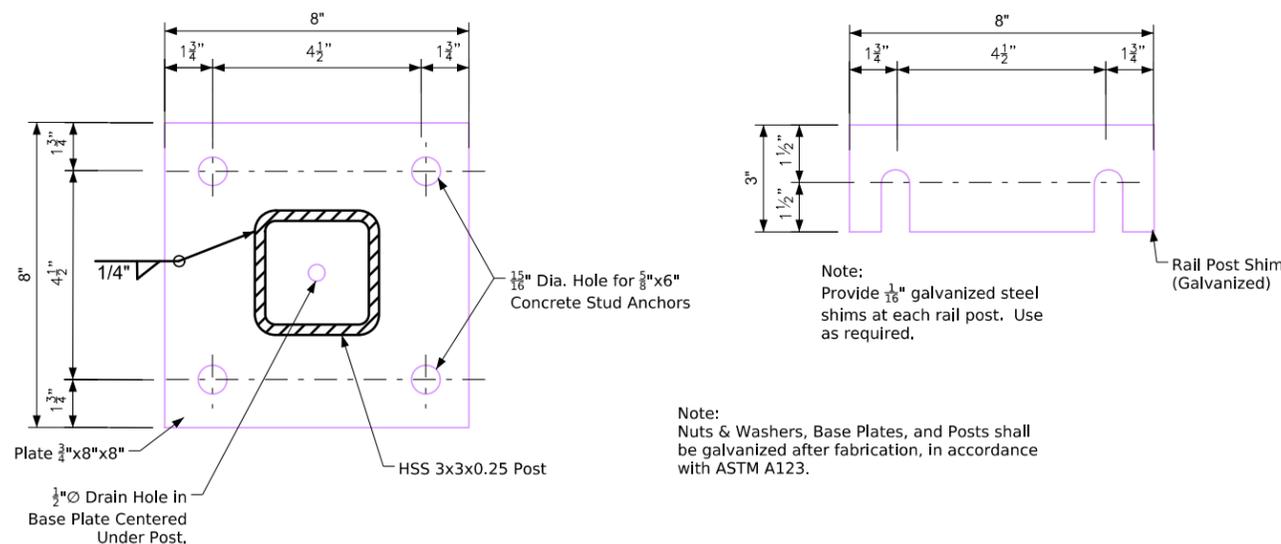
1. Ameristar Montage II "Majestic"
2. Master Halco Classic Premier Universal 2-Rail
3. Merchants Metal Guardsman Industrial "The Monroe"
4. Approved Equal

The contractor may submit alternate manufacturer's designs and panel layouts for approval. Alternate railing product submission shall be in general compliance with the railing geometry detailed on this plan and shall meet or exceed the load capacity and surface finish specifications for the Ameristar product. Alternate fence product submissions shall be designed by the manufacturer in accordance with AASHTO LRFD Bridge Design Specifications, Series of 2020. The price bid for "Ornamental Metal Railing" shall be full compensation for furnishing all material, including concrete anchors and shims, and all of the equipment and labor required to erect the fence in accordance with these plans and specifications.

Shop drawings shall be submitted for review by the engineer, railing materials shall not be ordered until approved shop drawings are returned to the contractor. Field cutting of panels will not be allowed.

The stud concrete anchors shall be galvanized and have a minimum pullout strength of 8000 pounds based on 4000 psi concrete. Base plates shall be provided by the railing manufacturer and shall be galvanized, after fabrication, in accordance with the requirements of ASTM A123. Base plates shall receive a powder coat finish to match the posts.

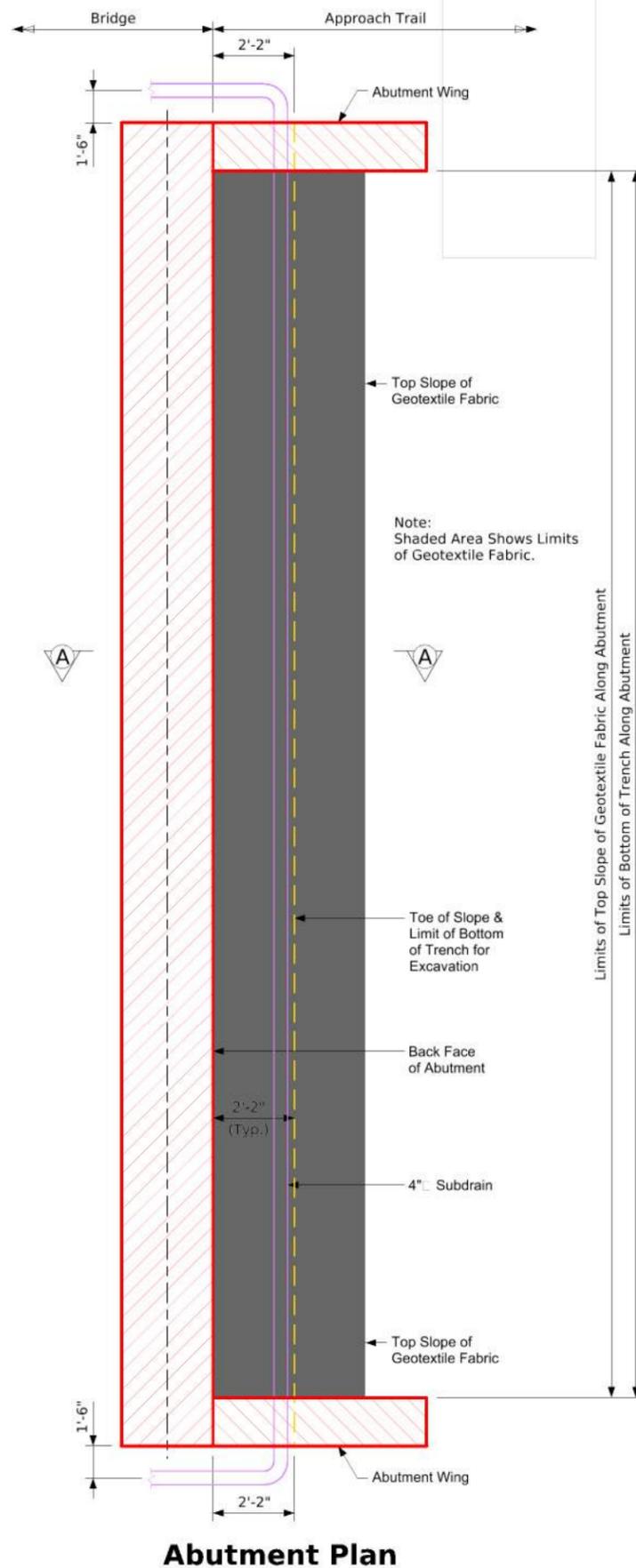
The railing shall be true to line and comply with the best practices for fence construction of this type. All posts shall be set vertical.



Post Base Plate and Shim Details

DESIGN FOR 0°SKEW
**PEDESTRIAN BRIDGES
 STEEL TRUSS**
Safety Rail Details
 CLEAR CREEK TRAIL JANUARY, 2026
JOHNSON COUNTY

DESIGN SHEET NO. 13 OF 14



Abutment Plan

Abutment Backfill Process:

The base of the excavation subgrade behind the abutment is to be graded with a 4% slope away from the abutment footing and a 2% cross slope in the direction of the subdrain outlet. This excavation shaping is to be done prior to beginning installation of the geotextile and backfill material.

After the subgrade has been shaped, the geotextile fabric shall be installed in accordance with the details shown. The fabric is intended to be installed in the base of the excavation and extended vertically up the abutment backwall, abutment wing walls, and excavation face to a height that will be approximately 1 to 2 ft higher than the height of the porous backfill placement as shown in the "Backfill Details" on this sheet. The strips of the fabric placed shall overlap approximately 1 ft and shall be pinned in place. The fabric shall be attached to the abutment by using lath folded in the fabric and secured to the concrete with shallow concrete nails. The fabric placed against the excavation face shall be pinned.

When the fabric is in place, the subdrain shall be installed directly on the fabric at the toe of the rear excavation slope. A slot will need to be cut in the fabric at the point where the subdrain exits the fabric near the end of the abutment wing wall.

Porous backfill is then placed and leveled, no compaction is required.

The remaining work involves backfilling with floodable backfill, surface flooding, and vibratory compaction. The floodable backfill material shall be in accordance with the Standard Specifications. The floodable backfill shall be placed in individual lifts, surface flooded, and compacted with vibratory compaction to ensure full consolidation. Limit the loose lifts to no more than 2 ft of thickness.

Start surface flooding for each floodable backfill lift at the high point of the subdrain and progress to the low point where the subdrain exits the fabric. To ensure uniform surface flooding, water running full in a 2"Ø hose should be sprayed in successive 6 ft to 8 ft increments for 5 minutes within each increment.

Floodable backfill lift placement, flooding, and compaction shall progress until the required full thickness of the abutment backfill has been completed.

Water required for flooding, subdrains, porous backfill, floodable backfill, and geotextile fabric furnished at the bridge abutments will not be measured separately for payment.

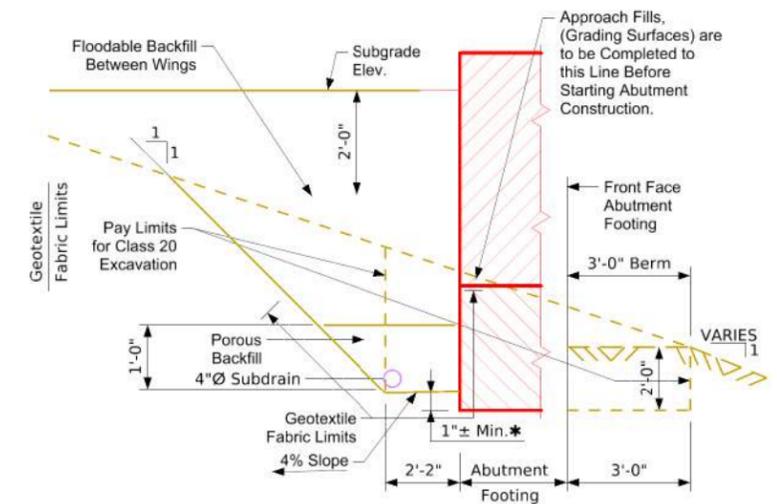
The cost of water required for flooding, subdrains, porous backfill, floodable backfill, and geotextile fabric furnished at the bridge abutments shall be included in the contract unit price bid for "Structural Concrete".

Note:

Subdrain shall slope downward 2% from centerline approach roadway when outletting both sides of the abutment.

Subdrain shall slope downward 2% from high end when outletting at one end of the abutment.

The geotextile fabric shall be in accordance with Article 4196.01, B, 6 of the Standard Specifications. If the engineering fabric is lapped the laps shall be a minimum of 1 ft in length, shingle fashion with up slope lap piece on top and stapled for continuity.



**Section A-A
Backfill Details**

Note: Geotextile Fabric will be Attached to Face of Abutment Footing and Wings.

* Dimension Varies Due to 2% Subdrain Slope.

DESIGN FOR 0°SKEW
**PEDESTRIAN BRIDGES
 STEEL TRUSS**
ABUTMENT BACKFILL DETAILS
 CLEAR CREEK TRAIL JANUARY, 2026
JOHNSON COUNTY
 DESIGN SHEET NO. 14 OF 14

CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
Aggregate			
(64)	Choke Stone	(8)	Behind Curb Cut
(42)	Engineering Fabric	(6)	Granular
(8)	Flooded Backfill	(13)	Granular Back Fill
(92)	Macadam Stone	(48)	Rock Undercut
(20)	Modified	(8)	Shoulder Earth Fill
(12)	Plowing Shaping	(2)	Side Slopes
(14)	Porous Backfill	(226)	Side Slopes Dressing
(8)	Revetment Class A	Substrata	
(6)	Revetment Class B	(128)	Boulder
(62)	Revetment Class C	(209)	Boulder Removed
(188)	Revetment Class D	(48)	Broken Weathered
(28)	Revetment Class E	(210)	Broken Weathered Removed
(12)	Shoulder Special Backfill	(3)	Core Out
(12)	Special Backfill	(115)	Core Out Remove Only
(20)	Subbase	(195)	Core Out Remove and Replace
(20)	Subbase Lower	(203)	Existing Pavement
(20)	Subbase Upper	(184)	Existing Pavement Remove Only
(118)	Subgrade Treatment	(200)	Existing Pavement Remove and Replace
Asphalt			
(207)	HMA Base Course	(6)	Loam
(207)	HMA Interim Course	(211)	Loam Removed
(207)	HMA Surface Course	(80)	Rock
Bridge			
(0)	Bridge	(212)	Rock Removed
Concrete			
(0)	Barrier Concrete	(4)	Select Sand
(0)	Barrier Concrete Footing	(214)	Select Sand Removed
(0)	Curb Gutter	(3)	Shale
(48)	Flowable Mortar	(215)	Shale Removed
(0)	Median Concrete	(10)	Topsoil
(0)	PCC Pavement	(2)	Topsoil Remove Only
(0)	Sidewalk	(4)	Topsoil Remove and Replace
Unsuitable / Waste			
(0)	Existing Pavement	(3)	Unsuitable Type A
Shoulder			
(209)	Shoulder HMA	(216)	Unsuitable Type A Removed
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(217)	Unsuitable Type B Removed
Structural			
(112)	Noise Wall	(11)	Unsuitable Type C
(112)	Noise Wall Footing	(218)	Unsuitable Type C Removed
(112)	Retaining Wall Back	(3)	Waste
(112)	Retaining Wall Back Excavate	(219)	Waste Removed
(112)	Retaining Wall Face		
(112)	Retaining Wall Front Excavate		
(112)	Retaining Wall Front Footing		
(112)	Retaining Wall MSE Gutter		
(112)	Retaining Wall Reinforced Earth		

NOTES:

Text

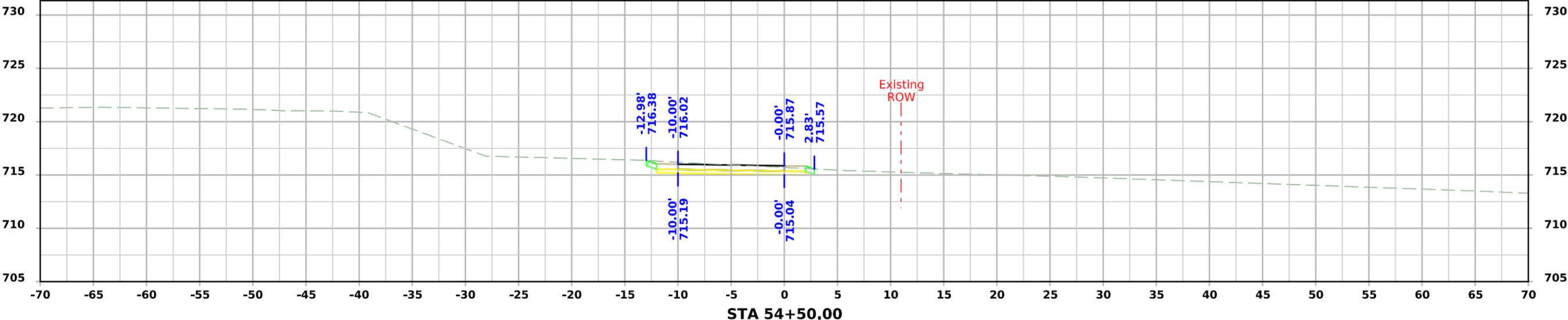
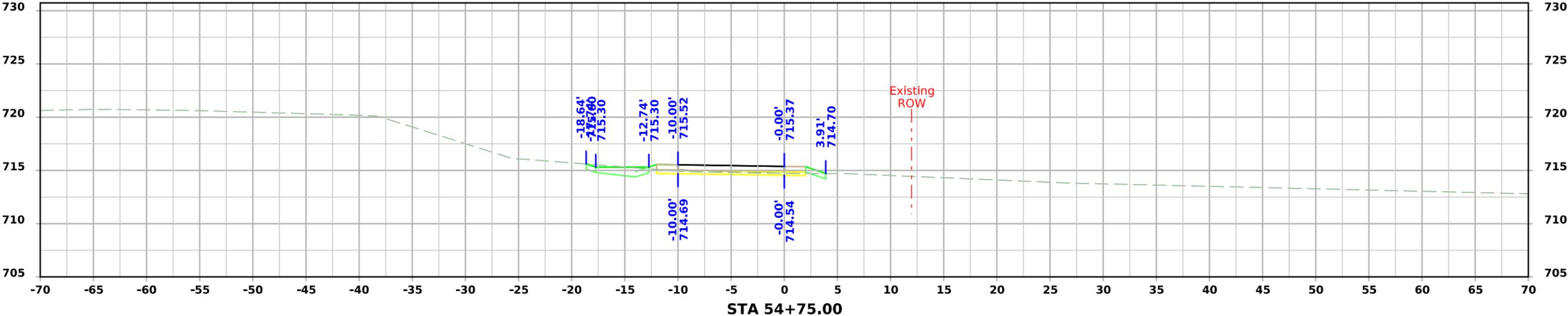
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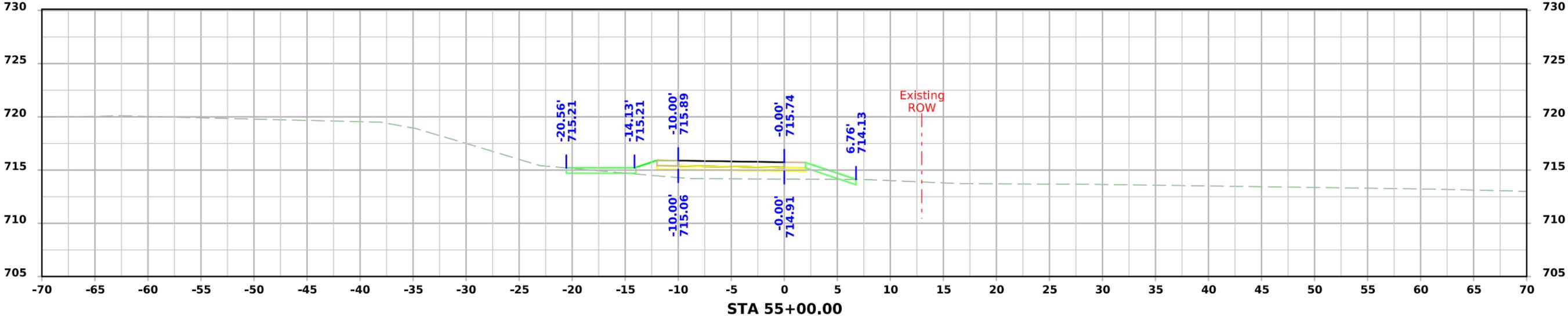
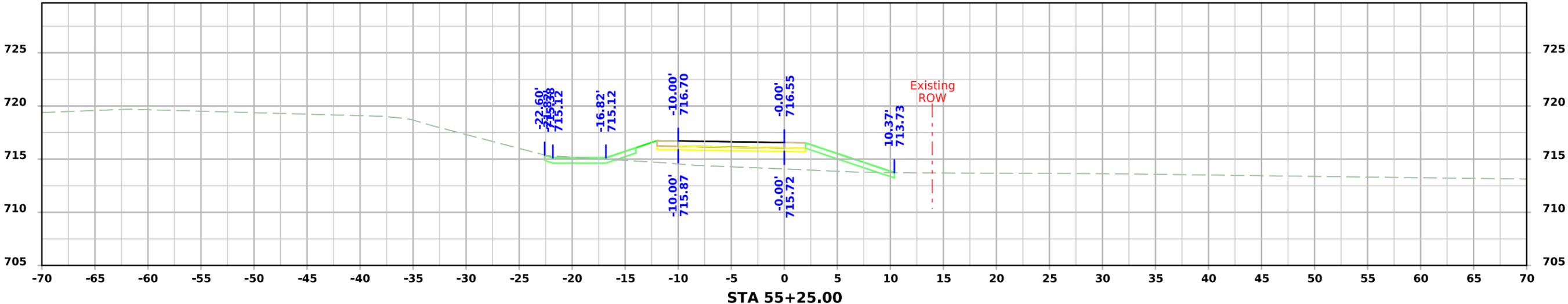
CROSS SECTIONS LEGEND AND INFORMATION SHEET

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

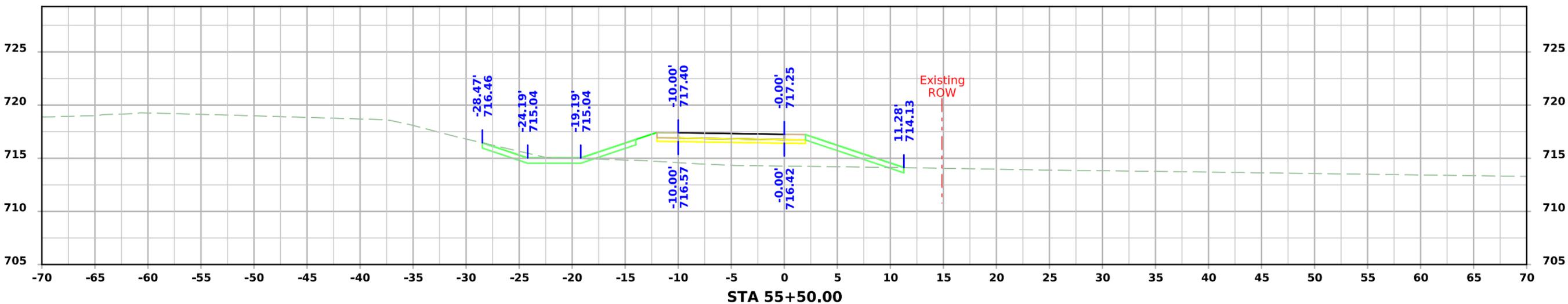
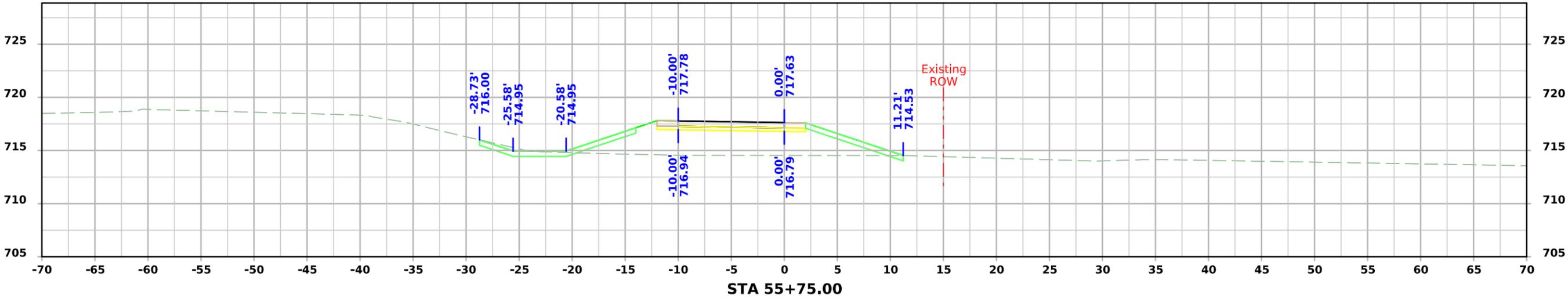
Clear Creek Trail Phase 2



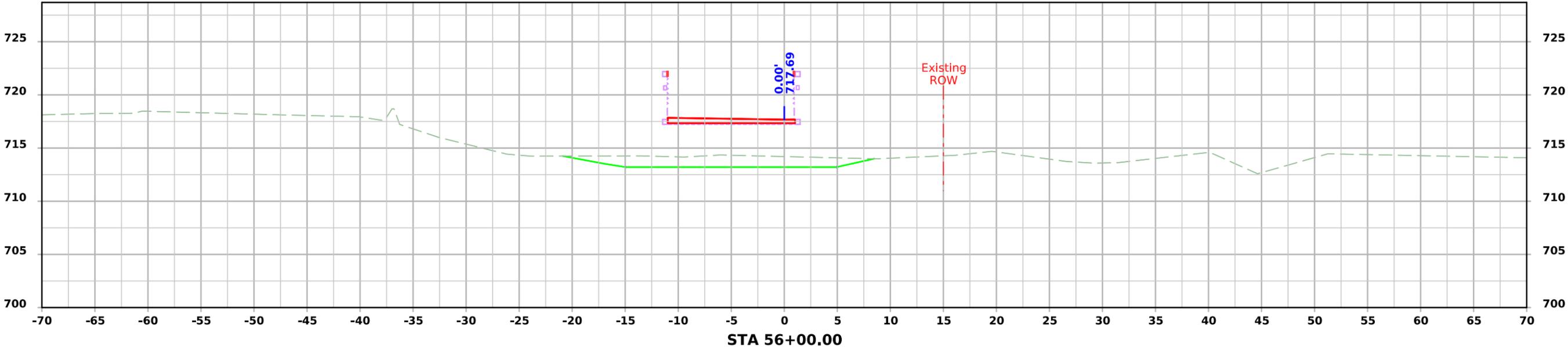
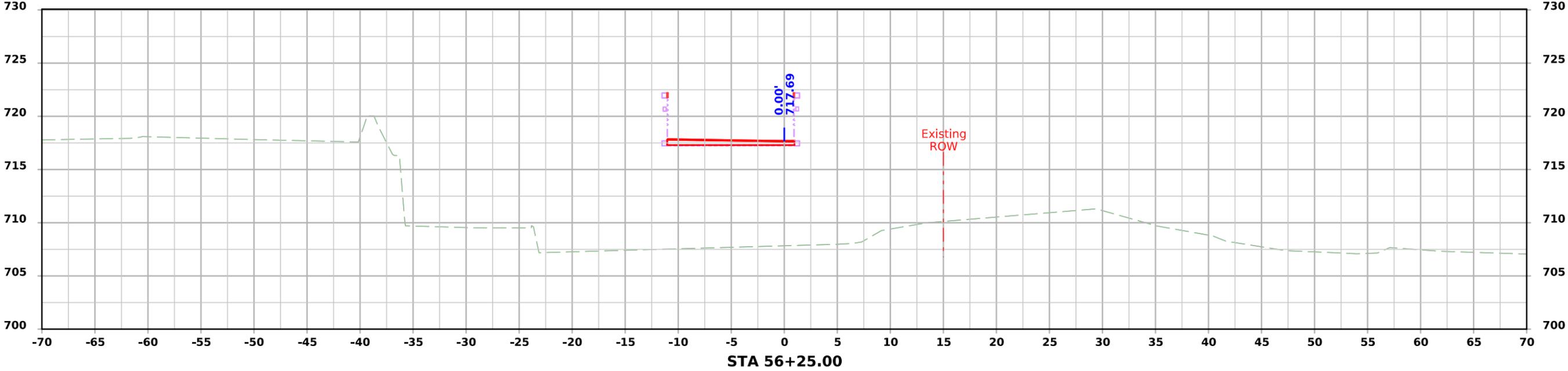
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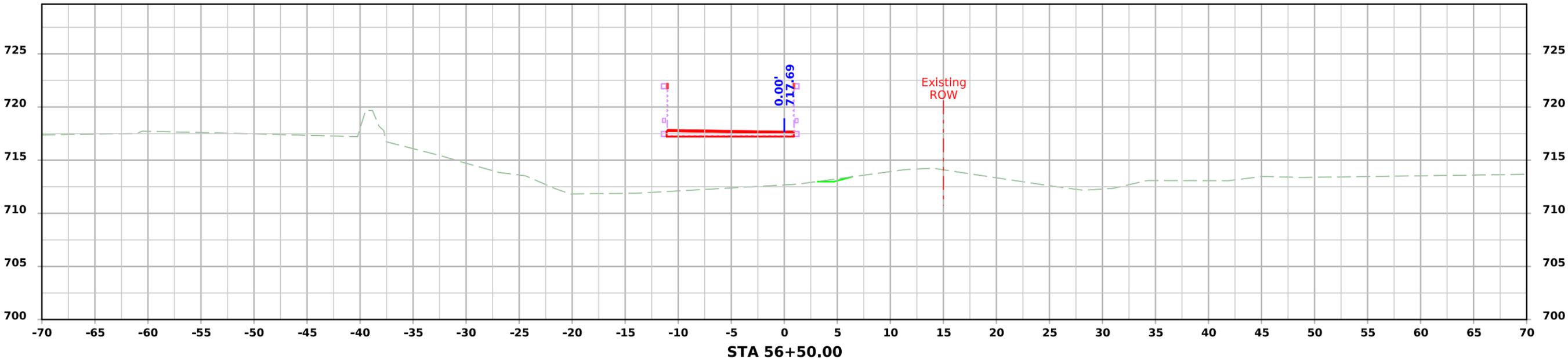
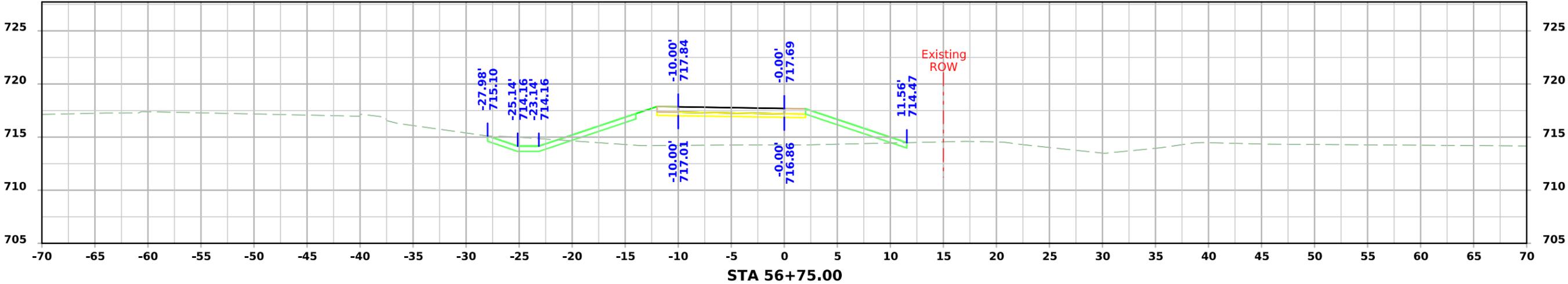
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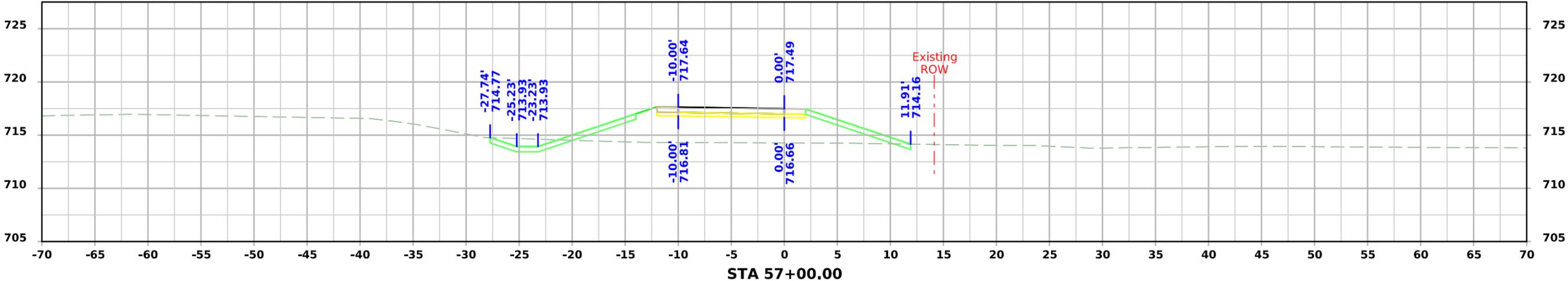
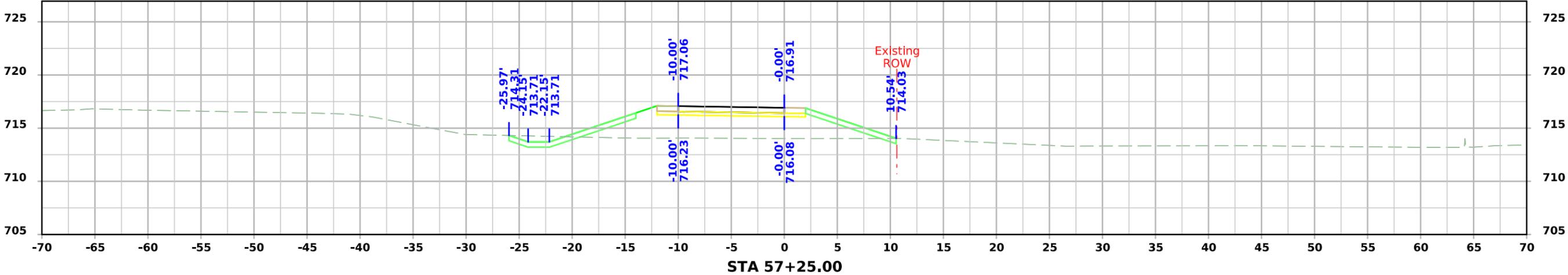
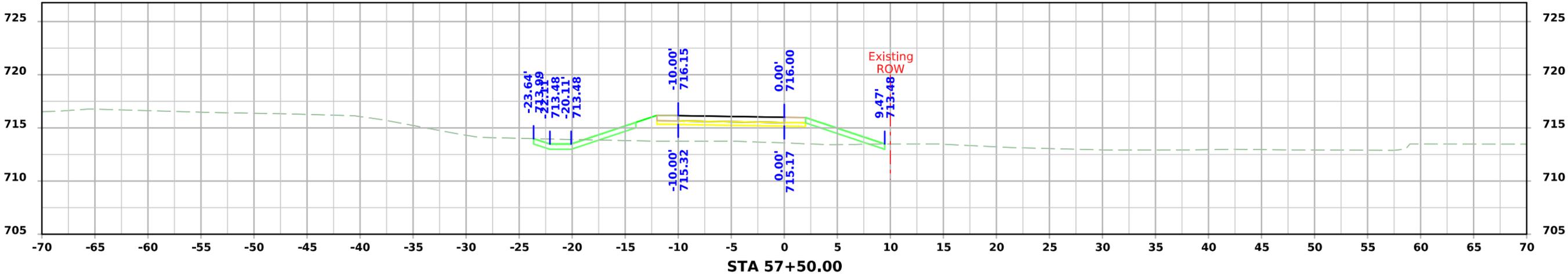
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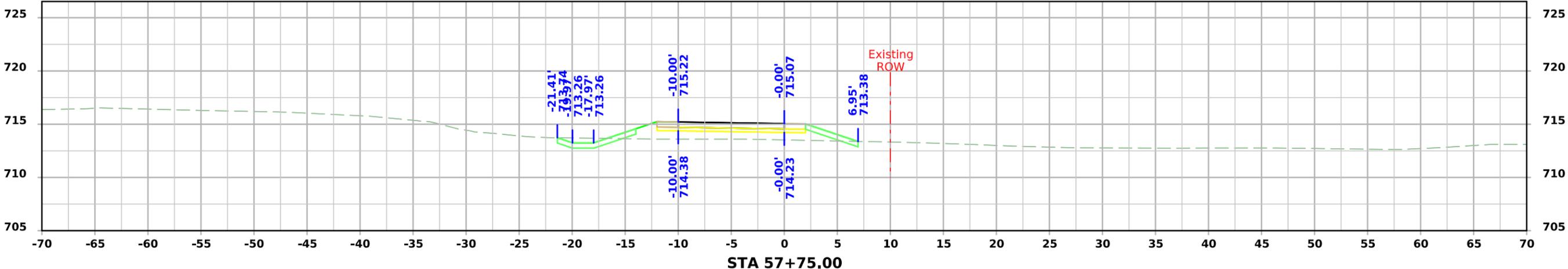
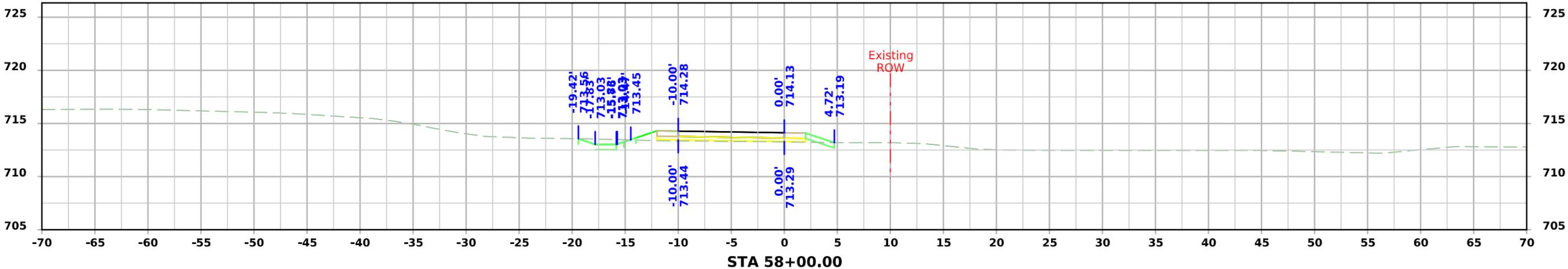
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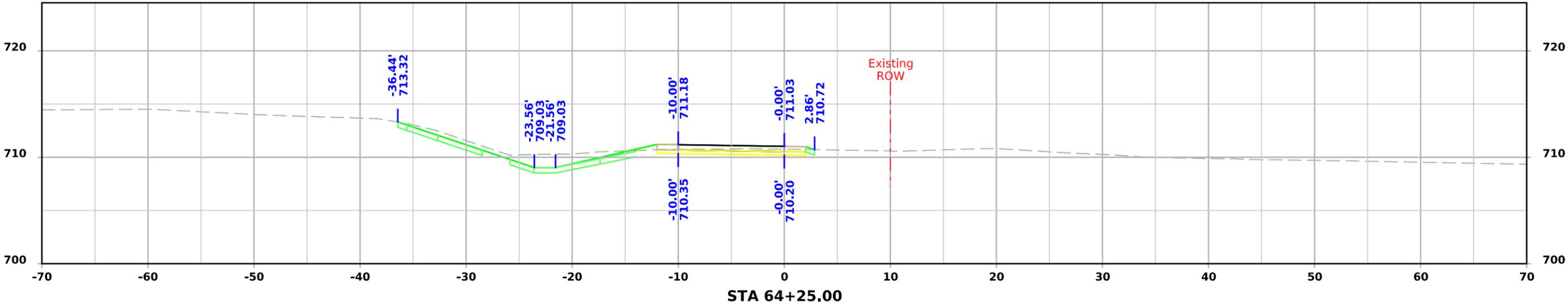
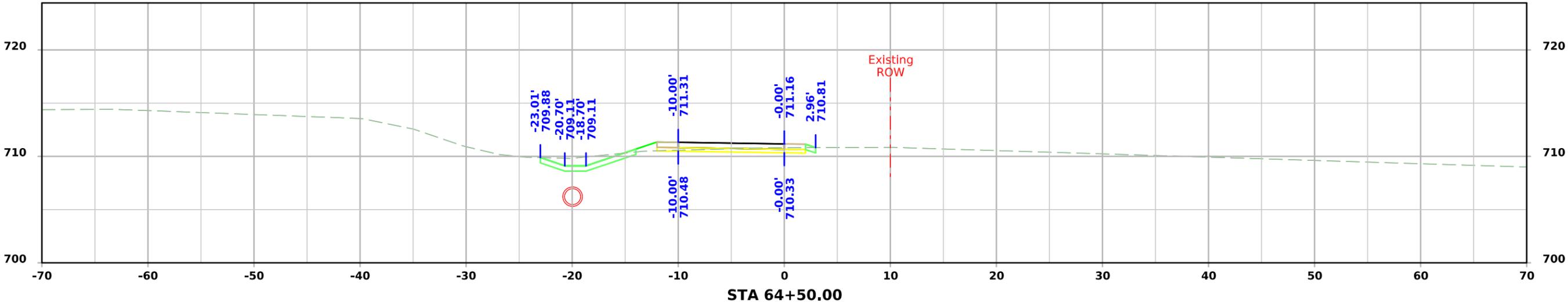
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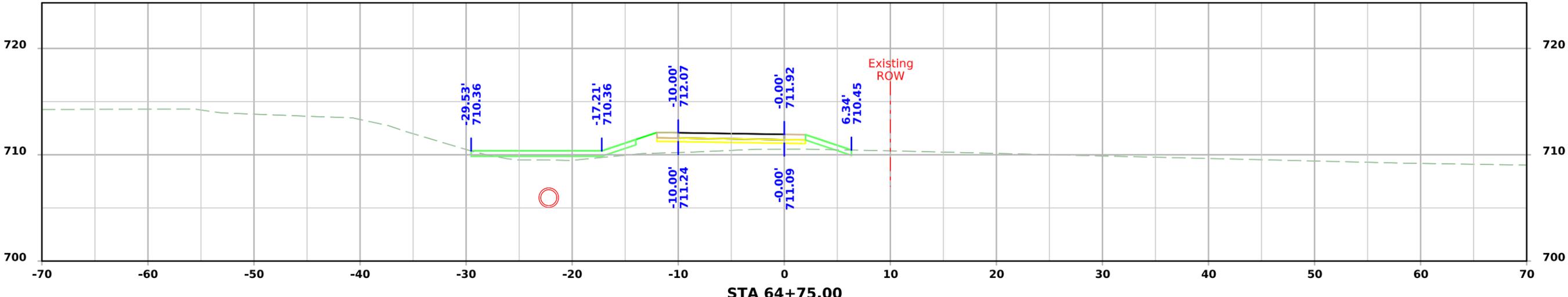
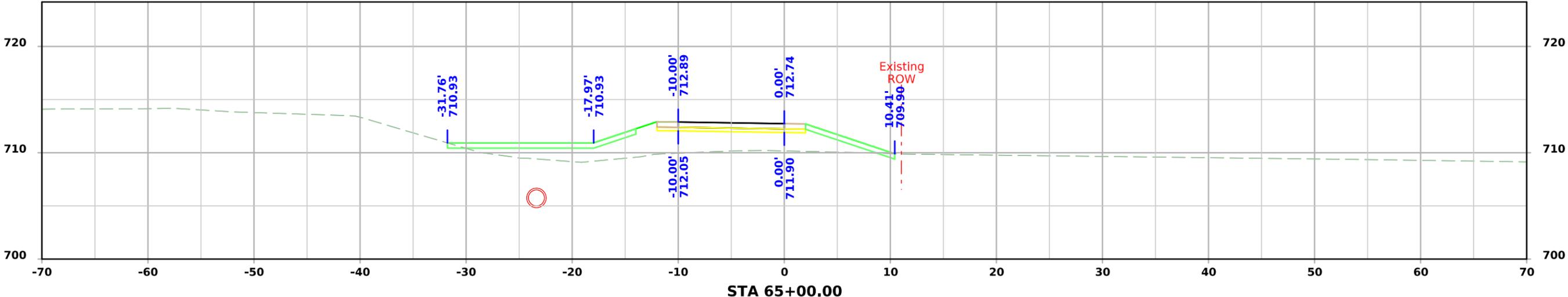
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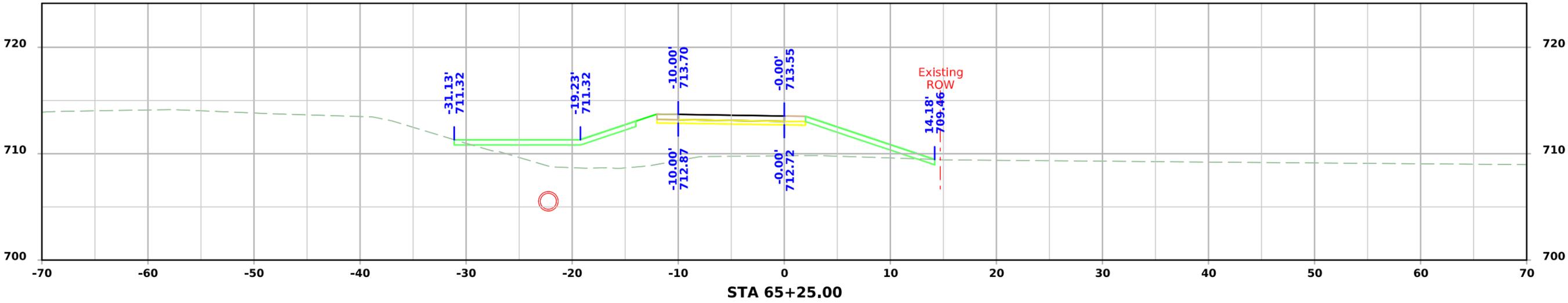
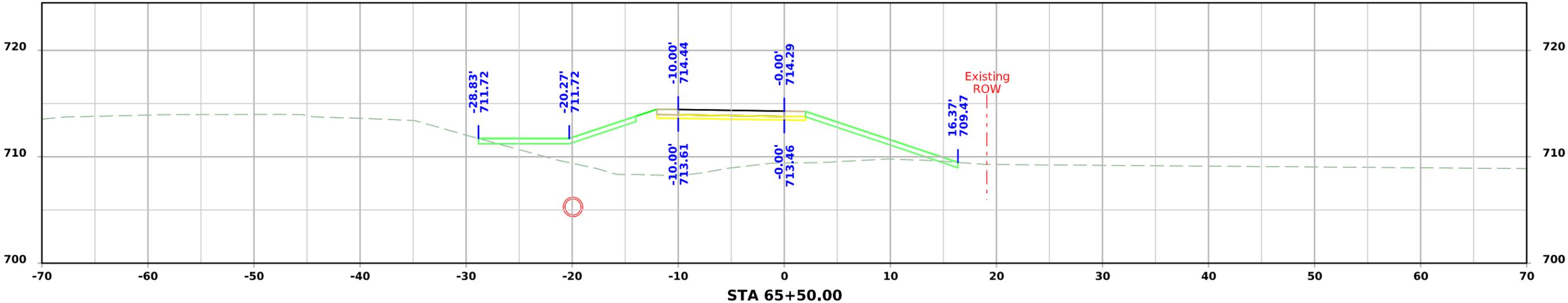
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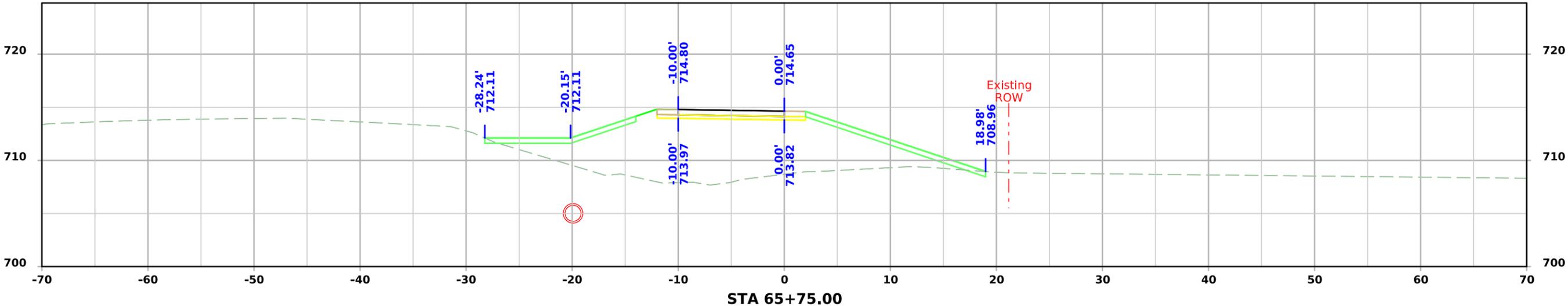
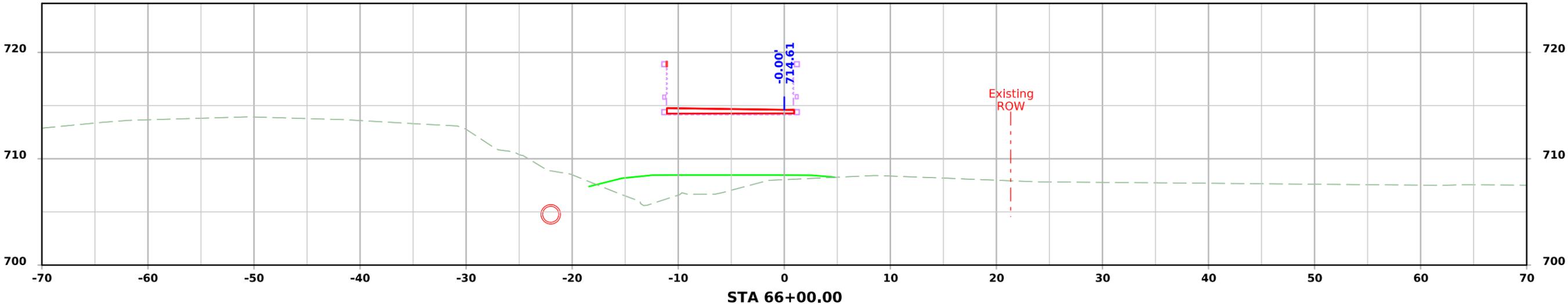
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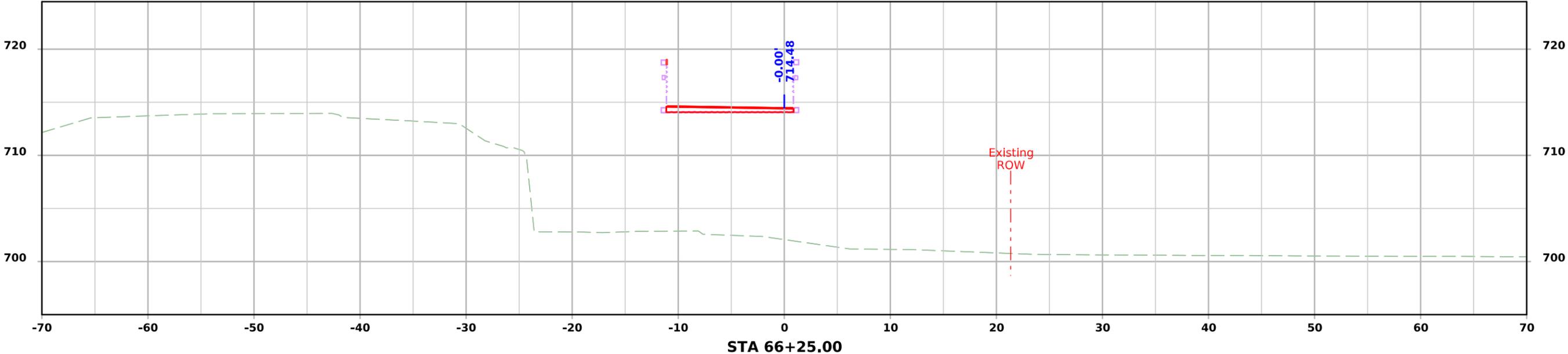
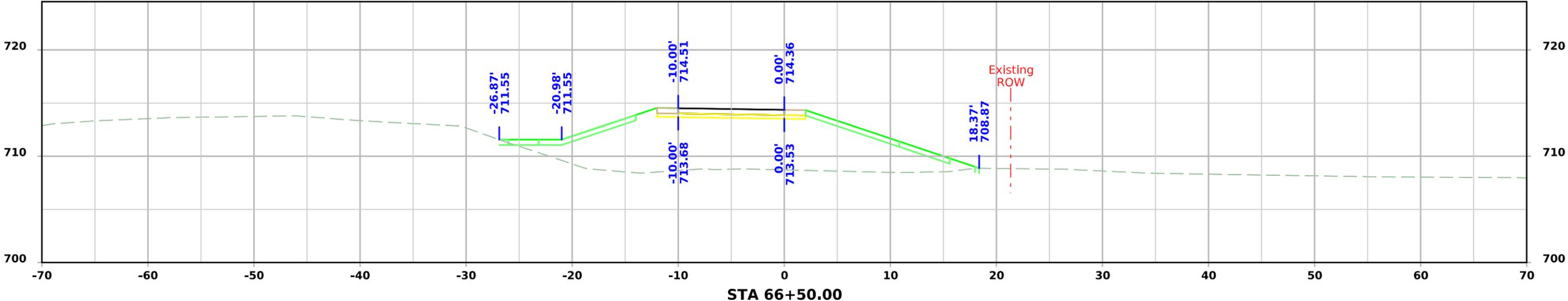
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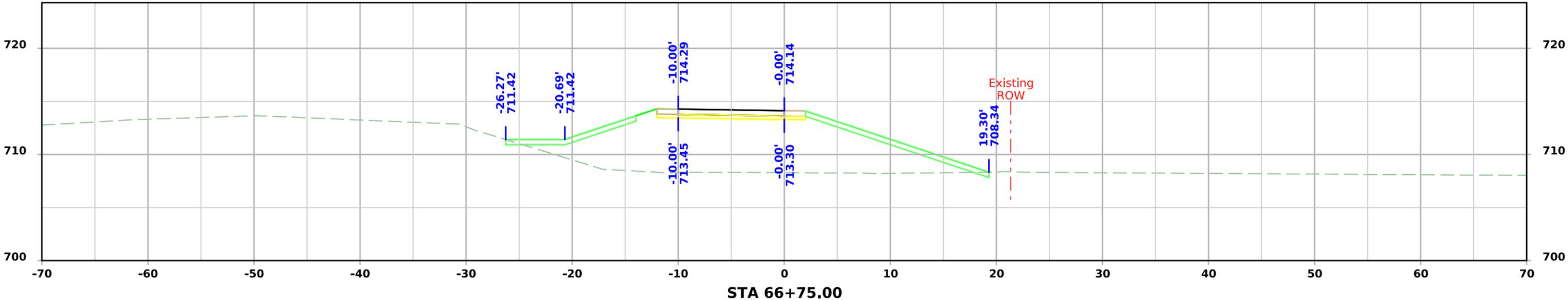
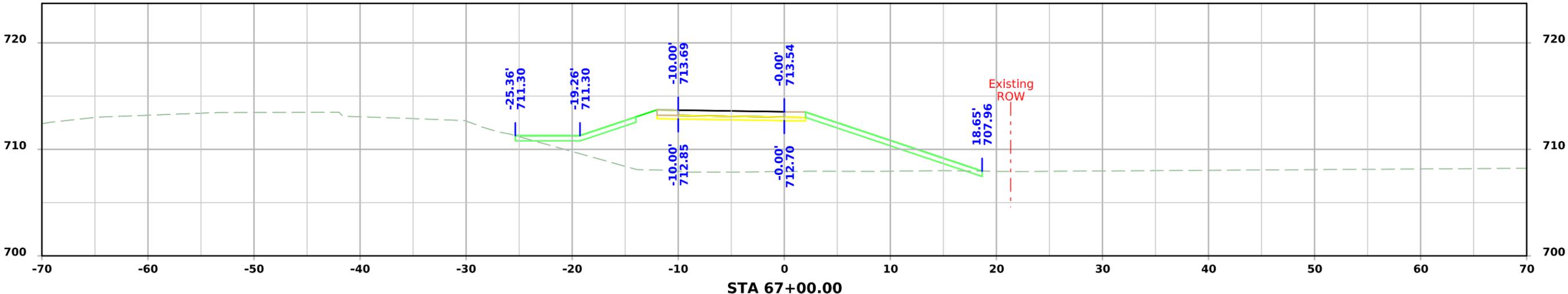
Clear Creek Trail Phase 2



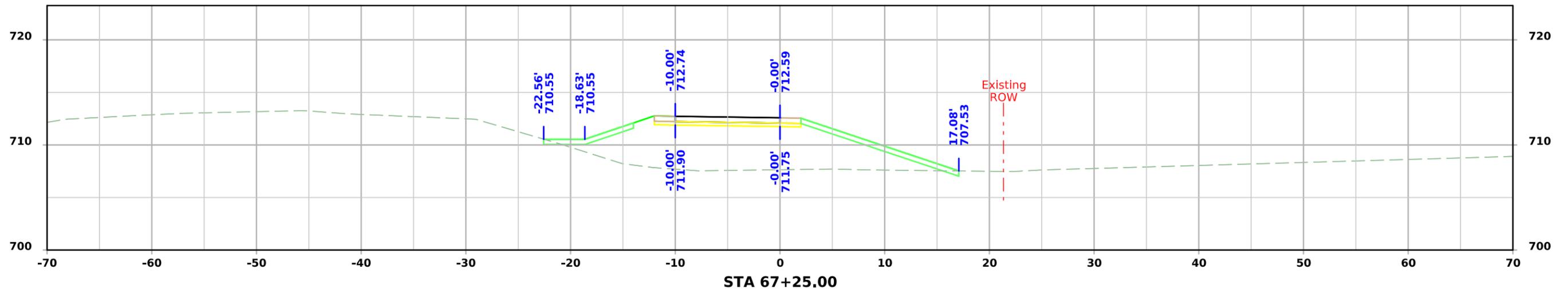
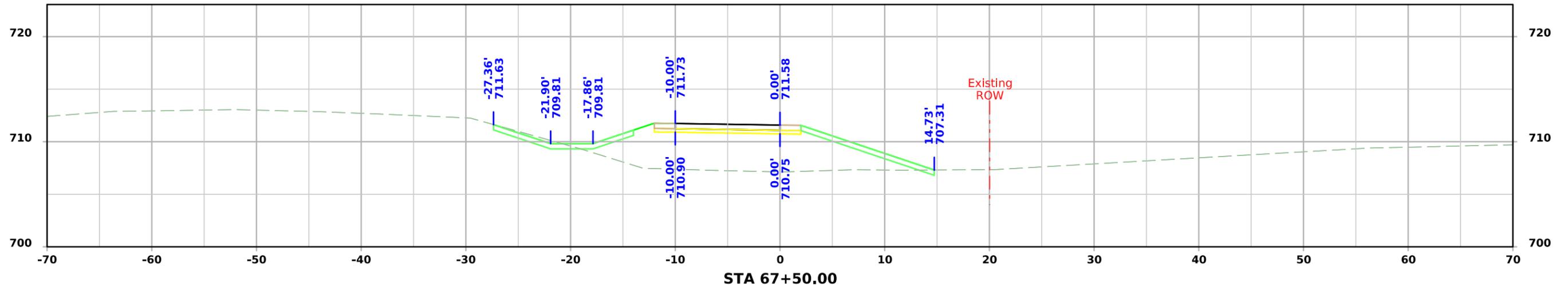
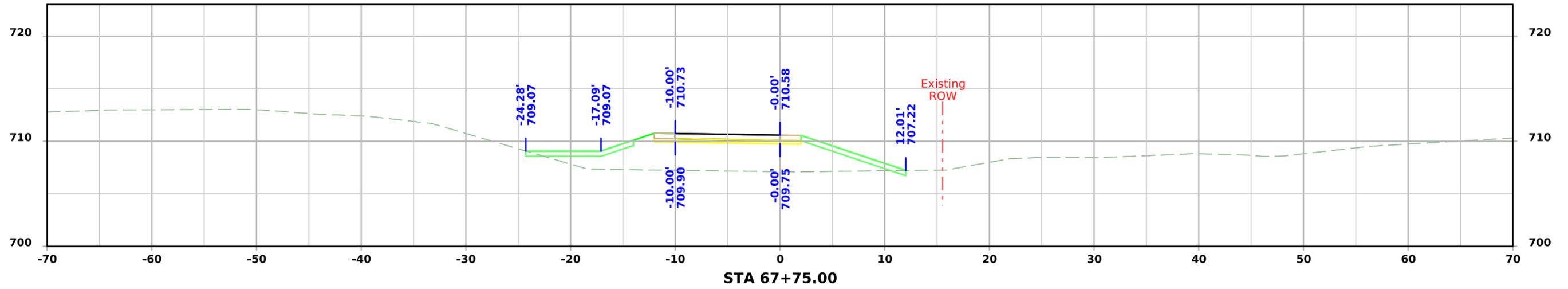
Clear Creek Trail Phase 2



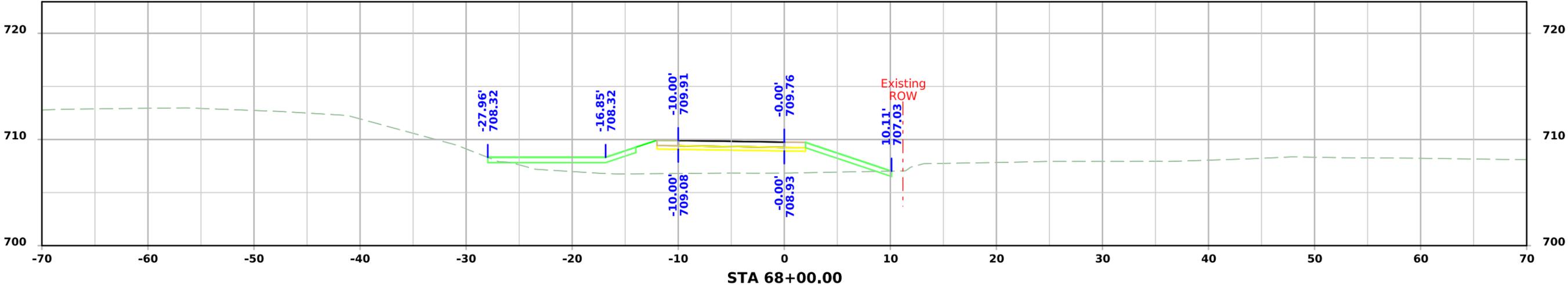
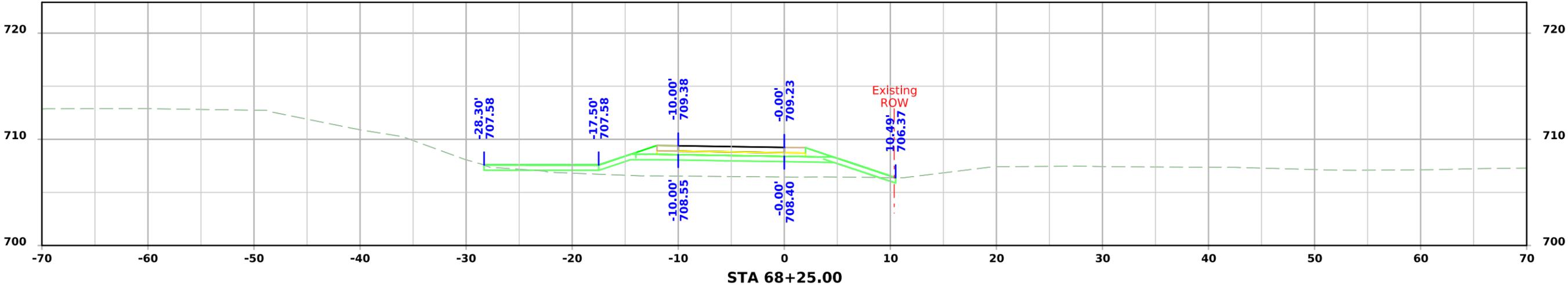
Clear Creek Trail Phase 2



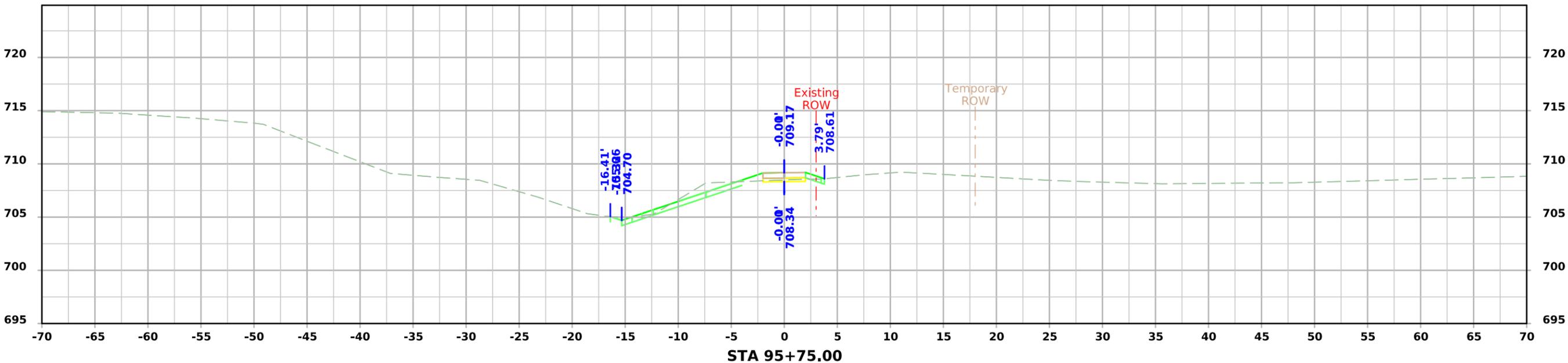
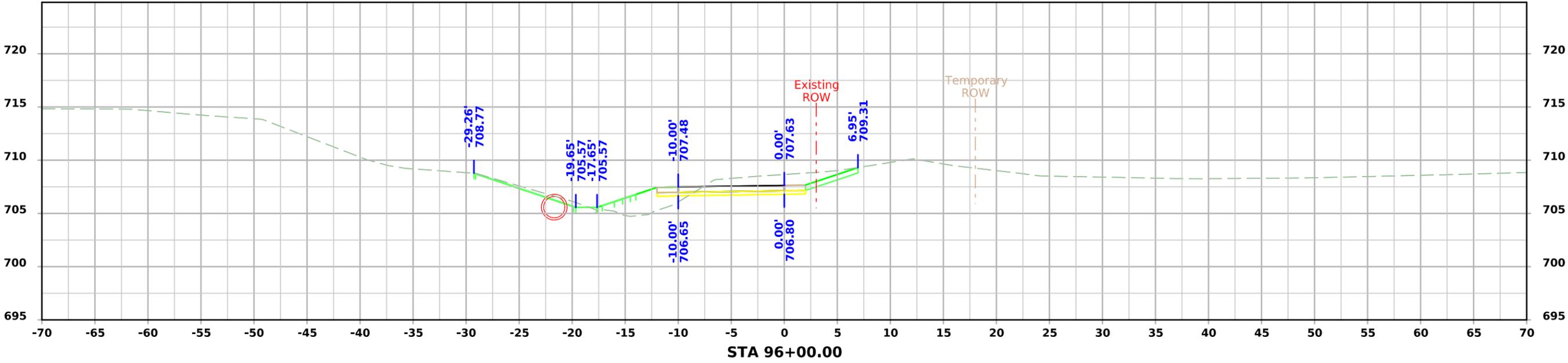
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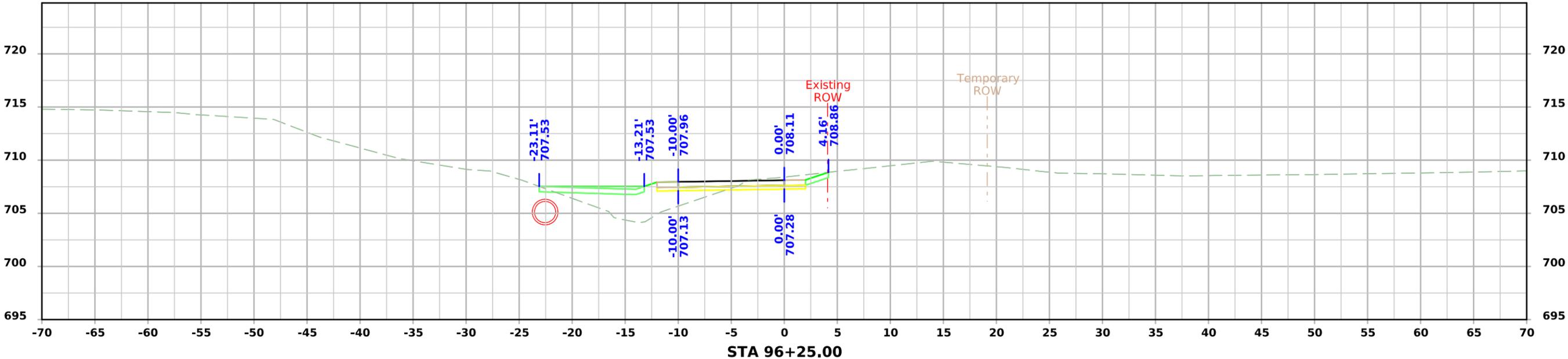
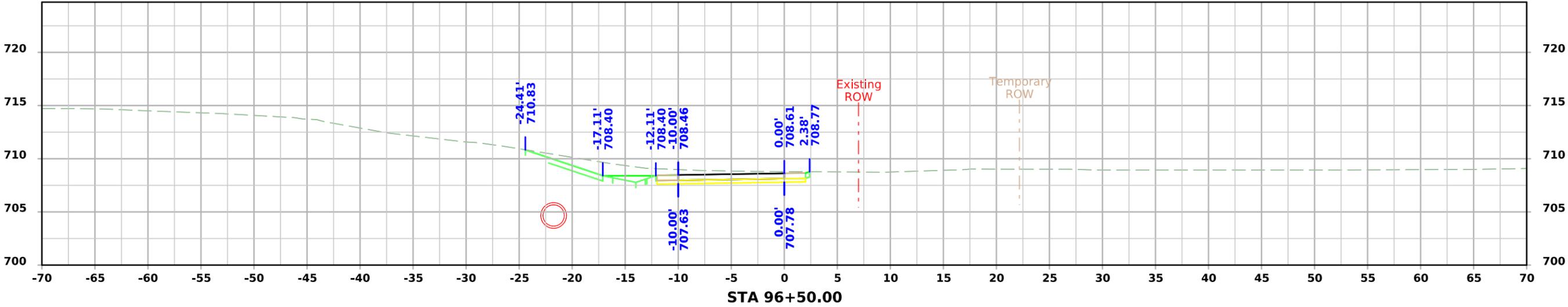
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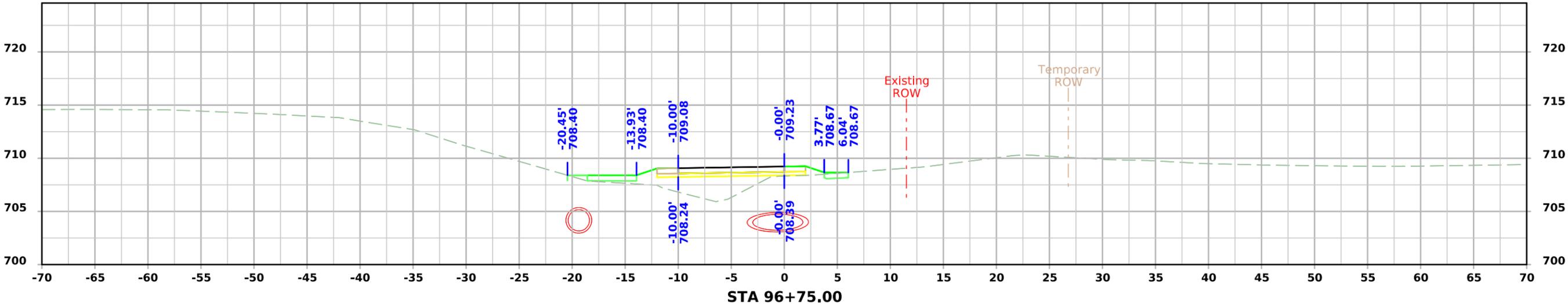
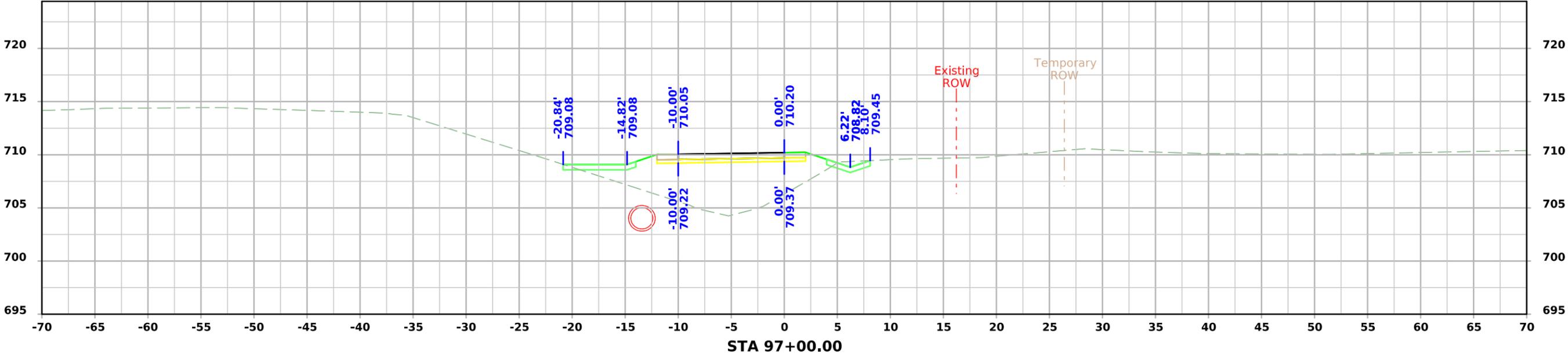
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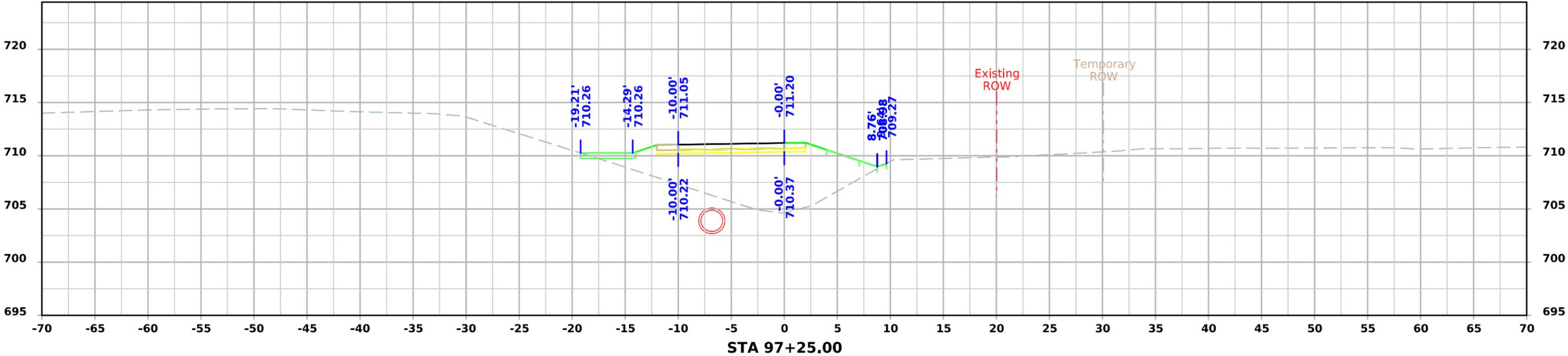
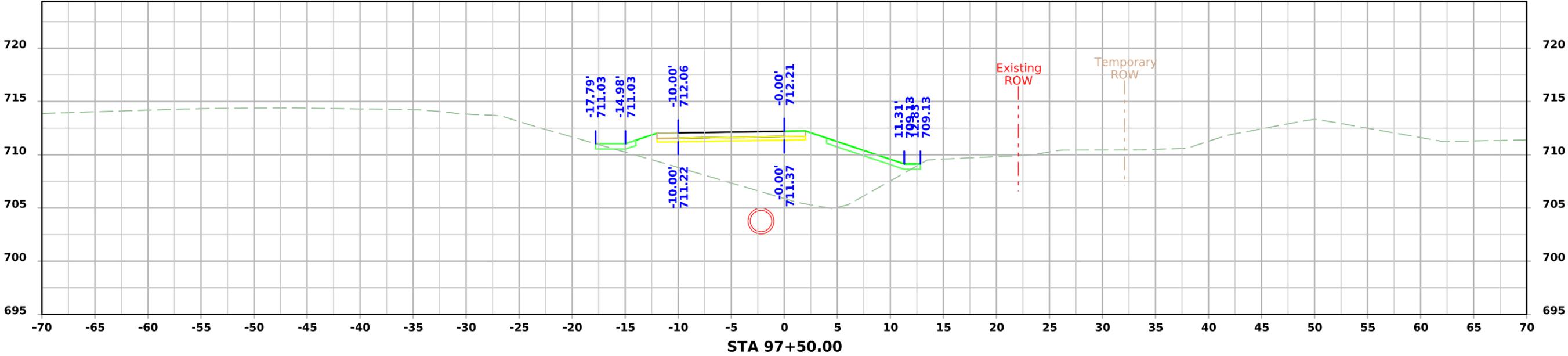
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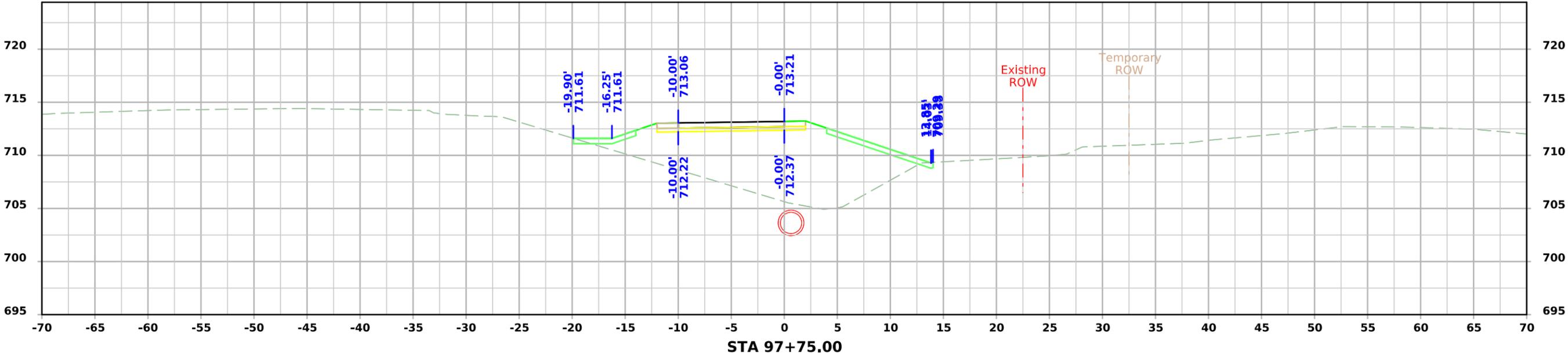
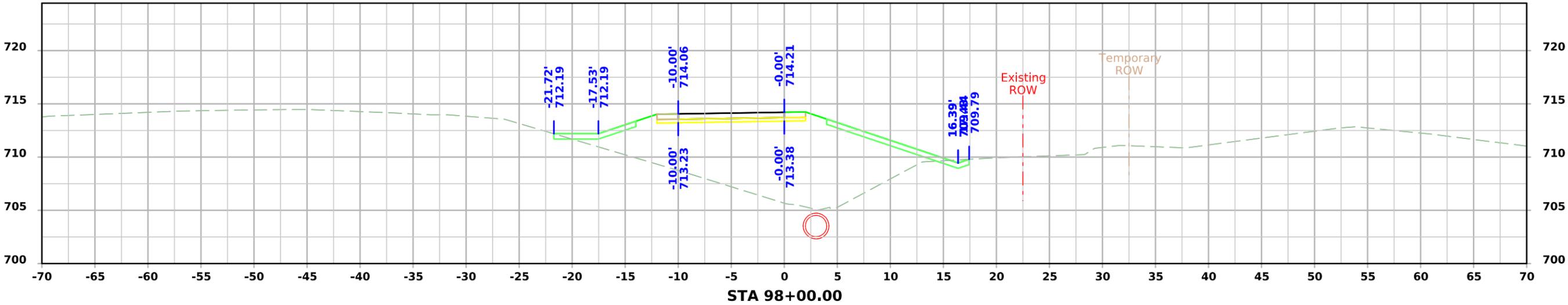
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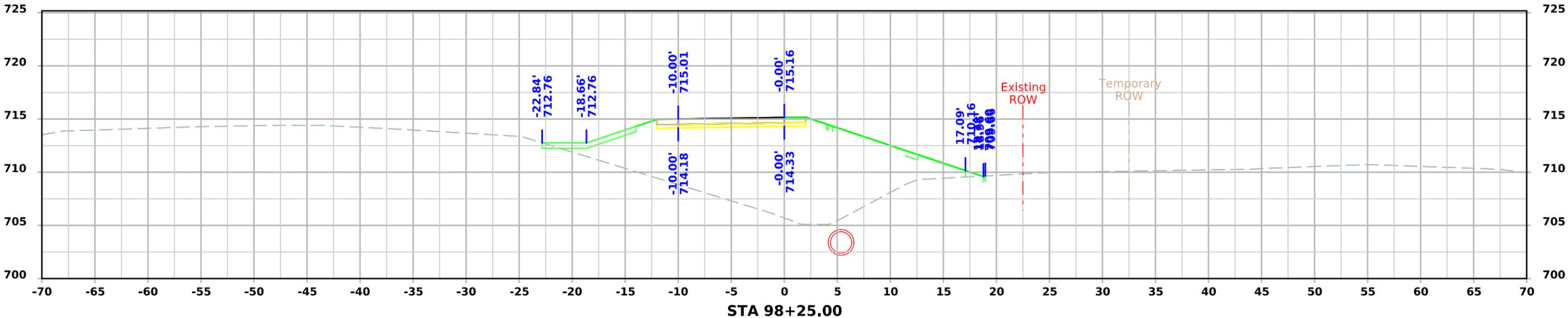
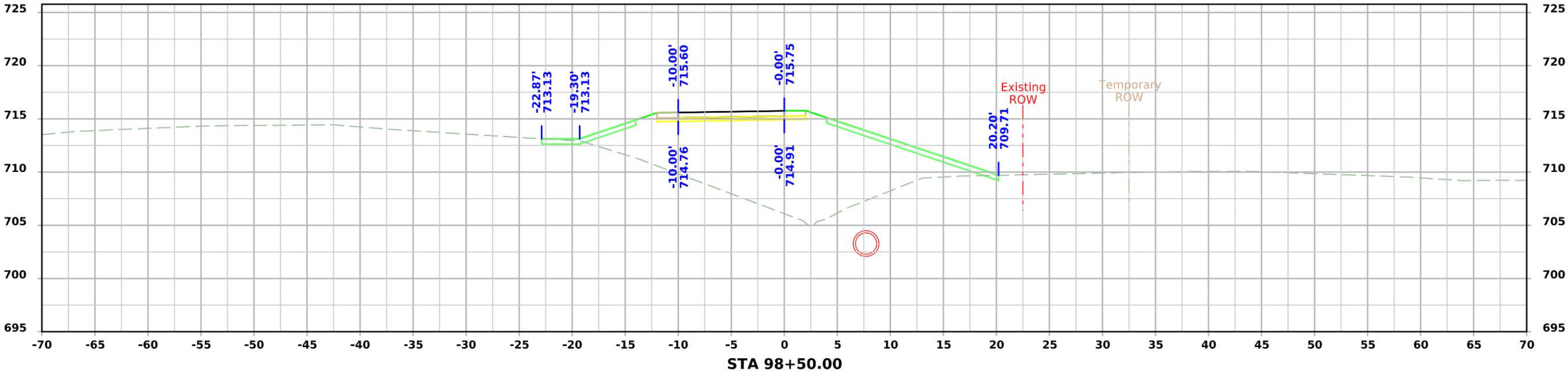
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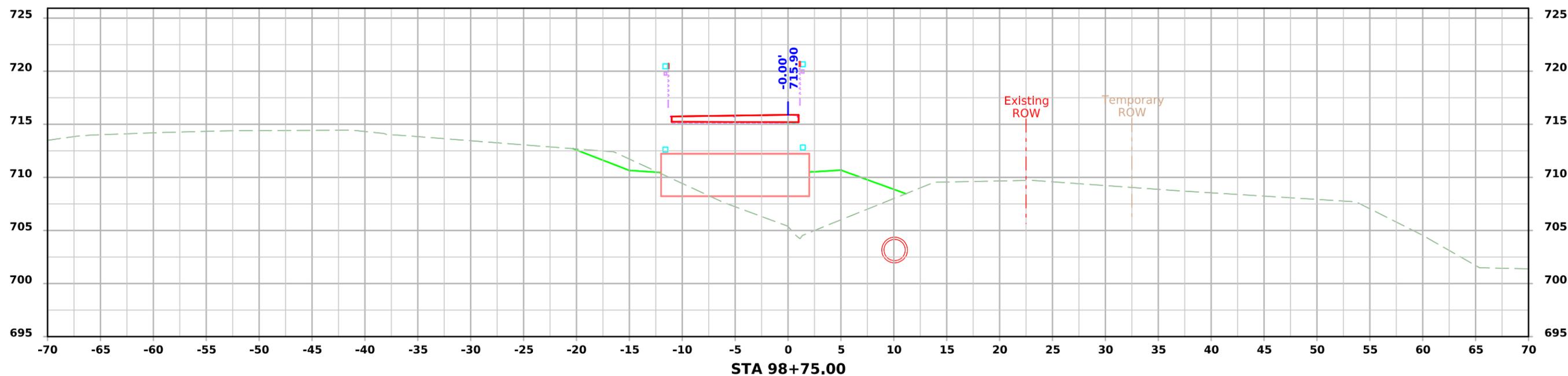
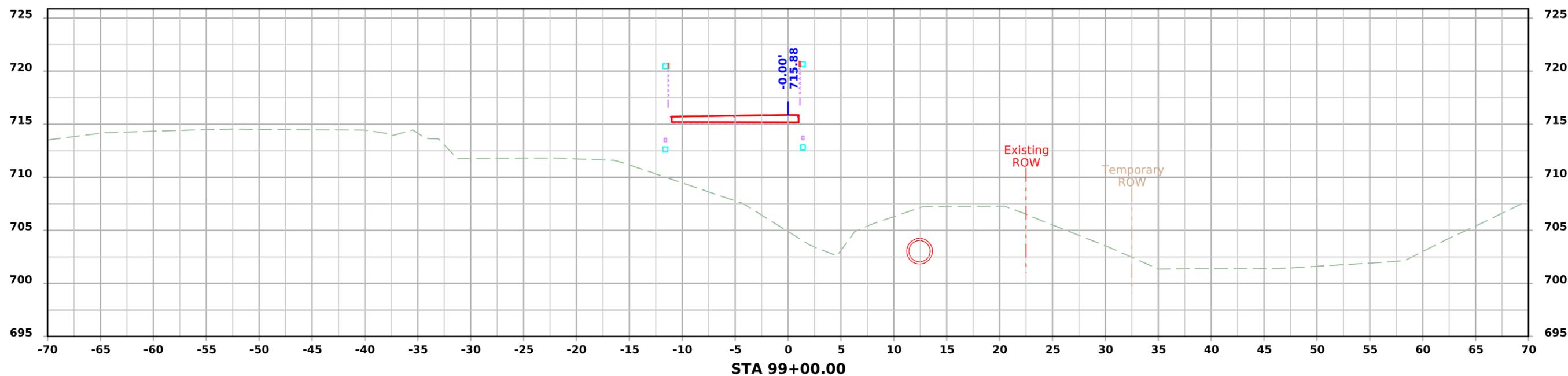
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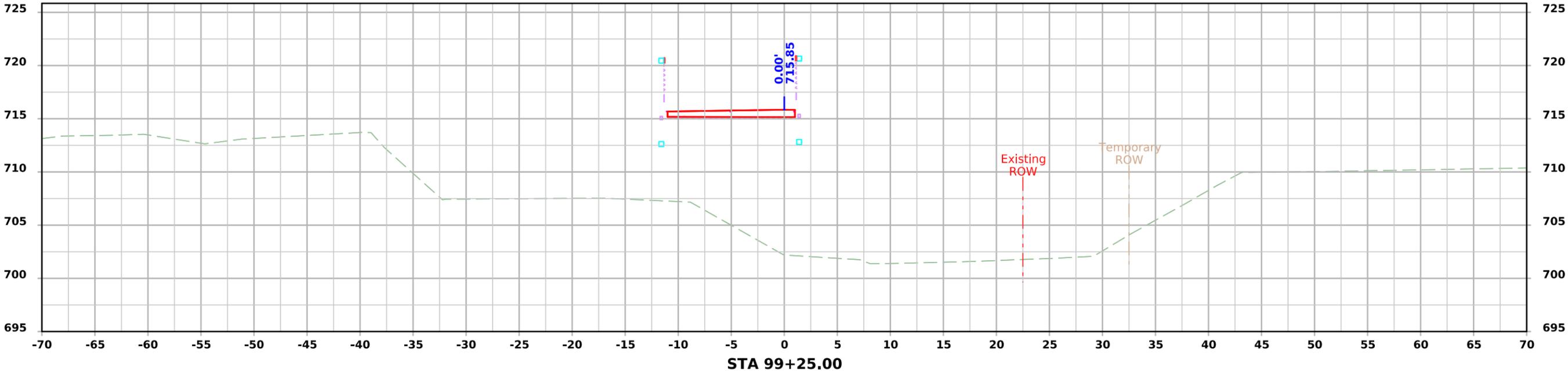
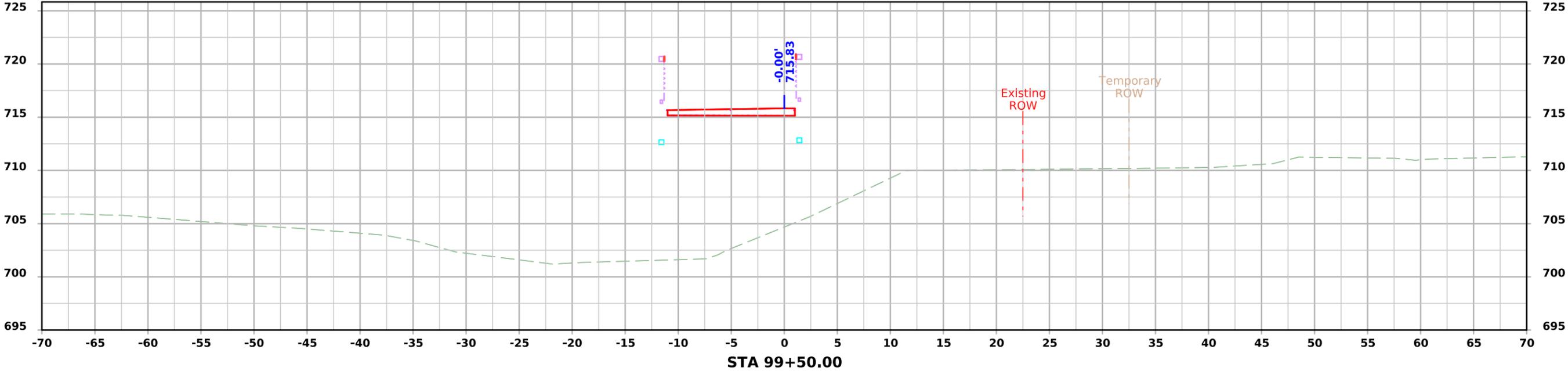
Clear Creek Trail Phase 2



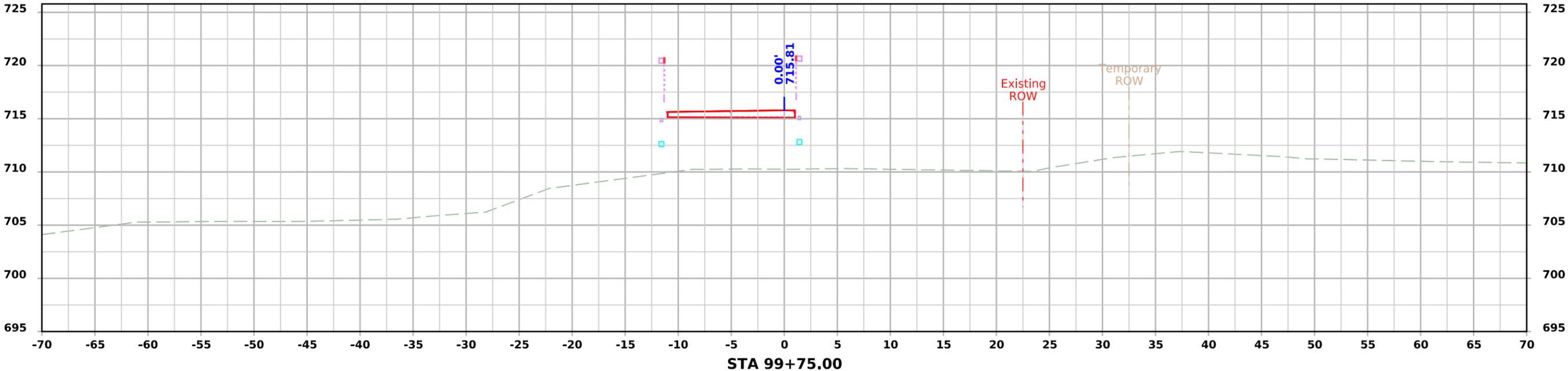
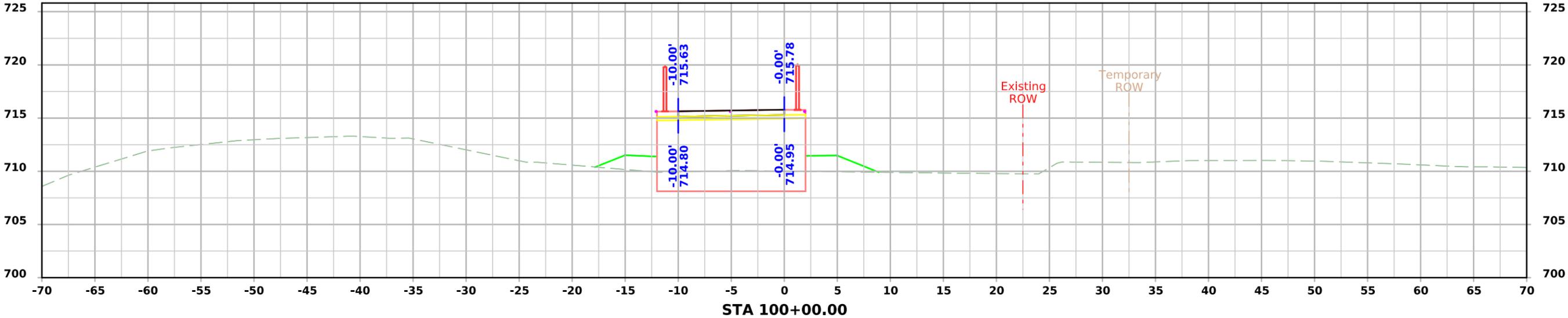
Clear Creek Trail Phase 2



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Clear Creek Trail Phase 2



Clear Creek Trail Phase 2

