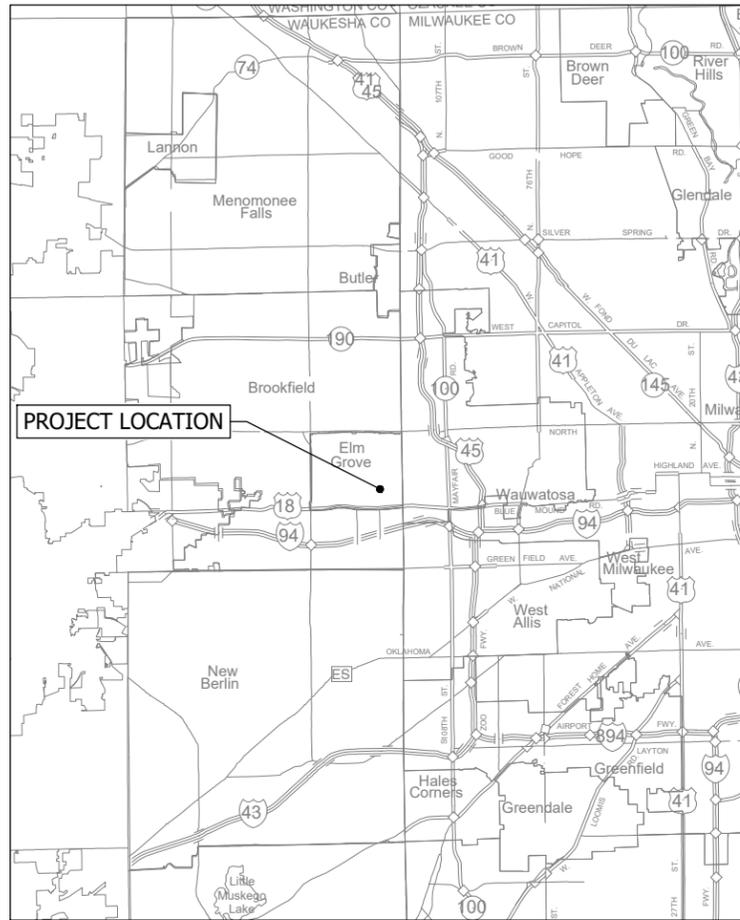


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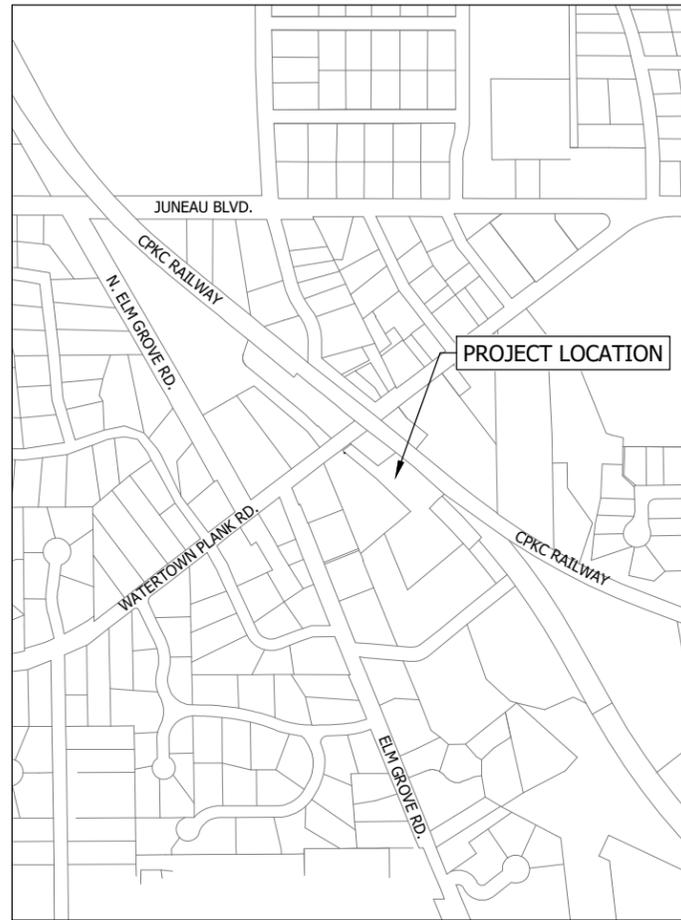
UNDERWOOD CREEK DAYLIGHTING

VILLAGE OF ELM GROVE, WISCONSIN

MAY 2025



VICINITY MAP



LOCATION MAP

SHEET NO.	DRAWING NO.	DRAWING TITLE	SHEET NO.	DRAWING NO.	DRAWING TITLE
		GENERAL			CHANNEL BANK WALLS AND REVETMENTS
1	G-1	TITLE SHEET	50	CB-0	CHANNEL BANK SHEET INDEX
2	G-2	LEGEND AND GENERAL NOTES	51	CB-1	EAST CHANNEL BANK WALL
3	G-3	ALIGNMENTS AND GEOTECHNICAL SOIL BORING LOCATIONS	52	CB-2	WEST CHANNEL BANK WALL
4	G-4	ALIGNMENT DATA	53	CB-3	UPSTREAM EAST QUARRY STONE BANK
5	G-5	STRUCTURAL NOTES	54	CB-4	UPSTREAM WEST QUARRY STONE BANK
6	G-6	STRUCTURAL NOTES	55	CB-5	DOWNSTREAM EAST QUARRY STONE BANK
		EROSION CONTROL	56	CB-6	DOWNSTREAM WEST QUARRY STONE BANK
7	EC-1	SUGGESTED EROSION CONTROL MEASURES	57	CB-7	EAST BANK QUARRY STONE TYPICAL SECTION
		DEMOLITION	58	CB-8	WEST BANK QUARRY STONE TYPICAL SECTION
8	D-0	DEMOLITION AND REMOVALS SHEET INDEX	59	CB-9	EAST CHANNEL BANK WALL - TYPICAL SECTIONS
9	D-1	DEMOLITION AND REMOVALS PLAN	60	CB-10	WEST CHANNEL BANK WALL - TYPICAL SECTIONS
10	D-2	DEMOLITION AND REMOVALS PLAN	61	CB-11	GUARD RAILING
11	D-3	DEMOLITION AND REMOVALS PLAN	62	CB-12	CONSTRUCTION DETAILS - STRUCTURE STR-A
		STORM SEWERS	63	CB-13	CONSTRUCTION DETAILS - CHANNEL BANK WALLS
12	ST-0	STORM SEWER PLAN SHEET INDEX	64	CB-14	CONSTRUCTION DETAILS - QUARRY STONE BANKS
13	ST-1	STORM SEWER STRUCTURE TABLE			PEDESTRIAN BRIDGE AND ABUTMENTS
14	ST-2	STORM SEWER PLAN & PROFILE	65	PB-0	PEDESTRIAN BRIDGE AND ABUTMENTS SHEET INDEX
15	ST-3	STORM SEWER PLAN & PROFILE	66	PB-1	PEDESTRIAN BRIDGE GENERAL PLAN
16	ST-4	STORM SEWER PLAN & PROFILE	67	PB-2	PEDESTRIAN BRIDGE ABUTMENTS
17	ST-5	STORM SEWER PLAN & PROFILE	68	PB-3	PEDESTRIAN BRIDGE TIMBER RAIL DETAILS
18	ST-6	STORM SEWER DETAILS			LIGHTING PLANS
		CHANNEL	69	L-0	LIGHTING PLAN SHEET INDEX
19	CH-0	CHANNEL PLAN SHEET INDEX	70	L-1	LIGHTING PLAN
20	CH-1	CHANNEL PLAN & PROFILE	71	L-2	LIGHTING PLAN DETAILS
21	CH-2	CHANNEL PLAN & PROFILE			WALL STREET CROSSING
22	CH-3	CHANNEL PLAN & PROFILE	72	WS-0	WALL STREET CROSSING SHEET INDEX
23	CH-GD1	CHANNEL TYPICAL SECTIONS	73	WS-1	WALL STREET CROSSING PLAN AND PROFILE
24	CH-GD2	CHANNEL DETAILS	74	WS-2	WALL STREET CROSSING TYPICAL SECTION
25	CH-GD3	CHANNEL SEQUENCE	75	WS-3	ARCH CULVERT HEADWALL VIEWS
26	CH-GD4	CHANNEL STRUCTURE DETAILS	76	WS-CS1	WALL STREET CROSSING CROSS SECTIONS
27	CH-GD5	TOE WOOD DETAIL	77	WS-CS2	WALL STREET CROSSING CROSS SECTIONS
28	CH-CS1	CHANNEL CROSS SECTIONS			EAST PATH
29	CH-CS2	CHANNEL CROSS SECTIONS	78	EP-0	EAST PATH SHEET INDEX
30	CH-CS3	CHANNEL CROSS SECTIONS	79	EP-1	EAST PATH PLAN & PROFILE
31	CH-CS4	CHANNEL CROSS SECTIONS	80	EP-2	EAST PATH PLAN & PROFILE
32	CH-CS5	CHANNEL CROSS SECTIONS	81	EP-3	EAST PATH TYPICAL SECTION
33	CH-CS6	CHANNEL CROSS SECTIONS	82	EP-CS1	EAST PATH CROSS SECTIONS
34	CH-CS7	CHANNEL CROSS SECTIONS	83	EP-CS2	EAST PATH CROSS SECTIONS
35	CH-CS8	CHANNEL CROSS SECTIONS	84	EP-CS3	EAST PATH CROSS SECTIONS
36	CH-CS9	CHANNEL CROSS SECTIONS	85	EP-CS4	EAST PATH CROSS SECTIONS
37	CH-CS10	CHANNEL CROSS SECTIONS			GRADING
38	CH-CS11	CHANNEL CROSS SECTIONS	86	GR-0	GRADING PLAN SHEET INDEX
39	CH-CS12	CHANNEL CROSS SECTIONS	87	GR-1	SOIL MANAGEMENT PLAN
40	CH-CS13	CHANNEL CROSS SECTIONS	88	GR-2	GRADING PLAN
41	CH-CS14	CHANNEL CROSS SECTIONS	89	GR-3	GRADING PLAN
42	CH-CS15	CHANNEL CROSS SECTIONS	90	GR-4	GRADING PLAN
43	CH-CS16	CHANNEL CROSS SECTIONS			VEGETATION AND PAVEMENT RESTORATION
44	CH-CS17	CHANNEL CROSS SECTIONS	91	VP-0	SURFACE RESTORATION SHEET INDEX
45	CH-CS18	CHANNEL CROSS SECTIONS	92	VP-1	SURFACE RESTORATION PLAN
46	CH-CS19	CHANNEL CROSS SECTIONS	93	VP-2	SURFACE RESTORATION PLAN
47	CH-CS20	CHANNEL CROSS SECTIONS	94	VP-3	SURFACE RESTORATION PLAN
48	CH-CS21	CHANNEL CROSS SECTIONS	95	VP-4	SURFACE RESTORATION PLANTING TABLES
49	CH-CS22	CHANNEL CROSS SECTIONS	96	VP-5	CHANNEL PLANTING ZONES
			97	VP-6	CONSTRUCTION DETAILS

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 D. AMUNDSEN
 APPROVED
 R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

TITLE SHEET

DRAWING NO.	G-1
SHEET NO.	1
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_G.dwg

Plot Date: 12/19/2024 - 10:25am
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SYMBOLS

	BENCH
	BENCH MARK
	CATCH BASIN
	CULVERT END
	ELECTRIC MANHOLE
	FLARED END SECTION
	GAS METER
	GAS VALVE
	GAS VENT
	GUY POLE
	GUY WIRE
	HYDRANT
	LIGHT POLE
	MAIL BOX
	MONITORING WELL
	MONUMENT - SET
	ORDINARY HIGH WATER MARK
	POST
	POWER METER
	POWER POLE
	RAILROAD SIGNAL
	SANITARY MANHOLE
	SIGN (NON-TRAFFIC)
	SPRINKLER HEAD
	STORM MANHOLE
	TELEPHONE MANHOLE
	TELEPHONE PEDESTAL
	TRAFFIC SIGN
	TRAFFIC SIGNAL
	TRANSFORMER - POWER
	TREE - DECIDUOUS
	UNKNOWN MANHOLE
	WATER VALVE
	WATER WELL

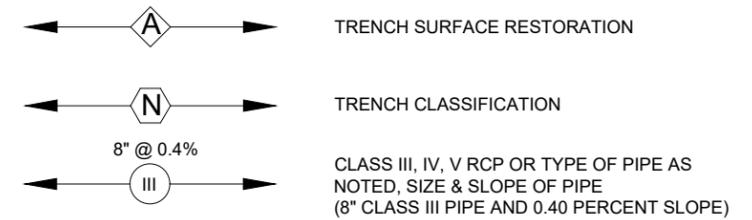
LINES

	RETAINING WALL
	FENCE - BARBED WIRE
	FENCE - CHAIN LINK
	FENCE - DECORATIVE
	FENCE - STOCKADE
	FENCE - WOOD
	FENCE - ELECTRIC
	GUARD RAIL
	TREE LINE
	WETLAND
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	WATER MAIN
	WATER SERVICE
	CABLE TV
	FIBER OPTIC
	POWER QUALITY
	GAS
	COMMUNICATION
	OVERHEAD POWER
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITIES

GENERAL NOTES

- EXISTING UTILITIES SHOWN ARE INDICATED IN ACCORDANCE WITH AVAILABLE RECORDS. OTHER UTILITIES MAY ALSO BE PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITY OWNERS SHALL BE NOTIFIED BY THE CONTRACTOR A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO EXCAVATION.
- ALL UTILITY ELEVATIONS ARE SHOWN AS INVERT ELEVATIONS UNLESS OTHERWISE NOTED.
- INVERT ELEVATIONS ARE AT THE CENTERLINE OF THE STRUCTURE UNLESS OTHERWISE NOTED.
- LIMITS OF CONSTRUCTION AREA SHALL BE FENCED PRIOR TO COMMENCEMENT OF WORK.
- ANTICIPATED CONSTRUCTION SEQUENCE: CONSTRUCT NEW CHANNEL FROM DOWNSTREAM END TO APPROXIMATELY STN 0+75, INCLUDING NEW CROSSING AT WALL STREET AND NEW PEDESTRIAN BRIDGE. CONSTRUCT PLUNGE POOL AND CHANNEL SECTION IMMEDIATELY DOWNSTREAM OF WATERTOWN PLANK ROAD. COMPLETE CONNECTION TO NEW CHANNEL, AND TRANSFER STREAM FLOW TO NEW CHANNEL. CONSTRUCT NEW STORM SEWERS. ABANDON EXISTING BOX CULVERT AND CHANNEL UPSTREAM OF WALL STREET. COMPLETE PARKING LOT MODIFICATIONS AND PAVING.
- ALL COORDINATES ARE BASED ON WISCONSIN STATE PLANE COORDINATE SYSTEM SOUTH ZONE NAD83, AND ALL BEARINGS AND DISTANCES SHOWN ARE GROUND NGVD29.

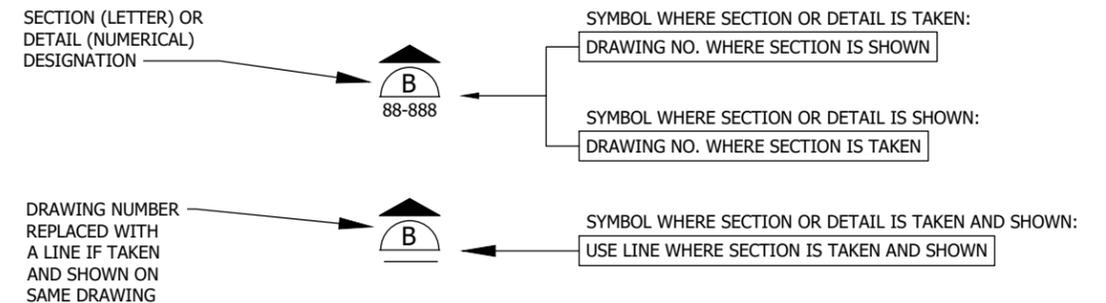
CALLOUT DEFINITION



SECTION AND DETAIL TITLES



SECTION AND DETAIL REFERENCE (WHERE TAKEN AND SHOWN)



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 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_G.dwg
 User: R. Kleinfelder
 Plot Date: 12/19/2024 - 10:25am

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



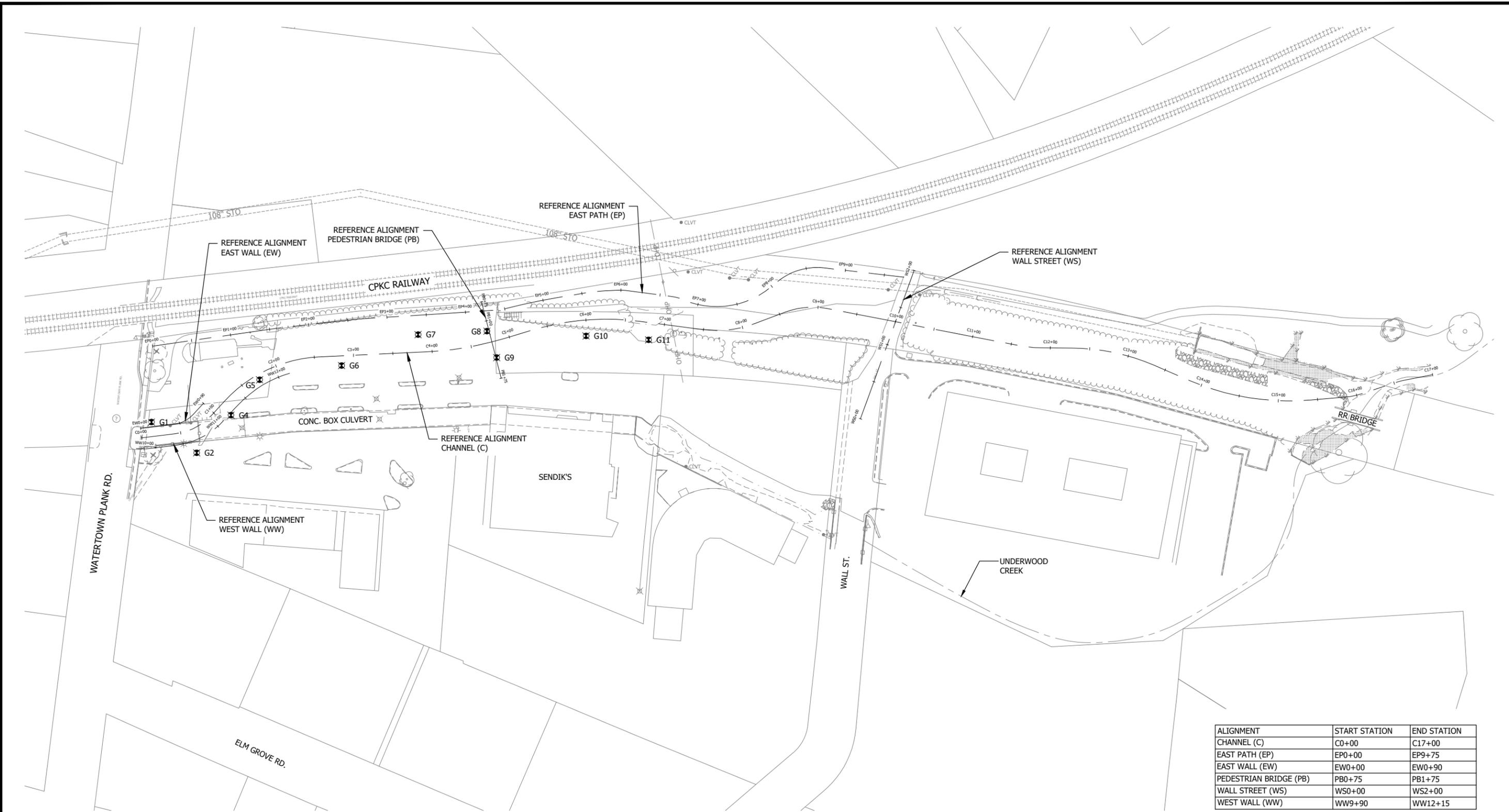
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

LEGEND AND GENERAL NOTES

DRAWING NO.	G-2
SHEET NO.	2
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_G.dwg

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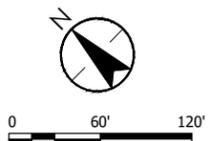
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 User: R. Kleinfelder
 File: 193806812.dwg



ALIGNMENT	START STATION	END STATION
CHANNEL (C)	C0+00	C17+00
EAST PATH (EP)	EP0+00	EP9+75
EAST WALL (EW)	EW0+00	EW0+90
PEDESTRIAN BRIDGE (PB)	PB0+75	PB1+75
WALL STREET (WS)	WS0+00	WS2+00
WEST WALL (WW)	WW9+90	WW12+15

NOTES

1. SOIL BORING LOGS ARE INCLUDED IN THE GEOTECHNICAL DATA REPORT IN THE PROJECT MANUAL.

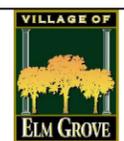


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

ALIGNMENTS AND GEOTECHNICAL SOIL BORING LOCATIONS

DRAWING NO.	G-3
SHEET NO.	3
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_G.dwg

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**CHANNEL (C)
(0+00 TO 17+00)**

Type	Start Station	PI Station	End Station	Northing	Easting	Bearing	Length	Delta angle	Chord Bearing	Chord length	Radius	Tangent Distance	Degree of Curve
Line	0+00		0+43.09'	385964.02	2481890.05	S51°23'14"E	43.09'						
Curve	0+43.09	0+70.75'	0+96.09'	385937.13	2481923.72		53.01'	40°29'36"	S71°38'02"E	51.91'	75.00'	27.66'	76°23'40"
Line	0+96.09		1+20.04'	385920.77	2481972.98	N88°07'10"E	23.95'						
Curve	1+20.04	1+91.92'	2+56.44'	385921.56	2481996.92		136.40'	44°39'29"	S69°33'05"E	132.97'	175.00'	71.88'	32°44'26"
Line	2+56.44		3+92.36'	385875.1	2482121.52	S47°13'21"E	135.92'						
Curve	3+92.36	4+42.88'	4+92.90'	385782.79	2482221.28		100.54'	14°02'06"	S54°14'24"E	100.28'	410.42'	50.52'	13°57'37"
Line	4+92.90		5+29.67'	385724.19	2482302.66	S61°15'27"E	36.77'						
Curve	5+29.67	6+00.37'	6+68.97'	385706.5	2482334.9		139.30'	24°06'45"	S49°12'04"E	138.27'	331.00'	70.70'	17°18'36"
Line	6+68.97		7+49.15'	385616.16	2482439.57	S37°08'42"E	80.18'						
Curve	7+49.15	7+83.62'	8+16.71'	385552.24	2482487.99		67.56'	28°02'59"	S51°10'11"E	66.89'	138.00'	34.47'	41°31'07"
Line	8+16.71		8+57.23'	385510.31	2482540.09	S65°11'40"E	40.52'						
Curve	8+57.23	8+85.48'	9+12.30'	385493.31	2482576.87		55.07'	31°33'08"	S49°25'06"E	54.38'	100.00'	28.25'	57°17'45"
Line	9+12.30		10+78.08'	385457.93	2482618.17	S33°38'32"E	165.79'						
Line	10+78.08		11+61'	385319.91	2482710.02	S33°42'35"E	82.92'						
Curve	11+61	11+74.73'	11+88.38'	385250.94	2482756.04		27.38'	10°27'30"	S38°56'20"E	27.34'	150.00'	13.73'	38°11'50"
Line	11+88.38		12+27.16'	385229.67	2482773.22	S44°10'05"E	38.78'						
Curve	12+27.16	12+81.69'	13+34.78'	385201.85	2482800.24		107.61'	22°50'11"	S32°44'59"E	106.90'	270.00'	54.53'	21°13'14"
Line	13+34.78		13+82.71'	385111.94	2482858.07	S21°19'54"E	47.93'						
Curve	13+82.71	14+64.14'	15+42.28'	385067.29	2482875.51		159.57'	28°07'51"	S35°23'49"E	157.97'	325.00'	81.43'	17°37'46"
Line	15+42.28		15+84.48'	384938.52	2482967.01	S49°27'45"E	42.20'						
Curve	15+84.48	15+96.15'	16+07.71'	384911.1	2482999.08		23.23'	13°18'42"	S56°07'05"E	23.18'	100.00'	11.67'	57°17'45"
Line	16+07.71		16+54.98'	384898.17	2483018.33	S62°46'26"E	47.27'						
Curve	16+54.98	16+58.05'	16+61.11'	384876.55	2483060.36		6.13'	7°01'33"	S59°15'40"E	6.13'	50.00'	3.07'	114°35'30"
Line	16+61.11		17+00'	384873.41	2483065.63	S55°44'53"E	38.89'						

**EAST PATH (EP)
(0+00 TO 9+75)**

Type	Start Station	PI Station	End Station	Northing	Easting	Bearing	Length	Delta Angle	Chord Direction	Chord length	Radius	Tangent Distance	Degree of Curve
Line	0+00'		1+61.72'	386035.55	2481982.66	S52°42'25"E	161.72'						
Line	1+61.72'		2+64.97'	385937.57	2482111.31	S50°56'24"E	103.25'						
Line	2+64.97'		4+40.36'	385872.51	2482191.49	S48°12'38"E	175.39'						
Curve	4+40.36'	4+45.11'	4+49.83'	385755.63	2482322.26		9.47'	10°51'08"	S53°38'12"E	9.46'	50.00'	4.75'	114°35'30"
Line	4+49.83'		4+52.12'	385750.03	2482329.87	S59°03'46"E	2.30'						
Curve	4+52.12'	4+83.83'	5+15.50'	385748.84	2482331.84		63.38'	4°50'31"	S56°38'31"E	63.36'	750.00'	31.71'	7°38'22"
Line	5+15.50'		5+51.32'	385714	2482384.76	S54°13'16"E	35.81'						
Curve	5+51.32'	5+72.52'	5+93.65'	385693.07	2482413.82		42.34'	8°49'14"	S49°48'39"E	42.29'	275.00'	21.21'	20°50'05"
Line	5+93.65'		5+99.21'	385665.77	2482446.12	S45°24'02"E	5.56'						
Curve	5+99.21'	6+02.82'	6+06.42'	385661.87	2482450.08		7.20'	8°15'20"	S41°16'22"E	7.20'	50.00'	3.61'	114°35'30"
Line	6+06.42'		6+65.54'	385656.46	2482454.83	S37°08'42"E	59.13'						
Curve	6+65.54'	6+72.65'	6+79.67'	385609.33	2482490.54		14.12'	16°10'56"	S29°03'14"E	14.07'	50.00'	7.11'	114°35'30"
Line	6+79.67'		6+79.67'	385597.02	2482497.37		0.00'						
Curve	6+79.67'	7+46.20'	7+98.88'	385597.02	2482497.37		119.21'	63°23'26"	S52°39'29"E	113.22'	107.75'	66.54'	53°10'29"
Line	7+98.88'		8+08.52'	385528.35	2482587.39	S84°21'12"E	9.64'						
Curve	8+08.52'	8+42.92'	8+73.49'	385527.4	2482596.98		64.97'	46°31'54"	S61°05'15"E	63.20'	80.00'	34.40'	71°37'11"
Line	8+73.49'		9+75'	385496.84	2482652.3	S37°49'18"E	101.51'						

**EAST WALL (EW)
(0+00 TO 0+90)**

Type	Start Station	PI Station	End Station	Northing	Easting	Bearing	Length	Delta angle	Chord Direction	Chord length	Radius	Tangent Distance	Degree of Curve
Line	0+00'		0+42.84'	385973.32	2481897.7	S51°23'22"E	42.83'						
Curve	0+42.84'	0+57.30'	0+70.55'	385946.59	2481931.17		27.71'	40°32'25"	S71°39'35"E	27.14'	39.17'	14.46'	146°17'17"
Line	0+70.55'		0+90'	385938.06	2481956.93	N88°04'13"E	19.45'						

**WEST WALL (WW)
(0+00 TO 12+15)**

Type	Start Station	PI Station	End Station	Northing	Easting	Bearing	Length	Delta angle	Chord Direction	Chord length	Radius	Tangent Distance	Degree of Curvature
Line	9+90'		10+02.20'	385959.22	2481875.65	S42°21'06"E	12.20'						
Line	10+02.20'		10+39.78'	385950.21	2481883.86	S51°23'22"E	37.59'						
Curve	10+39.78'	10+77.20'	11+11.38'	385926.75	2481913.23		71.60'	41°05'31"	S71°56'07"E	70.07'	99.83'	37.42'	57°23'31"
Line	11+11.38'		11+28.99'	385905.02	2481979.85	N87°32'55"E	17.61'						
Curve	11+28.99'	11+53.56'	11+77.83'	385905.78	2481997.45		48.84'	15°15'49"	S84°49'11"E	48.70'	183.34'	24.57'	31°15'02"
Curve	11+77.83'	11+96.50'	12+15'	385901.38	2482045.95		37.17'	13°15'17"	S67°44'39"E	37.09'	160.67'	18.67'	35°39'40"

**PEDESTRIAN BRIDGE
(0+00 to 1+75)**

Type	Start Station	End Station	Start Northing	Start Easting	Bearing	Length	End Northing	End Easting
Line	0+75	1+75	385777.28	2482315.84	S30°58'46"W	25.00'	385691.54	2482264.37

**WALL STREET (WS)
(0+00 TO 2+00)**

Type	Start Station	End Station	Northing	Easting	Bearing	Length
Line	0+00'	2+00'	385330.11	2482593.44	N65°21'51"E	200.00'

Plot Date: 12/19/2024 - 10:25am
Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_G.dwg
User: bender, 193806812_SPT, 193806812_SNO

**PRELIMINARY
PLAN**

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

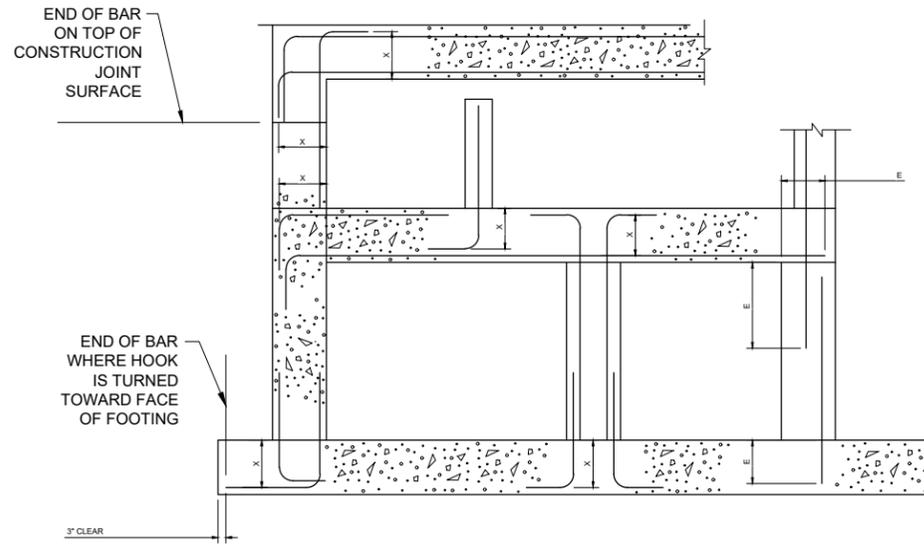


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

ALIGNMENT DATA

DRAWING NO.	G-4
SHEET NO.	4
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_G.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.



BAR SIZE	REINFORCEMENT LENGTHS AND EMBEDMENTS			
	BAR LAP LENGTHS SLABS OR FOOTINGS		STANDARD HOOKS	
	STD.	TOP BAR*	LENGTH	EMBEDMENT
#3	17 IN.	22 IN.	6 IN.	6 IN.
#4	22 IN.	29 IN.	8 IN.	7 IN.
#5	28 IN.	36 IN.	10 IN.	8 IN.
#6	33 IN.	43 IN.	12 IN.	10 IN.
#7	48 IN.	63 IN.	14 IN.	12 IN.
#8	55 IN.	72 IN.	16 IN.	14 IN.
#9	62 IN.	81 IN.	19 IN.	15 IN.
#10	69 IN.	90 IN.	21 IN.	17 IN.
#11	76 IN.	99 IN.	23 IN.	19 IN.

* TOP BAR LAP SPLICES ARE HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12 IN. OF CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE.

NOTES:

- USE BAR LAP SPLICE LENGTHS AS SHOWN IN THE TABLE UNLESS SHOWN OTHERWISE.
- VALUES SHOWN IN TABLE APPLY TO $f_c = 5,000$ PSI, $f_y = 60,000$ PSI, 1.5" MIN. CONCRETE COVER AND 3" MIN BAR SPACING.
- VALUES SHOWN COMPLY WITH THE MOST CONSERVATIVE REQUIREMENTS OF BOTH ACI 318 AND A.R.E.M.A.
- MULTIPLY LAP SPLICE LENGTHS SHOWN IN THE TABLE BY 1.5 FOR EPOXY COATED REINFORCING.
- WHEN BARS OF DIFFERENT SIZES ARE LAP SPICED, BAR LAP LENGTH SHALL BE THE LARGER OF: EMBEDMENT LENGTH OF LARGER BAR OR LAP LENGTH OF SMALLER BAR.
- USE MECHANICAL COUPLERS FOR SPLICES OF #11 AND LARGER BARS UNLESS DRAWINGS INDICATE LAP SPLICES SHOWN IN TABLE ARE UNACCEPTABLE.

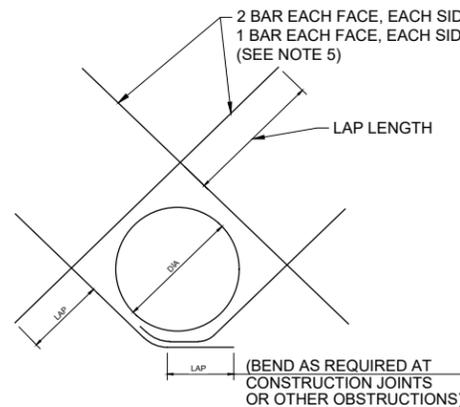
STANDARD 90° BAR HOOKS, EMBEDMENT LENGTHS AND LAP LENGTHS

NTS

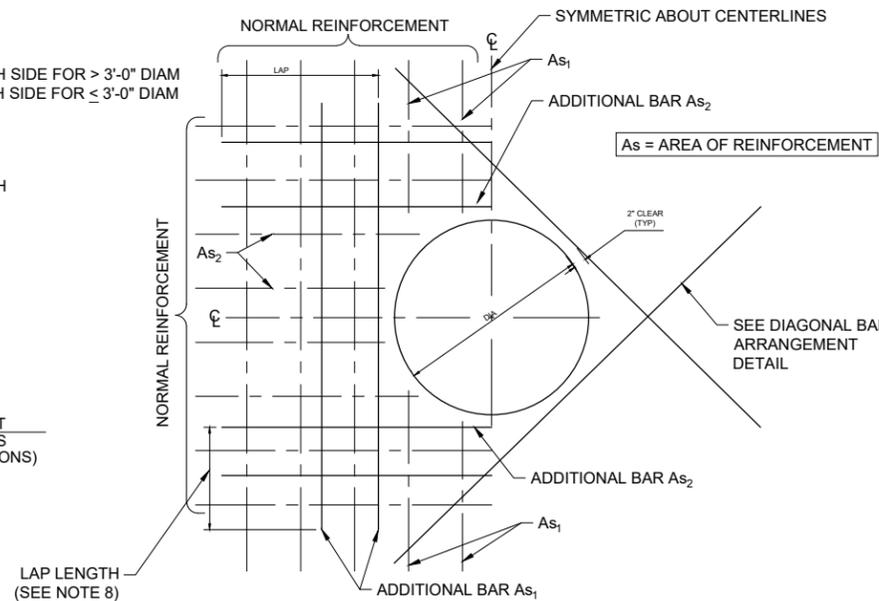
1

NOTES TO DESIGNER:

- LAP LENGTHS ARE PER ACI 318-11 AND 12.2.3, $C_b=1.5$, $K_{tr}=0$.
- THESE LAPS DO NOT NECESSARILY APPLY FOR BEAMS AND COLUMNS. DETERMINE THOSE SPLICE LENGTHS PER ACI 318 AND SHOW ON DRAWINGS.



DIAGONAL BAR ARRANGEMENT



ADDITIONAL REINFORCEMENT AT CIRCULAR OPENINGS

NTS

NOTES:

- THIS DETAIL TO BE USED AT ALL CIRCULAR OPENINGS EXCEPT WHEN OTHER DETAILING IS INDICATED ON THE DRAWINGS.
- CUT NORMAL REINFORCEMENT 2" CLEAR OF OPENING.
- CUT NORMAL REINFORCEMENT AT OPENINGS:
 - A_{s1} AND $A_{s2} = \frac{1}{2}$ AREA OF TOTAL CUT BARS TO BE ADDED ON EACH SIDE OF OPENING.
- DIAGONAL AND ADDITIONAL BARS A_{s1} AND A_{s2} TO BE PLACED.
 - AT CENTERLINE OF WALLS OR SLABS WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED.
 - AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED.
- UNLESS OTHERWISE NOTED, SIZE OF DIAGONAL BARS SHALL BE THE SIZE OF THE LARGEST NORMAL REINFORCING BAR CUT.
- INCREASE SIZE OF ADDITIONAL BARS AS NEEDED TO FIT WITHIN A DISTANCE OF 2X WALL/ SLAB THICKNESS FROM OPENING, PROVIDE 2" MIN CLEAR BETWEEN BARS.
- WHERE A SLAB OR INTERSECTING WALL CONNECTS WITHIN ONE WALL THICKNESS OF THE OPENING, ADDITIONAL BARS ON THAT SIDE OF THE OPENING MAY BE OMITTED.
- WHEN THE LAP LENGTH OF THE ADDITIONAL BARS CANNOT BE ACHIEVED DUE TO AN ADJACENT WALL OR SLAB, ADDITIONAL CORNER BARS OR SLAB DOWELS, RESPECTIVELY, MATCHING THE CUT BARS, ARE TO BE INCLUDED IN THE ADJACENT WALL OR SLAB TO LAP WITH THE ADDITIONAL BARS.

2

Plot Date: 12/19/2024 - 10:25am
Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_G.dwg
User: R. Klein, 193806812_SPT, 193806812_SNO

PRELIMINARY
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REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

STRUCTURAL NOTES

DRAWING NO.	G-5
SHEET NO.	5
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_G.dwg

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Plot Date: 12/19/2024 - 10:25am
Drawing name: U:\193806812\CAD\Drawg Sheets\193806812_G.dwg
User: bender, 193806812_SPT, 193806812_SNO

STRUCTURAL NOTES

GENERAL

- THESE NOTES ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE.
- STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE COORDINATED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. BOLT SIZES, TYPES, AND PATTERNS SHALL BE VERIFIED WITH THE MANUFACTURER. ALL BOLT PATTERNS SHALL BE TEMPLATED TO ENSURE ACCURACY OF PLACEMENT.
- MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED FOR PRIOR TO PLACING CONCRETE.
- STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH MECHANICAL, ELECTRICAL, ARCHITECTURAL, CIVIL DRAWINGS AND SHOP DRAWINGS PROVIDED BY MANUFACTURERS OF EQUIPMENT.
- STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL, HYDROSTATIC, AND BACKFILL LOADS ON THE COMPLETED STRUCTURES. THE STRUCTURES HAVE NOT BEEN DESIGNED TO RESIST THESE LOADS WHILE ONLY PARTIALLY CONSTRUCTED. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED FROM ALL CONSTRUCTION LOADS BY BRACING AND BALANCING UNTIL ALL STRUCTURAL ELEMENTS ARE IN PLACE, AND ALL CONCRETE HAS REACHED THE SPECIFIED 28 DAY COMPRESSIVE STRENGTH. OVERLOADING OF ANY STRUCTURAL ELEMENT IS PROHIBITED.
- UNLESS OTHERWISE SHOWN, ON ALL STRUCTURAL DRAWINGS THE FINISHED GRADE AROUND STRUCTURES IS SHOWN THUS,  INDICATING EITHER GROUND SURFACE, TOP OF CONCRETE SLAB, OR AC PAVEMENT. FOR DETAILS OF FINISH SURFACES, SEE CIVIL DRAWINGS.
- METAL CLIPS OR SUPPORTS SHALL NOT BE PLACED IN CONTACT WITH THE FORMS OR THE SUBGRADE. CONCRETE BLOCKS (OR DOBIES) SUPPORTING BARS ON SUBGRADE SHALL BE IN SUFFICIENT NUMBERS TO SUPPORT THE BARS WITHOUT SETTLEMENT, BUT IN NO CASE SHALL SUCH SUPPORT BE CONTINUOUS.
- DOWELS SHALL BE WIRED OR OTHERWISE HELD IN POSITION. THEY SHALL NOT BE INSERTED INTO FRESHLY PLACED CONCRETE.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, LAPS OF REINFORCEMENT SHALL BE AS SHOWN ON DWG NO. G-5.
- REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY PIPE, PIPE FLANGE OR METAL PARTS EMBEDDED IN CONCRETE, A MINIMUM OF 2 INCHES CLEARANCE SHALL BE PROVIDED AT ALL TIMES.
- ALL ITEMS EMBEDDED IN CONCRETE SHALL BE SPACED ON CENTER AT LEAST 3 TIMES THEIR OUTSIDE DIMENSION. THE OUTSIDE DIMENSION SHALL NOT EXCEED ONE THIRD OF THE MEMBER THICKNESS
- UNLESS OTHERWISE SHOWN ON THE DRAWINGS CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:
 - FOR CONCRETE PLACED AGAINST EARTH (SEE CONSTRUCTION JOINT DETAILS FOR THIN SLABS-ON-GRADE, BOTTOM COVER MAY BE LESS THAN 3" IF SO INDICATED) _____ 3"
 - FOR SURFACES IN CONTACT WITH WATER OR WEATHER AND FORMED SURFACES IN CONTACT WITH EARTH _____ 2" PLUS THICKNESS OF CONCRETE FORMLINER IF APPLICABLE
 - FOR CONCRETE NOT EXPOSED TO WEATHER, OR IN CONTACT WITH WATER OR EARTH _____ 1 1/2" PLUS THICKNESS OF CONCRETE FORMLINER IF APPLICABLE

REINFORCED CAST-IN-PLACE CONCRETE

- ALL STRUCTURAL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH PER CONCRETE MIX SCHEDULE IN SECTION 03 30 00 OF THE TECHNICAL SPECIFICATIONS.
- REINFORCEMENT STEEL SHALL BE PER SECTION 03 21 00 OF THE TECHNICAL SPECIFICATIONS.
- ALL DETAILING, FABRICATION AND PLACING OF REINFORCING BARS, UNLESS OTHERWISE INDICATED, SHALL BE IN ACCORDANCE WITH ACI-315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.
- TOLERANCES IN PLACING REINFORCEMENT SHALL BE:

 - +/- 3/8 INCH FOR MEMBERS WITH DEPTH D <= 8 INCHES
 - +/- 1/2 INCH FOR MEMBERS WITH DEPTH D > 8 INCHES
- ALL CONSTRUCTION JOINTS, SHALL BE ROUGH AND THOROUGHLY CLEANED FOR BOND.
- LOCATION OF ALL CONSTRUCTION JOINTS SHALL BE AS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER. ALL CONSTRUCTION JOINTS LOCATED ON THE DRAWINGS, OR REQUIRED FOR CONSTRUCTION BUT NOT SHOWN ON THE DRAWINGS, SHALL HAVE A 6" FLATSTRIP WATERSTOP IF IN CONTACT WITH WATER. IN ADDITION, JOINTS IN ALL SLABS COVERED WITH WATER SHALL HAVE BOTH A 6" FLATSTRIP WATERSTOP AND A SEALANT GROOVE.
- DOWELS, PIPE, WATERSTOPS AND OTHER INSTALLED MATERIALS AND ACCESSORIES SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.
- UNLESS OTHERWISE INDICATED, ASIDE FROM NORMAL ACCESSORIES USED TO HOLD REINFORCING BARS FIRMLY IN POSITION, THE FOLLOWING SHALL BE ADDED:

 - A. IN SLABS #5 RISER BARS AT 36 INCHES OC MAXIMUM TO SUPPORT TOP REINFORCING BARS.
 - B. IN WALLS WITH 2 CURTAINS #3 U OR Z SHAPE SPACERS AT 6 FEET OC EACH WAY.
 - +/- 3/8 INCH FOR MEMBERS WITH DEPTH D <= 8 INCHES
 - +/- 1/2 INCH FOR MEMBERS WITH DEPTH D > 8 INCHES
- VERTICAL REINFORCEMENT FOR CONCRETE SHALL BE SPLICED WITH DOWEL BARS OF THE SAME SIZE AND SPACING FROM THE FOUNDATION USING A STANDARD SPLICE LENGTH UNLESS INDICATED OTHERWISE.
- SEALANT SHALL BE PLACED AT THE TOP OF ALL JOINTS RECEIVING EXPANSION JOINT FILLER. SEALANT DEPTH SHALL BE THE JOINT FILL THICKNESS OR 1/2", WHICHEVER IS LESS.
- ALL GROUT SHALL BE NON-SHRINK GROUT PER SECTION 03 60 00 OF THE TECHNICAL SPECIFICATIONS, UNLESS INDICATED OTHERWISE.

RETAINING WALL DESIGN CRITERIA

DESIGN LOADINGS/CRITERIA:

DEAD LOAD	
CONCRETE STRUCTURE WEIGHT	150 PCF
SUPERIMPOSED DEAD LOAD	
SATURATED SOIL WEIGHT	130 PCF
MOIST SOIL WEIGHT	125 PCF
AT-REST LATERAL EARTH COEFF.	0.45
LIVE LOADS	
CONSTRUCTION LIVE LOAD - UNIFORM	250 PSF
VEHICLE LIVE LOAD - CONCENTRATED	H20 - 16 KIP WHEEL
WIND	
RETAINING WALL	50 PSF
SEISMIC CRITERIA	NOT APPLICABLE
MINIMUM ALLOWABLE BEARING PRESSURE	4,000 PSF

RETAINING WALL STRUCTURAL NOTES

CONCRETE	PLANT READY-MIX MINIMUM 28 DAY COMPRESSIVE STRENGTH, f _c = 4,500 PSI PER CONCRETE MIX SCHEDULE IN SECTION 03 30 00 OF THE TECHNICAL SPECIFICATIONS
REINFORCEMENT	REINFORCEMENT SHALL BE ASTM A615, f _y = 60 ksi PER SECTION 03 21 00 OF THE TECHNICAL SPECIFICATIONS
WATERSTOP	
TYPE 1	9" TEE WATERSTOP
TYPE 2	6" WIDE PVC
TYPE 3	9" WIDE PVC
TYPE 4	SIKE HYDROTITE CJ-1020-2K OR APPROVED EQUAL

- FIELD VERIFY DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
- DEMOLISH AND REMOVE EXISTING WALL AND FOUNDATION AS SHOWN ON SHEET DWG NO. D-1 THRU DWG NO. D-3. EXCAVATE SOILS AS NECESSARY FOR FLOOD WALL CONSTRUCTION OPERATIONS.
- EXCAVATE FOR CONCRETE SHEAR KEY. DEPTHS MAY VARY. SOIL SHEAR STRENGTHS MEET OR EXCEED 2,000 PSF (COHESIVE SOILS) OR 32 DEGREES (GRANULAR SOILS). COMPACT BASE SOILS PRIOR TO PLACING CONCRETE. VERIFY. IMPROVE BASE SOILS AS NECESSARY.
- REINFORCEMENT LAP SPLICES AND 90 DEG. END HOOKS SHALL BE AS SHOWN IN THE TABLE ON SHEET DWG NO. G-5 UNLESS NOTED.
- REINFORCING BARS SHALL HAVE THE FOLLOWING CONCRETE COVER UNLESS NOTED:

 - A. CONCRETE EXPOSED TO FLOWING WATER 4"
 - B. CONCRETE CAST AGAINST EARTH 3"
 - C. ALL OTHER CONCRETE 2"
- CONCRETE SHALL BE PLACED WITHOUT CONSTRUCTION JOINTS EXCEPT WHERE SPECIFICALLY SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER.
- PROVIDE WATERSTOP AT ALL CONCRETE CONSTRUCTION JOINTS.
- BEVEL ALL EXPOSED CORNERS OF CONCRETE 3/4" X 3/4".
- SEE CONCRETE SURFACE TREATMENT (CST) SCHEDULE ON THIS SHEET FOR CONCRETE FINISHES.

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



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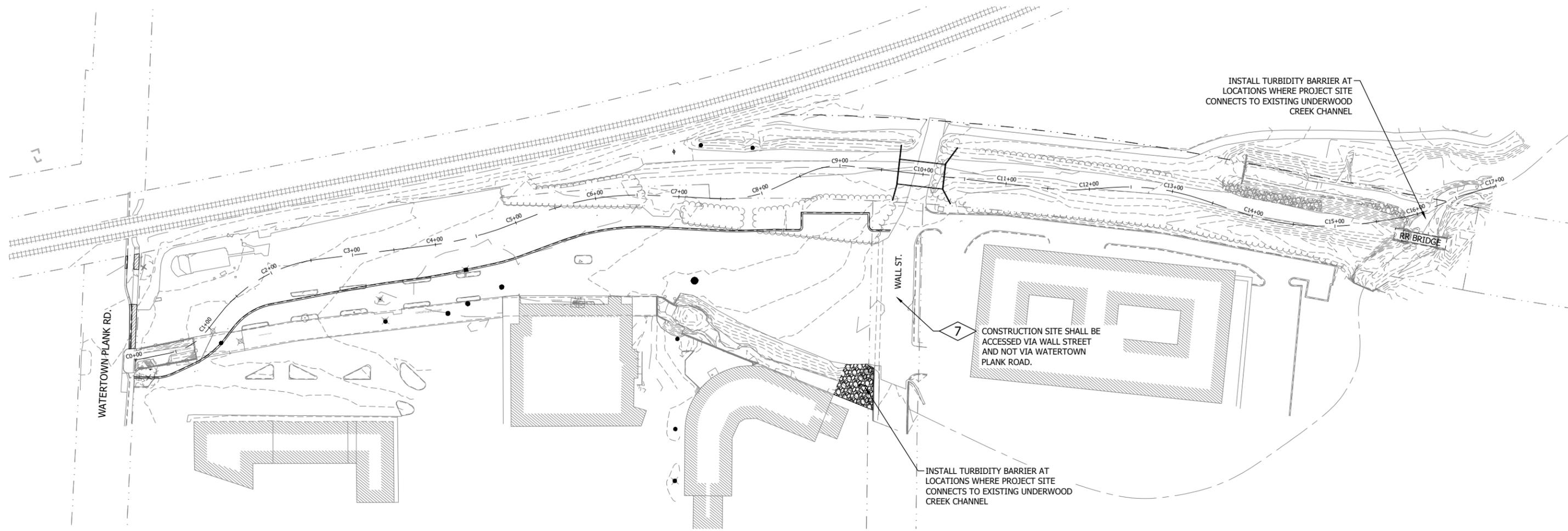


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

STRUCTURAL NOTES

DRAWING NO.	G-6
SHEET NO.	6
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_G.dwg

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1 EROSION CONTROL NOTES

1. POST WDNR CERTIFICATE OF PERMIT COVERAGE ON SITE AND MAINTAIN UNTIL CONSTRUCTION ACTIVITIES HAVE CEASED, THE SITE IS STABILIZED, AND A NOTICE OF TERMINATION IS FILED WITH WDNR.
2. KEEP A COPY OF THE CURRENT EROSION CONTROL PLAN ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
3. SUBMIT PLAN REVISIONS OR AMENDMENTS TO THE WDNR AT LEAST 5 DAYS PRIOR TO FIELD IMPLEMENTATION.
4. CONTRACTOR IS RESPONSIBLE FOR ROUTINE SITE INSPECTIONS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. KEEP INSPECTION REPORTS ON-SITE AND MAKE THEM AVAILABLE UPON REQUEST.
5. INSPECT AND MAINTAIN ALL INSTALLED EROSION CONTROL PRACTICES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
6. REFER TO THE WDNR STORMWATER CONSTRUCTION TECHNICAL STANDARDS AT http://dnr.wi.gov/topic/stormwater/standards/const_standards.html.
7. INSTALL CONSTRUCTION ENTRANCE(S) PRIOR TO ANY LAND-DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING. USE **WDNR TECHNICAL STANDARD TRACKOUT CONTROL PRACTICES #1057** FOR CONSTRUCTION ENTRANCE(S).
8. INSTALL INLET PROTECTION PRIOR TO LAND-DISTURBING ACTIVITIES IN THE CONTRIBUTING DRAINAGE AREA AND/OR IMMEDIATELY UPON INLET INSTALLATION. COMPLY WITH **WDNR TECHNICAL STANDARD STORM DRAIN INLET PROTECTION FOR CONSTRUCTION SITES #1060**.
9. PROVIDE ANTI-SCOUR PROTECTION AND MAINTAIN NON-EROSIVE FLOW DURING DEWATERING. PERFORM DEWATERING OF ACCUMULATED SURFACE RUNOFF IN ACCORDANCE WITH **WDNR TECHNICAL STANDARD DEWATERING PRACTICES FOR SEDIMENT CONTROL #1061**.
10. INSTALL AND MAINTAIN PERIMETER SEDIMENT CONTROL PER **WDNR TECHNICAL STANDARD PERIMETER SEDIMENT CONTROL AND SLOPE INTERRUPTION #1056**.

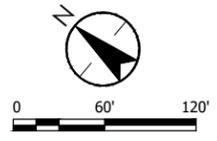
11. LOCATE, INSTALL, AND MAINTAIN DITCH CHECKS PER **WDNR TECHNICAL STANDARD DITCH CHECKS #1062**.
12. IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
13. IMMEDIATELY STABILIZE ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR 14 DAYS OR LONGER.
14. STABILIZE AREAS OF FINAL GRADING WITHIN 7 DAYS OF REACHING FINAL GRADE.
15. SWEEP/CLEAN UP ALL SEDIMENT/TRASH THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS BEFORE THE END OF THE SAME WORKDAY OR AS DIRECTED BY THE OWNER. SEPARATE SWEEP MATERIALS (SOILS AND TRASH) AND DISPOSE OF APPROPRIATELY.
16. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST PER **WDNR TECHNICAL STANDARD DUST CONTROL #1068**.
17. MAKE PROVISIONS FOR WATERING DURING THE FIRST 8 WEEKS FOLLOWING SEEDING OR PLANTING OF DISTURBED AREAS WHENEVER MORE THAN 7 CONSECUTIVE DAYS OF DRY WEATHER OCCUR.
18. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL-APPLICABLE WDNR REMEDIATION AND WASTE MANAGEMENT REQUIREMENTS FOR HANDLING AND DISPOSING OF CONTAMINATED MATERIALS.

CHANNEL SEQUENCING

IT IS ANTICIPATED THAT THE NEW UNDERWOOD CREEK CHANNEL WILL BE CONSTRUCTED IN THE DRY, BEGINNING AT THE DOWNSTREAM END SOUTH OF WALL STREET AND PROCEEDING UPSTREAM TO WHERE THE NEW CHANNEL CONNECTS TO THE EXISTING CHANNEL NEAR WATERTOWN PLANK ROAD. THE NEW CHANNEL BED AND BANKS WILL BE EXCAVATED AND SHAPED AS THE WORK PROCEEDS UPSTREAM. THE CHANNEL BANKS, CONSISTING OF EITHER REINFORCED CONCRETE WALLS, STEPPED QUARRY STONE BLOCKS, OR VEGETATED SLOPES, WILL BE CONSTRUCTED AS THE EXCAVATION PROCEEDS. THE CHANNEL BED, CONSISTING OF SEQUENCES OF GLIDE, RIFFLE, RUN, AND POOL SECTIONS, WILL BE INSTALLED IN CONJUNCTION WITH THE CHANNEL BANKS.

THE CHANNEL BED WILL BE STABILIZED THROUGH PLACEMENT OF APPROPRIATE BED MATERIALS. THE CONCRETE AND STONE PORTIONS OF THE CHANNEL BANKS WILL BE STABILIZED BY THE INHERENT SCOUR RESISTANCE OF THE CONCRETE OR STONE MATERIAL. THE VEGETATED BANKS WILL BE SEEDED AND STABILIZED WITH APPROPRIATE EROSION CONTROL MATTING. STREAM BANKS WILL BE SEEDED AND MATTED AS THE CHANNEL CONSTRUCTION PROGRESSES.

AFTER THE NEW CHANNEL IS COMPLETED AS FAR UPSTREAM AS POSSIBLE PRIOR TO CONNECTION TO THE EXISTING CHANNEL, FLOW WILL BE DIVERTED INTO THE NEW CHANNEL AND THE CHANNEL CONSTRUCTION WILL BE COMPLETED. THE CONNECTION WILL BE MADE DURING LOW FLOW CONDITIONS. AFTER DIVERTING STREAM FLOW INTO THE NEW CHANNEL, THE OLD BOX CULVERT WILL BE ABANDONED BY FILLING WITH CLEAN FILL. THE VILLAGE OF ELM GROVE WILL BE RESPONSIBLE FOR LONG-TERM MAINTENANCE OF THE NEW CHANNEL.

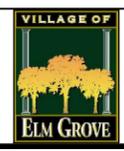


PRELIMINARY PLAN

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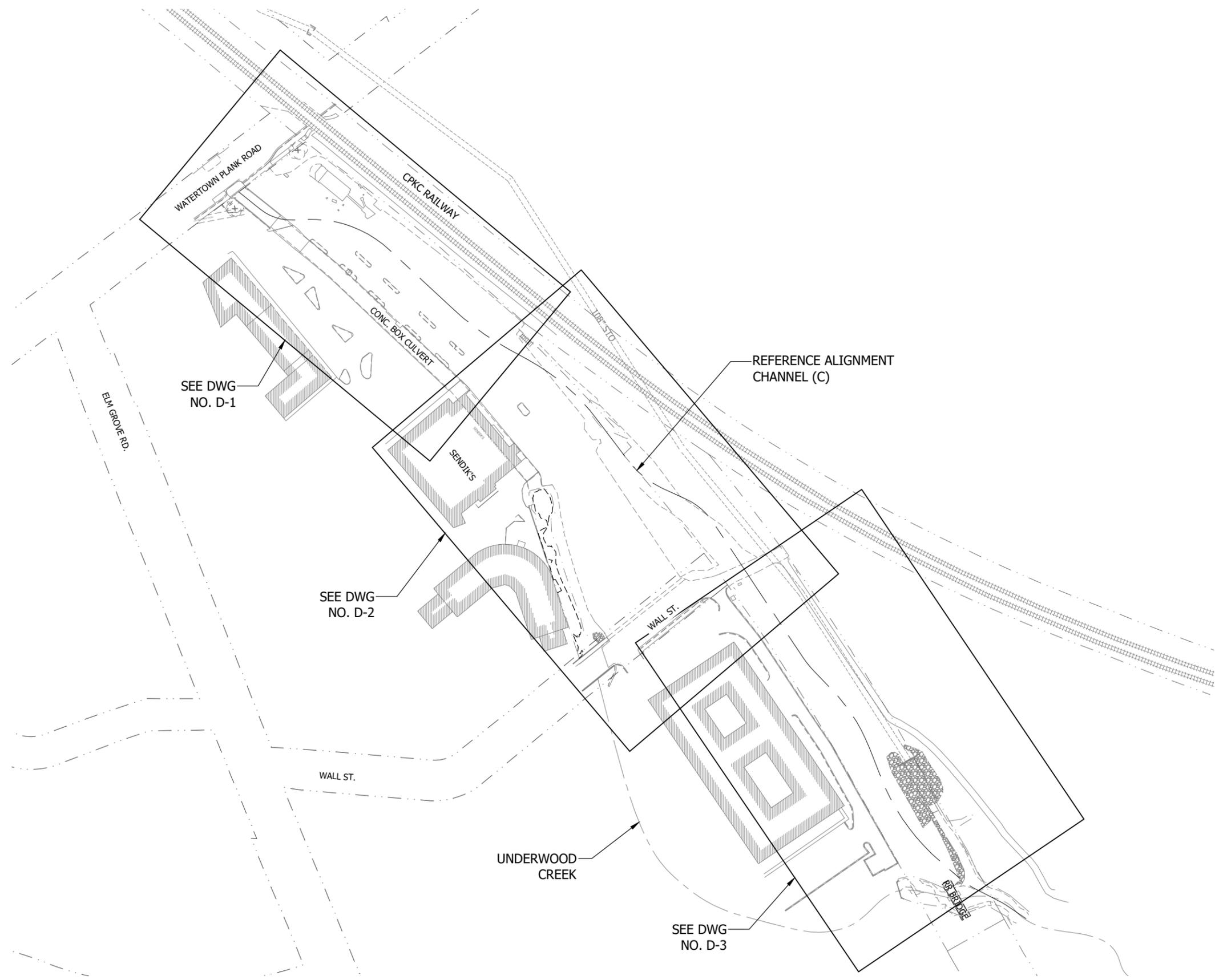


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN
SUGGESTED EROSION CONTROL MEASURES

DRAWING NO.	EC-1
SHEET NO.	7
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_EC.dwg

Plot Date: 12/19/2024 - 7:40am
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User: R. Klein
Series: 193806812.dwg
193806812.dwg

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 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_D.dwg
 User: R. Klein
 Plot Date: 12/19/2024 - 7:24am
 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_D.dwg
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**PRELIMINARY
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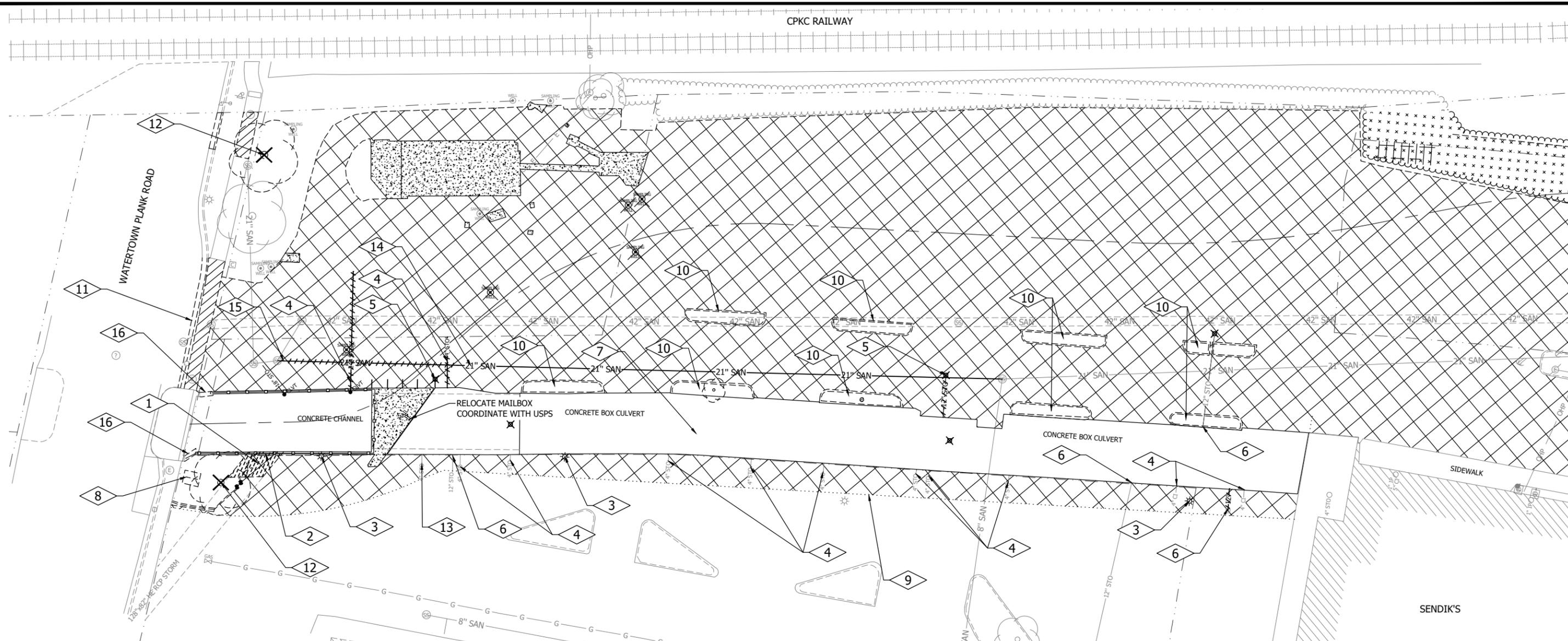
REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 DEMOLITION AND REMOVALS SHEET INDEX

DRAWING NO.	D-0
SHEET NO.	8
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_D.dwg

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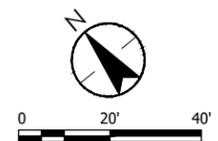


PLAN NOTES

1. EXISTING OUTFALL OF 128"x82" STORM SEWER SHALL MODIFIED AND INCORPORATED INTO NEW RETAINING WALL. SEE DWG NO. CB-2.
2. REMOVE CONCRETE CHANNEL, INCLUDING; WALLS, RAILINGS, PAVED INVERT AND ASSOCIATED ITEMS. SEE DWG NO. CB-2 AND DWG NO. CB-3 FOR REMOVAL LIMITS ADJACENT TO WATERTOWN PLANK ROAD.
3. SALVAGE LIGHT POLE AND FIXTURE, STORE, AND REINSTALL AFTER COMPLETION OF CHANNEL CONSTRUCTION.
4. ABANDON STORM SEWER
5. ABANDON STORM INLET AND STORM PIPE
6. EXISTING STORM LINES CONNECTED TO THE BOX CULVERT SHALL BE RECONNECTED TO THE PROPOSED STORM SEWER AS SHOWN IN DWG NO. ST-3.
7. REMOVE THE TOP OF THE CONCRETE BOX CULVERT. REMOVE THE WALLS OF THE CULVERT TO MINIMUM 3- FEET BELOW GROUND SURFACE OR AS REQUIRED FOR SEWER CONSTRUCTION.
8. SALVAGE SIGN AND MASONRY FOUNDATION, STORE AND REINSTALL ON SITE AT LOCATION TO BE DETERMINED BY OWNER AFTER COMPLETION OF CHANNEL CONSTRUCTION.
9. SAWCUT ASPHALT
10. REMOVE PARKING LOT ISLANDS AND VEGETATION.
11. REMOVE PARKING LOT ENTRANCE. REPLACE WITH STANDARD CURB AND SIDEWALK
12. REMOVE TREES
13. COMPLETELY REMOVE UPSTREAM END OF EXISTING CULVERT AS NECESSARY TO ALLOW UNOBSTRUCTED CONSTRUCTION OF RETAINING WALL.
14. REMOVE EXISTING 21-INCH SANITARY SEWER AS NECESSARY TO ALLOW UNOBSTRUCTED CONSTRUCTION OF CHANNEL AND BANKS. BULKHEAD SEWER AT BOTH ENDS OF REMOVAL.
15. BULKHEAD 21-INCH SANITARY SEWER AT THE EXISTING MANHOLE.
16. SAWCUT AND REMOVE BRIDGE WING WALLS.

REMOVALS LEGEND

	SAWCUT ASPHALT
	CURB & GUTTER REMOVAL
	ASPHALT REMOVAL
	CONCRETE REMOVAL
	CLEAR AND GRUBBING
	SALVAGE RIPRAP



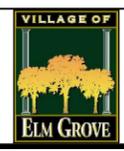
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PRELIMINARY PLAN

DESIGNER
 M. SIERACKI
 DRAWN BY
 A. ROCK
 CHECKER
 D. AMUNDSEN
 APPROVED
 R. KLEIN



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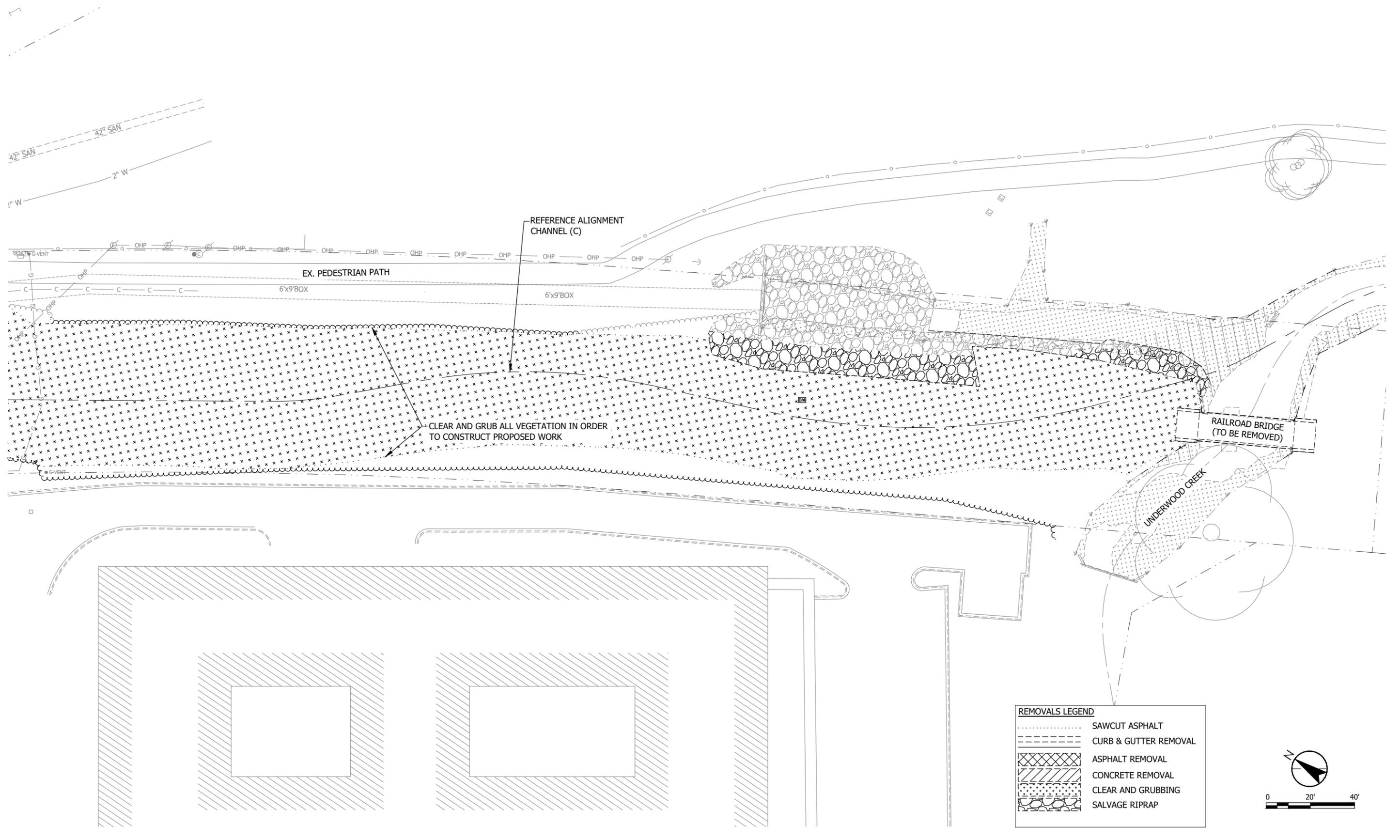


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 DEMOLITION AND REMOVALS PLAN

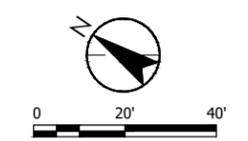
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PROJ NO.	193806812
FILE	193806812_D.dwg

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REMOVALS LEGEND	
	SAWCUT ASPHALT
	CURB & GUTTER REMOVAL
	ASPHALT REMOVAL
	CONCRETE REMOVAL
	CLEAR AND GRUBBING
	SALVAGE RIPRAP

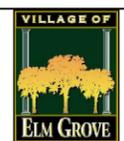


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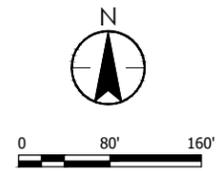
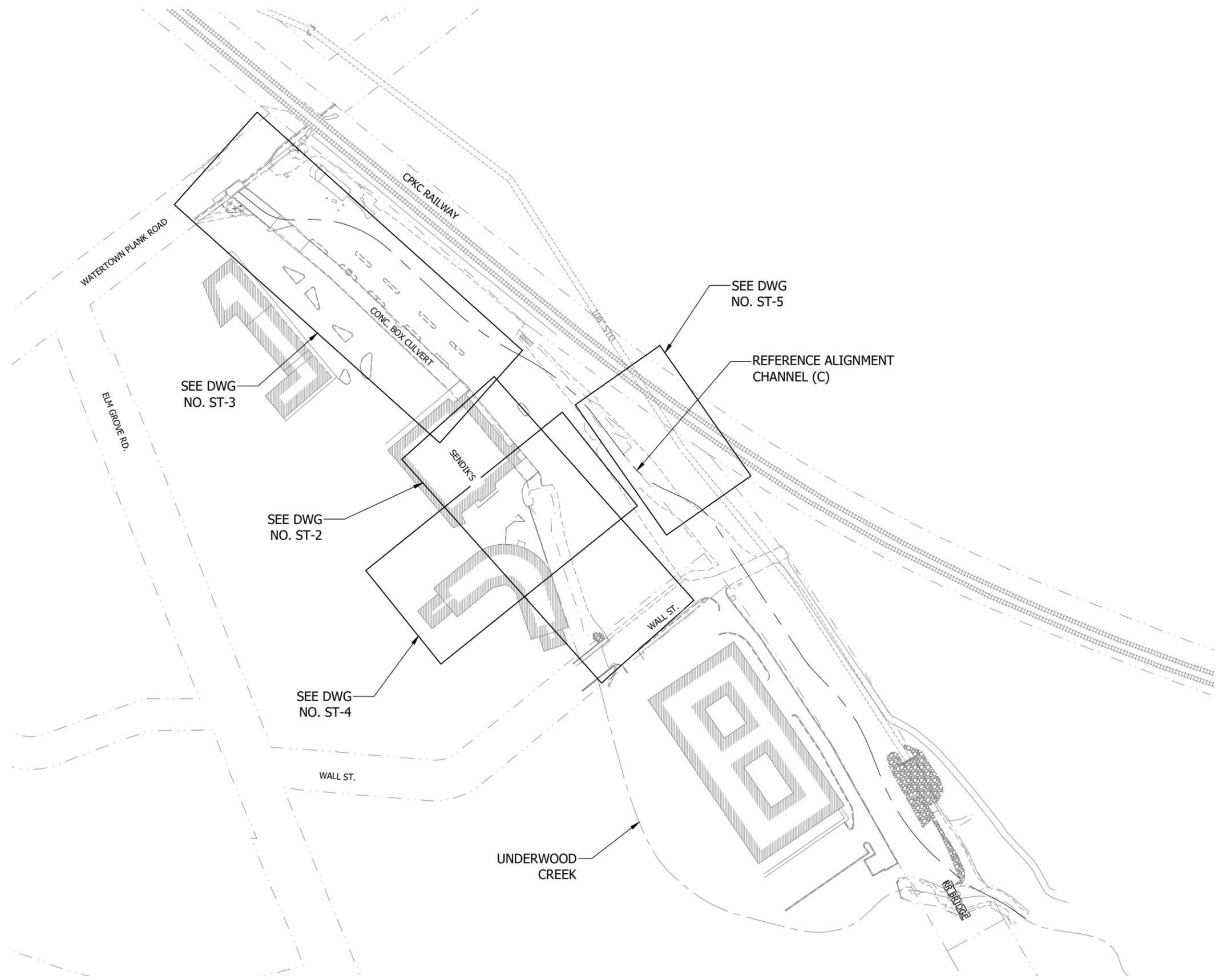
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UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 DEMOLITION AND REMOVALS PLAN

DRAWING NO.	D-3
SHEET NO.	11
DATE	December 19, 2024
PROJ NO.	193806812
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M. SIERACKI
 DRAWN BY
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 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

STORM SEWER PLAN SHEET INDEX

DRAWING NO.	ST-0
SHEET NO.	12
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_ST.dwg

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STRUCTURE TABLE

STRUCTURE	DESCRIPTION	PLAN & PROFILE DWG NO.	SIZE	CASTING		RIM OR FLOW LINE	PIPE(S) IN		PIPE(S) OUT		NORTHING	EASTING
				FRAME	GRATE		SIZE	INVERT	SIZE	INVERT		
OF-1	FLARED END SECTION WITH SAFETY RACK	ST-2	--			--	34"x53"	729.96	--	--	385273.39	2482426.24
MH-1	STORM INLET MANHOLE	ST-2	96"	NEENAH R-2695-A	TYPE D	737.67	36" 12"	731.47 733.34	34"x53"	730.84	385512.55	2482393.60
MH-2	STORM INLET MANHOLE	ST-3	60"	NEENAH R-2695-A	TYPE D	739.62	36"	732.26	36"	732.26	385684.30	2482239.25
MH-3	STORM INLET MANHOLE	ST-3	60"	NEENAH R-2695-A	TYPE D	739.81	36" 12" 12"	732.48 734.00 734.08	36"	732.41	385702.60	2482197.87
MH-4	STORM INLET MANHOLE	ST-3	60"	NEENAH R-2695-A	TYPE D	740.01	24" 12"	733.57 735.25	36"	732.57	385713.27	2482173.73
MH-5	STORM INLET MANHOLE	ST-3	48"	NEENAH R-2695-A	TYPE D	740.31	18"	734.36	24"	733.86	385764.26	2482118.13
MH-6	STORM INLET MANHOLE	ST-3	48"	NEENAH R-3246	TYPE L	741.86	12"	735.79	18"	735.06	385898.19	2481972.06
CB-1	STROM CATCH BASIN	ST-3	2'X3'	NEENAH R-3246	TYPE L	739.12	--	--	12"	734.84	385730.26	2482227.45
MH-7	STORM INLET MANHOLE	ST-4	48"	NEENAH R-2695-A	TYPE D	737.82	12"	733.83	12"	733.83	385483.50	2482327.20
MH-8	STORM INLET MANHOLE	ST-4	48"	NEENAH R-2695-A	TYPE D	737.71	12"	734.56	12"	734.56	385416.10	2482243.39
MH-9	STORM INLET MANHOLE	ST-4	48"	NEENAH R-2695-A	TYPE D	737.78	--	--	12"	734.98	385376.86	2482195.57
MH-10	STORM INLET MANHOLE	ST-5	48"	NEENAH R-2695-A	TYPE D	736.83	24"	732.69	24"	732.59	385561.55	2482559.60
MH-11	STORM INLET MANHOLE	ST-5	48"	NEENAH R-2695-A	TYPE D	737.25	--	--	24"	733.00	385610.91	2482522.08

NOTE:

- NORTHING AND EASTING FOR MANHOLES AND CATCH BASINS ARE CENTER OF STRUCTURE.
- NORTHING AND EASTING FOR FLARED END SECTION (FES) ARE THE DOWNSTREAM END OF FES.

NON-PROFILE PIPE TABLE

Structure		Plan & Profile Dwg No.	Length (FT)	Size (IN)	Slope (FT/FT)	Material	Class	U/S Invert	D/S Invert
From	To								
MH-3	EXISTING	ST-3	31	12	0.032	RCP	CLASS V	735.00	734.00
MH-4	EXISTING	ST-3	12	12	0.010	RCP	CLASS V	735.37	735.25
MH-6	EXISTING	ST-3	17	12	0.018	RCP	CLASS V	736.09	735.79

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**PRELIMINARY
PLAN**

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

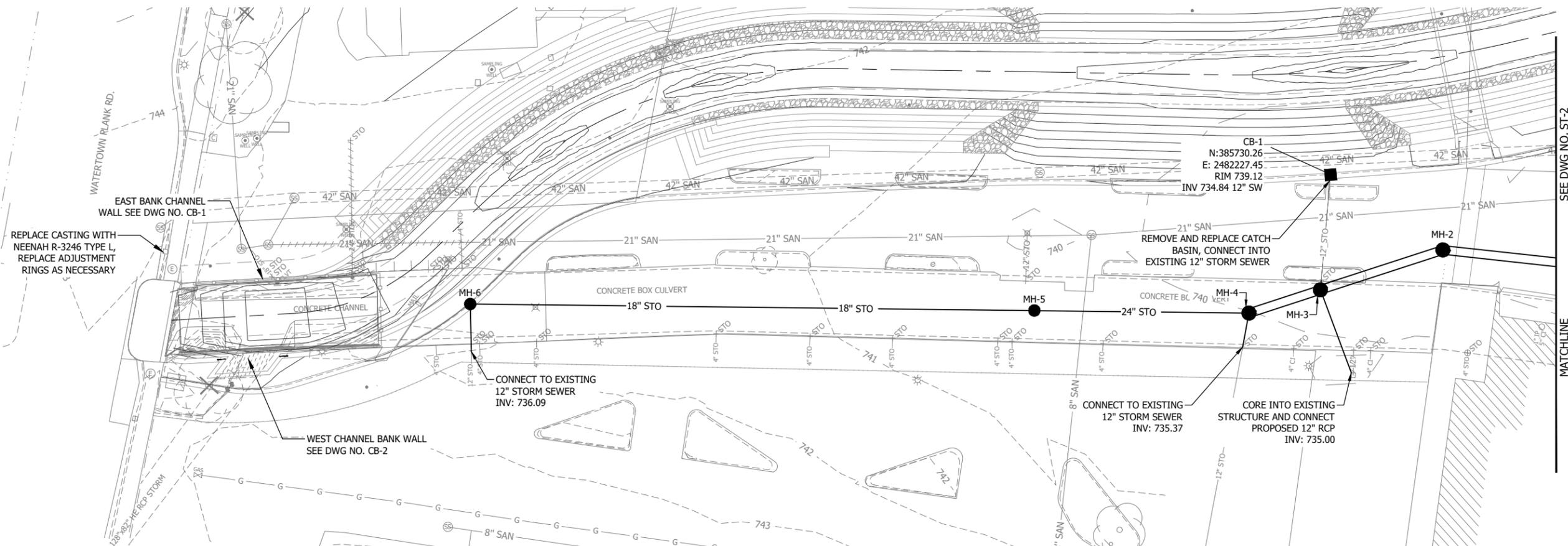


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

STORM SEWER STRUCTURE TABLE

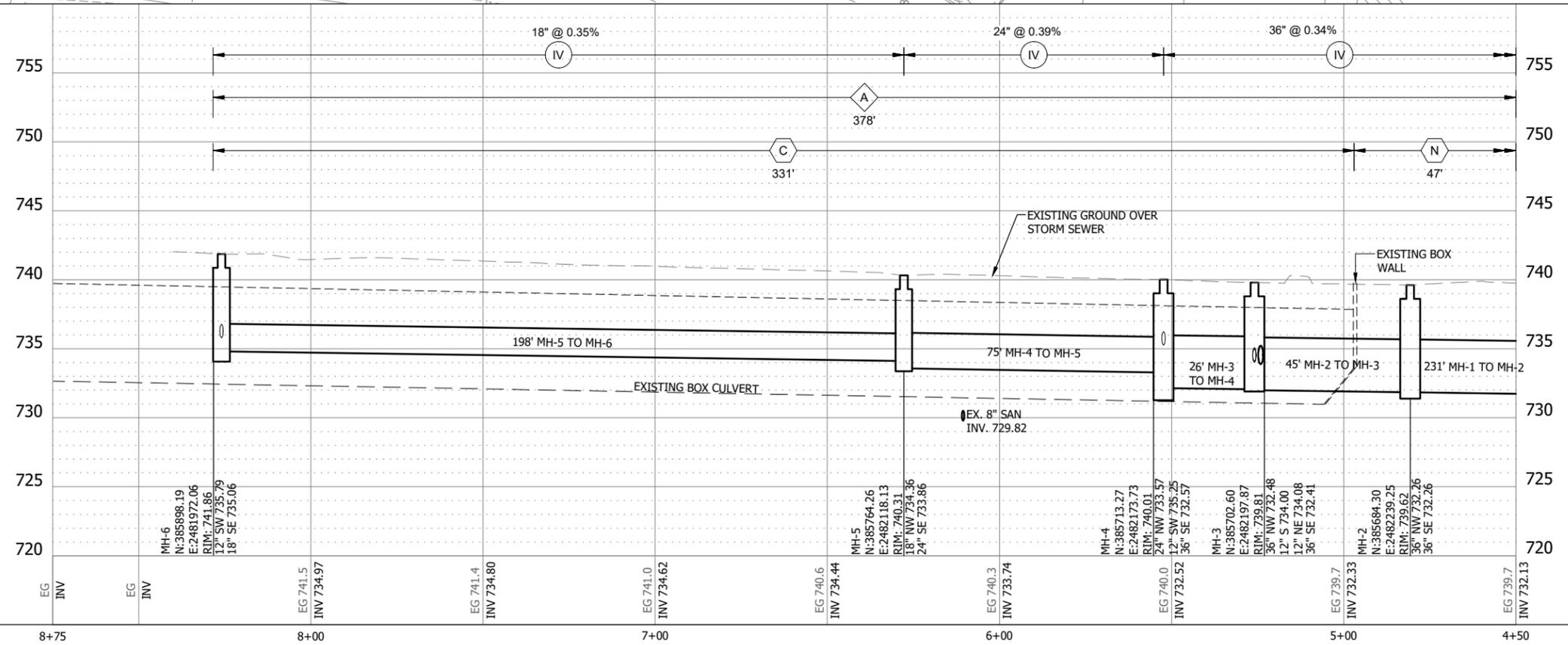
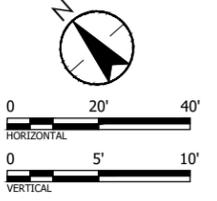
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SEE DWG NO. ST-2

MATCHLINE



- NOTE:
- REFER TO DW NO. ST-6 FOR TRENCH CLASSIFICATION AND TRENCH SURFACE RESTORATION.
 - REFER TO DWG NO. ST-1 FOR STRUCTURE AND NON-PROFILE PIPE TABLE.
 - STORM SEWER BETWEEN MH-6 AND UPSTREAM OF MH-2 IS CONSTRUCTED WITHIN ABANDONED CULVERT WALLS. SEE DETAIL  ST-6

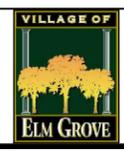
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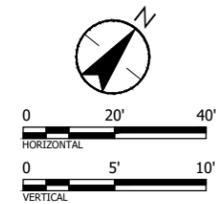
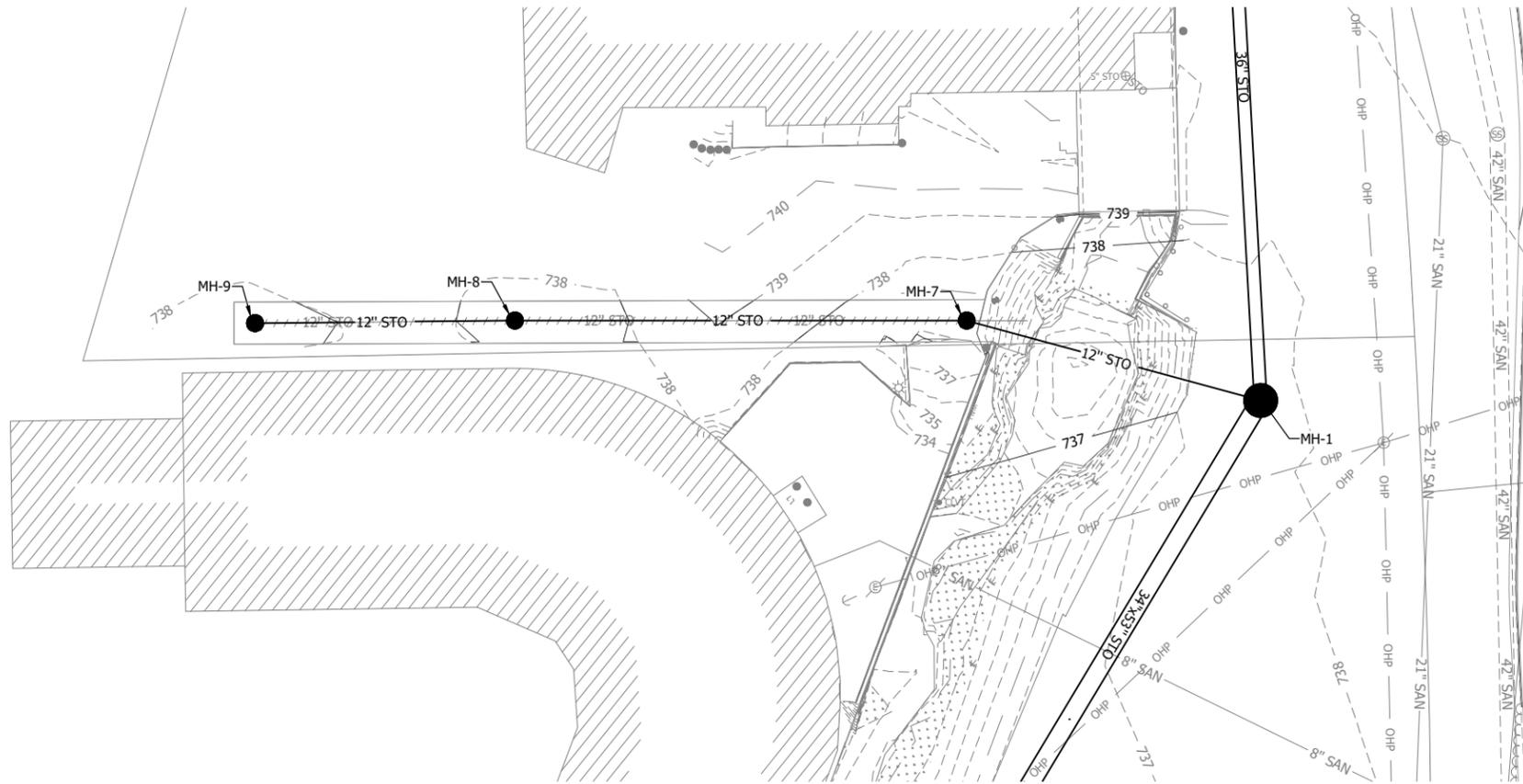


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

STORM SEWER PLAN & PROFILE

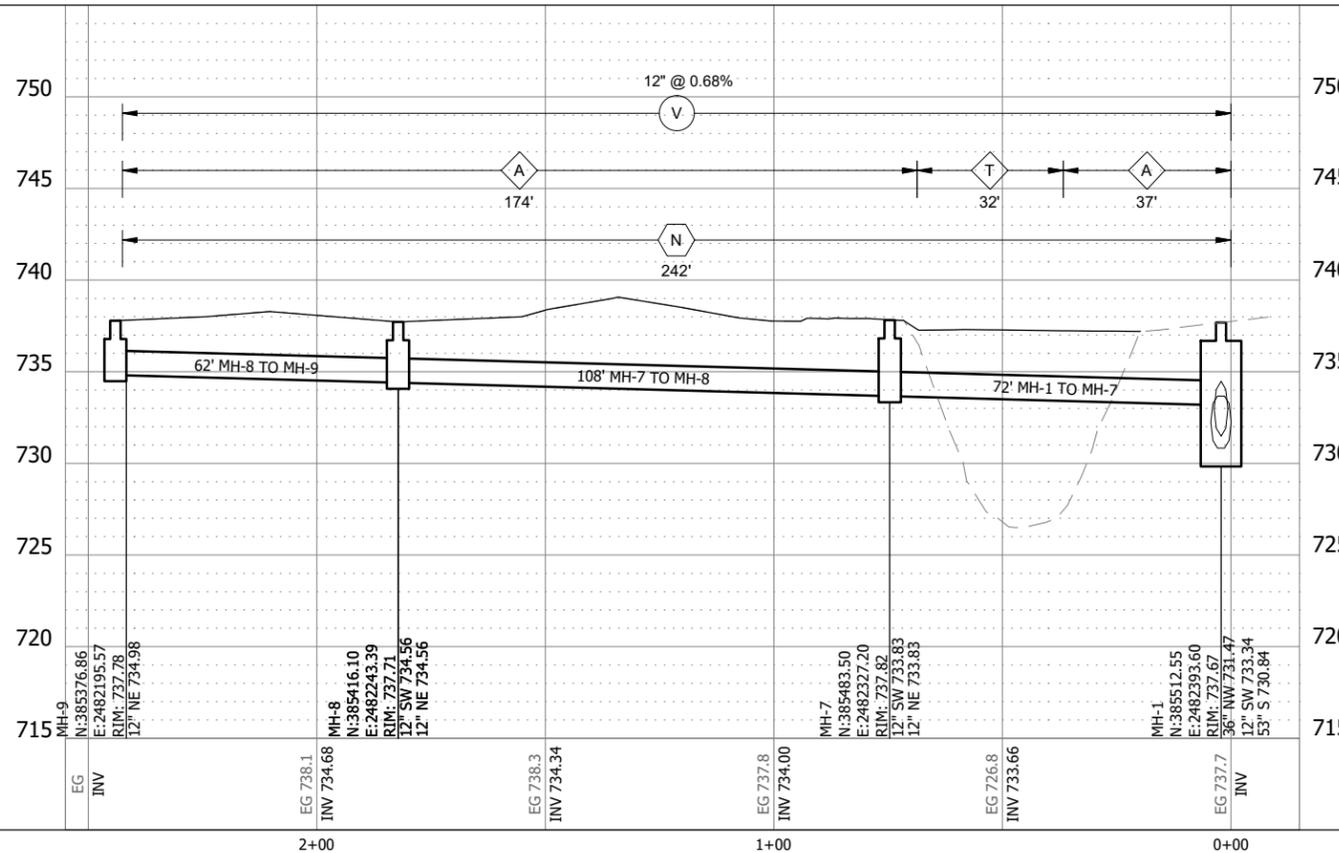
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DATE	December 19, 2024
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NOTES

1. REFER TO DWG NO. ST-6 FOR TRENCH CLASSIFICATION AND TRENCH SURFACE RESTORATION.
2. REFER TO DWG NO. ST-1 FOR STRUCTURE AND NON-PROFILE PIPE TABLE.



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User: R. Klein
Sheet: 193806812_ST.dwg

**PRELIMINARY
PLAN**

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M. SIERACKI
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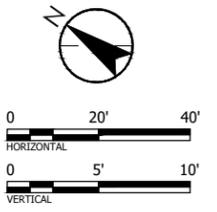
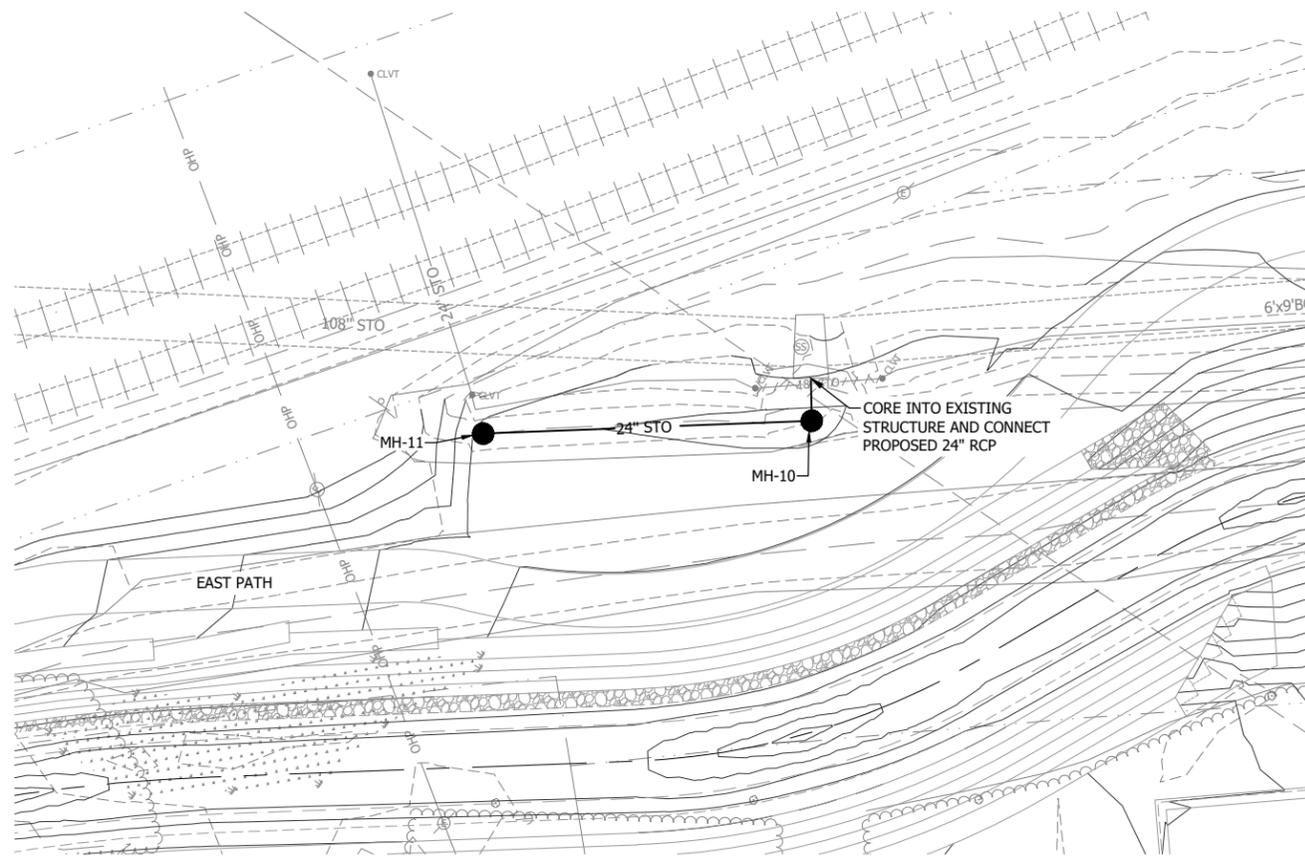


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

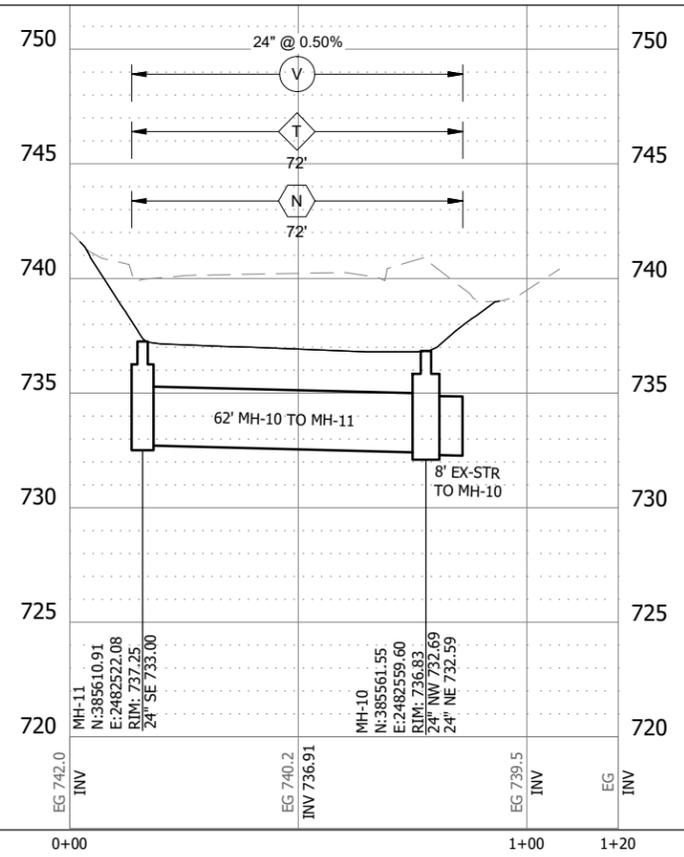
STORM SEWER PLAN & PROFILE

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PROJ NO.	193806812
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- NOTES
1. REFER TO DWG NO. ST-6 FOR TRENCH CLASSIFICATION AND TRENCH SURFACE RESTORATION.
 2. REFER TO DWG NO. ST-1 FOR STRUCTURE AND NON-PROFILE PIPE TABLE.



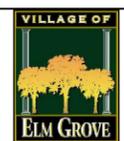
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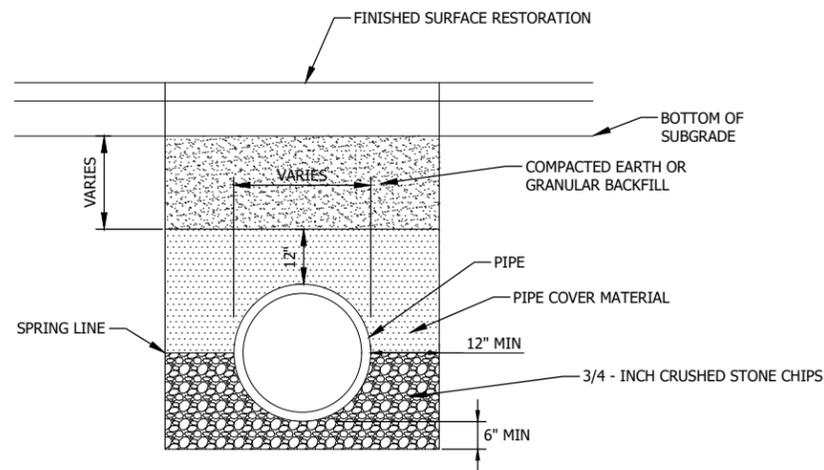
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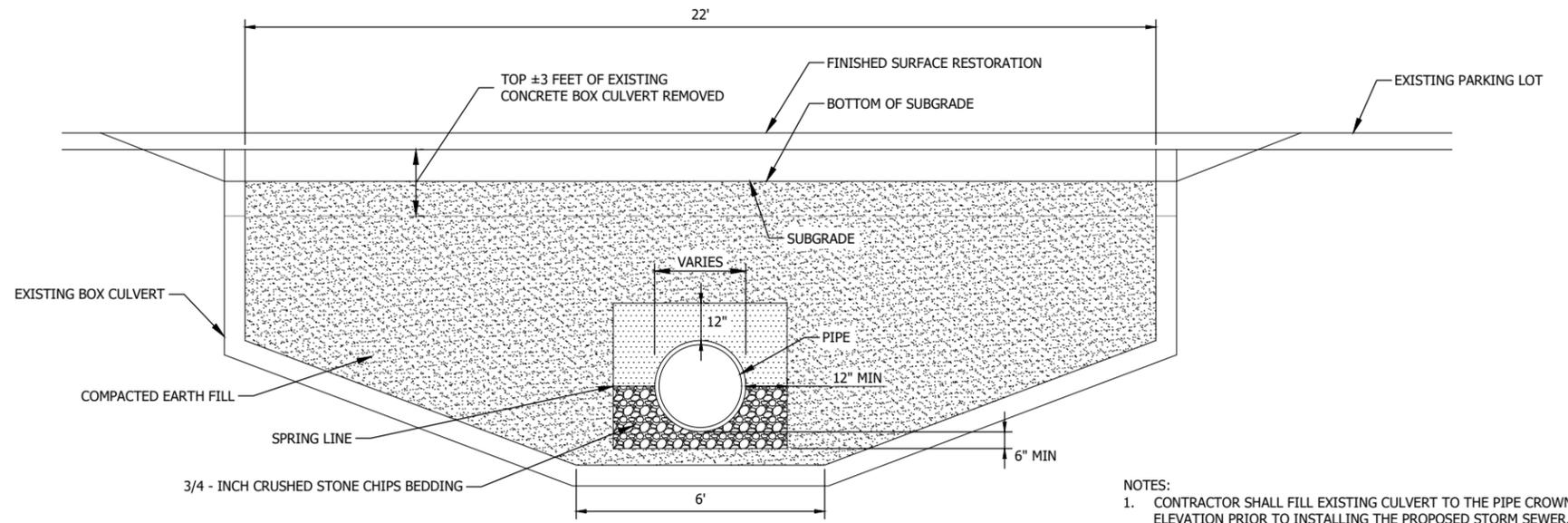
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 STORM SEWER PLAN & PROFILE

DRAWING NO.	ST-5
SHEET NO.	17
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_ST.dwg

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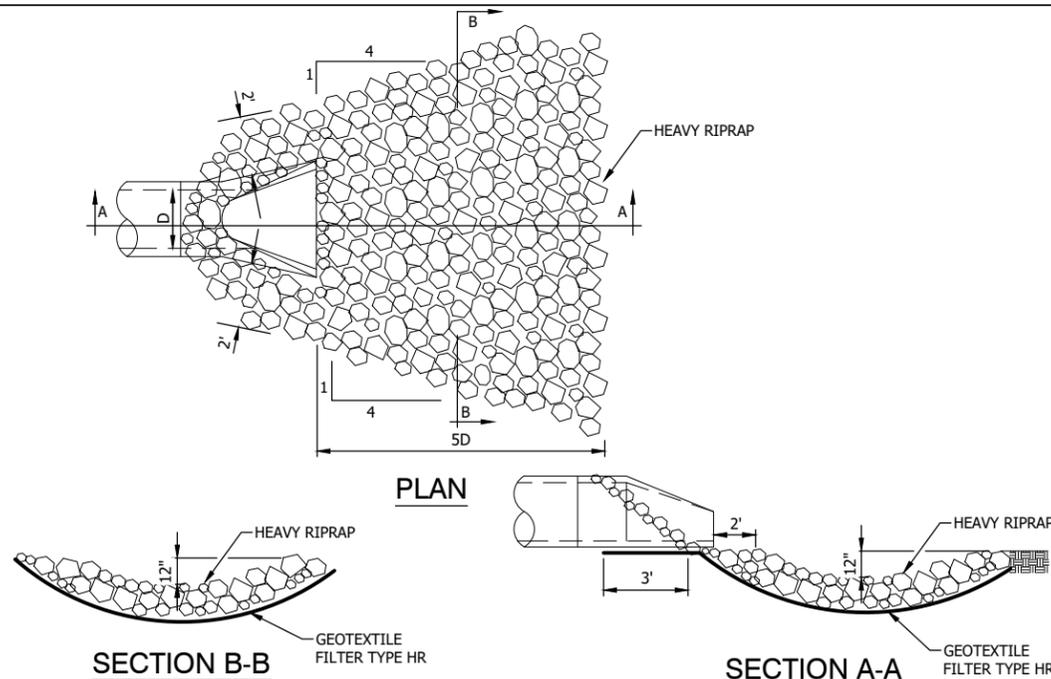


PIPE CONSTRUCTED IN NEW TRENCH - CLASS "N" 1
 NOT TO SCALE ST-2

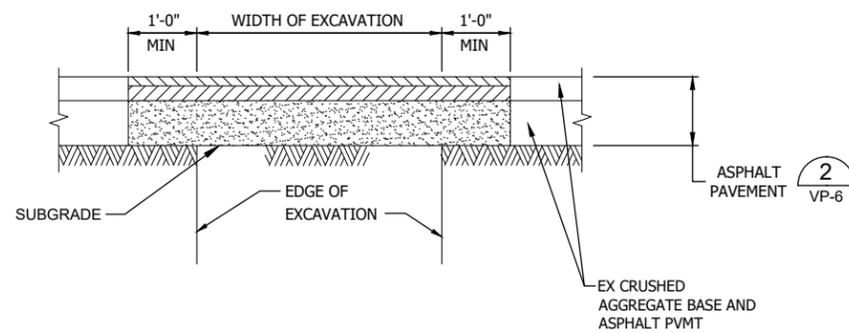


PIPE CONSTRUCTED WITHIN ABANDONED CULVERT WALLS - CLASS "C" 2
 NOT TO SCALE ST-3

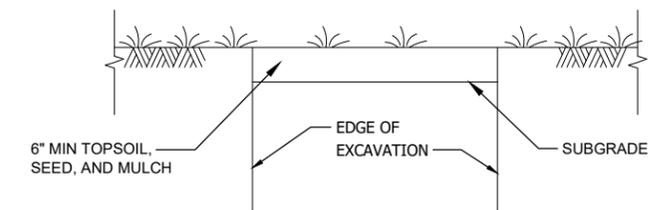
- NOTES:
- CONTRACTOR SHALL FILL EXISTING CULVERT TO THE PIPE CROWN ELEVATION PRIOR TO INSTALLING THE PROPOSED STORM SEWER.
 - ABANDON THE EXISTING CULVERT IN A SEQUENCE TO ALLOW FOR DRAINAGE OF EXISTING STORM SEWERS DURING CONSTRUCTION OF THE PROPOSED STORM SEWER.



STORM OUTFALL RIPRAP DETAIL 3
 NTS ST-2



ASPHALT PARKING LOT RESTORATION - TYPE "A" 4
 NTS ST-2



TURF GRASS RESTORATION TYPE "T" 5
 NTS ST-2

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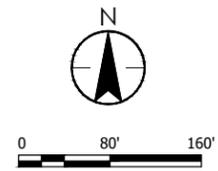
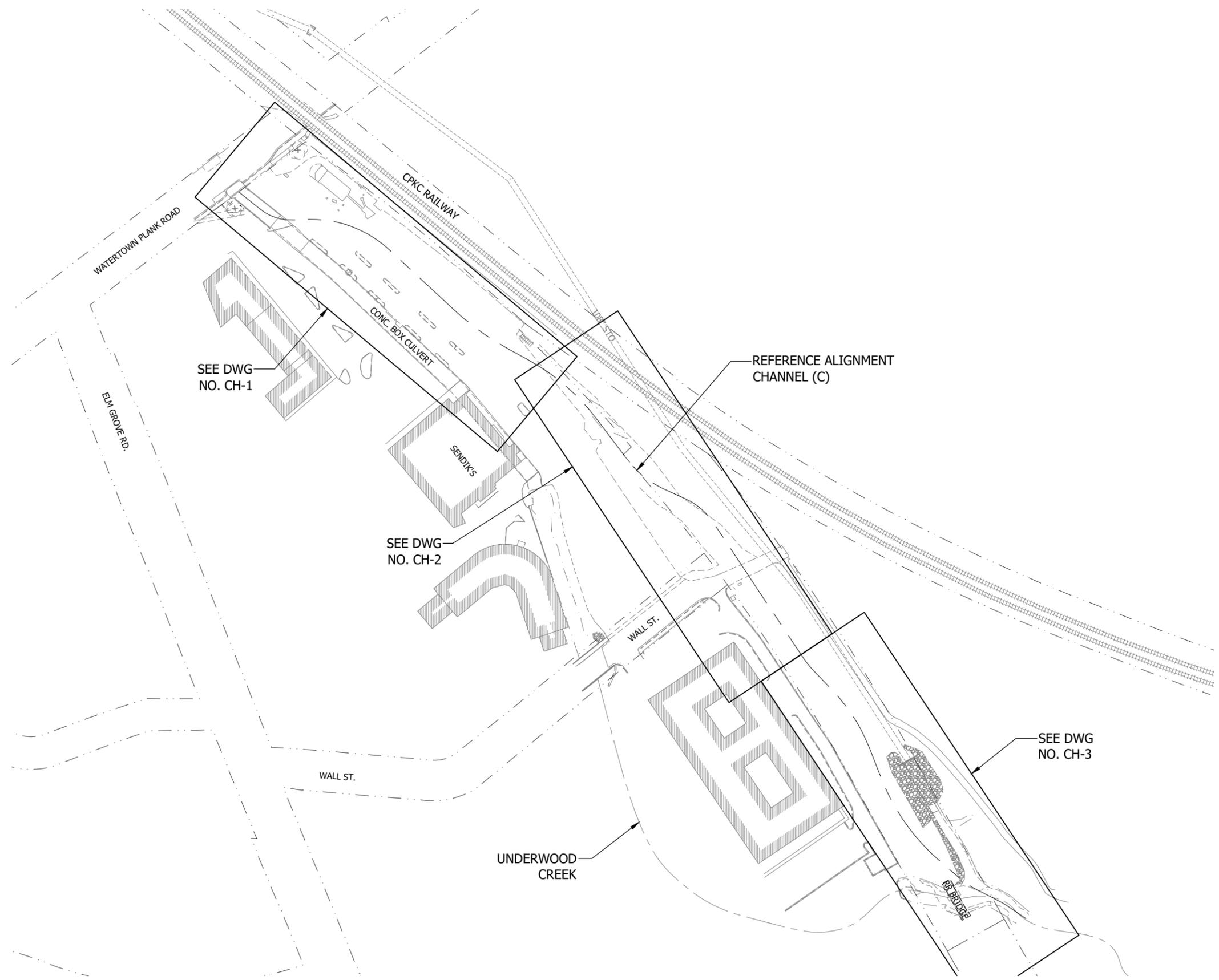


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

STORM SEWER DETAILS

DRAWING NO.	ST-6
SHEET NO.	18
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_ST.dwg

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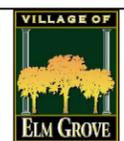
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 Series: 193806812.dwg

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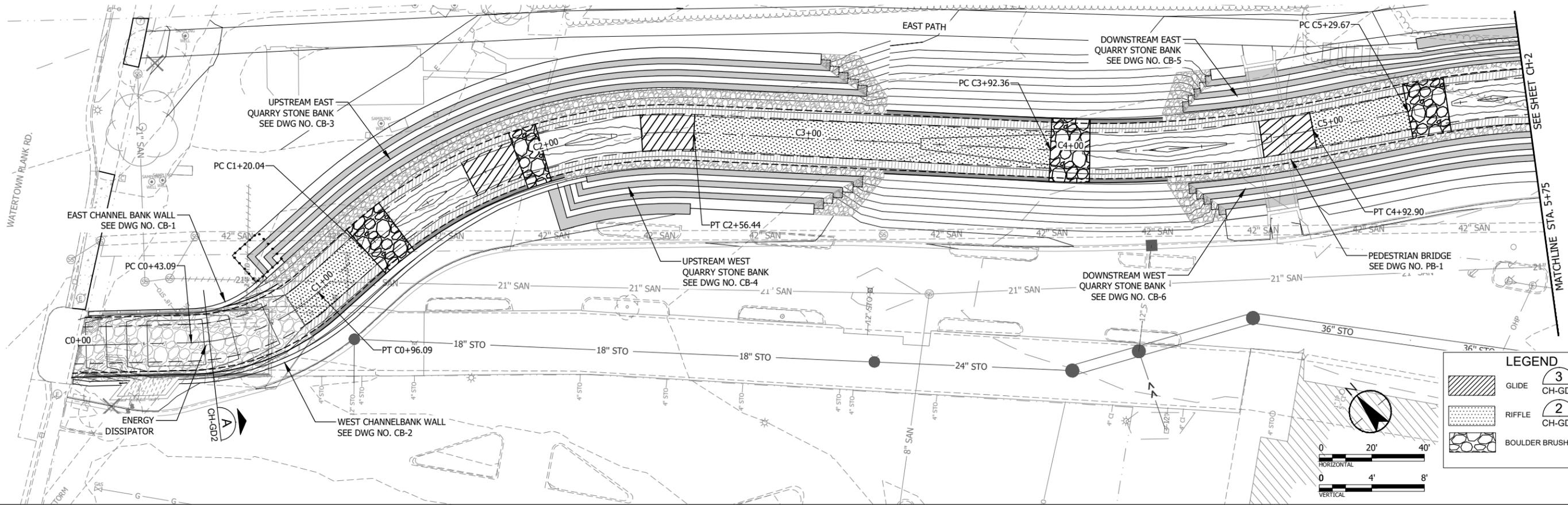
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UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 CHANNEL PLAN SHEET INDEX

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SHEET NO.	19
DATE	December 19, 2024
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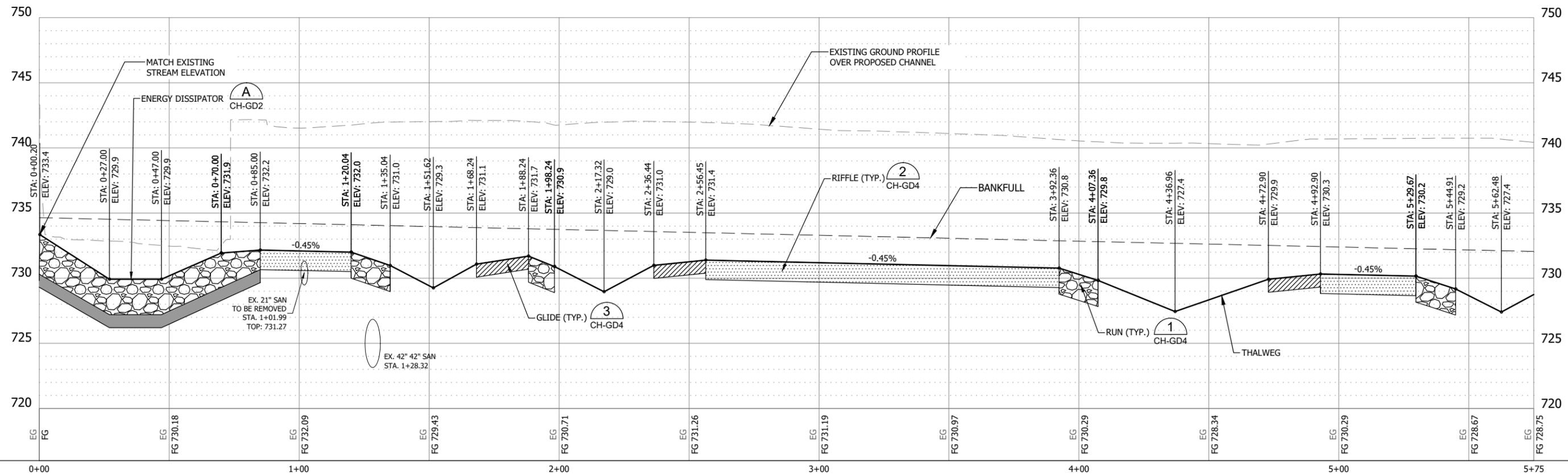
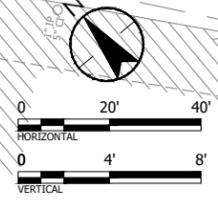
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LEGEND

	GLIDE		3
	RIFFLE		2
	BOULDER BRUSH RUN		1

CH-GD4



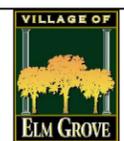
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REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



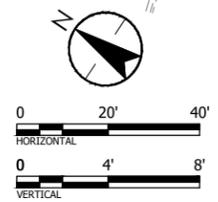
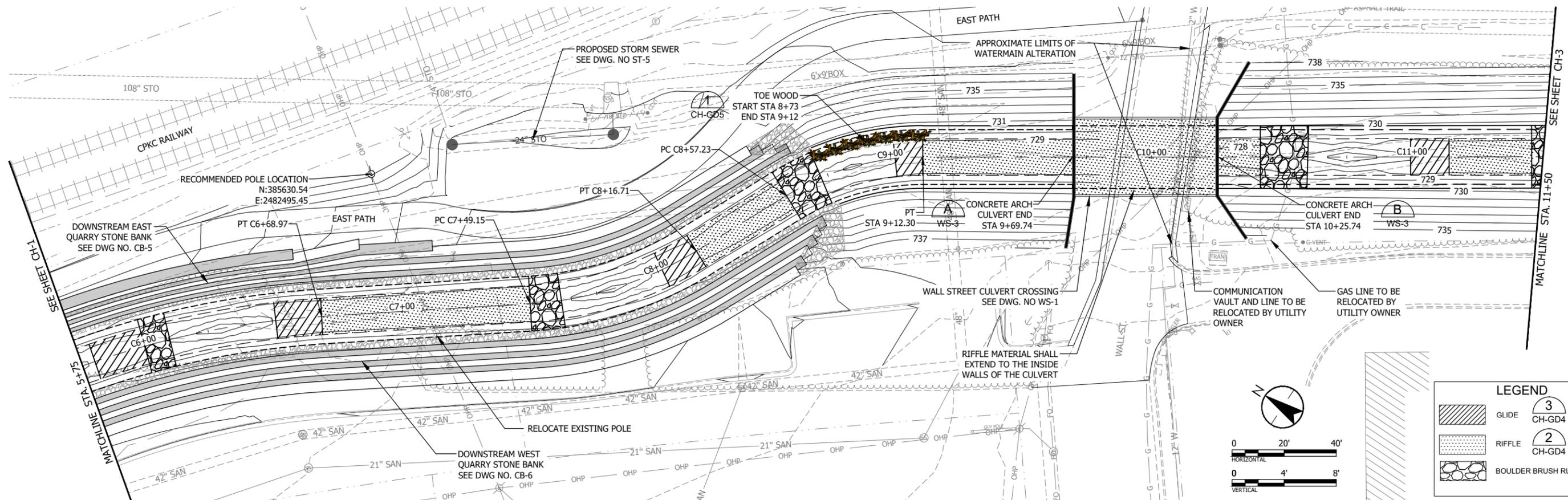
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL PLAN & PROFILE

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SHEET NO.	20
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH.dwg

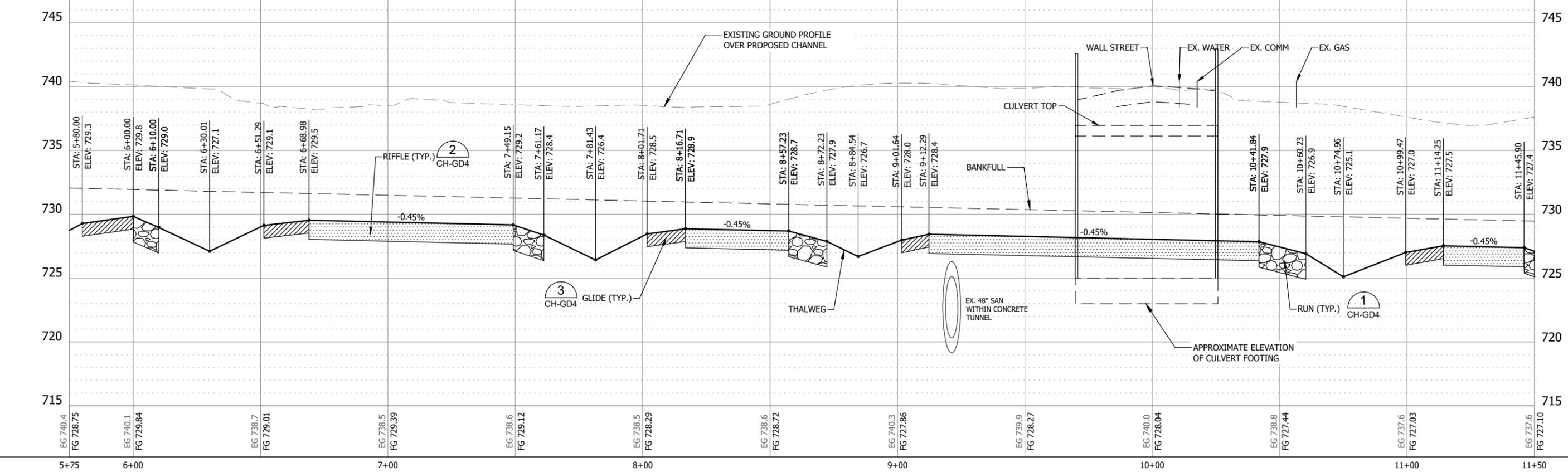
THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

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LEGEND

	GLIDE		CH-GD4
	RIFFLE		CH-GD4
	BOULDER BRUSH RUN		CH-GD4

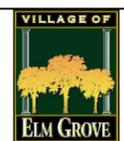


**PRELIMINARY
 PLAN**

DESIGNER
 M. SIERACKI
 DRAWN BY
 A. ROCK
 CHECKER
 D. AMUNDSEN
 APPROVED
 R. KLEIN



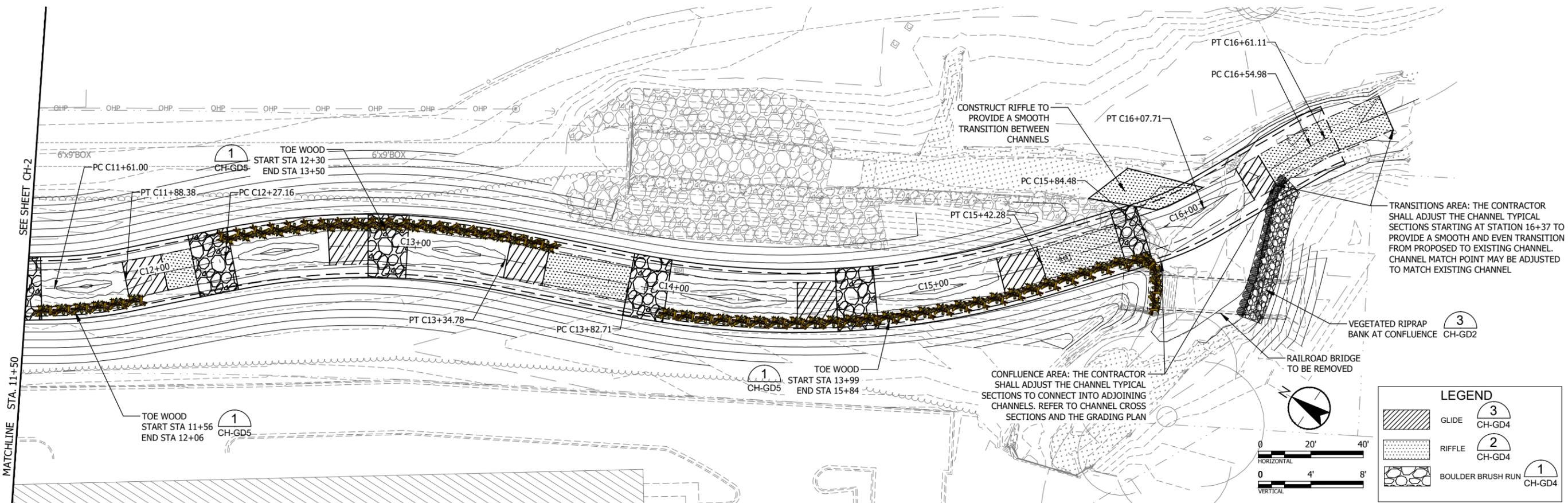
REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
CHANNEL PLAN & PROFILE

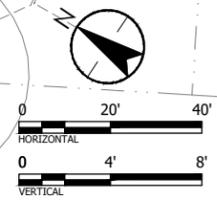
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SHEET NO.	21
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_CH.dwg

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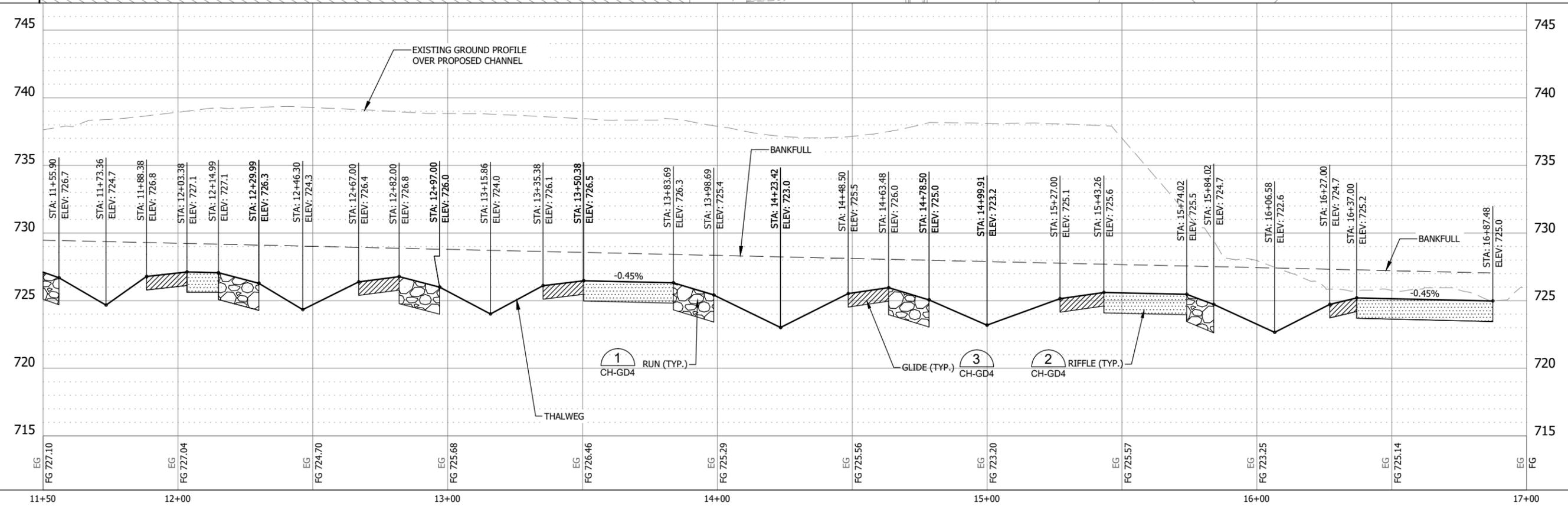
TRANSITIONS AREA: THE CONTRACTOR SHALL ADJUST THE CHANNEL TYPICAL SECTIONS STARTING AT STATION 16+37 TO PROVIDE A SMOOTH AND EVEN TRANSITION FROM PROPOSED TO EXISTING CHANNEL. CHANNEL MATCH POINT MAY BE ADJUSTED TO MATCH EXISTING CHANNEL

CONFLUENCE AREA: THE CONTRACTOR SHALL ADJUST THE CHANNEL TYPICAL SECTIONS TO CONNECT INTO ADJOINING CHANNELS. REFER TO CHANNEL CROSS SECTIONS AND THE GRADING PLAN



LEGEND

- GLIDE CH-GD4
- RIFFLE CH-GD4
- BOULDER BRUSH RUN CH-GD4



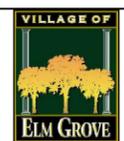
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 User: rklein
 Plot Date: 12/19/2024 - 10:35am

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
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D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

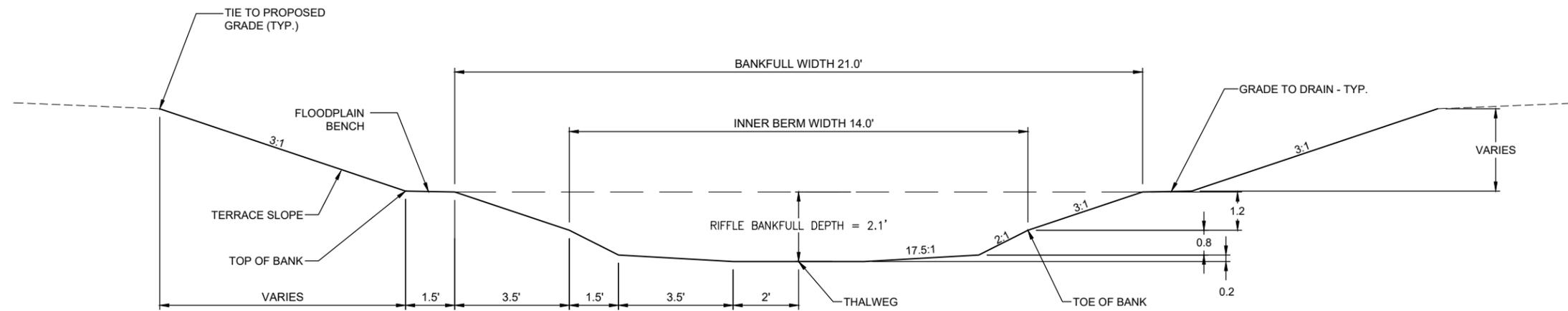


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL PLAN & PROFILE

DRAWING NO.	CH-3
SHEET NO.	22
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH.dwg

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TYPICAL RIFFLE CROSS SECTION

1" = 4'

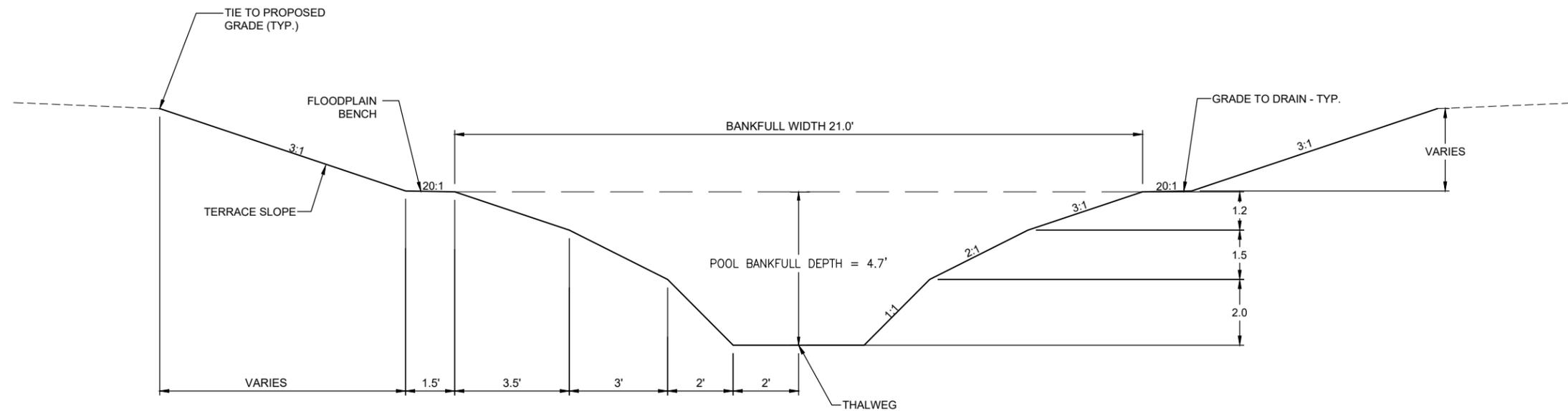
1

CH-1
CH-3
CH-2

TYPICAL CROSS SECTION NOTES

1. TYPICAL SECTIONS ARE VIEWED FACING DOWNSTREAM.
2. TYPICAL SECTION VERTICAL CONTROL SHALL BE ABOUT THE THALWEG POINT PER PLAN AND PROFILE VIEWS.
3. REFER TO DWG. NO. CH-1 THROUGH CH-3 FOR SPECIFIC LOCATIONS OF TYPICAL SECTION APPLICATION.
4. TRANSITION BETWEEN RIFFLE AND POOL OR POOL AND RIFFLE TYPICAL CROSS SECTIONS SHALL BE EVENLY GRADED.
5. SLOPE TRANSITIONS BETWEEN TOP OF CHANNEL BANK, FLOODPLAIN BENCH, TERRACE SLOPE AND EXISTING SURROUNDING GROUND SHALL BE GRADED TO PROVIDE A SMOOTH AND ROUNDED TRANSITION. REFER TO PLANTING NOTES AND DETAILS FOR ADDITIONAL SLOPE TRANSITION GRADING/SURFACE PREPARATION.
6. CHANNEL DIMENSION TOLERANCES SHALL BE AS FOLLOWS:

WIDTH: ± 0.5 FT
 DEPTH: ± 0.1 FT
 RIFFLE ELEVATIONS: ± 0.1 FT
 POOL ELEVATIONS: + 0.1 FT, - 0.5 FT
 STRUCTURE ELEVATIONS: ± 0.1 FT



TYPICAL POOL CROSS SECTION

1" = 4'

2

CH-1
CH-3
CH-2

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 Drawing name: \\050501-PPF301\SHARED_PROJECTS\193806812\CAD\DWG\Sheet\193806812_CH-GD.dwg
 User: R. Klein

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

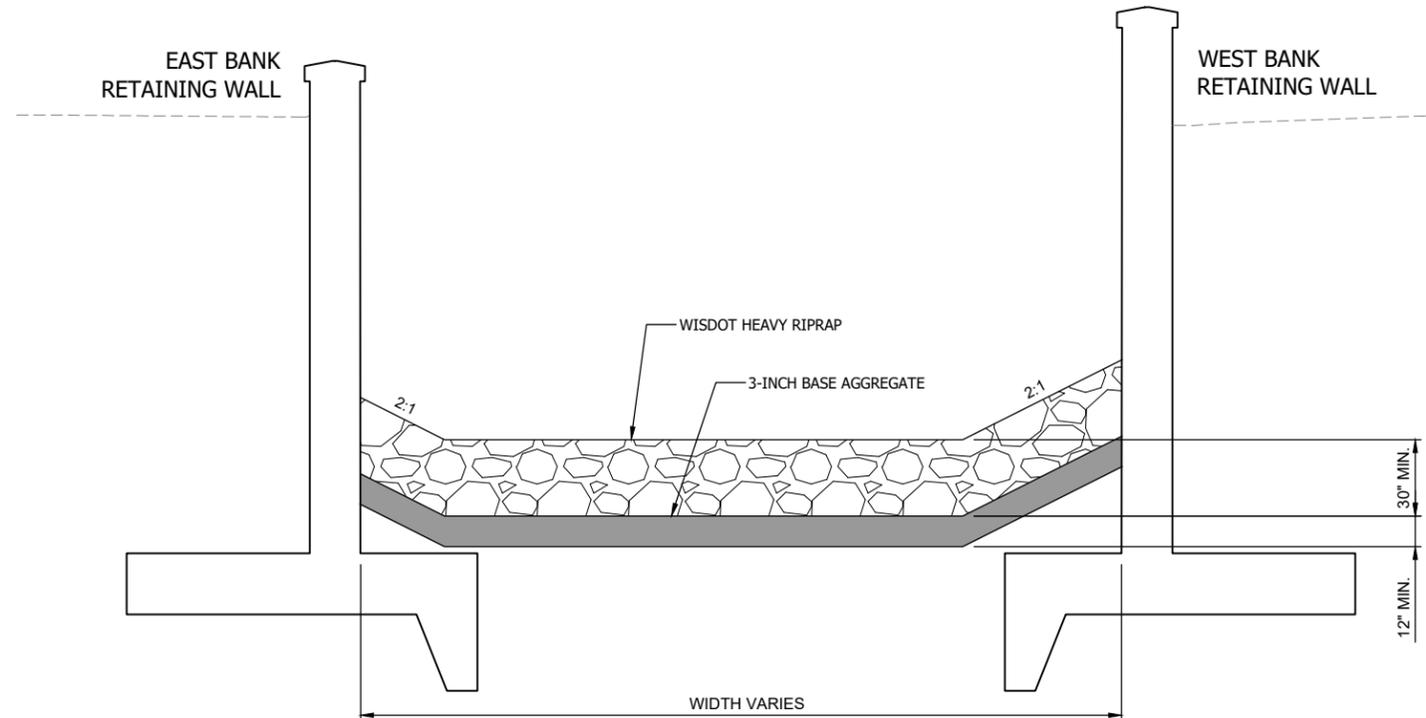


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL TYPICAL SECTIONS

DRAWING NO.	CH-GD1
SHEET NO.	23
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_CH-GD.dwg

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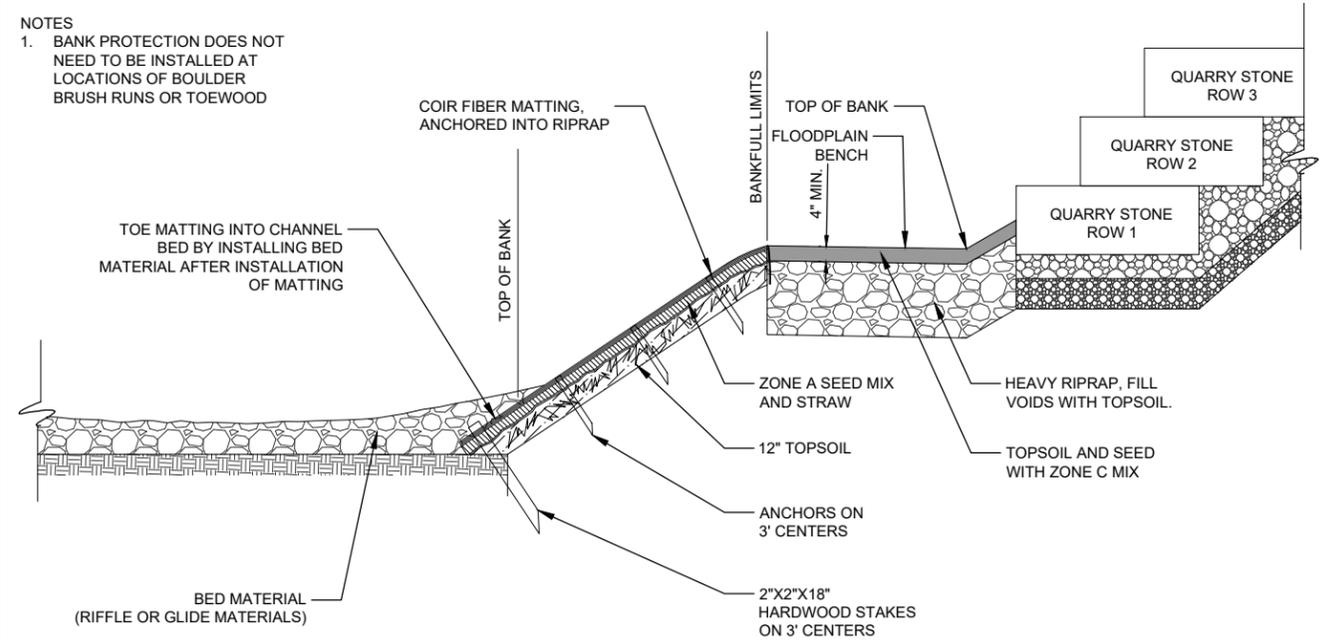


ENERGY DISSIPATOR

SCALE: NTS

A
CH-1

NOTES
1. BANK PROTECTION DOES NOT NEED TO BE INSTALLED AT LOCATIONS OF BOULDER BRUSH RUNS OR TOEWOOD

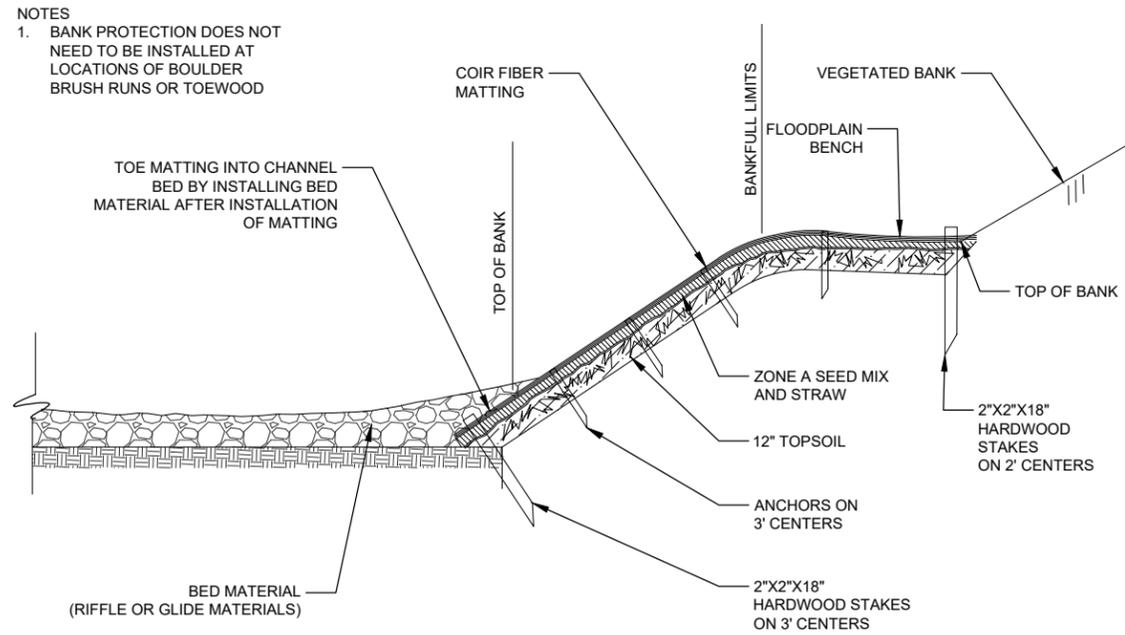


BANK PROTECTION ADJACENT TO QUARRY STONE BANKS

NTS

1
CH-GD4

NOTES
1. BANK PROTECTION DOES NOT NEED TO BE INSTALLED AT LOCATIONS OF BOULDER BRUSH RUNS OR TOEWOOD

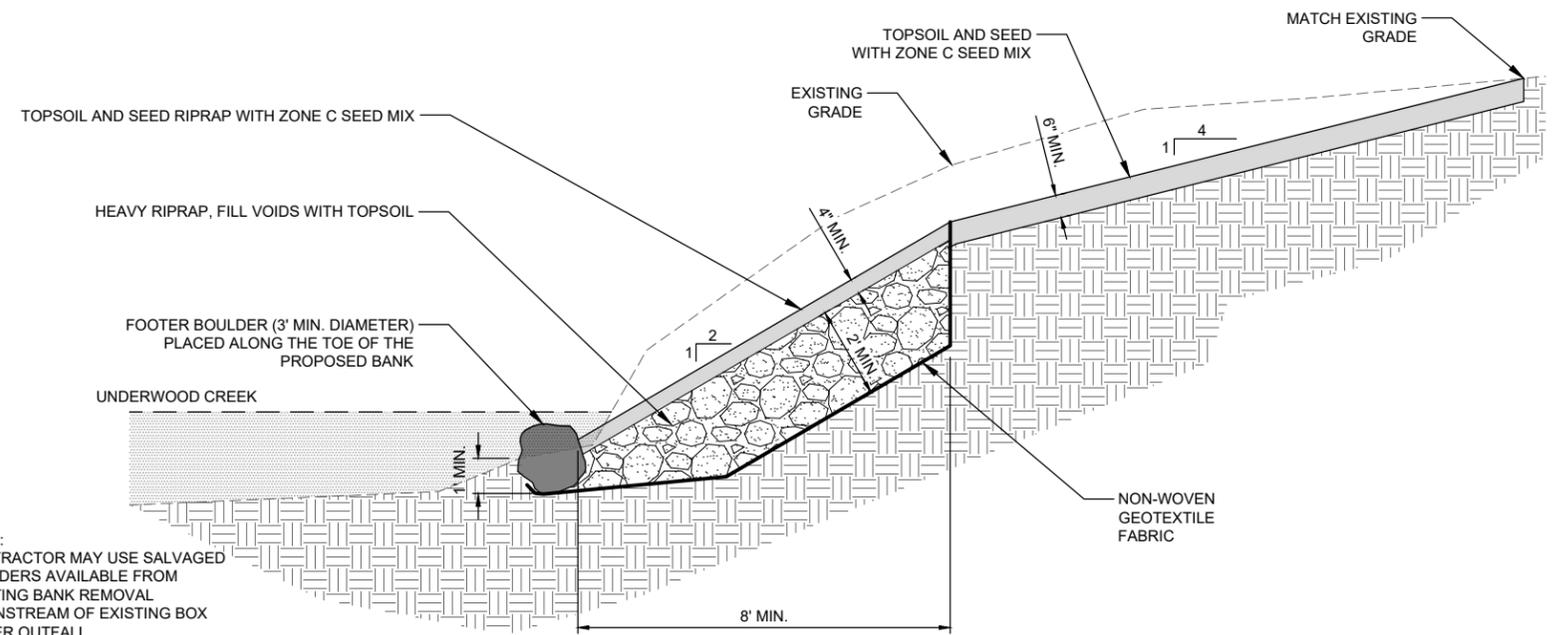


BANK PROTECTION ADJACENT TO VEGETATED BANKS

NTS

2
CH-GD4

NOTE:
CONTRACTOR MAY USE SALVAGED BOULDERS AVAILABLE FROM EXISTING BANK REMOVAL DOWNSTREAM OF EXISTING BOX SEWER OUTFALL



VEGETATED RIPRAP BANK AT CONFLUENCE

NTS

3
CH-3

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User: R. Klein
Sheet: 193806812_S01

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

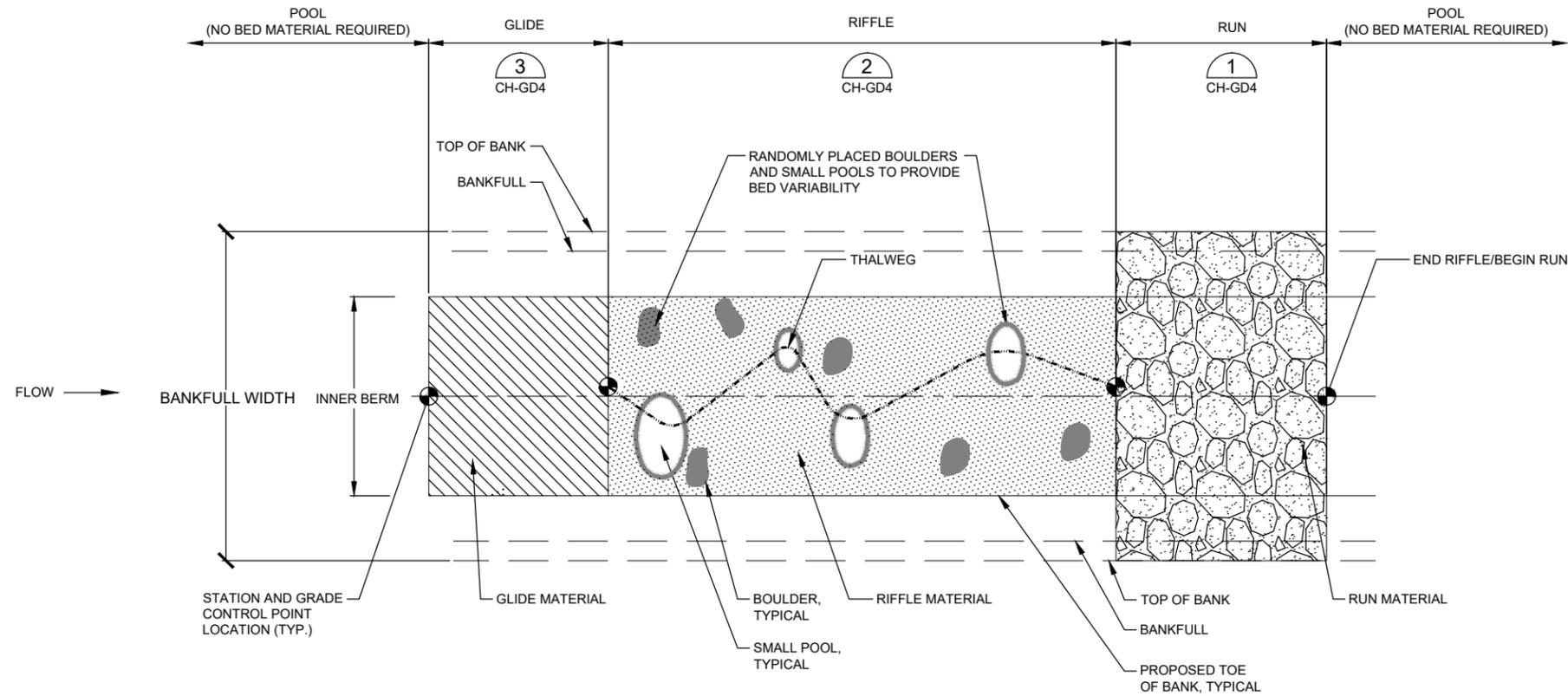


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

CHANNEL DETAILS

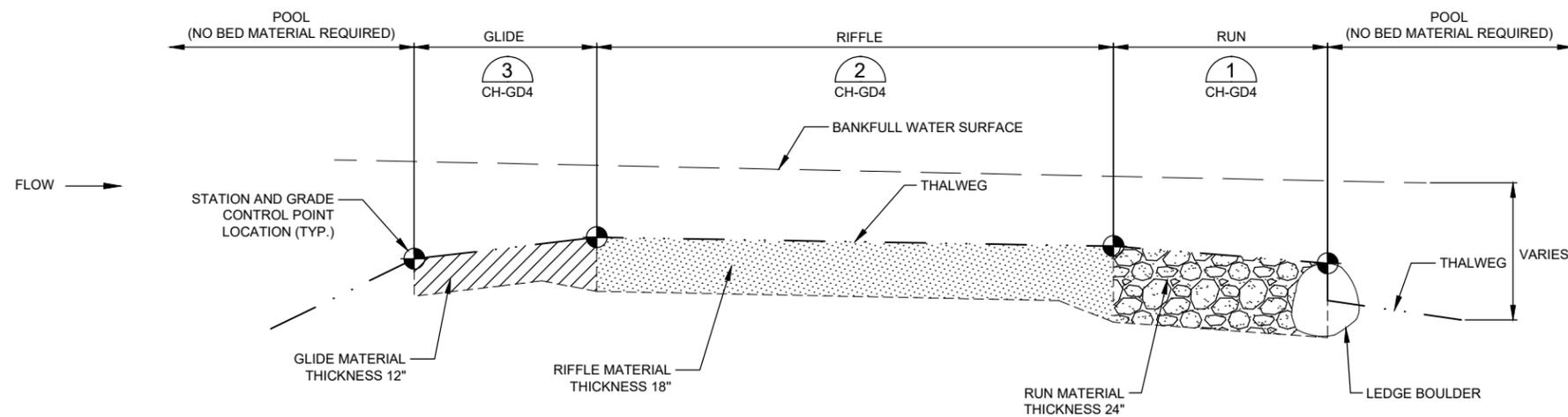
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SHEET NO.	24
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_CH-GD.dwg

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PLAN VIEW

NTS

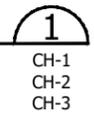


PROFILE VIEW

NTS

DETAIL - CHANNEL SEQUENCE

NTS



CHANNEL SEQUENCE NOTES:

- GLIDES, RIFFLES, AND RUNS SHALL BE CONSTRUCTED IN NEWLY GRADED CHANNEL SECTIONS AND/OR IN EXISTING CHANNEL SECTIONS, AT THE LOCATIONS SHOWN ON THE PLANS, AND IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.
- THE CHANNEL SHALL BE CONSTRUCTED STARTING AT THE DOWNSTREAM END AND PROGRESSING UPSTREAM IN THE FOLLOWING GENERAL PROGRESSION;
 - EXCAVATION OF CHANNEL AND BANKS TO FINISH GRADE
 - EXCAVATION AND INSTALLATION OF TOE WOOD.
 - OVER EXCAVATION OF CHANNEL BED AND SLOPES FOR INSTALLATION OF CHANNEL BED MATERIALS.
 - INSTALLATION OF BANK PROTECTION
 - INSTALLATION OF GLIDE, RIFFLE, OR RUN STRUCTURES.
- GLIDES, RIFFLES, AND/OR RUNS MAY BE CONSTRUCTED INDEPENDENTLY WITH OR WITHOUT THE OTHER BED FEATURES.
- CONTROL POINTS AT THE BEGINNING AND END OF EACH GLIDE, RIFFLE, AND RUN ARE SHOWN ON THE PLAN & PROFILE SHEETS (CH-1 THRU CH-3). THE FINISHED CROSS SECTION OF THE RIFFLE MATERIAL SHALL GENERALLY MATCH THE SHAPE AND DIMENSIONS SHOWN ON THE RIFFLE TYPICAL SECTION SHEET CH-GD1 WITH SOME VARIABILITY OF THE THALWEG LOCATION AS A RESULT OF THE SMALL POOLS AND BOULDERS.
- GLIDE, RIFFLE, AND RUN MATERIAL SHALL BE FINISH GRADED IN A MANNER TO CREATE A SMOOTH CROSS SECTION AND PROFILE, WITH NO ABRUPT "JUMP" OR "DROP" (TRANSITIONS) BETWEEN THE CHANNEL BANKS AND BED OR THE UPSTREAM AND DOWNSTREAM CHANNEL BED.

CHANNEL STRUCTURE NOTES:

- ALL RIFFLE AND RUN MATERIALS SHALL BE MIXED ON SITE BY THE CONTRACTOR. MIX ROCK MATERIALS TO CREATE A HOMOGENOUS STOCKPILE ACCORDING TO THE GRADATIONS LISTED BELOW. BRUSH MATERIAL, INCLUDED IN THE BOULDER BRUSH RUN, SHALL INCORPORATED INTO THE ROCK MIXTURE DURING INSTALLATION OF BOULDER BRUSH RUN STRUCTURE.
- GLIDE MATERIAL SHALL BE COMPRISED OF CLEAN, WASHED, LOOSE, 3/8" TO 1/2" DIAMETER ROUNDED STONE. GLIDE MATERIAL SHALL BE APPLIED IN A 12" THICK LAYER ACROSS THE STREAM BED. THE CHANNEL BED SHALL BE OVER-EXCAVATED, AS NEEDED, TO ALLOW FOR FULL DEPTH PLACEMENT OF THE GLIDE MATERIAL
- RIFFLE MATERIAL SHALL BE PLACED IN AN 18" THICK LAYER ACROSS THE STREAM BED. RIFFLE MATERIAL SHALL BE MIXED ON-SITE AND COMPRISED OF CLEAN, HARD, QUARRIED ROCK MATERIAL MEETING THE FOLLOWING GRADATION:
 - BOULDERS (12"-24" DIA.) NOT TO EXCEED 5% MAX.
 - 25-35% SMALL BOULDERS/COBBLE (WISDOT LIGHT RIPRAP);
 - 35-45% COARSE GRAVEL (WISDOT 3-INCH BASE AGGREGATE);
 - 25-35% FINE GRAVEL (WISDOT 3/4" BASE AGGREGATE);
- RUN MATERIAL SHALL BE APPLIED IN A 24" THICK LAYER ACROSS THE STREAM BED. LARGER ROCKS AND BRUSH MAY PROJECT RANDOMLY ABOVE THE STREAM BED PROPOSED GRADE. ALL BRUSH MATERIAL SHALL BE ORIENTED DOWNSTREAM AND BURIED A MINIMUM OF 75% TO PREVENT MOVEMENT DURING HIGH FLOW EVENTS. RUN MATERIAL SHALL BE MIXED ON-SITE AND COMPRISED OF CLEAN, HARD, QUARRIED ROCK MATERIAL MEETING THE FOLLOWING GRADATION:
 - 10-15% BOULDERS (LEDGE AND GAP BOULDERS - 24" DIA. MIN);
 - 40-50% SMALL BOULDERS/COBBLE (WISDOT LIGHT RIPRAP);
 - 15-25% COARSE GRAVEL (WISDOT 3-INCH BASE AGGREGATE);
 - 20-30% BRUSH (1-6" DIA.)
- BRUSH SHALL CONSIST OF A COMBINATION OF HARDWOOD AND CONIFER BRANCHES, LIMBS, AND TOPS MEETING THE SPECIFICATION SIZE REQUIREMENTS. BRUSH SHOULD BE HARD, DENSE, AND FREE OF ROT.
- GAP BOULDERS SHALL BE PLACED AT LOCATIONS WHERE THERE ARE VOID SPACED BETWEEN THE LEDGE BOULDER. VOID SPACES GREATER THAN 2" REQUIRE PLACEMENT OF A GAP BOULDER .
- OVER EXCAVATION OF CHANNEL BED IS REQUIRED FOR ALL AREAS WITH UNSUITABLE FOUNDATION, AS DIRECTED BY THE ENGINEER. BACKFILL MATERIAL SHALL BE FOUNDATION STABILIZATION MATERIAL (3" DENSE GRADED BASE AGGREGATE) PER SPECIFICATIONS.
- REFER TO DWG. NO CH-GD1 FOR DIMENSIONS TOLERANCES.

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User: bender, 19380612.dwg, 19380612.dwg

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

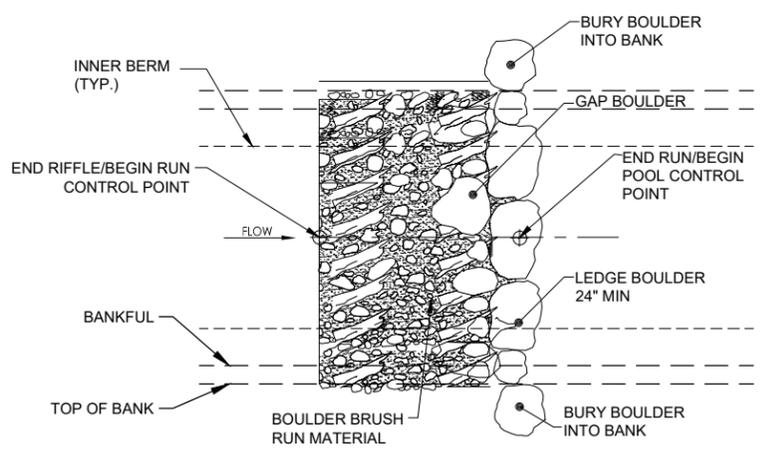


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

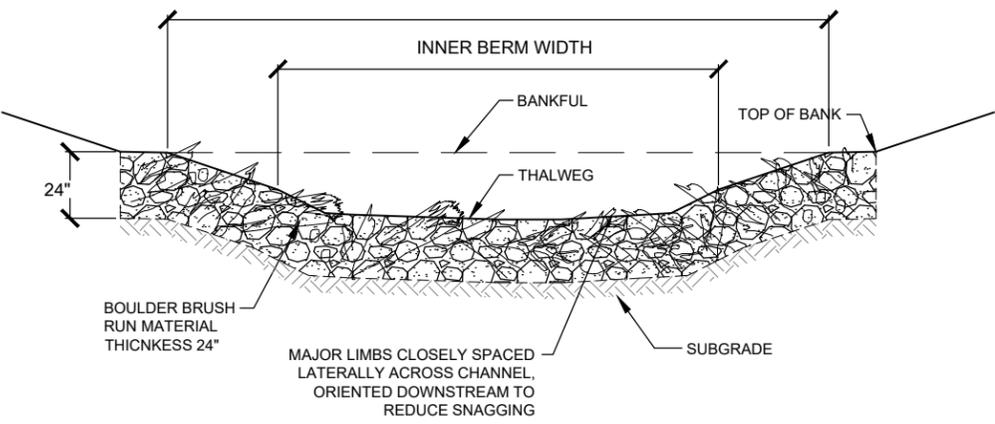
CHANNEL SEQUENCE

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SHEET NO.	25
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-GD.dwg

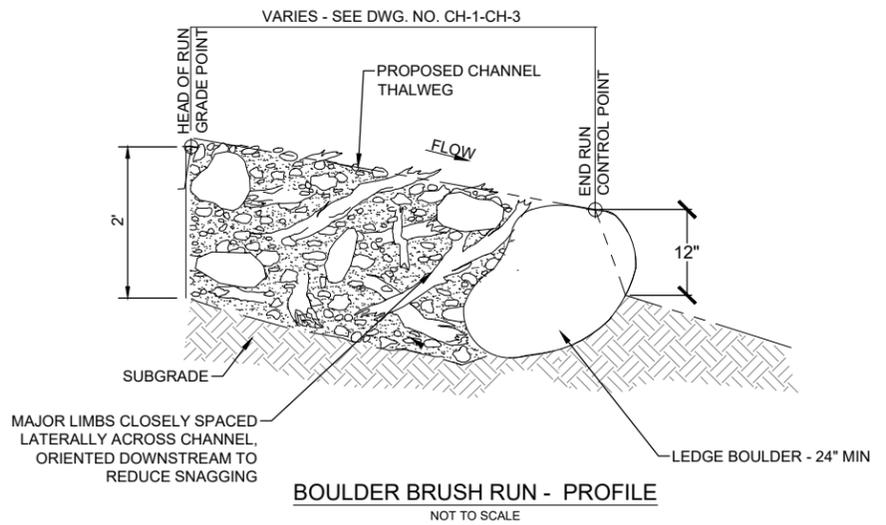
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BOULDER BRUSH RUN - PLAN VIEW
NOT TO SCALE
BANKFULL WIDTH

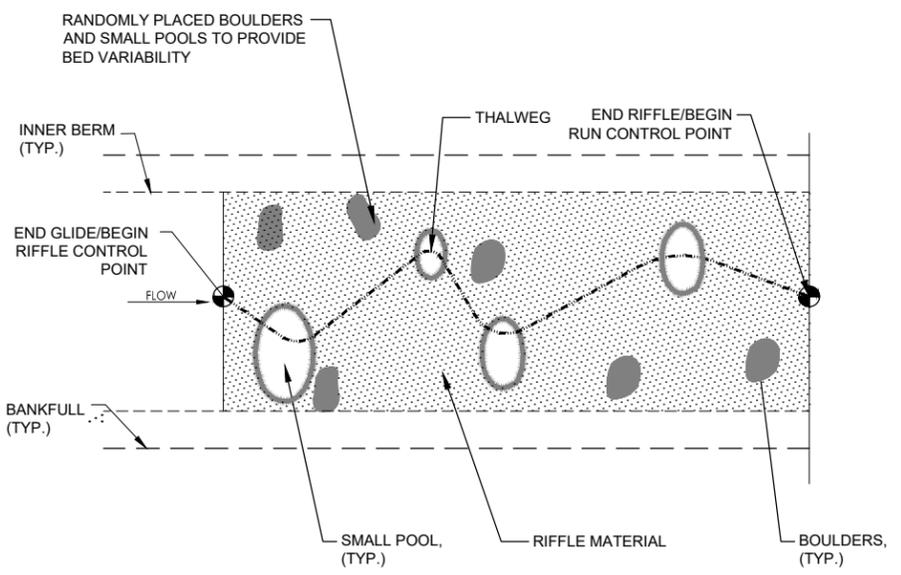


BOULDER BRUSH RUN - TYPICAL SECTION
NOT TO SCALE

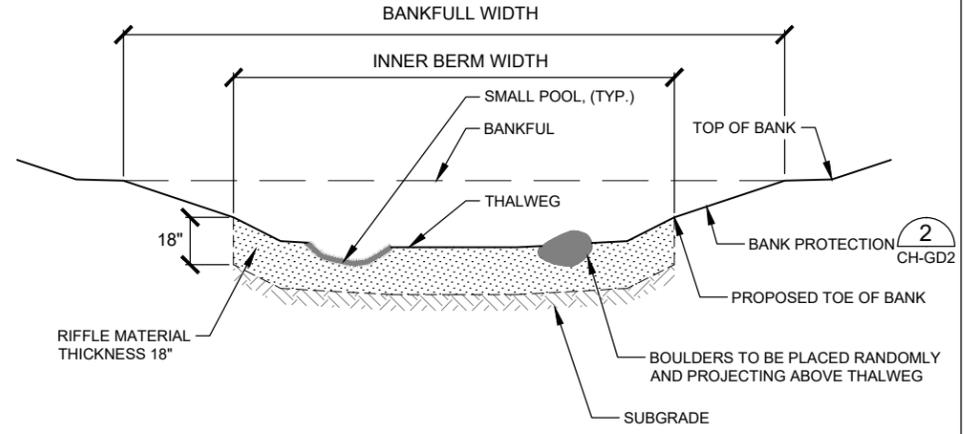


DETAIL - BOULDER BRUSH RUN
NTS

1
CH-1
CH-2
CH-3



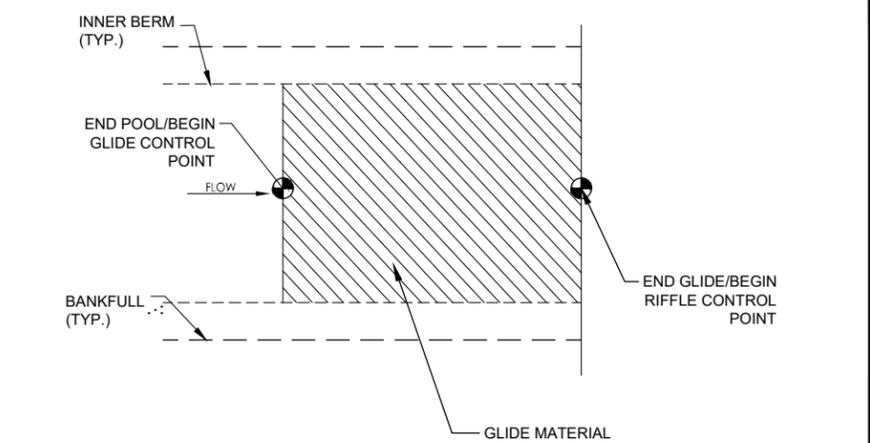
RIFFLE - PLAN VIEW
NOT TO SCALE
BANKFULL WIDTH



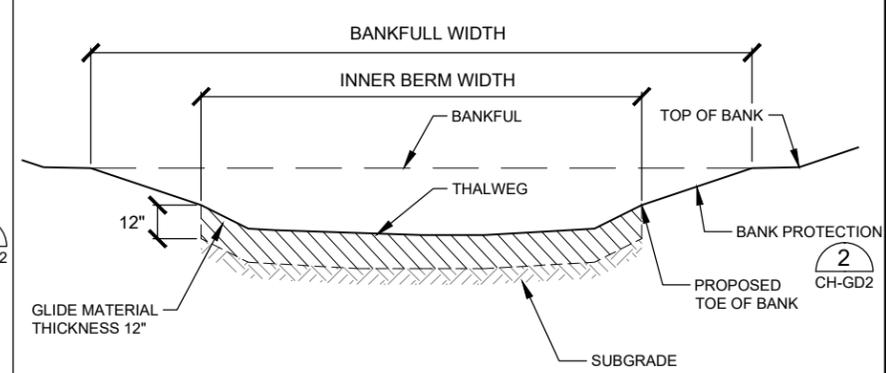
RIFFLE - TYPICAL SECTION
NOT TO SCALE

DETAIL - RIFFLE
NTS

2
CH-1
CH-2
CH-3



GLIDE - PLAN VIEW
NOT TO SCALE
BANKFULL WIDTH



GLIDE - TYPICAL SECTION
NOT TO SCALE

DETAIL - GLIDE
NTS

3
CH-1
CH-2
CH-3

NOTES:
1. REFER TO SHEET CH-GD3 FOR NOTES REGARDING CHANNEL STRUCTURE MATERIALS AND CONSTRUCTION PROCESS.

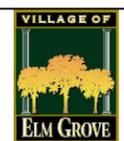
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User: R. Klein
Scale: Border: 1/8\"/>

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

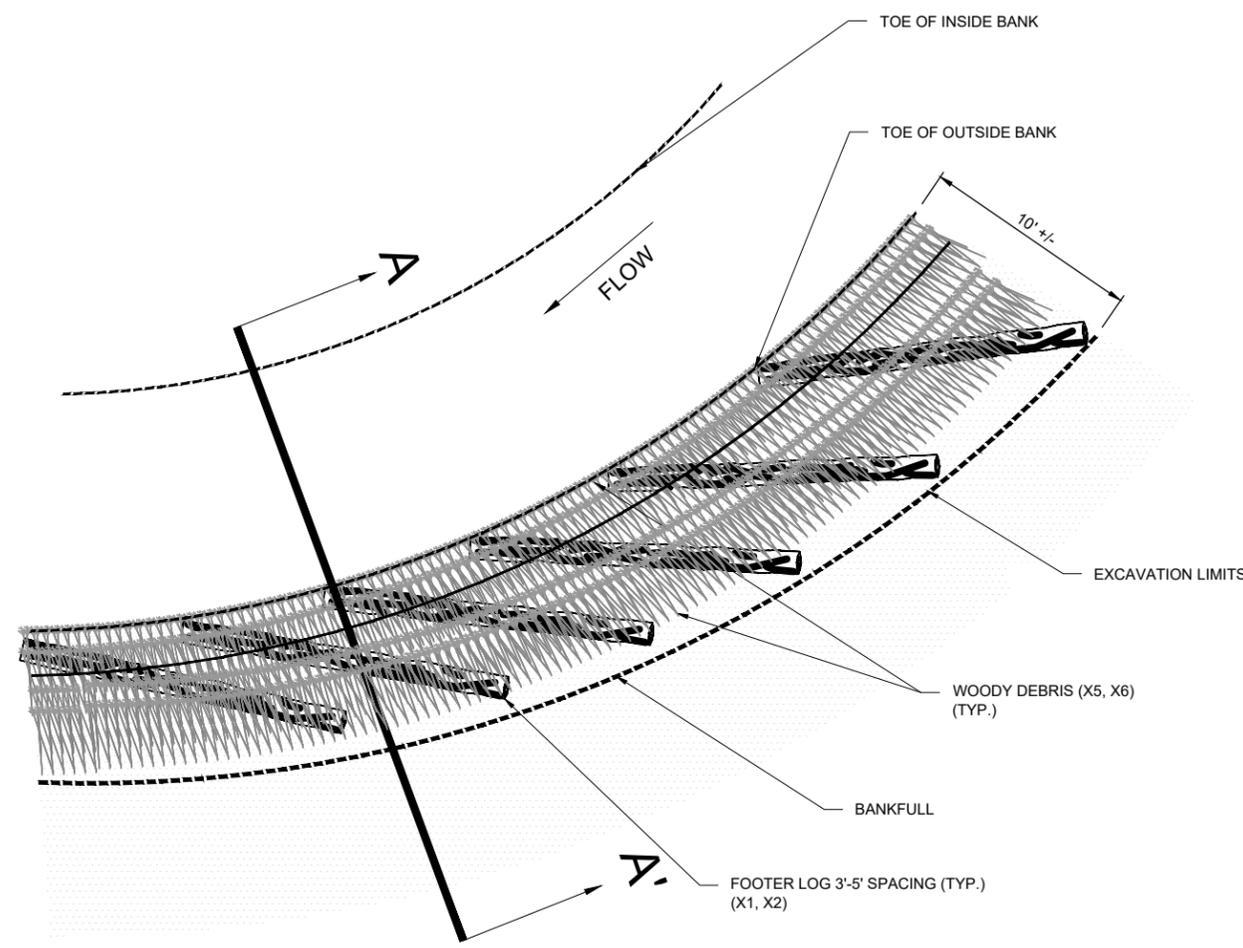


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

CHANNEL STRUCTURE DETAILS

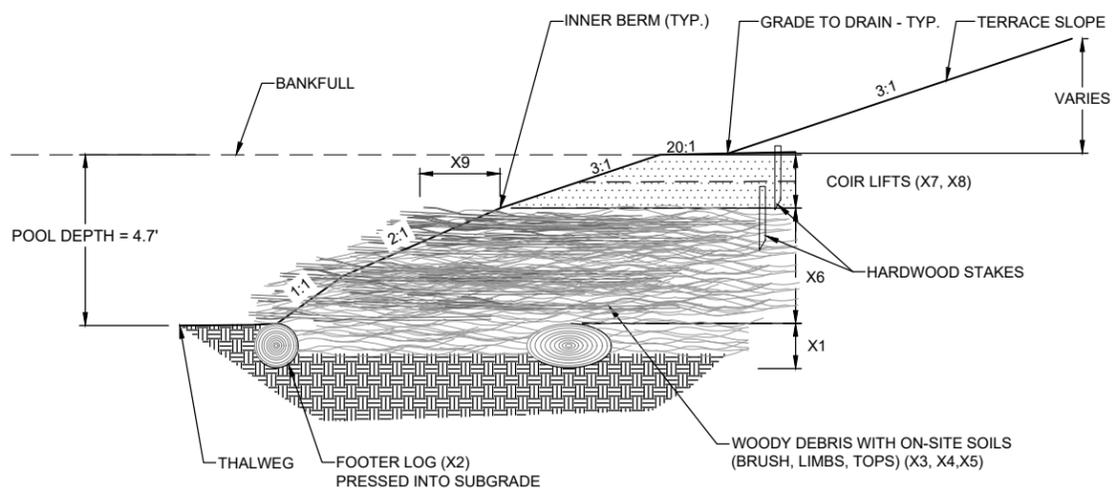
DRAWING NO.	CH-GD4
SHEET NO.	26
DATE	December 19, 2024
PROJ NO.	193806812
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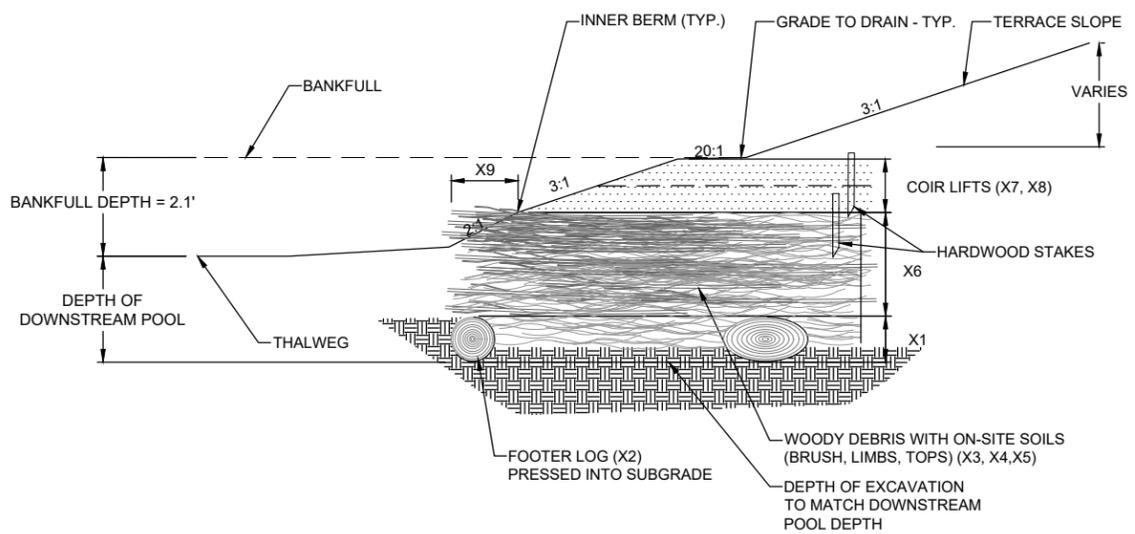


DETAIL - TOE WOOD PLAN VIEW
 NTS 1
CH-2, CH-3

TOE WOOD DIMENSIONS			
VARIABLE	REQUIRED	TYPICAL UNIT	DESCRIPTION
X1	10 - 15	IN.	FOOTER LOG - DIAMETER
X2	10 - 15	FT.	FOOTER LOG - LENGTH
X3	1 - 5	IN.	WOODY DEBRIS - DIAMETER
X4	8 - 12	FT.	WOODY DEBRIS - LENGTH
X5	-	-	ON-SITE GRAVEL/SANDY SOILS
X6	3.5	FT.	TOE WOOD - THICKNESS
X7	2	EA.	# OF COIR LIFTS
X8	6	IN.	COIR LIFT - THICKNESS (EA)
X9	6 - 12	IN.	TOE WOOD PROJECTION BEYOND BANK SURFACE



SECTION A-A - TOE WOOD (POOL SECTION)
 NTS 2
CH-2, CH-3



SECTION A-A - TOE WOOD (GLIDE/RIFLE/RUN SECTIONS)
 NTS 3
CH-2, CH-3

- NOTES:**
- FOOTER LOGS OF APPROPRIATE SIZE SHALL CONSIST OF GREEN OR RELATIVELY GREEN CUT LOGS FREE OF ROOT BALLS. ON-SITE SALVAGED MATERIAL IS PREFERRED.
 - WOODY DEBRIS SHALL BE GREEN OR RELATIVELY GREEN CONSISTING OF APPROPRIATE SIZE LOGS, TRUNKS, LIMBS, BRANCHES, AND SMALLER WOODY DEBRIS INCLUDING TOPS OR SLASH. ON-SITE WOODY MATERIAL IS PREFERRED. WOODY DEBRIS AND ON-SITE SOILS SHALL BE PLACED IN LIFTS AND COMPACTED USING AN EXCAVATOR BUCKET IN EFFORT TO MINIMIZE VOID SPACE.
 - FINAL STRUCTURE CONSISTENCY:
 - 80% WOODY DEBRIS
 - 20% ON-SITE SOILS
 - LAYERS SHALL BE PLACED AT A THICKNESS OF ONE TO TWO FEET OR AS NECESSARY TO COMPACT THE STRUCTURE TO THE REQUIRED CONSISTENCY.
 - THE FINISHED EXPOSED SURFACE OF THE TOE WOOD AND CHANNEL BANK SHALL GENERALLY MATCH THE PROPOSED CHANNEL CROSS SECTIONS AND SLOPES. WOODY DEBRIS WILL PROJECT RANDOMLY FROM THE BANK SURFACE BELOW THE WATER LINE. THE CONTRACTOR SHALL TRANSITION THE PROPOSED TOE WOOD TO THE PROPOSED CHANNEL FEATURES (BED, BANKS, AND CHANNEL BOTTOM) SMOOTHLY AND EVENLY WITHOUT ABRUPT CHANGES IN GRADE.

PRELIMINARY PLAN
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 Drawing name: \\19380612\SHARED_PROJECTS\19380612\CAD\DWG\Sheet\19380612_CH-GD.dwg
 Sheet: 6 of 7
 19380612.dgn

DESIGNER
 M. SIERACKI
 DRAWN BY
 A. ROCK
 CHECKER
 D. AMUNDSEN
 APPROVED
 R. KLEIN



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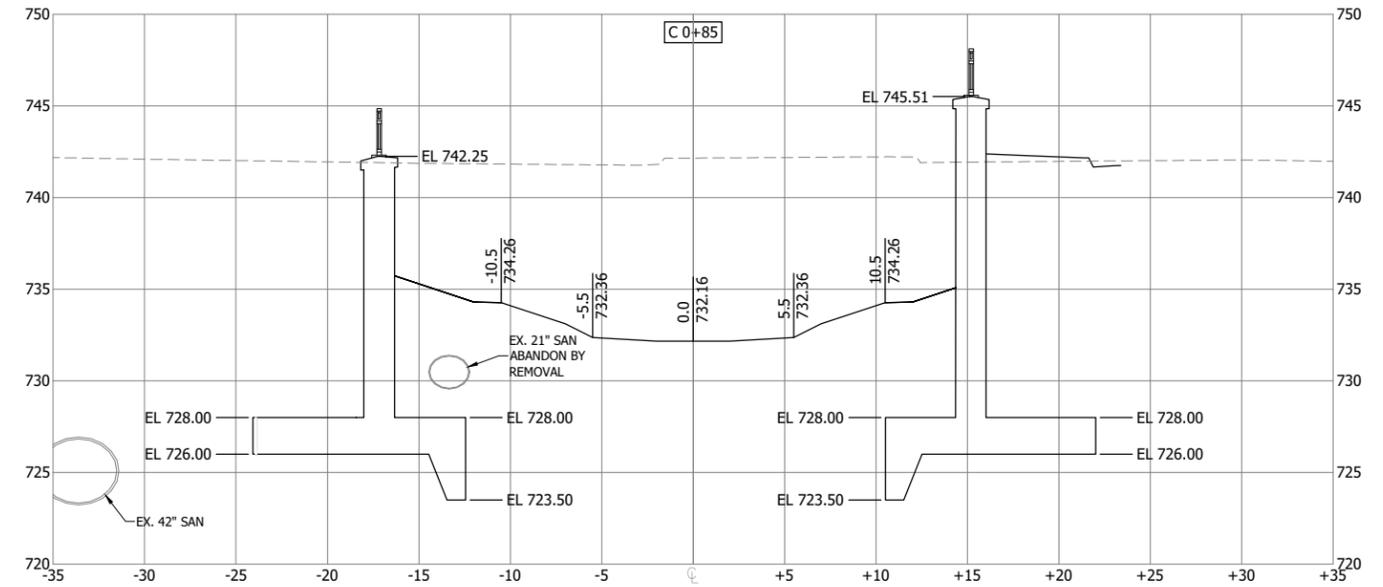
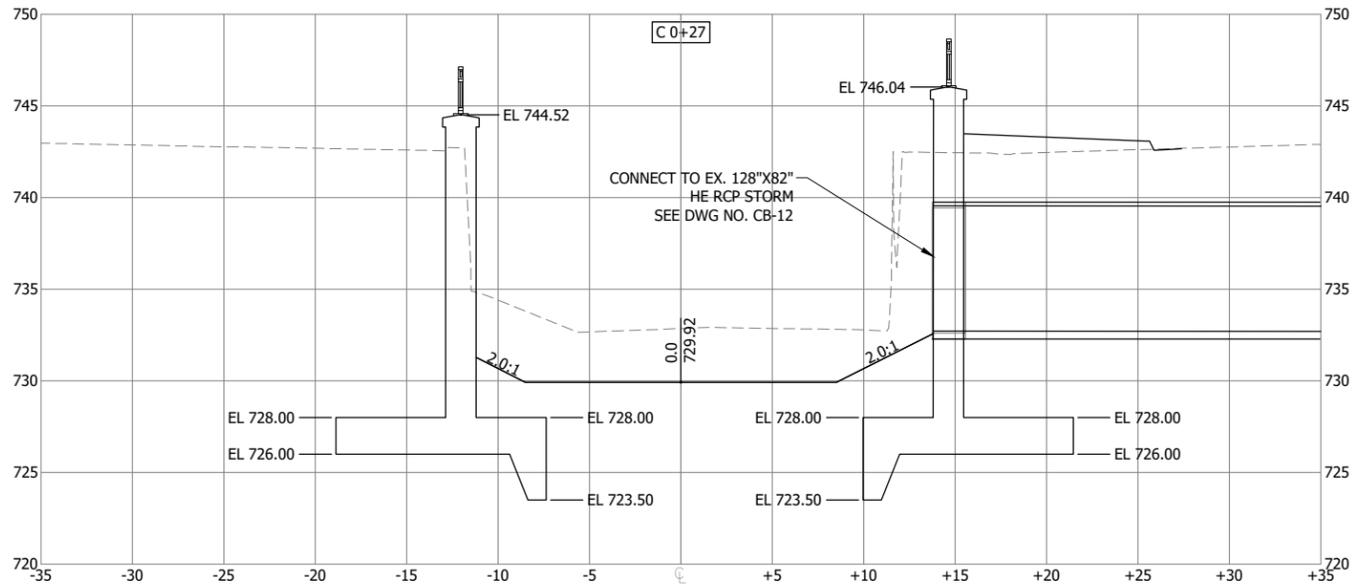
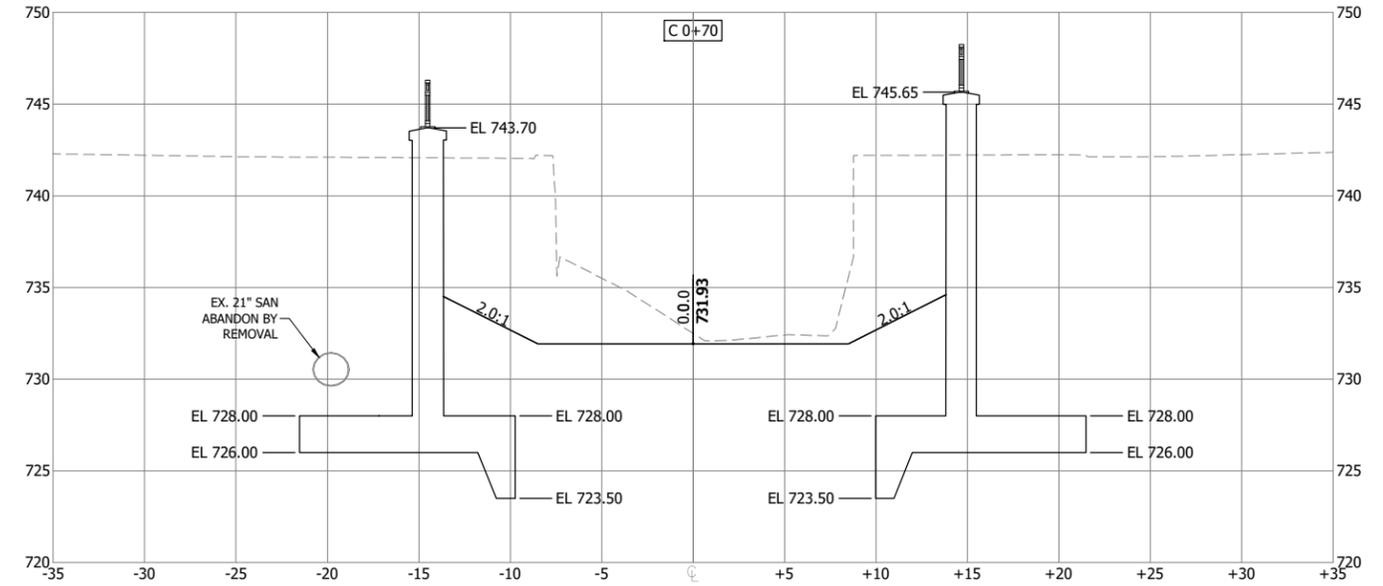
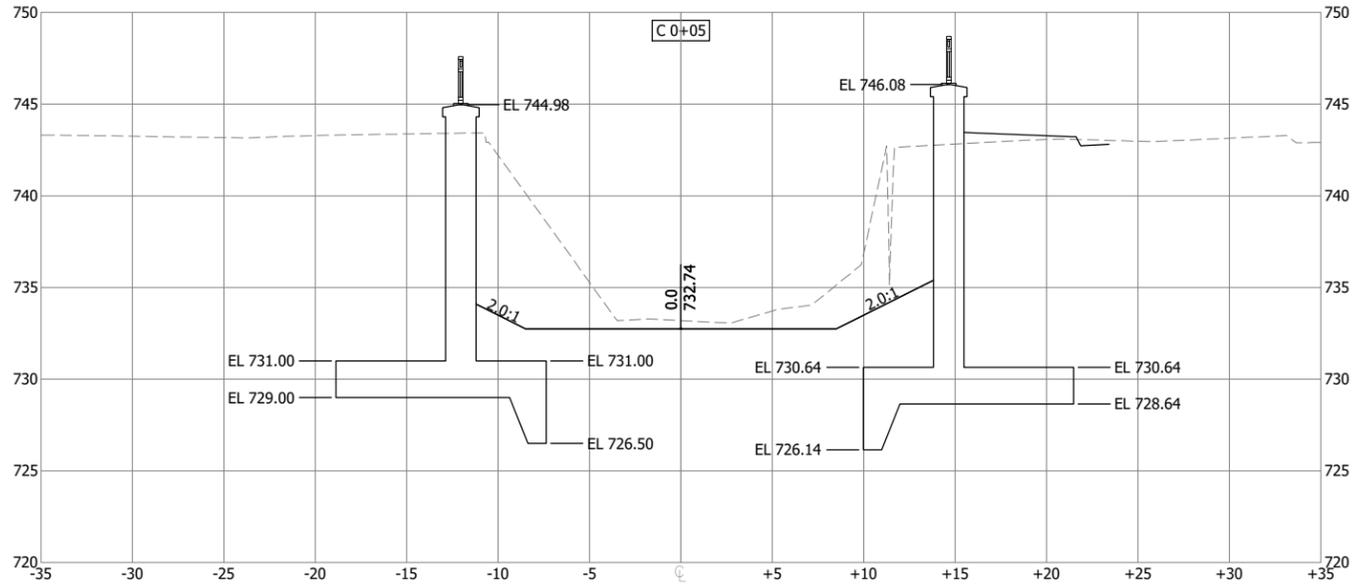


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

TOE WOOD DETAIL

DRAWING NO.	CH-GD5
SHEET NO.	27
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_CH-GD.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY PROFILES OR DIMENSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.



Plot Date: 12/19/2024 - 10:38am
 Drawing name: U:\193806812\CH-CD\Drawg\Sheets\193806812_CH-CS.dwg
 User: R. Klein

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



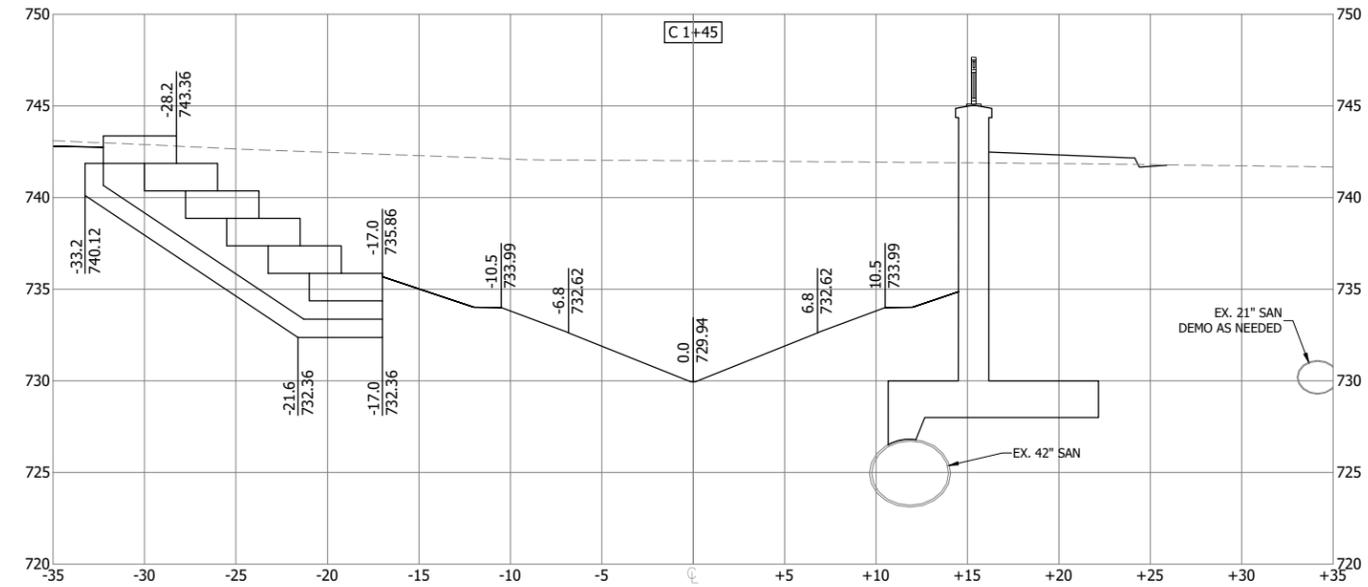
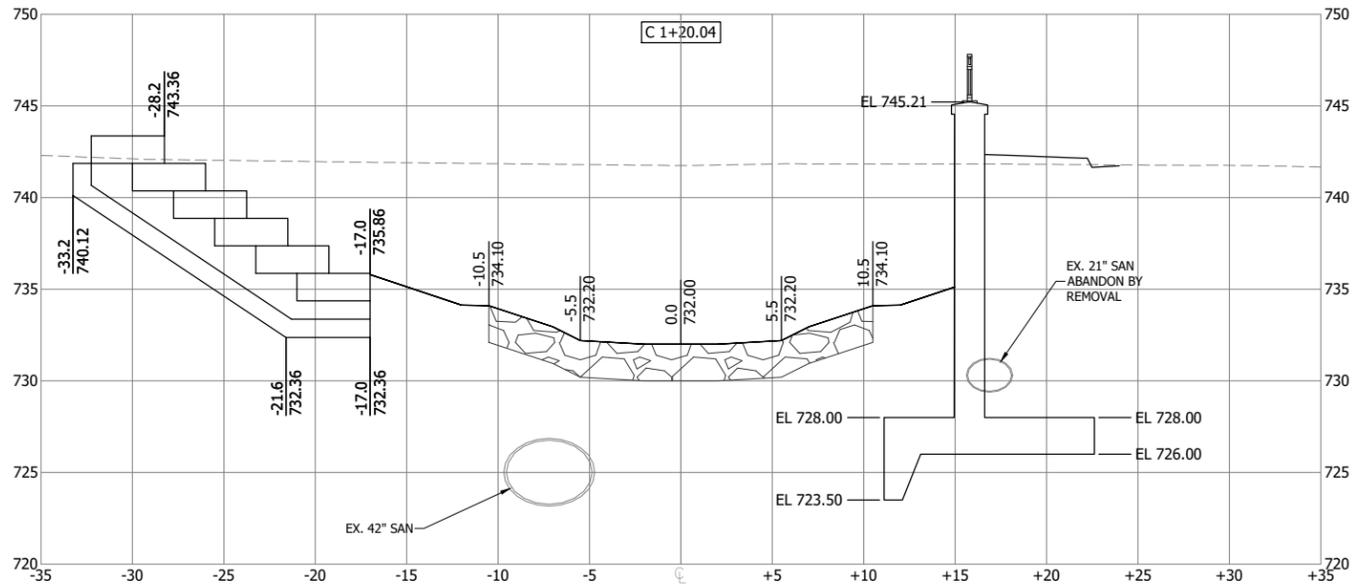
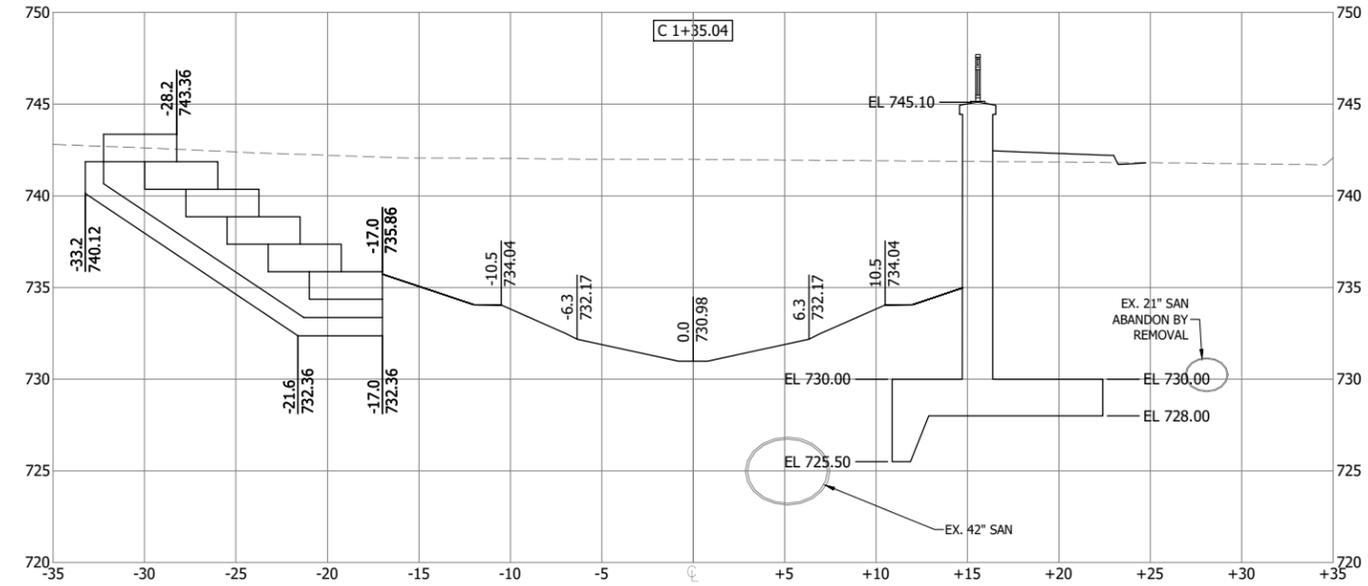
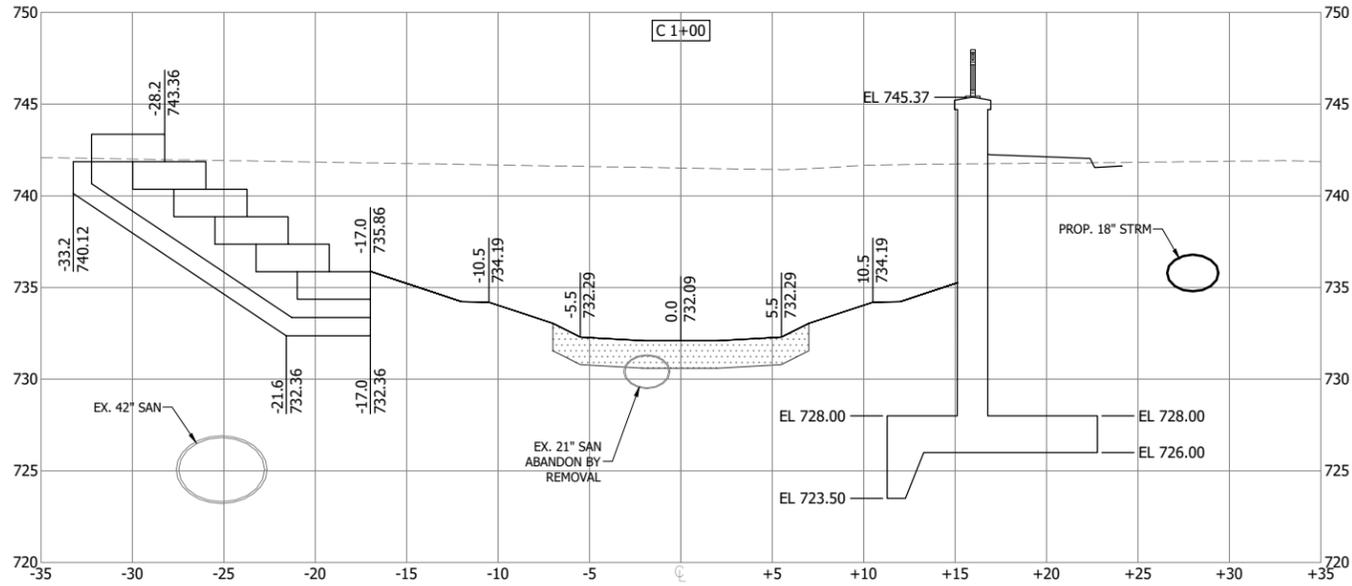
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS1
SHEET NO.	28
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:38am
 Drawing Name: U:\193806812\CH-CS.dwg
 User: R. Klein



PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN

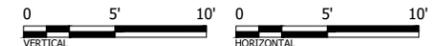


REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

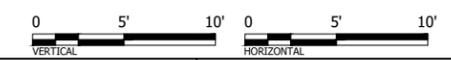
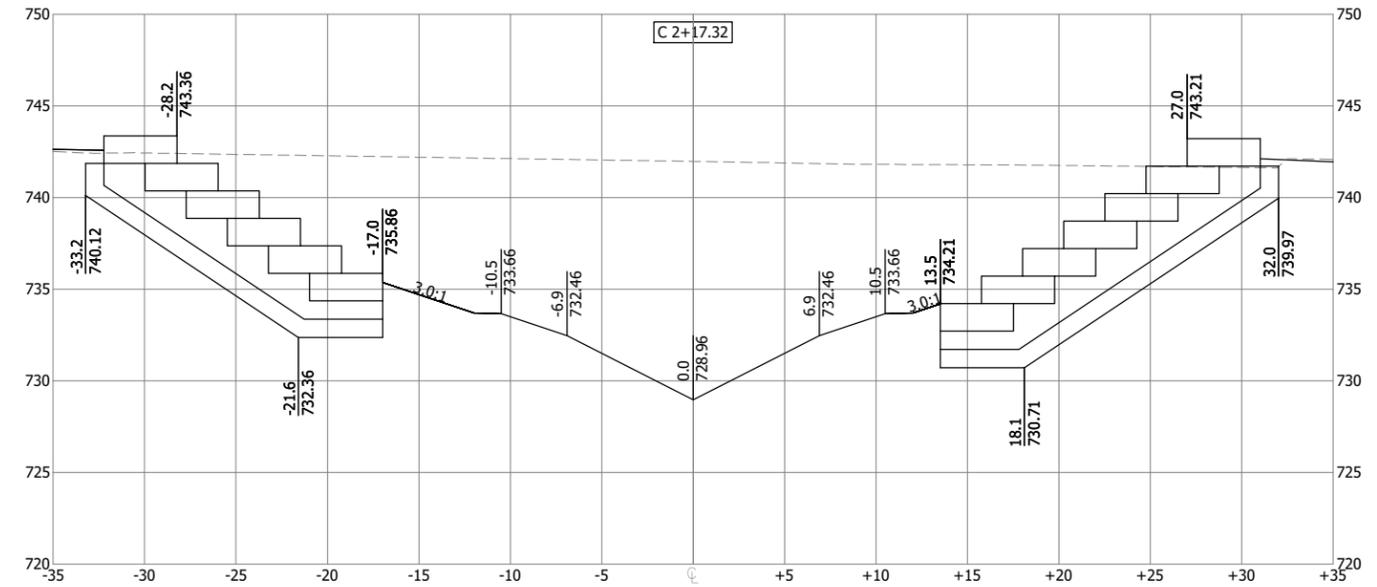
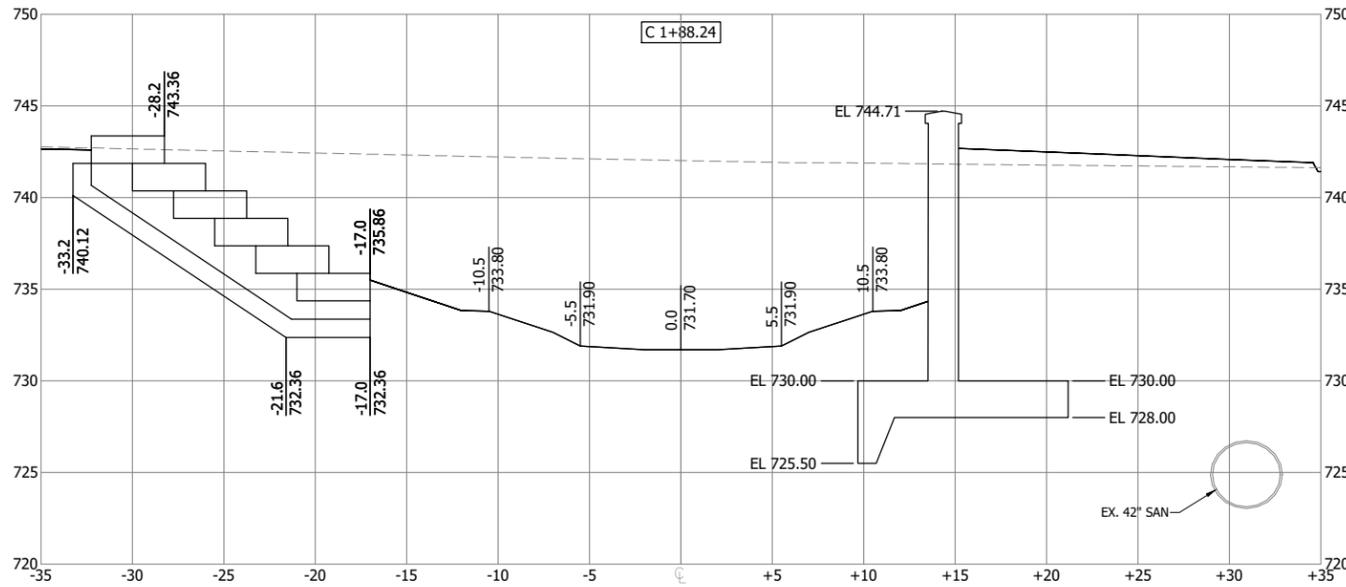
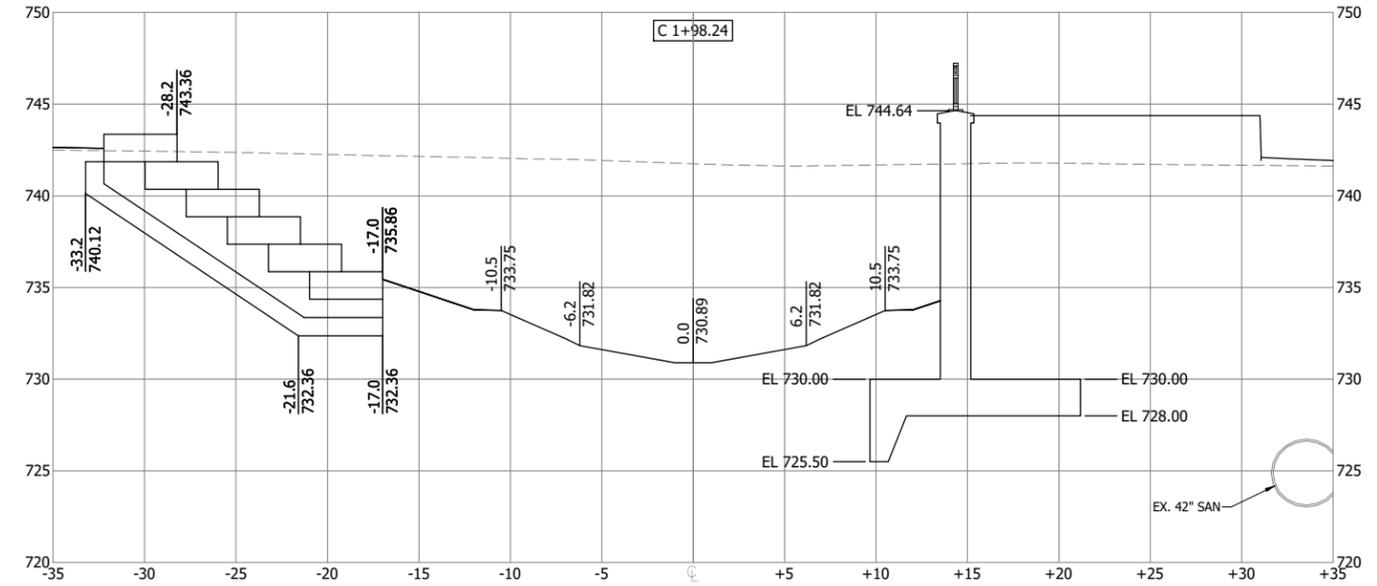
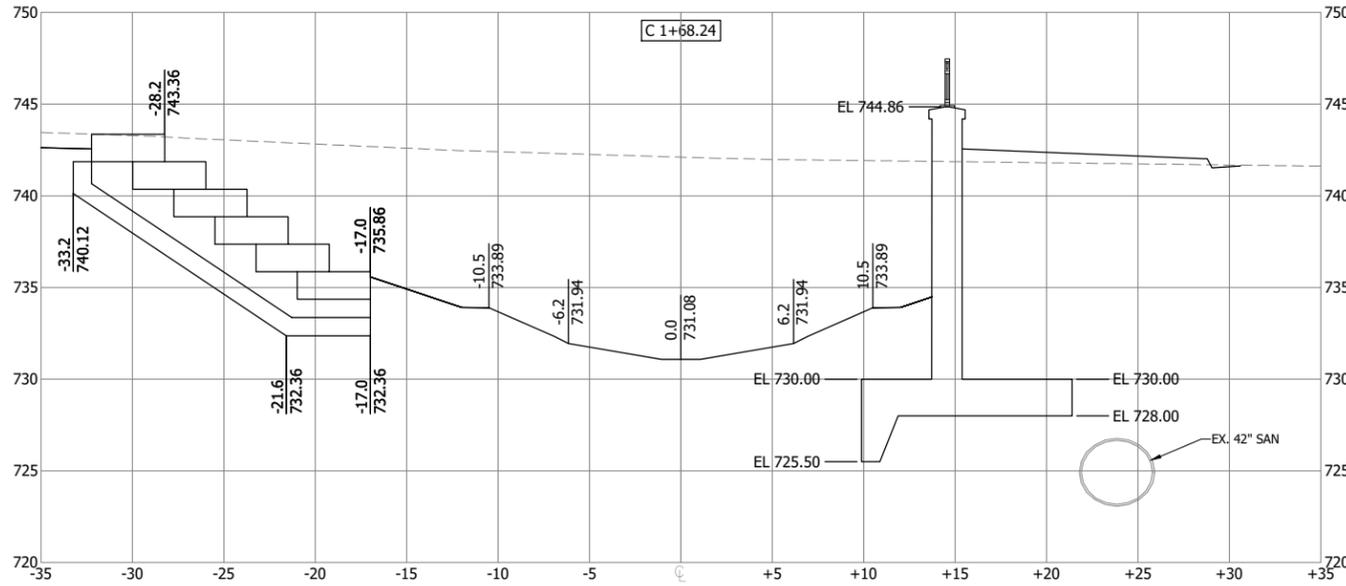
CHANNEL CROSS SECTIONS



DRAWING NO.	CH-CS2
SHEET NO.	29
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:37am
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 User: R. Klein

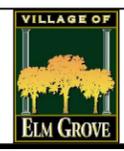


PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

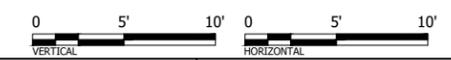
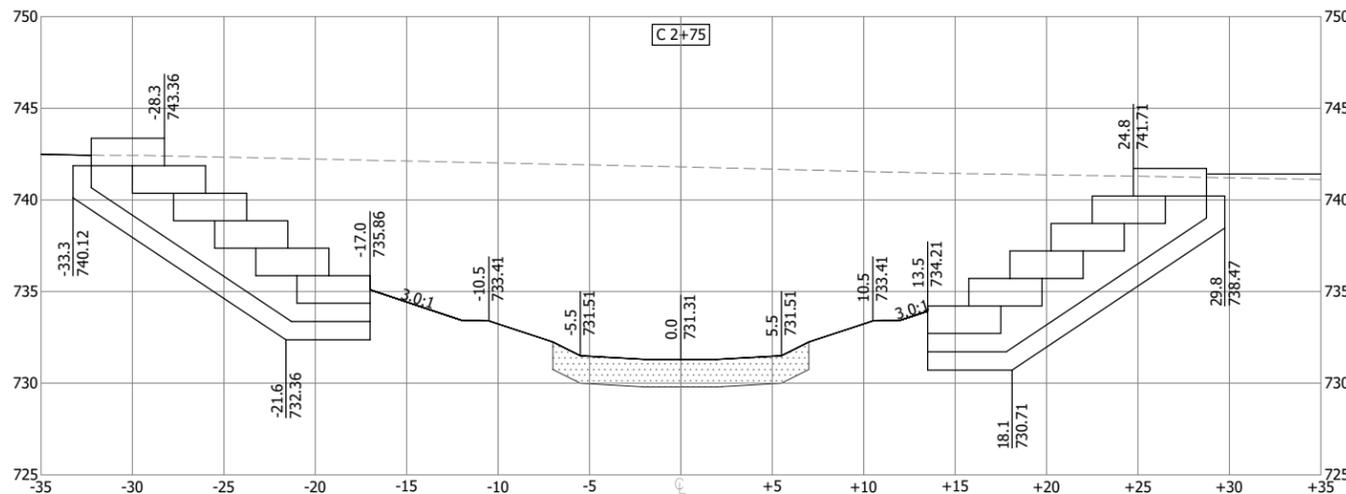
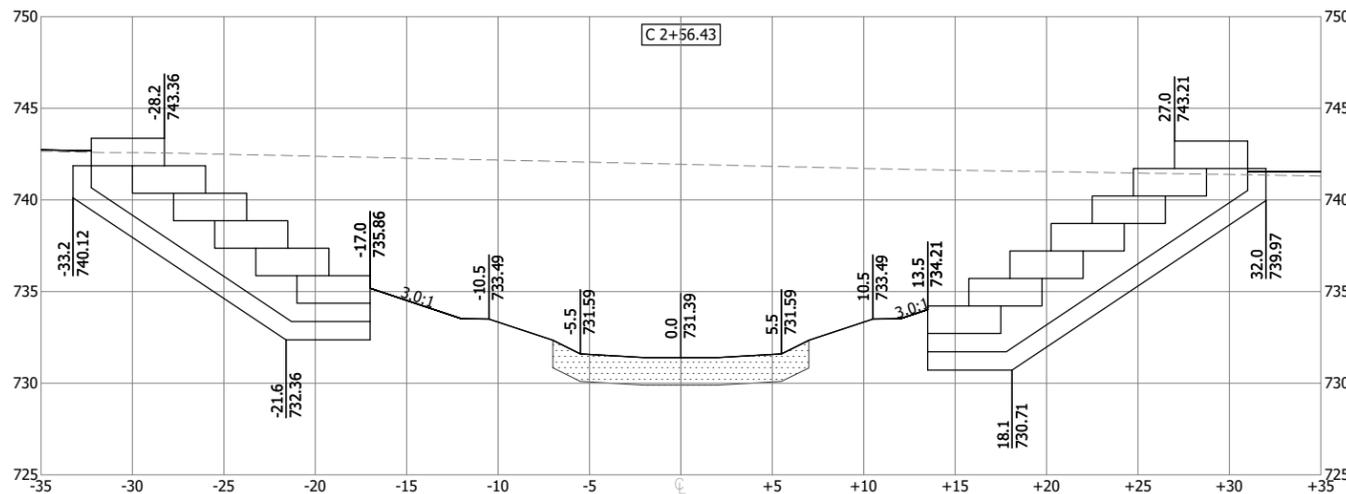
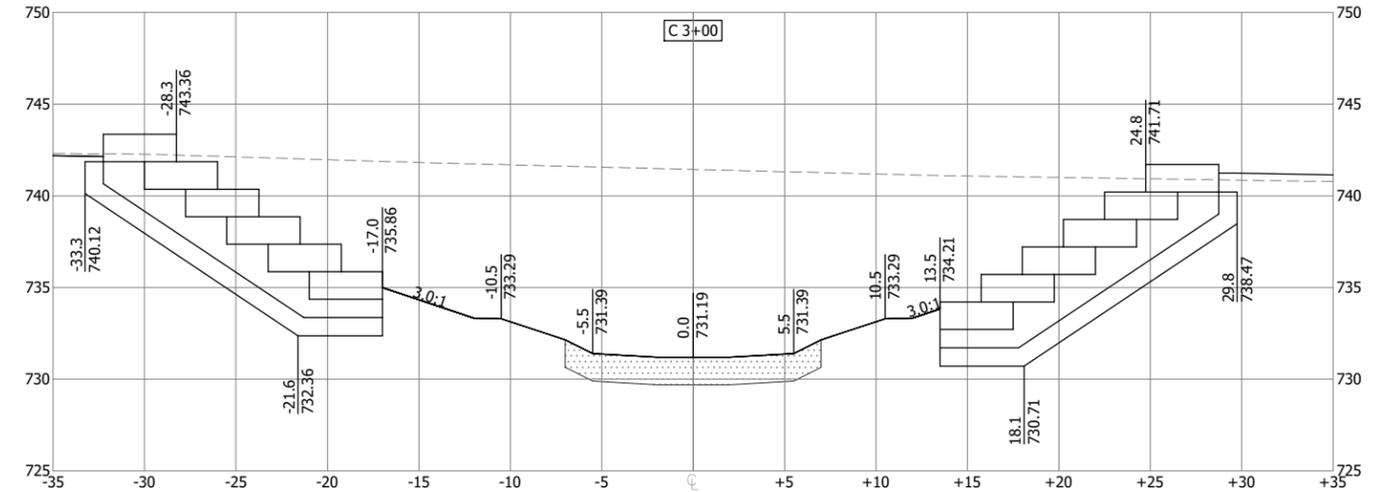
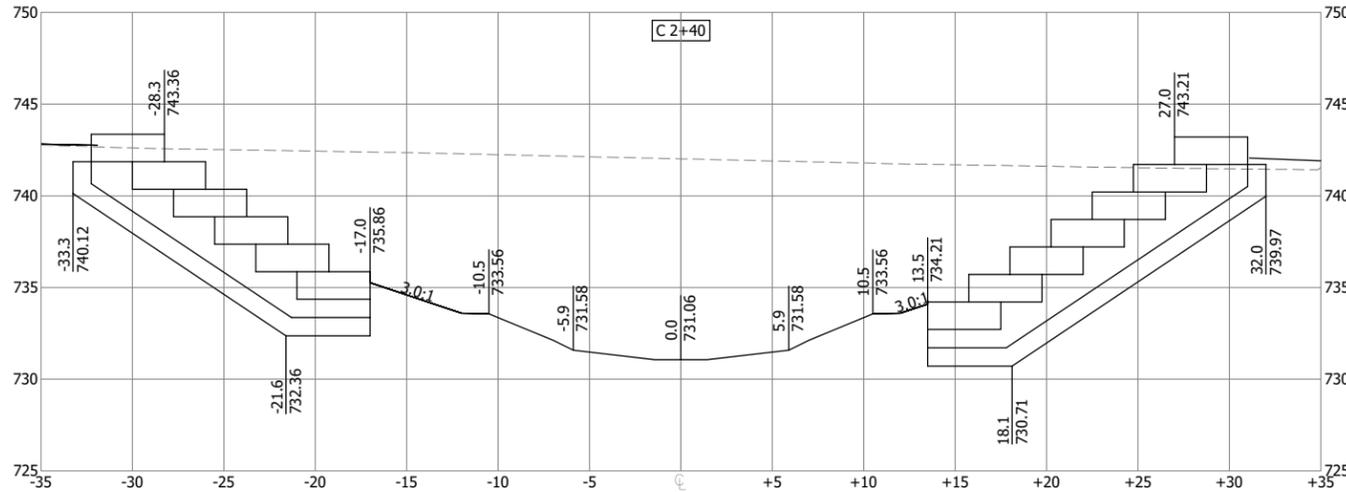


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS3
SHEET NO.	30
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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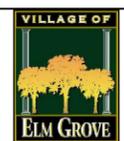
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User: R. Klein
Sheet: Border: 193806812_Sht: 193806812_SNO

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



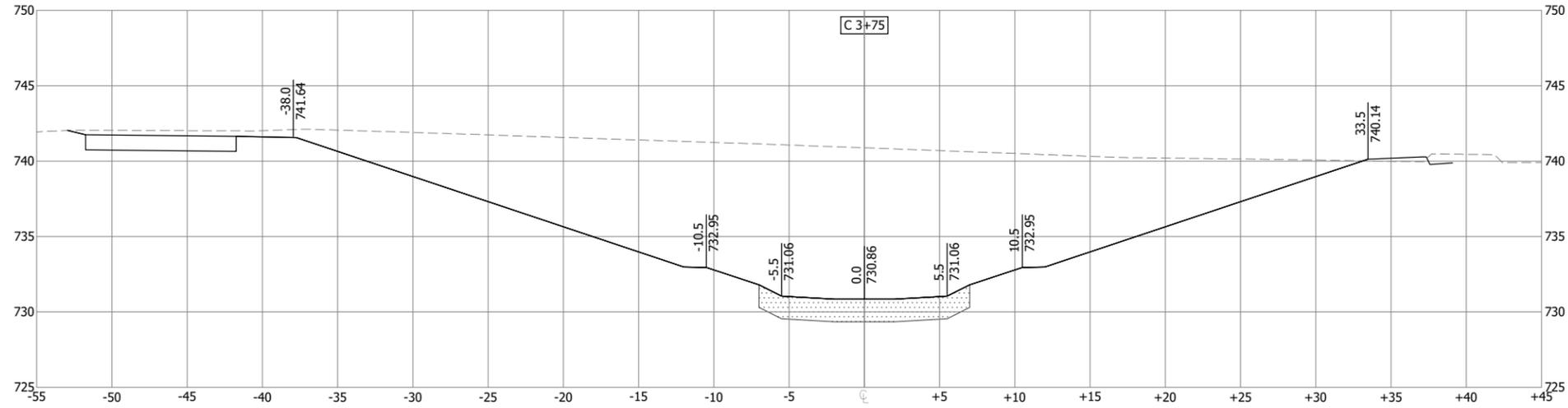
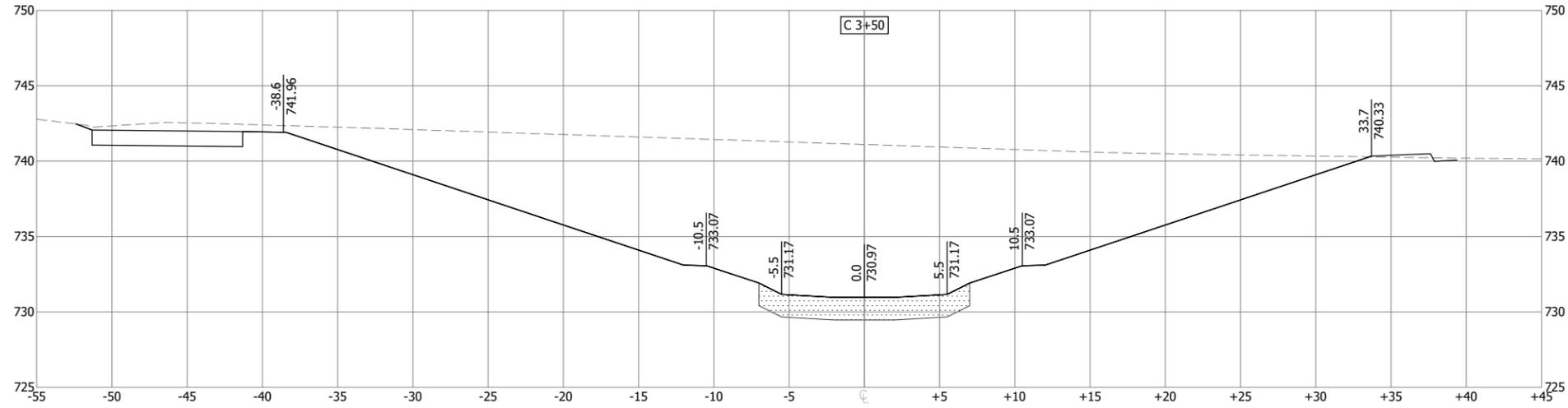
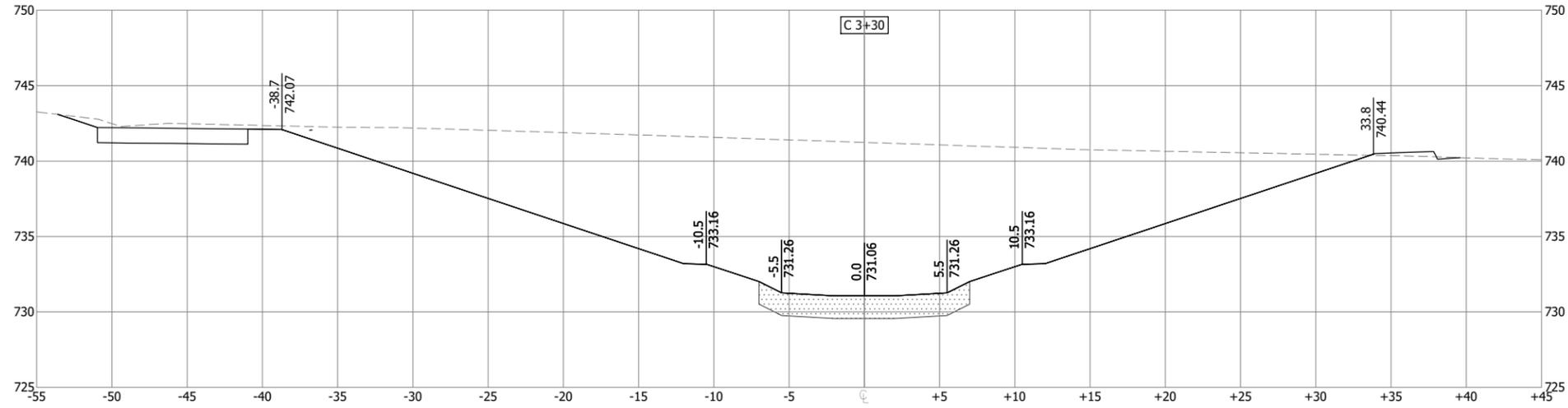
UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS4
SHEET NO.	31
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY PROBLEMS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 10:37am
 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_CH-CS.dwg
 User: R. Klein
 Sheet: 32 of 32



PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



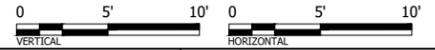
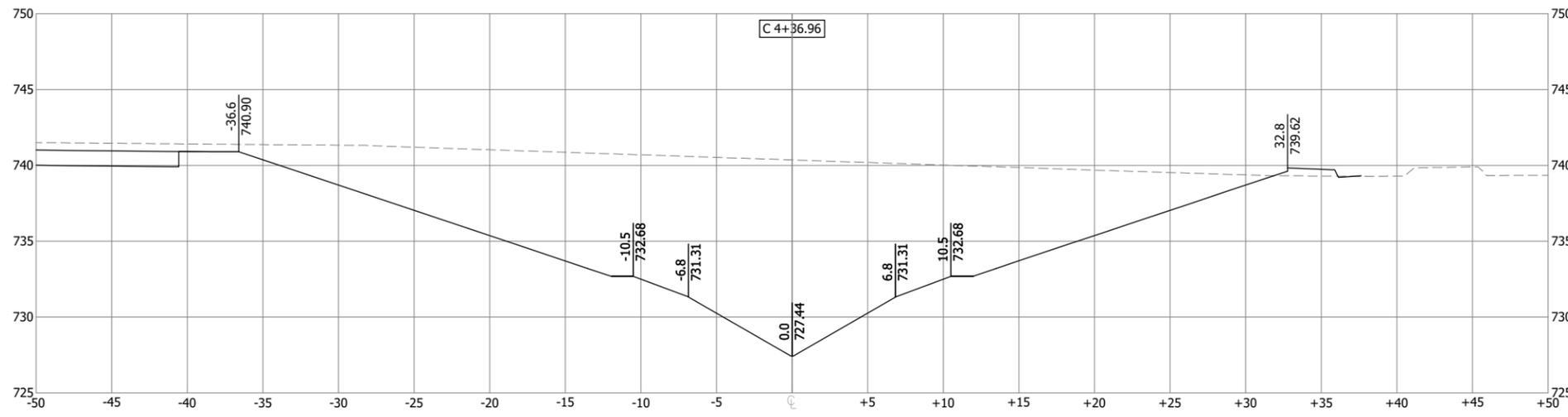
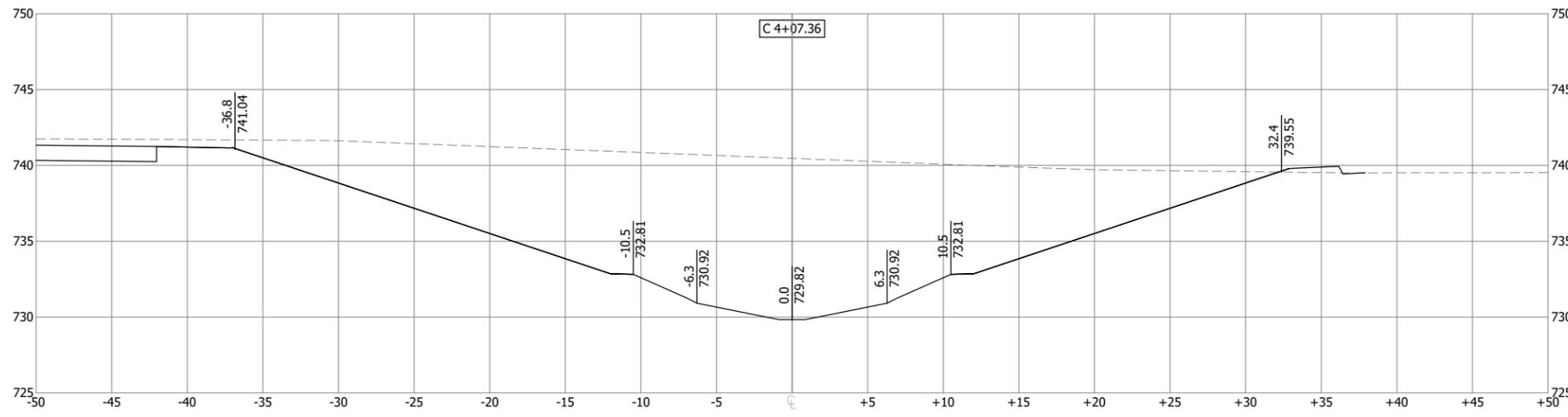
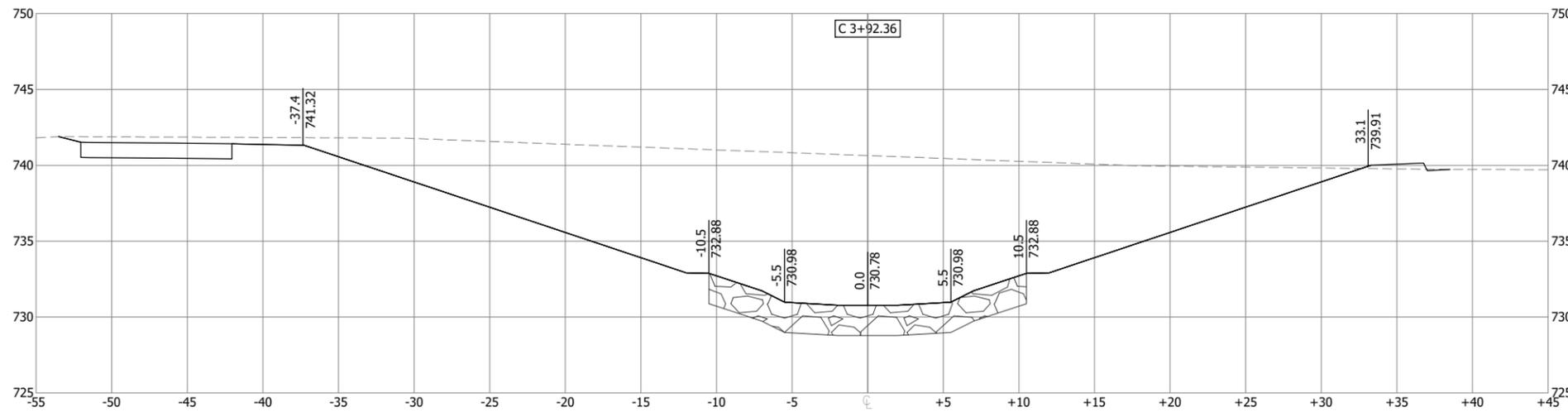
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS5
SHEET NO.	32
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS MADE BY THE CONTRACTOR FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC'S FORFEITURE.

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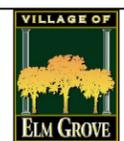


PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
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A. ROCK
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D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

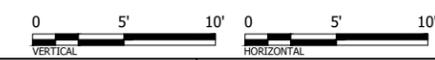
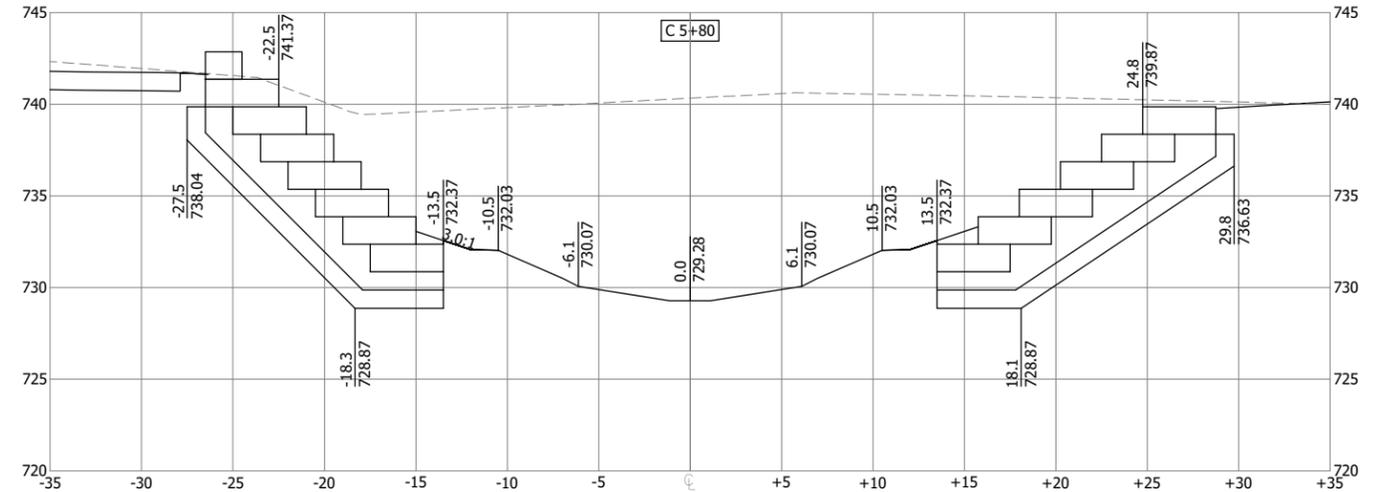
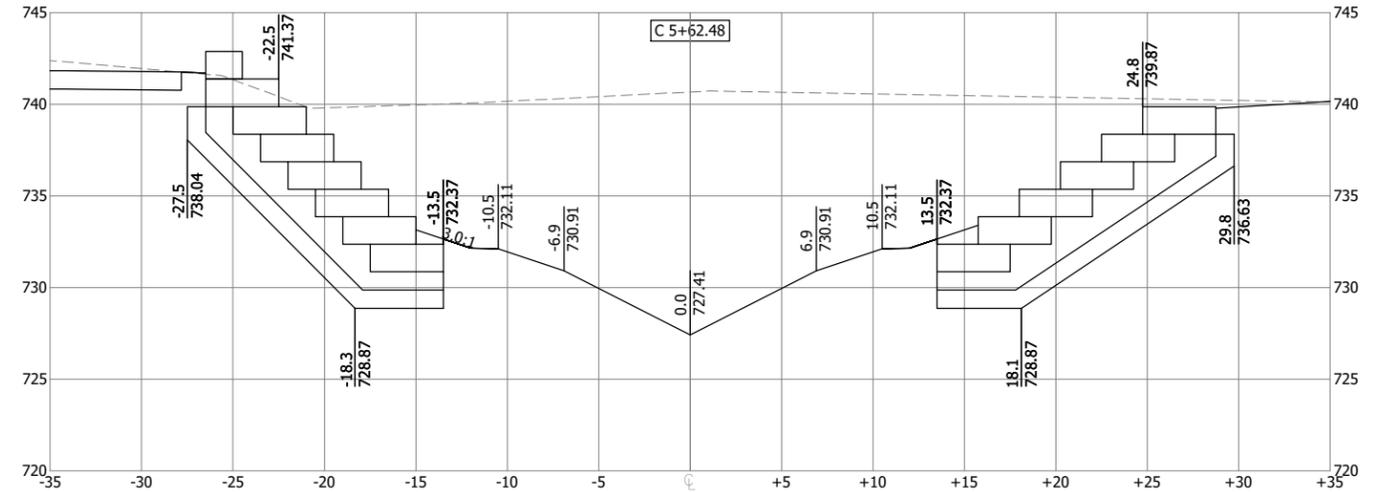
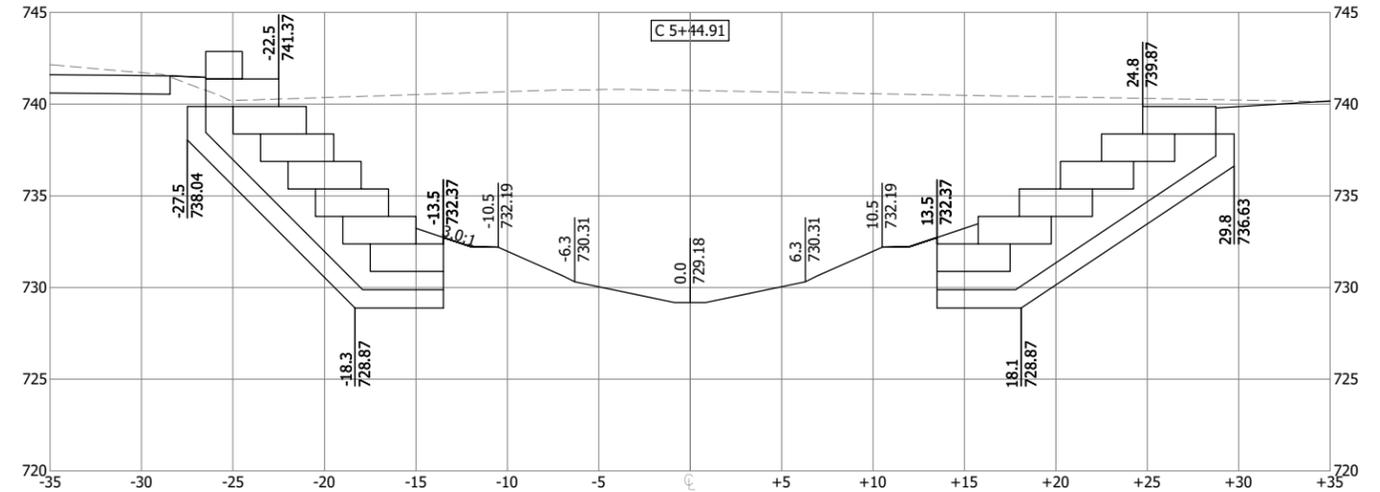
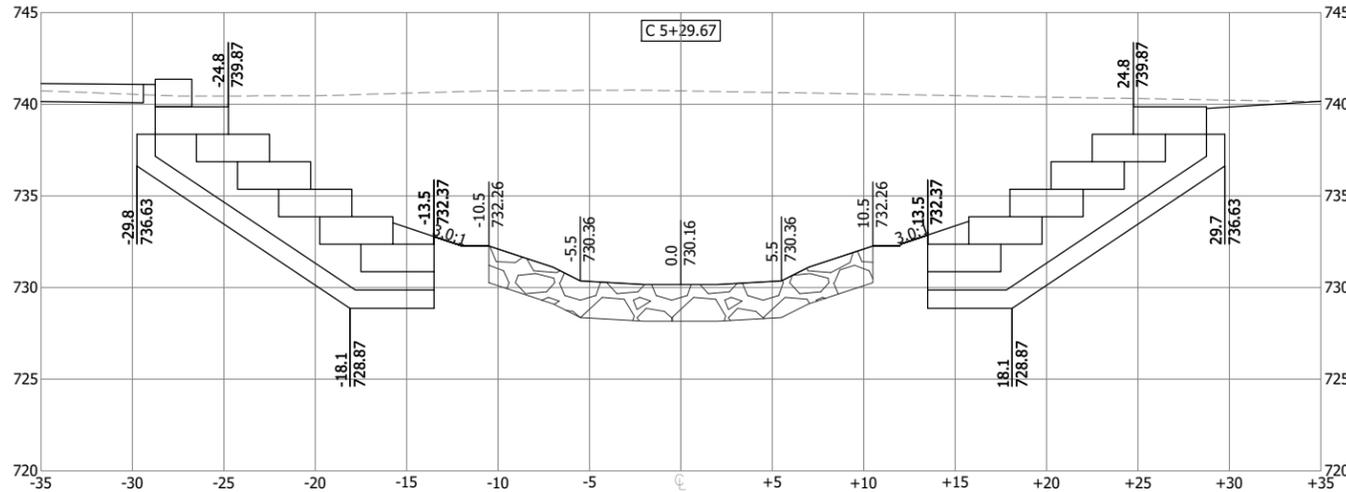
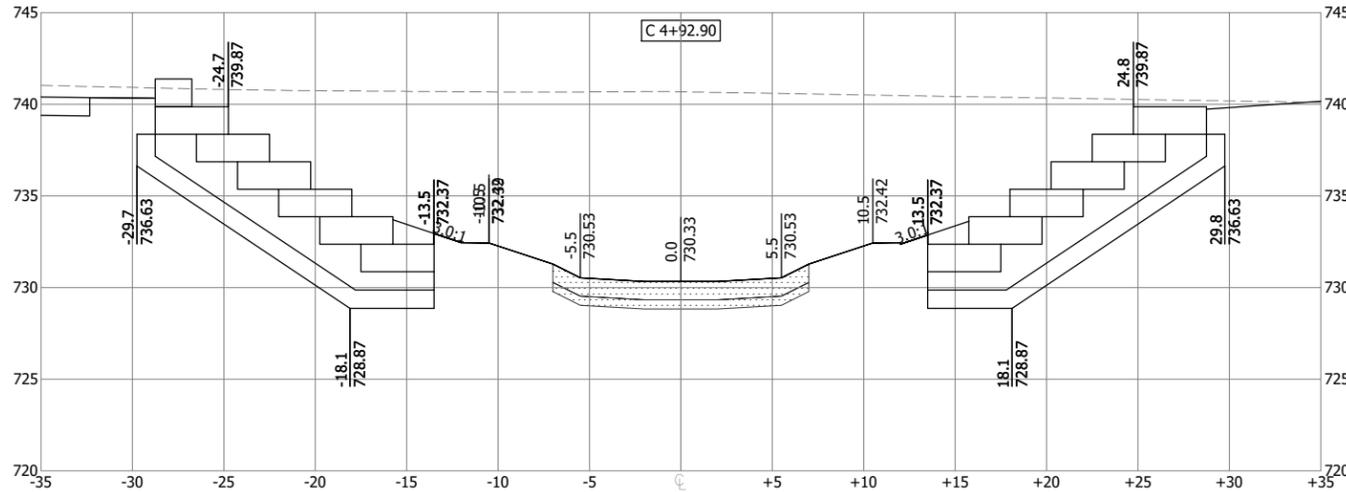
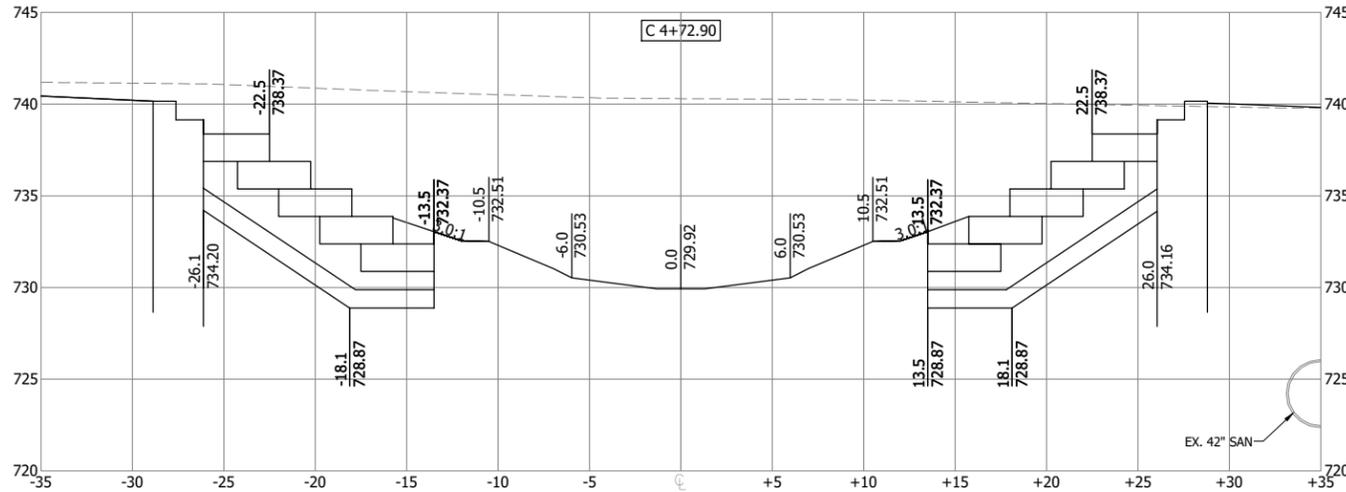


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS6
SHEET NO.	33
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

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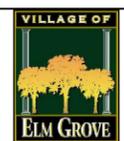


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



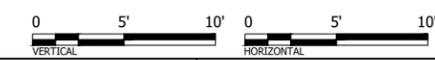
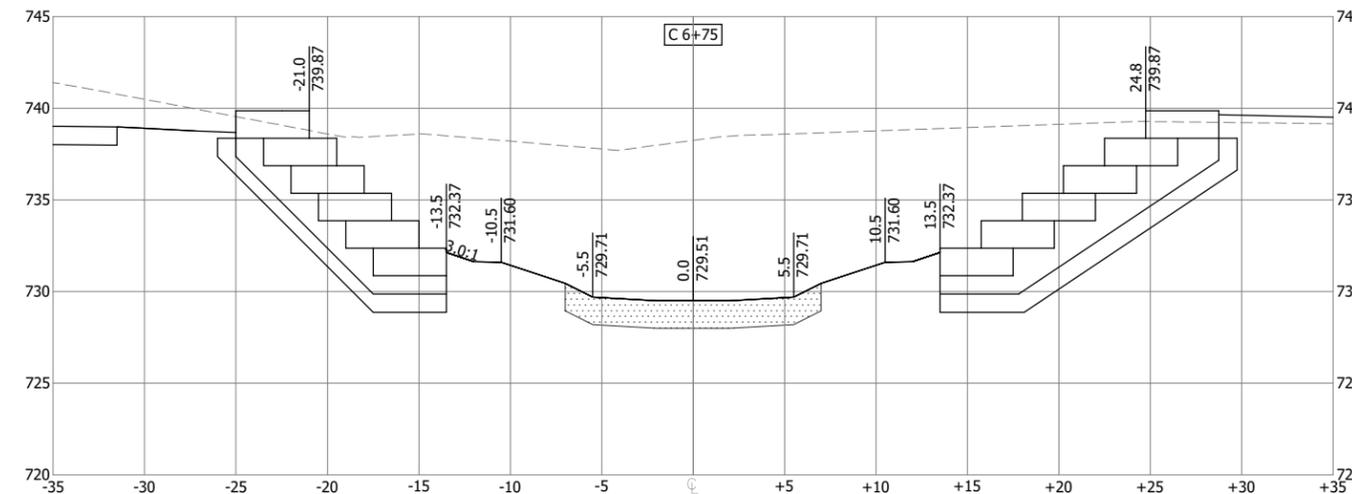
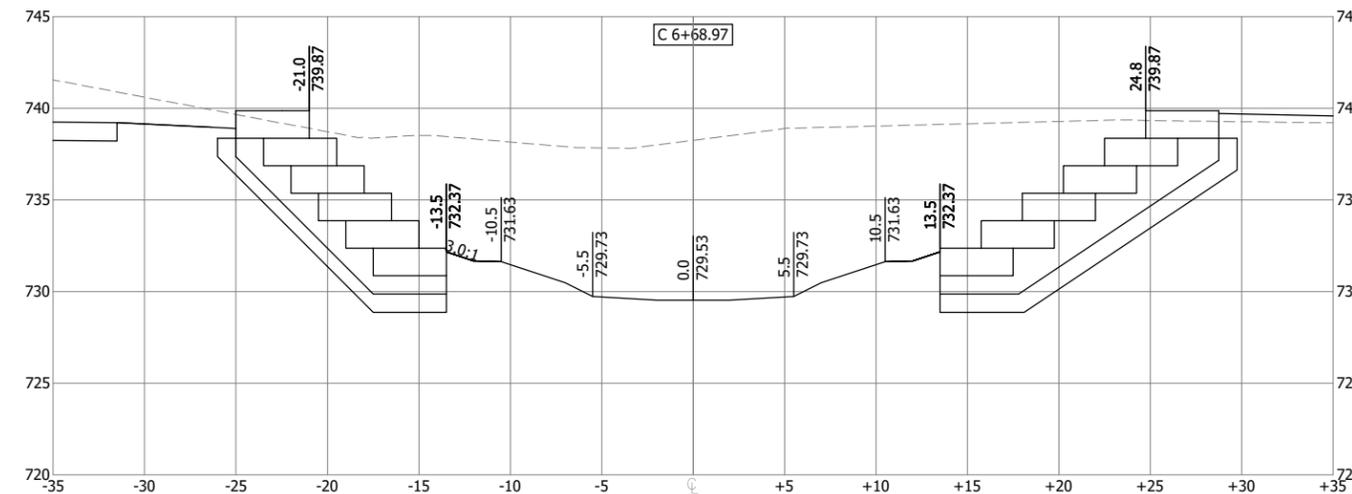
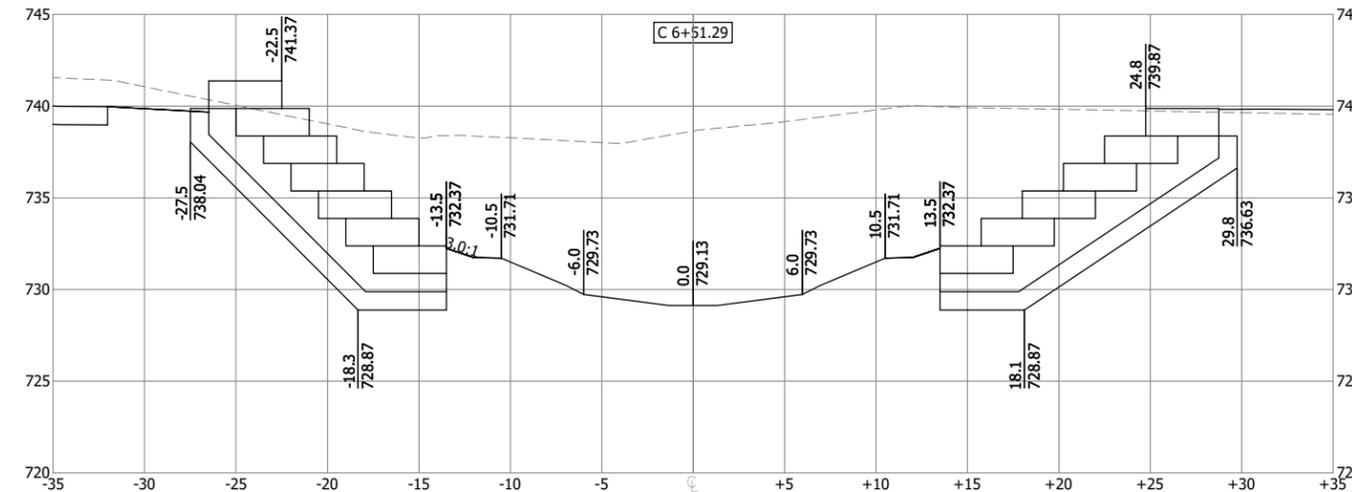
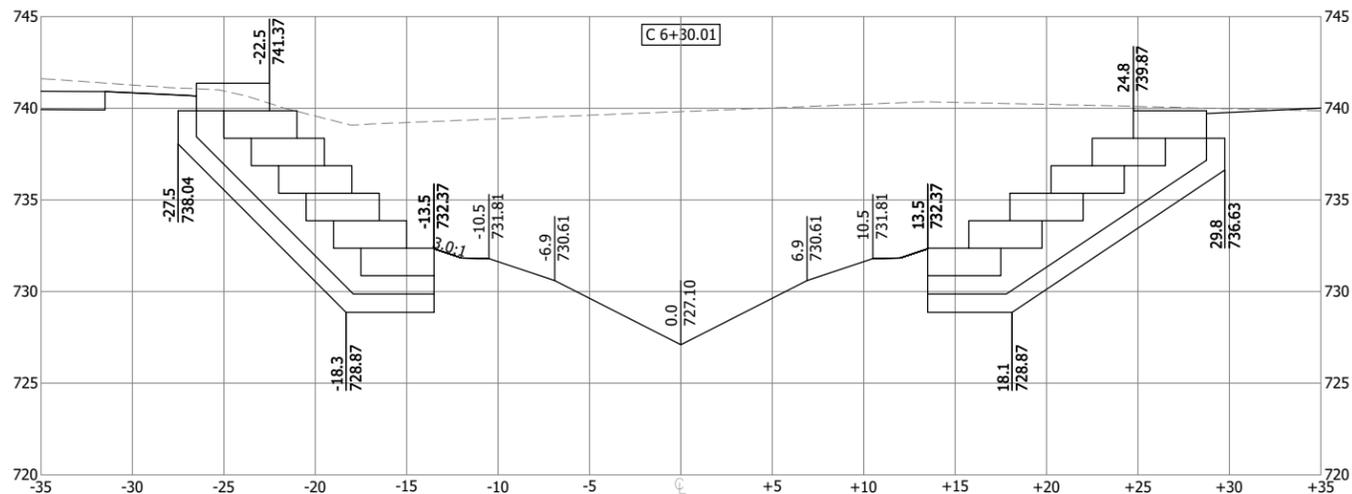
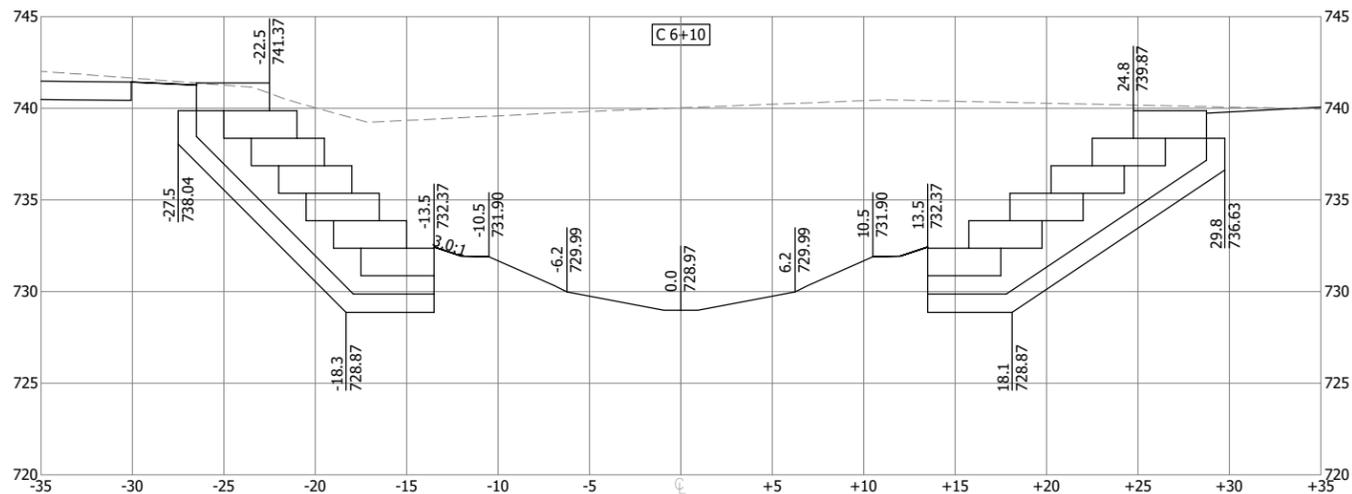
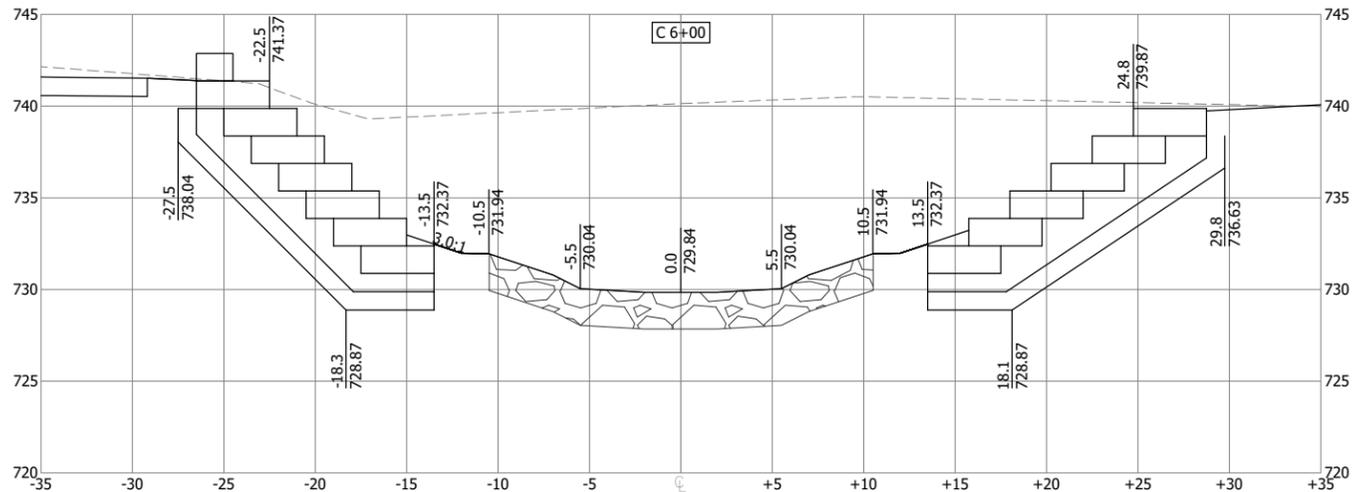
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS7
SHEET NO.	34
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 10:37am
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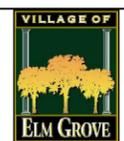


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



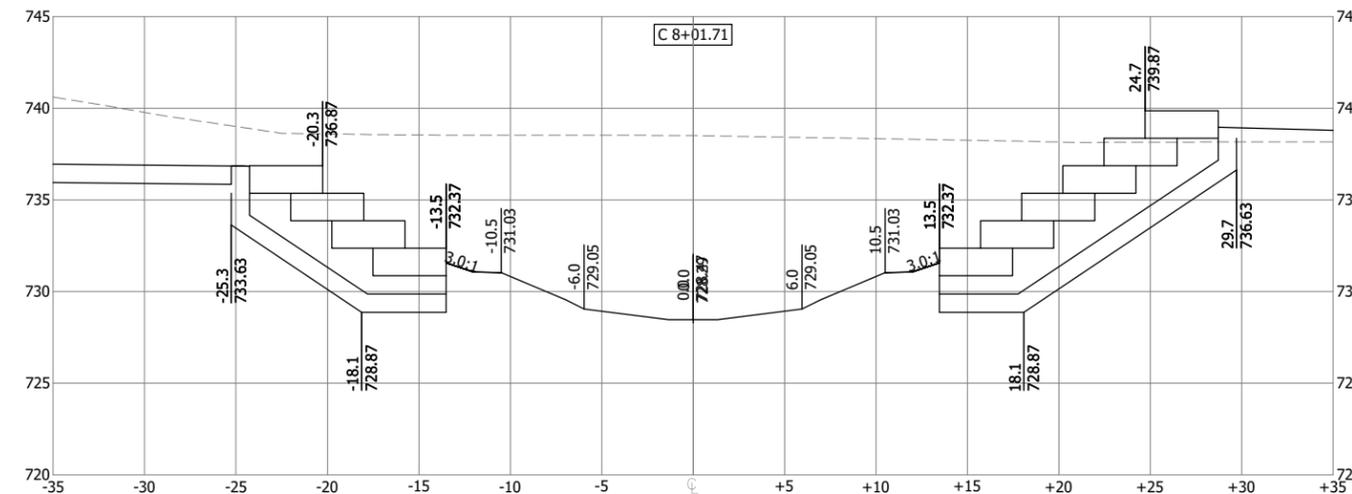
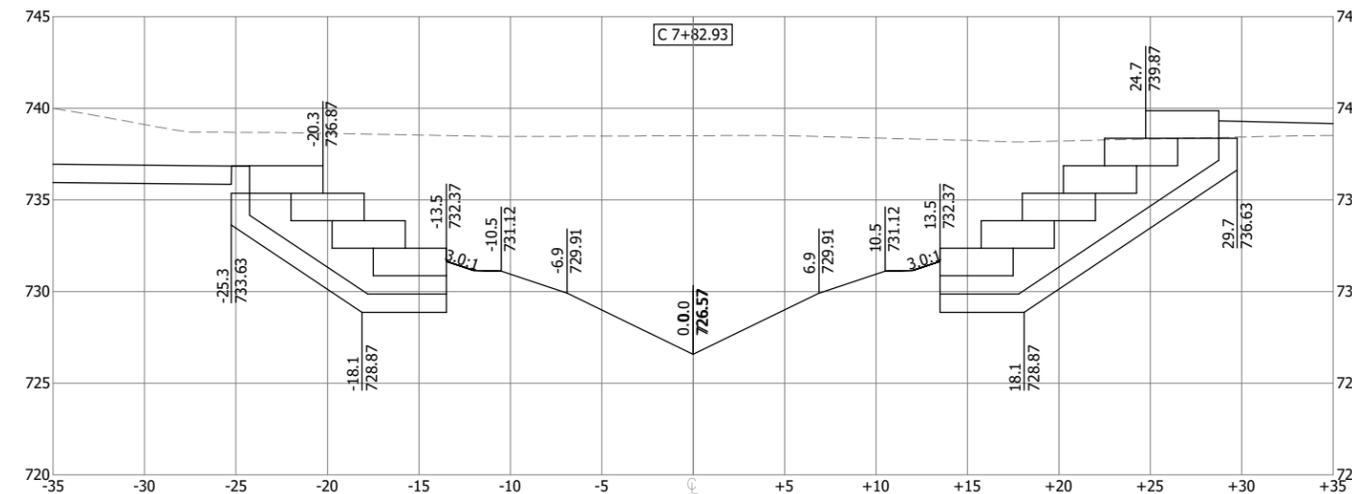
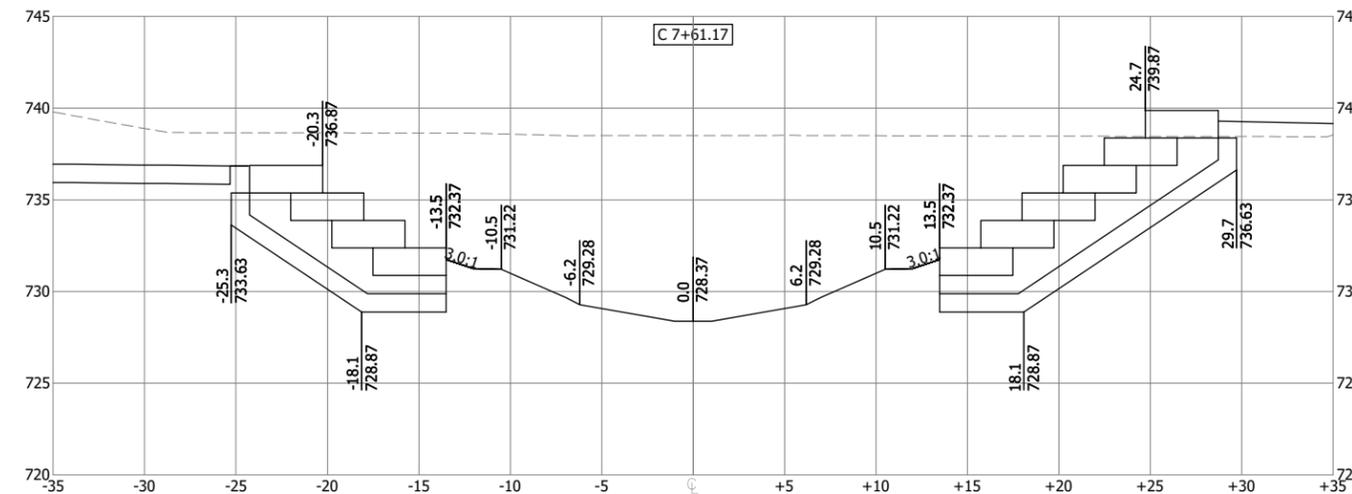
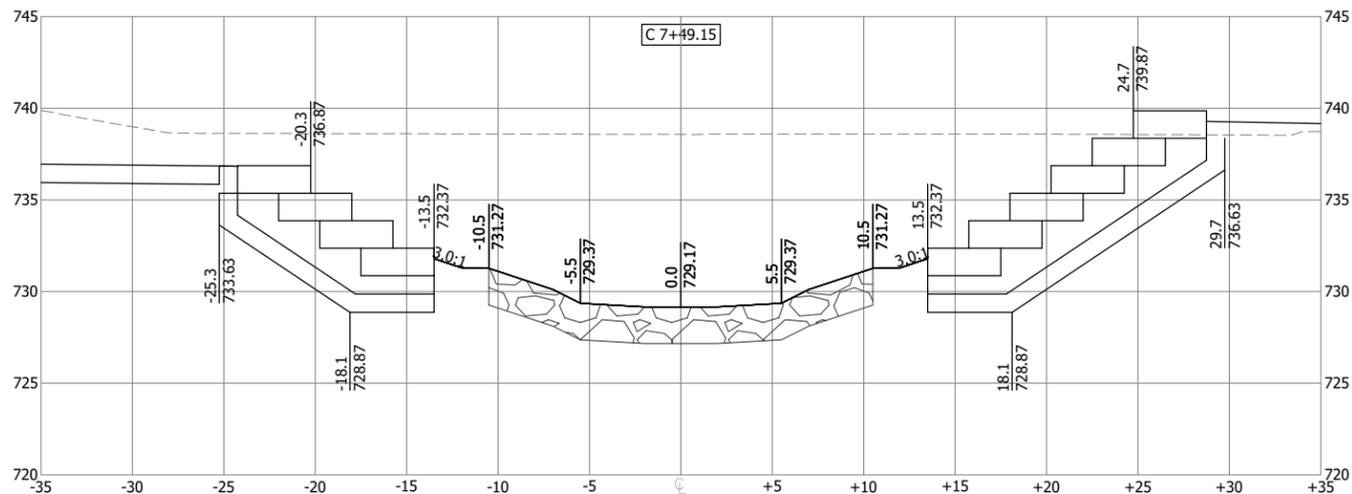
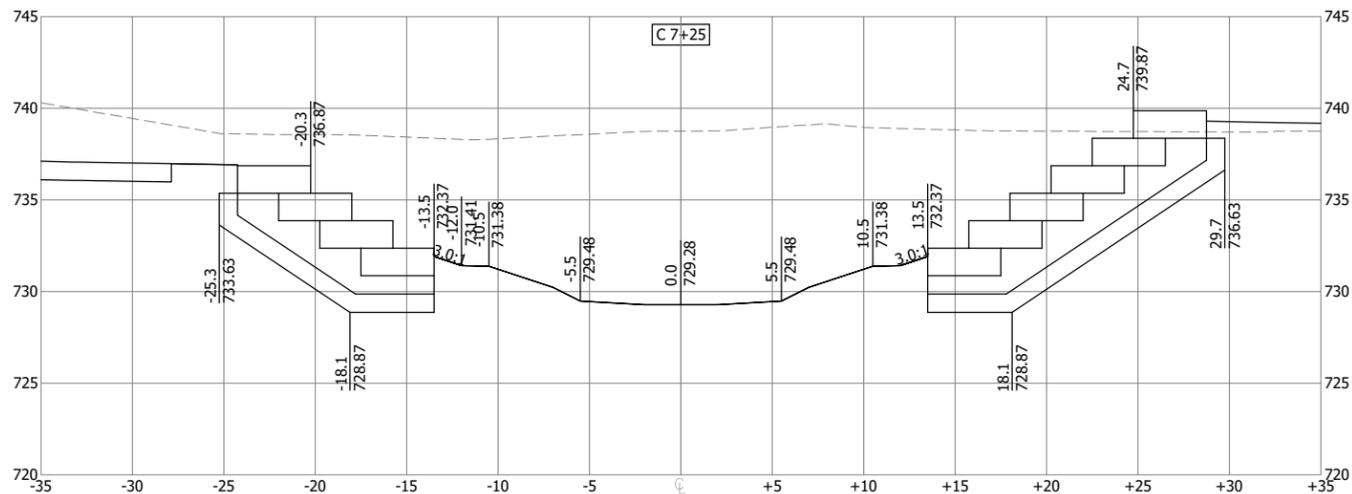
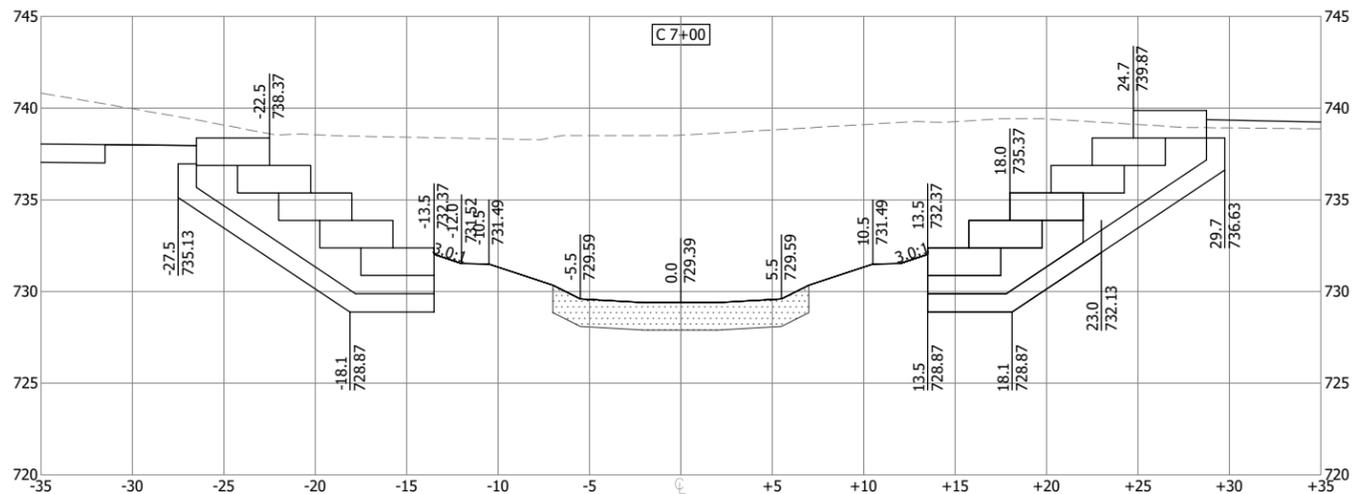
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS8
SHEET NO.	35
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:37am
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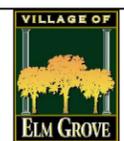


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
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A. ROCK
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D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



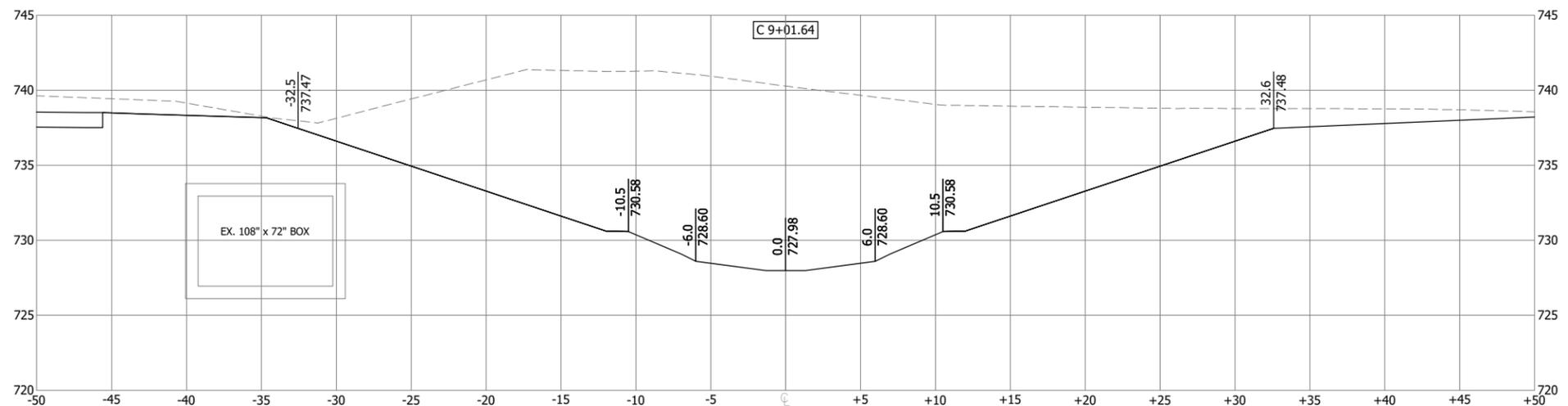
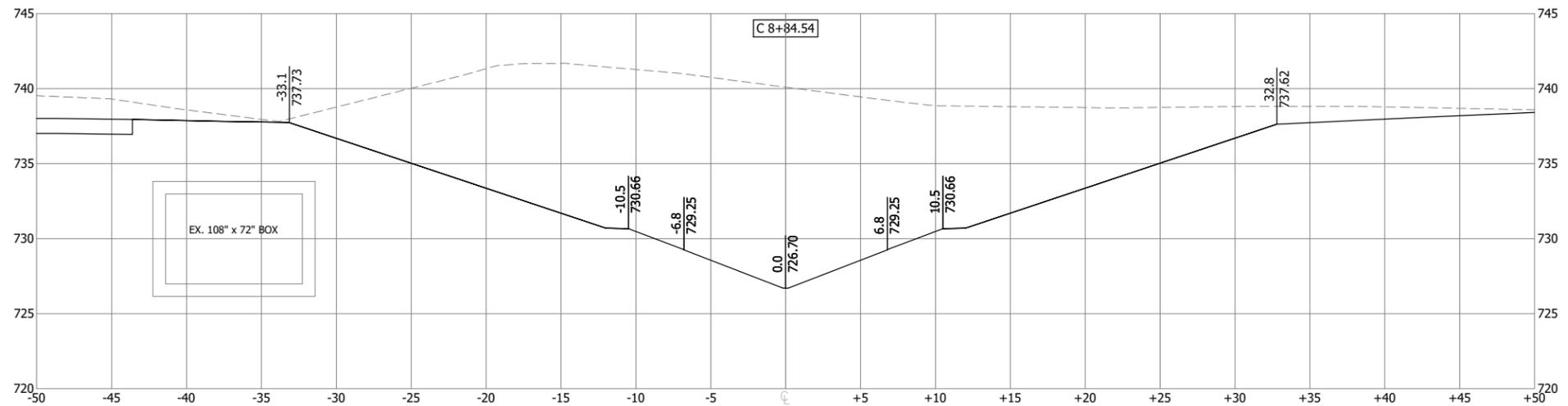
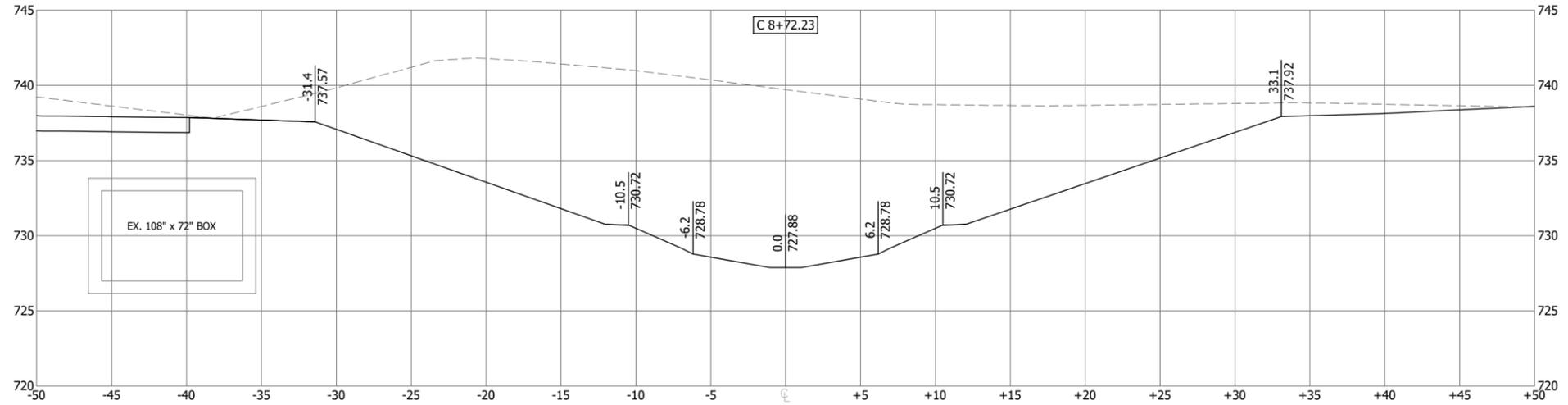
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS9
SHEET NO.	36
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:40am
 Drawing name: U:\193806812\CA\DWG\Sheets\193806812_CH-CS.dwg
 User: R. Klein
 Plot Date: 12/19/2024 - 10:40am



PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

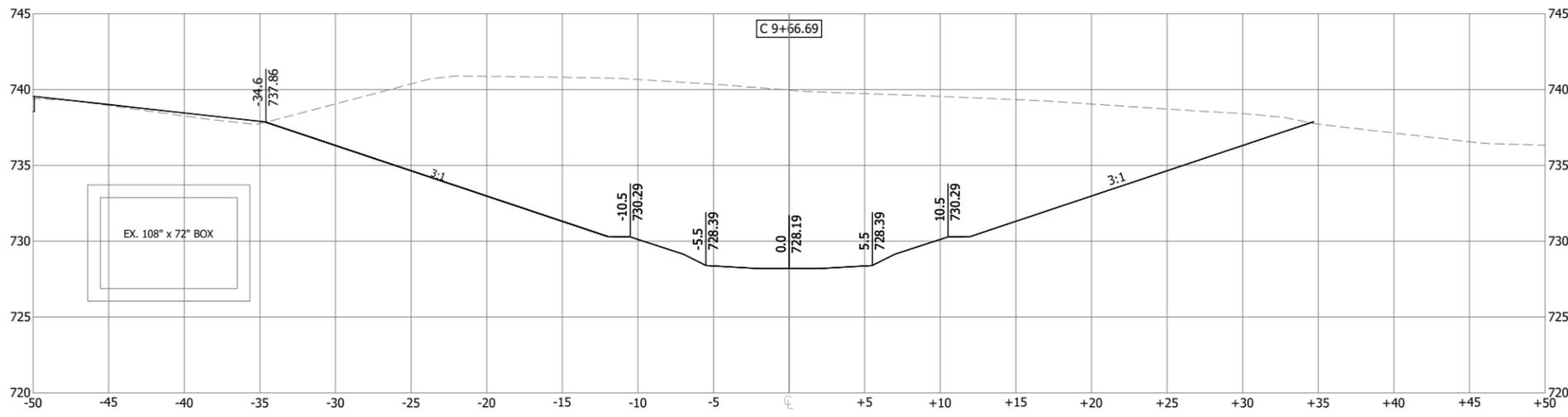
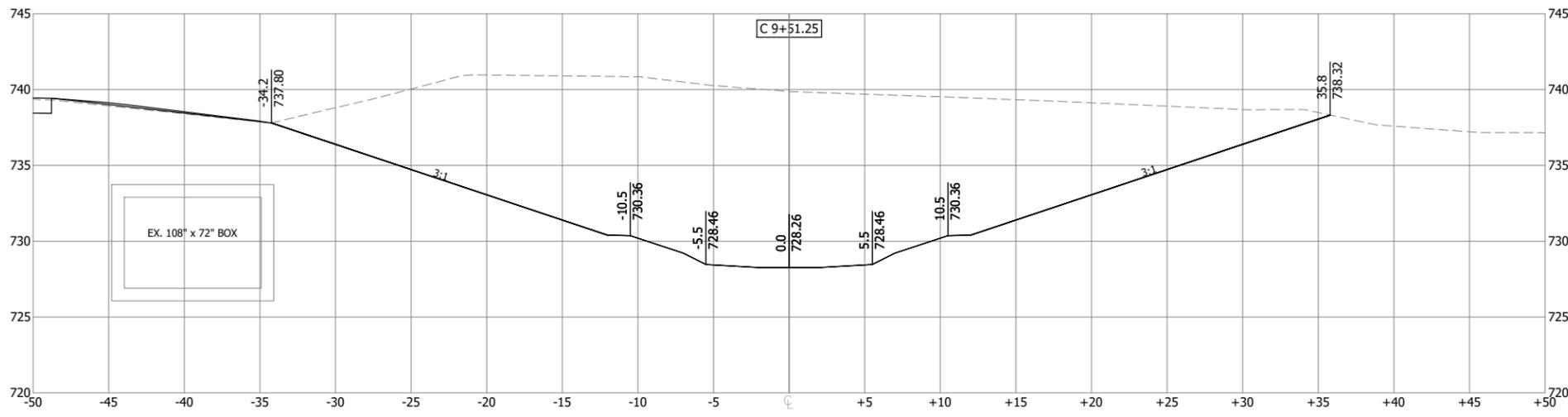
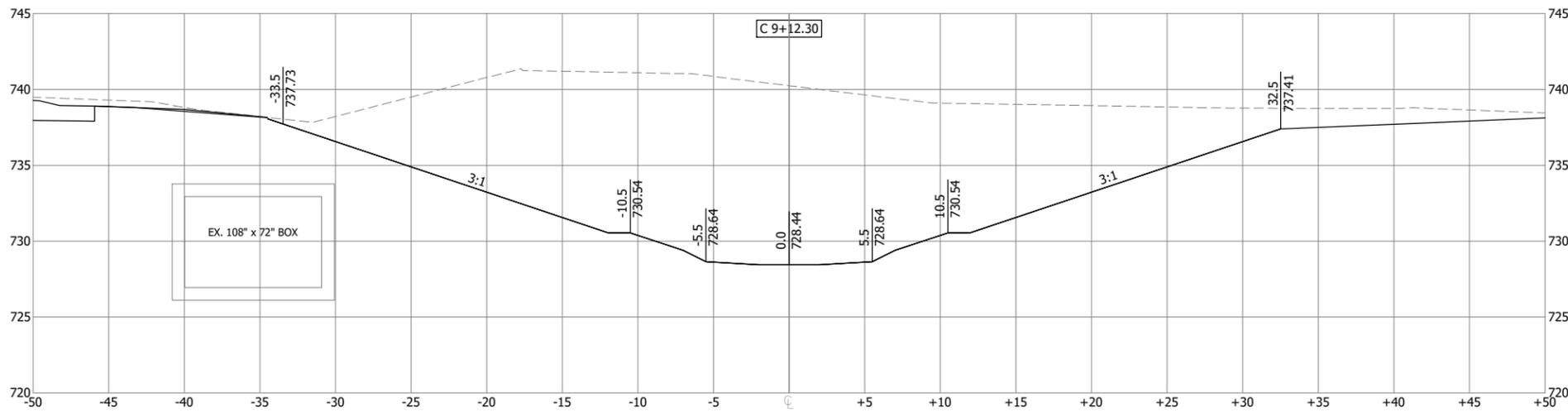
CHANNEL CROSS SECTIONS



DRAWING NO.	CH-CS11
SHEET NO.	38
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY PROBLEMS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 10:40am
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 User: R. Klein
 Scale: Border: 1/8"=1'-0" Plot: 1/8"=1'-0"

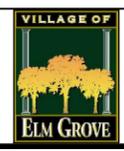


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN

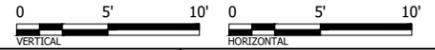


REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

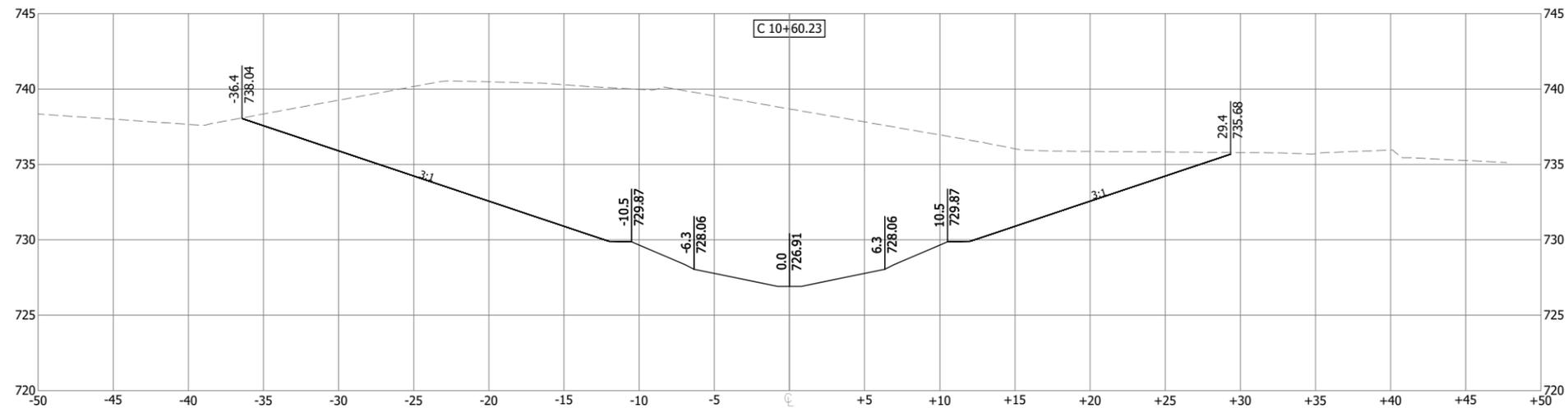
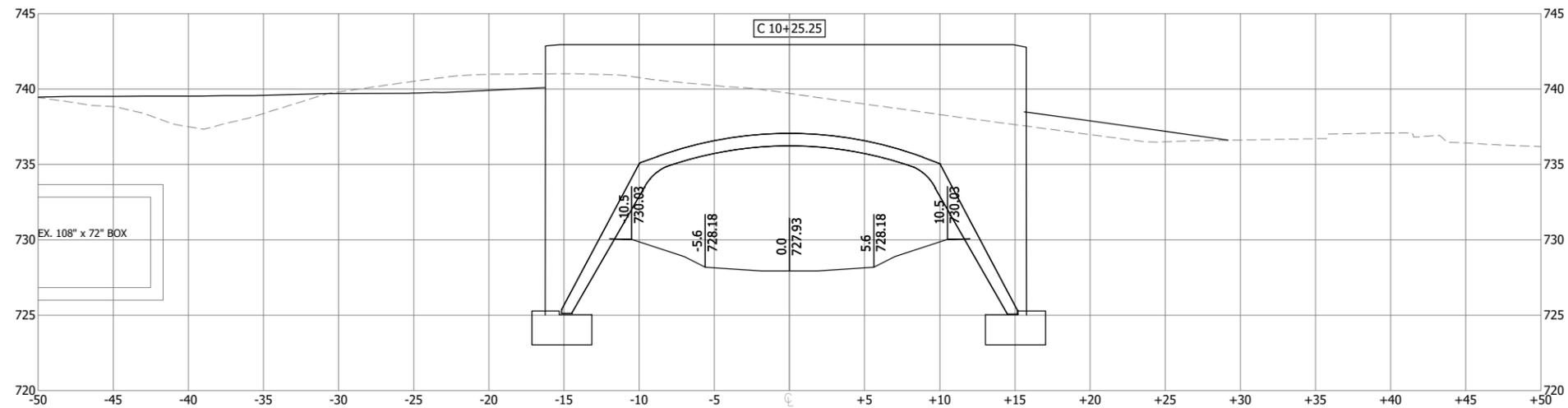
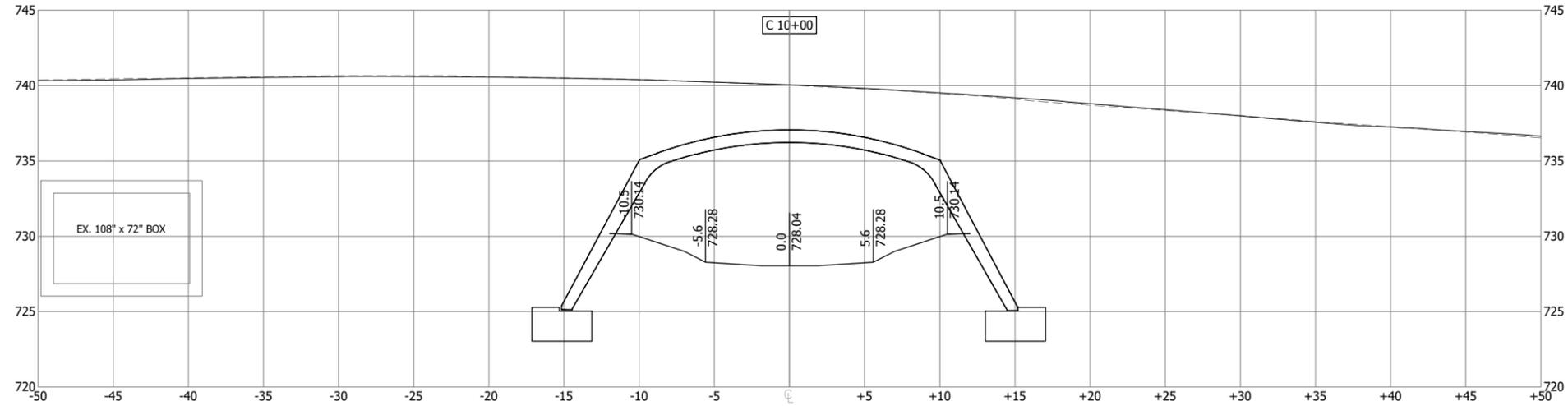
CHANNEL CROSS SECTIONS



DRAWING NO.	CH-CS12
SHEET NO.	39
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:40am
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 User: R. Klein
 Scale: 1:1
 Plot: 193806812.dwg



PRELIMINARY
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DESIGNER
M. SIERACKI
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A. ROCK
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D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



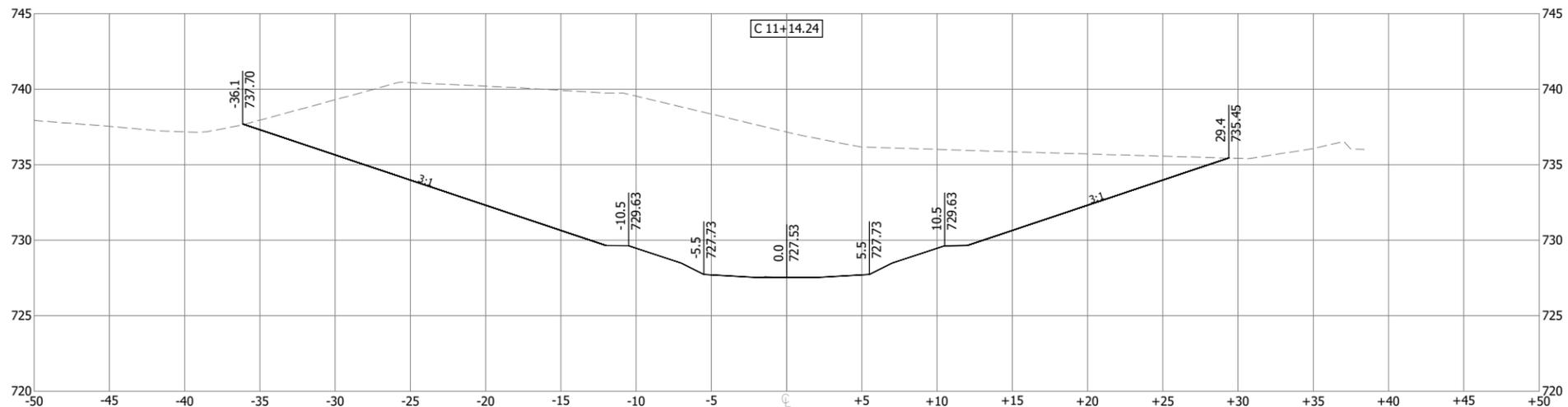
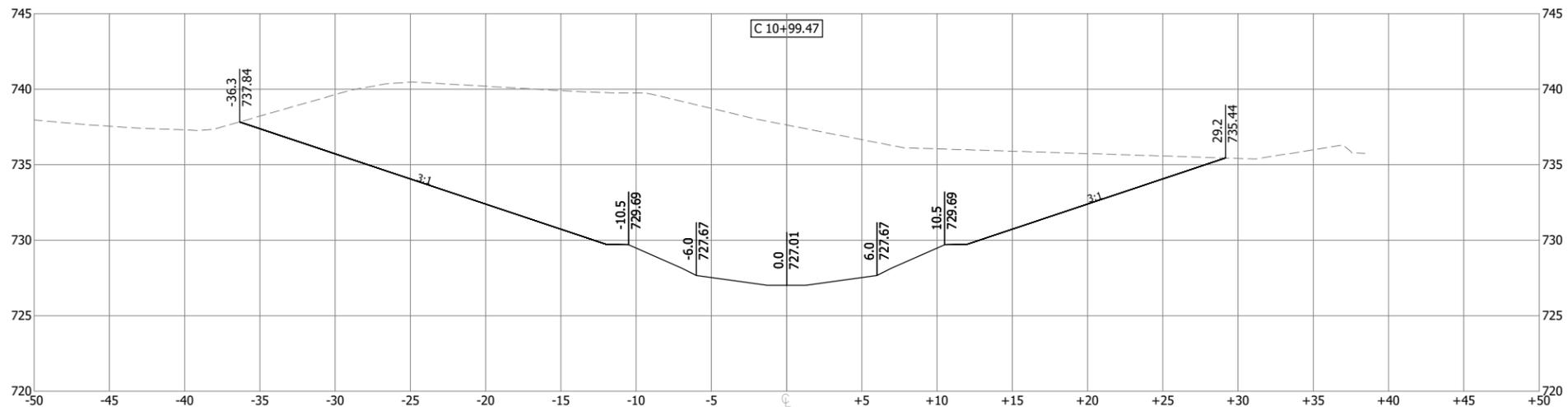
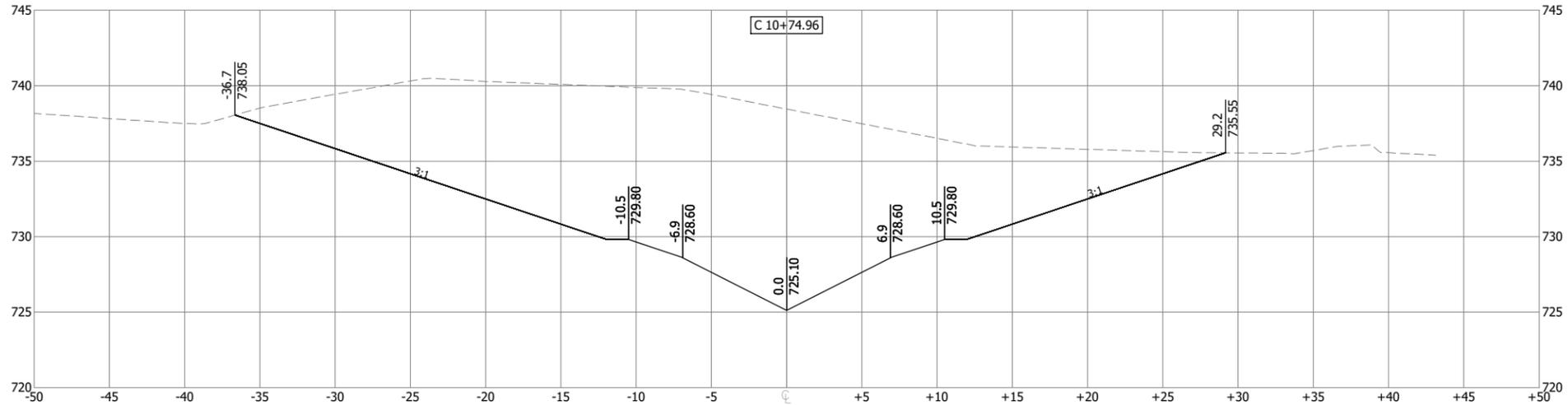
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS13
SHEET NO.	40
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:40am
 Drawing Name: U:\193806812\CH-CS.dwg
 User: R. Klein



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M. SIERACKI
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REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



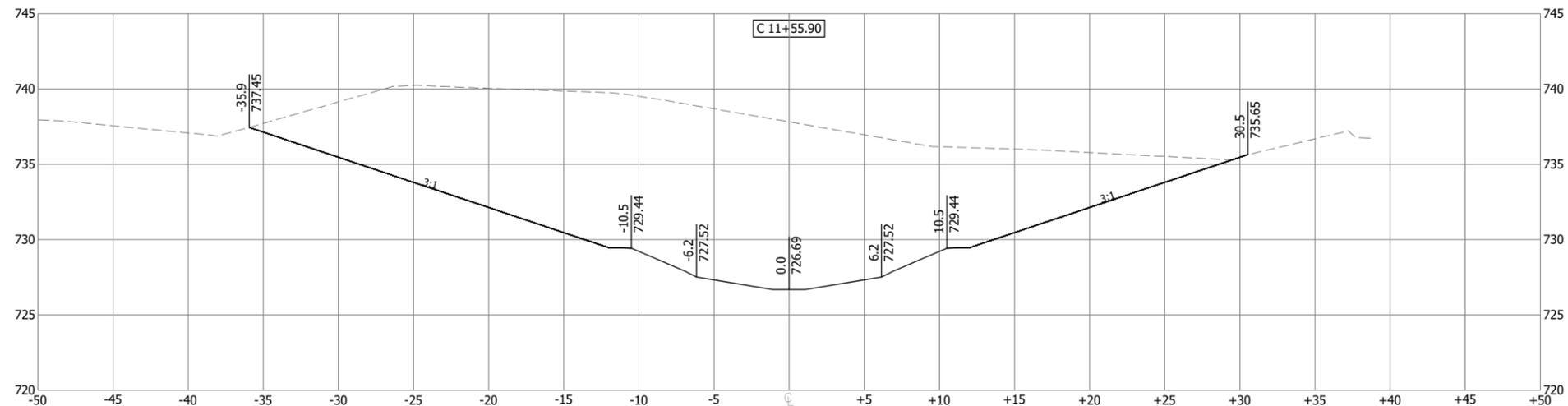
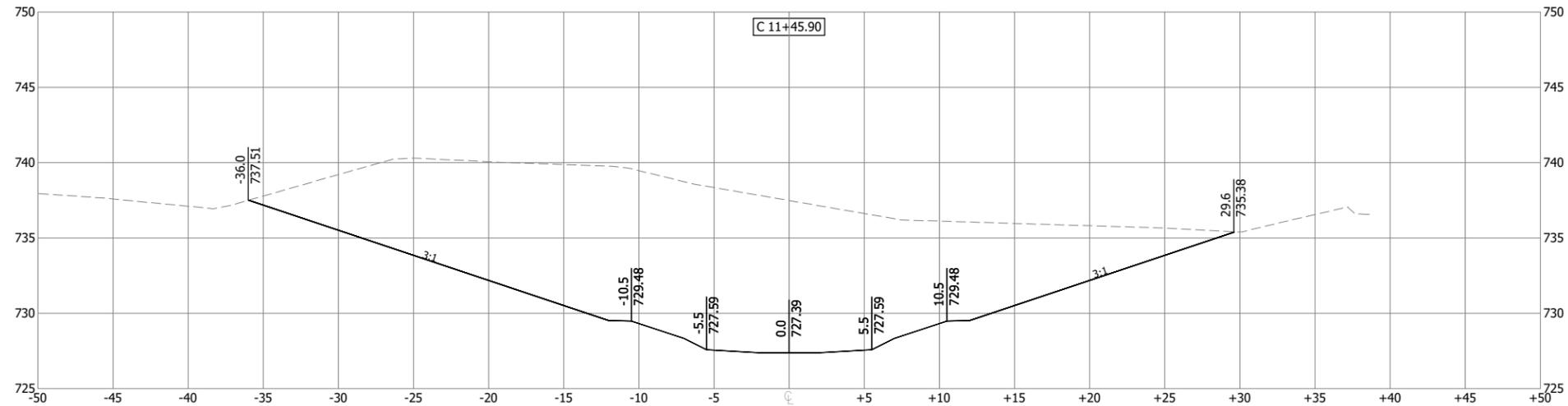
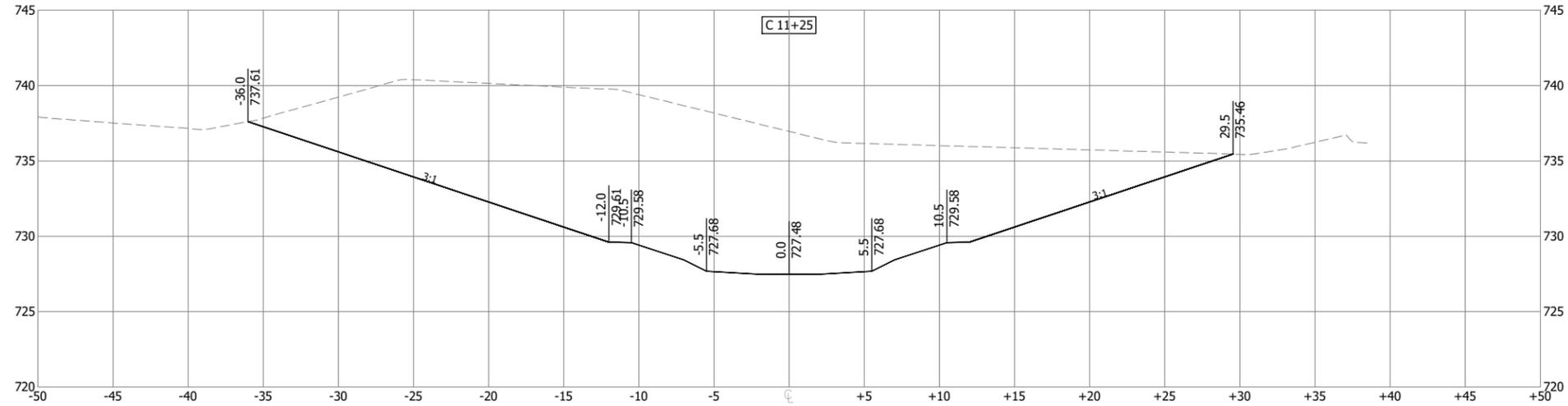
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS14
SHEET NO.	41
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY PROFILES OR DIMENSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 10:40am
 Drawing Name: U:\193806812\CA\DWG\Sheet\193806812_CH-CS.dwg
 User: R. Klein
 Plot Date: 12/19/2024 - 10:40am



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DESIGNER
M. SIERACKI
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REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



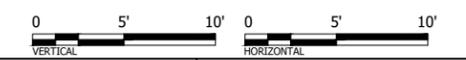
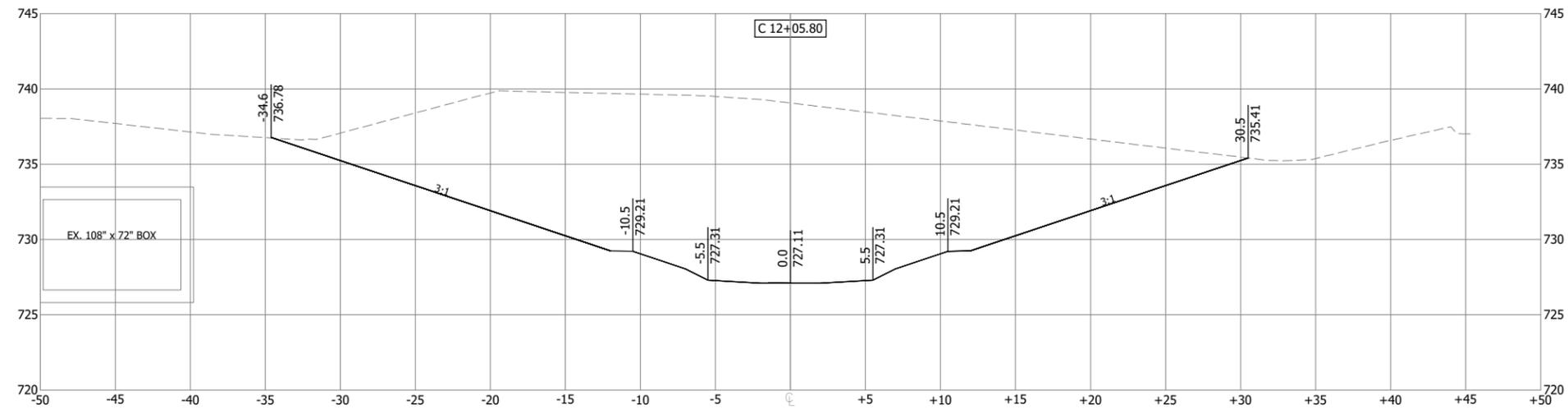
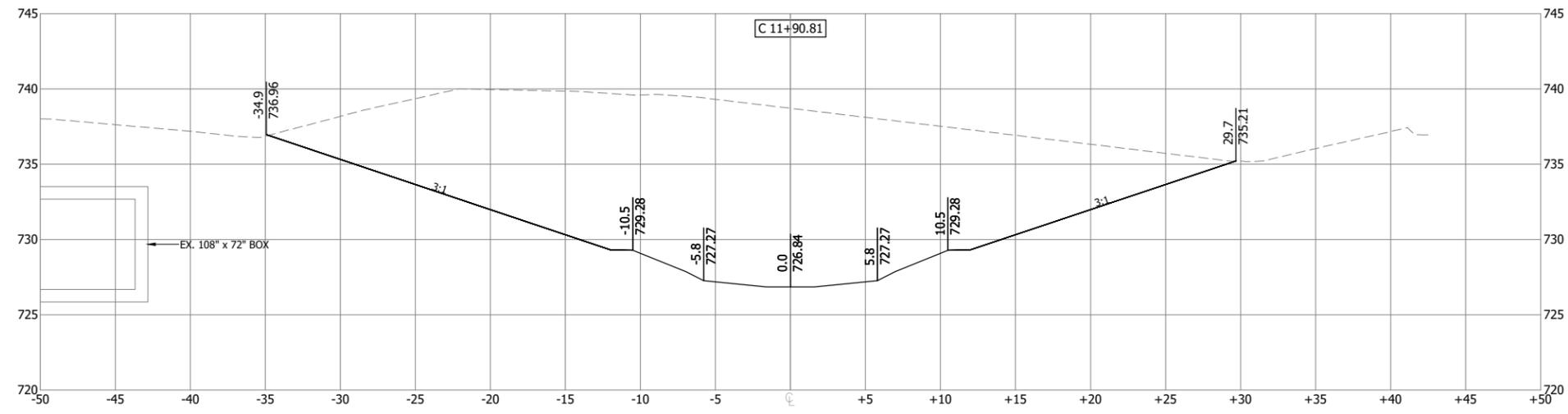
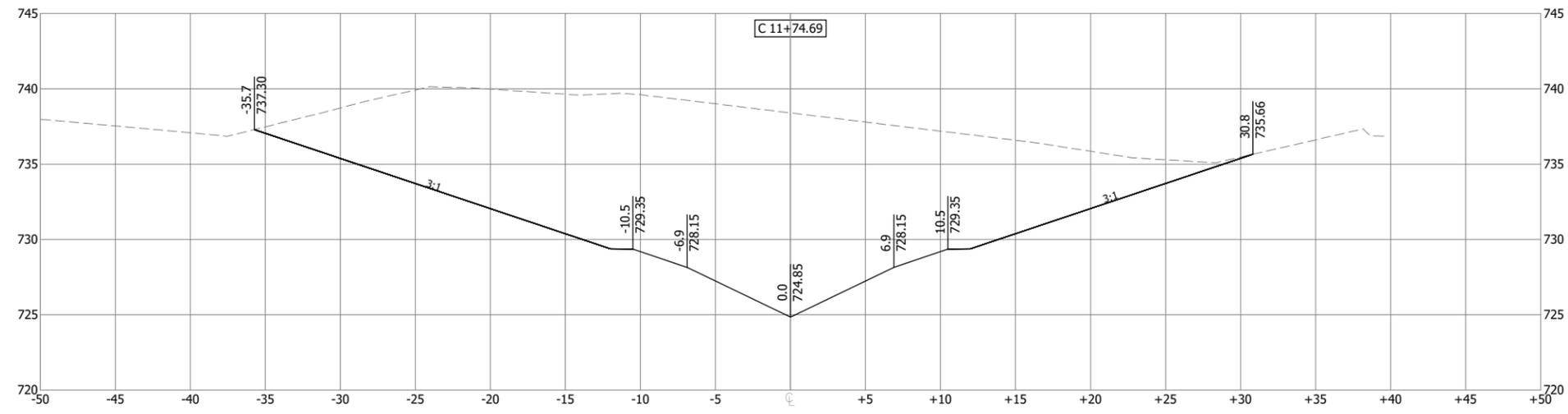
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS15
SHEET NO.	42
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY PROBLEMS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 10:40am
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 User: R. Klein
 Scale: Border: 1/8"=1'-0" Plot: 1/8"=1'-0"



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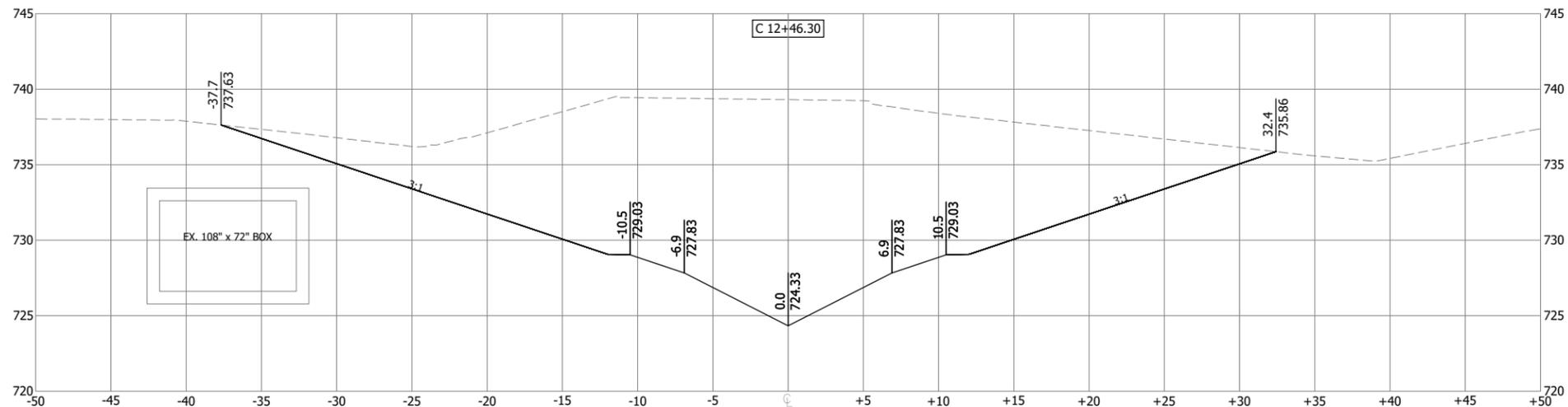
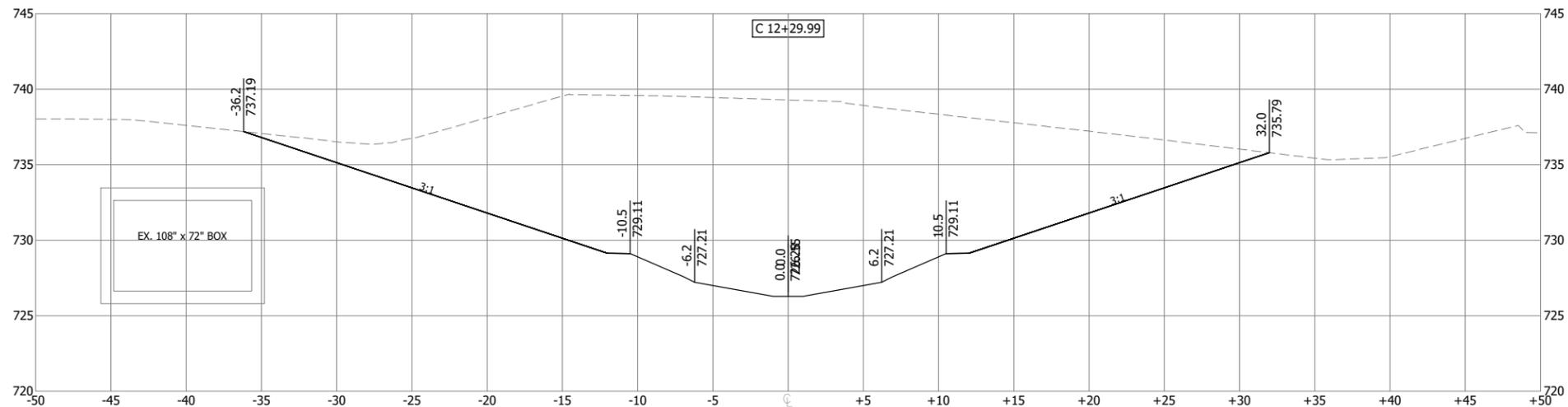
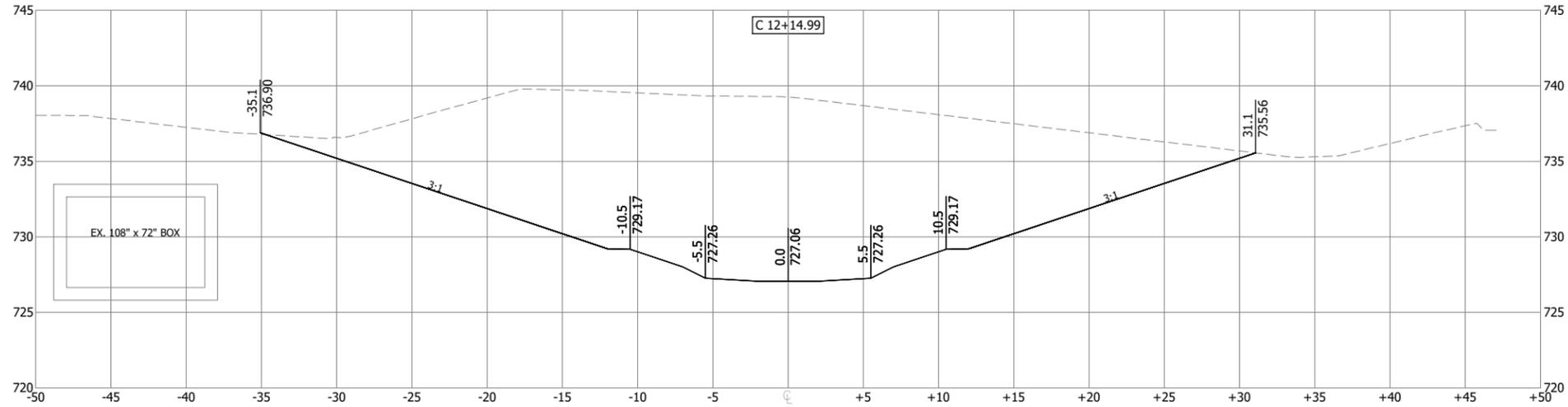
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS16
SHEET NO.	43
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:40am
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 Scale: Border: 1/8"=1'-0" Plot: 1/8"=1'-0"



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REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



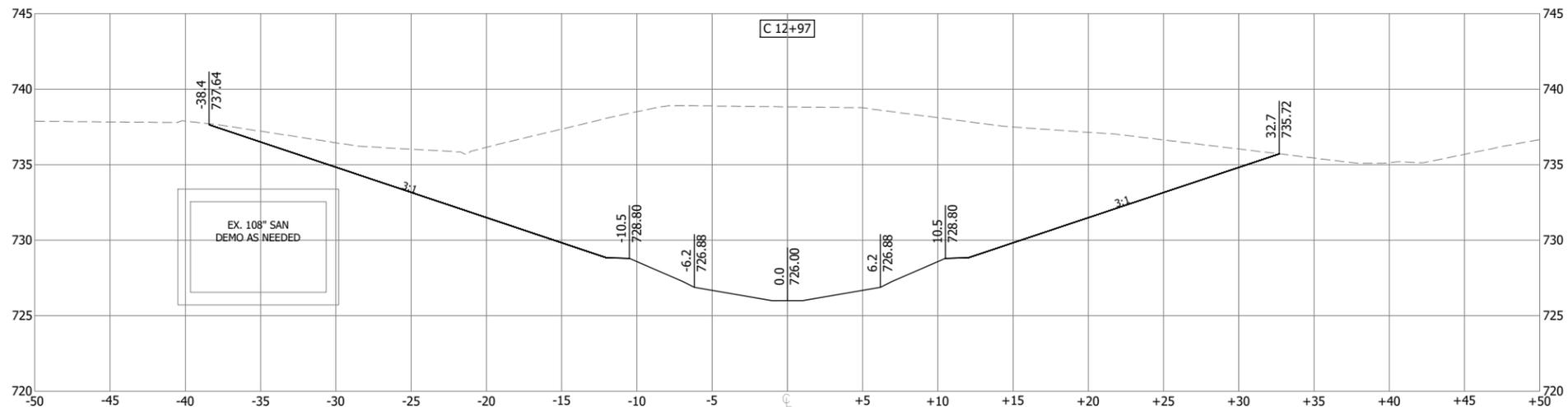
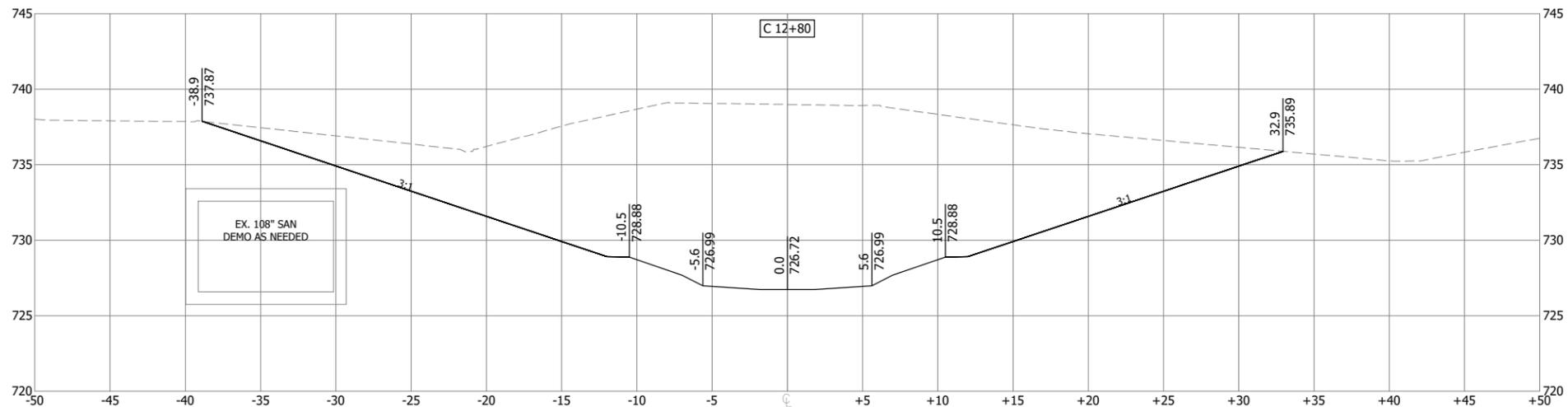
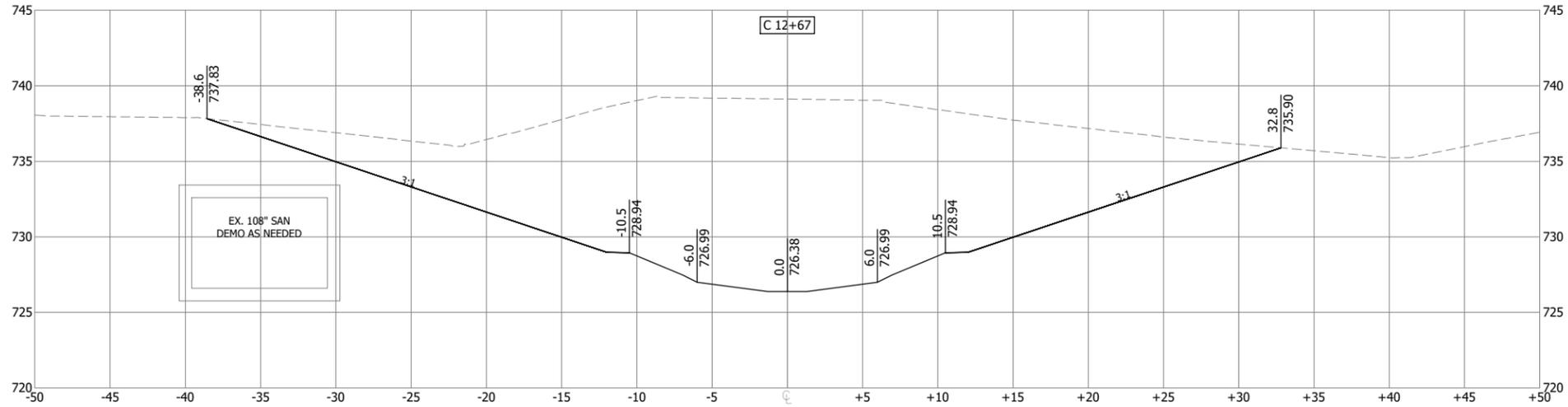
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS17
SHEET NO.	44
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:4 am
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 Scale: Border: 1/8"=1'-0" Plot: 1/8"=1'-0"



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UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

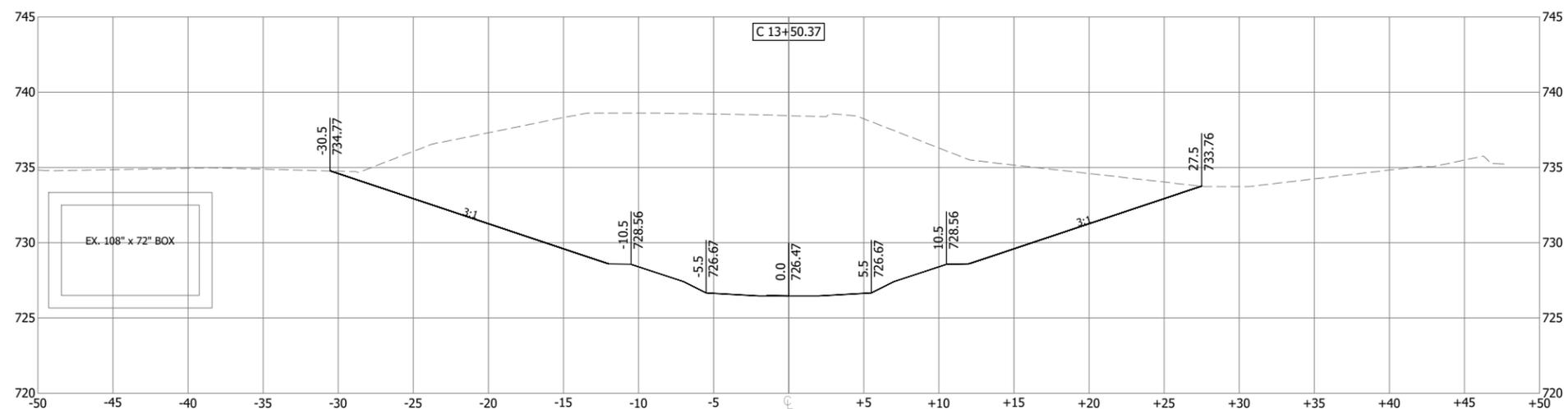
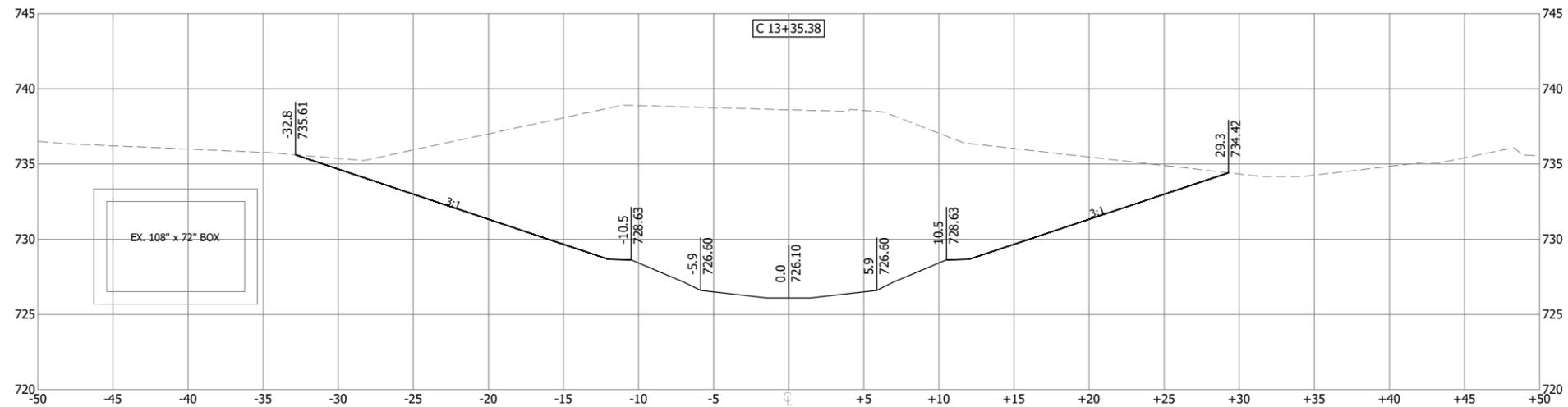
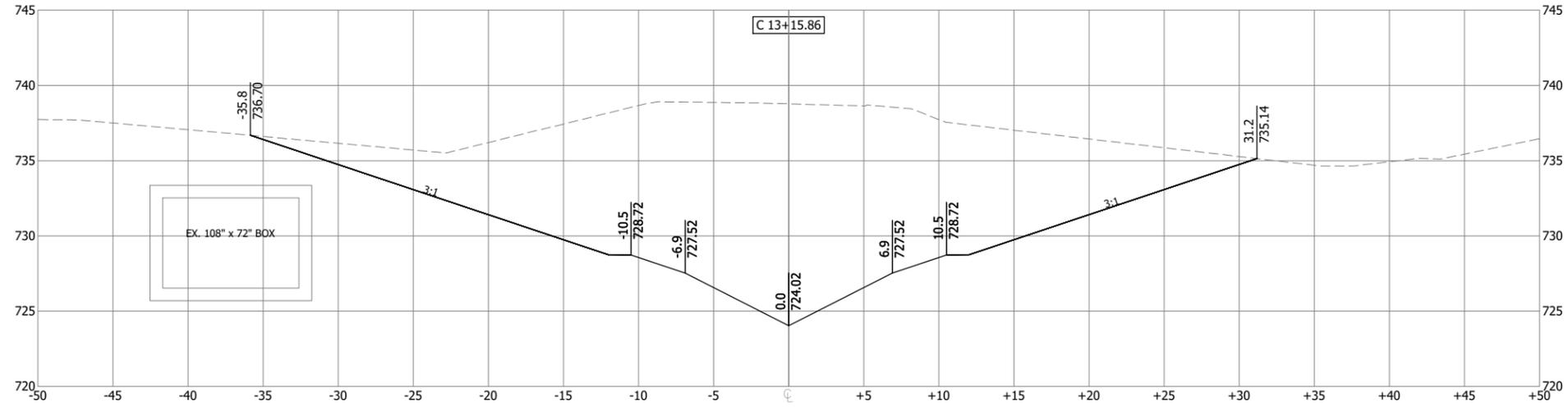
CHANNEL CROSS SECTIONS



DRAWING NO.	CH-CS18
SHEET NO.	45
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:4 am
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 User: R. Klein
 Plot Date: 12/19/2024 - 10:4 am



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DESIGNER
M. SIERACKI
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REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



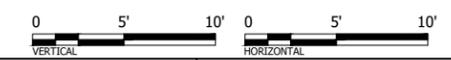
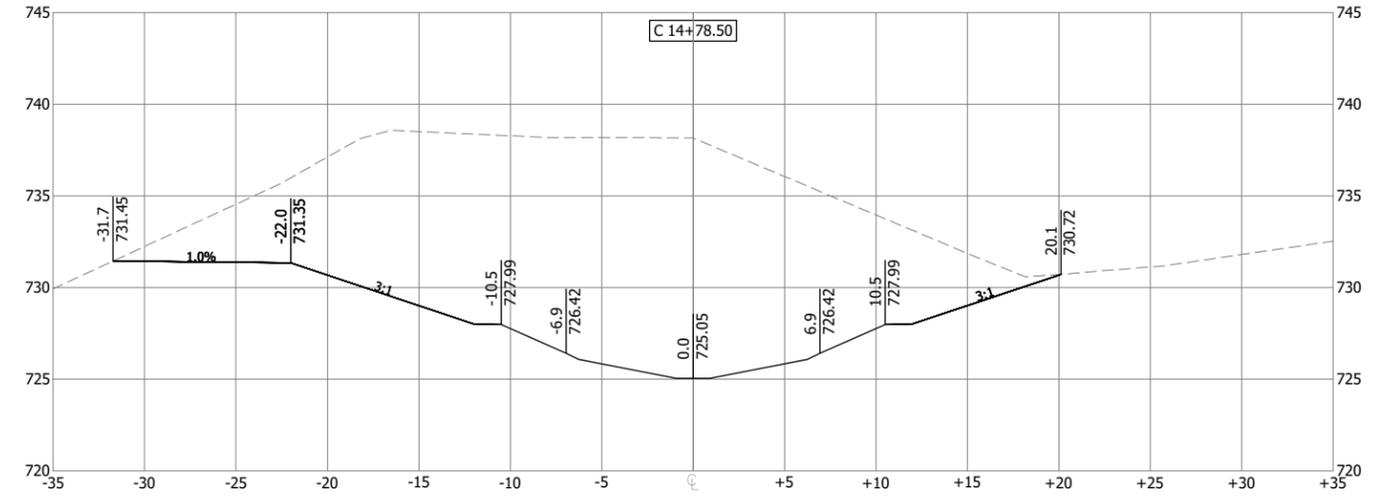
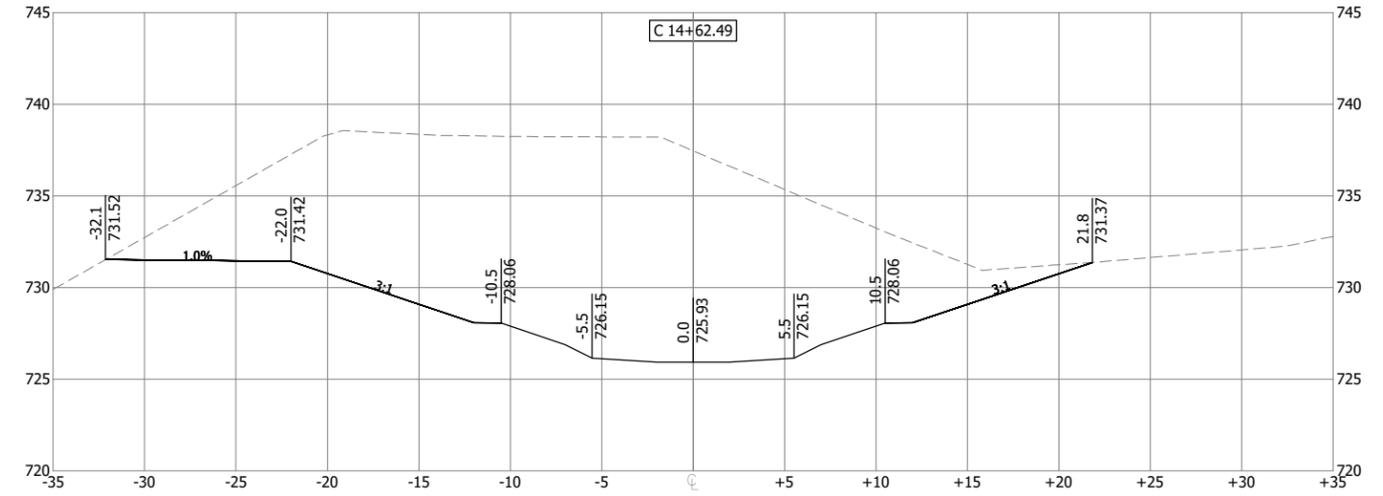
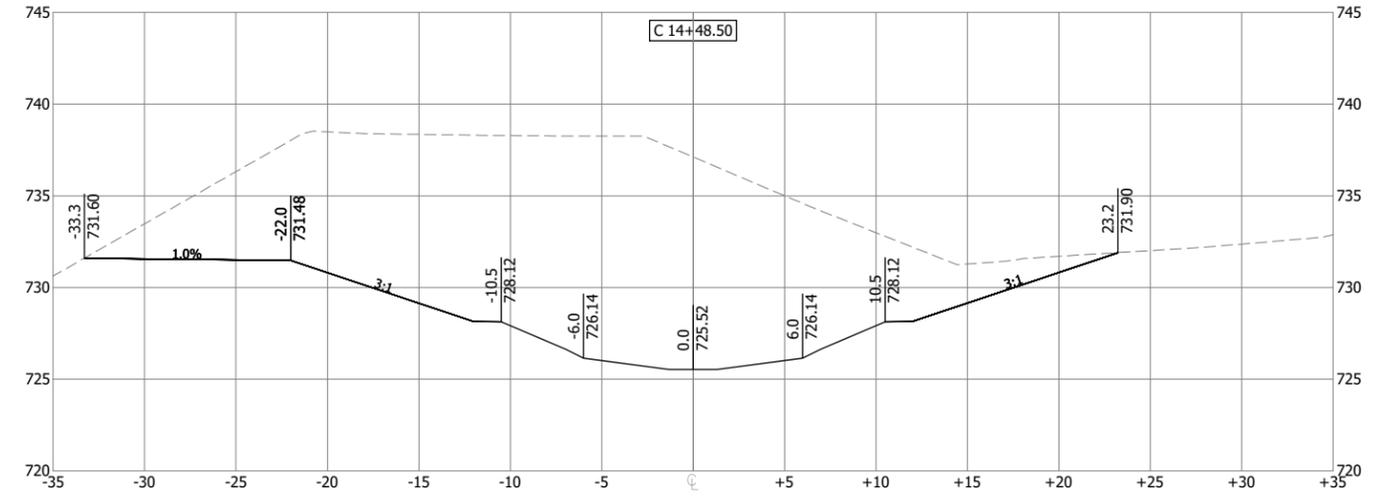
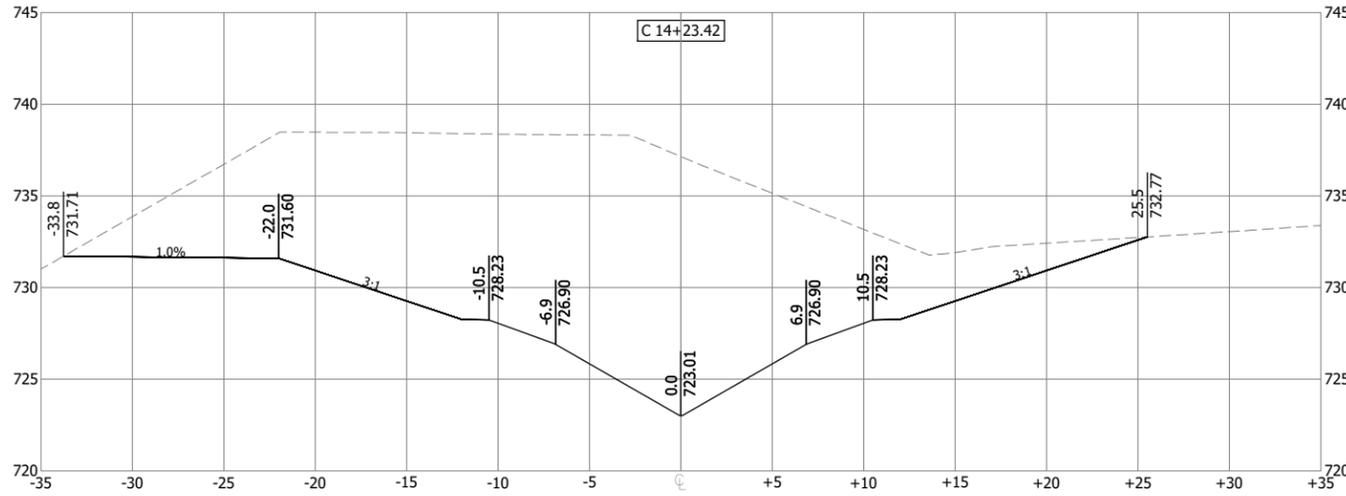
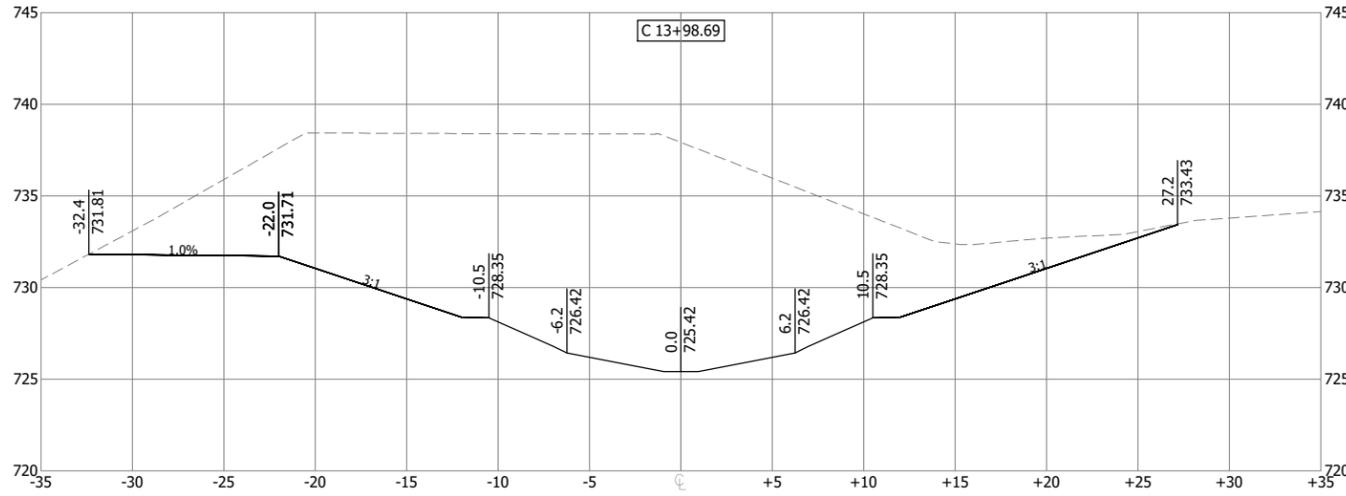
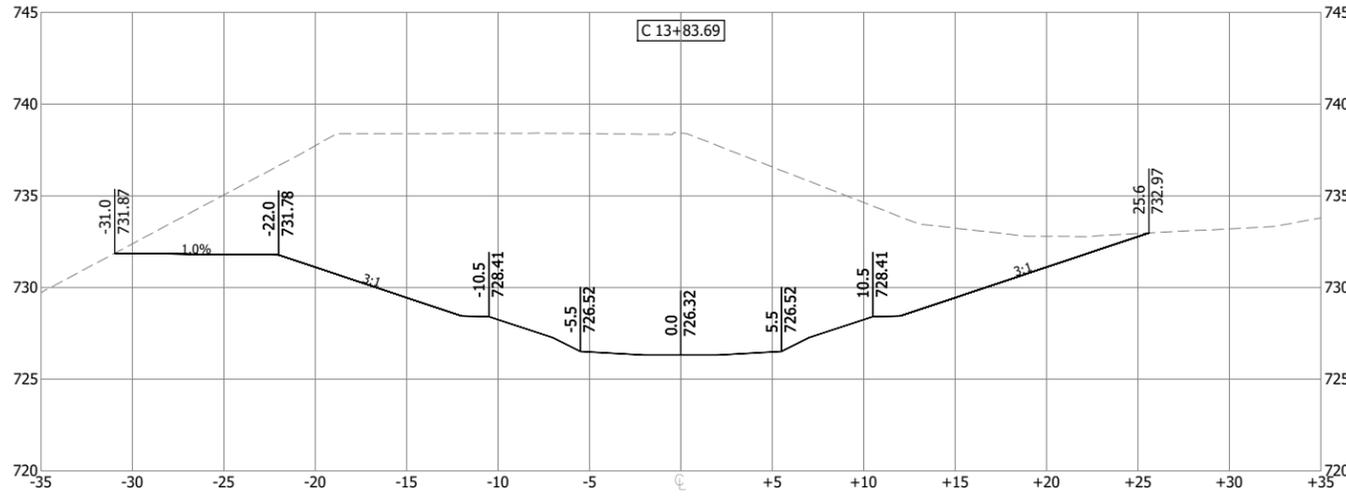
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS19
SHEET NO.	46
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:4 am
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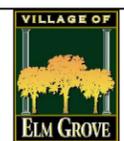


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



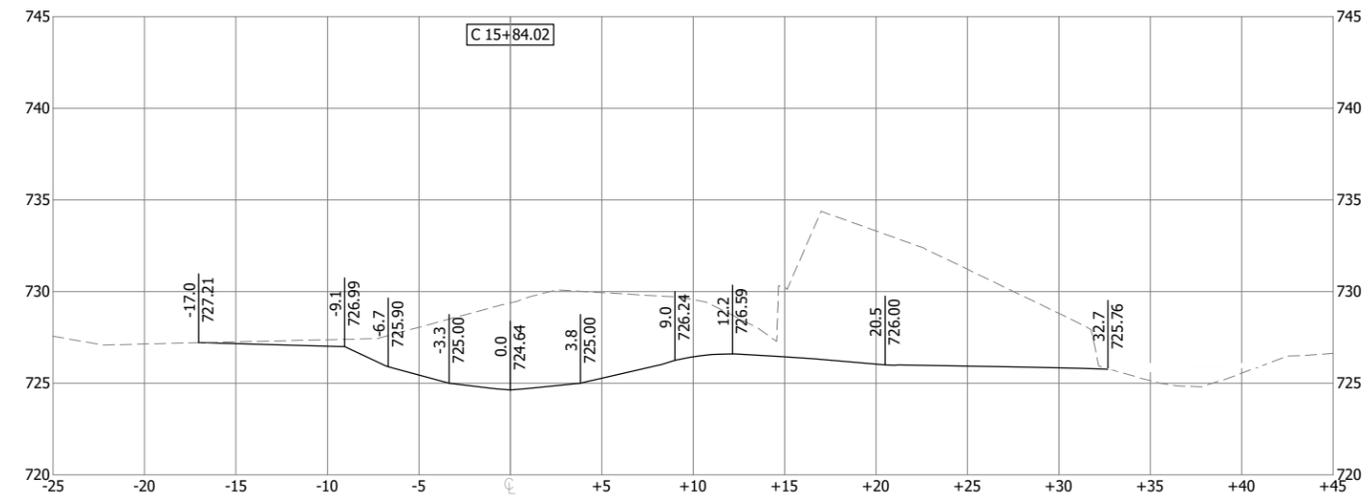
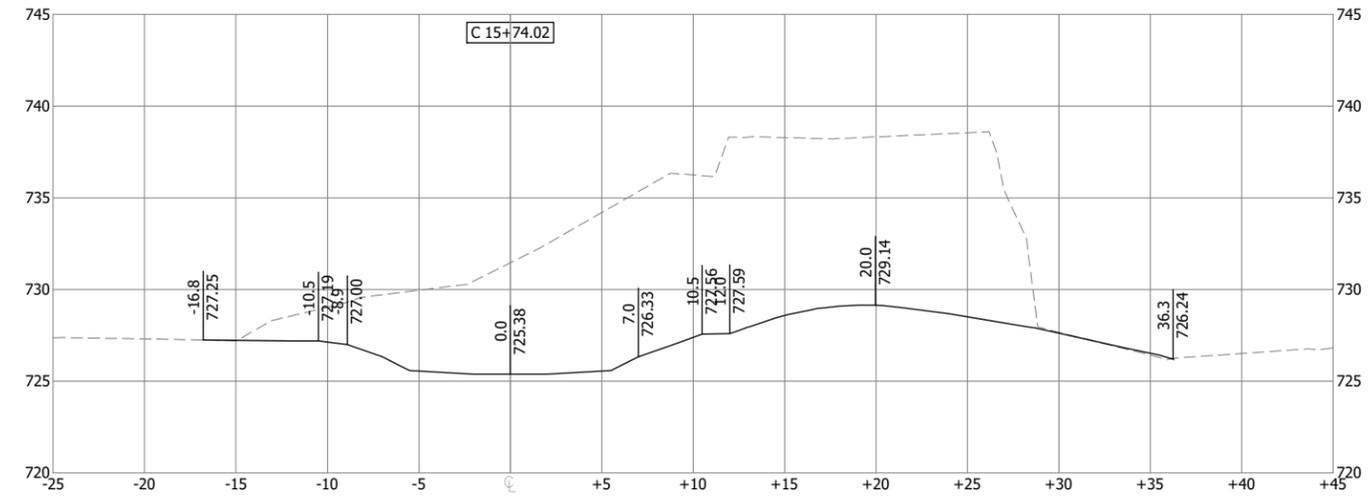
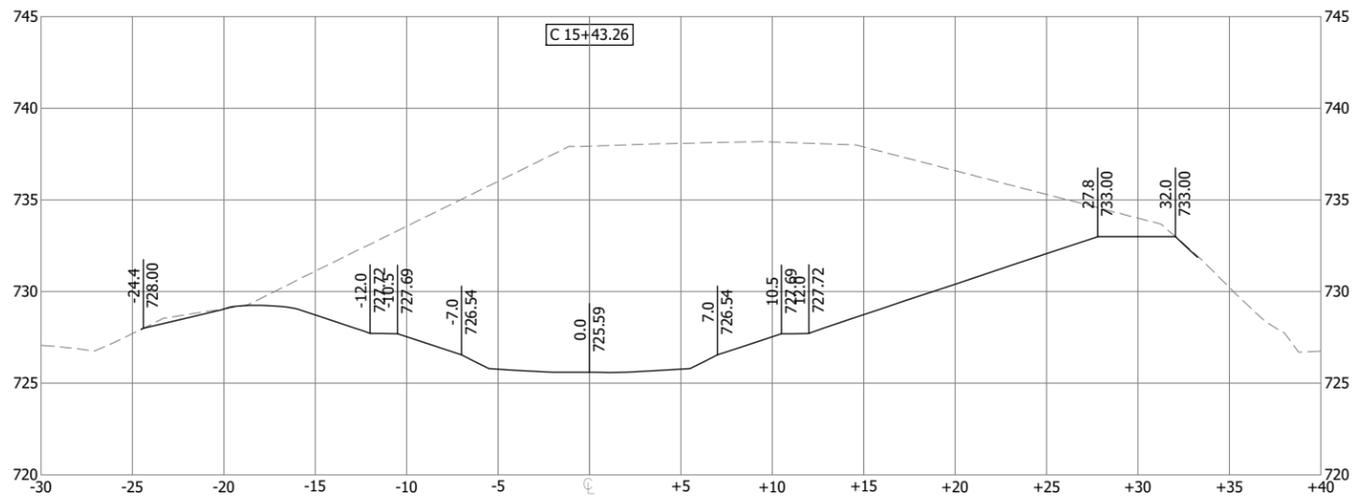
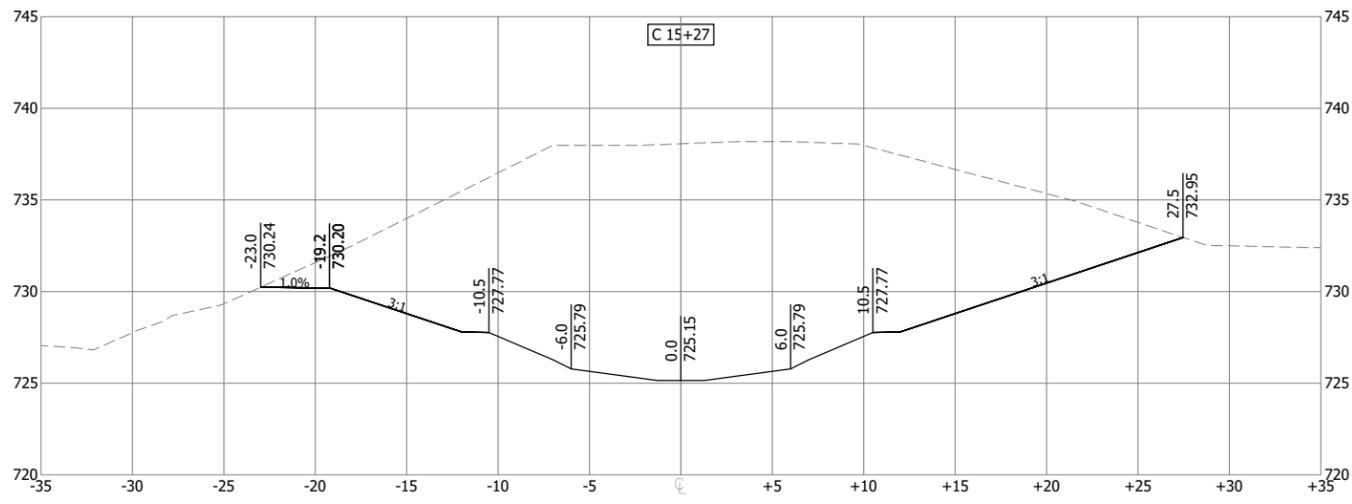
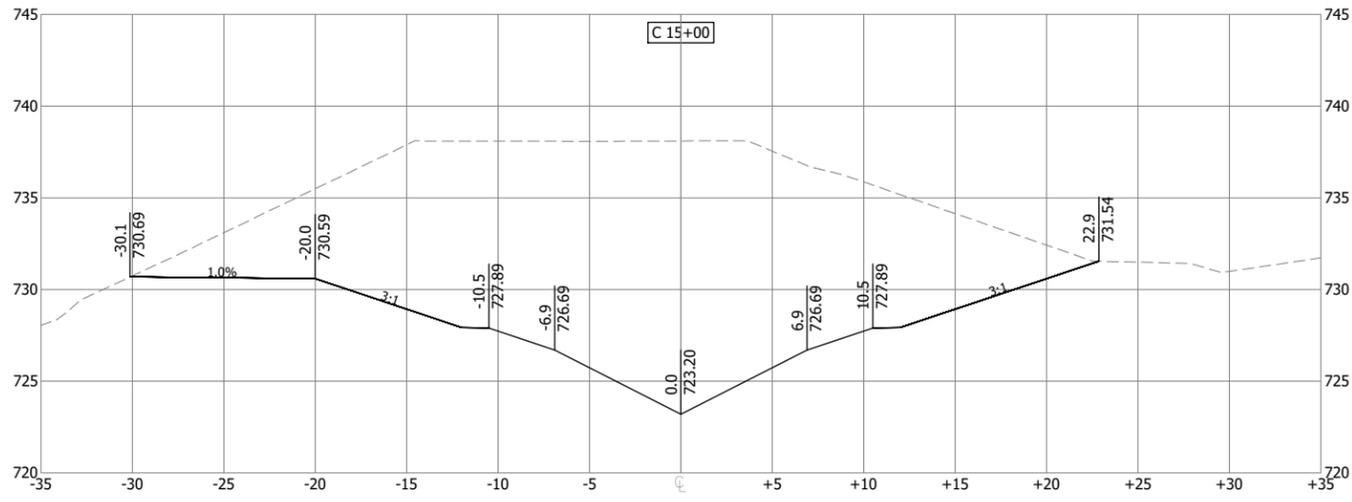
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS20
SHEET NO.	47
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:4 am
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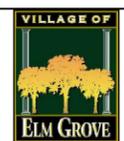


PRELIMINARY PLAN

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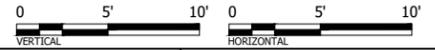


REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

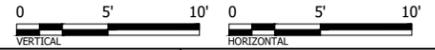
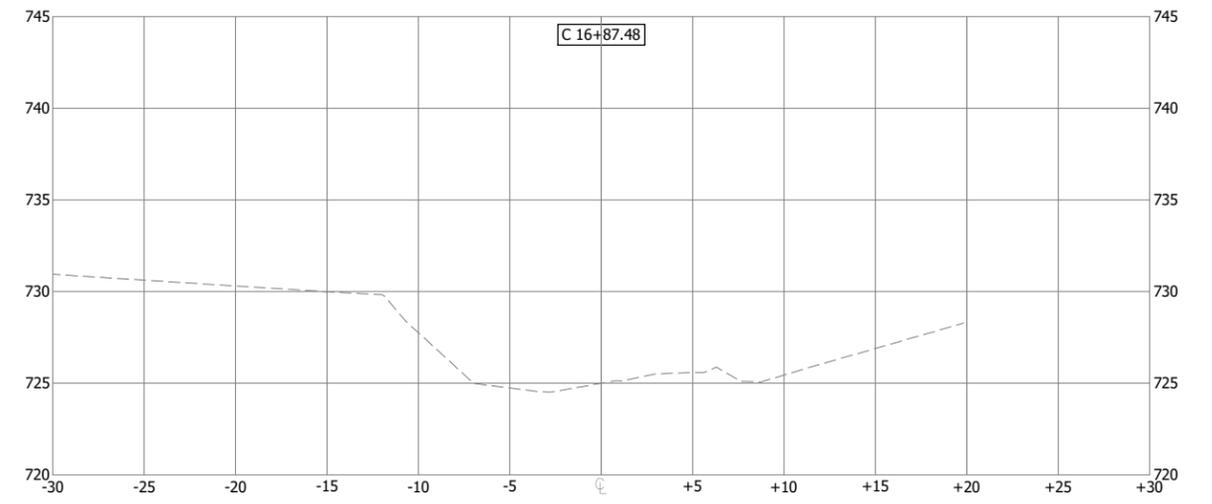
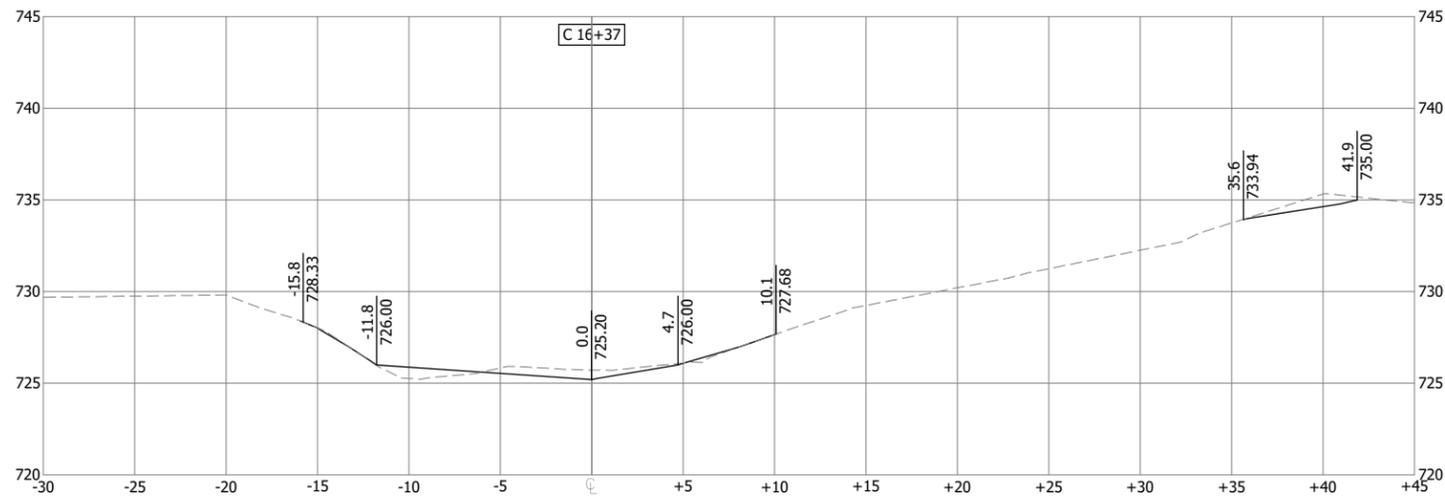
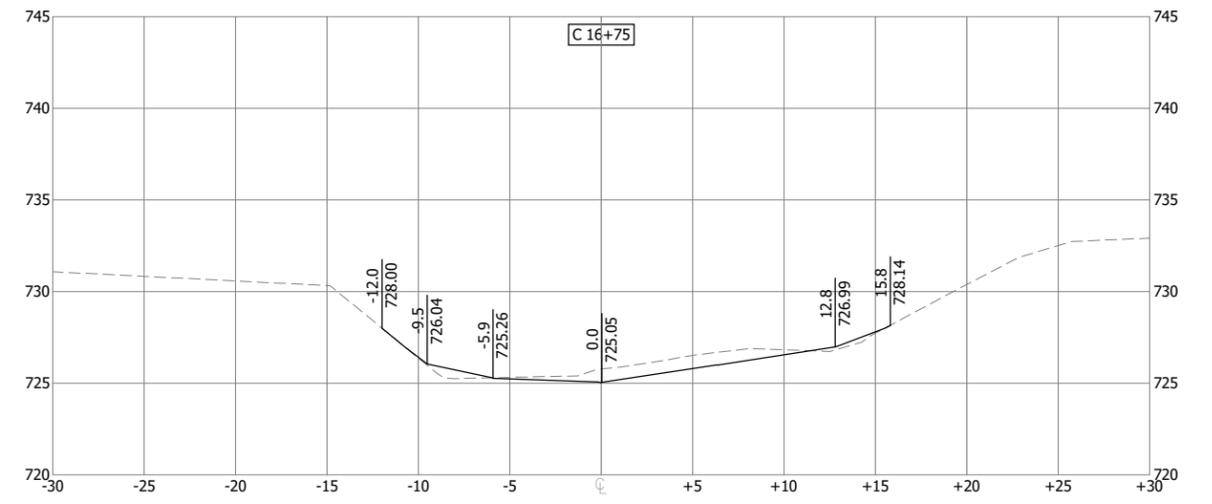
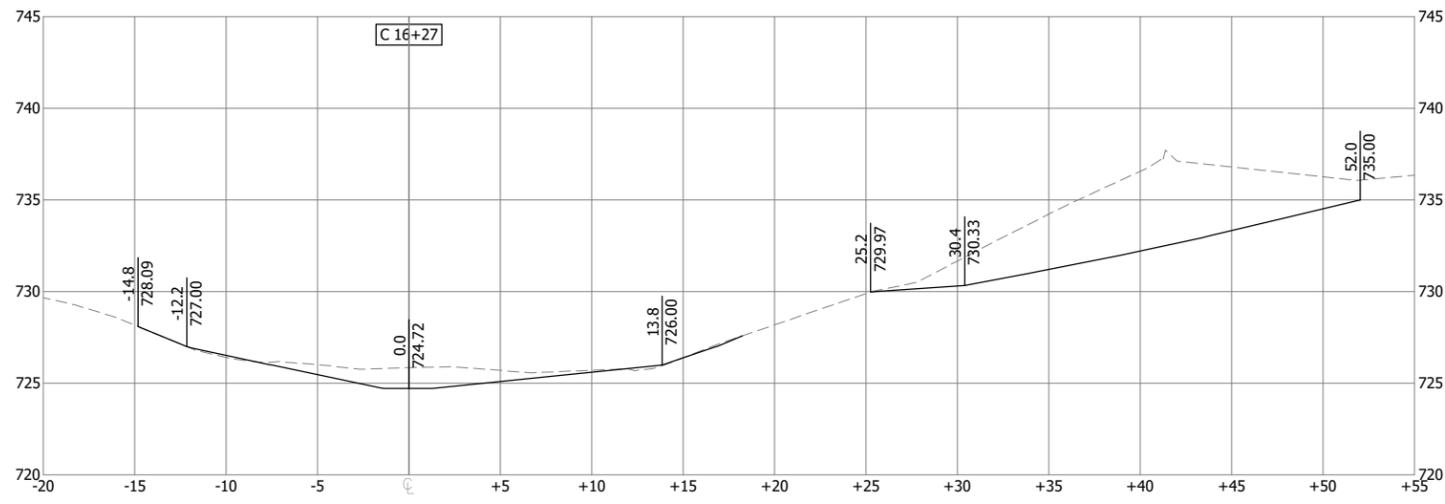
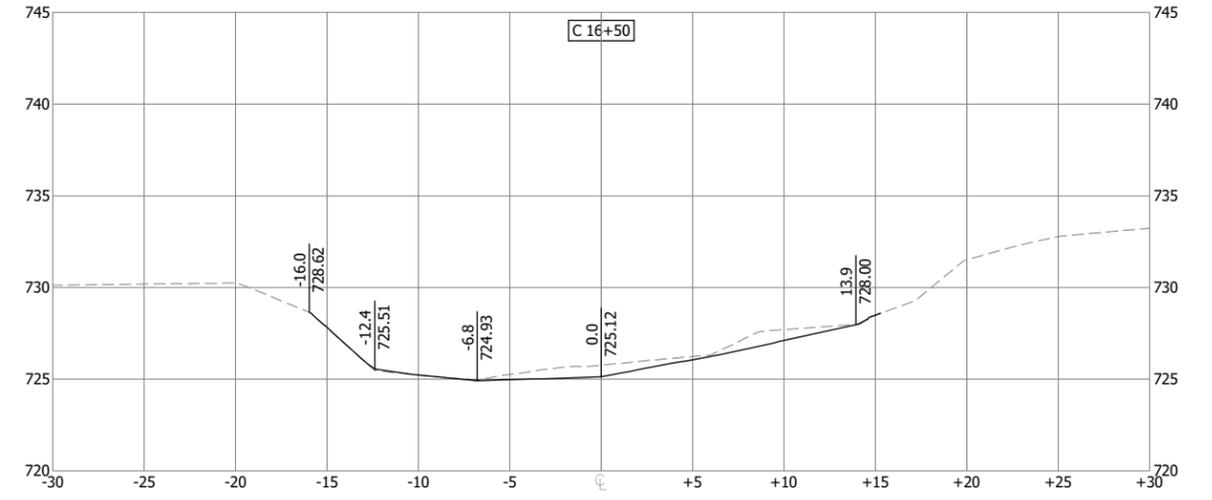
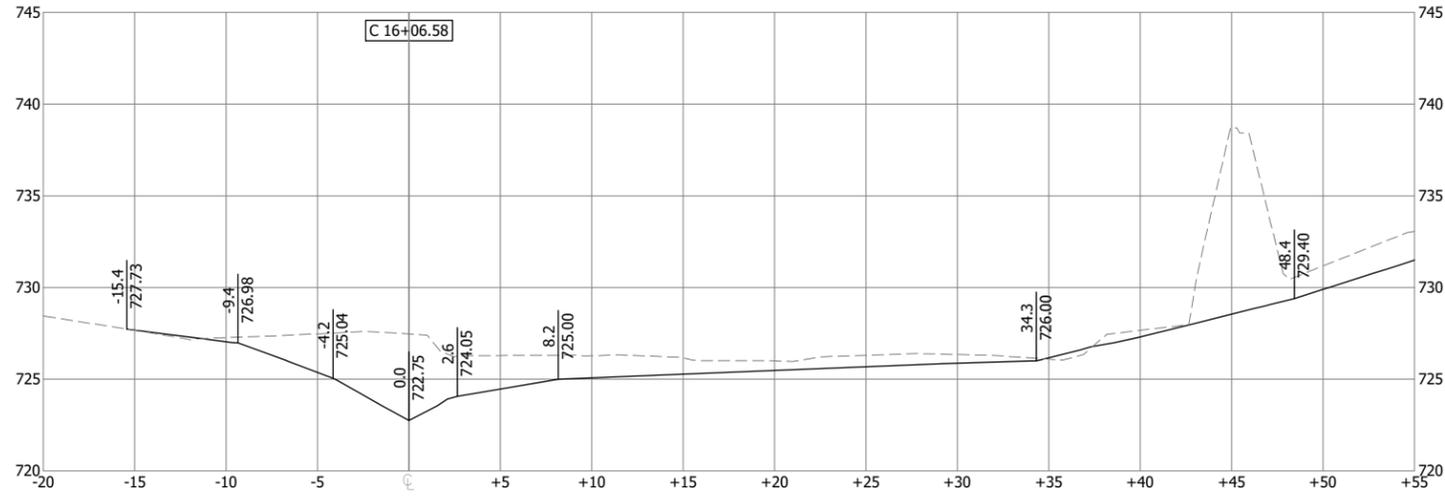
CHANNEL CROSS SECTIONS



DRAWING NO.	CH-CS21
SHEET NO.	48
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

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Plot Date: 12/19/2024 - 10:4 am
 Drawing Name: U:\193806812\CAD\Drawg\Sheets\193806812_CH-CS.dwg
 User: R. Klein
 Plot Date: 12/19/2024 - 10:4 am



PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
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A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



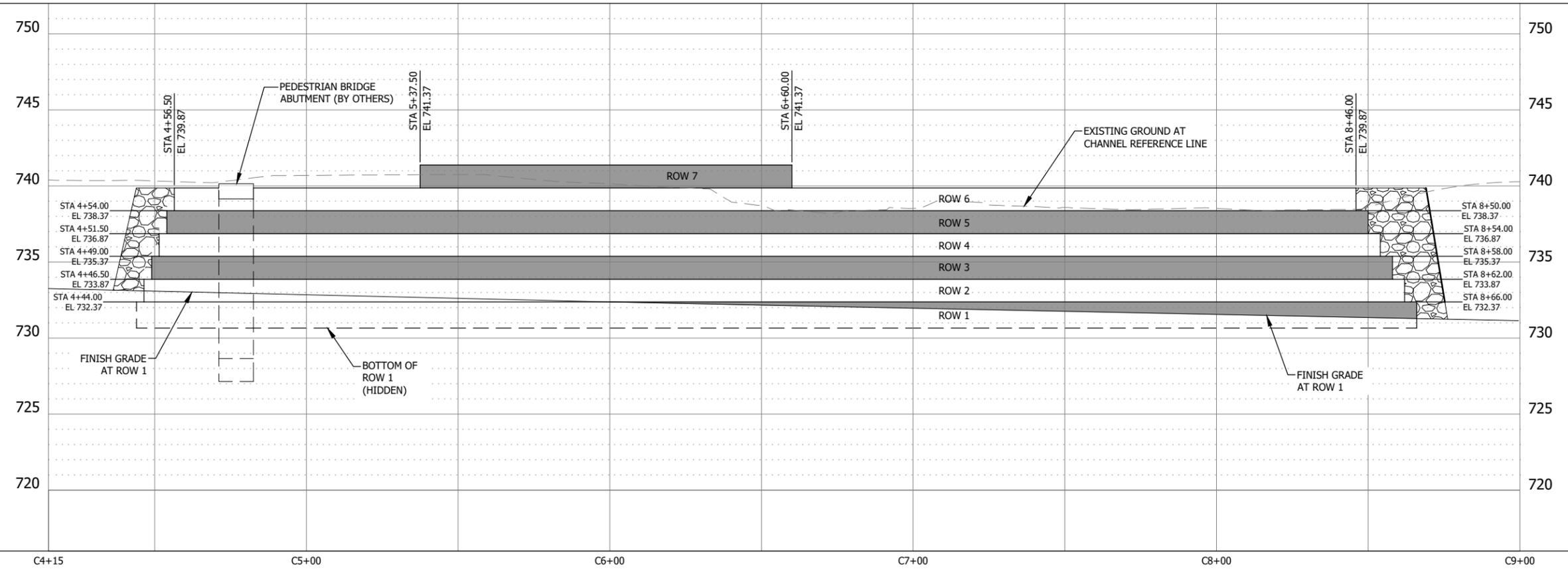
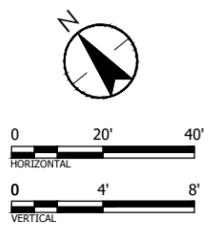
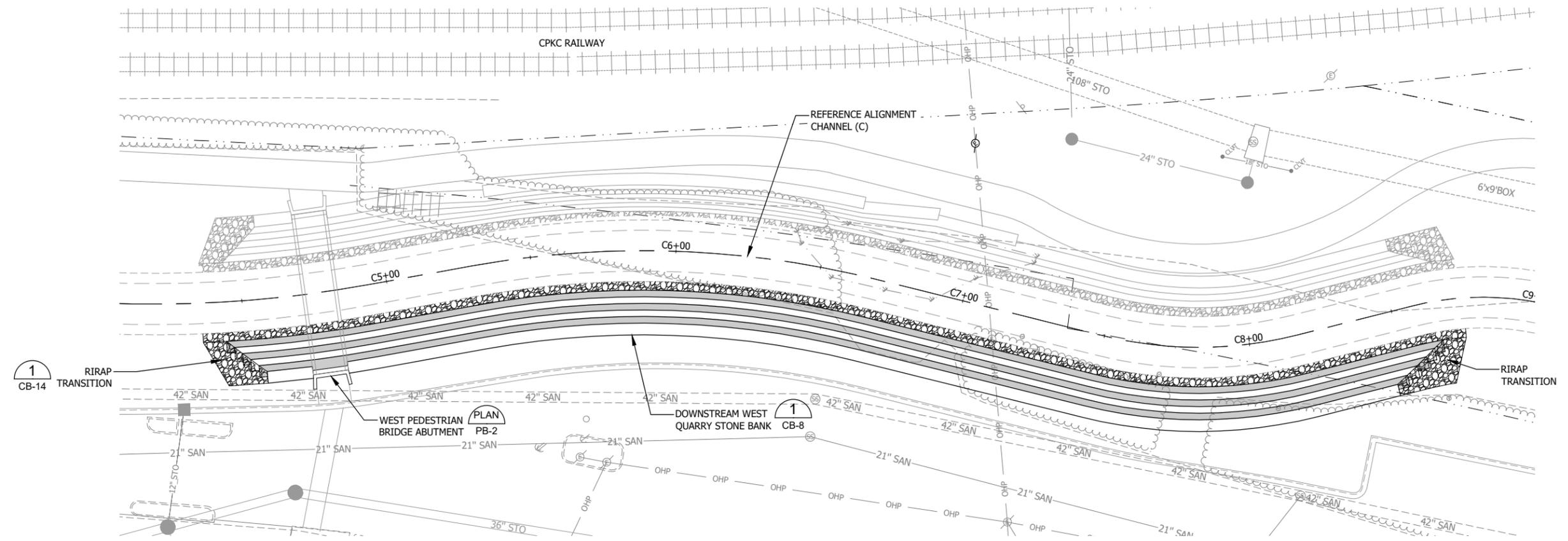
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CHANNEL CROSS SECTIONS

DRAWING NO.	CH-CS22
SHEET NO.	49
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CH-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 1:08pm
 Drawing name: U:\193806812\CAD\Drawg Sheets\193806812_CB.dwg
 User: bender, 193806812.dgn, 193806812.dgn, 193806812.dgn
 Project: Quarry Stone Block Placement Quarry Stone Block Termination Quarry Stone Block Stop Wall Stone Connection Waterstop HE Storm Connect Wall Expansion Joint Wall Construction Joint Wall-Horz Construction Joint

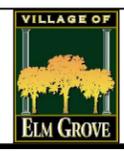


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



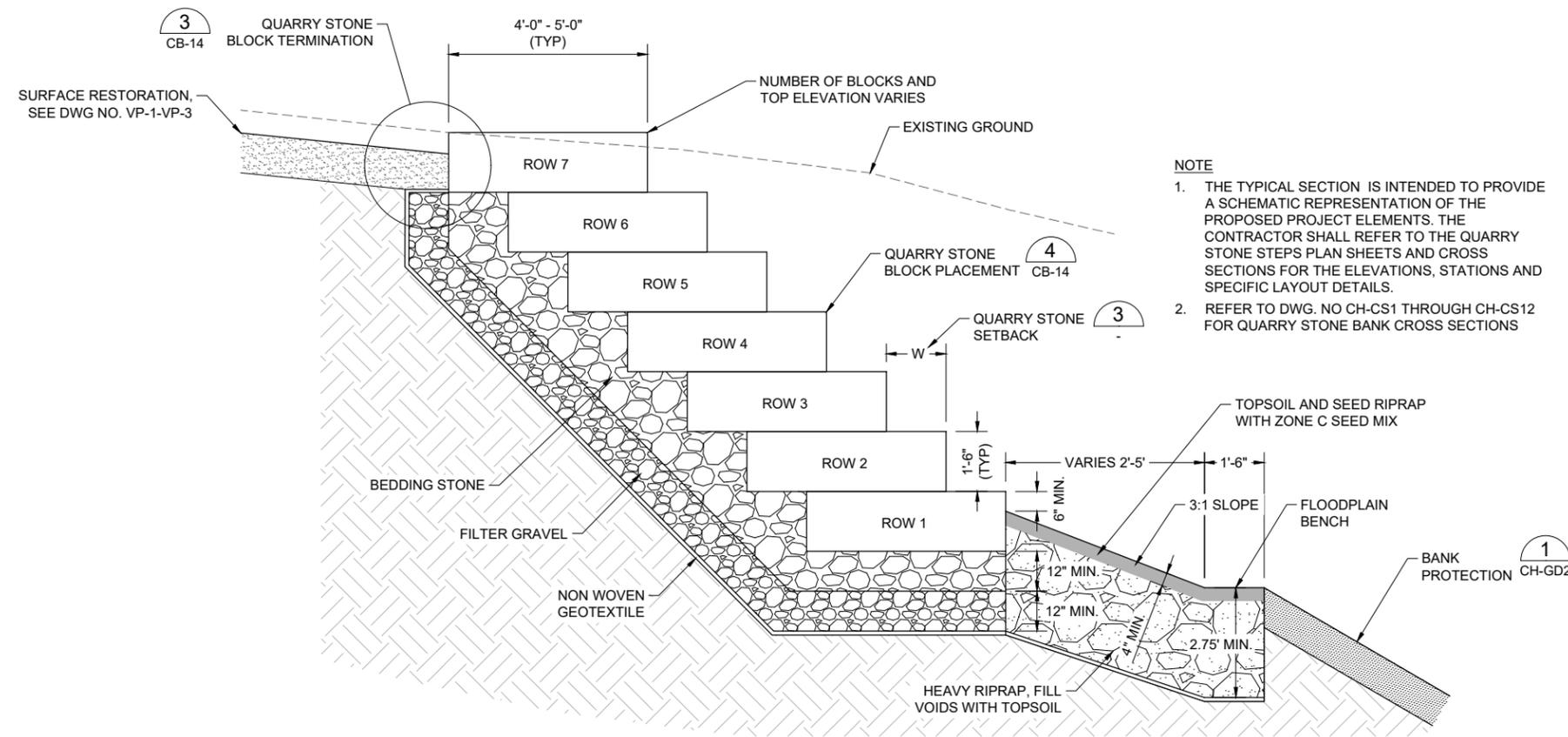
REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 DOWNSTREAM WEST QUARRY STONE BANK

DRAWING NO.	CB-6
SHEET NO.	56
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CB.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.



- NOTE**
1. THE TYPICAL SECTION IS INTENDED TO PROVIDE A SCHEMATIC REPRESENTATION OF THE PROPOSED PROJECT ELEMENTS. THE CONTRACTOR SHALL REFER TO THE QUARRY STONE STEPS PLAN SHEETS AND CROSS SECTIONS FOR THE ELEVATIONS, STATIONS AND SPECIFIC LAYOUT DETAILS.
 2. REFER TO DWG. NO CH-CS1 THROUGH CH-CS12 FOR QUARRY STONE BANK CROSS SECTIONS

EAST QUARRY STONE BANK TYPICAL SECTION
SCALE

1
CB-3
CB-5

UPSTREAM EAST QUARRY STONE BLOCK ROW RANGE TABLE

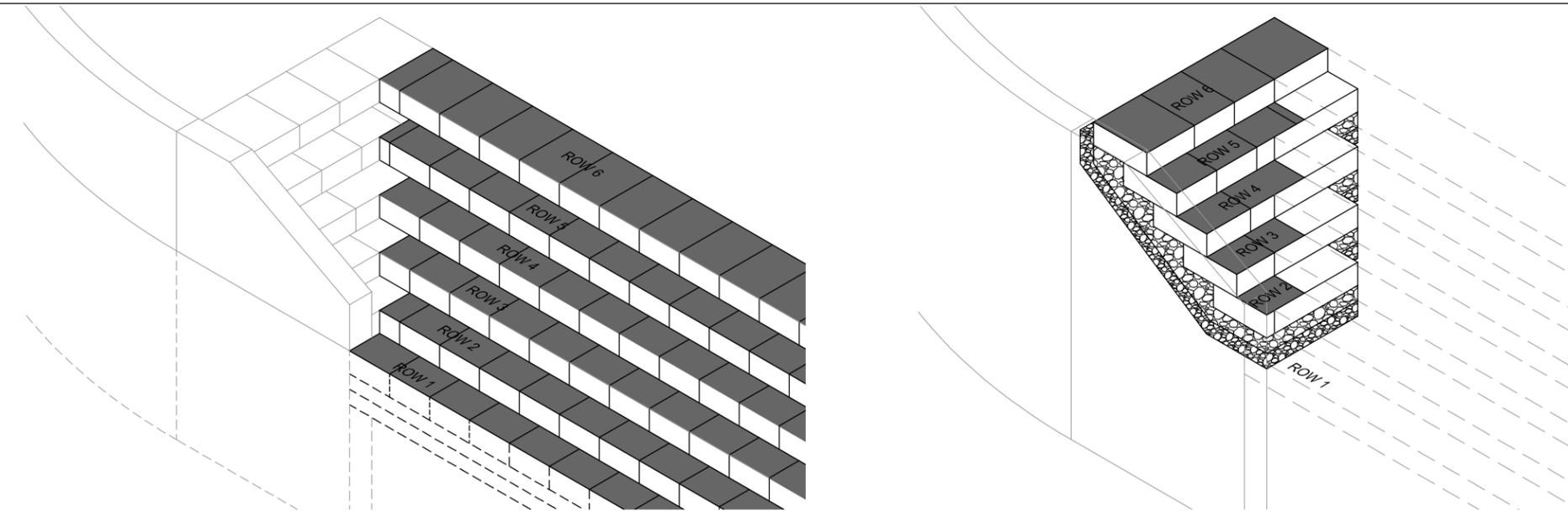
ROW	UPSTREAM STATION	DOWNSTREAM STATION	BOTTOM ELEVATION	TOP ELEVATION
6	0+76.1	3+03.5	741.86	743.36
5	0+81.7	3+07.0	740.36	741.86
4	0+84.6	3+10.5	738.86	740.36
3	0+87.5	3+14.0	737.36	738.86
2	0+90.5	3+18.0	735.86	737.36
1	0+93.5	3+21.5	734.36	735.86

DOWNSTREAM EAST QUARRY STONE BLOCK ROW RANGE TABLE

ROW	UPSTREAM STATION	DOWNSTREAM STATION	BOTTOM ELEVATION	TOP ELEVATION	ROW SETBACK (W)
7	5+37.5	6+60.0	739.87	741.37	-
6	6+60.0	6+85.0	738.37	739.87	TRANSITION
6	5+37.5	6+60.0	738.37	739.87	1.5
6	5+10.0	5+37.5	738.37	739.87	TRANSITION
6	4+83.3	5+10.0	738.37	739.87	2.25
ABUTMENT	4+70.4	4+83.3	-	-	-
6	4+56.5	4+70.4	738.37	739.87	2.25
5	6+85.0	8+54.0	736.87	738.37	2.25
5	6+60.0	6+85.0	736.87	738.37	TRANSITION
5	5+37.5	6+60.0	736.87	738.37	1.5
5	5+10.0	5+37.5	736.87	738.37	TRANSITION
5	4+54.0	5+10.0	736.87	738.37	2.25
4	6+85.0	8+58.0	735.37	736.87	2.25
4	6+60.0	6+85.0	735.37	736.87	TRANSITION
4	5+37.5	6+60.0	735.37	736.87	1.5
4	5+10.0	5+37.5	735.37	736.87	TRANSITION
4	6+85.0	5+10.0	735.37	736.87	2.25
3	6+60.0	6+85.0	733.87	735.37	TRANSITION
3	5+37.5	6+60.0	733.87	735.37	1.5
3	5+10.0	5+37.5	733.87	735.37	TRANSITION
3	4+49.0	5+10.0	733.87	735.37	2.25
2	6+85.0	8+62.0	732.37	733.87	2.25
2	6+60.0	6+85.0	732.37	733.87	TRANSITION
2	5+37.5	6+60.0	732.37	733.87	1.5
2	5+10.0	5+37.5	732.37	733.87	TRANSITION
2	4+46.5	5+10.0	732.37	733.87	2.25
1	6+85.0	8+66.0	730.87	732.37	2.25
1	6+60.0	6+85.0	730.87	732.37	TRANSITION
1	5+37.5	6+60.0	730.87	732.37	1.5
1	5+10.0	5+37.5	730.87	732.37	TRANSITION
1	4+44.0	5+10.0	730.87	732.37	2.25

EAST QUARRY STONE BLOCK TABLE
SCALE

3



PARALLEL ROWS

PERPENDICULAR ROWS

EAST QUARRY STONE BANK RETAINING WALL CONNECTION
SCALE

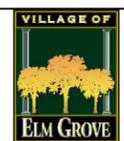
2
CB-3

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



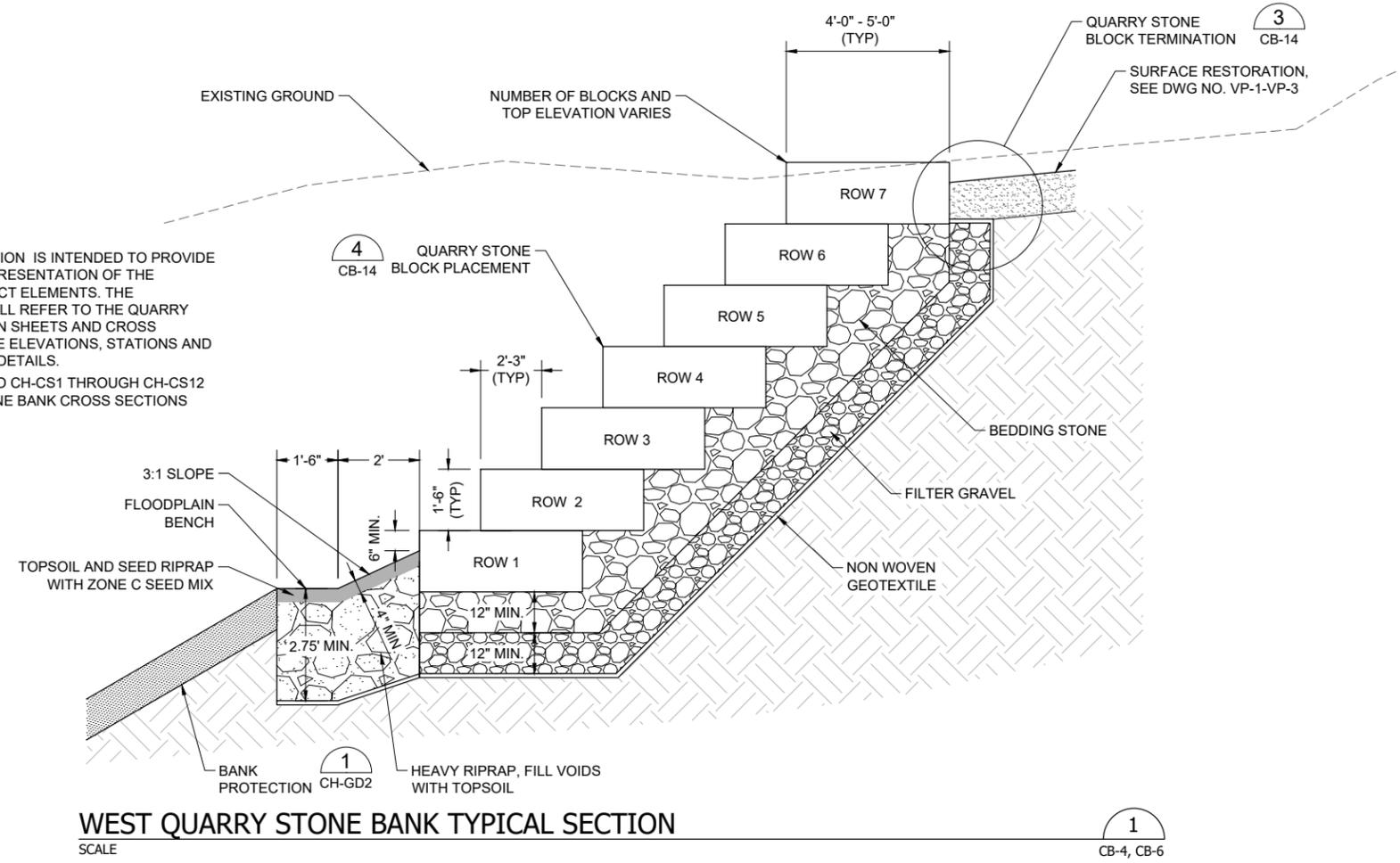
UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

EAST BANK QUARRY STONE TYPICAL SECTION

DRAWING NO.	CB-7
SHEET NO.	57
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CB.dwg

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- NOTE**
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 2. REFER TO DWG. NO CH-CS1 THROUGH CH-CS12 FOR QUARRY STONE BANK CROSS SECTIONS



WEST QUARRY STONE BANK TYPICAL SECTION
SCALE

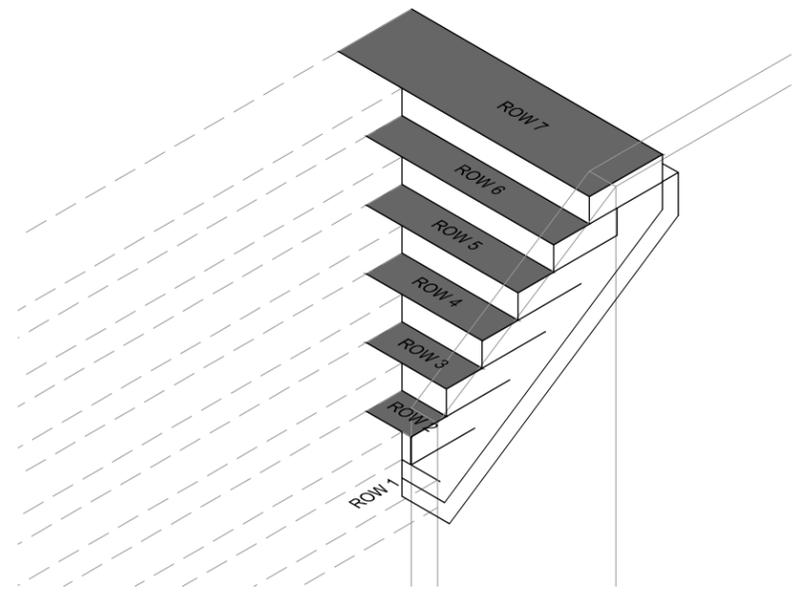
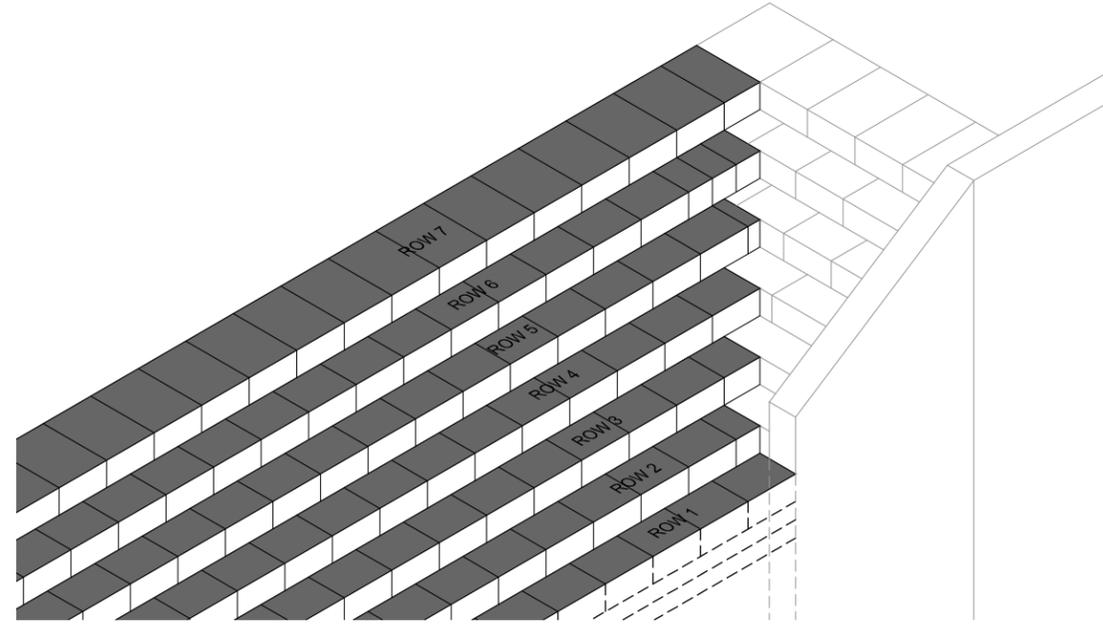
1
CB-4, CB-6

UPSTREAM WEST QUARRY STONE BLOCK ROW RANGE TABLE

ROW	UPSTREAM STATION	DOWNSTREAM STATION	BOTTOM ELEVATION	TOP ELEVATION
7	1+95.8	2+50.0	741.71	743.21
6	2+00.1	3+03.5	740.21	741.71
5	2+02.6	3+07.0	738.71	740.21
4	2+05.0	3+10.5	737.21	738.71
3	2+07.5	3+14.0	735.71	737.21
2	2+10.0	3+18.0	734.21	735.71
1	2+12.5	3+21.5	732.71	734.21

DOWNSTREAM WEST QUARRY STONE BLOCK ROW RANGE TABLE

ROW	UPSTREAM STATION	DOWNSTREAM STATION	BOTTOM ELEVATION	TOP ELEVATION
6	6+00.0	8+46.0	738.37	739.87
6	4+56.5	6+00.0	739.12	740.62
5	6+00.0	8+50.0	736.87	738.37
5	4+54.0	6+00.0	737.62	739.12
4	6+00.0	8+54.0	735.37	736.87
4	4+51.5	6+00.0	736.12	737.62
3	6+00.0	8+58.0	733.87	735.37
3	4+49.0	6+00.0	734.62	736.12
2	6+00.0	8+62.0	732.37	733.87
2	4+46.5	6+00.0	733.12	734.62
1	6+00.0	8+66.0	730.87	732.37
1	4+44.0	6+00.0	731.62	733.12



PARALLEL ROWS

PERPENDICULAR ROWS

WEST QUARRY STONE BANK BLOCK WALL CONNECTION
SCALE

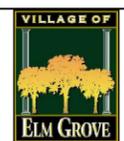
2
CB-4

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



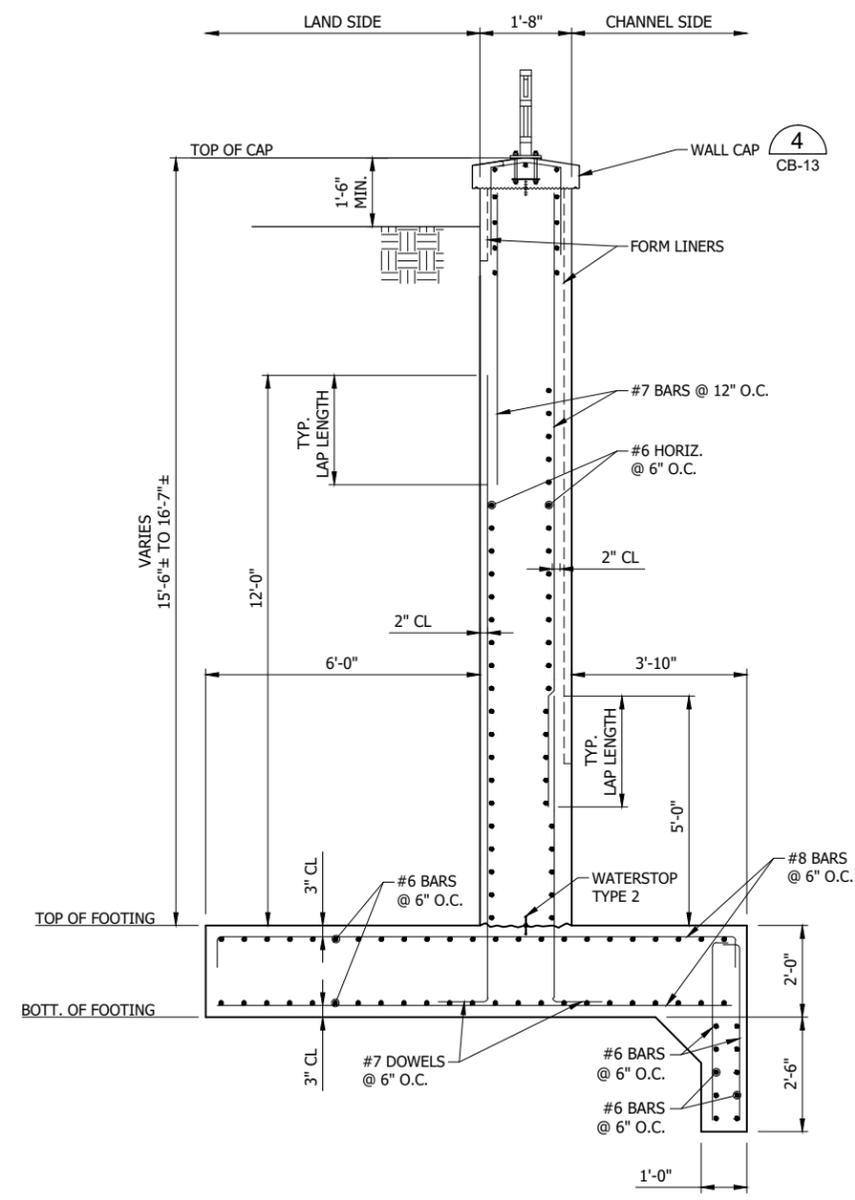
UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

WEST BANK QUARRY STONE TYPICAL SECTION

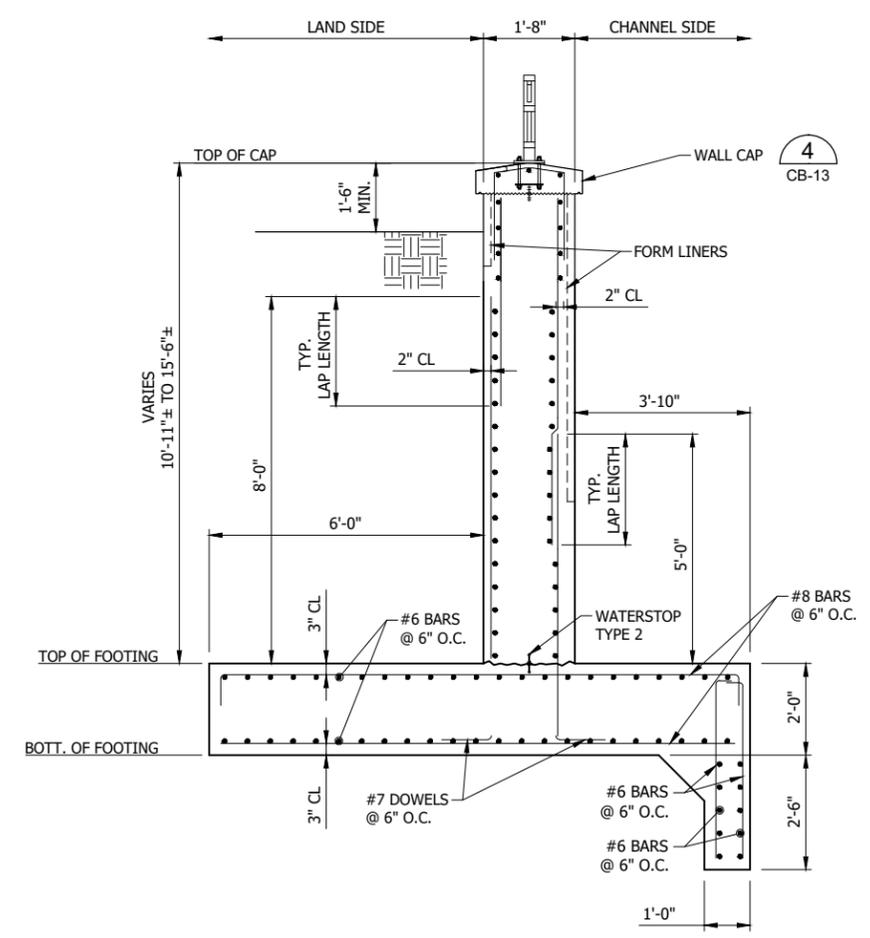
DRAWING NO.	CB-8
SHEET NO.	58
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_CB.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 3:11 pm
 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_CB.dwg
 User: R. Klein
 Sheet: 1 of 2
 Project: 193806812
 Title: EAST CHANNEL BANK WALL - TYPICAL SECTIONS



EAST CHANNEL BANK WALL SECTION 1
 SCALE: 1/4" = 1'-0"
 1
 CB-1



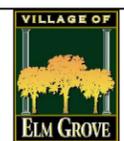
EAST CHANNEL BANK WALL SECTION 2
 SCALE: 1/4" = 1'-0"
 2
 CB-1

PRELIMINARY PLAN

DESIGNER
 M. SIERACKI
 DRAWN BY
 A. ROCK
 CHECKER
 D. AMUNDSEN
 APPROVED
 R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



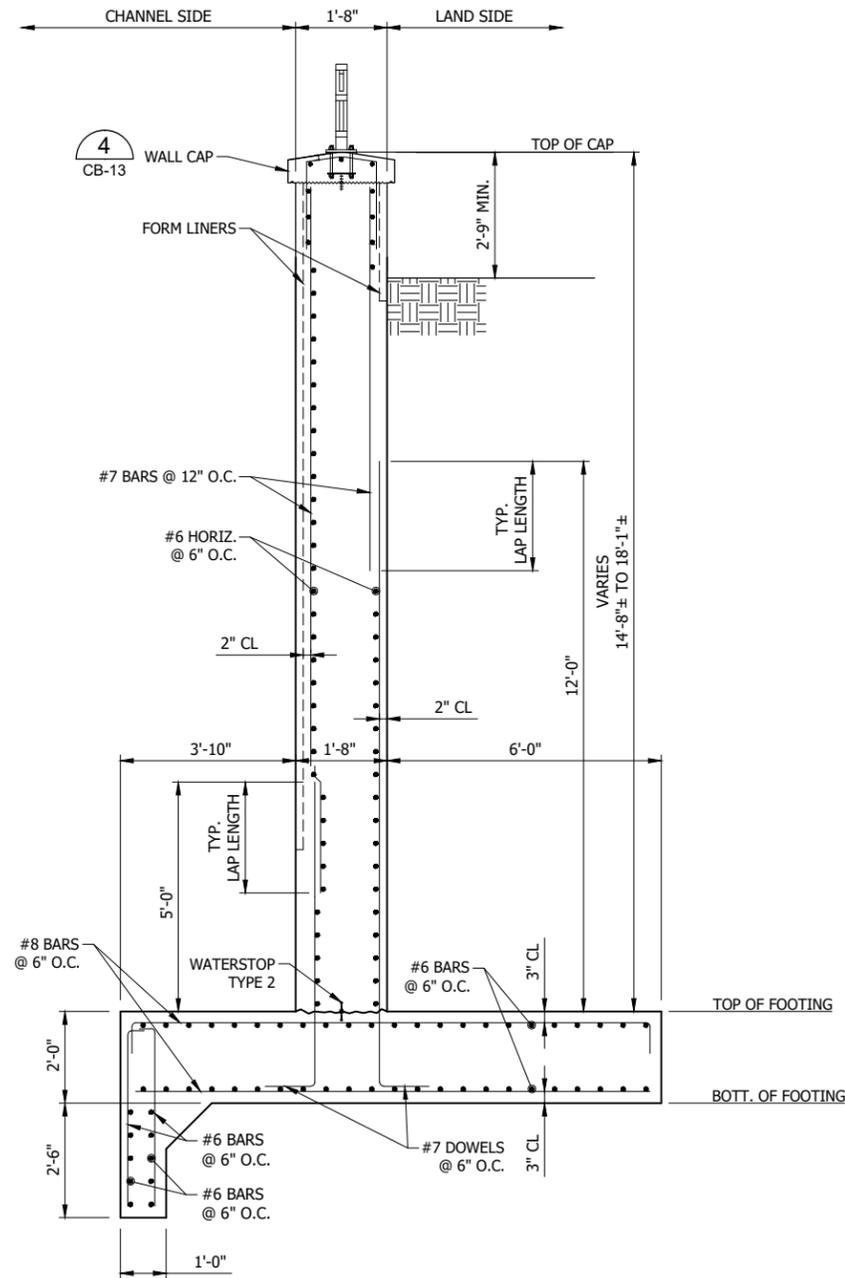
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

EAST CHANNEL BANK WALL - TYPICAL SECTIONS

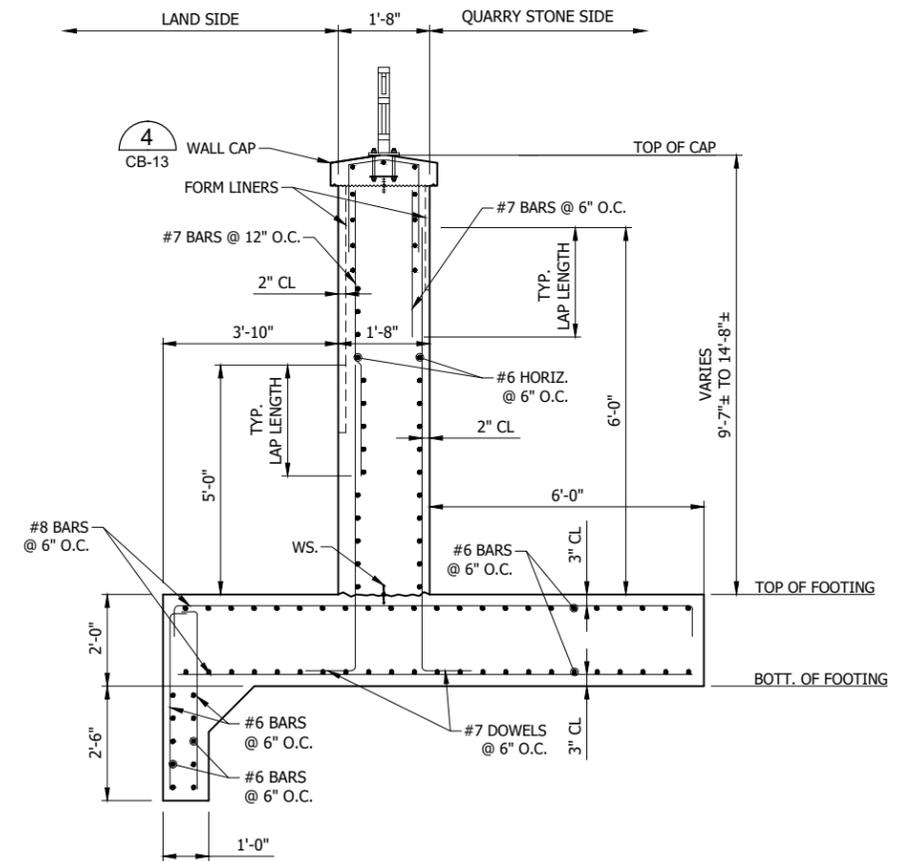
DRAWING NO.	CB-9
SHEET NO.	59
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CB.dwg

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Plot Date: 12/19/2024 - 12:58pm
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 User: R. Klein
 Project: 193806812
 Title: Quarry Stone Block Placement - Quarry Stone Block Termination - Quarry Stone Block Stop - Wall Stone Connection - Waterstop - HE Storm Connect - Wall Construction Joint - Wall Horiz Construction Joint



WEST CHANNEL BANK WALL SECTION 1 1
 SCALE: 1/4" = 1'-0" CB-2



WEST CHANNEL BANK WALL SECTION 2 2
 SCALE: 1/4" = 1'-0" CB-2

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



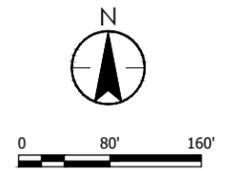
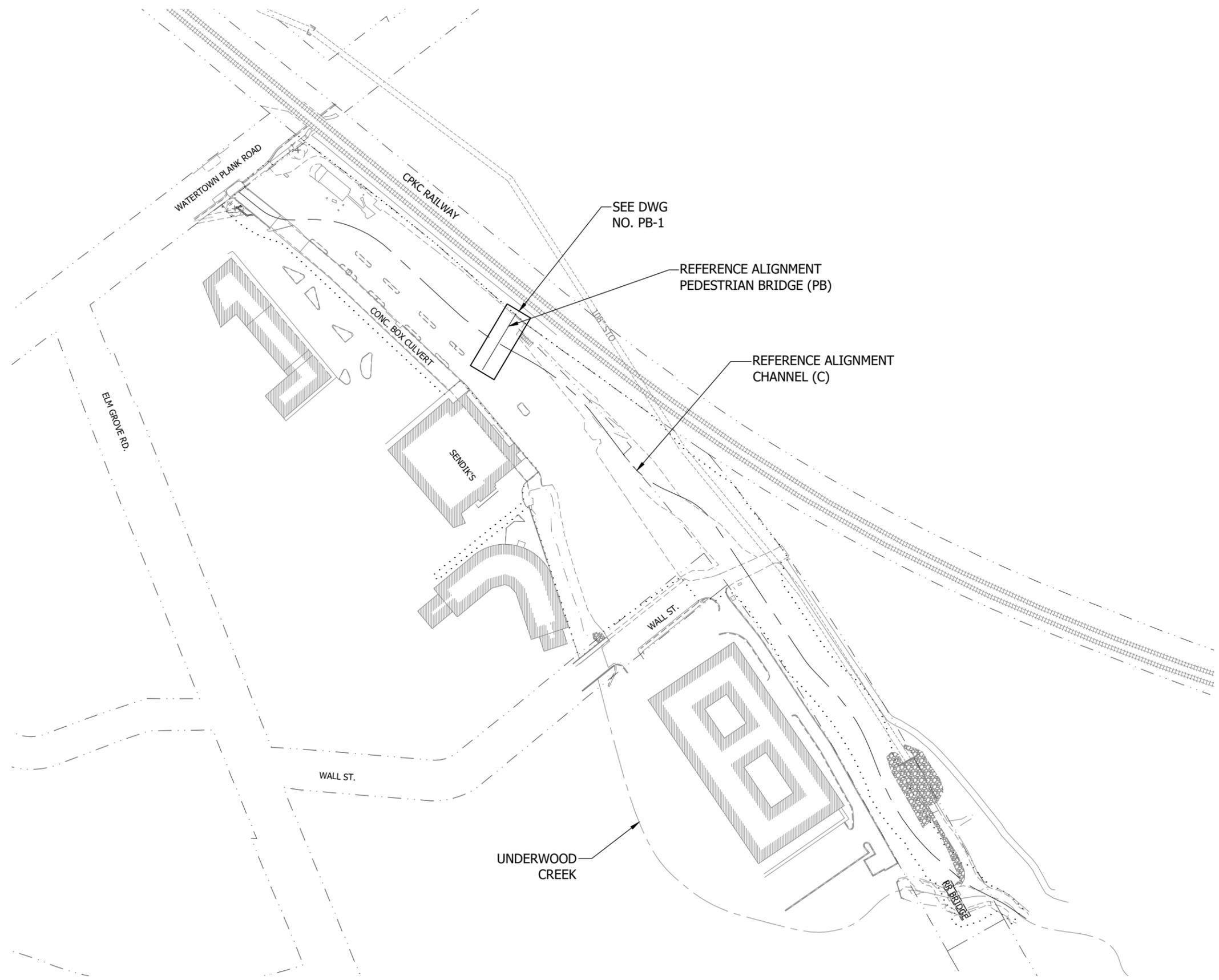
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

WEST CHANNEL BANK WALL - TYPICAL SECTIONS

DRAWING NO.	CB-10
SHEET NO.	60
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_CB.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS OTHER THAN THOSE AUTHORIZED BY STANTEC. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 7:34am
 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_PB.dwg
 User: rklein
 Scale: 1:1
 Plot Date: 12/19/2024 - 7:34am
 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_PB.dwg
 User: rklein
 Scale: 1:1

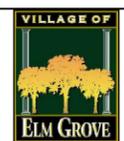


**PRELIMINARY
PLAN**

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



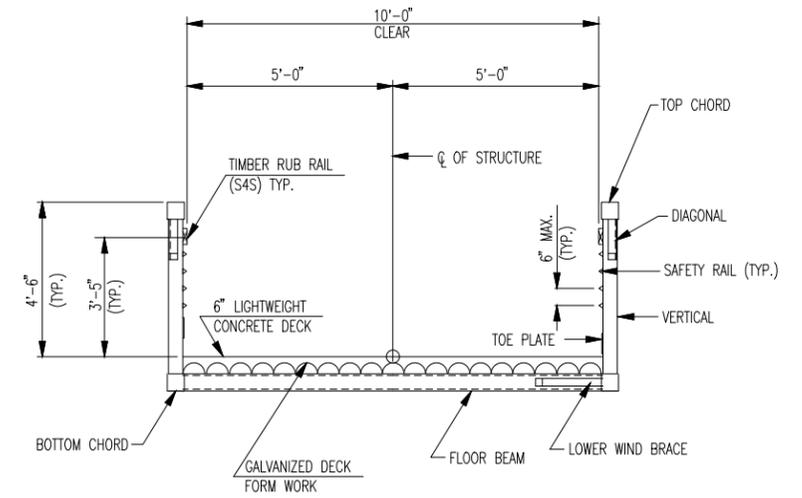
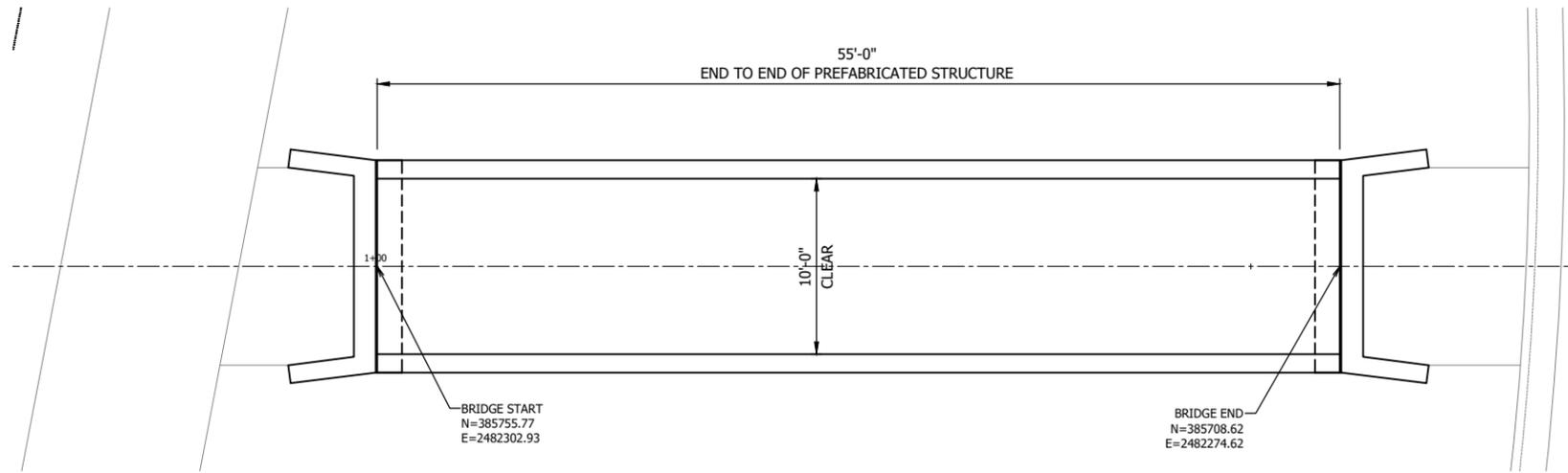
REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



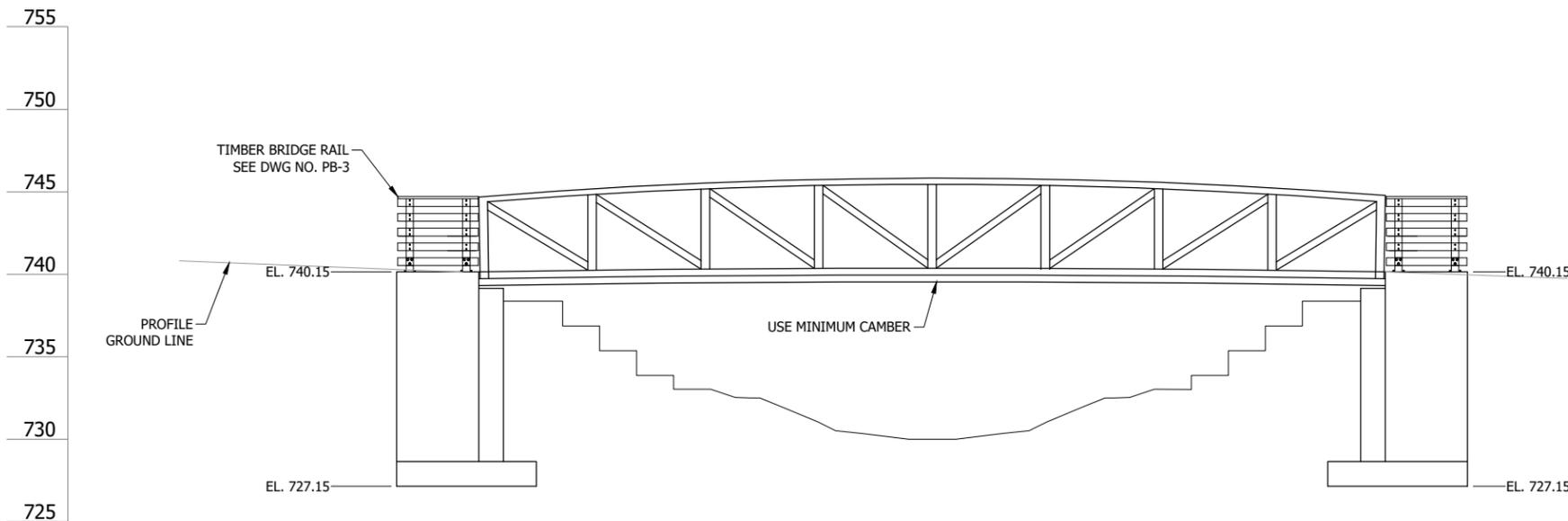
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
PEDESTRIAN BRIDGE AND ABUTMENTS SHEET INDEX

DRAWING NO.	PB-0
SHEET NO.	64
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_PB.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.



CROSS SECTION THRU BRIDGE
(LOOKING SOUTHWEST)



ELEVATION

DESIGN DATA

BRIDGE LOADING:

PED LIVELoad: 90 PSF
VEHICLE LOAD: 30% IMPACT + 10,000 LB. VEHICLE

ULTIMATE DESIGN STRESSES:

CONCRETE - ABUTMENT $f_c = 4,500$ P.S.I.
- LIGHT WEIGHT DECK $f_c = 4,000$ P.S.I.

STEEL REINFORCEMENT $f_y = 60,000$ P.S.I.

FOUNDATION DATA:

MAXIMUM ULTIMATE BEARING PRESSURE IS 18,000 POUNDS PER SQUARE FOOT.

HYDRAULIC DATA:

100 YEAR FREQUENCY
HIGH WATER ELEVATION _____ 735.96 ft

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M153, TYPES I, II, OR III OR M213.
- AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.
- MINIMUM CAMBER NEEDED FOR PREFABRICATED BRIDGE TO BE DETERMINED BY MANUFACTURER.
- ANCHOR BOLTS, BEARINGS, AND THEIR LOCATION ON THE SUBSTRUCTURE UNITS SHALL BE PROVIDED BY THE BRIDGE MANUFACTURER AND INCLUDED IN THE APPROPRIATE BID ITEM.
- IF CROSS SECTION OF PEDESTRIAN BRIDGE IS DIFFERENT FROM THAT SHOWN ON THESE PLANS, THE ABUTMENT MUST BE MODIFIED TO ACCOMMODATE THE CHANGE. THE ENGINEER OF RECORD SHALL APPROVE THESE CHANGES.
- ALL PREFABRICATED BRIDGE DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY FINAL DIMENSIONS WITH BRIDGE MANUFACTURER.
- THE DISTANCE BETWEEN THE FRONT FACE OF ABUTMENT SEATS SHALL BE 55 FEET PLUS THE EXPANSION JOINT WIDTH REQUIRED BY THE BRIDGE MANUFACTURER.
- CONTRACTOR SHALL REINFORCE AND PLACE THE CONCRETE BRIDGE DECK IN ACCORDANCE WITH THE BRIDGE SHOP DRAWINGS.
- SHOP DRAWINGS AND CALCULATIONS FOR PREFABRICATION BRIDGE SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF WISCONSIN.

Plot Date: 12/19/2024 - 7:34am
Drawing name: U:\1938068\2\CAD\Drawg\Sheets\BR01.dwg
User: bender, 193806872580

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

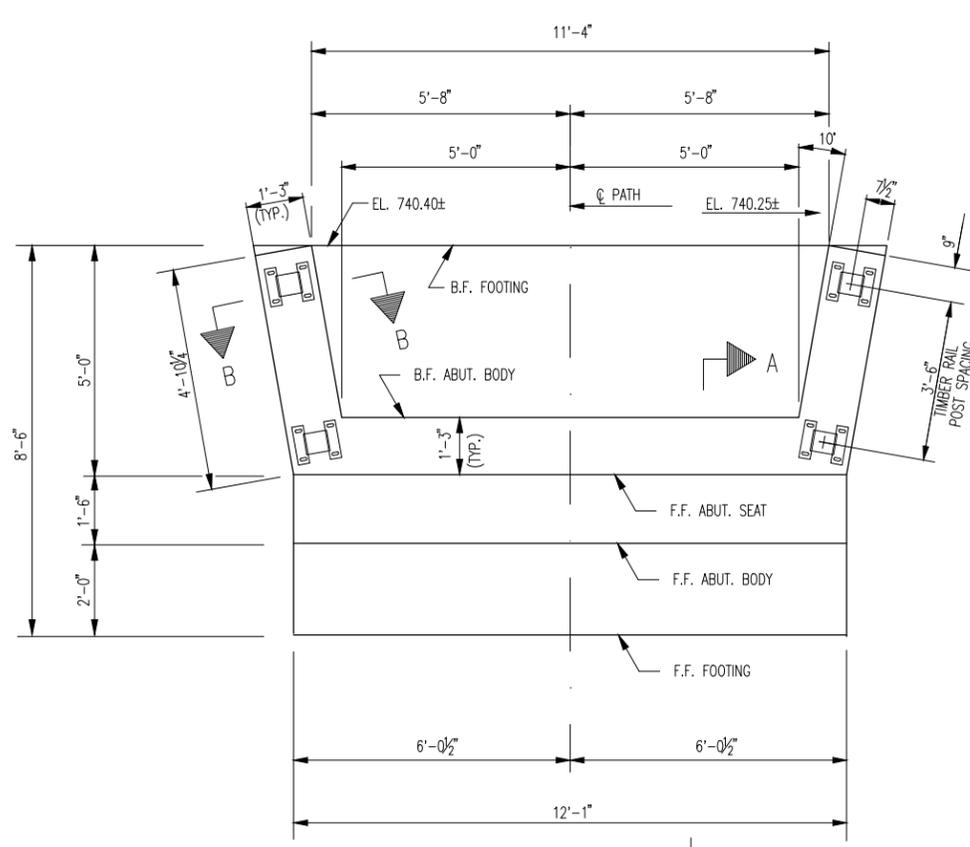


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

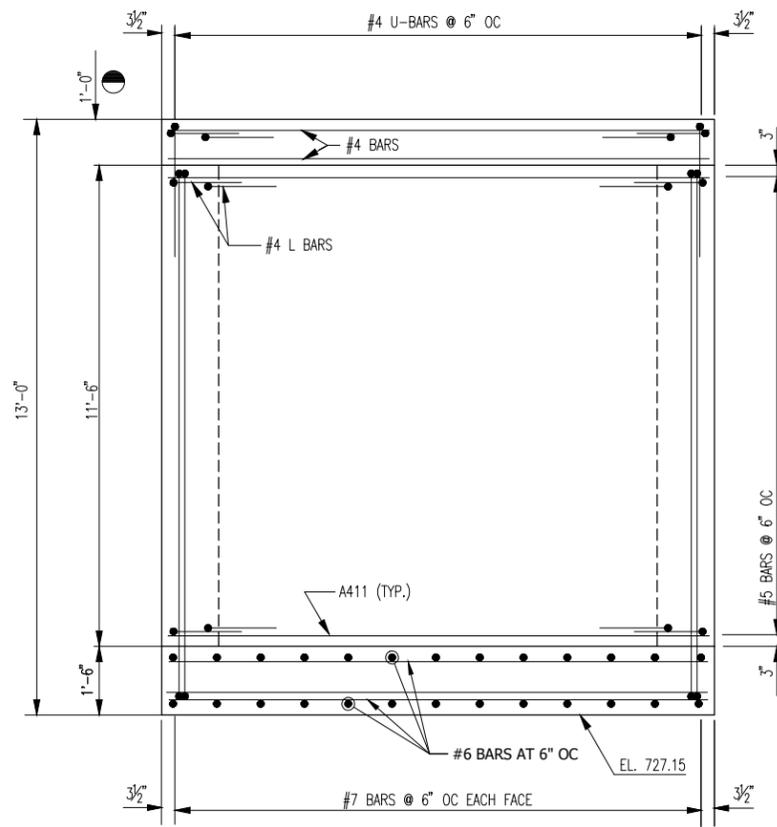
PEDESTRIAN BRIDGE GENERAL PLAN

DRAWING NO.	PB-1
SHEET NO.	66
DATE	December 19, 2024
PROJ NO.	193806812
FILE	BR01.dwg

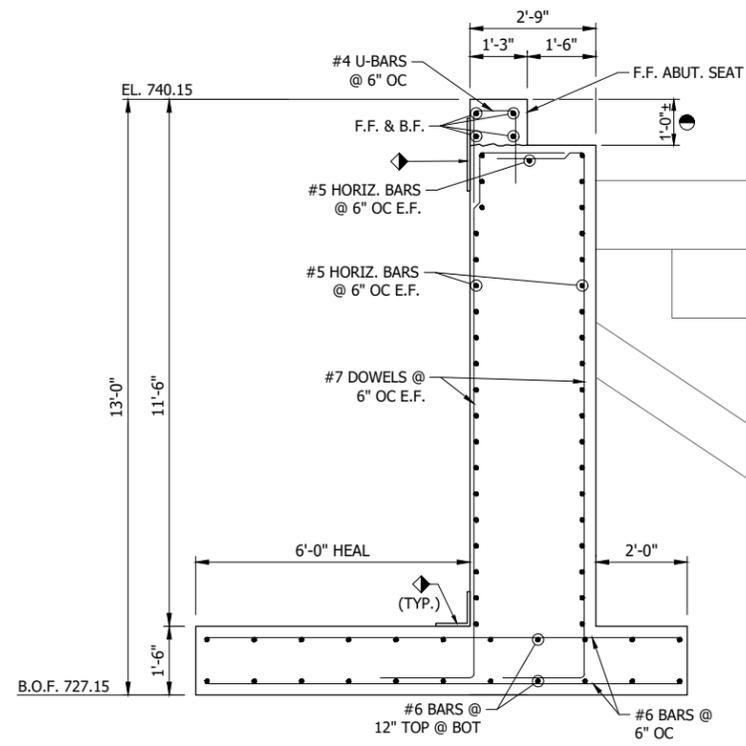
THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY PROBLEMS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.



PLAN

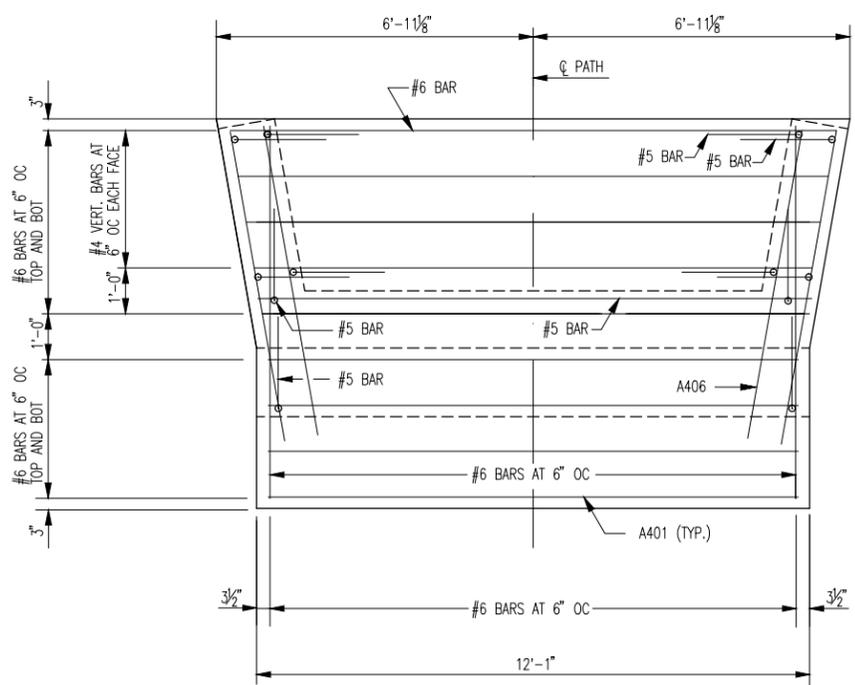


ELEVATION BODY

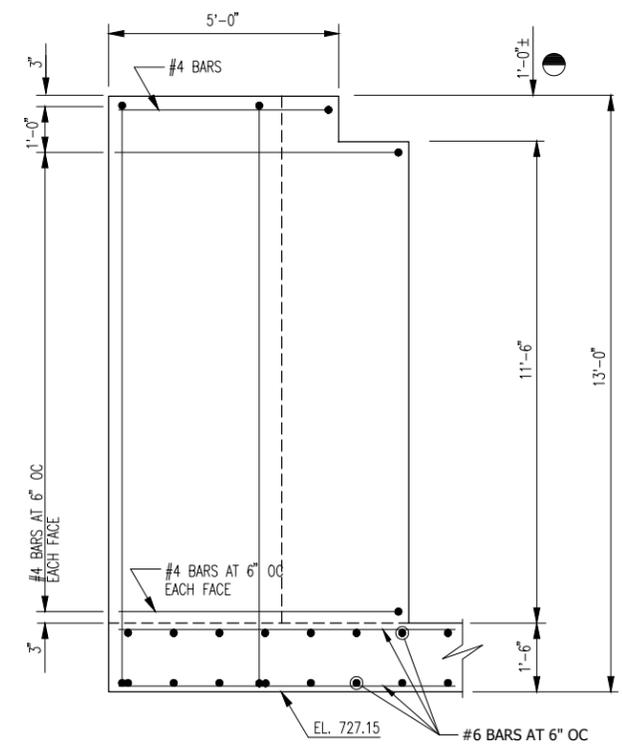


SECTION A-A

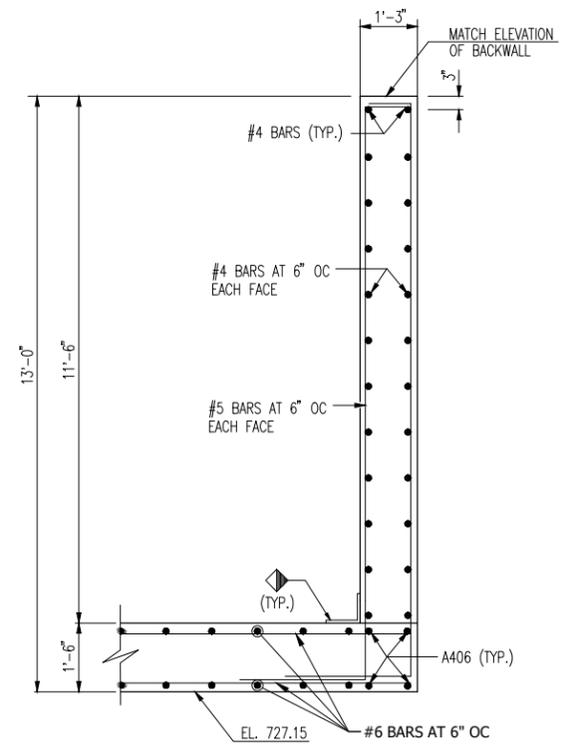
- THE HEIGHT OF BACKWALL IS APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE ACTUAL HEIGHT BASED ON THE DIMENSIONS OF THE PREFABRICATED BRIDGE.
- ◆ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING ALONG HORIZ. CONST. JOINTS AND VERTICALLY AT WINGWALL JOINT.



FOOTING PLAN



ELEVATION WING



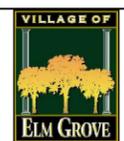
SECTION B-B

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

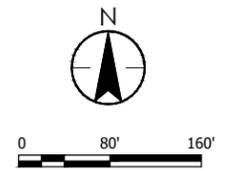
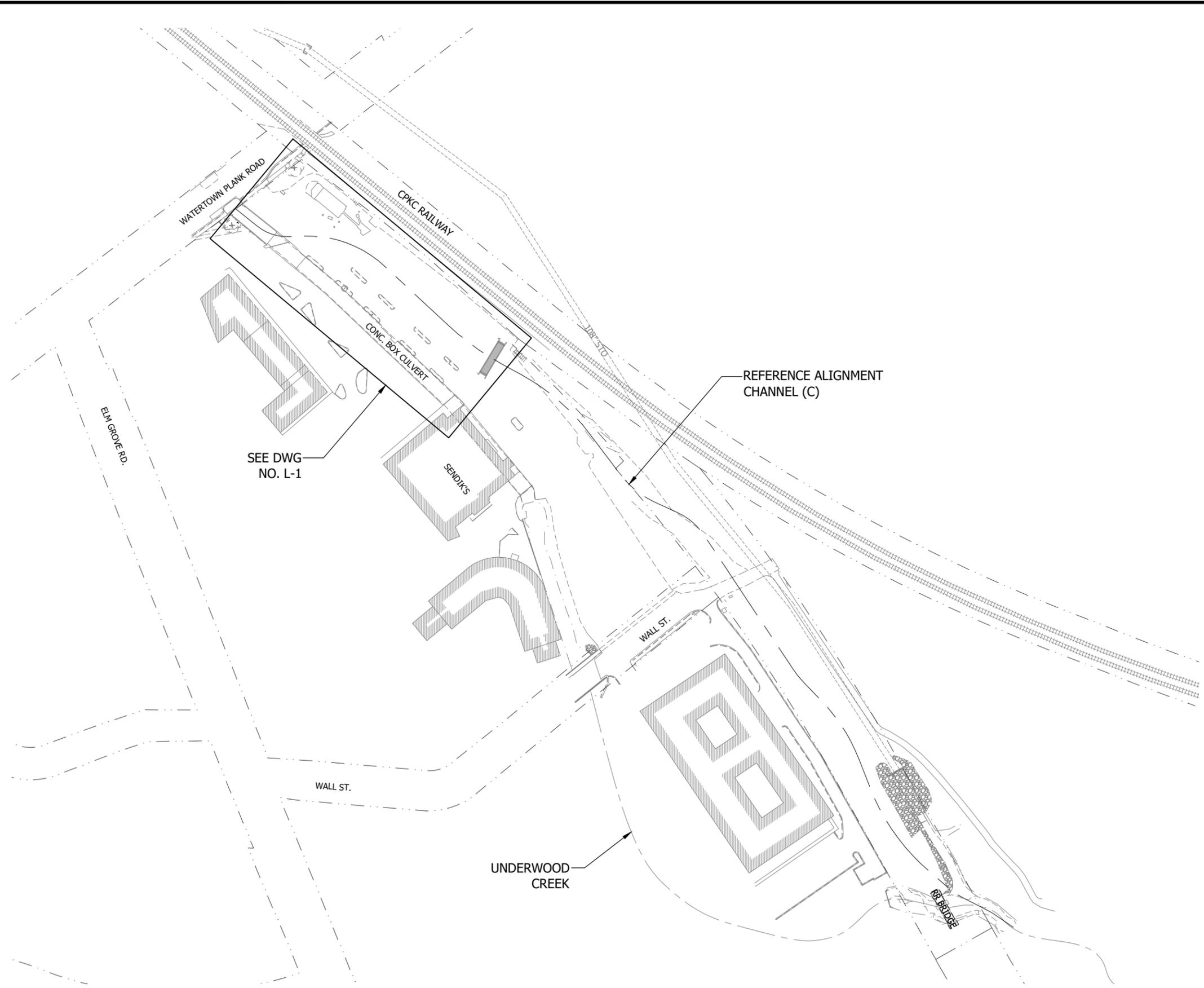


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN
PEDESTRIAN BRIDGE ABUTMENTS

DRAWING NO.	PB-2
SHEET NO.	67
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	BR01.dwg

Plot Date: 12/19/2024 - 7:34am
Drawing name: U:\193806812\CAD\Drawg\Sheets\BR01.dwg
User: R. Klein

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS MADE BY THE CONTRACTOR FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.



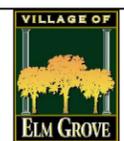
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 User: R. Klein
 Series: 193806812.dwg
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 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_L.dwg
 User: R. Klein
 Series: 193806812.dwg

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

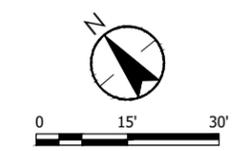
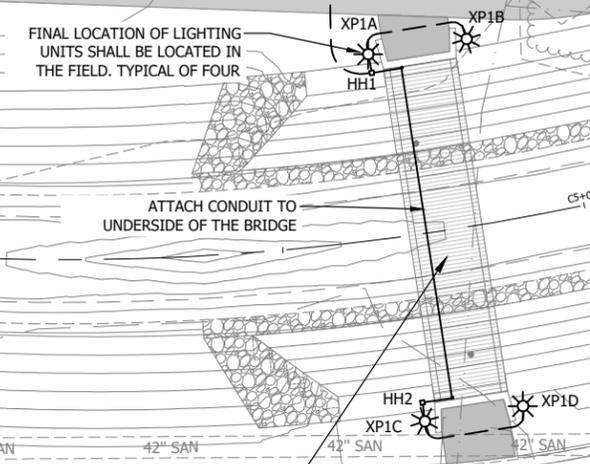
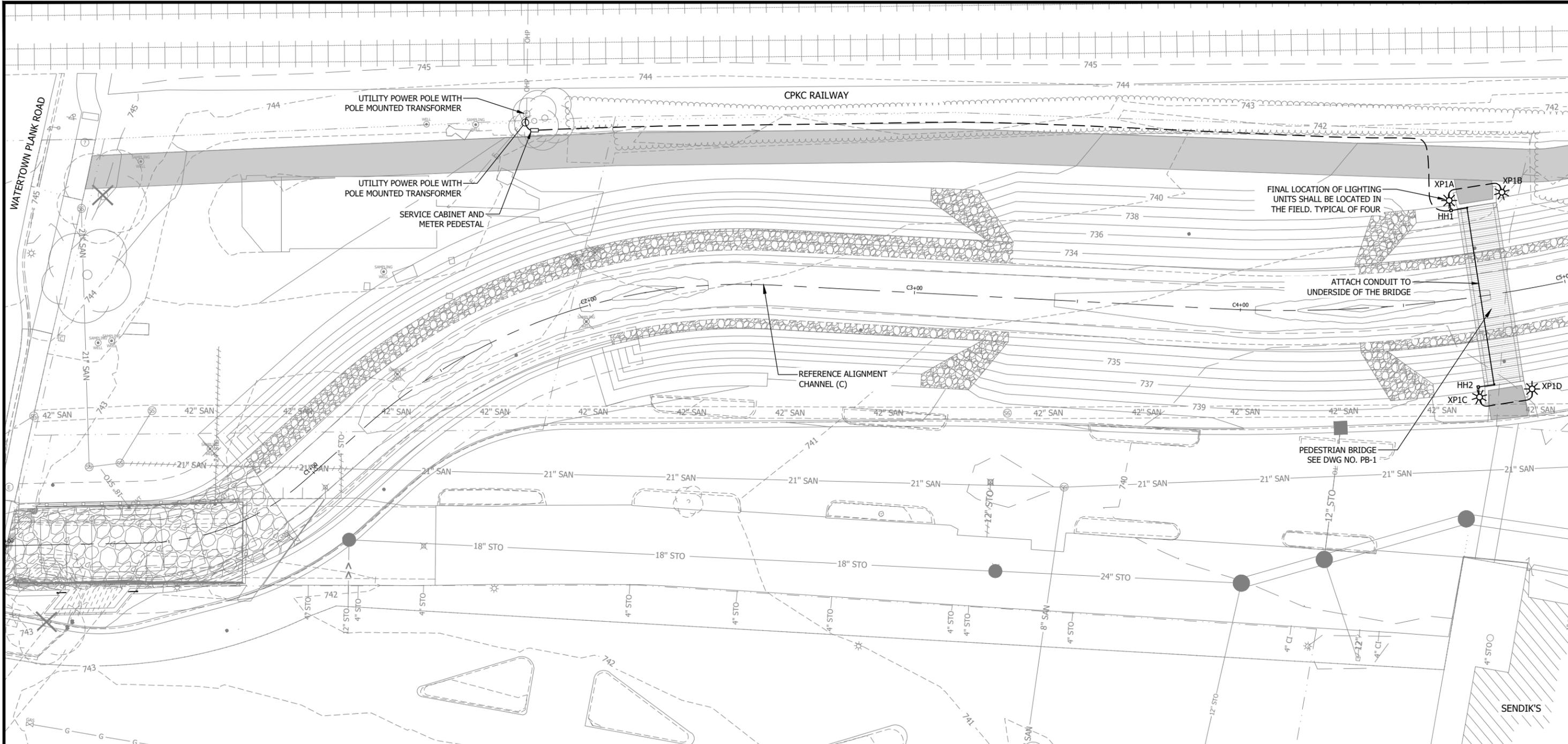


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 LIGHTING PLAN SHEET INDEX

DRAWING NO.	L-0
SHEET NO.	69
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_L.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 2:47pm
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 User: R. Klein
 Date: 12/19/2024 2:47pm
 File: 193806812.dwg



LEGEND

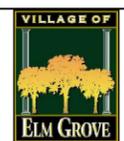
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	950	EXISTING CONTOUR MAJOR
	952	NEW CONTOUR MINOR
	950	NEW CONTOUR MAJOR

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

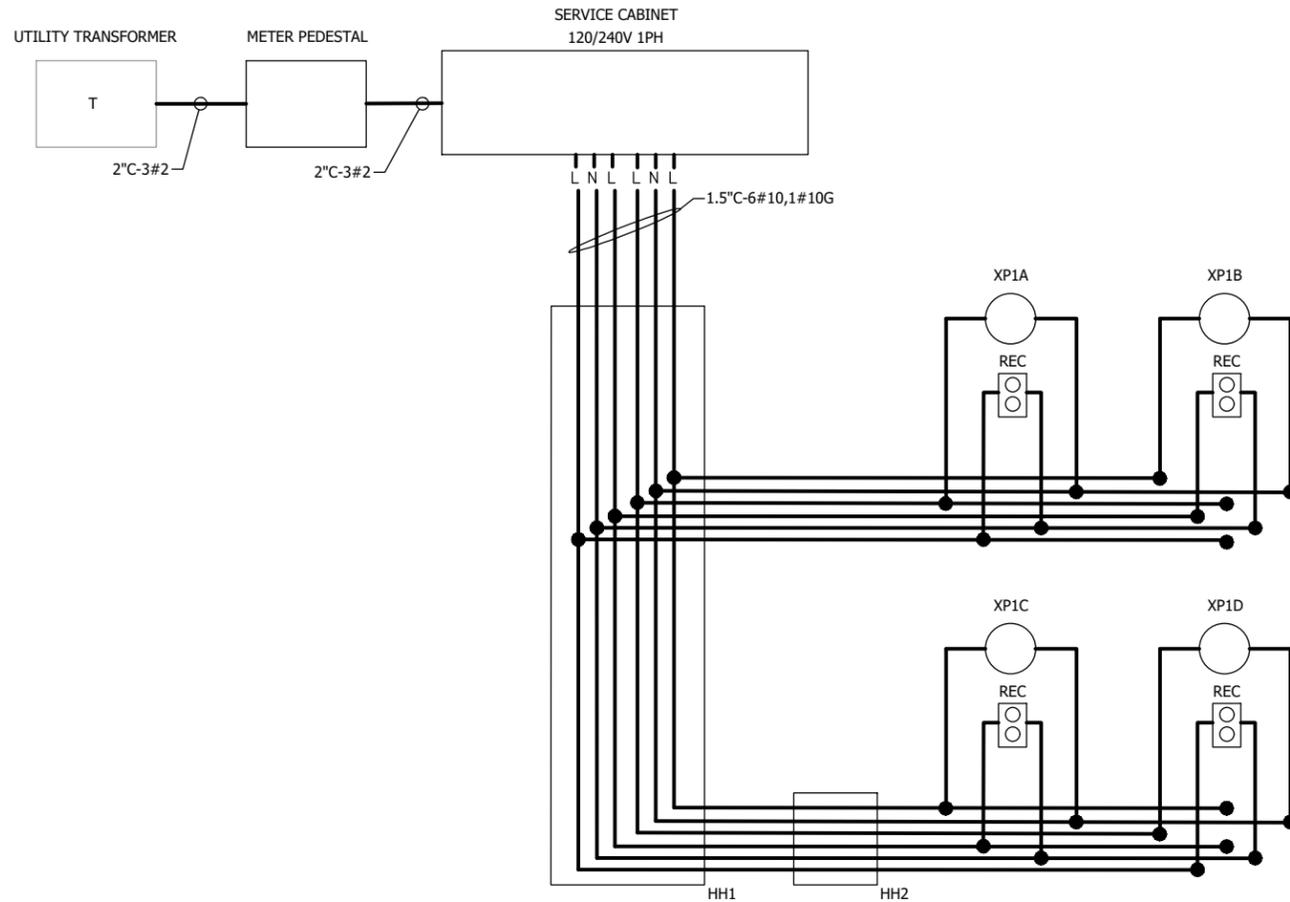


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

LIGHTING PLAN

DRAWING NO.	L-1
SHEET NO.	70
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_L.dwg

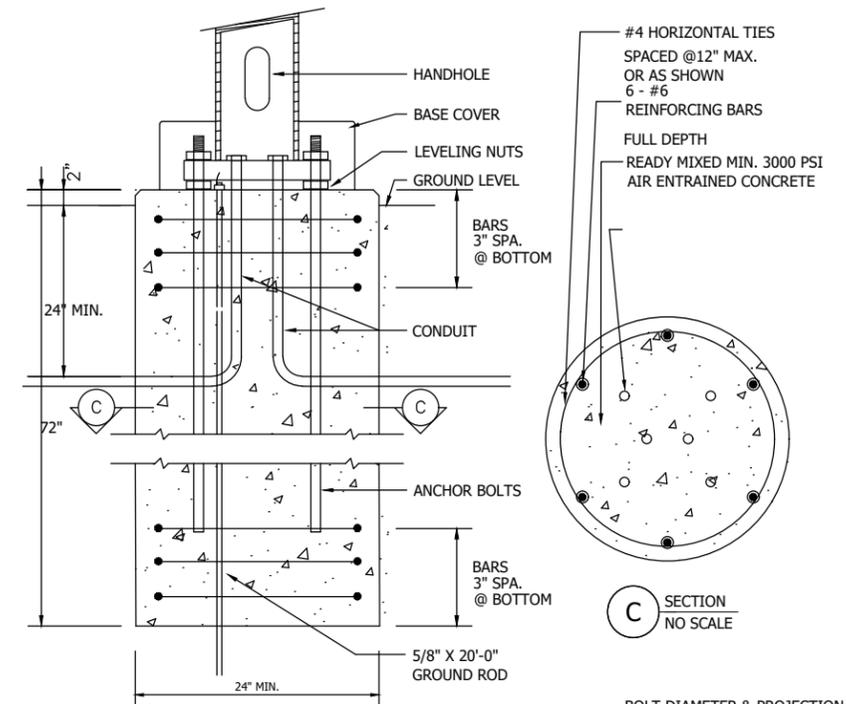
THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.



A WIRING DIAGRAM
NO SCALE

GENERAL NOTES

- A. LIGHTING UNIT TYPE XP1 SHALL OPERATE WITH PHOTOCELL LOCATED IN SERVICE CABINET. LIGHTS TO COME ON DURING HOURS OF DARKNESS AND TURN OFF DURING HOURS OF DAYLIGHT.
- B. ALL CONDUIT AND WIRE SHALL BE 1.5\"/>



B CONCRETE BASE DETAIL
NO SCALE

BOLT DIAMETER & PROJECTION TO BE AS RECOMMENDED BY MANUFACTURER

LUMINAIRE SCHEDULE											
TYPE	DESCRIPTION	MANUFACTURER	SERIES	LAMP	CONTROLS	WATTAGE	VOLTAGE	FINISH	LENS/DISTRIBUTION	MOUNTING	NOTES
XP1	POST TOP: 42\"/>	STERNBERG LIGHTING	1843LEDTF 3700	LED, 3500K, 70+ CRI	0-10V DIMMING	67VA	UNV	BLACK, TEXTURED	TYPE II DISTRIBUTION, CLEAR TEXTURED ACRYLIC LENS	POST TOP POLE	CONTRACTOR TO CONFIRM FINISH AND COLOR TEMPERATURE TO MATCH VILLAGE STANDARD PRIOR TO ORDERING.

Plot Date: 12/19/2024 - 9:45am
Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_L.dwg
User: R. Klein
Series: 193806812.dwg
Sheet: 193806812.dwg

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



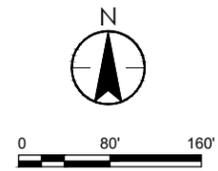
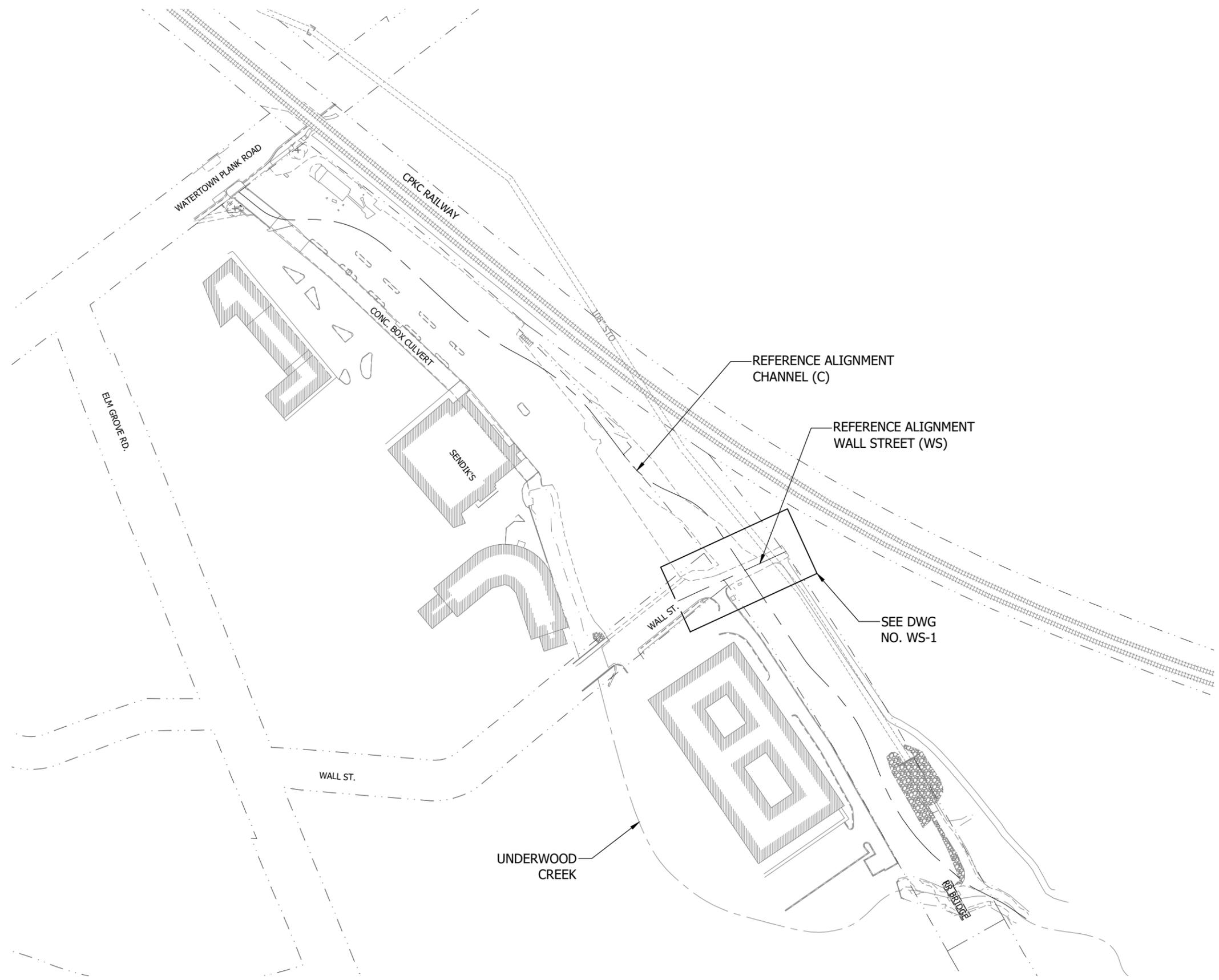
UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

LIGHTING PLAN DETAILS

DRAWING NO.	L-2
SHEET NO.	71
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_L.dwg

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Plot Date: 12/19/2024 - 10:22am
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 Sheet: Border: 193806812_SHEET_193806812.dgn



**PRELIMINARY
PLAN**

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



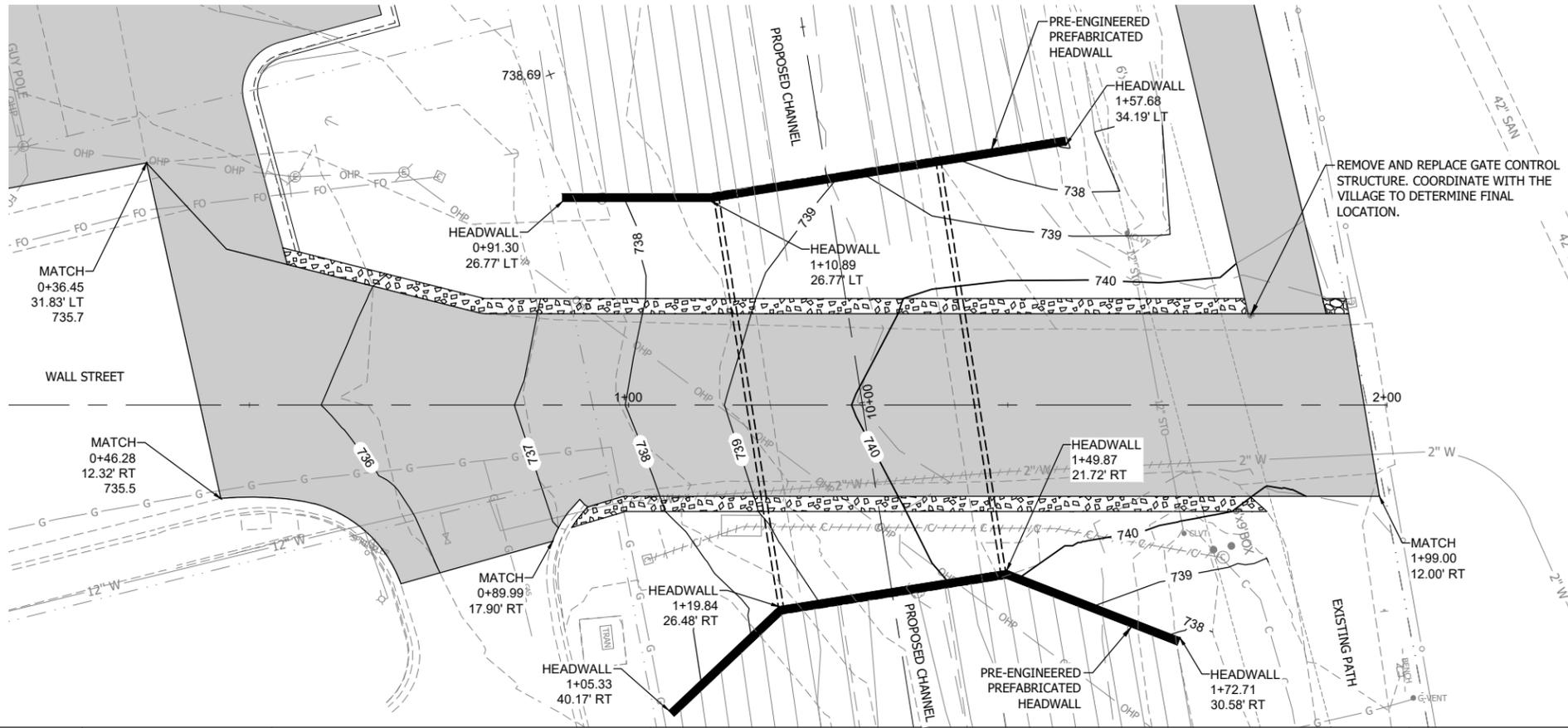
REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 WALL STREET CROSSING SHEET INDEX

DRAWING NO.	WS-0
SHEET NO.	72
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_WS.dwg

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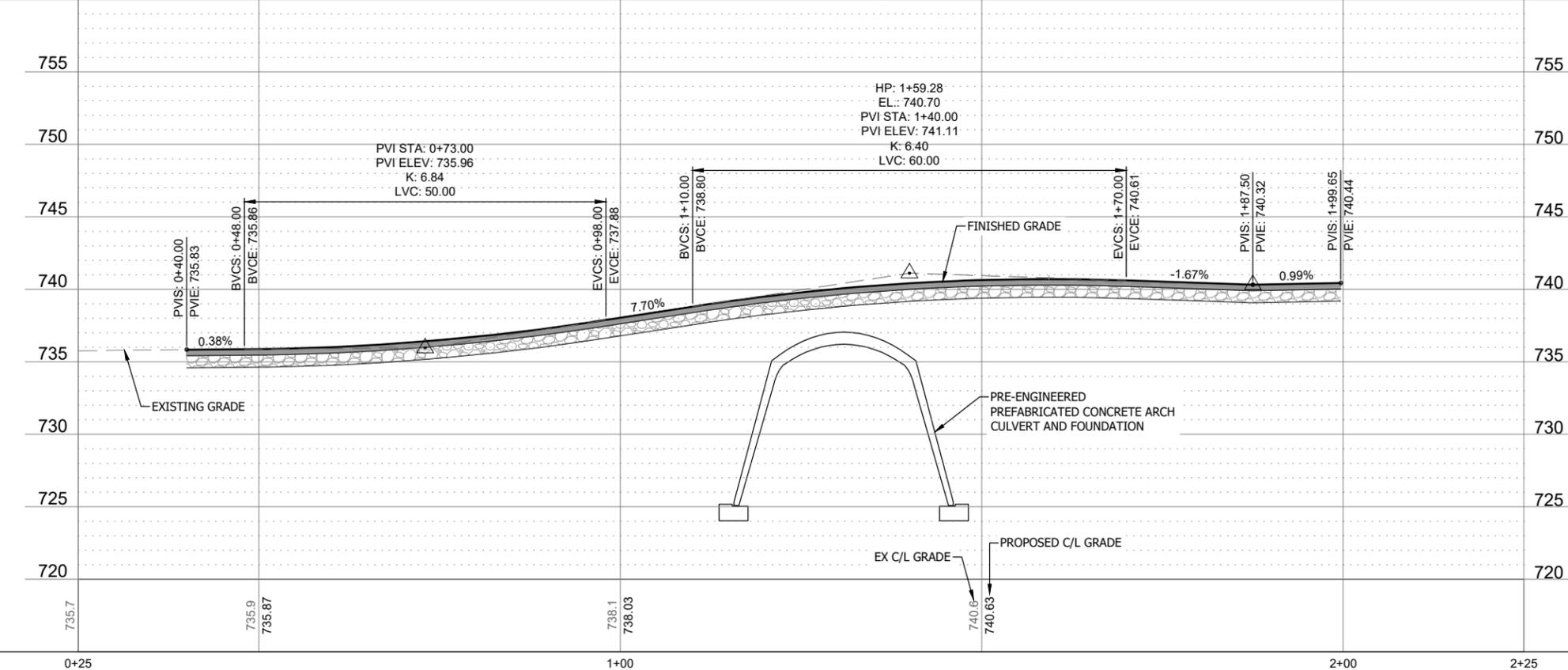
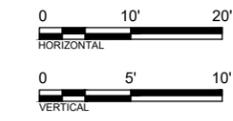
DESIGN DATA

Wall Backfill Material	Soil Unit Weight (pcf)		Soil Internal Friction Angle (deg.)	Active Earth Pressure Coefficient, K_a	At-Rest Earth Pressure Coefficient, K_o	Passive Earth Pressure Coefficient, K_p
	Above Groundwater	Below Groundwater				
Soil 1						
Soil 2						

Soil Bearing Capacity (elev. 723): YYY psf

Design Loading: HL-93

Speed Limit: 25 MPH



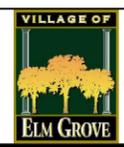
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User: R. Klein, 193806812_SST, 193806812_SST, 193806812_SST

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



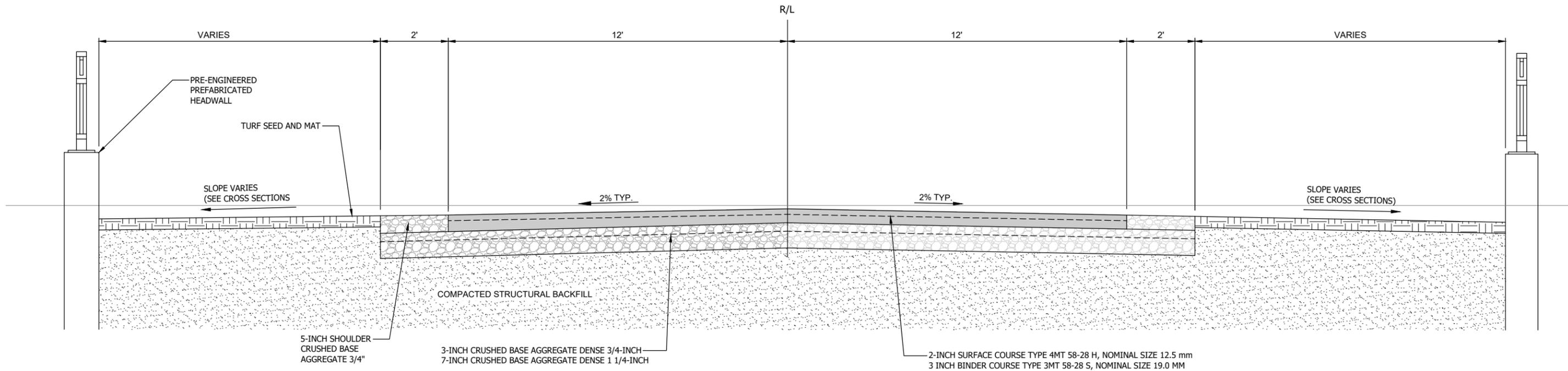
REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN
WALL STREET CROSSING PLAN AND PROFILE

DRAWING NO.	WS-1
SHEET NO.	73
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_WS.dwg

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WALL STREET TYPICAL SECTION
NOT TO SCALE



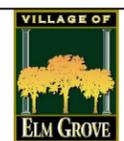
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User: R. Klein
Series: 193806812_Serial_193806812_Serial_193806812_Serial

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

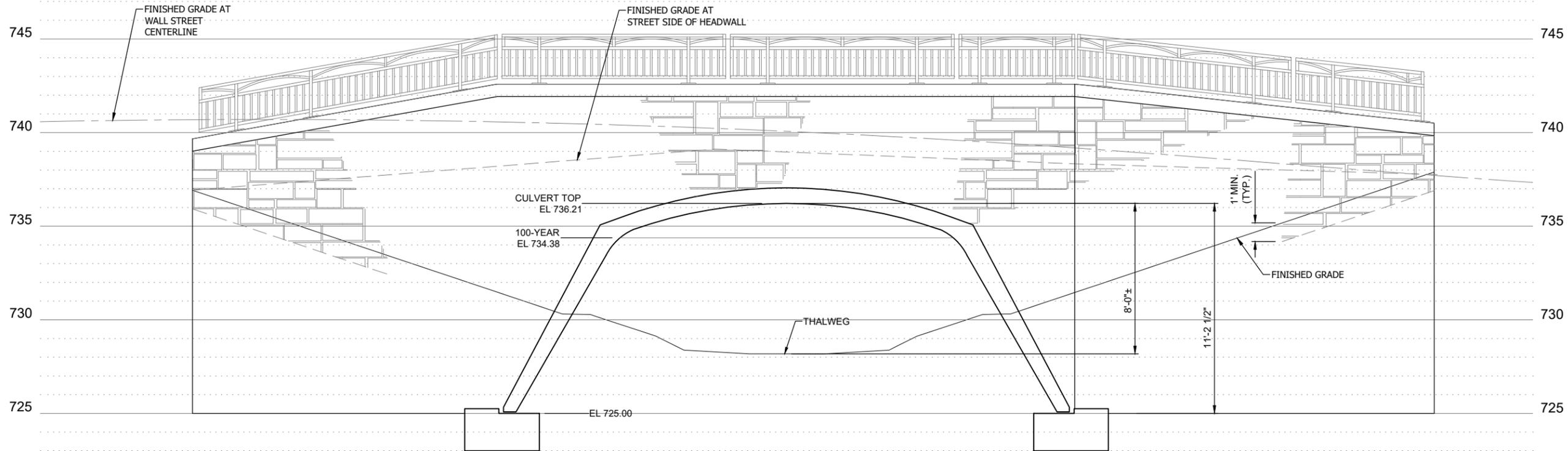


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

WALL STREET CROSSING TYPICAL SECTION

DRAWING NO.	WS-2
SHEET NO.	74
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_WS.dwg

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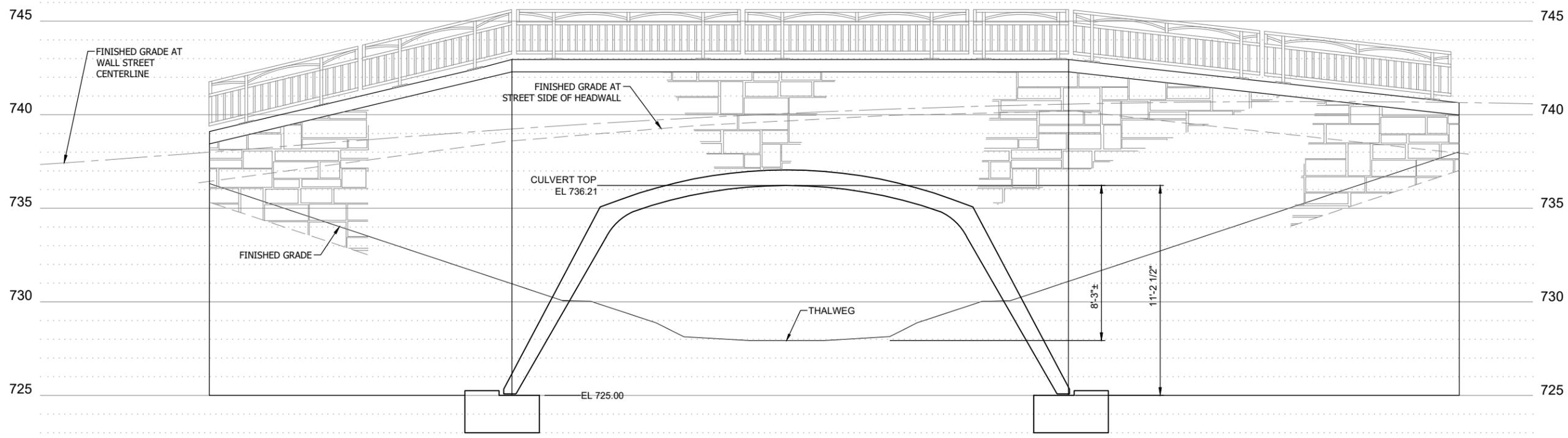
ARCH CULVERT ELEVATION VIEW (UPSTREAM) STA. 9+69.74

NTS



NOTES:

1. CONTECH CON/SPAN O-SERIES O329 29'-0" X 11'-1 1/2" RISE 56' LONG SHOWN FOR REFERENCE.
2. REFER TO THE CHANNEL CROSS SECTIONS FOR CHANNEL BED MATERIALS WITHIN THE ARCH CULVERT



ARCH CULVERT ELEVATION VIEW (DOWNSTREAM) STA. 10+25.74

NTS



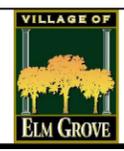
Plot Date: 12/19/2024 - 10:23am
 Drawing name: U:\193806812\CA\DWG\193806812_CA.dwg
 User: rklein
 Sheet: 75 of 75

PRELIMINARY PLAN

DESIGNER
 M. SIERACKI
 DRAWN BY
 A. ROCK
 CHECKER
 D. AMUNDSEN
 APPROVED
 R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



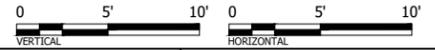
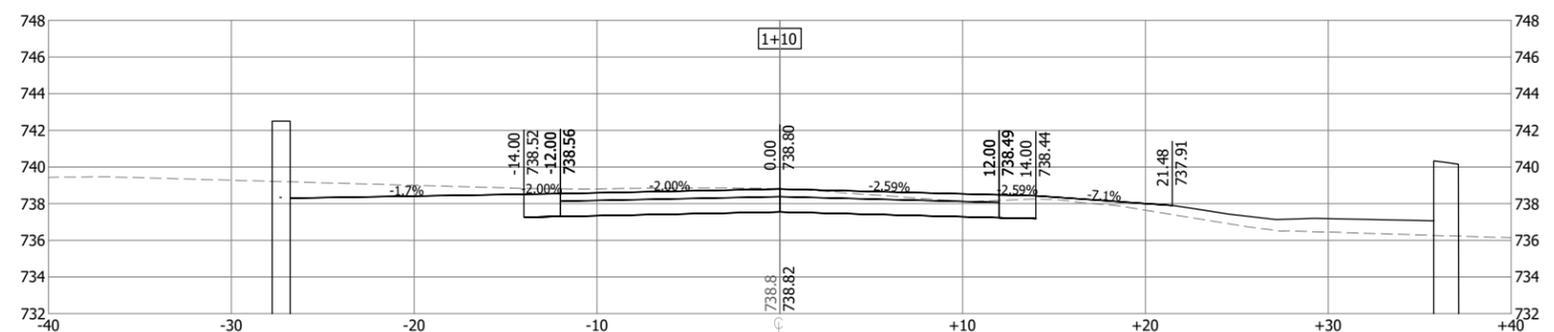
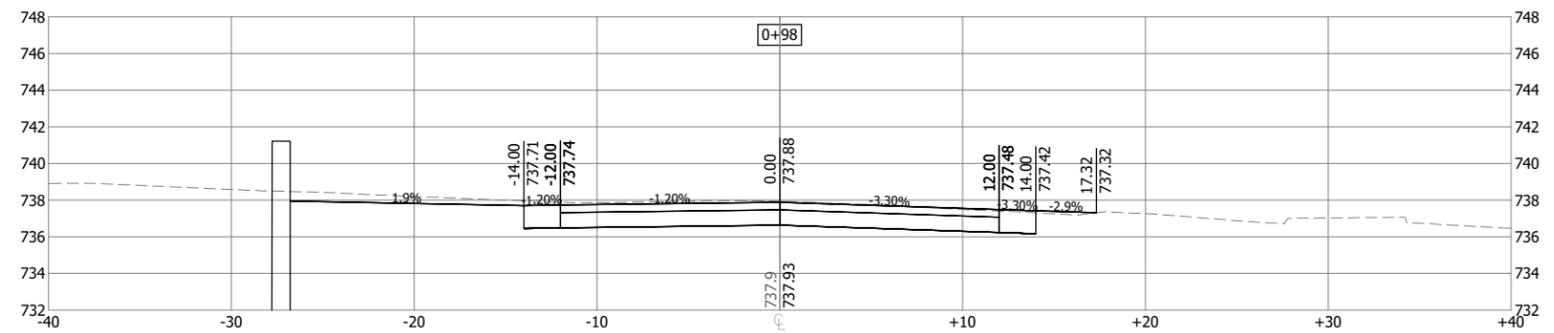
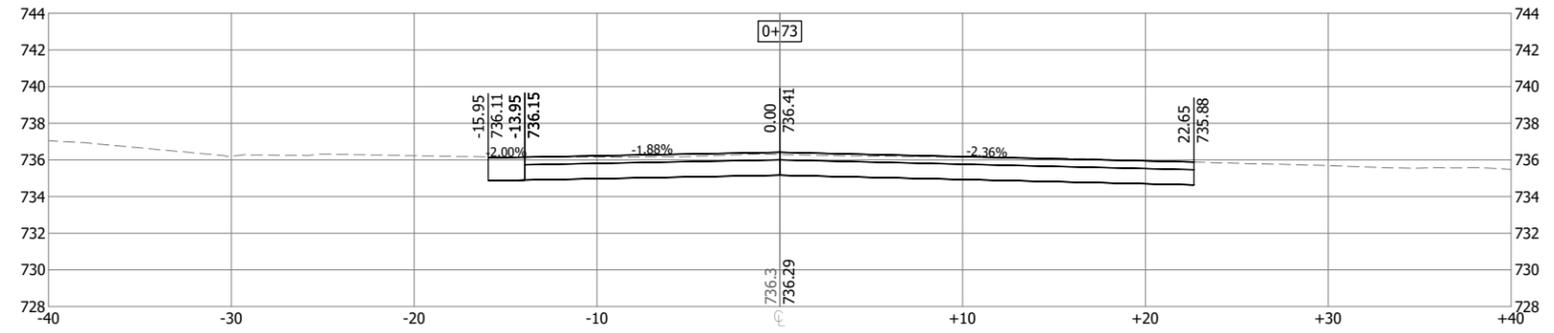
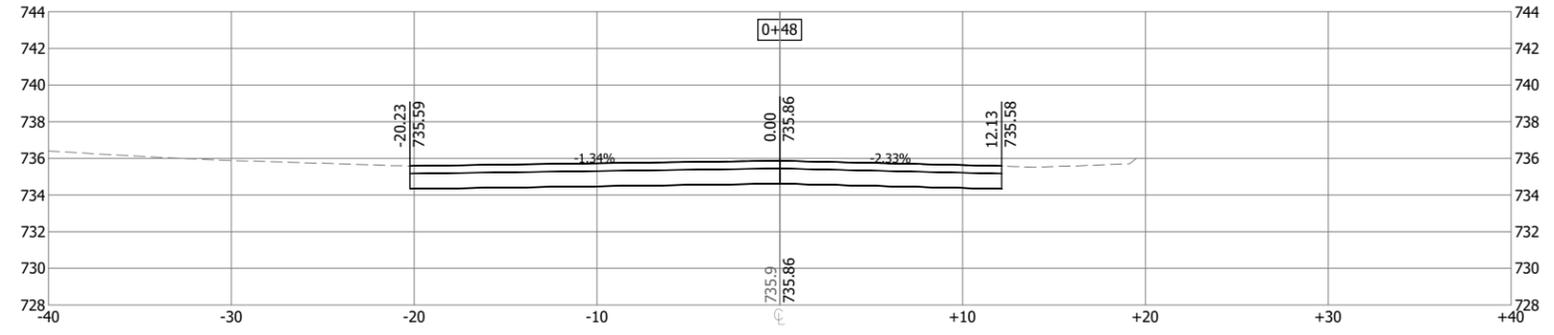
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

ARCH CULVERT HEADWALL VIEWS

DRAWING NO.	WS-3
SHEET NO.	75
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_CA.dwg

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Plot Date: 12/19/2024 - 10:23am
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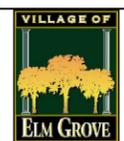


PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

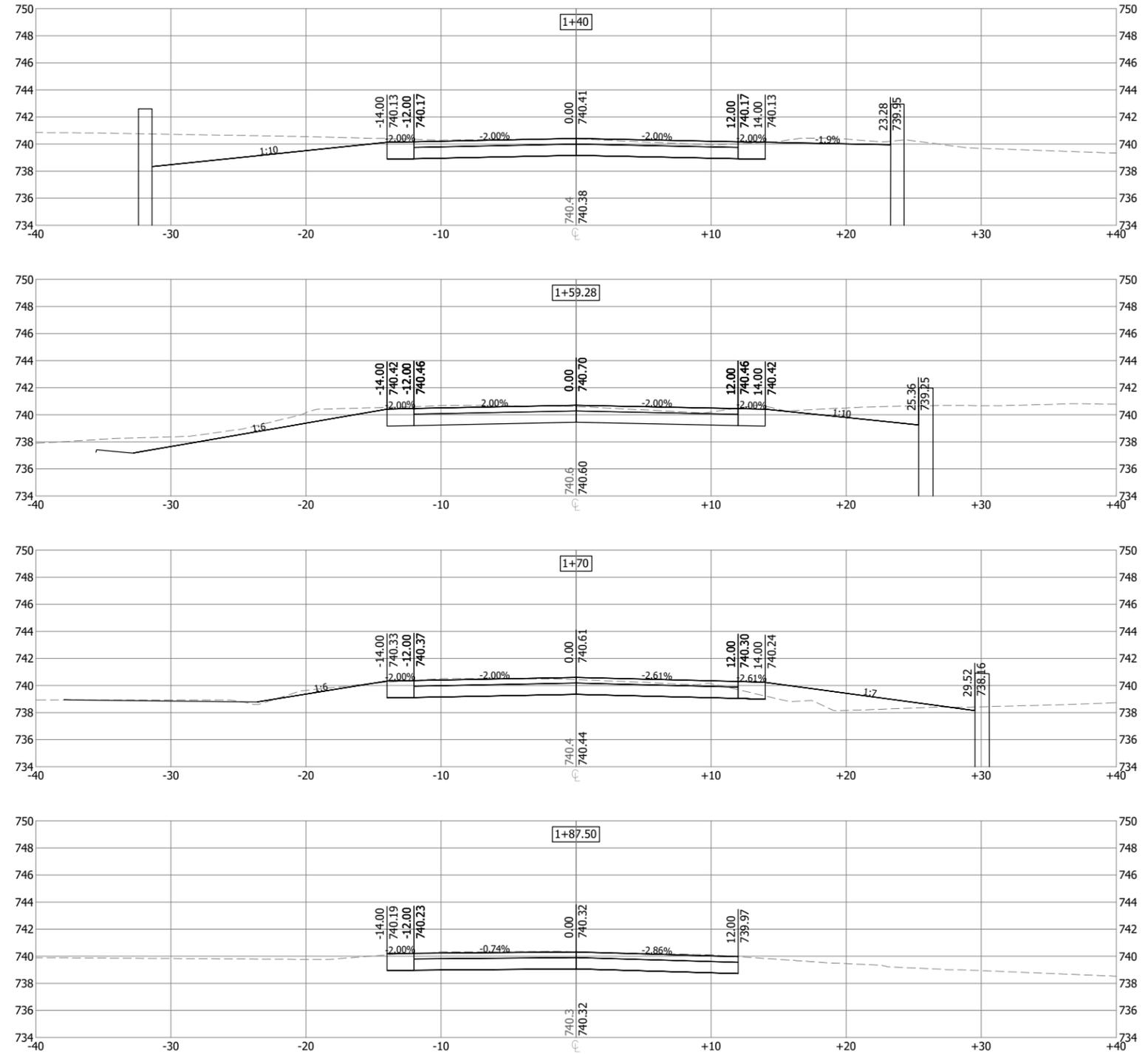


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 WALL STREET CROSSING CROSS SECTIONS

DRAWING NO.	WS-CS1
SHEET NO.	76
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_WS-CS.dwg

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Plot Date: 12/19/2024 - 10:23am
 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_WS-CS.dwg
 User: R. Klein



PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



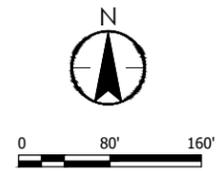
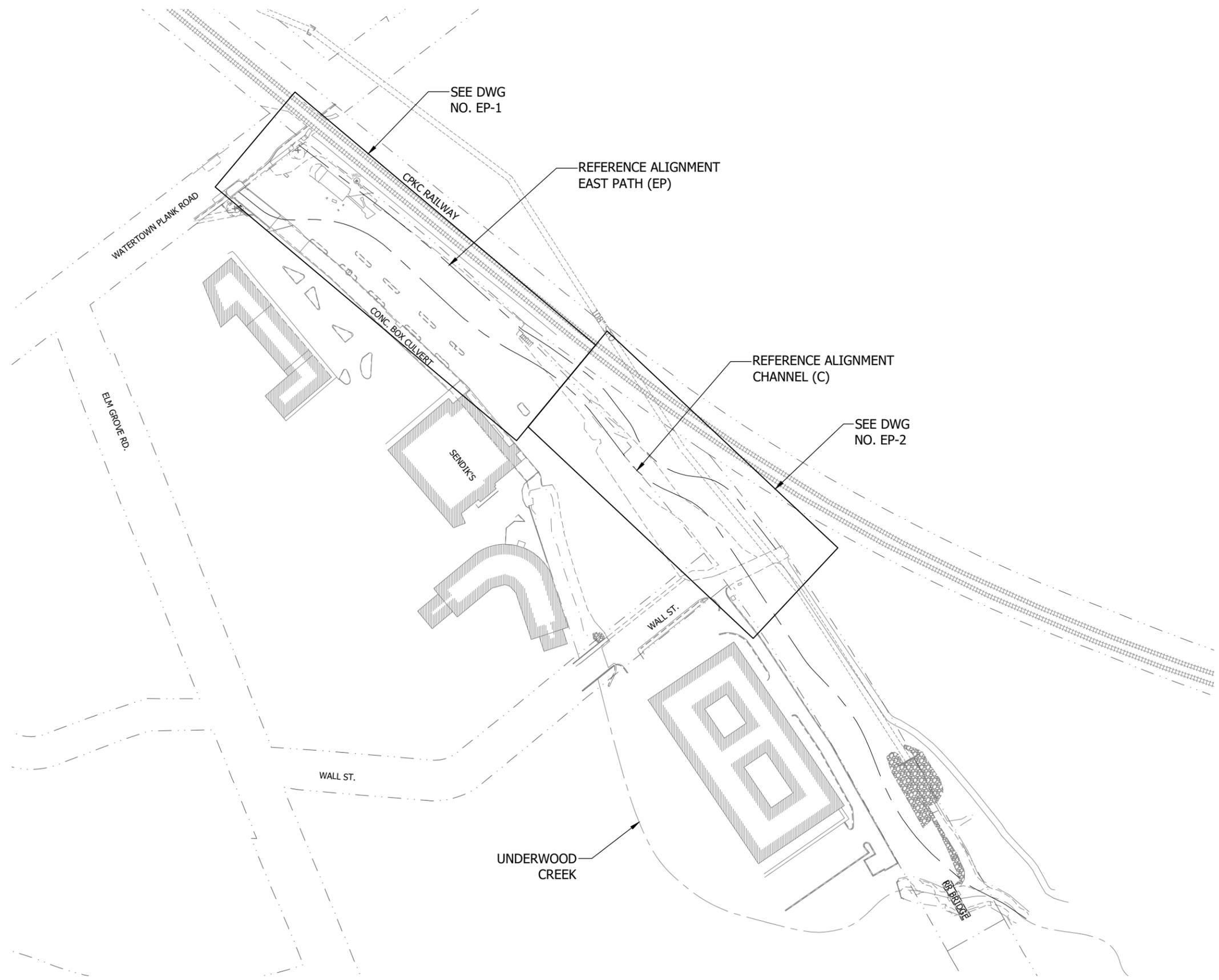
REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 WALL STREET CROSSING CROSS SECTIONS

DRAWING NO.	WS-CS2
SHEET NO.	77
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_WS-CS.dwg

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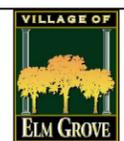
Plot Date: 12/19/2024 - 7:41 am
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 User: R. Klein
 Series: 193806812.dwg
 Plot: 193806812.dwg

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



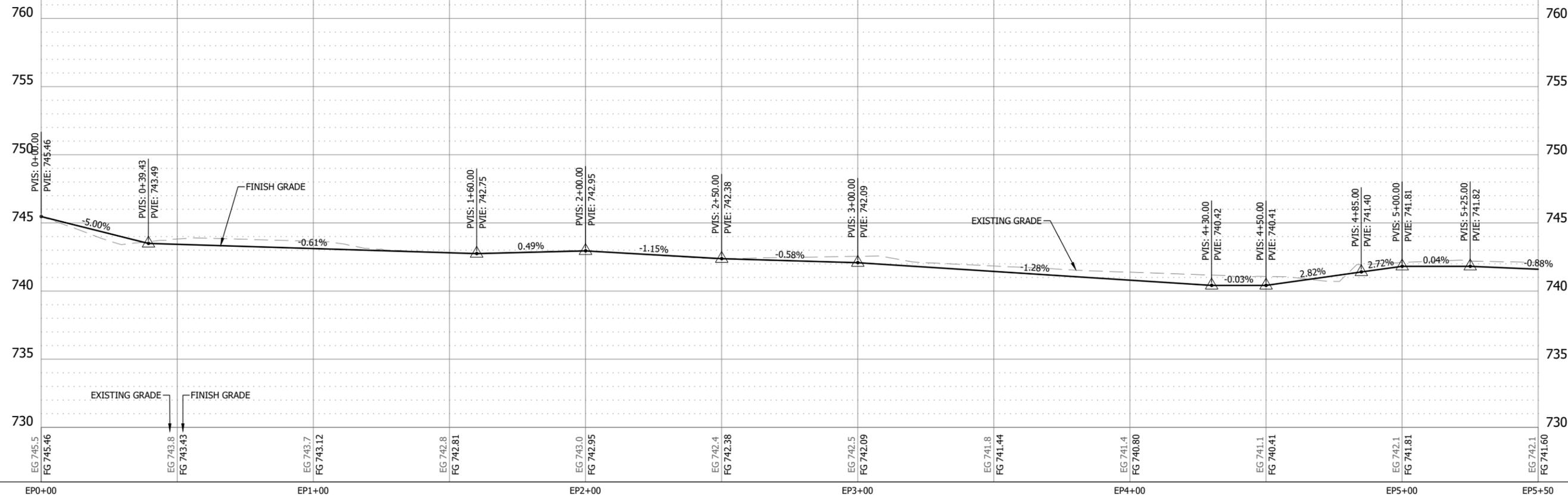
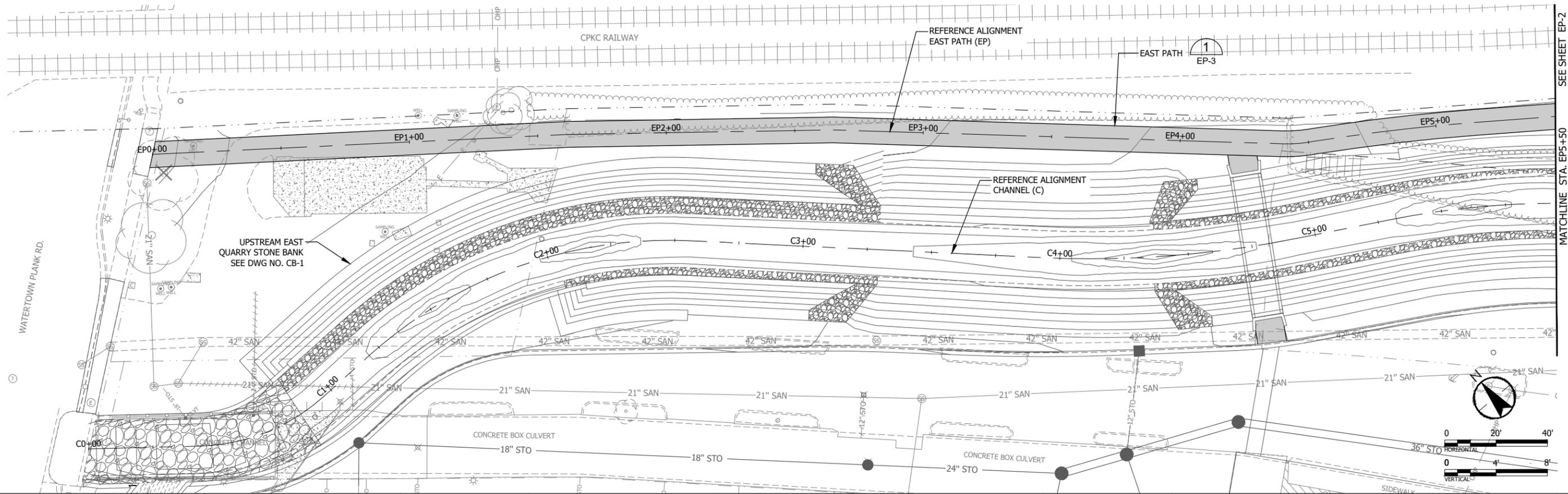
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

EAST PATH SHEET INDEX

DRAWING NO.	EP-0
SHEET NO.	78
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_EP.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 7:41 am
 Drawing Name: U:\193806812\CAD\Drawg Sheets\193806812_EP.dwg
 User: R. Klein
 Project: 193806812_SPH, 193806812_SPH, 193806812_SPH

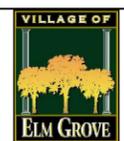


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

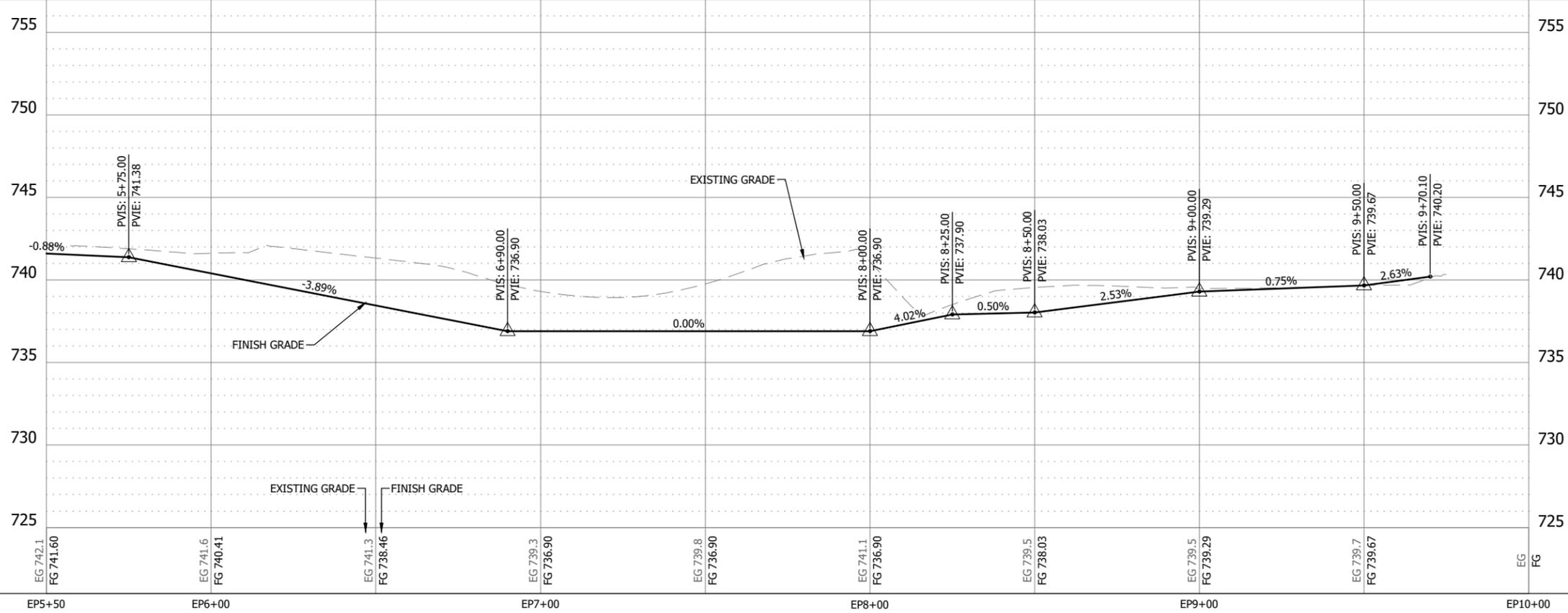
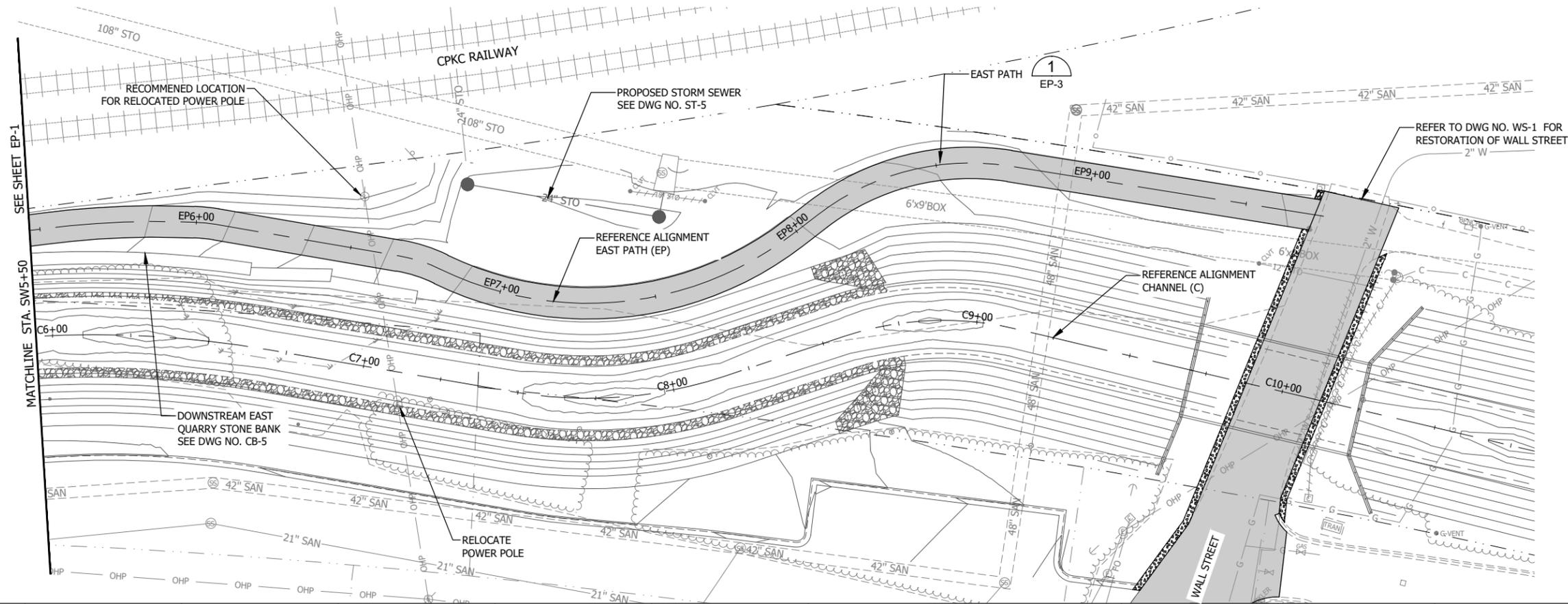


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
EAST PATH PLAN & PROFILE

DRAWING NO.	EP-1
SHEET NO.	79
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_EP.dwg

SEE SHEET EP-2
MATCHLINE STA. EP5+50

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Plot Date: 12/19/2024 - 7:41 am
Drawing name: U:\193806812\CAD\Drawg Sheets\193806812_EP.dwg
User: R. Klein
Scale: Border: 1/8"=1'-0" Plot: 1/8"=1'-0"

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

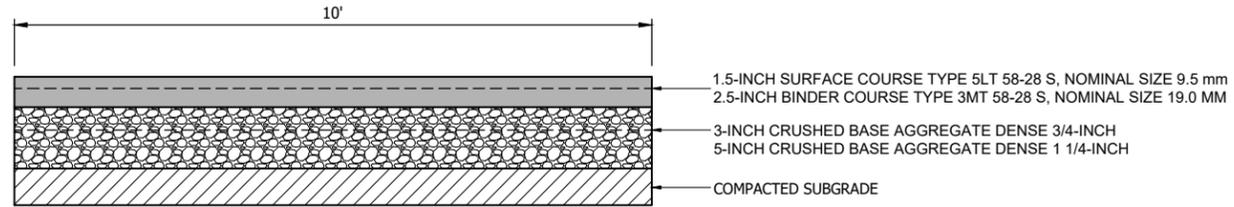


UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

EAST PATH PLAN & PROFILE

DRAWING NO.	EP-2
SHEET NO.	80
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_EP.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.



EAST PATH TYPICAL SECTION

SCALE: NTS



Plot Date: 12/19/2024 - 7:41 am
Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_EP.dwg
User: R. Klein
Series: Revit: 193806812.dgn, 193806812.dgn, 193806812.dgn

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



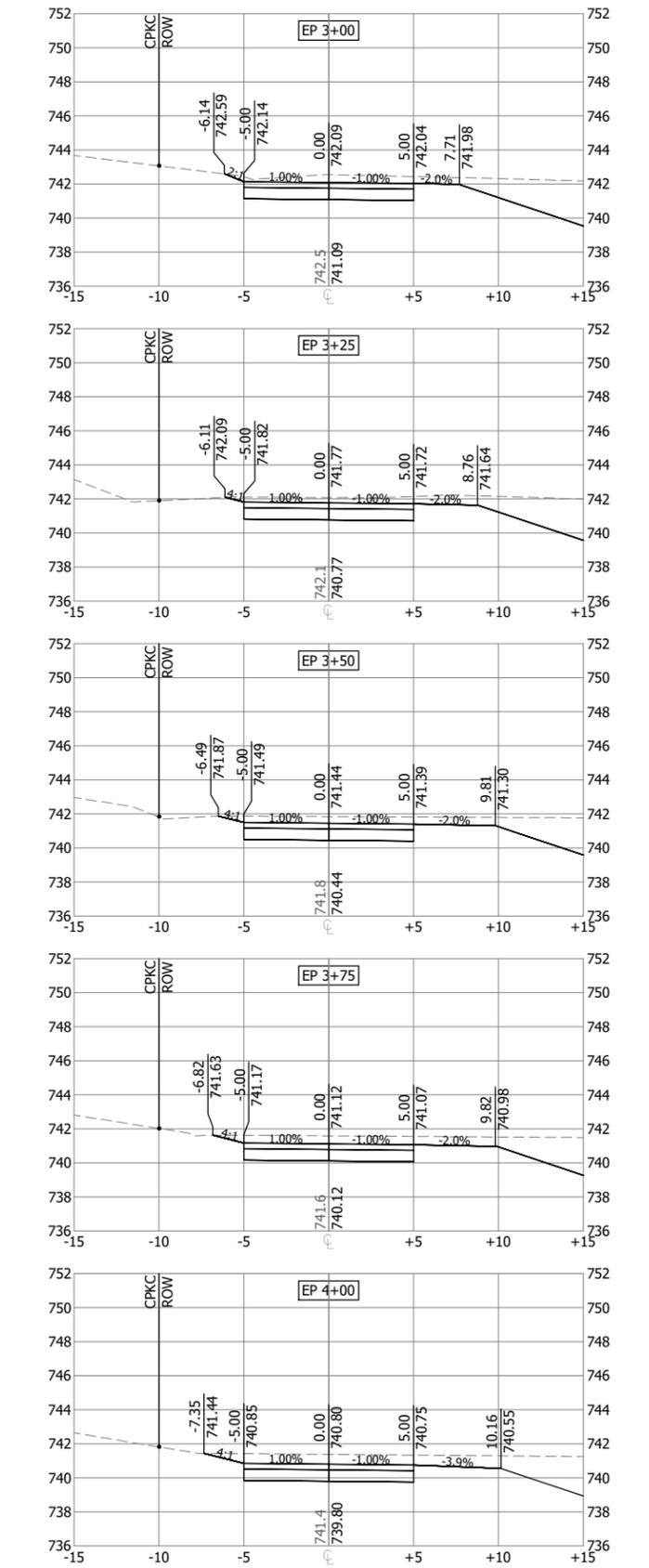
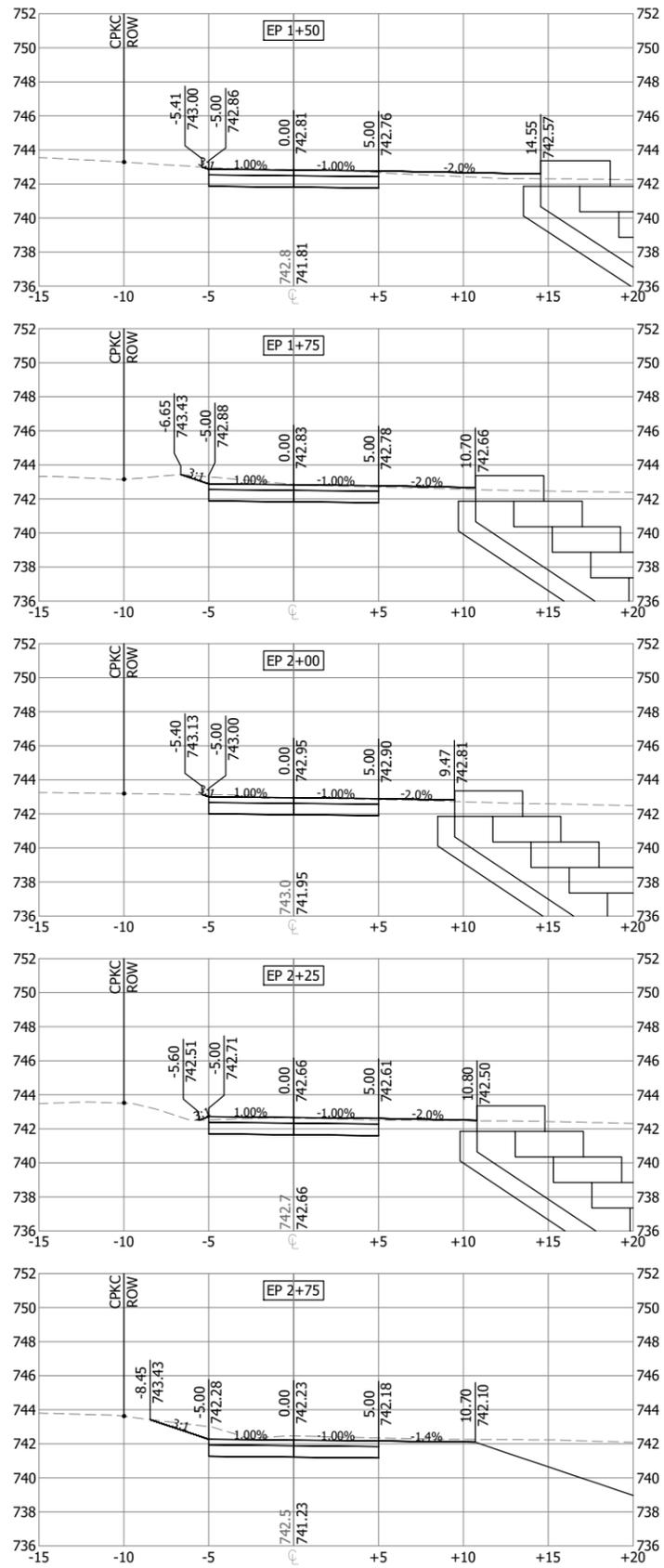
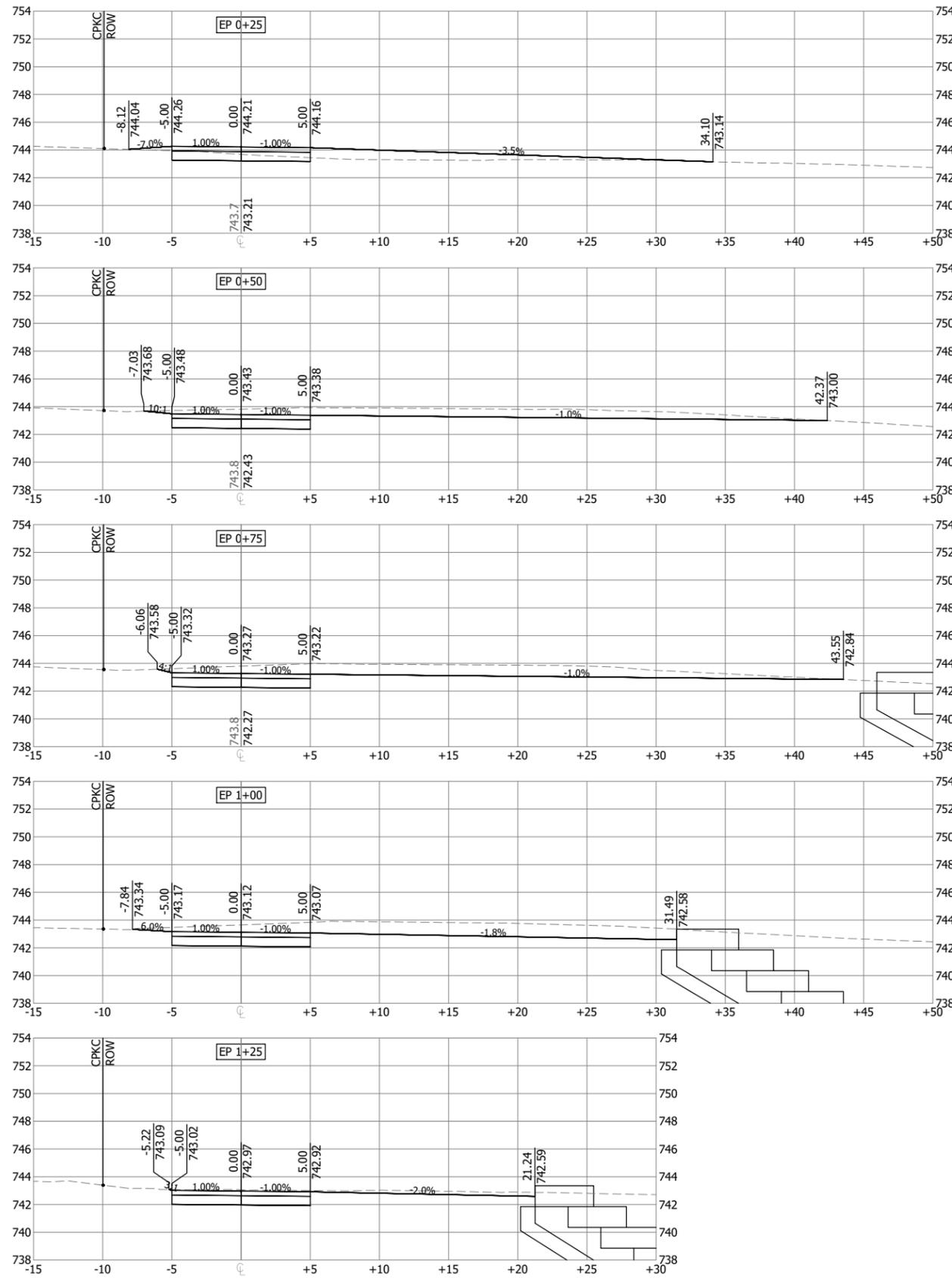
UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

EAST PATH TYPICAL SECTION

DRAWING NO.	EP-3
SHEET NO.	81
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_EP.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS OTHER THAN THOSE AUTHORIZED BY STANTEC'S FORFEITURE OF ANY PURPOSE OTHER THAN THOSE AUTHORIZED BY STANTEC'S FORFEITURE.

Plot Date: 12/19/2024 - 7:40am
 Drawing Name: U:\193806812\CAD\Draw\Sheets\193806812_EP-CS.dwg
 User: R. Klein
 Scale: Border: 1/8"=1'-0" Plot: 1/8"=1'-0"



**PRELIMINARY
PLAN**

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



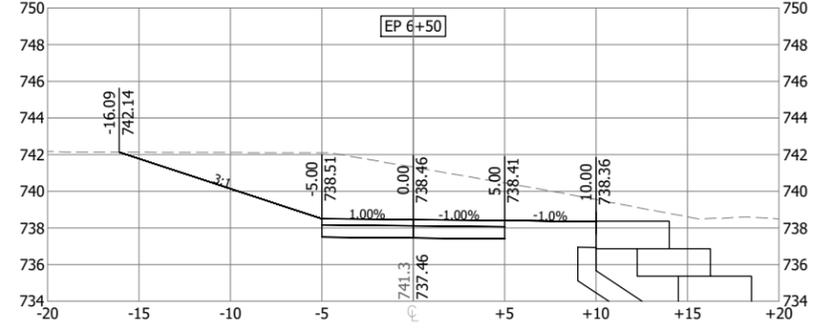
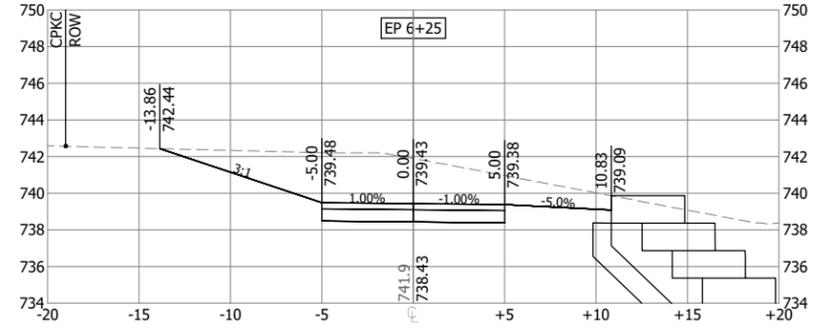
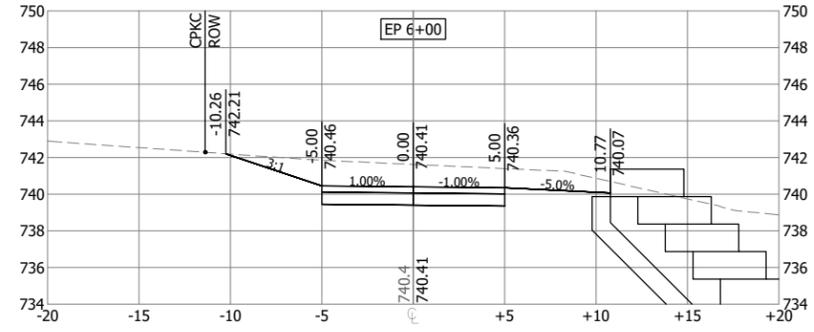
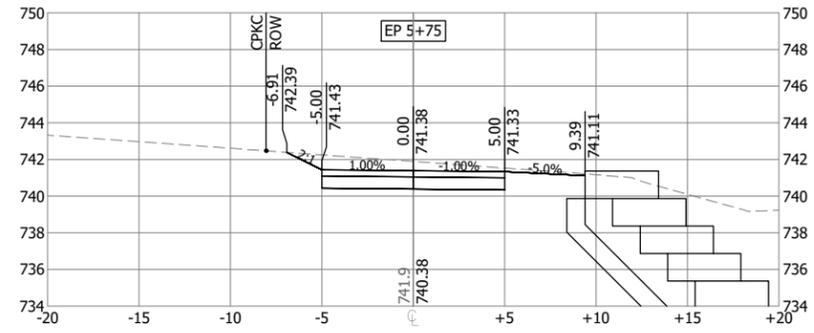
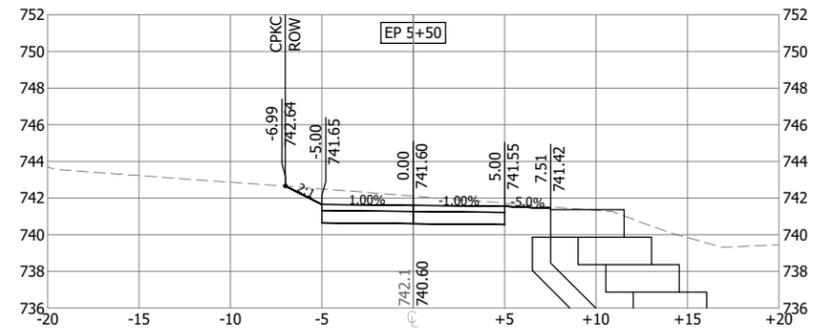
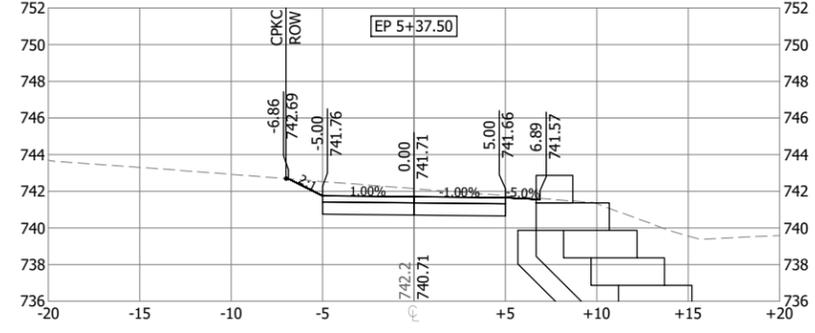
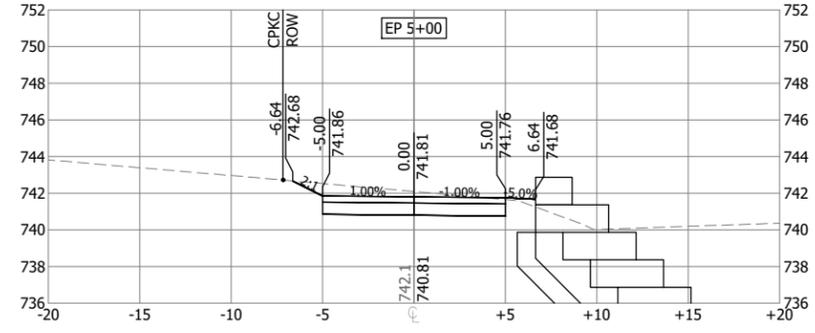
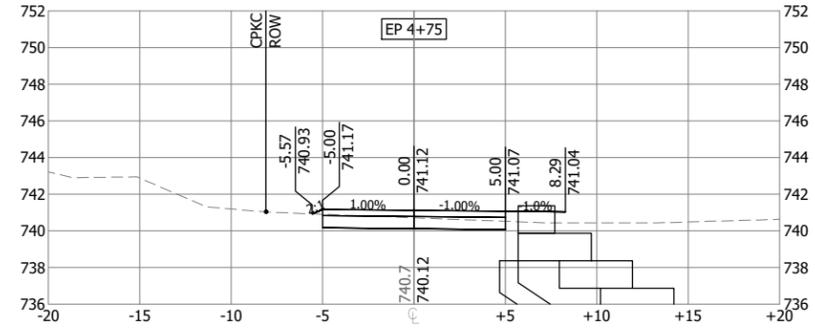
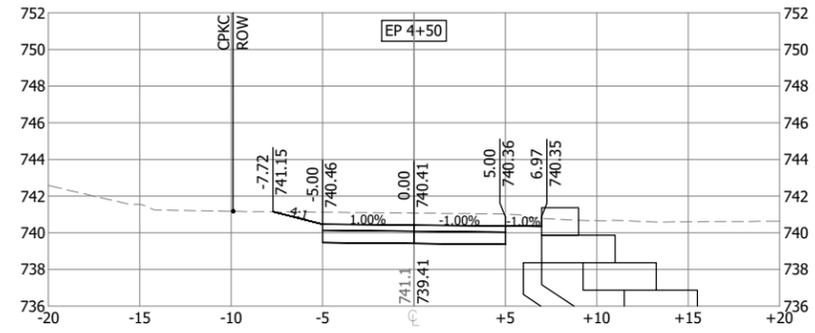
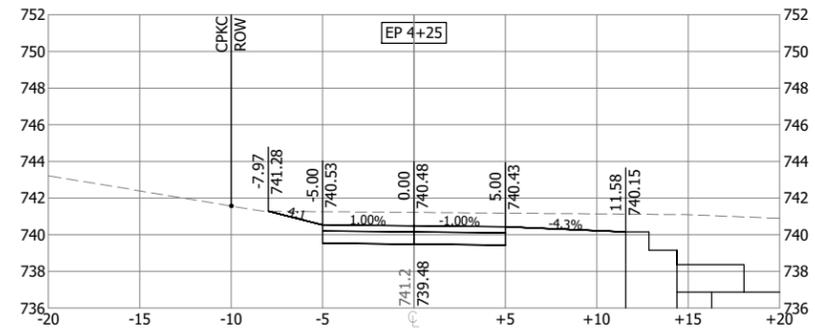
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

EAST PATH CROSS SECTIONS

DRAWING NO.	EP-CS1
SHEET NO.	82
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_EP-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 7:40am
 Drawing Name: U:\193806812\CAD\Drawg\Sheets\193806812_EP-CS.dwg
 Sheet: Border: 193806812_SHT: 193806812_SHT



PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



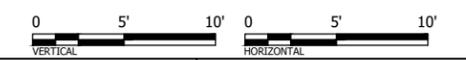
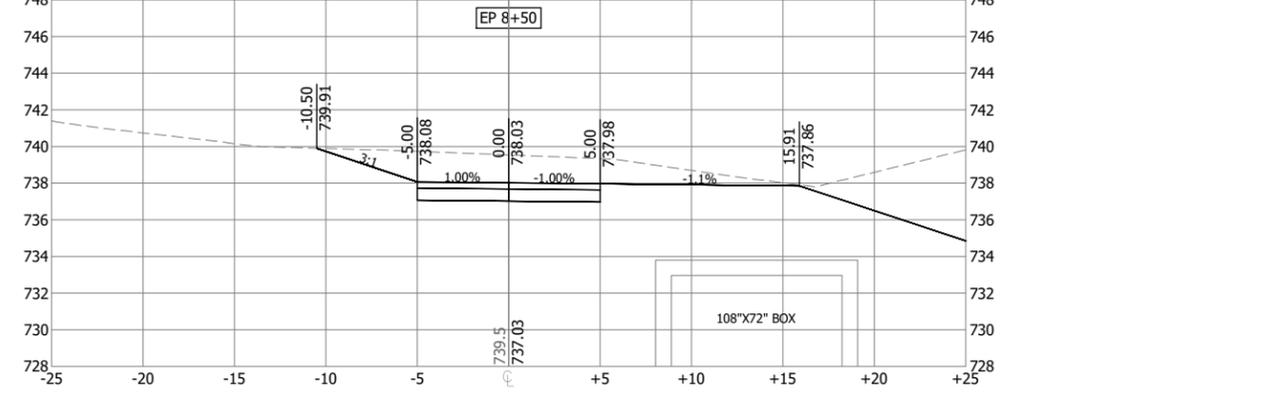
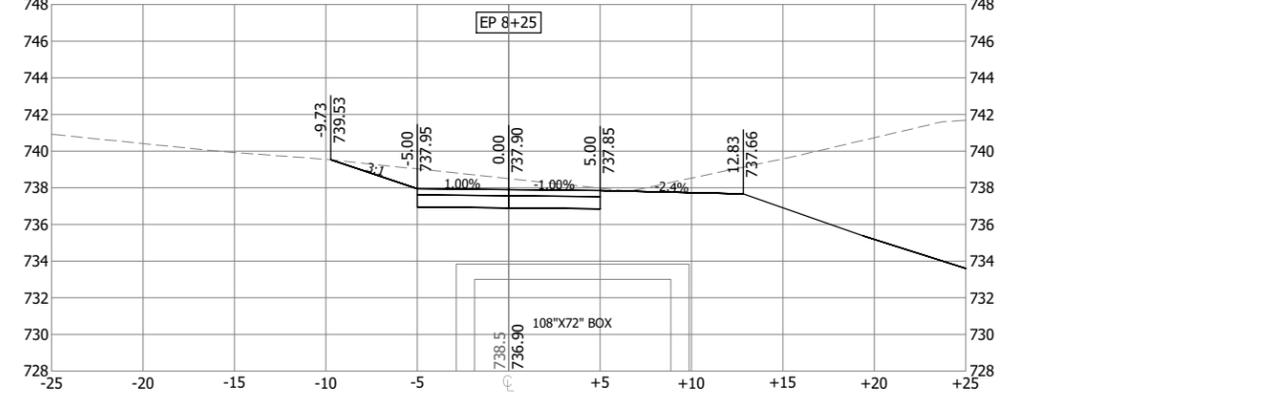
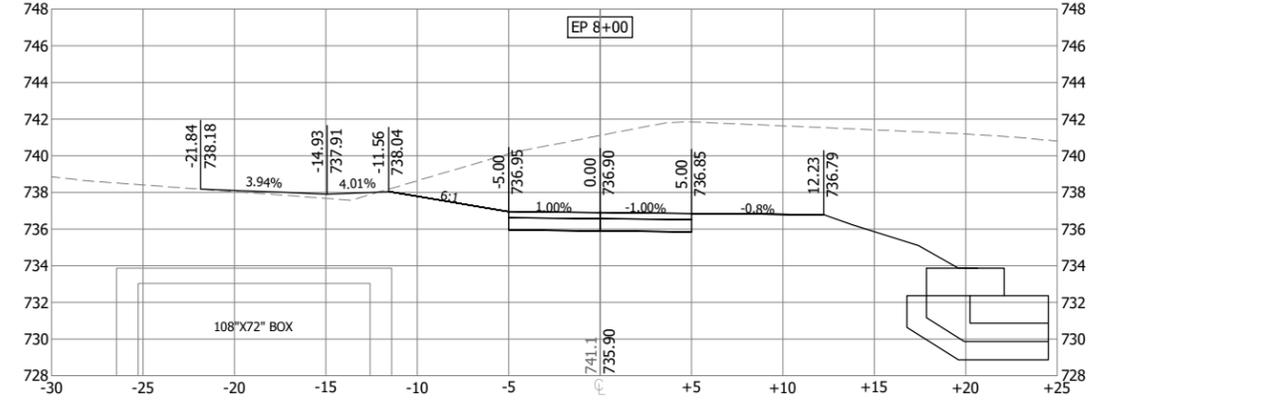
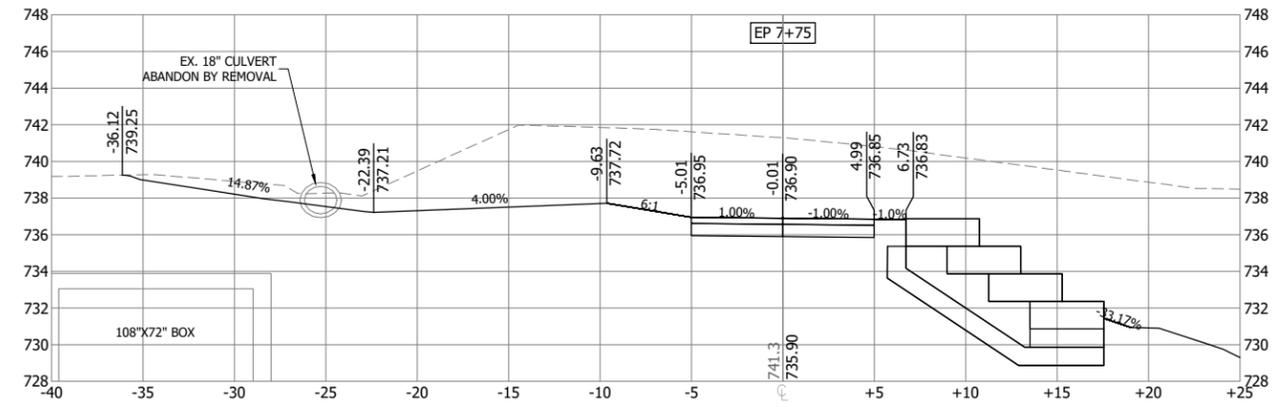
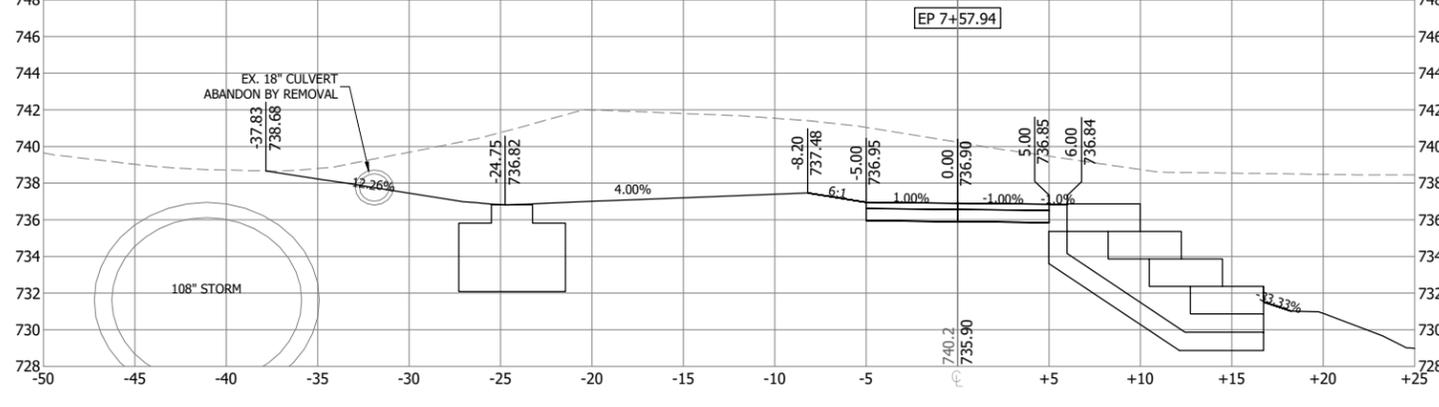
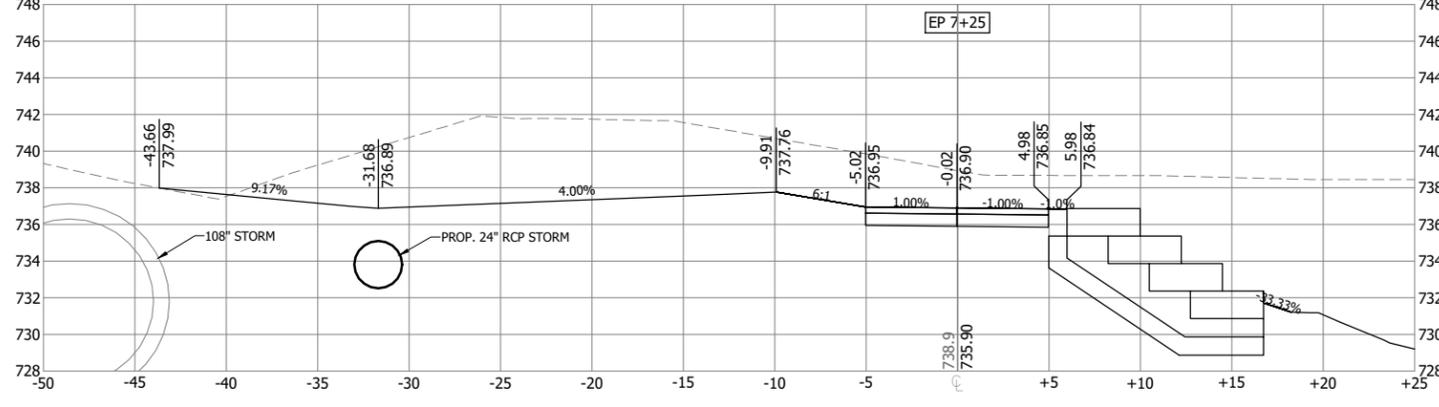
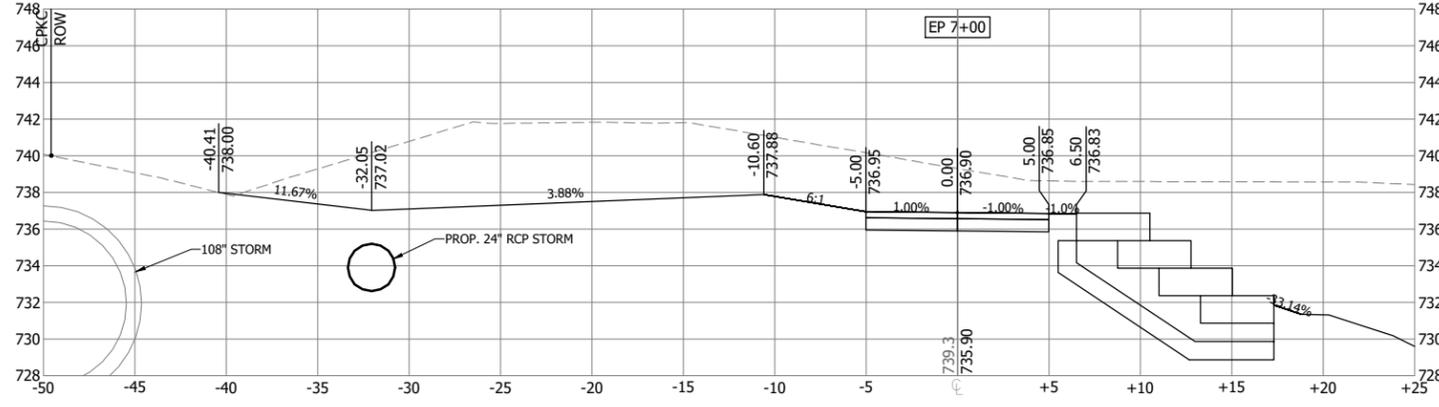
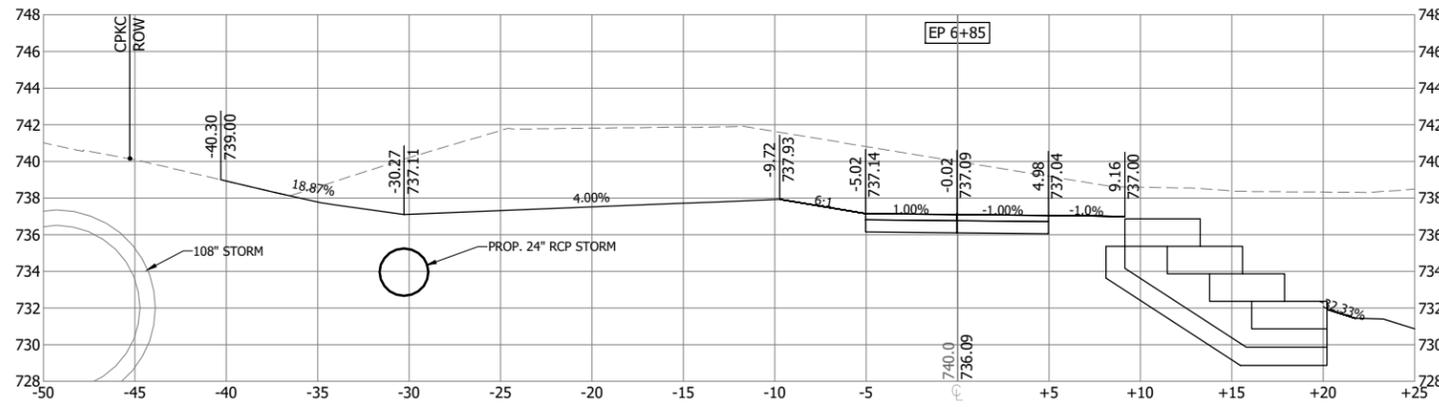
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

EAST PATH CROSS SECTIONS

DRAWING NO.	EP-CS2
SHEET NO.	83
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_EP-CS.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 7:40am
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 User: R. Klein, 193806812_SPT, 193806812_SNO, 193806812_SKT

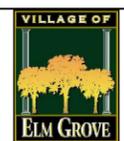


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



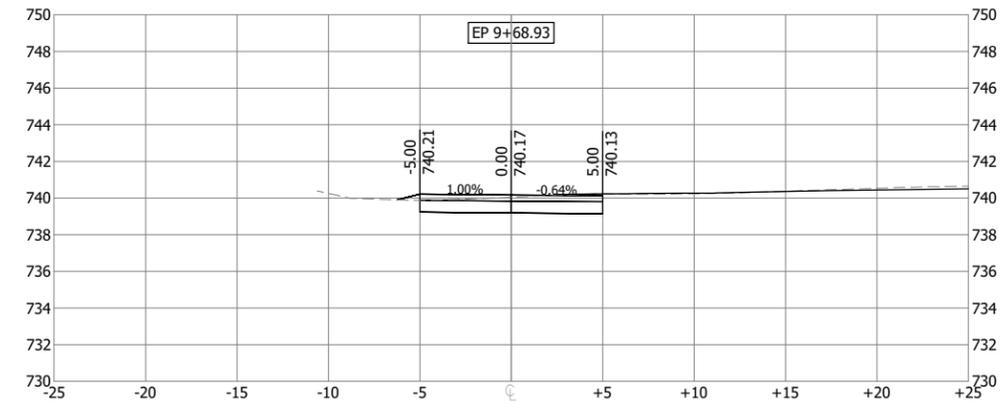
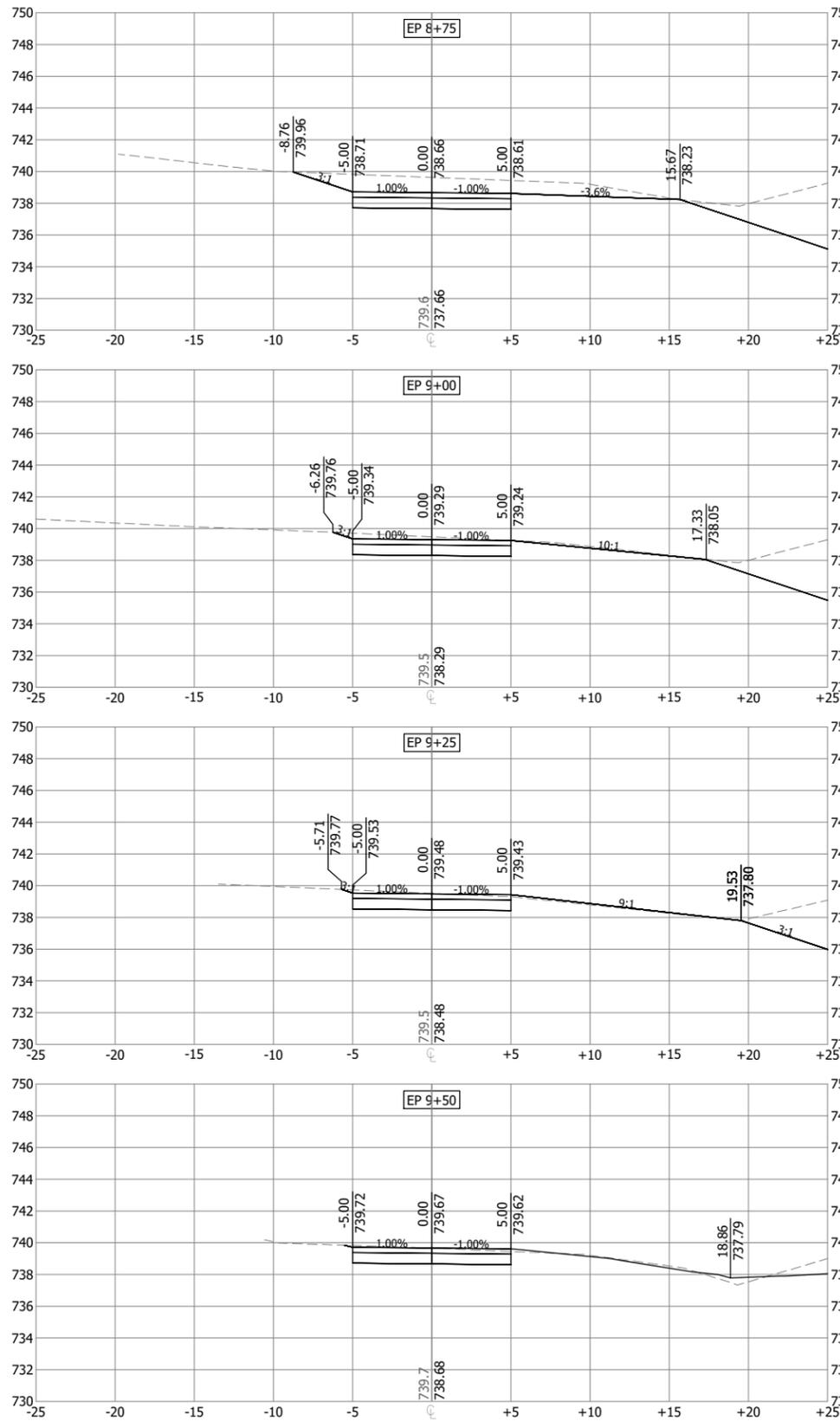
REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 EAST PATH CROSS SECTIONS

DRAWING NO.	EP-CS3
SHEET NO.	84
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_EP-CS.dwg

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Plot Date: 12/19/2024 - 7:40am
 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_EP-CS.dwg
 User: R. Klein

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN

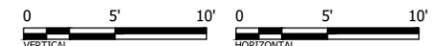


REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



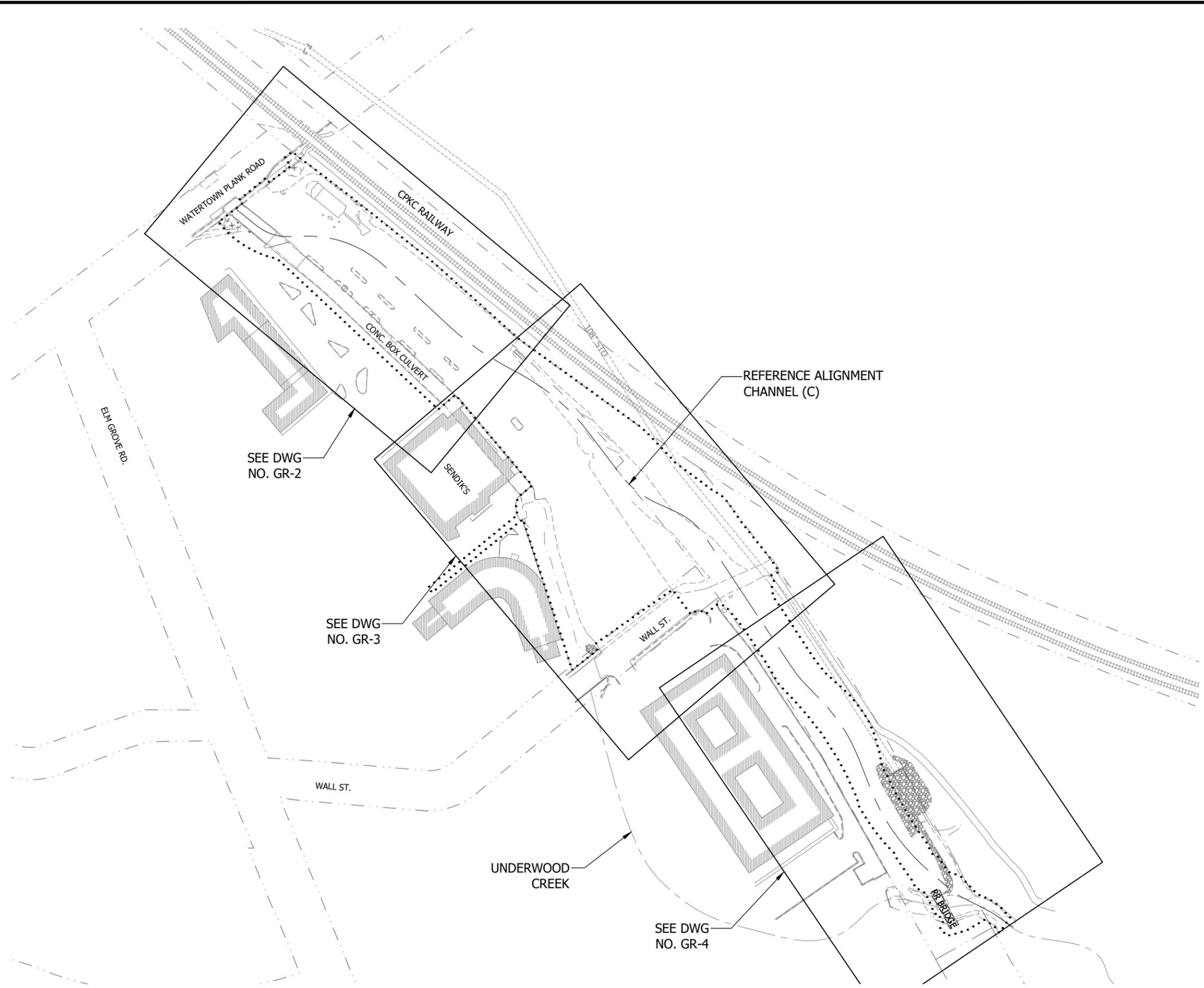
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

EAST PATH CROSS SECTIONS



DRAWING NO.	EP-CS4
SHEET NO.	85
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_EP-CS.dwg

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Plot Date: 12/19/2024 - 3:55pm
 Drawing name: U:\193806812\193806812_GR.dwg
 User: R. Klein
 Plot Date: 12/19/2024 - 3:55pm
 Drawing name: U:\193806812\193806812_GR.dwg
 User: R. Klein

PRELIMINARY
PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN

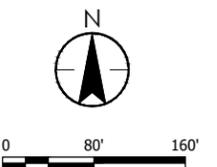


REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

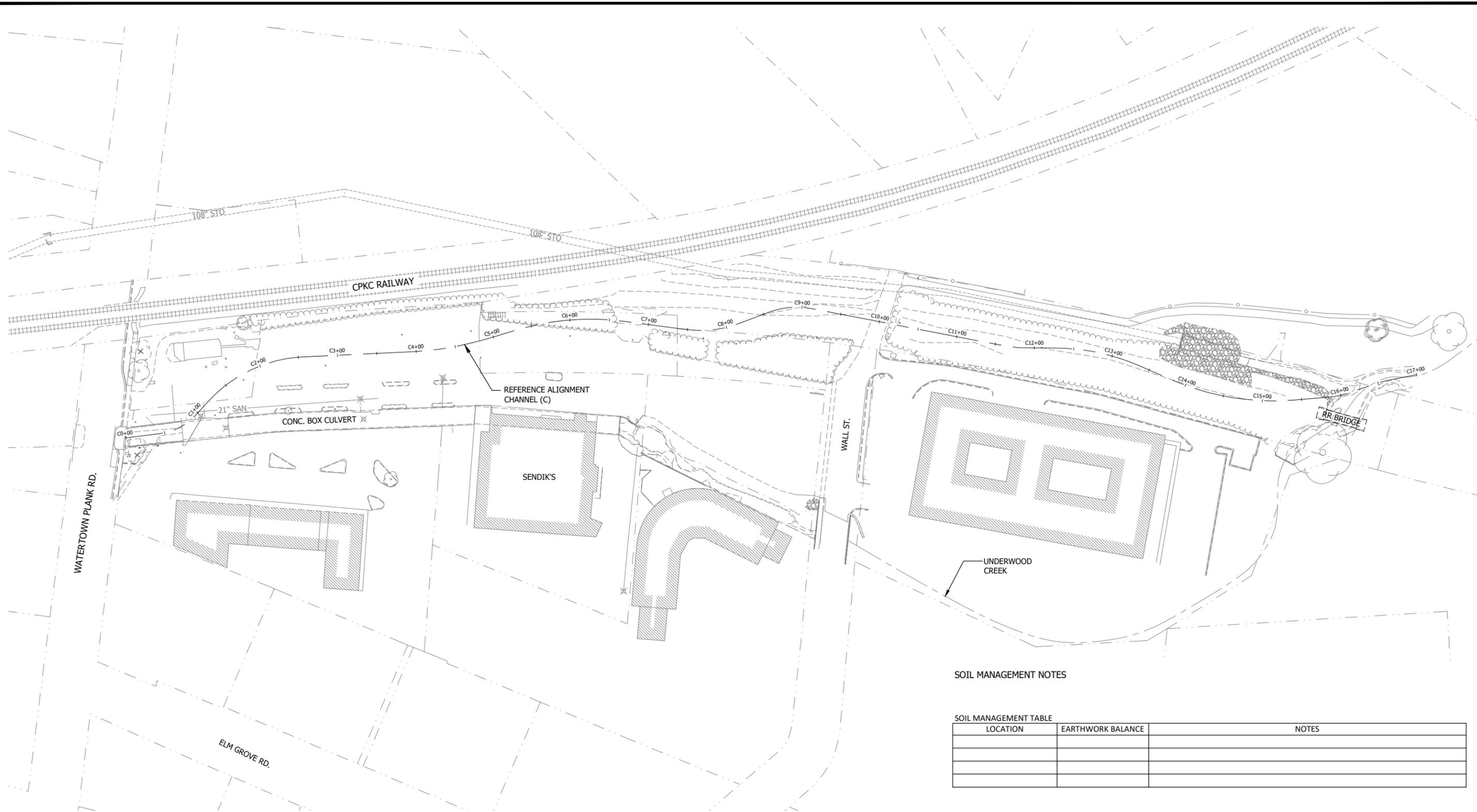
GRADING PLAN SHEET INDEX



DRAWING NO.	GR-0
SHEET NO.	86
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_GR.dwg

THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY PROBLEMS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

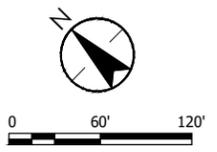
Plot Date: 12/19/2024 - 3:56pm
 Drawing name: U:\193806812\193806812_GR.dwg
 User: R. Klein
 Series: 193806812.dwg
 Project: 193806812.dwg



SOIL MANAGEMENT NOTES

SOIL MANAGEMENT TABLE

LOCATION	EARTHWORK BALANCE	NOTES

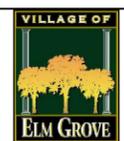


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



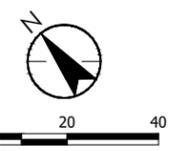
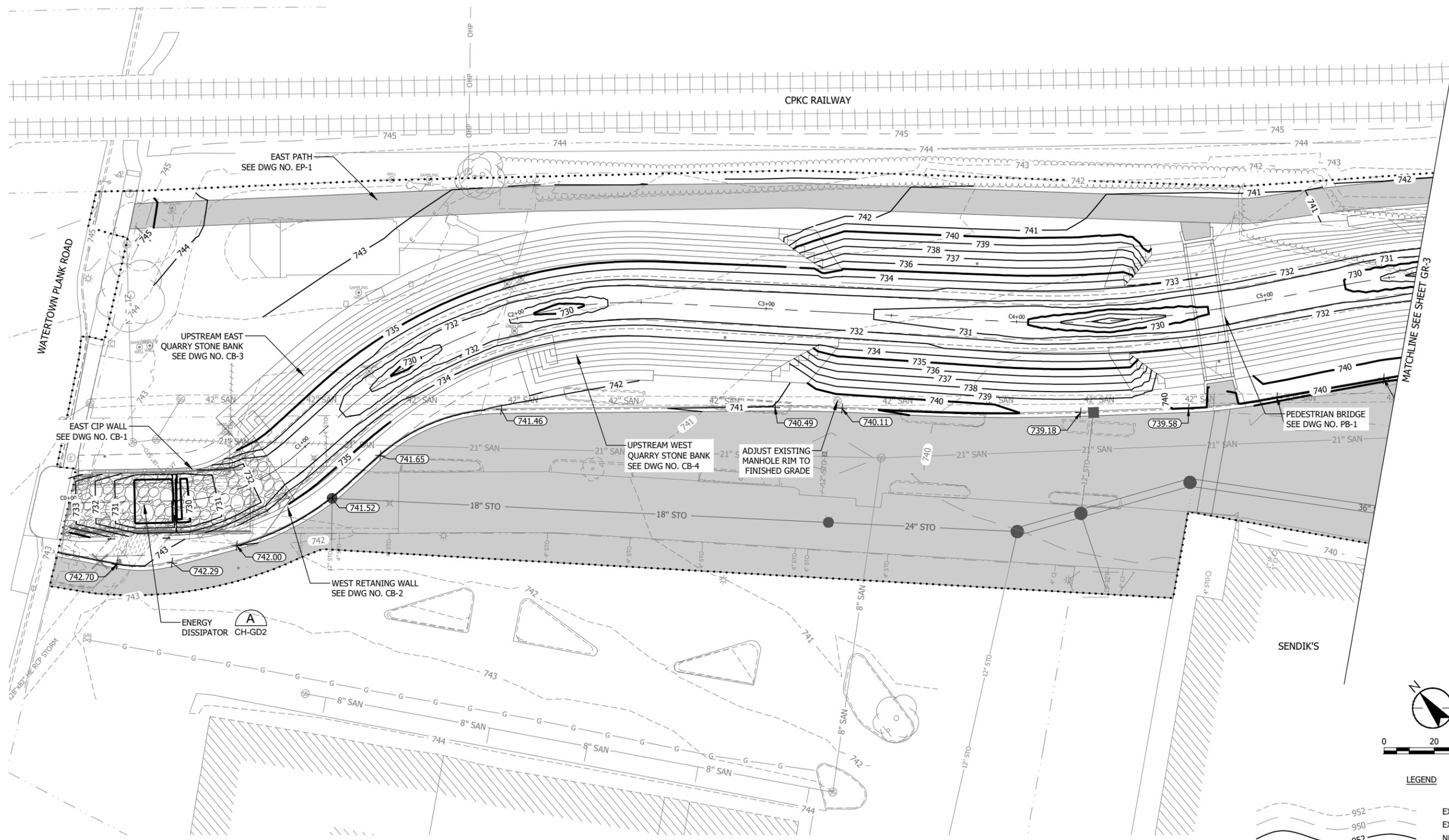
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

SOIL MANAGEMENT PLAN

DRAWING NO.	GR-1
SHEET NO.	87
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_GR.dwg

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Plot Date: 12/19/2024 - 3:56pm
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LEGEND

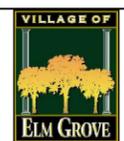
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	950	EXISTING CONTOUR MAJOR
	952	NEW CONTOUR MINOR
	950	NEW CONTOUR MAJOR
		CONSTRUCTION LIMITS
		NEW SPOT ELEVATION
	744.40	EXISTING SPOT ELEVATION
	743.21	EXISTING SPOT ELEVATION
	745.47	EXISTING SPOT ELEVATION
	743.78	EXISTING SPOT ELEVATION
	4:1	RUN:RISE (SLOPE)

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



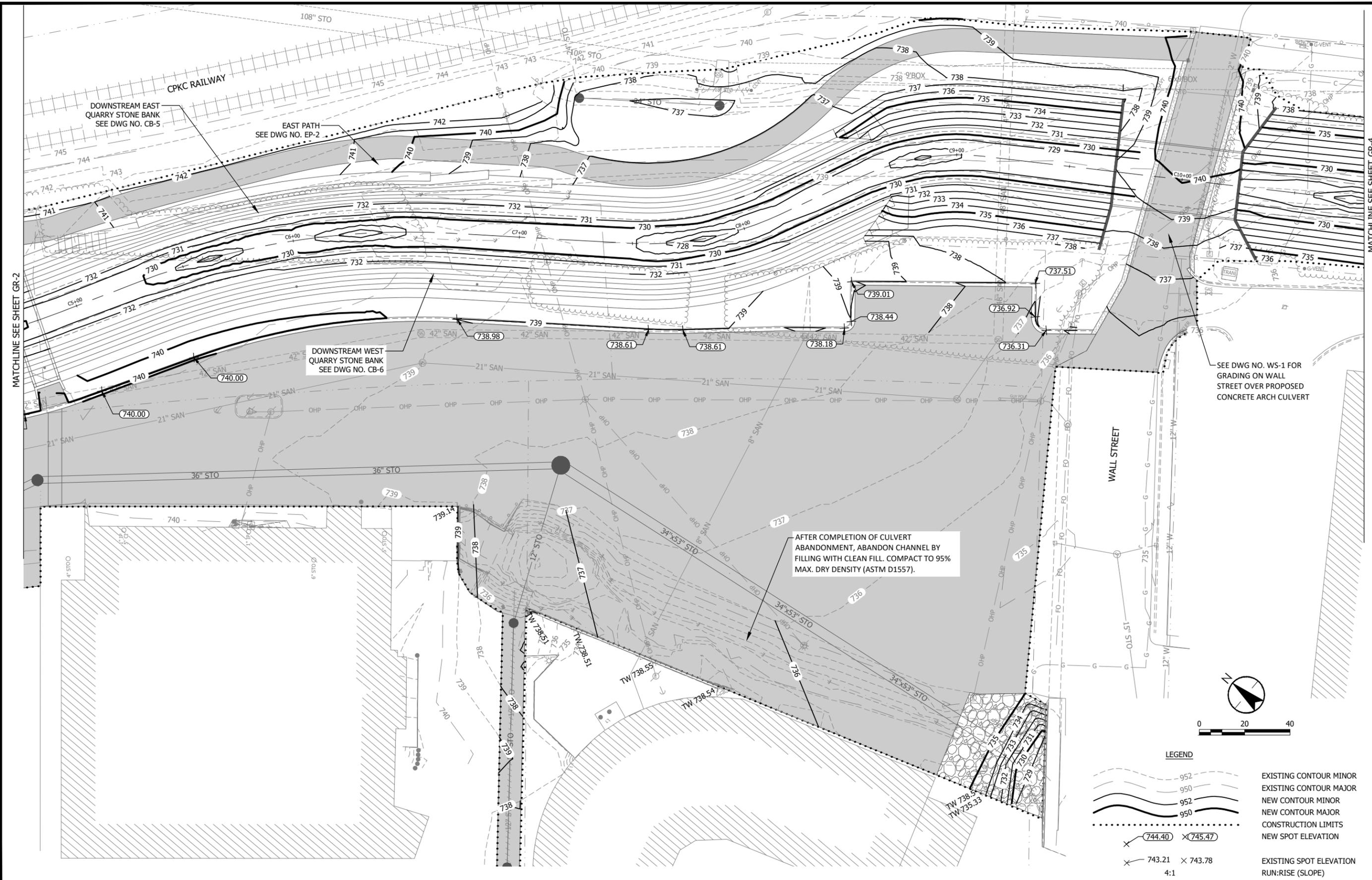
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

GRADING PLAN

DRAWING NO.	GR-2
SHEET NO.	88
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_GR.dwg

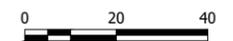
THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 3:56pm
 Drawing Name: U:\193806812\CAD\Drawg Sheets\193806812_GR.dwg
 User: R. Klein
 Scale: 1:1
 Project No: 193806812
 Job No: 193806812



MATCHLINE SEE SHEET GR-2

MATCHLINE SEE SHEET GR-4



LEGEND

	952	EXISTING CONTOUR MINOR
	950	EXISTING CONTOUR MAJOR
	952	NEW CONTOUR MINOR
	950	NEW CONTOUR MAJOR
		CONSTRUCTION LIMITS
		NEW SPOT ELEVATION
		EXISTING SPOT ELEVATION
		RUN:RISE (SLOPE)

AFTER COMPLETION OF CULVERT ABANDONMENT, ABANDON CHANNEL BY FILLING WITH CLEAN FILL. COMPACT TO 95% MAX. DRY DENSITY (ASTM D1557).

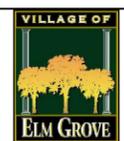
SEE DWG NO. WS-1 FOR GRADING ON WALL STREET OVER PROPOSED CONCRETE ARCH CULVERT

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



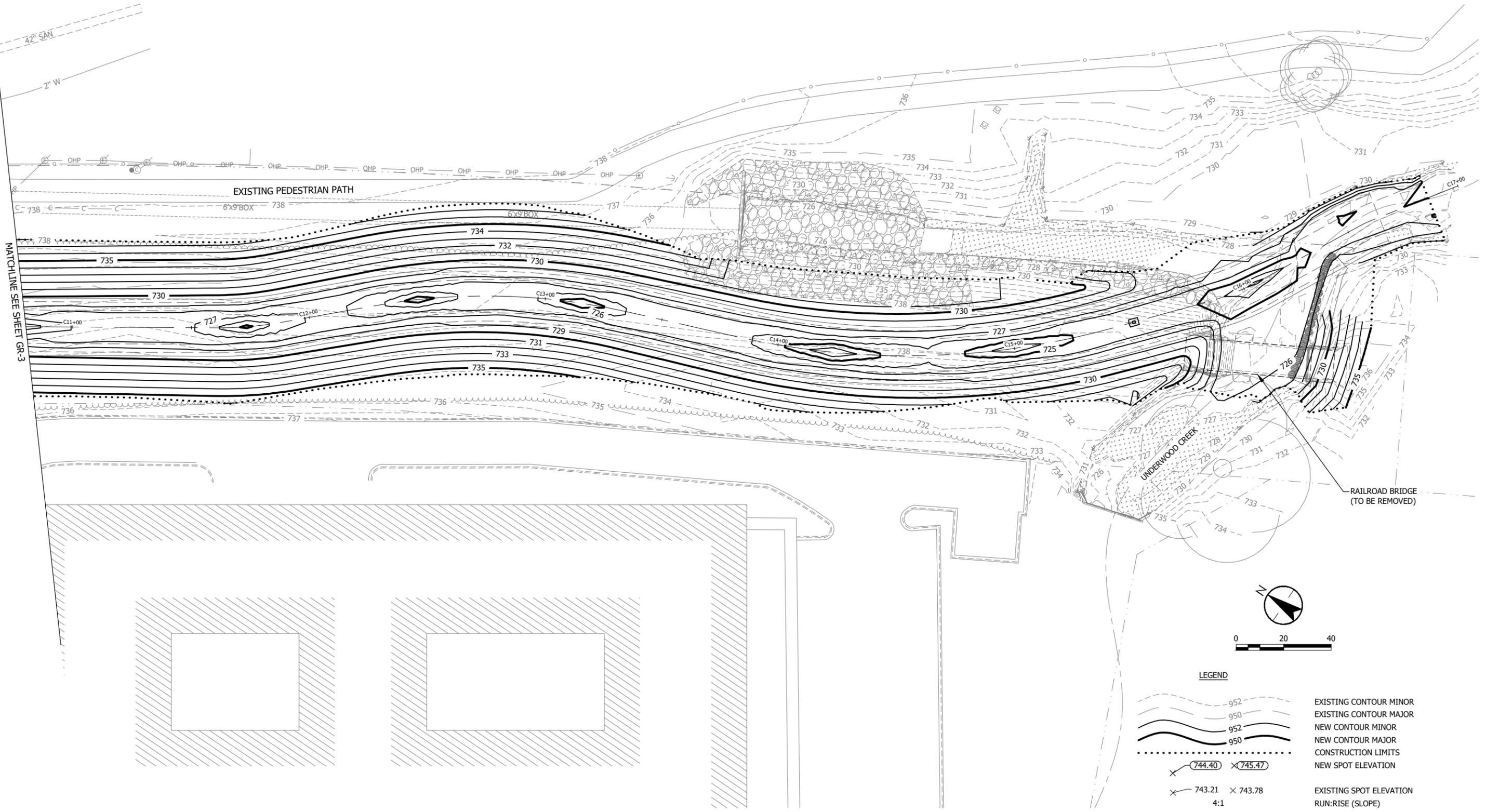
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

GRADING PLAN

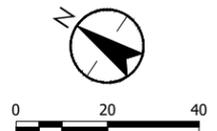
DRAWING NO.	GR-3
SHEET NO.	89
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_GR.dwg

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Plot Date: 12/19/2024 - 3:57pm
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 User: R. Klein
 Sheet: Border: 193806812.dgn
 User: R. Klein
 Sheet: 193806812.dgn



MATCHLINE SEE SHEET GR-3



LEGEND

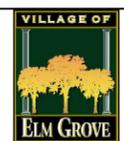
	952	EXISTING CONTOUR MINOR
	950	EXISTING CONTOUR MAJOR
	952	NEW CONTOUR MINOR
	950	NEW CONTOUR MAJOR
		CONSTRUCTION LIMITS
	744.40	NEW SPOT ELEVATION
	743.21	EXISTING SPOT ELEVATION
	4:1	RUN:RISE (SLOPE)

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

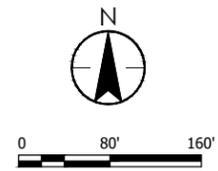
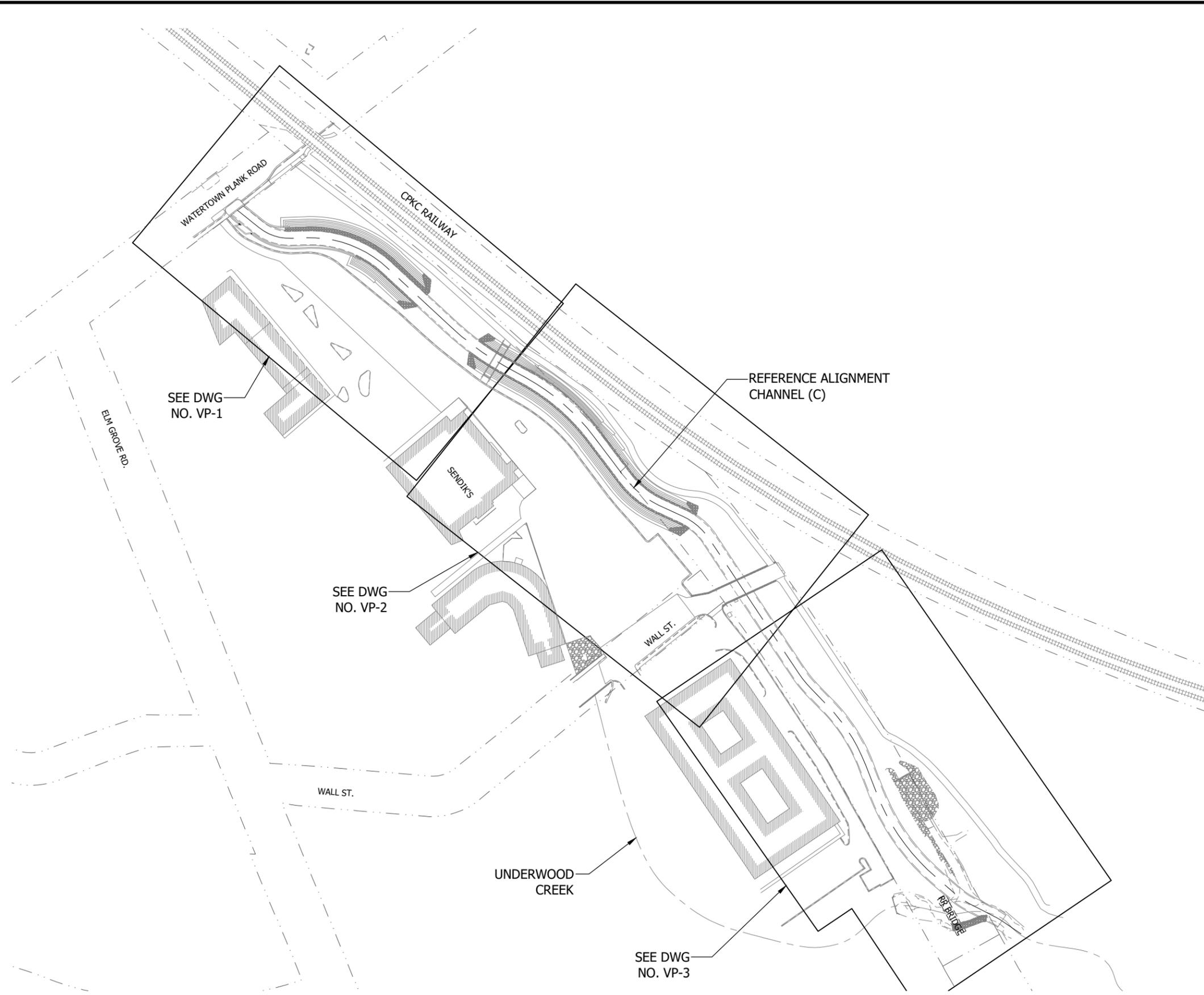


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

GRADING PLAN

DRAWING NO.	GR-4
SHEET NO.	90
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_GR.dwg

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Plot Date: 12/19/2024 - 7:35am
 Drawing name: U:\193806812\CAD\Drawg Sheets\193806812_VP.dwg
 User: R. Klein
 Plot Date: 12/19/2024 - 7:35am

**PRELIMINARY
PLAN**

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



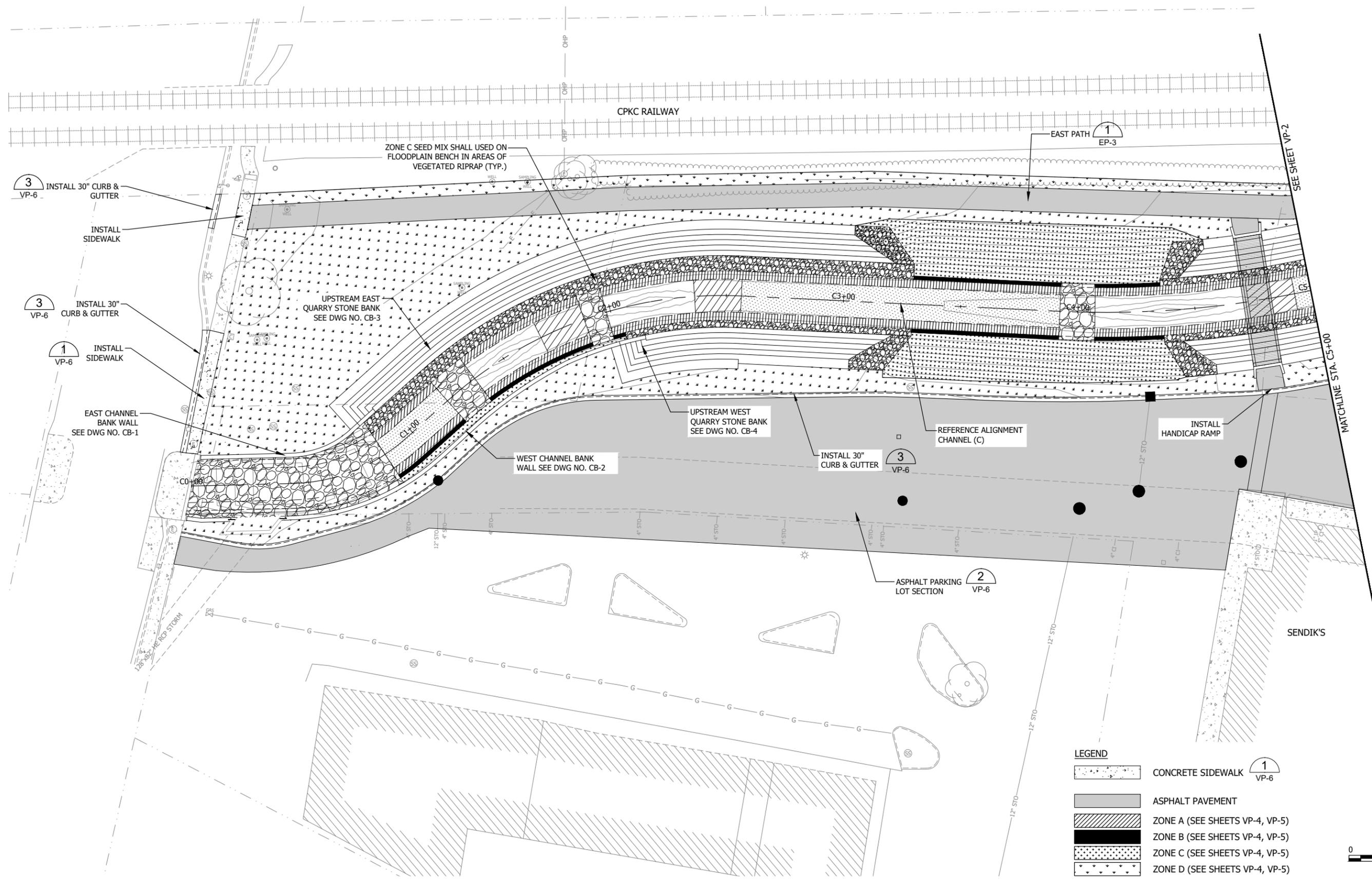
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

SURFACE RESTORATION SHEET INDEX

DRAWING NO.	VP-0
SHEET NO.	91
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_VP.dwg

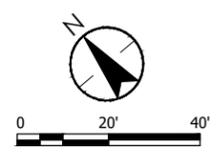
THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

Plot Date: 12/19/2024 - 10:48am
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 User: R. Klein
 Sheet: 193806812_VP-1



LEGEND

- CONCRETE SIDEWALK **1** VP-6
- ASPHALT PAVEMENT
- ZONE A (SEE SHEETS VP-4, VP-5)
- ZONE B (SEE SHEETS VP-4, VP-5)
- ZONE C (SEE SHEETS VP-4, VP-5)
- ZONE D (SEE SHEETS VP-4, VP-5)

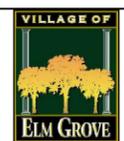


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD

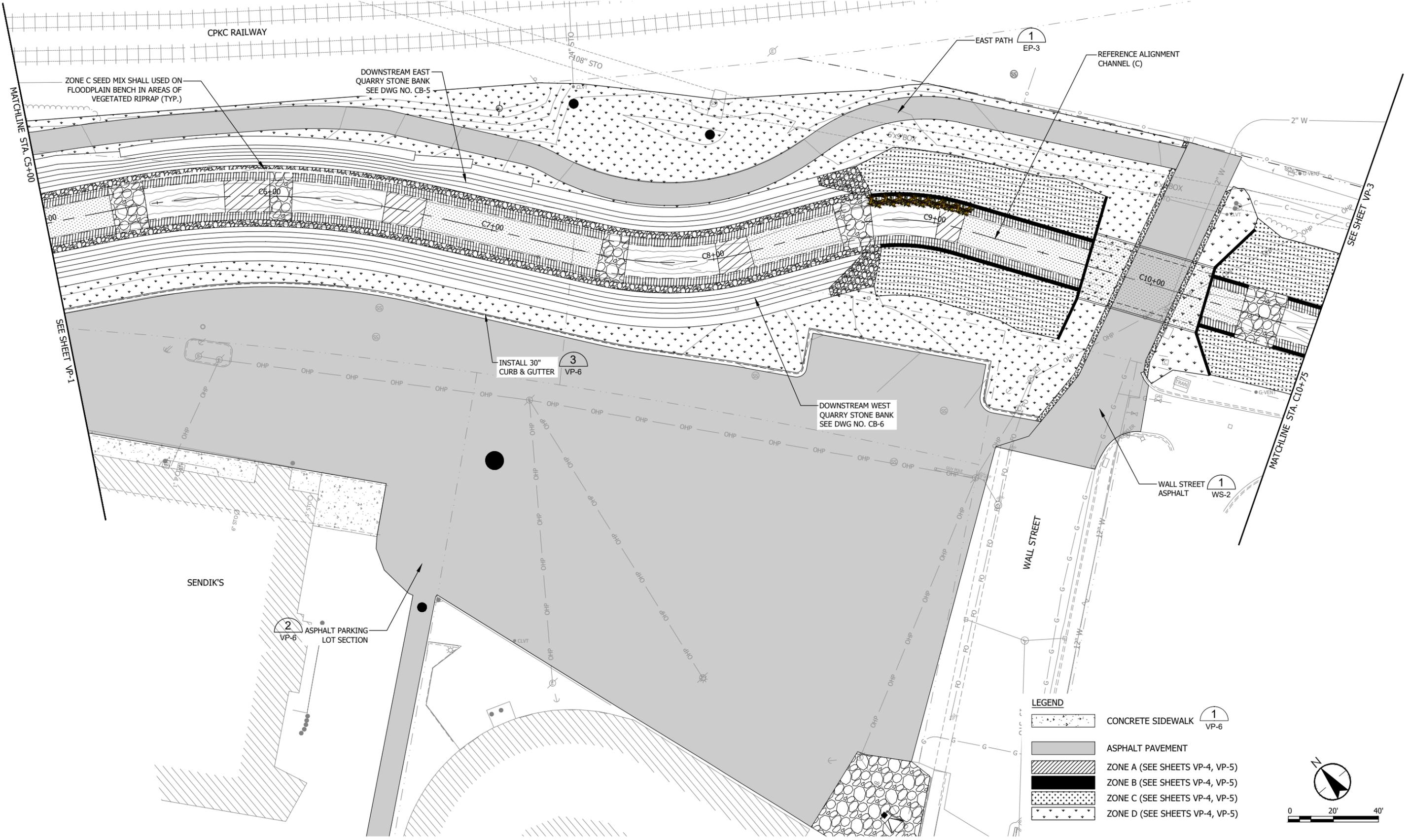


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 SURFACE RESTORATION PLAN

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SHEET NO.	92
DATE	December 19, 2024
PROJ NO.	193806812
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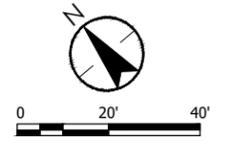
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LEGEND

- CONCRETE SIDEWALK 1
VP-6
- ASPHALT PAVEMENT
- ZONE A (SEE SHEETS VP-4, VP-5)
- ZONE B (SEE SHEETS VP-4, VP-5)
- ZONE C (SEE SHEETS VP-4, VP-5)
- ZONE D (SEE SHEETS VP-4, VP-5)

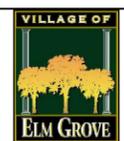


PRELIMINARY PLAN

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



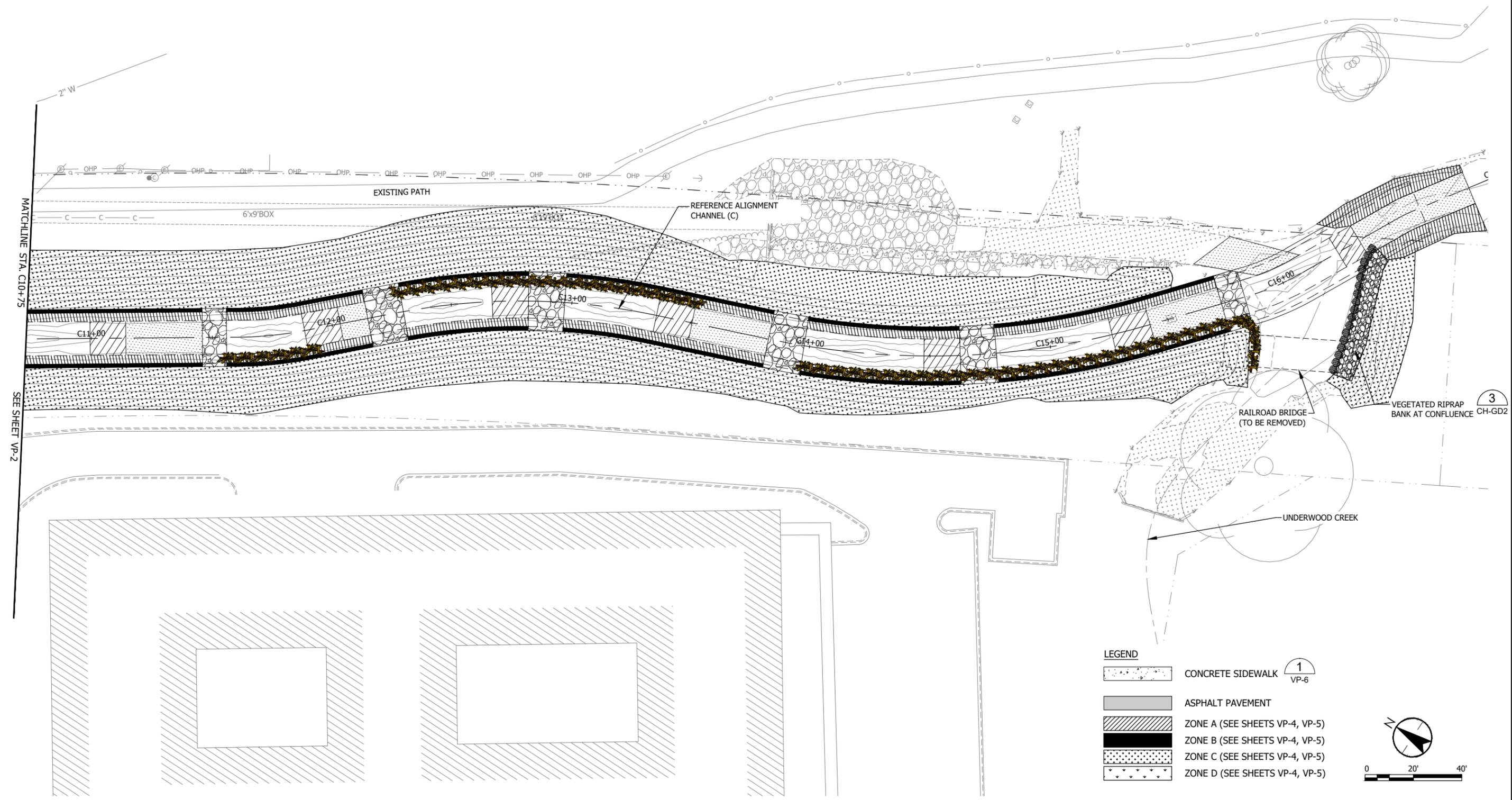
UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

SURFACE RESTORATION PLAN

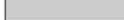
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PROJ NO.	193806812
FILE	193806812_VP.dwg

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Plot Date: 12/19/2024 - 7:36am
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 User: R. Klein
 Sheet: Border: 193806812_SBP_193806812.dwg



LEGEND

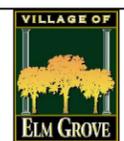
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VP-6
-  ASPHALT PAVEMENT
-  ZONE A (SEE SHEETS VP-4, VP-5)
-  ZONE B (SEE SHEETS VP-4, VP-5)
-  ZONE C (SEE SHEETS VP-4, VP-5)
-  ZONE D (SEE SHEETS VP-4, VP-5)

**PRELIMINARY
PLAN**

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN
 SURFACE RESTORATION PLAN

DRAWING NO.	VP-3
SHEET NO.	94
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_VP.dwg

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TABLE 1 – ZONE A, B, & C - TEMPORARY EROSION CONTROL AND/OR COVER CROP SEED MIXTURE ¹

SCIENTIFIC NAME	COMMON NAME	SEEDING RATE (PLS) ²	PERCENT	SEASON ³
AVENA SATIVA	COMMON OATS	38 LBS/AC	86	LATE SPRING - EARLY FALL (APRIL 15 THRU NOVEMBER 15)
		19 LBS/AC AS A COVER CROP		
LOLIUM MULTIFORUM	ANNUAL RYE	6 LBS / AC	14	
		3 LBS/AC AS A COVER CROP		

NOTES

- CONTRACTOR MAY SELECT OTHER SPECIES THAT MUST BE APPROVED BY THE OWNER: SELECT SPECIES SUITABLE FOR SOIL CONDITIONS PER TESTING AS DESCRIBED IN SEED BED/SOIL PREPARATION NOTES.
- PLS - PURE LIVE SEED.
- CONTRACTOR SHALL SUBSTITUTE WINTER WHEAT BETWEEN NOVEMBER 15 AND APRIL 15 AT A RATE OF 40 LBS/AC FOR SEEDING AND 15 LBS/AC AS A COVER CROP.
- ALL COVERED AREA SHALL BE COVERED WITH EROSION MAT.

PLANTING TABLE 1

TABLE 2 – ZONE A & B - NATIVE GRASS SEED MIXTURE ¹

SCIENTIFIC NAME	COMMON NAME	PHYSIOLOGY	SEEDING RATE (PLS) ²
ALISMA SUBCORDATUM	SOUTHERN WATER-PLANTAIN	FORB	VARIABLES ^{3,4,5}
ANGELICA ATROPURPUREA	ANGELICA	FORB	VARIABLES ^{3,4,5}
ASCLEPIAS INCARNATA	SWAMP MILKWEED	FORB	VARIABLES ^{3,4,5}
BIDENS COMOSA COMOUS	SWAMP TICKSEED	FORB	VARIABLES ^{3,4,5}
BIDENS FRONDOSA	COMMON BEGGER-TICKS	FORB	VARIABLES ^{3,4,5}
EUPATORIUM PERFOLIATUM	BONESET	FORB	VARIABLES ^{3,4,5}
EUTROCHUM MACULATUM	JOE-PYE-WEED	FORB	VARIABLES ^{3,4,5}
HELIANTHUS GIGANTEUS	TALL SUNFLOWER	FORB	VARIABLES ^{3,4,5}
IRIS VIRGINICA	BLUE FLAG	FORB	VARIABLES ^{3,4,5}
JUNCUS DUDLEYI	DUDLEY'S RUSH	FORB	VARIABLES ^{3,4,5}
JUNCUS EFFUSUS	SOFT RUSH	FORB	VARIABLES ^{3,4,5}
JUNCUS TENUIS	PATH RUSH	FORB	VARIABLES ^{3,4,5}
JUNCUS TORREYI	TORREY'S RUSH	FORB	VARIABLES ^{3,4,5}
LOBELIA SIPHILITICA	GREAT BLUE LOBELIA	FORB	VARIABLES ^{3,4,5}
MENTHA ARVENSIS	WILD MINT	FORB	VARIABLES ^{3,4,5}
MIMULUS RINGENS	MONKEY-FLOWER	FORB	VARIABLES ^{3,4,5}
MONARDA FISTULOSA	WILD-BERGAMOT	FORB	VARIABLES ^{3,4,5}
PHYSOSTEGIA VIRGINIANA	OBEDIENT PLANT	FORB	VARIABLES ^{3,4,5}
PHYCANTHEMUM VIRGINIANUM	VIRGINIA MOUNTAIN MINT	FORB	VARIABLES ^{3,4,5}
RANUNCULUS HISPIDUS	SWAMP BUTTERCLIP	FORB	VARIABLES ^{3,4,5}
RUDBECKIA HIRTA	BLACK-EYED SUSAN	FORB	VARIABLES ^{3,4,5}
SCUTELLARIA LATERIFLORA	MAD-DOG SKULLCAP	FORB	VARIABLES ^{3,4,5}
SOLIDAGO GIGANTEA	LATE GOLDENROD	FORB	VARIABLES ^{3,4,5}
SOLIDAGO RIDDELLII	RIDDELLI GOLDENROD	FORB	VARIABLES ^{3,4,5}
SPARGANIUM EURYCARPUM	COMMON BUR-REED	FORB	VARIABLES ^{3,4,5}
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	FORB	VARIABLES ^{3,4,5}
TEUCRIUM CANADENSE	WOOD-SAGE	FORB	VARIABLES ^{3,4,5}
THALICTRUM DASycARPUM	PURPLE MEADOW-RUE	FORB	VARIABLES ^{3,4,5}
VERBENA HASTATA	BLUE VERVAIN	FORB	VARIABLES ^{3,4,5}
VERBENA URTICIFOLIA	WHITE VERVAIN	FORB	VARIABLES ^{3,4,5}
BROMUS CILIATUS	FRINGED BROME	GRASS	VARIABLES ^{3,4,5}
CALAMAGROSTIS CANADENSIS	BLUE-JOINT GRASS	GRASS	VARIABLES ^{3,4,5}
CAREX BLANDA	COMMON WOOD SEDGE	SEDGE	VARIABLES ^{3,4,5}
CAREX CRISTATELLA	CRESTED OVAL SEDGE	SEDGE	VARIABLES ^{3,4,5}
CAREX GRANULARIS	PALE SEDGE	SEDGE	VARIABLES ^{3,4,5}
CAREX LACUSTRIS	COMMON LAKE SEDGE	SEDGE	VARIABLES ^{3,4,5}
CAREX LUPULINA	COMMON HOP SEDGE	SEDGE	VARIABLES ^{3,4,5}
CAREX STICTA	COMMON TUSSOCK SEDGE	SEDGE	VARIABLES ^{3,4,5}
CAREX VULPINOIDEA	BROWN FOX SEDGE	SEDGE	VARIABLES ^{3,4,5}
ELYMUS CANADENSIS	CANADA WILD RYE	GRASS	VARIABLES ^{3,4,5}
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	GRASS	VARIABLES ^{3,4,5}
GLYCERIA STRIATA	FOWL MANNA GRASS	GRASS	VARIABLES ^{3,4,5}
PANICUM VIRGATUM	SWITCH GRASS	GRASS	VARIABLES ^{3,4,5}
SCHOENOPECTUS ACUTUS	HARDSTEM BULRUSH	SEDGE	VARIABLES ^{3,4,5}
SCIRPUS ATROVIRENS	DARK GREEN RUSH	SEDGE	VARIABLES ^{3,4,5}
SCIRPUS CYPERINUS	WOOL-GRASS	SEDGE	VARIABLES ^{3,4,5}
SORGHASTRUM NUTANS	INDIAN GRASS	GRASS	VARIABLES ^{3,4,5}
SPARTINA PECTINATA	CORDGRASS	GRASS	VARIABLES ^{3,4,5}

NOTES

- CONTRACTOR MAY SELECT OTHER SPECIES THAT MUST BE APPROVED BY THE OWNER: SELECT SPECIES SUITABLE FOR SOIL CONDITIONS PER TESTING AS DESCRIBED IN SEED BED/SOIL PREPARATION NOTES.
- PLS - PURE LIVE SEED.
- SEED MIXES SHALL INCLUDE 35% WILD RYE SPECIES. MAINTAIN SPECIES DIVERSITY BY USING NO MORE THAN 20% OF ANY SINGLE WILD RYE SPECIES.
- SEED MIX SHALL INCLUDE 65% OF AT LEAST 9 "OTHER" SPECIES (3 FORBS, 3 GRASSES, AND 3 SEDGE SPECIES). MAINTAIN SPECIES DIVERSITY BY USING NO MORE THAN 10% OF ANY SINGLE SPECIES IN THE 65% "OTHER" COMPONENT OF THE SEED MIX.
- APPLY SEED MIX AT A RATE OF 10 LB/AC.

PLANTING TABLE 2

TABLE 3 – ZONE C - NATIVE GRASS SEED MIXTURE ¹

SCIENTIFIC NAME	COMMON NAME	PHYSIOLOGY	SEEDING RATE (PLS) ²
ASCLEPIAS INCARNATA	SWAMP MILKWEED	FORB	VARIABLES ^{3,4,5}
EUPATORIUM PERFOLIATUM	BONESET	FORB	VARIABLES ^{3,4,5}
EUTROCHUM MACULATUM	JOE-PYE-WEED	FORB	VARIABLES ^{3,4,5}
IRIS VIRGINICA	BLUE FLAG	FORB	VARIABLES ^{3,4,5}
MONARDA FISTULOSA	WILD-BERGAMOT	FORB	VARIABLES ^{3,4,5}
RUDBECKIA HIRTA	BLACK-EYED SUSAN	FORB	VARIABLES ^{3,4,5}
SOLIDAGO GIGANTEA	LATE GOLDENROD	FORB	VARIABLES ^{3,4,5}
SOLIDAGO RIDDELLII	RIDDELLI GOLDENROD	FORB	VARIABLES ^{3,4,5}
THALICTRUM DASycARPUM	PURPLE MEADOW-RUE	FORB	VARIABLES ^{3,4,5}
CALAMAGROSTIS CANADENSIS	BLUE-JOINT GRASS	GRASS	VARIABLES ^{3,4,5}
ELYMUS CANADENSIS	CANADA WILD RYE	GRASS	VARIABLES ^{3,4,5}
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	GRASS	VARIABLES ^{3,4,5}
PANICUM VIRGATUM	SWITCH GRASS	GRASS	VARIABLES ^{3,4,5}

NOTES

- CONTRACTOR MAY SELECT OTHER SPECIES THAT MUST BE APPROVED BY THE OWNER: SELECT SPECIES SUITABLE FOR SOIL CONDITIONS PER TESTING AS DESCRIBED IN SEED BED/SOIL PREPARATION NOTES.
- PLS - PURE LIVE SEED.
- SEED MIXES SHALL INCLUDE 35% WILD RYE SPECIES. MAINTAIN SPECIES DIVERSITY BY USING NO MORE THAN 20% OF ANY SINGLE WILD RYE SPECIES.
- SEED MIX SHALL INCLUDE 65% OF AT LEAST 6 "OTHER" SPECIES (BLACK-EYED SUSAN, 2 ADDITIONAL FORBS, AND 3 GRASSES). MAINTAIN SPECIES DIVERSITY BY USING NO MORE THAN 15% OF ANY SINGLE SPECIES IN THE 65% "OTHER" COMPONENT OF THE SEED MIX.
- APPLY SEED MIX AT A RATE OF 10 LB/AC.

PLANTING TABLE 3

TABLE 4. ZONE D – TURF GRASS ¹

SCIENTIFIC NAME	COMMON NAME	SEEDING RATE (PLS) ²	PERCENT
POA PRATENSIS L.	KENTUCKY BLUEGRASS	4 LBS/1,000 SQ. FT	80
LOLIUM PERENNE L.	ELITE PERENNIAL RYE	1 LBS/1,000 SQ. FT	20

NOTES

- CONTRACTOR MAY SELECT OTHER SPECIES THAT MUST BE APPROVED BY THE OWNER: SELECT SPECIES SUITABLE FOR SOIL CONDITIONS PER TESTING AS DESCRIBED IN SEED BED/SOIL PREPARATION NOTES.
- PLS - PURE LIVE SEED.

PLANTING TABLE 4

TABLE 5 – ZONE A - SPECIES FOR DORMANT WOODY CUTTINGS ^{1,2}

SCIENTIFIC NAME	COMMON NAME	SIZE (INCHES)	SPACING ³
SALIX COTTETII	BANKERS WILLOW	LENGTH 24-36, DIA. 3/4" – 1 1/2"	STAGGERED WITH 1 STAKE PER 3 LINEAR FEET OF STREAM BANK IN 3 ROWS SPACED 1 FOOT APART. THE FIRST ROW IS ALONG THE TOP OF BANK (BANKFULL) AND THE NEXT 2 ARE BELOW BANKFULL BETWEEN THE TOP OF BANK AND THE INNER BERM INCLUDING WITHIN THE TOE WOOD.
SALIX EXIGUA	SANDBAR WILLOW	LENGTH 24-36, DIA. 3/4" – 1 1/2"	
SAMBUCUS CANADENSIS	ELDERBERRY	LENGTH 24-36, DIA. 3/4" – 1 1/2"	STAGGERED WITH 1 STAKE PER 3 LINEAR FEET OF STREAM BANK IN 3 ROWS SPACED 1 FOOT APART. THE FIRST ROW IS ALONG THE TOP OF BANK (BANKFULL) AND THE NEXT 2 ARE BELOW BANKFULL BETWEEN THE TOP OF BANK AND THE INNER BERM INCLUDING WITHIN THE TOE WOOD.
VIBURNUM OPULUS (TRILOBUM)	HIGH BUSH CRANBERRY	LENGTH 24-36, DIA. 3/4" – 1 1/2"	
CORNUS STOLONIFERA	RED-OSIER DOGWOOD	LENGTH 24-36, DIA. 3/4" – 1 1/2"	STAGGERED WITH 1 STAKE PER 3 LINEAR FEET OF STREAM BANK IN 3 ROWS SPACED 1 FOOT APART. THE FIRST ROW IS ALONG THE TOP OF BANK (BANKFULL) AND THE NEXT 2 ARE BELOW BANKFULL BETWEEN THE TOP OF BANK AND THE INNER BERM INCLUDING WITHIN THE TOE WOOD.
CORNUS AMOMUM	SILKY DOGWOOD	LENGTH 24-36, DIA. 3/4" – 1 1/2"	

NOTES

- CONTRACTOR MAY SELECT OTHER SPECIES THAT MUST BE APPROVED BY THE OWNER: SELECT SPECIES SUITABLE FOR SOIL CONDITIONS PER TESTING AS DESCRIBED IN SEED BED/SOIL PREPARATION NOTES.
- MAINTAIN SPECIES DIVERSITY BY USING AT LEAST FOUR (4) SPECIES WITH NO MORE THAN 25% OF ANY ONE (1) SPECIES.
- THE QUANTITY OF LIVE STAKES BELOW THE TOP OF BANK (BANKFULL) MAY BE REDUCED WITHIN THE TOE WOOD APPLICATION BASED ON THE DENSITY OF CONTAINERIZED PLANTINGS.

PLANTING TABLE 5

TABLE 6 – ZONE B & C - SHRUB ^{1,2}

SCIENTIFIC NAME	COMMON NAME	SIZE ³	SPACING ^{4,5}
CEPHALANTHUS OCCIDENTALIS	COMMON BUTTONBUSH	1 gal, 8" – 24" tall	SPACED 3 FEET APART AND STAGGERED IF INSTALLED IN ROWS. THE FIRST ROW IS ALONG THE TOP OF BANK (BANKFULL) AND THE SECOND ROW IS BACK ON THE FLOODPLAIN. CLUSTERS SHALL BE INSTALLED RANDOMLY AT VARYING FLOODPLAIN AND SLOPE ELEVATIONS 50 FEET APART.
CORNUS AMOMUM	SILKY DOGWOOD	1 gal, 8" – 24" tall	
CORNUS FOEMINA	GRAY DOGWOOD	1 gal, 8" – 24" tall	
CORNUS SERICEA	RED-OSIER DOGWOOD	1 gal, 8" – 24" tall	
SAMBUCUS CANADENSIS	ELDERBERRY	1 gal, 8" – 24" tall	
VIBURNUM LENTAGO	NANNYBERRY	1 gal, 8" – 24" tall	
PHYSOCARPUS OPULIFOLIUS	COMMON NINEBARK	1 gal, 8" – 24" tall	
VIBURNUM OPULUS VAR. AMERICANUM	AMERICAN CRANBERRY	1 gal, 8" – 24" tall	
VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	1 gal, 8" – 24" tall	

NOTES

- CONTRACTOR MAY SELECT OTHER SPECIES THAT MUST BE APPROVED BY THE OWNER: SELECT SPECIES SUITABLE FOR SOIL CONDITIONS PER TESTING AS DESCRIBED IN SEED BED/SOIL PREPARATION NOTES.
- MAINTAIN SPECIES DIVERSITY BY USING AT LEAST 6 SPECIES WITH NO MORE THAN 20% OF ANY ONE SPECIES.
- SHRUBS MAY BE CONTAINERIZED OR B&B.
- CLUSTERS WILL CONSIST OF 5 TO 7 INDIVIDUAL SHRUBS.
- PLANT SPECIES WILL BE LIMITED TO NO MORE THAN THREE SPECIES PER TOE WOOD APPLICATION (RANDOMLY APPLIED) AND NO MORE THAN 2 SPECIES PER CLUSTER.

PLANTING TABLE 6

TABLE 7 – ZONE B & C – B&B TREE PLANTING SCHEDULE ^{1,2}

SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING ³
ABIES BALSAMEA	BALSAM FIR	5' – 8' HEIGHT	TREES ARE SPACED EVERY 75'-100' AT LOCATIONS STAKED IN THE FIELD. VARYING FLOODPLAIN AND SLOPE ELEVATIONS
ACER SACCHARINUM	SILVER MAPLE	5' – 8' HEIGHT	
CARYA OVALIS SARG.	RED HICKORY	5' – 8' HEIGHT	
JUGLANS NIGRA	BLACK WALNUT	5' – 8' HEIGHT	
PINUS STROBUS L.	EASTERN WHITE PINE	5' – 8' HEIGHT	
PICEA GLAUCA (MOENCH) VOSS	WHITE SPRUCE	5' – 8' HEIGHT	
PLANTUS OCCIDENTALIS L.	AMERICAN SYCAMORE	5' – 8' HEIGHT	
POPULUS BALSAMIFERA L.	BALSAM POPLAR	5' – 8' HEIGHT	
QUERCUS ALBA	WHITE OAK	5' – 8' HEIGHT	
QUERCUS RUBRA	NORTHERN RED OAK	5' – 8' HEIGHT	
TILIA AMERICANA	AMERICAN BASSWOOD	5' – 8' HEIGHT	
ULMUS AMERICANA	AMERICAN ELM	5' – 8' HEIGHT	

NOTES

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- MAINTAIN SPECIES DIVERSITY BY USING AT LEAST 8 SPECIES (MINIMUM 2 CONIFER) WITH NO MORE THAN 15% OF ANY ONE SPECIES.
- TREES OF THE SAME SPECIES TO BE PLANTED IN GROUPS OF 3 TO 4.

PLANTING TABLE 7

PRELIMINARY PLAN

DESIGNER
M. SIERACKI
DRAWN BY
A. ROCK
CHECKER
D. AMUNDSEN
APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



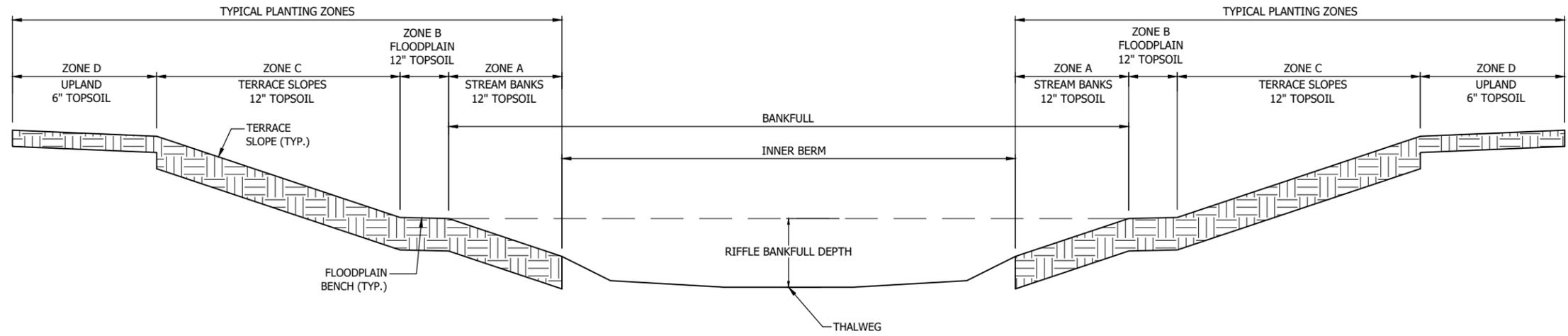
UNDERWOOD CREEK DAYLIGHTING
VILLAGE OF ELM GROVE
WAUKESHA COUNTY, WISCONSIN

SURFACE RESTORATION PLANTING TABLES

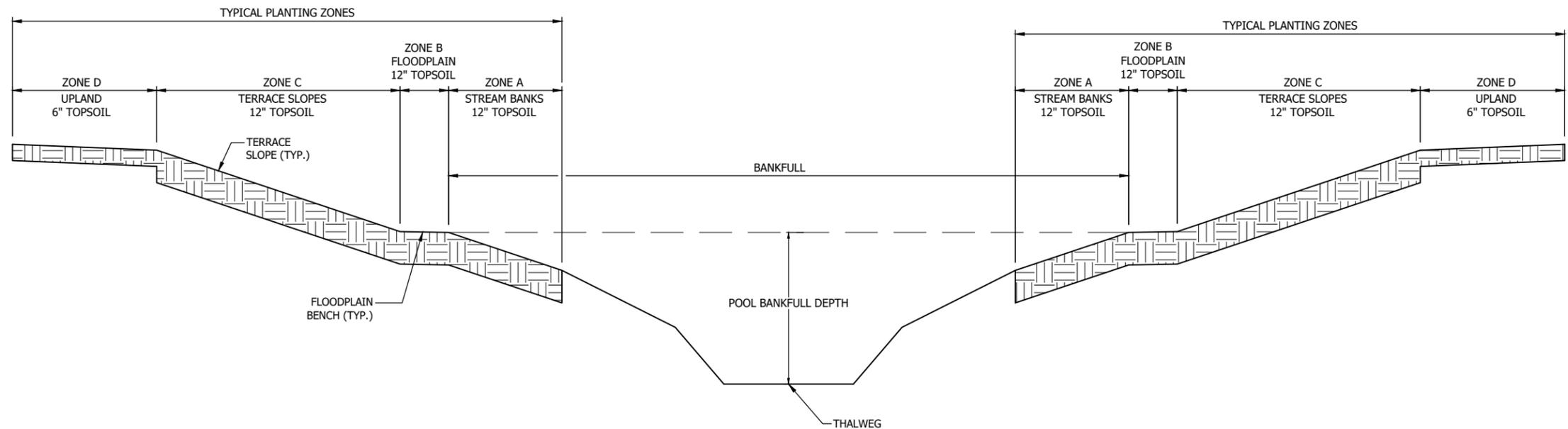
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SHEET NO.	95
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Plot Date: 12/19/2024 - 7:30am
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User: R. Klein
Sheet: 95 of 125

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TYPICAL RIFFLE PLANTING SECTION 1
 1" = 4' VP-1 - VP-3



TYPICAL POOL PLANTING SECTION 2
 1" = 4' VP-1 - VP-3

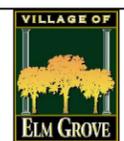
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 User: R. Klein

PRELIMINARY PLAN

DESIGNER
 M. SIERACKI
 DRAWN BY
 A. ROCK
 CHECKER
 D. AMUNDSEN
 APPROVED
 R. KLEIN



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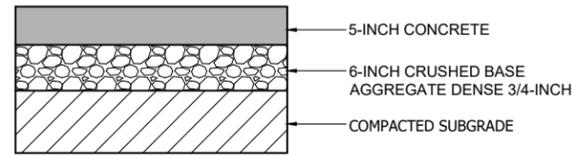


UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

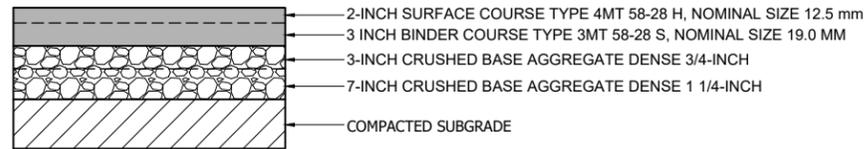
 CHANNEL PLANTING ZONES

DRAWING NO.	VP-5
SHEET NO.	96
DATE	December 19, 2024
PROJ. NO.	193806812
FILE	193806812_VP.dwg

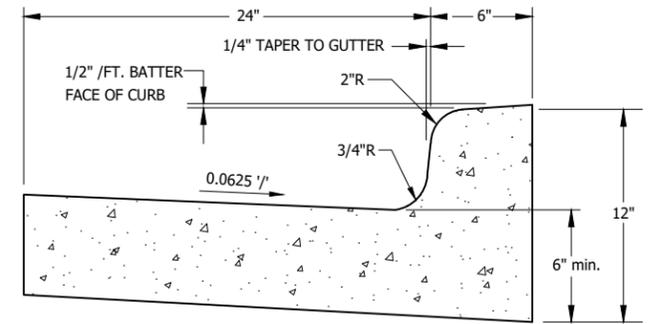
THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO STANTEC WITHOUT DELAY. STANTEC SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.



DETAIL - CONCRETE SIDEWALK SECTION 1
NOT TO SCALE VP-1-VP-2



DETAIL - ASPHALT PARKING LOT SECTION 2
NOT TO SCALE VP-1-VP-2



DETAIL - CURB & GUTTER 3
NOT TO SCALE VP-1-VP-2

Plot Date: 12/19/2024 - 2:33pm
 Drawing name: U:\193806812\CAD\Drawg\Sheets\193806812_VP.dwg
 User: R. Klein
 File: 193806812.dwg

**PRELIMINARY
PLAN**

DESIGNER
M. SIERACKI
 DRAWN BY
A. ROCK
 CHECKER
D. AMUNDSEN
 APPROVED
R. KLEIN



REV. NO.	DATE	REVISION DESCRIPTION	BY	APVD



UNDERWOOD CREEK DAYLIGHTING
 VILLAGE OF ELM GROVE
 WAUKESHA COUNTY, WISCONSIN

CONSTRUCTION DETAILS

DRAWING NO.	VP-6
SHEET NO.	97
DATE	December 19, 2024
PROJ NO.	193806812
FILE	193806812_VP.dwg