



January 14, 2026

Ronald J. Wiedeman, P.E.
City Engineer
City of Crest Hill, Illinois

RE: Seasons at Crest Hill
Stormwater Memo
Atwell Project Number: MHFRD.CRIL01

This memo presents documentation for the design of the proposed Seasons of Crest Hill in Crest Hill, Illinois. The purpose of this stormwater memo is to provide appropriate information showing that the stormwater design meets or exceeds the requirements of the City of Crest Hill, the Will County Stormwater Technical Guidance Manual and generally accepted engineering practices. The project site is located at the southeast corner of Renwick Road and Weber Road, Crest Hill, Will County, Illinois, and is located within Section 20, Township 36 North, and Range 10 East of the Third Principal Meridian. The objective of this memo is to prove that the proposed development provides less impervious area than the original design which would produce less runoff and thus no detention basin improvements would be required. Also, that the existing storm sewer that the proposed development is connecting to is adequately sized to convey the runoff from the proposed development to the existing basins.

The project will consist of the construction of 14 2-story apartment buildings, a clubhouse with a pool, and associated parking. The project site is not located within a Regulated Floodplain, a Special Flood Hazard Area, or a flood prone area. The project site does not contain any wetlands within or adjacent to the site boundary. Modifications to flood prone channels are not proposed as a part of the project.

The total ownership parcel consists of 15.81 acres (688,840 square feet) of previously developed land as a part of the Remington Lakes Subdivision. There are currently five existing detention basins that were developed per the design presented in the Remington Lakes Final Stormwater Management Plan dated January 16, 2002. The proposed Seasons of Crest Hill development is proposed to be tributary to existing Basin 2A and Basin 4 that drains to them via storm sewer. Part of the proposed development is located in the original design drainage area of SA 4A (Tributary to Basin 4), and another part of the proposed development is located in the original design drainage area of SA 2A (Tributary to Basin 2A). The original drainage area SA 4A has an area of 17.6 acres with a curve number of 93.3. The original drainage area SA 2A has an area of 10.1 acres with a curve number of 93.0. The curve number of the proposed development will be compared to the original design curve number to ensure that the new runoff produced is less than what was originally designed for. Refer to attached original design drainage area exhibits and curve number calculations for reference.

The Seasons at Crest Hill development will be disturbing the entirety of the 15.81 acres apart from small existing roadway sections that are remaining. The development will convey stormwater runoff via storm sewer and connect to the existing storm sewer along the southern and western sides of the property. The western half of the site will drain toward Basin 4 and the eastern half will drain toward Basin 2A. The ultimate outfall, however, is at the south end of Basin 4 so the entire drainage area is still tributary to a single outfall point.



The original design area within the property limits is 9.73 acres for drainage area SA 4A and 6.08 acres for drainage area SA 2A. The drainage areas to each basin have been slightly modified as a part of the proposed development which is revised to 10.50 acres for drainage area SA 4A and 5.31 acres for drainage area SA 2A. Utilizing the SCS runoff curve number method to calculate runoff volume, the runoff volume from the proposed development will be reduced for the area within the property boundary from the original design runoff volume for both of the onsite tributary areas. Refer to the attached drainage area exhibits and drainage area summary tables for reference.

Following the Will County Stormwater Technical Guidance Manual, proposed storm sewers and grate capacities are designed to attain 10-year storm events utilizing Bulletin 70 rainfall data. The existing downstream storm sewer that the proposed development connects to is also analyzed to confirm the existing sewer provides enough capacity to convey the 10-year storm event. The 100-year storm event will also be conveyed through storm sewer within the proposed development, however emergency overland flow routes are still designed with appropriate freeboard to the adjacent buildings. 100-year storm event overflow design for the existing downstream storm sewer will be maintained from the original design. Refer to attached tributary area exhibits and storm sewer tables and profiles for reference.

In summary, we believe the stormwater management design for the proposed development complies with the appropriate provisions of the Will County Stormwater Technical Guidance Manual. If you have any questions, comments or concerns regarding the content of this report, please do not hesitate to email me at jeverard@atwell.com or call at (847) 634-5550.

Respectfully,

ATWELL, LLC

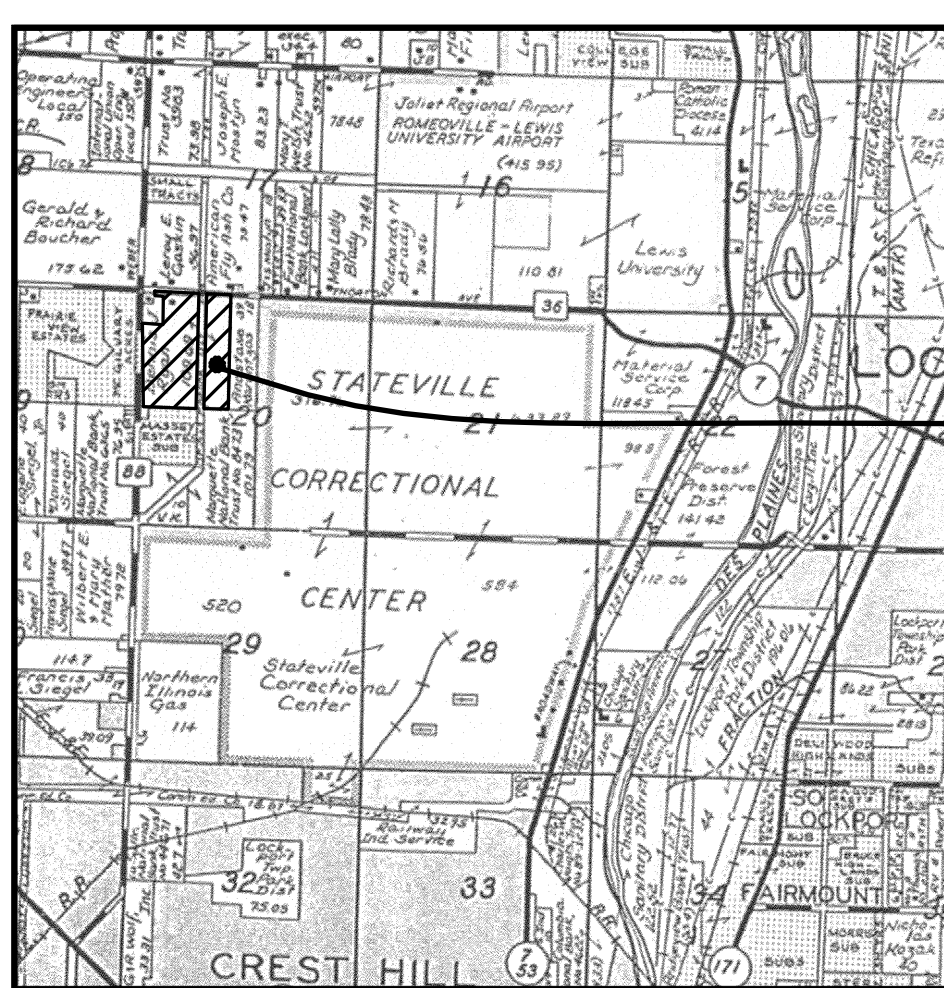
Lincolnshire, Illinois

John S. Everard, P.E.
Project Manager

PROPOSED DRAINAGE EXHIBIT
FOR
REMINGTON LAKES
WILL COUNTY, ILLINOIS

LEGAL DESCRIPTION

BEING A PART OF THE NORTHWEST QUARTER OF SECTION 20,
TOWNSHIP 36 NORTH, RANGE 10 EAST OF THE THIRD
PRINCIPAL MERIDIAN, IN WILL COUNTY, ILLINOIS.

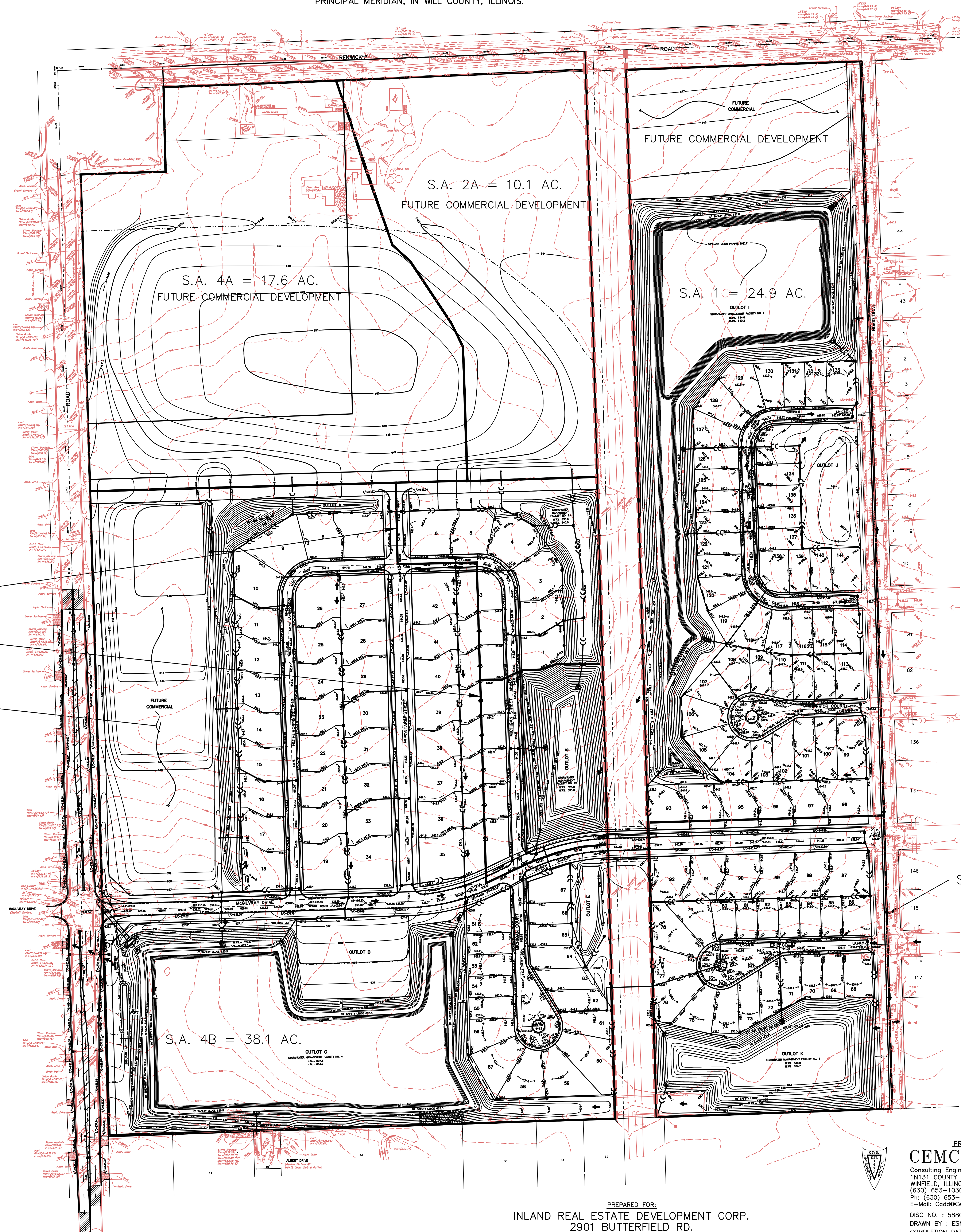


PROJECT LOCATION

LOCATION MAP



100 50 0 100
SCALE: 1" = 100'



LEGEND		
EXISTING	PROPOSED	DESCRIPTION
		MANHOLE
		CATCH BASIN
		INLET
		CLEANOUT
		HEADWALL
		END SECTION
		STORM SEWER
		SANITARY SEWER
		WATERMAIN
		VALVE & BOX
		WATER VALVE (UNLESS OTHERWISE NOTED)
		WATER VALVE IN VAULT
		FIRE HYDRANT
		CONTOURS
		ELEVATIONS
		STREET LIGHTS
		WATERMAIN PROTECTION
		STRAW BALE SEDIMENT TRAP
		TEMPORARY STRAW BALE DITCH CHECK
		OVERFLOW ROUTE

PREPARED FOR:
INLAND REAL ESTATE DEVELOPMENT CORP.
2901 BUTTERFIELD RD.
OAK BROOK, ILLINOIS 60521
PH: (630) 218-8000, FAX: (630) 954-5673

PREPARED BY:
CEMCON, Ltd.
Consulting Engineers, Land Surveyors & Planners
1N131 COUNTY FARM ROAD
WINFIELD, ILLINOIS 60190
(630) 653-1030
Ph: (630) 653-1030 Fax: (630) 653-0652
E-Mail: Cadd@Cemcon.Com
DISC NO.: 588007 FILE NAME: DRAINAGE_EXH
DRAWN BY: ESM FLD. BK. / PG. NO.: N/A
COMPLETION DATE: DEC. 2001 JOB NO.: 588.007
PROJECT MANAGER: TDW XREF: OVERALL

Worksheet 2: Runoff Curve Number and Runoff

Project Location Remington Lakes--S.A. 2A By ESM Date 10/1/01
Will County, Illinois Checked _____ Date _____

Circle one: Present Developed

1. Runoff curve number (CN)

Soil Name and Hydrologic Group	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ^{1/}			Area X acres mi ² %	Product of CN x Area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Commercial Development	92			4.70	432.4
B	Paved Parking Lot	98			4.80	470.4
B	Open Space, good condition	61			0.60	36.6
Totals =					10.10	939.400

1/ Use only one CN source per line.

$$\text{CN (weighted)} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{939.400}{10.100} = 93.010$$

Use CN = 93.0

2. Runoff

Frequency yr
 Rainfall in
 Runoff, Q in
 (Use P and CN with table 2-1, fig. 2-1, or eqs. 2-3 and 2-4.)

Storm #1	Storm #2	Storm #3

Worksheet 2: Runoff Curve Number and Runoff

Project Remington Lakes—S.A. 4A By ESM Date 9/13/01
 Location Will County, Illinois Checked _____ Date _____

Circle one: Present Developed

1. Runoff curve number (CN)

Soil Name and Hydrologic Group	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ^{1/}			Area	Product of CN x Area
		Table 2-2	Fig. 2-3	Fig. 2-4	X acres mi ² %	
B	Commercial Development	92			2.60	239.2
B	Paved Parking Lot	98			13.20	1293.6
B	Open Space, good condition	61			1.80	109.8
Totals =					17.60	1642.600

1/ Use only one CN source per line.

$$\text{CN (weighted)} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{1642.600}{17.600} = 93.330$$

Use CN = 93.3

2. Runoff

Frequency yr
 Rainfall in
 Runoff, Q in
 (Use P and CN with table 2-1, fig. 2-1, or eqs. 2-3 and 2-4.)

Storm #1	Storm #2	Storm #3



COMPOSITE RUNOFF CURVE NUMBER (CN)

PROJECT: Seasons at Crest Hill CALCULATED BY: MSL

SUBBASIN: Drainage Area SA 4A DATE: 1/14/2026

CONDITION (SELECT WITH DROP-DOWN)

____ PROPOSED CONDITION

____ EXISTING CONDITION

RUNOFF CURVE NUMBER

Surface Description	Hydrologic Soil Group (HSG)	CN	Area (acres)	Product (CN)(Area)
Impervious		98	7.32	717.36
Pervious	B	61	3.18	193.98
TOTALS:			10.50	911.34

COMPOSITE RUNOFF CURVE NUMBER

$$\text{Composite CN} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{911.34}{10.50} \rightarrow \text{Composite CN} = 86.8$$



COMPOSITE RUNOFF CURVE NUMBER (CN)

PROJECT: Seasons at Crest Hill CALCULATED BY: MSL

SUBBASIN: Drainage Area SA 2A DATE: 1/14/2026

CONDITION (SELECT WITH DROP-DOWN)

____ PROPOSED CONDITION

____ EXISTING CONDITION

RUNOFF CURVE NUMBER

Surface Description	Hydrologic Soil Group (HSG)	CN	Area (acres)	Product (CN)(Area)
Impervious		98	3.68	360.64
Pervious	B	61	1.63	99.43
TOTALS:			5.31	460.07

COMPOSITE RUNOFF CURVE NUMBER

$$\text{Composite CN} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{460.07}{5.31} \rightarrow \text{Composite CN} = 86.6$$

Total Runoff Change Summary

Seasons at Crest Hill

1/12/2026

Drainage Area SA 4A

EXISTING					2-YEAR		100-YEAR	
	Impervious Area	Pervious Area	Composite CN	Total Area	Pe	Runoff Volume	Pe	Runoff Volume
	8.49	1.24	93.3	9.73	2.09	1.69	5.71	4.63

PROPOSED					2-YEAR		100-YEAR	
	Impervious Area	Pervious Area	Composite CN	Total Area	Pe	Runoff Volume	Pe	Runoff Volume
	7.32	3.18	86.8	10.50	1.55	1.36	4.97	4.35

NET INCREASE					2-YEAR		100-YEAR	
					Pe	Runoff Volume	Pe	Runoff Volume
						-0.34		-0.28

CN_{impervious} = 98
CN_{pervious} = 61

$$P_e = \frac{(P-0.2(1000/CN-10))^2}{P+0.8(1000/CN-10)}$$

P = Peak Rainfall Depth (2-year/24hour) = 2.80 inches
P = Peak Rainfall Depth (100-year/24hour) = 6.50 inches
P = Peak Rainfall Depth (2-year/24hour) = 3.34 inches
P = Peak Rainfall Depth (100-year/24hour) = 8.57 inches

Bulletin 70

Bulletin 75

Total Runoff Change Summary

Seasons at Crest Hill

1/12/2026

Drainage Area SA 2A

EXISTING					2-YEAR		100-YEAR	
	Impervious Area	Pervious Area	Composite CN	Total Area	Pe	Runoff Volume	Pe	Runoff Volume
	5.26	0.82	93.0	6.08	2.06	1.05	5.68	2.88

PROPOSED					2-YEAR		100-YEAR	
	Impervious Area	Pervious Area	Composite CN	Total Area	Pe	Runoff Volume	Pe	Runoff Volume
	3.68	1.63	86.6	5.31	1.54	0.68	4.96	2.19

NET INCREASE					2-YEAR		100-YEAR	
					Pe	Runoff Volume	Pe	Runoff Volume
						-0.36		-0.68

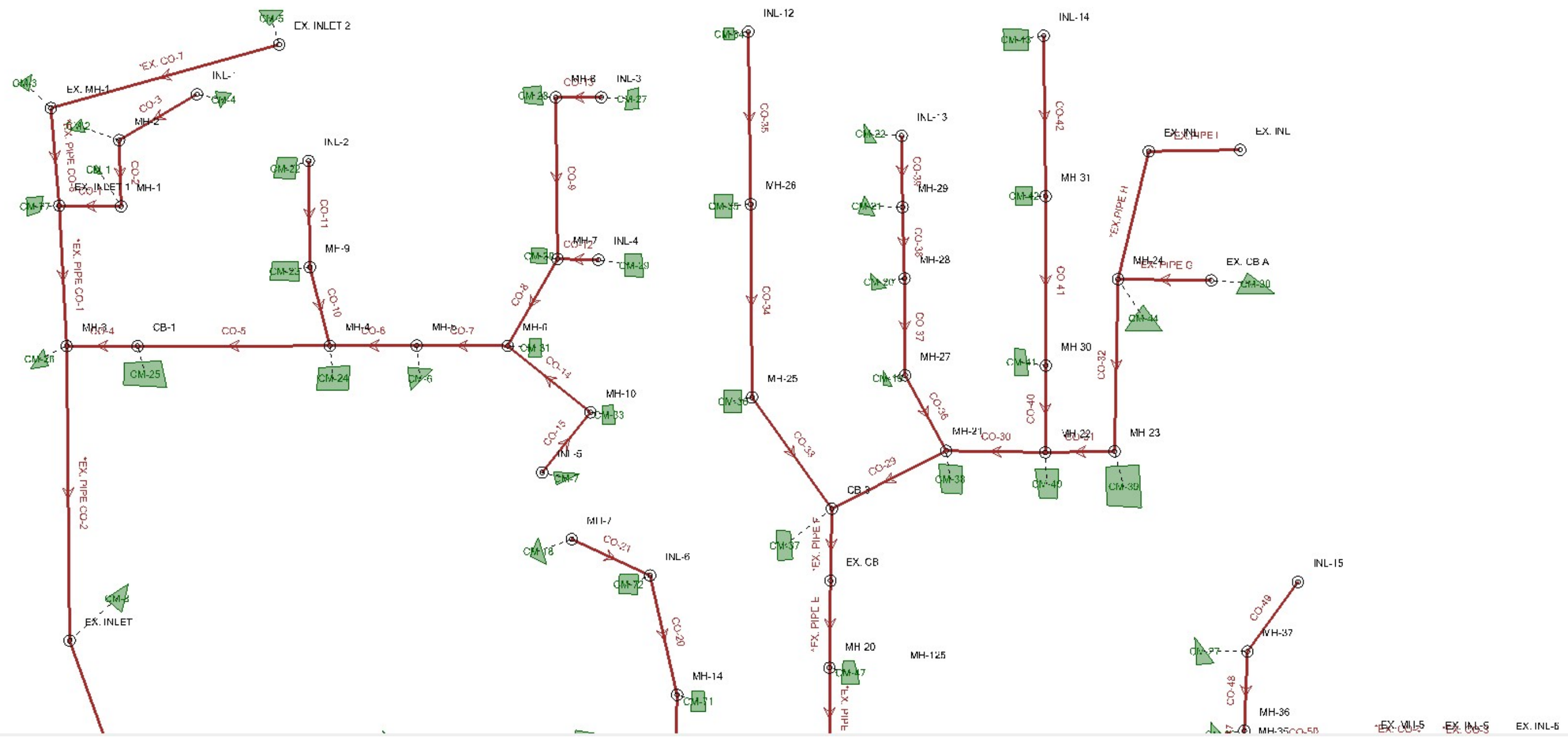
CN_{impervious} = 98
CN_{pervious} = 61

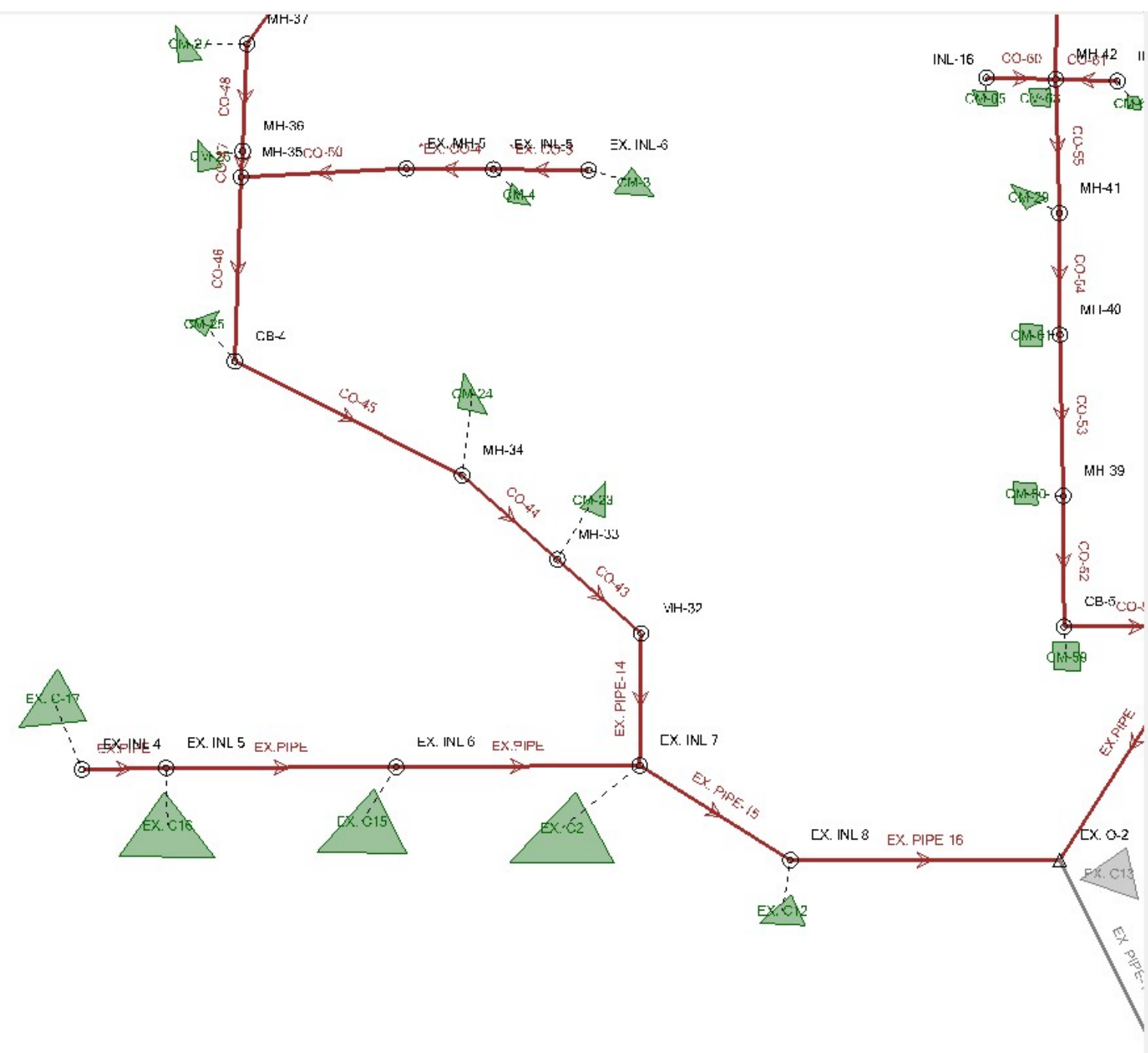
$$P_e = \frac{(P-0.2(1000/CN-10))^2}{P+0.8(1000/CN-10)}$$

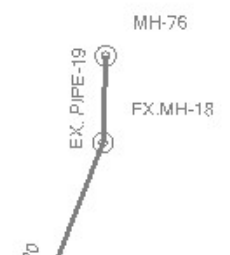
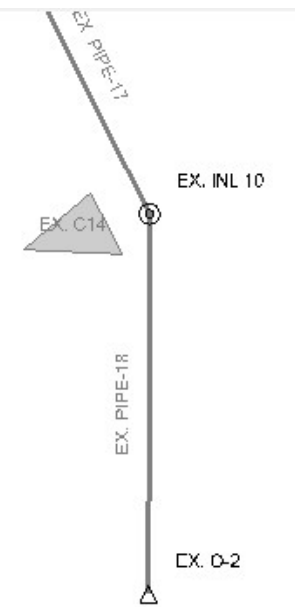
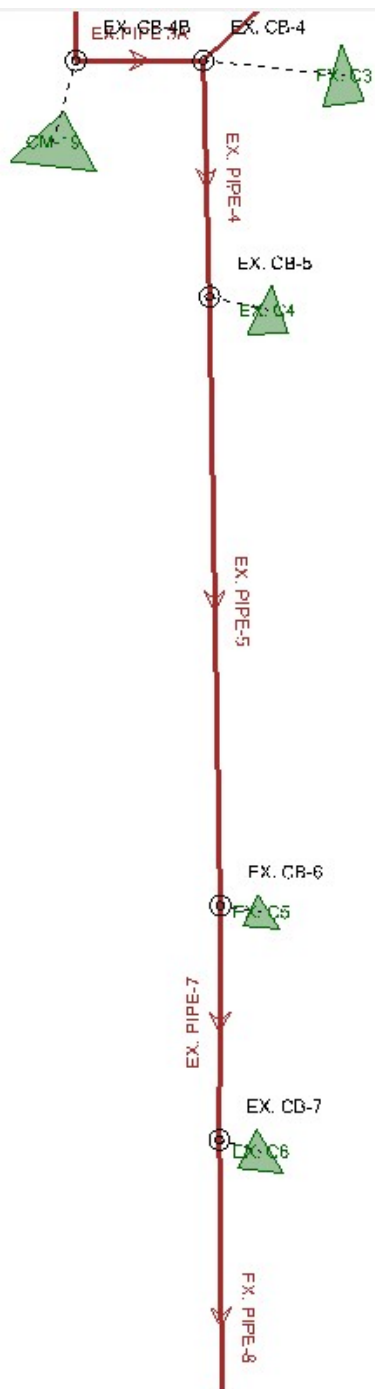
P = Peak Rainfall Depth (2-year/24hour) = 2.80 inches
P = Peak Rainfall Depth (100-year/24hour) = 6.50 inches
P = Peak Rainfall Depth (2-year/24hour) = 3.34 inches
P = Peak Rainfall Depth (100-year/24hour) = 8.57 inches

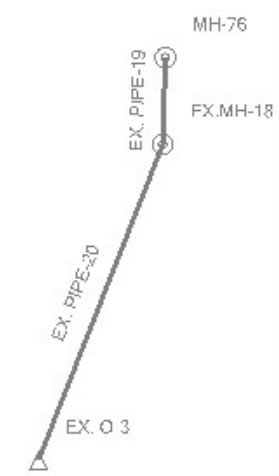
Bulletin 70

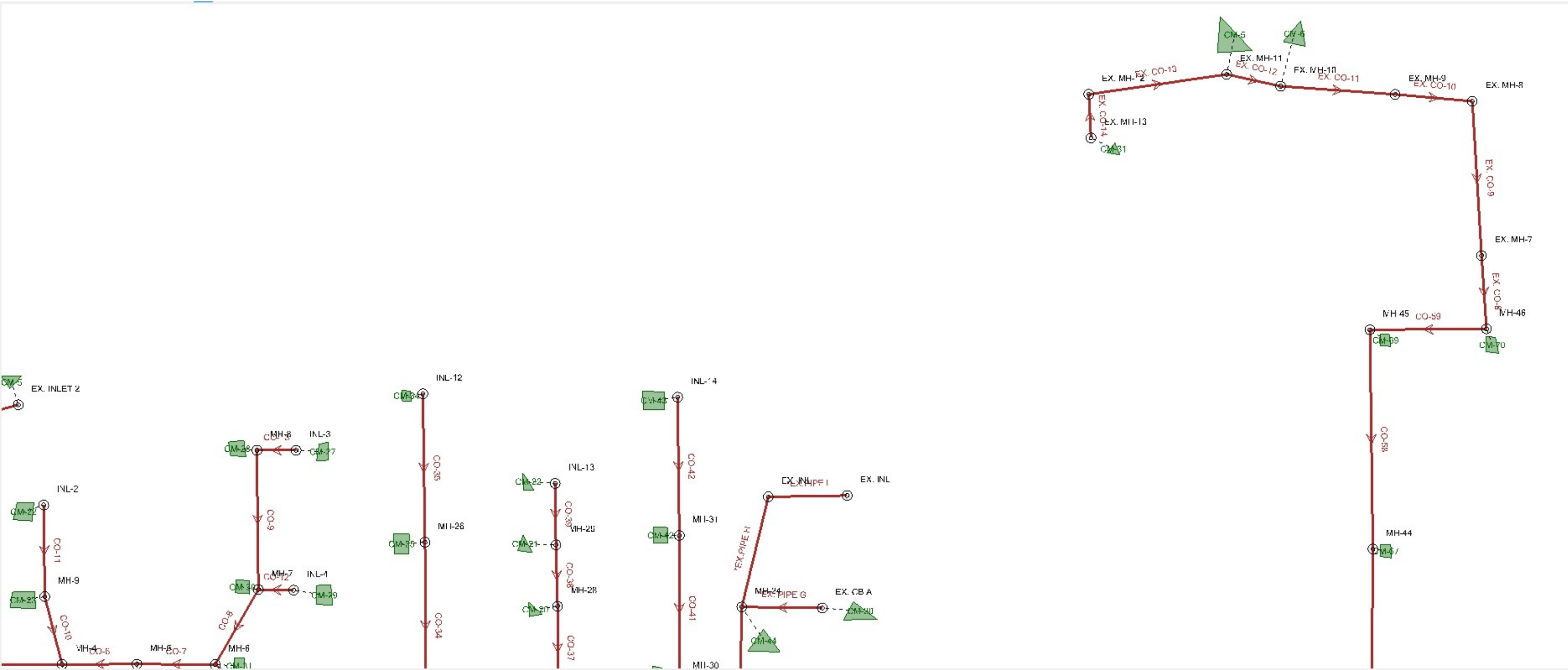
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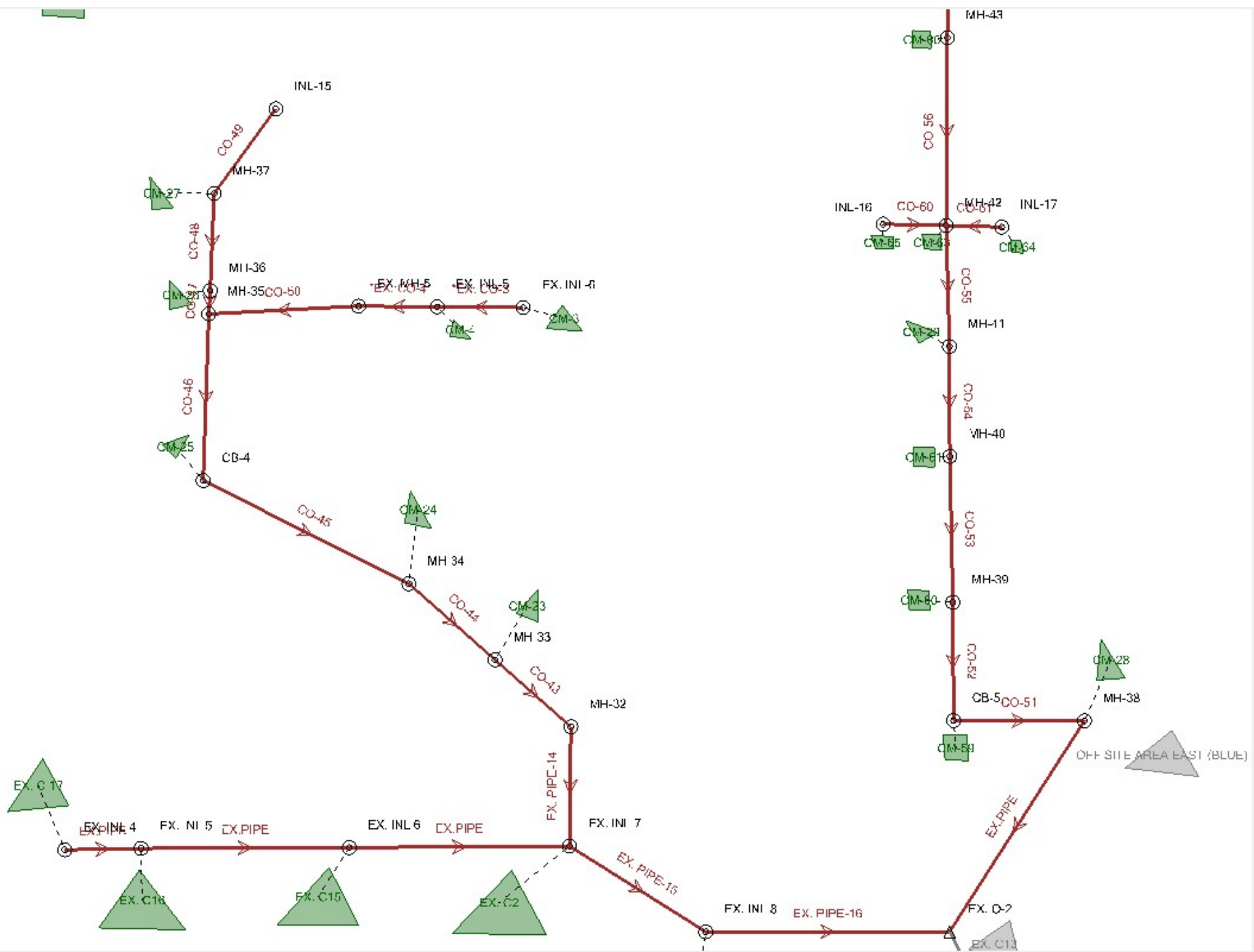
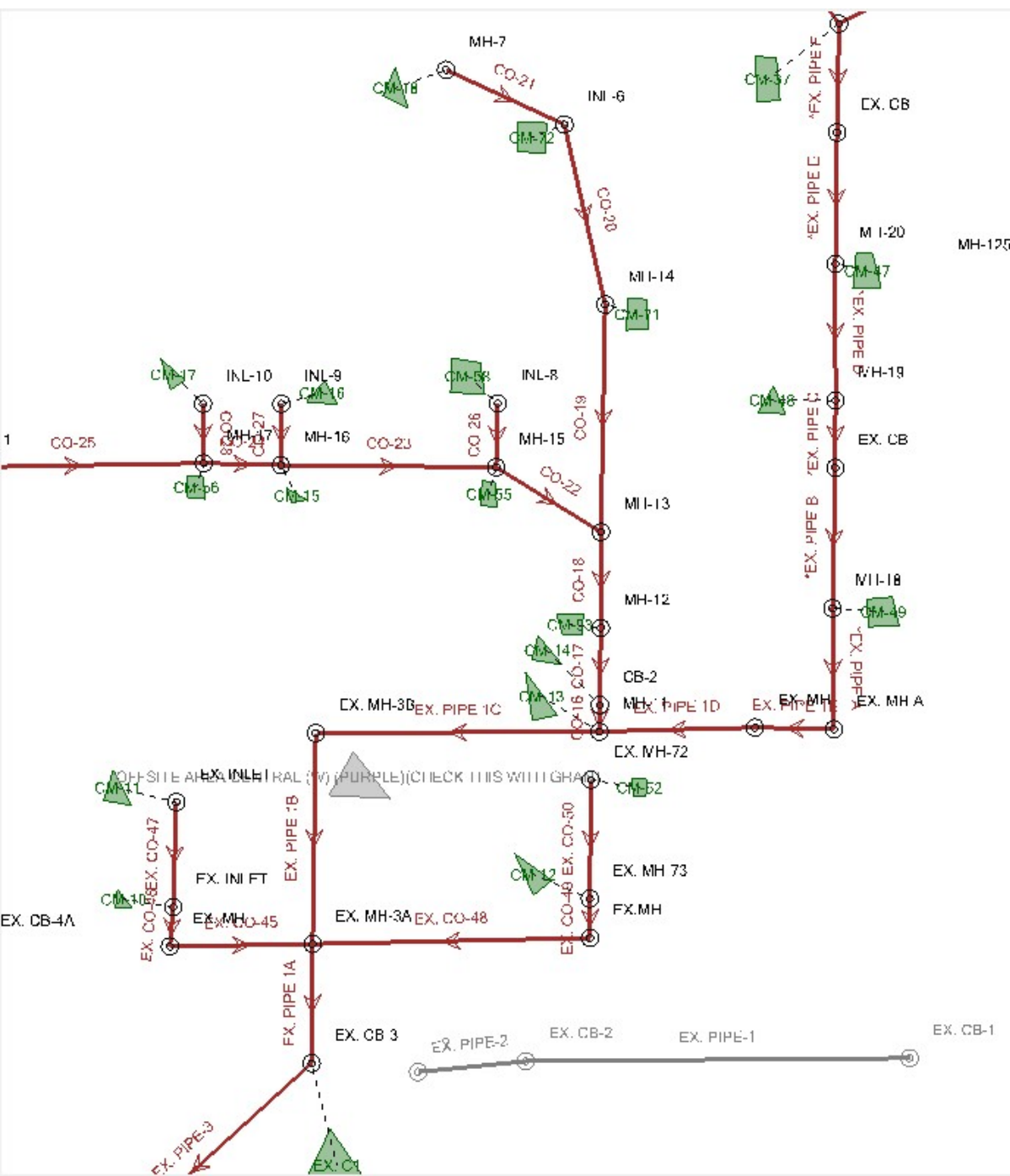












SEASONS AT CREST HILL
CITY OF CREST HILL, ILLINOIS
STORM SEWER DESIGN CALCULATIONS
10-YR STORM EVENT - BULLETIN 70 RAINFALL DATA
1/14/2026

Location		Ground		Hydraulic Grade Line		Crown		Invert		Length	Slope	Diameter	Manning's n	Velocity	Flow	Capacity (Full Flow)	Flow / Capacity (Design)
Upstream Structure	Downstream Structure	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	(ft)	(%)	(in)		(ft/s)	(cfs)	(cfs)	(%)
EX. INL-12	EX. O-1	636.04	630.65	644.47	631.65	632.99	631.65	628.99	627.65	73	1.84	48	0.013	47.92	602.23	194.66	309.40
EX. INL 11	EX. INL-12	635.91	636.04	636.13	636.04	633.81	632.99	629.81	628.99	31	2.67	48	0.013	6.07	76.29	234.52	32.50
EX. INL 11	EX. MH-10	635.91	637.46	635.97	635.91	633.81	632.46	629.81	628.46	25	5.50	48	0.013	5.74	72.09	336.76	21.40
EX. MH-9	EX. MH-10	637.39	637.46	636.11	635.97	634.99	632.46	630.99	628.46	53	4.75	48	0.013	5.74	72.09	313.14	23.00
EX. CB-8	EX. MH-9	640.20	637.39	636.41	636.11	636.16	634.99	632.16	630.99	137	0.86	48	0.013	5.40	67.83	132.83	51.10
EX. CB-8	EX. CB-8A	640.20	639.65	636.41	636.41	633.21	634.98	632.21	633.98	62	-2.85	12	0.013	0.00	0.00	6.01	0.00
EX. CB-7	EX. CB-8	641.19	640.20	637.10	636.41	637.59	636.16	633.59	632.16	372	0.38	48	0.013	7.77	66.69	89.03	74.90
EX. CB-6	EX. CB-7	642.87	641.19	637.27	637.10	638.16	637.59	634.16	633.59	148	0.39	48	0.013	7.66	61.41	89.26	68.80
EX. CB-5	EX. CB-6	643.64	642.87	637.77	637.27	638.84	638.23	634.84	634.23	284	0.21	48	0.013	5.94	56.58	66.52	85.10
EX. CB-4	EX. CB-5	643.76	643.64	637.94	637.77	639.00	638.91	635.00	634.91	99	0.09	48	0.013	3.87	48.60	43.31	112.20
EX. CB-3	EX. CB-4	644.36	643.76	638.06	637.94	638.75	638.53	635.25	635.03	169	0.13	42	0.013	4.17	28.29	36.30	77.90
EX. MH-3A	EX. CB-3	645.50	644.36	638.10	638.06	639.04	638.91	635.54	635.41	52	0.25	42	0.013	5.32	27.06	50.23	53.90
EX. MH-3A	EX. MH-3B	645.50	645.70	638.13	638.10	639.04	639.25	635.54	635.75	73	-0.29	42	0.013	5.48	24.40	54.14	45.10
MH-11	EX. MH-3B	646.60	645.70	638.39	638.13	638.86	638.25	636.36	635.75	116	0.53	30	0.013	6.77	24.40	29.81	81.90
EX. MH	MH-11	646.57	646.60	638.43	638.39	639.38	638.86	636.86	636.36	100	0.53	30	0.013	6.08	15.13	29.73	50.90
EX. MH A	EX. MH	647.23	646.57	638.52	638.43	639.71	639.38	637.21	636.88	45	0.74	30	0.013	6.92	15.13	35.32	42.80
MH-18	EX. MH A	646.25	647.23	638.91	638.39	640.10	639.71	637.60	637.21	59	0.66	30	0.013	6.62	15.13	33.26	45.50
EX. CB	MH-18	646.14	646.25	639.37	638.91	640.62	640.10	638.12	637.60	81	0.65	30	0.013	6.41	13.75	32.96	41.70
MH-19	EX. CB	646.25	646.14	639.62	639.46	640.22	640.12	638.22	638.12	20	0.51	24	0.013	5.79	13.75	16.20	84.90
MH-20	MH-19	646.35	646.25	639.99	639.62	640.70	640.22	638.70	638.22	86	0.56	24	0.013	5.91	12.63	16.92	74.70
EX. CB	MH-20	646.49	646.35	640.32	639.99	641.15	640.7	639.15	638.7	83	0.55	24	0.013	5.64	10.69	16.71	64
CB-3	EX. CB	646.7	646.49	640.69	640.32	641.43	641.15	639.43	639.15	65	0.43	24	0.013	5.13	10.69	14.8	72.2
MH-21	CB-3	646.4	646.7	641.13	640.74	642.02	641.87	640.02	639.87	96	0.16	24	0.013	3.06	5.99	8.96	66.9
MH-27	MH-21	647.99	646.4	642.41	642.18	642.81	642.68	641.81	641.68	43	0.31	12	0.013	2.71	1.38	1.97	70.1
MH-28	MH-27	648.52	647.99	642.56	642.41	643.06	642.81	642.06	641.81	82	0.3	12	0.013	2.48	0.95	1.97	48.2
MH-29	MH-28	648.46	648.52	642.59	642.56	643.14	643.06	642.14	642.06	26	0.3	12	0.013	2.2	0.6	1.96	30.8
INL-13	MH-29	648.47	648.46	642.6	642.59	643.23	643.14	642.23	642.14	32	0.29	12	0.013	1.77	0.3	1.9	15.9
MH-22	MH-21	646.43	646.4	641.18	641.13	642.16	642.02	640.16	640.02	90	0.16	24	0.013	2.66	3.45	8.92	38.7
MH-23	MH-22	646.65	646.43	641.21	641.18	642.33	642.24	640.83	640.74	46	0.2	18	0.013	1.74	0.52	4.66	11.1
MH-24	MH-23	646.72	646.65	641.29	641.21	642.5	642.33	641	640.83	84	0.2	18	0.013	1.56	0.34	4.74	7.3
EX. CB A	MH-24	647.39	646.72	641.68	641.29	642.82	642.35	641.57	641.1		0.96	15	0.013	1.81	0.09	6.32	1.4
EX. INL	MH-24	645.63	646.72	641.7	641.29	643.2	642.6	641.7	641.1	82	0.73	18	0.013	0	0	8.97	0
EX. INL	EX. INL	645.63	645.54	642.79	642.79	643.79	642.7	642.79	641.7	29	3.76	12	0.013	0	0	6.91	0
MH-30	MH-22	646.9	646.43	642.74	642.32	643.3	643.02	642.05	641.77	113	0.25	15	0.013	2.72	1.9	3.21	59.1
MH-31	MH-30	646.9	646.9	642.84	642.74	643.5	643.3	642.25	642.05	79	0.25	15	0.013	2.5	1.29	3.26	39.7
INL-14	MH-31	646.95	646.9	643	642.84	643.78	643.52	642.78	642.52	76	0.34	12	0.013	1.71	0.22	2.08	10.4
MH-25	CB-3	647.3	646.7	642.94	642.51	643.31	643.05	642.06	641.8	83	0.31	15	0.013	3.32	3.15	3.62	86.9
MH-26	MH-25	647.25	647.3	643.1	642.94	643.53	643.31	642.28	642.06	71	0.31	15	0.013	3.19	2.63	3.59	73.3
INL-12	MH-26	647.25	647.25	643.85	643.42	644.08	643.82	643.08	642.82	79	0.33	12	0.013	2.97	1.98	2.05	96.8
CB-2	MH-11	646.23	646.6	638.4	638.39	639.32	639.31	636.82	636.81	7	0.15	30	0.013	3.36	8.97	16.05	55.9
MH-12	CB-2	646.1	646.23	640.26	639.87	640.94	640.82	638.94	638.82	71	0.17	24	0.013	3.36	8.62	9.31	92.6
MH-13	MH-12	646.7	646.1	641.18	640.91	642.01	641.94	640.01	639.94	39	0.18	24	0.013	3.36	7.5	9.54	78.6
MH-15	MH-13	646.54	646.7	642.37	642.06	642.84	642.74	641.34	641.24	49	0.2	18	0.013	3.06	4.57	4.74	96.4
MH-16	MH-15	646.54	646.54	642.85	642.41	643.04	642.86	641.79	641.61	72	0.25	15	0.013	3.16	3.88	3.23	120.1
MH-17	MH-16	646.35	646.54	642.95	642.85	643.13	643.04	641.88	641.79	36	0.25	15	0.013	2.99	3.36	3.23	104.1
INL-10	MH-17	646.4	646.35	642.96	642.95	643.23	643.16	642.23	642.16	17	0.41	12	0.013	3.02	1.34	2.29	58.5
INL-11	MH-17	646.65	646.35	643	642.95	643.48	643.15	642.48	642.15	96	0.35	12	0.013	2.47	0.78	2.09	37.1
INL-9	MH-16	646.45	646.54	642.85	642.85	643.29	643.21	642.29	642.21	17	0.47	12	0.013	2.02	0.26	2.44	10.6
INL-8	MH-15	646.45	646.54	642.54	642.45	643.28	643.21	642.28	642.21	17	0.41	12	0.013	2.1	0.34	2.29	15.1
MH-14	MH-13	646.1	646.7	642.51	642.25	642.91	642.81	641.66	641.56	39	0.25	15	0.013	3	2.93	3.26	90
INL-6	MH-14	646.65	646.1	642.68	642.51	643.17	642.91	641.92	641.66	103	0.25	15	0.013	2.8	2.07	3.24	63.8

SEASONS AT CREST HILL
CITY OF CREST HILL, ILLINOIS
STORM SEWER DESIGN CALCULATIONS
10-YR STORM EVENT - BULLETIN 70 RAINFALL DATA
1/14/2026

Location		Ground		Hydraulic Grade Line		Crown		Invert		Length	Slope	Diameter	Manning's n	Velocity	Flow	Capacity (Full Flow)	Flow / Capacity (Design)
Upstream Structure	Downstream Structure	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	(ft)	(%)	(in)		(ft/s)	(cfs)	(cfs)	(%)
MH-7	INL-6	647.02	646.65	642.82	642.68	643.33	643.19	642.33	642.19	40	0.35	12	0.013	2.67	1.03	2.11	49.1
EX. MH-3A	EX. MH	645.5	645.08	640.46	640.02	640.52	640.92	639.52	639.92	86	-0.47	12	0.013	3.2	1.38	2.44	56.6
EX. MH	EX. INLET	645.08	643.3	640.75	640.42	641.05	641.25	640.05	640.25	8	-2.39	12	0.013	5.83	1.38	5.51	25.1
EX. INLET	EX. INLET	643.3	643.17	641.01	640.75	641.25	641.56	640.25	640.56	30	-1.04	12	0.013	4.08	1.12	3.63	30.8
EX. MH-3A	EX. MH	645.5	645.4	640.83	639.98	640.52	641.35	639.52	640.35	123	-0.67	12	0.013	3.6	1.28	2.93	43.8
EX. MH	EX. MH-73	645.4	643.65	640.83	640.83	641.09	641.35	640.09	640.35	8	-3.25	12	0.013	6.38	1.28	6.42	19.9
EX. MH-73	EX. MH-72	643.65	643.86	641.06	640.9	641.5	641.09	640.5	640.09	29	1.41	12	0.013	1.15	0.91	4.24	21.4
EX. CB-4B	EX. CB-4	643.17	643.76	637.97	637.94	638.67	638.67	635.17	635.17	61	0	42	0.013	2	19.2	1.01	1,908.60
EX. CB-4A	EX. CB-4B	644.18	643.17	637.99	637.97	638.81	638.67	635.31	635.17	135	0.1	42	0.013	3.26	14.28	32.43	44
EX. INLET	EX. CB-4A	643.76	644.18	640.02	637.99	641.25	637.81	638.75	635.31	62	5.51	30	0.013	14.06	14.28	96.27	14.8
EX. INLET	EX. INLET	645.94	643.76	641.49	640.02	642.76	641.25	640.26	638.75	241	0.63	30	0.013	6.28	13.29	32.44	41
MH-3	EX. INLET	646.74	645.94	642.43	641.49	643.8	642.76	641.3	640.26	193	0.54	30	0.013	5.72	11.43	30.14	37.9
EX. INLET 1	MH-3	649.1	646.74	642.44	642.43	644.16	643.8	641.66	641.3	159	0.23	30	0.013	2.13	1.08	19.51	5.5
EX. INLET 1	MH-1	649.1	649	642.45	642.44	642.66	642.77	641.66	641.77	28	-0.39	12	0.013	2.46	0.65	2.23	29
MH-1	MH-2	649	649.01	643.8	643.37	644.13	644.54	643.13	643.54	102	-0.4	12	0.013	2.08	0.34	2.26	15.3
MH-2	INL-1	649.01	648.92	645.01	644.77	645.54	645.75	644.54	644.75	61	-0.34	12	0.013	1.89	0.3	2.08	14.5
EX. INLET 1	EX. MH-1	649.1	648.68	642.58	642.44	644.16	644.94	641.66	642.44	147	-0.53	30	0.013	1.66	0.17	29.83	0.6
EX. MH-1	EX. INLET 2	648.68	647.17	643.27	642.58	644.44	645.15	642.44	643.15	260	-0.27	24	0.013	1.1	0.09	11.82	0.7
CB-1	MH-3	646.9	646.74	642.79	642.43	643.39	643.3	641.39	641.3	59	0.15	24	0.013	3.05	9.58	8.86	108.1
MH-4	CB-1	646.8	646.9	642.97	642.79	643.5	643.39	641.5	641.39	73	0.15	24	0.013	3.18	9.02	8.77	102.9
MH-5	MH-4	646.95	646.8	643.19	642.97	643.53	643.4	642.03	641.9	70	0.19	18	0.013	2.81	4.97	4.53	109.7
MH-6	MH-5	646.95	646.95	643.31	643.19	643.63	643.53	642.13	642.03	56	0.18	18	0.013	2.85	4.41	4.42	99.7
MH-10	MH-6	646.85	646.95	643.42	643.31	643.66	643.53	642.66	642.53	67	0.2	12	0.013	2.26	1.39	1.57	88.2
MH-10	INL-5	646.85	646.61	643.76	643.42	643.56	643.81	643.06	643.31	50	-0.5	6	0.013	2.24	0.44	0.4	110.3
MH-7	MH-6	647.35	646.95	643.49	643.31	643.88	643.64	642.63	642.39	97	0.25	15	0.013	2.88	2.46	3.21	76.5
INL-4	MH-7	647.35	647.35	643.57	643.49	644.18	644.1	643.18	643.1	22	0.36	12	0.013	2.43	0.69	2.15	32.1
MH-8	MH-7	647.5	647.35	643.74	643.49	644.26	643.9	643.26	642.9	104	0.35	12	0.013	2.64	0.99	2.1	47.2
INL-3	MH-8	647.5	647.5	643.76	643.74	644.33	644.26	643.33	643.26	22	0.32	12	0.013	2.09	0.47	2.01	23.6
MH-9	MH-4	647.25	646.8	643.35	642.97	643.78	643.5	642.53	642.25	112	0.25	15	0.013	2.92	2.54	3.23	78.7
INL-2	MH-9	647.25	647.25	643.81	643.4	644.08	643.81	643.08	642.81	79	0.34	12	0.013	3.01	1.9	2.09	90.9
MH-38	EX. O-2	643.54	635.68	638.64	632.48	639.16	633.68	637.16	631.68	109	5.01	24	0.013	14.48	16.81	50.61	33.2
CB-5	MH-38	645.4	643.54	638.93	638.64	640.24	640.16	637.24	637.16	96	0.08	36	0.013	3.06	16.47	19.23	85.6
MH-39	CB-5	645.35	645.4	639.07	638.93	640.3	640.24	637.3	637.24	75	0.08	36	0.013	2.99	16.17	18.82	85.9
MH-40	MH-39	645.35	645.35	639.17	639.07	640.36	640.3	637.36	637.3	79	0.08	36	0.013	2.91	15.09	18.42	81.9
MH-41	MH-40	645.63	645.35	639.23	639.17	640.41	640.36	637.41	637.36	65	0.08	36	0.013	2.87	13.88	18.46	75.2
MH-42	MH-41	645.4	645.63	639.28	639.23	640.46	640.41	637.46	637.41	59	0.08	36	0.013	2.97	13.58	19.44	69.9
INL-17	MH-42	645.65	645.4	640.91	640.59	641.48	641.19	640.48	640.19	67	0.43	12	0.013	2.79	0.91	2.34	38.6
INL-16	MH-42	645.51	645.4	640.71	640.38	641.34	641.03	640.34	640.03	71	0.44	12	0.013	2.6	0.69	2.35	29.3
MH-43	MH-42	645.85	645.4	639.51	639.28	640.47	640.36	637.97	637.86	110	0.1	30	0.013	2.97	11.12	12.98	85.7
MH-44	MH-43	645.85	645.85	639.6	639.51	640.55	640.47	638.05	637.97	79	0.1	30	0.013	2.91	9.61	13.08	73.5
MH-45	MH-44	646.99	645.85	639.93	639.6	640.6	640.45	638.6	638.45	85	0.18	24	0.013	3.43	8.62	9.5	90.8
MH-46	MH-45	644.26	646.99	640.16	639.93	640.78	640.6	638.78	638.6	99	0.18	24	0.013	3.46	8.36	9.67	86.5
MH-46	EX. MH-7	644.26	643.45	640.2	640.16	640.78	640.92	638.78	638.92	36	-0.39	24	0.013	4.62	7.98	14.06	56.7
EX. MH-7	EX. MH-8	643.45	640.03	640.57	640.2	640.92	637.83	638.92	635.83	192	1.61	24	0.013	2.54	7.98	28.73	27.8
EX. MH-8	EX. MH-9	640.03	641.36	640.25	640.03	637.58	637.91	635.83	636.16	87	-0.38	21	0.013	3.32	7.98	9.77	81.6
EX. MH-9	EX. MH-10	641.36	646.81	641.72	640.25	637.91	642.42	636.16	640.67	165	-2.74	21	0.013	9.57	7.98	26.23	30.4
EX. MH-10	EX. MH-11	646.81	646.56	642.07	641.72	642.42	642.96	640.67	641.21	42	-1.3	21	0.013	6.6	5.52	18.07	30.5
EX. MH-11	EX. MH-12	646.56	645.62	642.51	642.07	642.01	642.28	641.01	641.28	147	-0.18	12	0.013	2.47	1.94	1.53	127.2
EX. MH-12	EX. MH-13	645.62	645.63	642.58	642.51	642.28	642.99	641.28	641.99	25	-2.86	12	0.013	6.84	1.94	6.03	32.2
EX. INL 8	EX. O-2	644.47	635.68	634.12	632.77	634.79	633.68	632.79	631.68	102	1.09	24	0.013	7.78	13.57	23.61	57.5
EX. INL 7	EX. INL 8	642.03	644.47	636.65	635.76	637.38	636.65	635.38	634.65	85	0.86	24	0.013	6.97	12.53	20.96	59.8

SEASONS AT CREST HILL
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Location		Ground		Hydraulic Grade Line		Crown		Invert		Length	Slope	Diameter	Manning's n	Velocity	Flow	Capacity (Full Flow)	Flow / Capacity (Design)
Upstream Structure	Downstream Structure	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	(ft)	(%)	(in)		(ft/s)	(cfs)	(cfs)	(%)
EX. INL 7	EX. INL 6	642.03	643.98	641.55	636.65	636.38	641.93	635.38	640.93	107	-5.17	12	0.013	8.68	2.11	8.1	26.1
EX. INL 6	EX. INL 5	643.98	646	642.83	641.55	641.93	643.3	640.93	642.3	138	-0.99	12	0.013	4.39	1.59	3.55	44.7
EX. INL 5	EX. INL 4	646	646.08	643.15	642.83	643.3	643.78	642.3	642.78	31	-1.57	12	0.013	4.27	0.78	4.46	17.4
MH-32	EX. INL 7	645.23	642.03	636.73	636.65	637.66	637.38	635.66	635.38	48	0.59	24	0.013	5.58	9.05	17.33	52.2
MH-33	MH-32	643.7	645.23	639.34	639.14	640.17	640.07	638.17	638.07	27	0.36	24	0.013	4.65	9.05	13.66	66.3
MH-34	MH-33	643.75	643.7	639.4	639.34	640.27	640.17	638.27	638.17	28	0.35	24	0.013	4.41	7.63	13.41	56.9
CB-4	MH-34	646.1	643.75	639.65	639.4	640.73	640.27	638.73	638.27	131	0.35	24	0.013	4.11	5.78	13.43	43
MH-35	CB-4	646.19	646.1	640.27	639.96	641.42	641.17	639.42	639.17	73	0.34	24	0.013	3.94	5.04	13.27	38
EX. MH-5	MH-35	645.77	646.19	640.45	640.27	641.05	640.92	639.55	639.42	72	0.18	18	0.013	2.76	3.23	4.47	72.3
EX. INL-5	EX. MH-5	644.86	645.77	640.68	640.45	641.5	641.05	640	639.55	24	1.87	18	0.013	6.56	3.23	14.37	22.5
EX. INL-6	EX. INL-5	644.85	644.86	640.7	640.68	641.63	641.5	640.13	640	30	0.44	18	0.013	3.17	1.55	6.95	22.3
MH-36	MH-35	646.1	646.19	640.28	640.27	641.43	641.42	639.43	639.42	6	0.16	24	0.013	2.27	1.81	9.17	19.8
MH-37	MH-36	646.2	646.1	642.12	641.78	642.75	642.43	641.75	641.43	73	0.44	12	0.013	2.61	0.69	2.36	29.2
INL-15	MH-37	647.8	646.2	642.81	642.5	643.31	643	642.81	642.5	31	1	6	0.013	0	0	0.56	0

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CITY OF CREST HILL, ILLINOIS
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Drainage Area	Outflow Element	Area	Runoff	Tc	Intensity	Flow
		(Acres)	Coefficient	(min)	(in/hr)	(cfs)
EX. C1	EX. CB-3	0.29	0.66	5	6.48	1.23
EX. C2	EX. INL 7	0.32	0.66	5	6.48	1.36
EX. C3	EX. CB-4	0.26	0.66	5	6.48	1.11
EX. C4	EX. CB-5	1.85	0.66	5	6.48	7.98
EX. C5	EX. CB-6	1.12	0.66	5	6.48	4.83
EX. C6	EX. CB-7	1.22	0.66	5	6.48	5.28
EX. C7	EX. CB-8	0.26	0.66	5	6.48	1.14
EX. C8	EX. MH-9	0.99	0.66	5	6.48	4.26
EX. C9	EX. MH-10	0.00	0.66	5	6.48	0.00
EX. C10	EX. INL 11	0.97	0.66	5	6.48	4.20
EX. C11	EX. INL-12	122.00	0.66	5	6.48	525.94
EX. C12	EX. INL 8	0.24	0.66	5	6.48	1.04
EX. C15	EX. INL 6	0.12	0.66	5	6.48	0.53
EX. C16	EX. INL 5	0.19	0.66	5	6.48	0.81
EX. C-17	EX. INL 4	0.18	0.66	5	6.48	0.78
CM-19	EX. CB-4B	1.14	0.66	5	6.48	4.92
CM-22	INL-2	0.44	0.66	5	6.48	1.9
CM-23	MH-9	0.15	0.66	5	6.48	0.65
CM-24	MH-4	0.35	0.66	5	6.48	1.51
CM-25	CB-1	0.13	0.66	5	6.48	0.56
CM-26	MH-3	0.18	0.66	5	6.48	0.78
CM-27	INL-3	0.11	0.66	5	6.48	0.47
CM-28	MH-8	0.12	0.66	5	6.48	0.52
CM-29	INL-4	0.16	0.66	5	6.48	0.69
CM-30	MH-7	0.18	0.66	5	6.48	0.78
CM-31	MH-6	0.13	0.66	5	6.48	0.56
CM-33	MH-10	0.22	0.66	5	6.48	0.95
CM-34	INL-12	0.46	0.66	5	6.48	1.98
CM-35	MH-26	0.15	0.66	5	6.48	0.65
CM-36	MH-25	0.12	0.66	5	6.48	0.52
CM-37	CB-3	0.36	0.66	5	6.48	1.55
CM-38	MH-21	0.27	0.66	5	6.48	1.16
CM-39	MH-23	0.04	0.66	5	6.48	0.17
CM-40	MH-22	0.24	0.66	5	6.48	1.03
CM-41	MH-30	0.14	0.66	5	6.48	0.6
CM-42	MH-31	0.25	0.66	5	6.48	1.08
CM-43	INL-14	0.05	0.66	5	6.48	0.22
CM-44	MH-24	0.06	0.66	5	6.48	0.26
CM-47	MH-20	0.45	0.66	5	6.48	1.94
CM-48	MH-19	0.26	0.66	5	6.48	1.12
CM-49	MH-18	0.32	0.66	5	6.48	1.38

SEASONS AT CREST HILL
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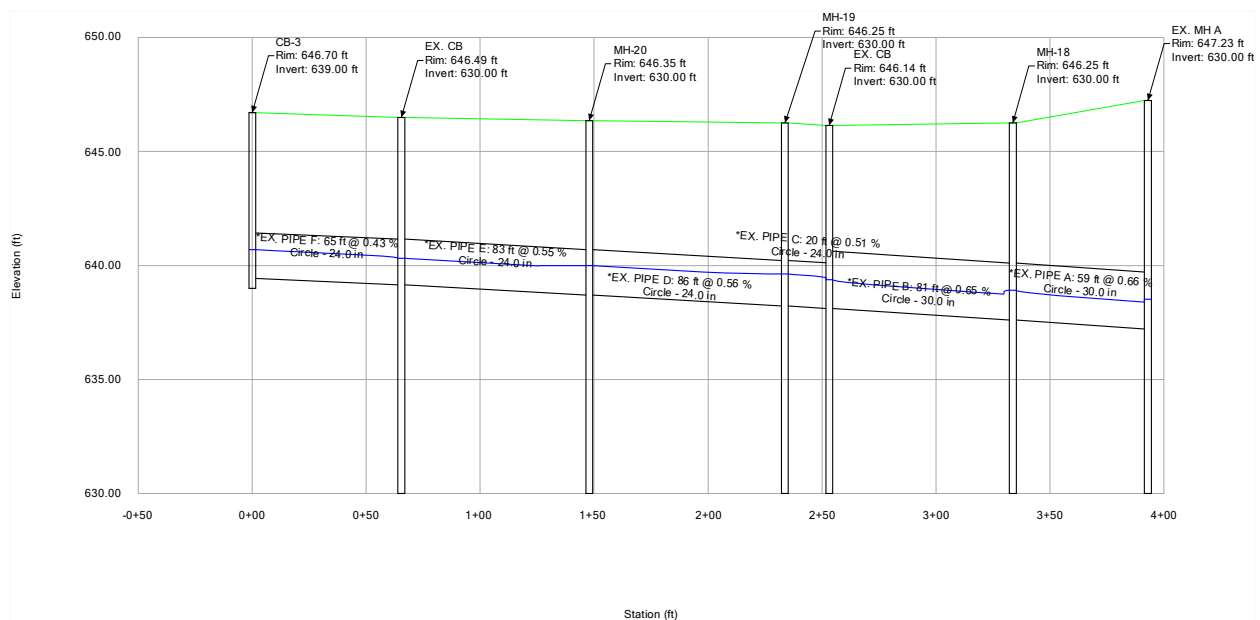
Drainage Area	Outflow Element	Area	Runoff	Tc	Intensity	Flow
		(Acres)	Coefficient	(min)	(in/hr)	(cfs)
CM-52	EX. MH-72	0.21	0.66	5	6.48	0.91
CM-53	MH-12	0.26	0.66	5	6.48	1.12
CM-55	MH-15	0.08	0.66	5	6.48	0.34
CM-56	MH-17	0.29	0.66	5	6.48	1.25
CM-57	INL-11	0.18	0.66	5	6.48	0.78
CM-58	INL-8	0.08	0.66	5	6.48	0.34
CM-59	CB-5	0.07	0.66	5	6.48	0.3
CM-60	MH-39	0.25	0.66	5	6.48	1.08
CM-61	MH-40	0.28	0.66	5	6.48	1.21
CM-63	MH-42	0.2	0.66	5	6.48	0.86
CM-64	INL-17	0.21	0.66	5	6.48	0.91
CM-65	INL-16	0.16	0.66	5	6.48	0.69
CM-66	MH-43	0.35	0.66	5	6.48	1.51
CM-67	MH-44	0.23	0.66	5	6.48	0.99
CM-69	MH-45	0.06	0.66	5	6.48	0.26
CM-70	MH-46	0.09	0.66	5	6.48	0.39
CM-71	MH-14	0.2	0.66	5	6.48	0.86
CM-72	INL-6	0.24	0.66	5	6.48	1.03
CM-77	EX. INLET 1	0.06	0.66	5	6.48	0.26
CM-1	MH-1	0.07	0.66	5	6.48	0.3
CM-2	MH-2	0.01	0.66	5	6.48	0.04
CM-3	EX. MH-1	0.02	0.66	5	6.48	0.09
CM-4	INL-1	0.07	0.66	5	6.48	0.3
CM-5	EX. INLET 2	0.02	0.66	5	6.48	0.09
CM-6	MH-5	0.13	0.66	5	6.48	0.56
CM-7	INL-5	0.1	0.66	5	6.48	0.44
CM-8	EX. INLET	0.43	0.66	5	6.48	1.85
CM-9	EX. INLET	0.23	0.66	5	6.48	0.99
CM-10	EX. INLET	0.06	0.66	5	6.48	0.26
CM-11	EX. INLET	0.26	0.66	5	6.48	1.12
CM-12	EX. MH-73	0.09	0.66	5	6.48	0.38
CM-13	MH-11	0.07	0.66	5	6.48	0.3
CM-14	CB-2	0.08	0.66	5	6.48	0.34
CM-15	MH-16	0.06	0.66	5	6.48	0.26
CM-16	INL-9	0.06	0.66	5	6.48	0.26
CM-17	INL-10	0.31	0.66	5	6.48	1.34
CM-18	MH-7	0.24	0.66	5	6.48	1.03
CM-19	MH-27	0.1	0.66	5	6.48	0.43
CM-20	MH-28	0.08	0.66	5	6.48	0.34
CM-21	MH-29	0.07	0.66	5	6.48	0.3
CM-22	INL-13	0.07	0.66	5	6.48	0.3

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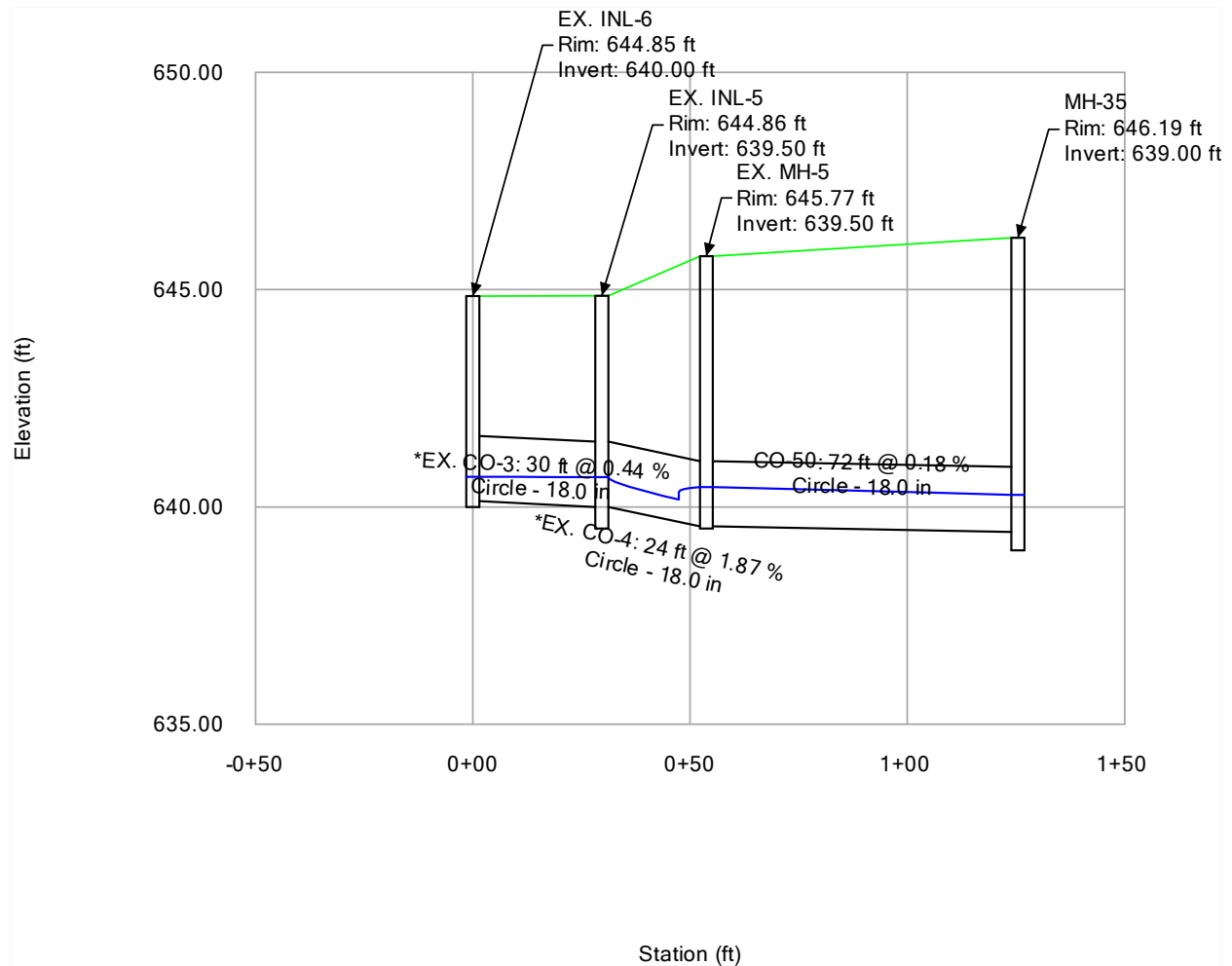
Drainage Area	Outflow Element	Area	Runoff	Tc	Intensity	Flow
		(Acres)	Coefficient	(min)	(in/hr)	(cfs)
CM-23	MH-33	0.33	0.66	5	6.48	1.42
CM-24	MH-34	0.43	0.66	5	6.48	1.85
CM-25	CB-4	0.17	0.66	5	6.48	0.73
CM-26	MH-36	0.26	0.66	5	6.48	1.12
CM-27	MH-37	0.16	0.66	5	6.48	0.69
CM-28	MH-38	0.08	0.66	5	6.48	0.34
CM-29	MH-41	0.07	0.66	5	6.48	0.3
CM-30	EX. CB A	0.02	0.66	5	6.48	0.09
CM-31	EX. MH-13	0.45	0.66	5	6.48	1.94
CM-3	EX. INL-6	0.36	0.66	5	6.48	1.55
CM-4	EX. INL-5	0.39	0.66	5	6.48	1.68
CM-5	EX. MH-11	0.83	0.66	5	6.48	3.58
CM-6	EX. MH-10	0.57	0.66	5	6.48	2.46

Profile Report

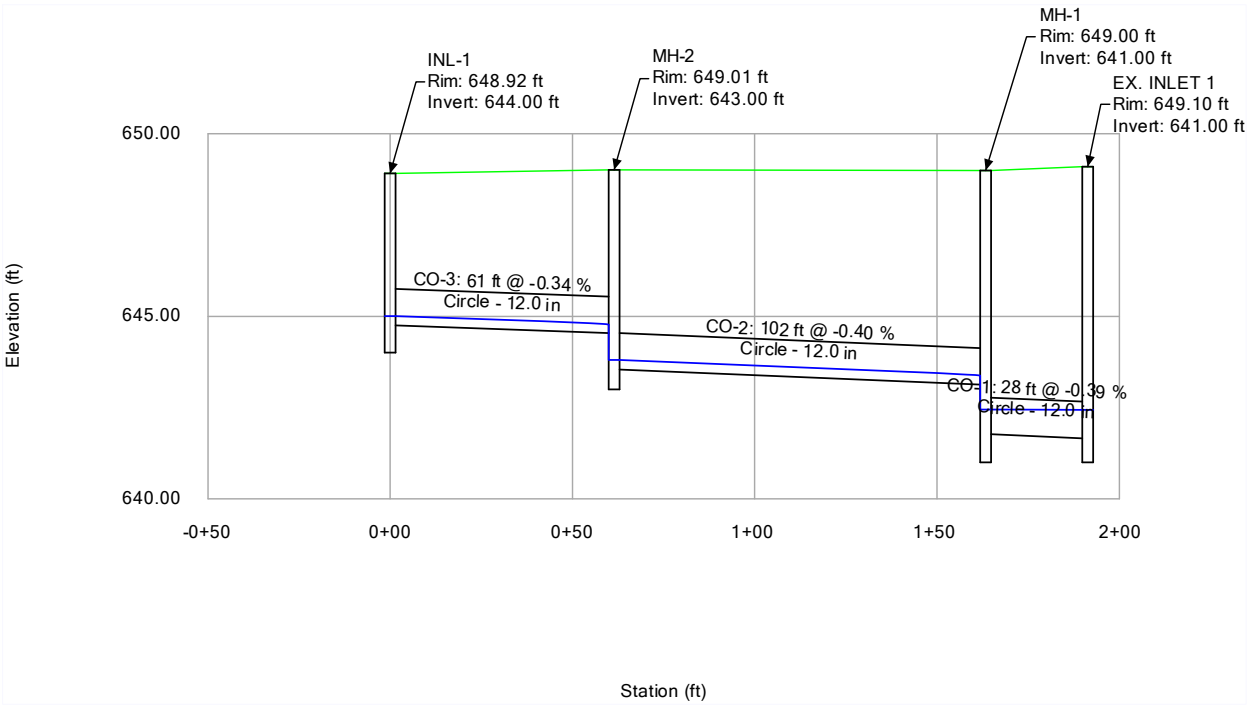
Engineering Profile - CB-3 TO EX. MH-A (FRDCR_repaired_FINAL.stsw)



Profile Report **Engineering Profile - EX. INL-6 TO MH-36 (FRDCR_repaired_FINAL.stsw)**

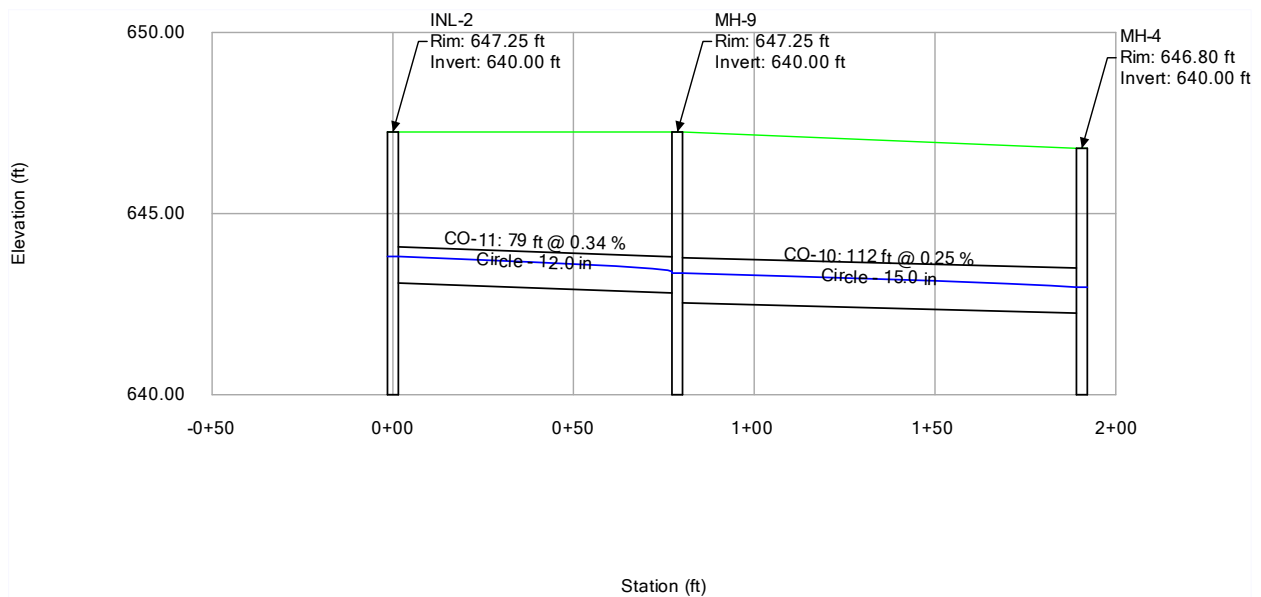


Profile Report
Engineering Profile - INL-1 TO EX. INL-1 (FRDCR_repaired_FINAL.stsw)

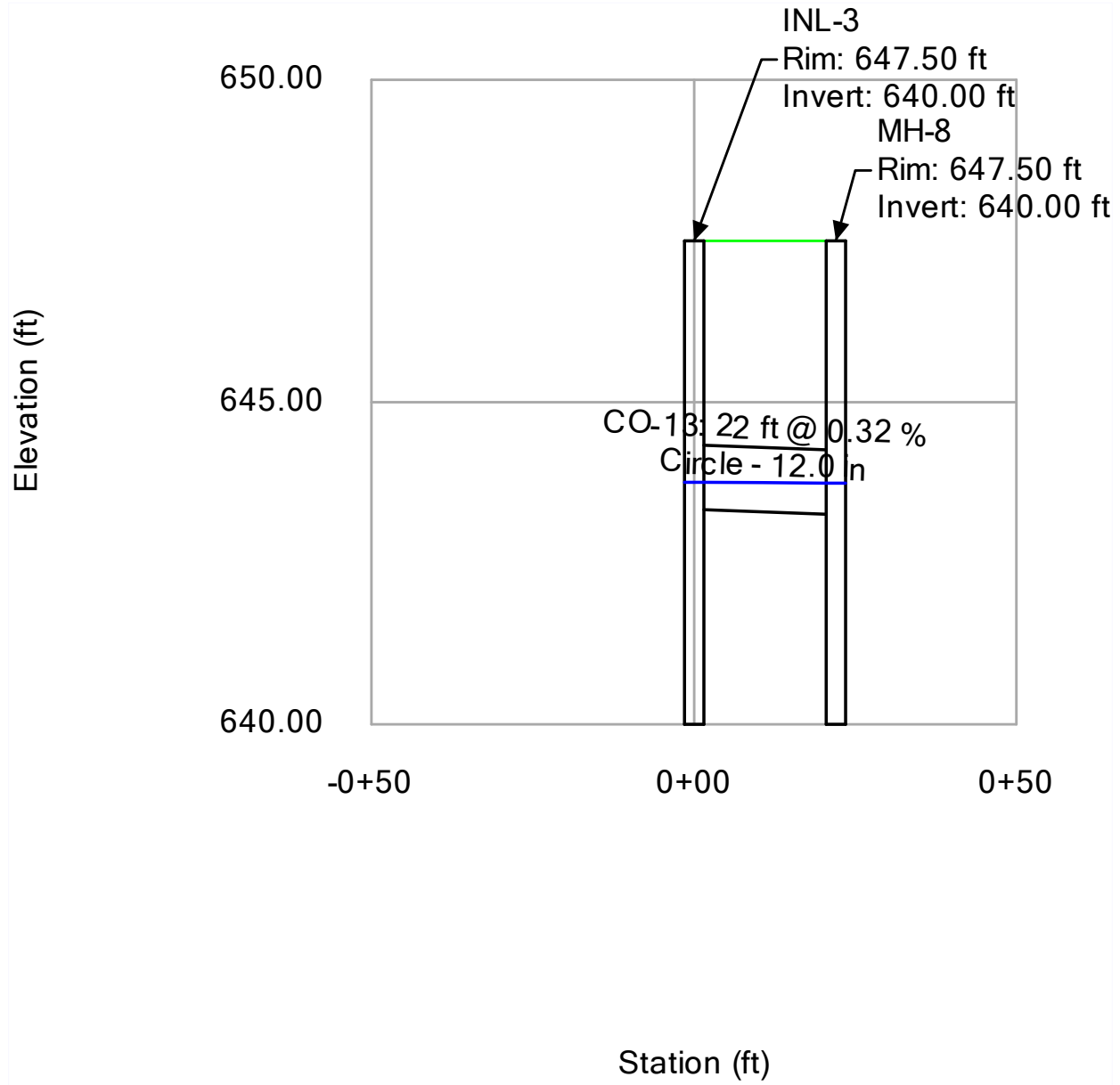


Profile Report

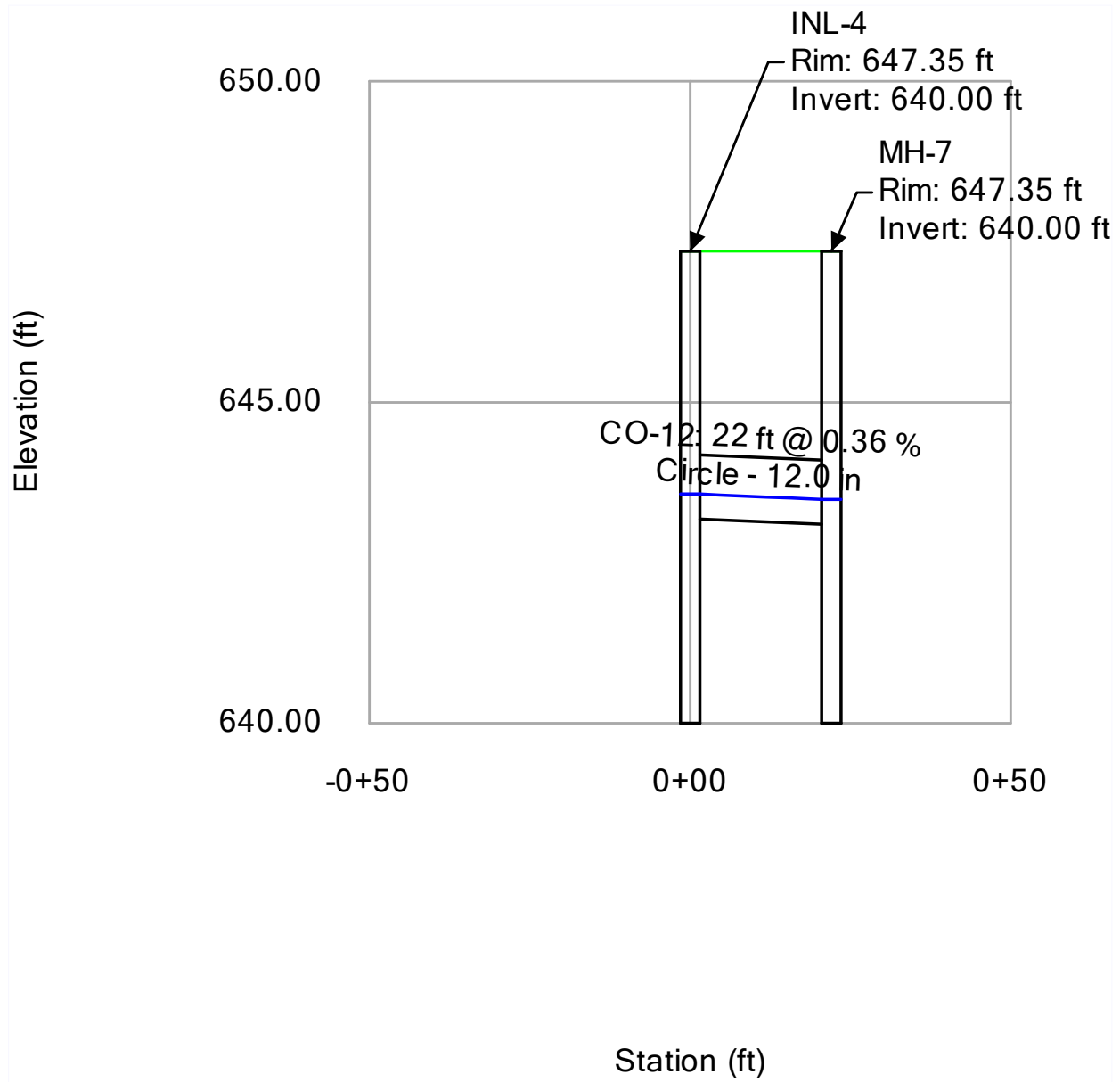
Engineering Profile - INL-2 TO MH-4 (FRDCR_repaired_FINAL.stsw)



Profile Report
Engineering Profile - INL-3 TO MH-8 (FRDCR_repaired_FINAL.stsw)

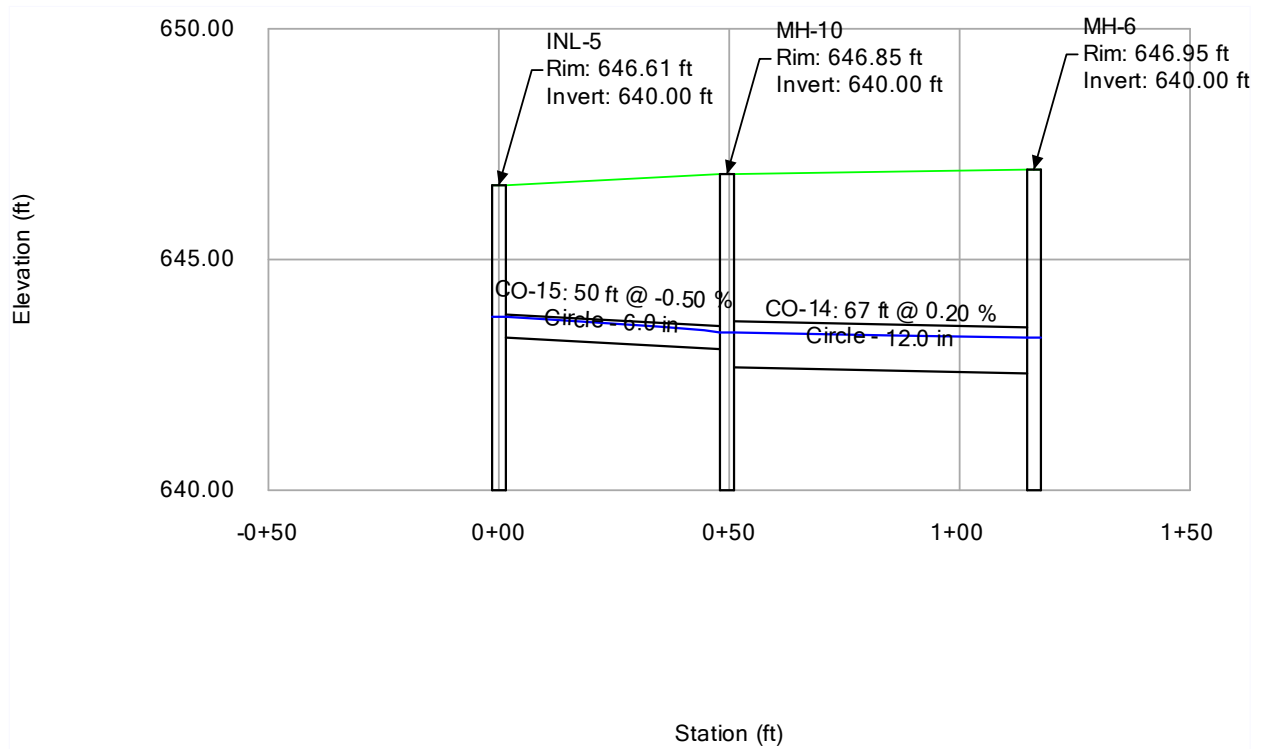


Profile Report
Engineering Profile - INL-4 TO MH-7 (FRDCR_repaired_FINAL.stsw)

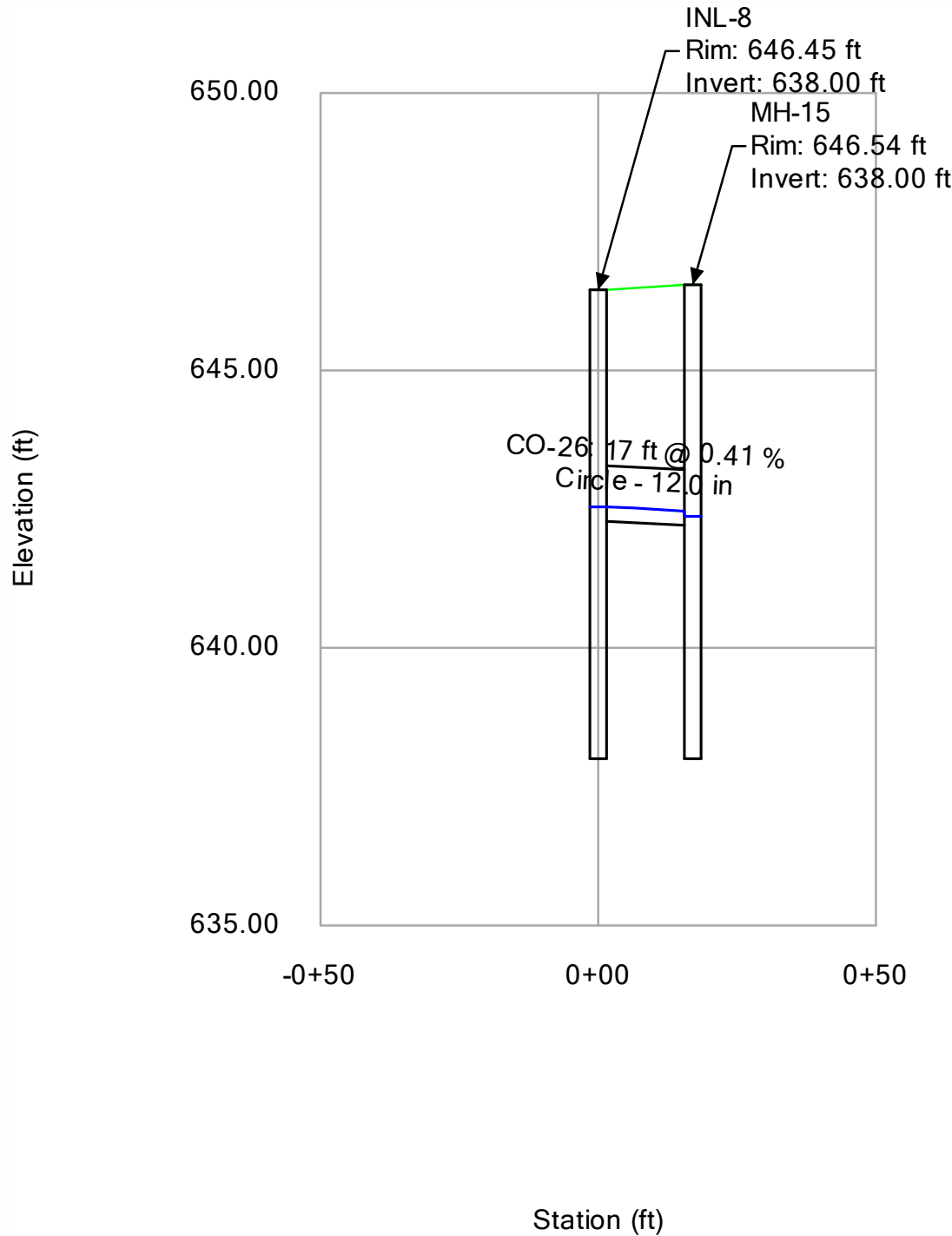


Profile Report

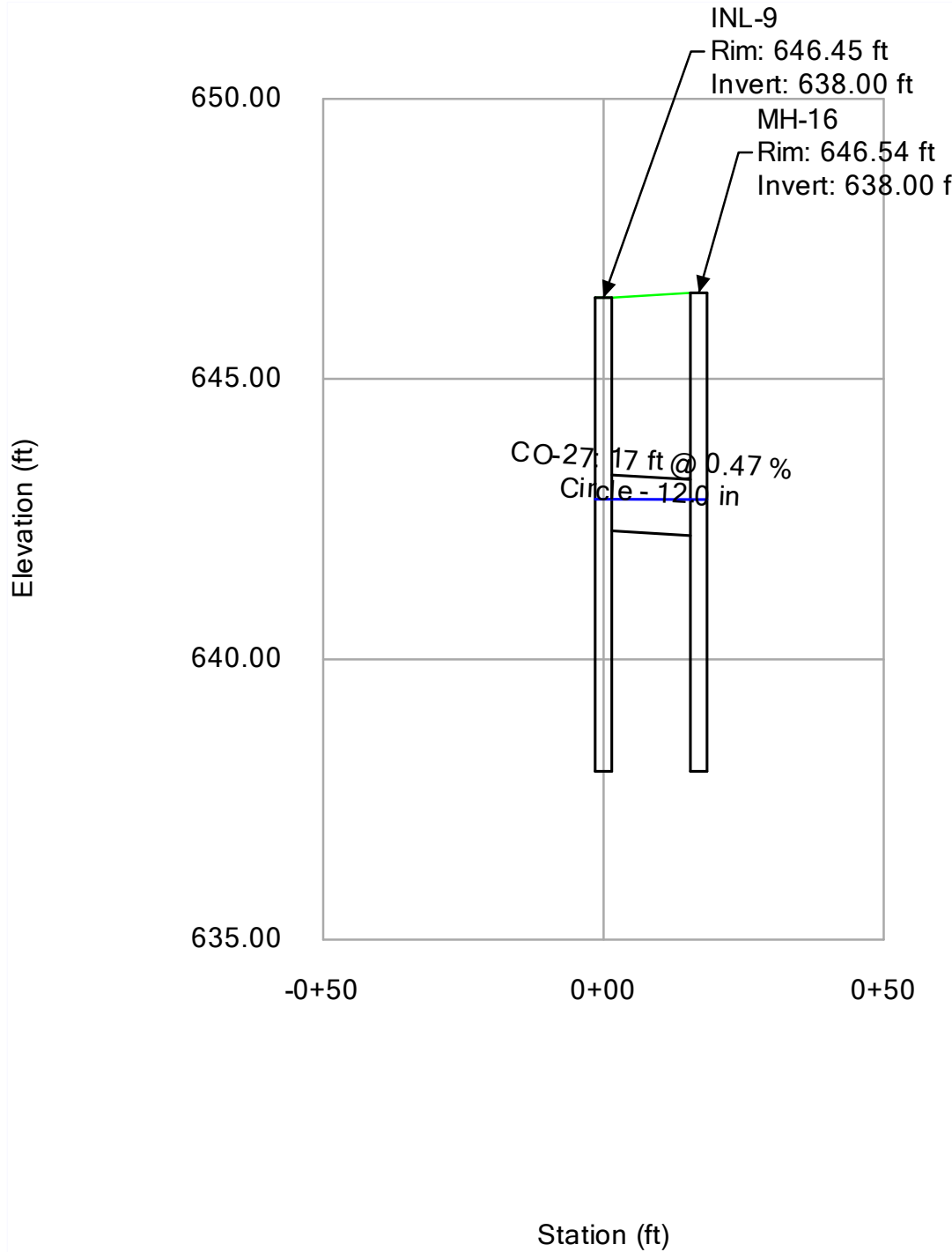
Engineering Profile - INL-5 TO MH-6 (FRDCR_repaired_FINAL.stsw)



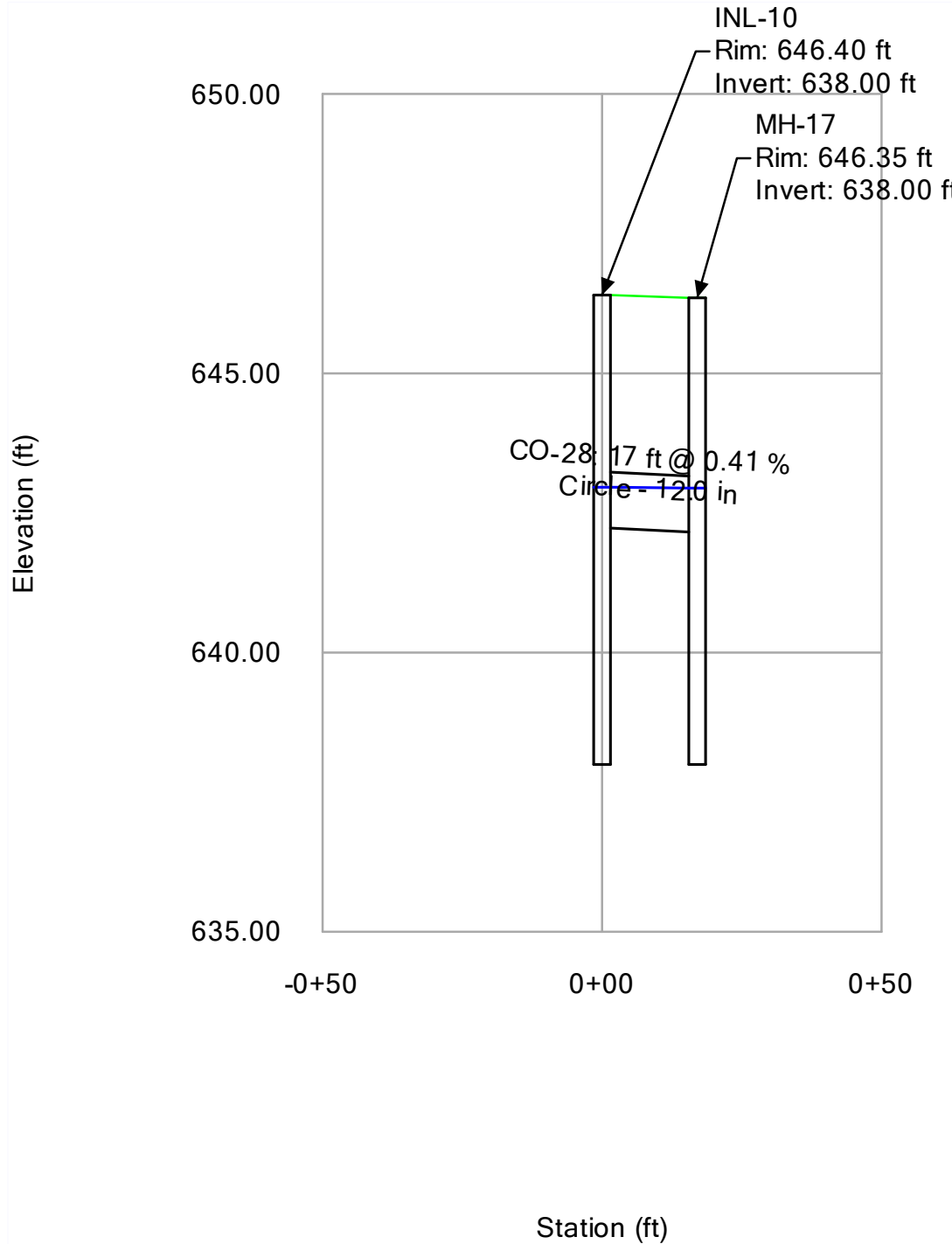
Profile Report **Engineering Profile - INL-8 TO MH-15 (FRDCR_repaired_FINAL.stsw)**



Profile Report **Engineering Profile - INL-9 TO MH-16 (FRDCR_repaired_FINAL.stsw)**

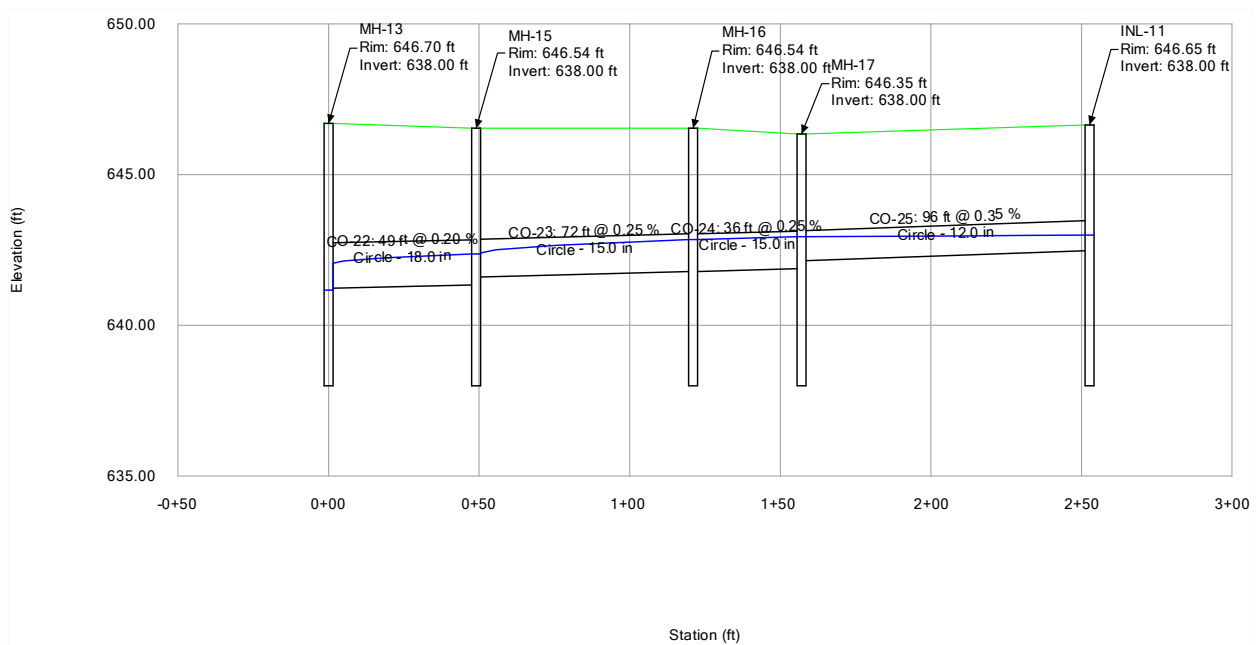


Profile Report **Engineering Profile - INL-10 TO MH-17 (FRDCR_repaired_FINAL.stsw)**



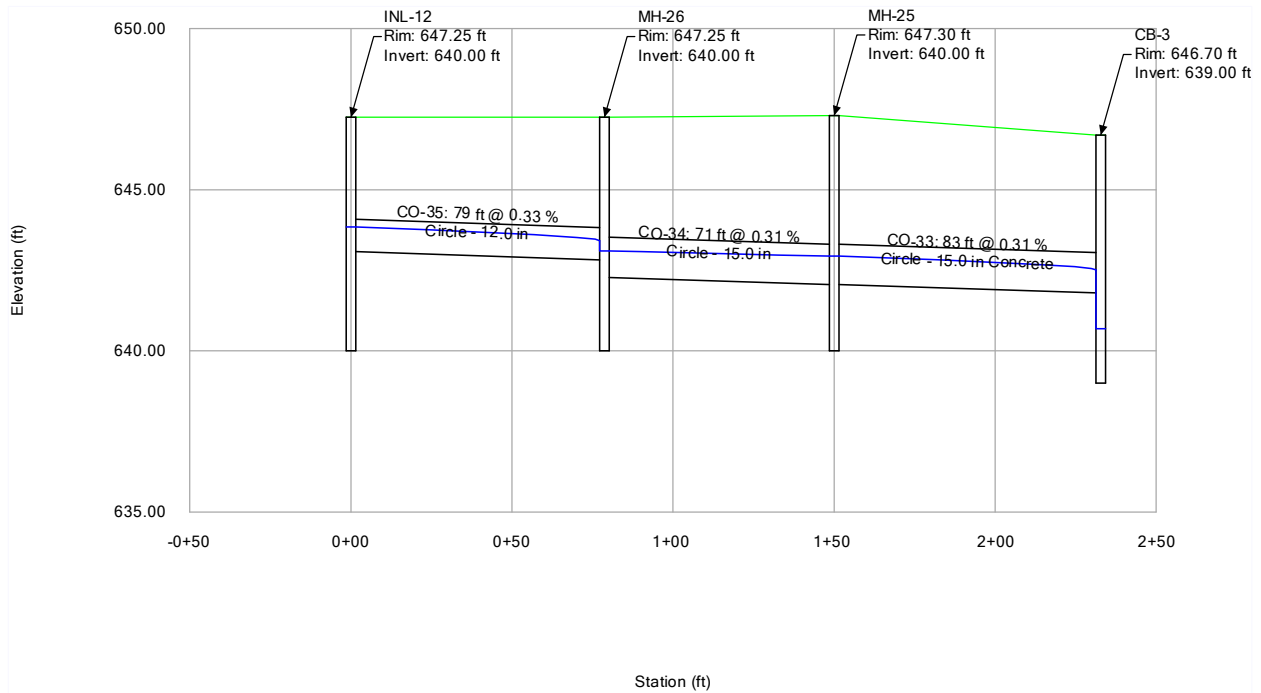
Profile Report

Engineering Profile - INL-11 TO MH-13 (FRDCR_repaired_FINAL.stsw)

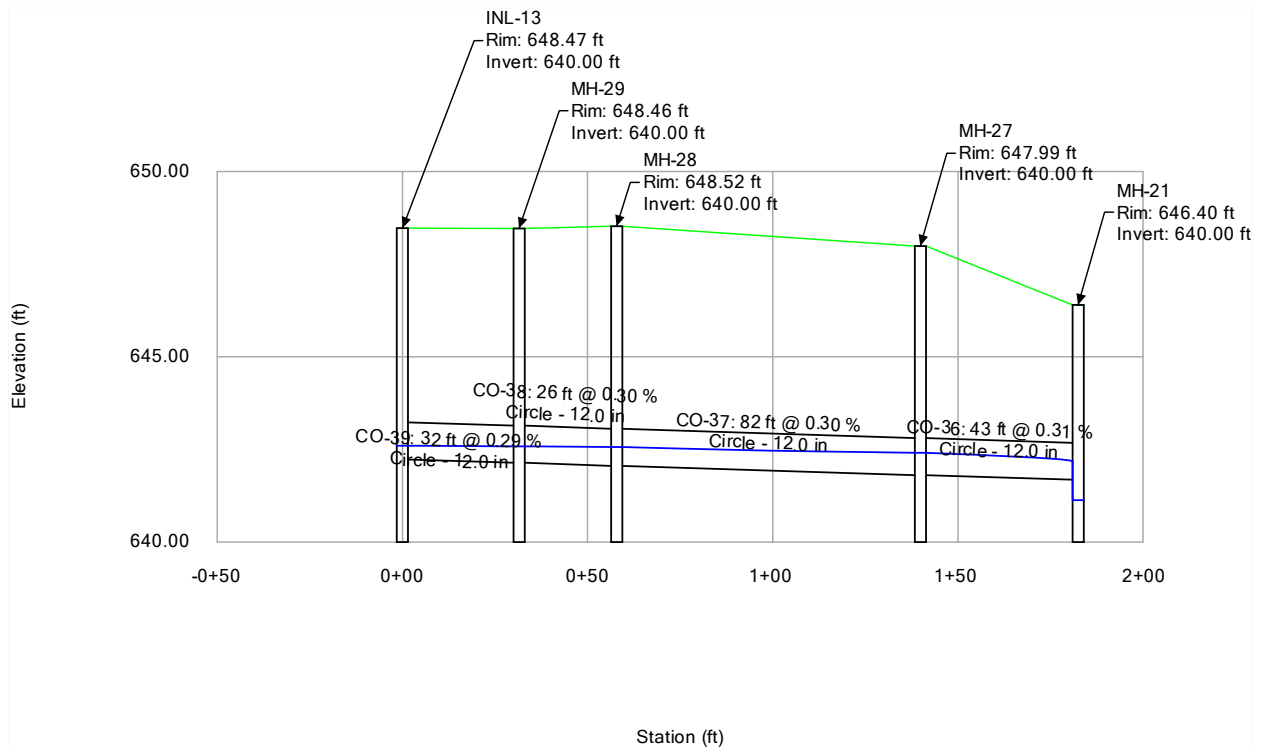


Profile Report

Engineering Profile - INL-12 TO CB-3 (FRDCR_repaired_FINAL.stsw)

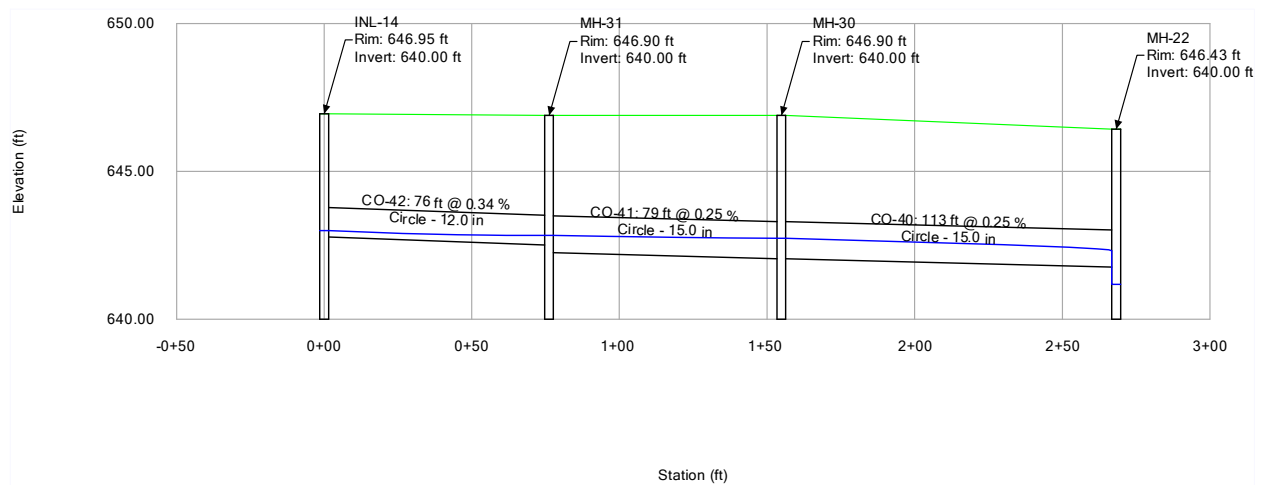


Profile Report **Engineering Profile - INL-13 TO MH-21 (FRDCR_repaired_FINAL.stsw)**



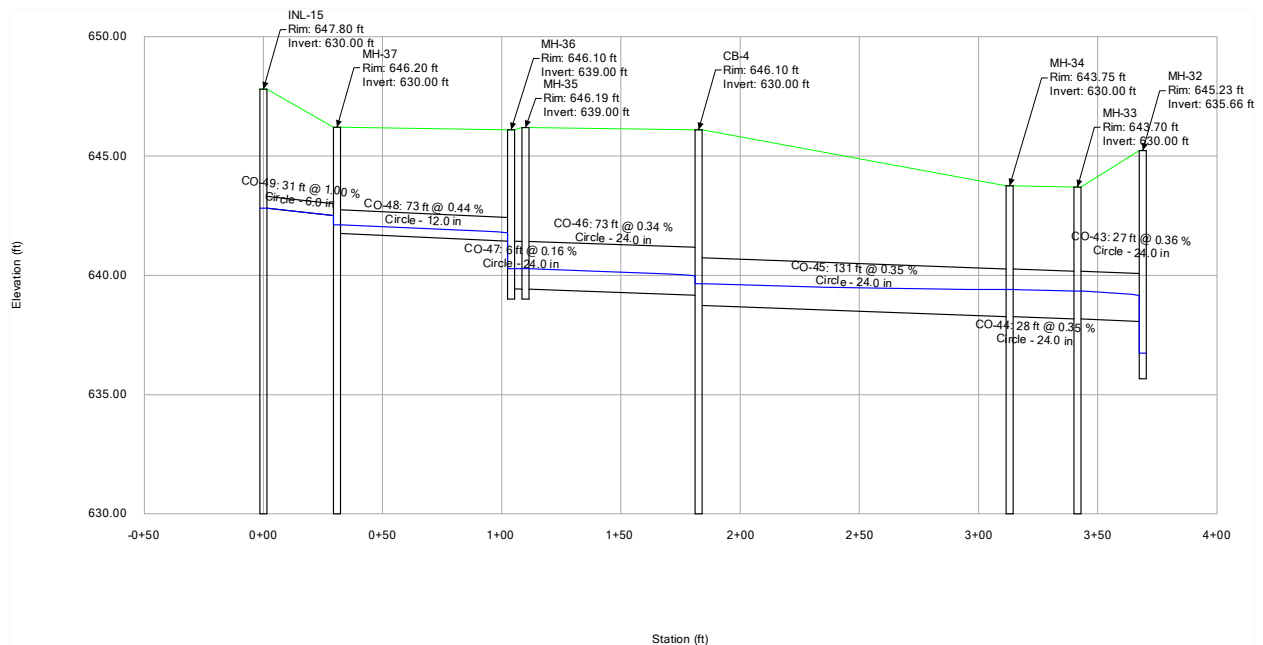
Profile Report

Engineering Profile - INL-14 TO MH-22 (FRDCR_repaired_FINAL.stsw)



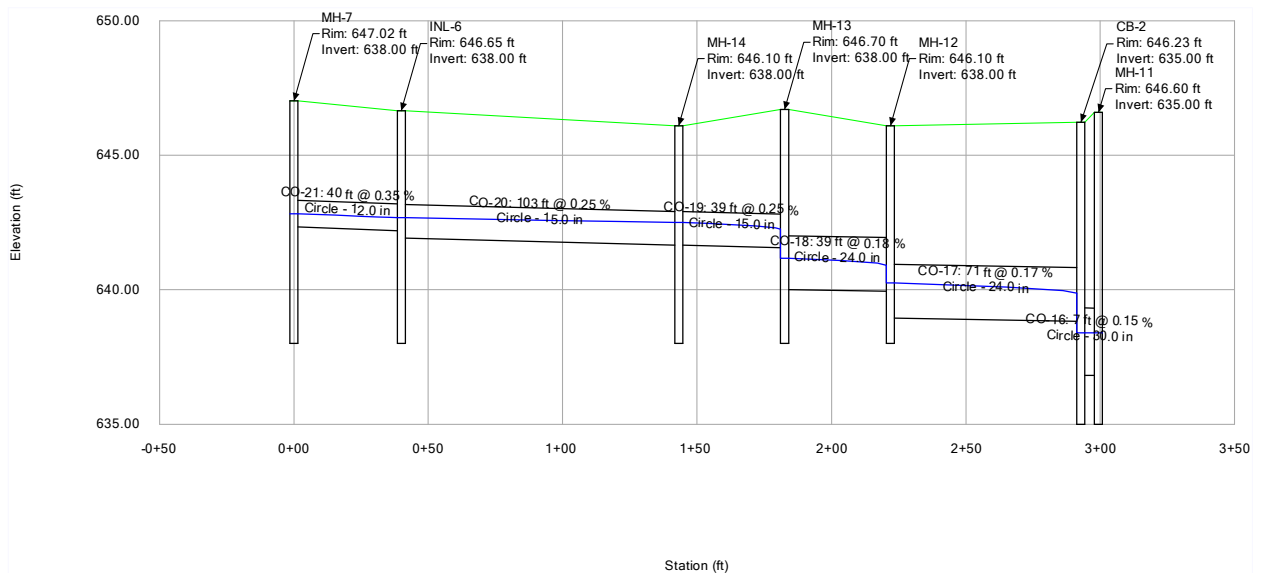
Profile Report

Engineering Profile - INL-15 TO MH-32 (FRDCR_repaired_FINAL.stsw)



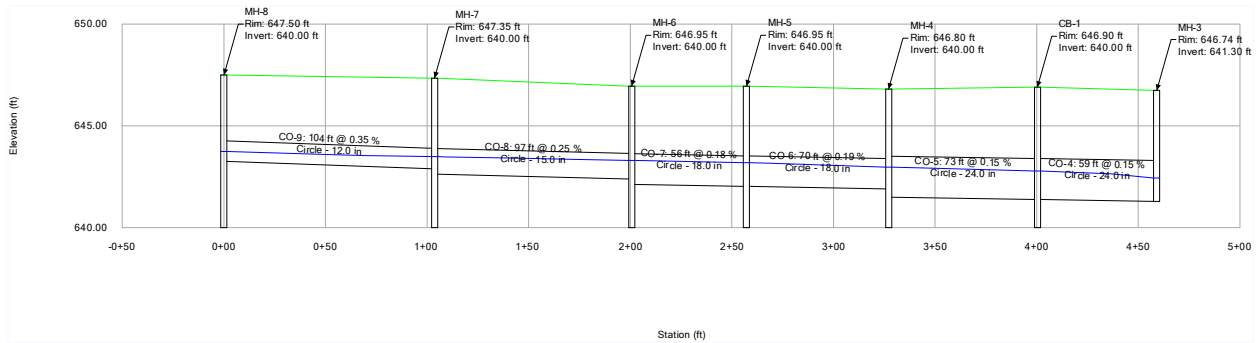
Profile Report

Engineering Profile - MH-7 TO MH-11 (FRDCR_repaired_FINAL.stsw)

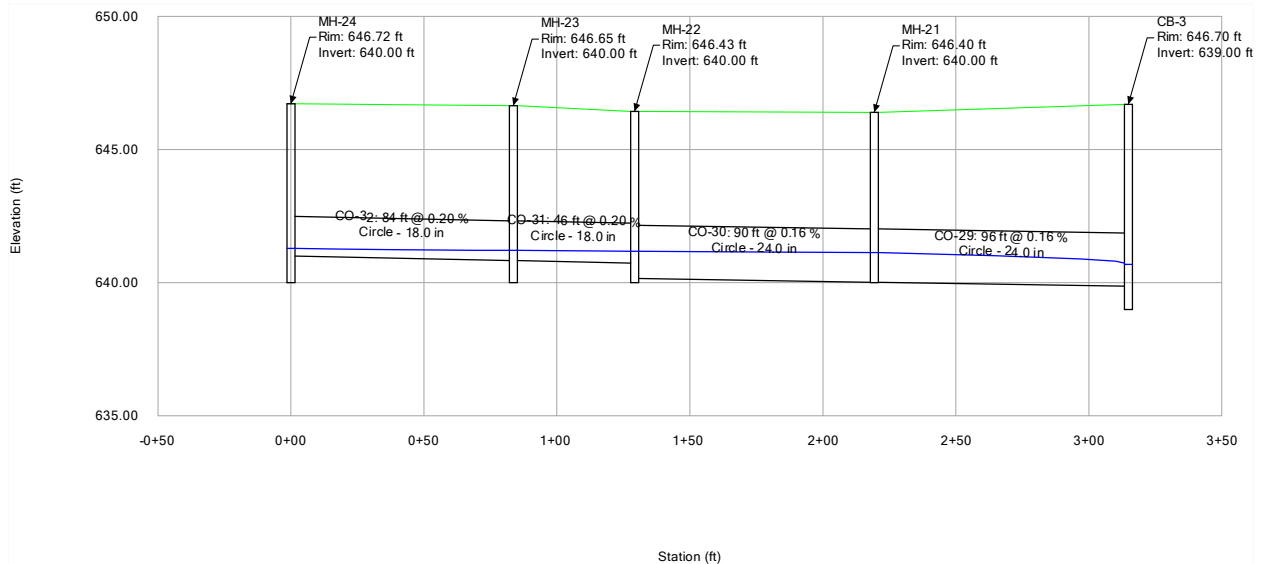


Profile Report

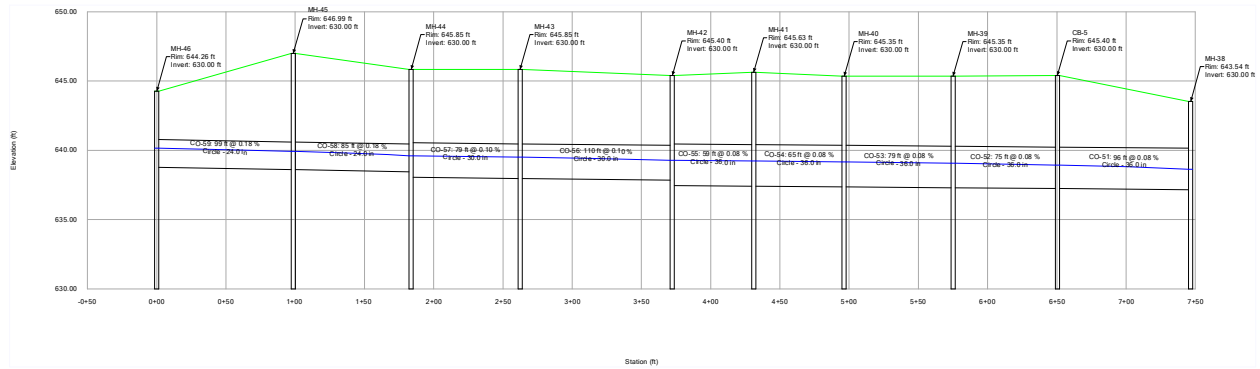
Engineering Profile - MH-8 TO EX. INL-3 (FRDCR_repaired_FINAL.stsw)



Profile Report **Engineering Profile - MH-24 TO CB-3 (FRDCR_repaired_FINAL.stsw)**



Profile Report **Engineering Profile - MH-46 TO EX. MH-38** **(FRDCR_repaired_FINAL.stsw)**



SEASONS AT CREST HILL
CITY OF CREST HILL, ILLINOIS
STORM SEWER DESIGN CALCULATIONS
100-YR STORM EVENT - BULLETIN 70 RAINFALL DATA
1/14/2026

Location		Ground		Hydraulic Grade Line		Crown		Invert		Length	Slope	Diameter	Manning's n	Velocity	Flow	Capacity (Full Flow)	Flow / Capacity (Design)
Upstream Structure	Downstream Structure	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	(ft)	(%)	(in)		(ft/s)	(cfs)	(cfs)	(%)
EX. INL-12	EX. O-1	636.04	630.65	668.07	631.65	632.99	631.65	628.99	627.65	73	1.84	48	0.013	80.76	1014.87	194.66	521.40
EX. INL 11	EX. INL-12	635.91	636.04	636.29	636.04	633.81	632.99	629.81	628.99	31	2.67	48	0.013	10.23	128.56	234.52	54.80
EX. INL 11	EX. MH-10	635.91	637.46	636.09	635.91	633.81	632.46	629.81	628.46	25	5.50	48	0.013	9.67	121.48	336.76	36.10
EX. MH-9	EX. MH-10	637.39	637.46	636.47	636.09	634.99	632.46	630.99	628.46	53	4.75	48	0.013	9.67	121.48	313.14	38.80
EX. CB-8	EX. MH-9	640.20	637.39	637.33	636.47	636.16	634.99	632.16	630.99	137	0.86	48	0.013	9.10	114.30	132.83	86.00
EX. CB-8	EX. CB-8A	640.20	639.65	637.33	637.33	633.21	634.98	632.21	633.98	62	-2.85	12	0.013	0.00	0.00	6.01	0.00
EX. CB-7	EX. CB-8	641.19	640.20	639.61	637.33	637.59	636.16	633.59	632.16	372	0.38	48	0.013	8.94	112.38	89.03	126.20
EX. CB-6	EX. CB-7	642.87	641.19	640.38	639.61	638.16	637.59	634.16	633.59	148	0.39	48	0.013	8.24	103.49	89.26	115.90
EX. CB-5	EX. CB-6	643.64	642.87	641.63	640.38	638.84	638.23	634.84	634.23	284	0.21	48	0.013	7.59	95.35	66.52	143.30
EX. CB-4	EX. CB-5	643.76	643.64	641.95	641.63	639.00	638.91	635.00	634.91	99	0.09	48	0.013	6.52	81.90	43.31	189.10
EX. CB-3	EX. CB-4	644.36	643.76	642.33	641.95	638.75	638.53	635.25	635.03	169	0.13	42	0.013	4.96	47.68	36.30	131.40
EX. MH-3A	EX. CB-3	645.50	644.36	642.44	642.33	639.04	638.91	635.54	635.41	52	0.25	42	0.013	4.74	45.60	50.23	90.80
EX. MH-3A	EX. MH-3B	645.50	645.70	642.56	642.44	639.04	639.25	635.54	635.75	73	-0.29	42	0.013	4.27	41.12	54.14	75.90
MH-11	EX. MH-3B	646.60	645.70	643.72	642.56	638.86	638.25	636.36	635.75	116	0.53	30	0.013	8.38	41.12	29.81	138.00
EX. MH	MH-11	646.57	646.60	644.11	643.72	639.38	638.86	636.88	636.36	100	0.53	30	0.013	5.19	25.50	29.73	85.80
EX. MH A	EX. MH	647.23	646.57	644.28	644.11	639.71	639.38	637.21	636.88	45	0.74	30	0.013	5.19	25.50	35.32	72.20
MH-18	EX. MH A	646.25	647.23	644.51	644.28	640.10	639.71	637.60	637.21	59	0.66	30	0.013	5.19	25.50	33.26	76.70
EX. CB	MH-18	646.14	646.25	644.77	644.51	640.62	640.10	638.12	637.60	81	0.65	30	0.013	4.72	23.17	32.96	70.30
MH-19	EX. CB	646.25	646.14	644.97	644.77	640.22	640.12	638.22	638.12	20	0.51	24	0.013	7.38	23.17	16.20	143.10
MH-20	MH-19	646.35	646.25	645.73	644.97	640.70	640.22	638.70	638.22	86	0.56	24	0.013	6.78	21.29	16.92	125.80
EX. CB	MH-20	646.49	646.35	646.25	645.73	641.15	640.7	639.15	638.7	83	0.55	24	0.013	5.73	18.02	16.71	107.8
CB-3	EX. CB	646.7	646.49	646.67	646.25	641.43	641.15	639.43	639.15	65	0.43	24	0.013	5.73	18.02	14.8	121.7
MH-21	CB-3	646.4	646.7	646.86	646.67	642.02	641.87	640.02	639.87	96	0.16	24	0.013	3.21	10.1	8.96	112.7
MH-27	MH-21	647.99	646.4	646.58	646.4	642.81	642.68	641.81	641.68	43	0.31	12	0.013	2.96	2.32	1.97	118.2
MH-28	MH-27	648.52	647.99	646.75	646.58	643.06	642.81	642.06	641.81	82	0.3	12	0.013	2.03	1.6	1.97	81.2
MH-29	MH-28	648.46	648.52	646.77	646.75	643.14	643.06	642.14	642.06	26	0.3	12	0.013	1.29	1.02	1.96	51.8
INL-13	MH-29	648.47	648.46	646.77	646.77	643.23	643.14	642.23	642.14	32	0.29	12	0.013	0.65	0.51	1.9	26.7
MH-22	MH-21	646.43	646.4	646.46	646.4	642.16	642.02	640.16	640.02	90	0.16	24	0.013	1.85	5.81	8.92	65.2
MH-23	MH-22	646.65	646.43	646.43	646.43	642.33	642.24	640.83	640.74	46	0.2	18	0.013	0.49	0.87	4.66	18.7
MH-24	MH-23	646.72	646.65	646.44	646.43	642.5	642.33	641	640.83	84	0.2	18	0.013	0.33	0.58	4.74	12.3
EX. CB A	MH-24	647.39	646.72	646.44	646.44	642.82	642.35	641.57	641.1		0.96	15	0.013	0.12	0.15	6.32	2.3
EX. INL	MH-24	645.63	646.72	646.44	646.44	643.2	642.6	641.7	641.1	82	0.73	18	0.013	0	0	8.97	0
EX. INL	EX. INL	645.63	645.54	645.63	645.63	643.79	642.7	642.79	641.7	29	3.76	12	0.013	0	0	6.91	0
MH-30	MH-22	646.9	646.43	646.71	646.43	643.3	643.02	642.05	641.77	113	0.25	15	0.013	2.6	3.2	3.21	99.6
MH-31	MH-30	646.9	646.9	646.8	646.71	643.5	643.3	642.25	642.05	79	0.25	15	0.013	1.78	2.18	3.26	66.9
INL-14	MH-31	646.95	646.9	646.81	646.8	643.78	643.52	642.78	642.52	76	0.34	12	0.013	0.46	0.36	2.08	17.4
MH-25	CB-3	647.3	646.7	647.23	646.67	643.31	643.05	642.06	641.8	83	0.31	15	0.013	4.32	5.3	3.62	146.4
MH-26	MH-25	647.25	647.3	647.56	647.23	643.53	643.31	642.28	642.06	71	0.31	15	0.013	3.61	4.43	3.59	123.6
INL-12	MH-26	647.25	647.25	647.94	647.25	644.08	643.82	643.08	642.82	79	0.33	12	0.013	4.25	3.34	2.05	163.2
CB-2	MH-11	646.23	646.6	643.73	643.72	639.32	639.31	636.82	636.81	7	0.15	30	0.013	3.08	15.11	16.05	94.1
MH-12	CB-2	646.1	646.23	644.02	643.73	640.94	640.82	638.94	638.82	71	0.17	24	0.013	4.62	14.53	9.31	156.1
MH-13	MH-12	646.7	646.1	644.15	644.02	642.01	641.94	640.01	639.94	39	0.18	24	0.013	4.02	12.64	9.54	132.5
MH-15	MH-13	646.54	646.7	644.41	644.15	642.84	642.74	641.34	641.24	49	0.2	18	0.013	4.36	7.7	4.74	162.4
MH-16	MH-15	646.54	646.54	645.15	644.41	643.04	642.86	641.79	641.61	72	0.25	15	0.013	5.33	6.54	3.23	202.4
MH-17	MH-16	646.35	646.54	645.42	645.15	643.13	643.04	641.88	641.79	36	0.25	15	0.013	4.62	5.67	3.23	175.5
INL-10	MH-17	646.4	646.35	645.49	645.42	643.23	643.16	642.23	642.16	17	0.41	12	0.013	2.87	2.25	2.29	98.5
INL-11	MH-17	646.65	646.35	645.55	645.42	643.48	643.15	642.48	642.15	96	0.35	12	0.013	1.66	1.31	2.09	62.5
INL-9	MH-16	646.45	646.54	645.15	645.15	643.29	643.21	642.29	642.21	17	0.47	12	0.013	0.55	0.44	2.44	17.8
INL-8	MH-15	646.45	646.54	644.41	644.41	643.28	643.21	642.28	642.21	17	0.41	12	0.013	0.74	0.58	2.29	25.4
MH-14	MH-13	646.1	646.7	644.38	644.15	642.91	642.81	641.66	641.56	39	0.25	15	0.013	4.03	4.94	3.26	151.7
INL-6	MH-14	646.65	646.1	644.68	644.38	643.17	642.91	641.92	641.66	103	0.25	15	0.013	2.84	3.49	3.24	107.6

SEASONS AT CREST HILL
CITY OF CREST HILL, ILLINOIS
STORM SEWER DESIGN CALCULATIONS
100-YR STORM EVENT - BULLETIN 70 RAINFALL DATA
1/14/2026

Location		Ground		Hydraulic Grade Line		Crown		Invert		Length	Slope	Diameter	Manning's n	Velocity	Flow	Capacity (Full Flow)	Flow / Capacity (Design)
Upstream Structure	Downstream Structure	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	(ft)	(%)	(in)		(ft/s)	(cfs)	(cfs)	(%)
MH-7	INL-6	647.02	646.65	644.77	644.68	643.33	643.19	642.33	642.19	40	0.35	12	0.013	2.22	1.74	2.11	82.7
EX. MH-3A	EX. MH	645.5	645.08	642.8	642.44	640.52	640.92	639.52	639.92	86	-0.47	12	0.013	2.96	2.32	2.44	95.4
EX. MH	EX. INLET	645.08	643.3	642.84	642.8	641.05	641.25	640.05	640.25	8	-2.39	12	0.013	2.96	2.32	5.51	42.2
EX. INLET	EX. INLET	643.3	643.17	642.92	642.84	641.25	641.56	640.25	640.56	30	-1.04	12	0.013	2.4	1.89	3.63	52
EX. MH-3A	EX. MH	645.5	645.4	642.89	642.44	640.52	641.35	639.52	640.35	123	-0.67	12	0.013	2.75	2.16	2.93	73.7
EX. MH	EX. MH-73	645.4	643.65	642.92	642.89	641.09	641.35	640.09	640.35	8	-3.25	12	0.013	2.75	2.16	6.42	33.6
EX. MH-73	EX. MH-72	643.65	643.86	642.97	642.92	641.5	641.09	640.5	640.09	29	1.41	12	0.013	1.94	1.53	4.24	36
EX. CB-4B	EX. CB-4	643.17	643.76	642.02	641.95	638.67	638.67	635.17	635.17	61	0	42	0.013	3.36	32.36	1.01	3,216.30
EX. CB-4A	EX. CB-4B	644.18	643.17	642.09	642.02	638.81	638.67	635.31	635.17	135	0.1	42	0.013	2.5	24.06	32.43	74.2
EX. INLET	EX. CB-4A	643.76	644.18	642.31	642.09	641.25	637.81	638.75	635.31	62	5.51	30	0.013	4.9	24.06	96.27	25
EX. INLET	EX. INLET	645.94	643.76	643.03	642.31	642.76	641.25	640.26	638.75	241	0.63	30	0.013	4.56	22.39	32.44	69
MH-3	EX. INLET	646.74	645.94	643.37	643.03	643.8	642.76	641.3	640.26	193	0.54	30	0.013	6.51	19.27	30.14	63.9
EX. INLET 1	MH-3	649.1	646.74	643.37	643.37	644.16	643.8	641.66	641.3	159	0.23	30	0.013	2.49	1.82	19.51	9.3
EX. INLET 1	MH-1	649.1	649	643.4	643.37	642.66	642.77	641.66	641.77	28	-0.39	12	0.013	1.39	1.09	2.23	48.8
MH-1	MH-2	649	649.01	643.89	643.45	644.13	644.54	643.13	643.54	102	-0.4	12	0.013	2.41	0.58	2.26	25.7
MH-2	INL-1	649.01	648.92	645.09	644.84	645.54	645.75	644.54	644.75	61	-0.34	12	0.013	2.19	0.51	2.08	24.4
EX. INLET 1	EX. MH-1	649.1	648.68	643.37	643.37	644.16	644.94	641.66	642.44	147	-0.53	30	0.013	1.94	0.29	29.83	1
EX. MH-1	EX. INLET 2	648.68	647.17	643.38	643.37	644.44	645.15	642.44	643.15	260	-0.27	24	0.013	1.29	0.15	11.82	1.2
CB-1	MH-3	646.9	646.74	643.67	643.37	643.39	643.3	641.39	641.3	59	0.15	24	0.013	5.14	16.14	8.86	182.2
MH-4	CB-1	646.8	646.9	644	643.67	643.5	643.39	641.5	641.39	73	0.15	24	0.013	4.84	15.2	8.77	173.3
MH-5	MH-4	646.95	646.8	644.44	644	643.53	643.4	642.03	641.9	70	0.19	18	0.013	4.74	8.37	4.53	184.9
MH-6	MH-5	646.95	646.95	644.72	644.44	643.63	643.53	642.13	642.03	56	0.18	18	0.013	4.2	7.42	4.42	168
MH-10	MH-6	646.85	646.95	645.01	644.72	643.66	643.53	642.66	642.53	67	0.2	12	0.013	2.98	2.34	1.57	148.6
MH-10	INL-5	646.85	646.61	645.87	645.01	643.56	643.81	643.06	643.31	50	-0.5	6	0.013	3.77	0.74	0.4	185.9
MH-7	MH-6	647.35	646.95	645.12	644.72	643.88	643.64	642.63	642.39	97	0.25	15	0.013	3.37	4.14	3.21	128.9
INL-4	MH-7	647.35	647.35	645.15	645.12	644.18	644.1	643.18	643.1	22	0.36	12	0.013	1.48	1.16	2.15	54.1
MH-8	MH-7	647.5	647.35	645.35	645.12	644.26	643.9	643.26	642.9	104	0.35	12	0.013	2.13	1.67	2.1	79.6
INL-3	MH-8	647.5	647.5	645.36	645.35	644.33	644.26	643.33	643.26	22	0.32	12	0.013	1.02	0.8	2.01	39.7
MH-9	MH-4	647.25	646.8	644.49	644	643.78	643.5	642.53	642.25	112	0.25	15	0.013	3.49	4.29	3.23	132.7
INL-2	MH-9	647.25	647.25	645.12	644.49	644.08	643.81	643.08	642.81	79	0.34	12	0.013	4.07	3.2	2.09	153.2
MH-38	EX. O-2	643.54	635.68	638.99	632.79	639.16	633.68	637.16	631.68	109	5.01	24	0.013	16.57	28.33	50.61	56
CB-5	MH-38	645.4	643.54	639.45	638.99	640.24	640.16	637.24	637.16	96	0.08	36	0.013	3.93	27.75	19.23	144.3
MH-39	CB-5	645.35	645.4	639.64	639.45	640.3	640.24	637.3	637.24	75	0.08	36	0.013	3.85	27.24	18.82	144.8
MH-40	MH-39	645.35	645.35	639.78	639.64	640.36	640.3	637.36	637.3	79	0.08	36	0.013	3.6	25.43	18.42	138
MH-41	MH-40	645.63	645.35	639.87	639.78	640.41	640.36	637.41	637.36	65	0.08	36	0.013	3.31	23.39	18.46	126.7
MH-42	MH-41	645.4	645.63	639.94	639.87	640.46	640.41	637.46	637.41	59	0.08	36	0.013	3.24	22.88	19.44	117.7
INL-17	MH-42	645.65	645.4	641.07	640.71	641.48	641.19	640.48	640.19	67	0.43	12	0.013	3.18	1.53	2.34	65.1
INL-16	MH-42	645.51	645.4	640.84	640.48	641.34	641.03	640.34	640.03	71	0.44	12	0.013	2.99	1.16	2.35	49.4
MH-43	MH-42	645.85	645.4	640.18	639.94	640.47	640.36	637.97	637.86	110	0.1	30	0.013	3.82	18.74	12.98	144.5
MH-44	MH-43	645.85	645.85	640.3	640.18	640.55	640.47	638.05	637.97	79	0.1	30	0.013	3.3	16.2	13.08	123.9
MH-45	MH-44	646.99	645.85	640.64	640.3	640.6	640.45	638.6	638.45	85	0.18	24	0.013	4.62	14.53	9.5	153
MH-46	MH-45	644.26	646.99	641.02	640.64	640.78	640.6	638.78	638.6	99	0.18	24	0.013	4.49	14.09	9.67	145.8
MH-46	EX. MH-7	644.26	643.45	641.15	641.02	640.78	640.92	638.78	638.92	36	-0.39	24	0.013	4.28	13.44	14.06	95.6
EX. MH-7	EX. MH-8	643.45	640.03	641.83	641.15	640.92	637.83	638.92	635.83	192	1.61	24	0.013	4.28	13.44	28.73	46.8
EX. MH-8	EX. MH-9	640.03	641.36	640.65	640.03	637.58	637.91	635.83	636.16	87	-0.38	21	0.013	5.59	13.44	9.77	137.6
EX. MH-9	EX. MH-10	641.36	646.81	642.03	640.65	637.91	642.42	636.16	640.67	165	-2.74	21	0.013	10.97	13.44	26.23	51.2
EX. MH-10	EX. MH-11	646.81	646.56	642.34	642.03	642.42	642.96	640.67	641.21	42	-1.3	21	0.013	7.57	9.3	18.07	51.5
EX. MH-11	EX. MH-12	646.56	645.62	643.58	642.34	642.01	642.28	641.01	641.28	147	-0.18	12	0.013	4.16	3.27	1.53	214.3
EX. MH-12	EX. MH-13	645.62	645.63	643.79	643.58	642.28	642.99	641.28	641.99	25	-2.86	12	0.013	4.16	3.27	6.03	54.2
EX. INL 8	EX. O-2	644.47	635.68	634.49	633.27	634.79	633.68	632.79	631.68	102	1.09	24	0.013	8.56	22.87	23.61	96.9
EX. INL 7	EX. INL 8	642.03	644.47	637.03	636.3	637.38	636.65	635.38	634.65	85	0.86	24	0.013	7.6	21.12	20.96	100.8

SEASONS AT CREST HILL
CITY OF CREST HILL, ILLINOIS
STORM SEWER DESIGN CALCULATIONS
100-YR STORM EVENT - BULLETIN 70 RAINFALL DATA
1/14/2026

Location		Ground		Hydraulic Grade Line		Crown		Invert		Length	Slope	Diameter	Manning's n	Velocity	Flow	Capacity (Full Flow)	Flow / Capacity (Design)
Upstream Structure	Downstream Structure	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	(ft)	(%)	(in)		(ft/s)	(cfs)	(cfs)	(%)
EX. INL 7	EX. INL 6	642.03	643.98	641.74	637.03	636.38	641.93	635.38	640.93	107	-5.17	12	0.013	9.99	3.56	8.1	43.9
EX. INL 6	EX. INL 5	643.98	646	643	641.74	641.93	643.3	640.93	642.3	138	-0.99	12	0.013	4.96	2.67	3.55	75.3
EX. INL 5	EX. INL 4	646	646.08	643.26	643	643.3	643.78	642.3	642.78	31	-1.57	12	0.013	4.94	1.31	4.46	29.3
MH-32	EX. INL 7	645.23	642.03	637.19	637.03	637.66	637.38	635.66	635.38	48	0.59	24	0.013	6.23	15.26	17.33	88
MH-33	MH-32	643.7	645.23	639.77	639.48	640.17	640.07	638.17	638.07	27	0.36	24	0.013	4.86	15.26	13.66	111.7
MH-34	MH-33	643.75	643.7	639.87	639.77	640.27	640.17	638.27	638.17	28	0.35	24	0.013	4.86	12.86	13.41	95.9
CB-4	MH-34	646.1	643.75	640.1	639.87	640.73	640.27	638.73	638.27	131	0.35	24	0.013	4.66	9.73	13.43	72.5
MH-35	CB-4	646.19	646.1	640.58	640.21	641.42	641.17	639.42	639.17	73	0.34	24	0.013	4.48	8.5	13.27	64
EX. MH-5	MH-35	645.77	646.19	640.81	640.58	641.05	640.92	639.55	639.42	72	0.18	18	0.013	3.08	5.45	4.47	121.8
EX. INL-5	EX. MH-5	644.86	645.77	640.9	640.81	641.5	641.05	640	639.55	24	1.87	18	0.013	7.57	5.45	14.37	37.9
EX. INL-6	EX. INL-5	644.85	644.86	640.92	640.9	641.63	641.5	640.13	640	30	0.44	18	0.013	3.65	2.62	6.95	37.6
MH-36	MH-35	646.1	646.19	640.58	640.58	641.43	641.42	639.43	639.42	6	0.16	24	0.013	2.62	3.05	9.17	33.3
MH-37	MH-36	646.2	646.1	642.25	641.88	642.75	642.43	641.75	641.43	73	0.44	12	0.013	2.99	1.16	2.36	49.3
INL-15	MH-37	647.8	646.2	642.81	642.5	643.31	643	642.81	642.5	31	1	6	0.013	0	0	0.56	0

SEASONS AT CREST HILL
CITY OF CREST HILL, ILLINOIS
STORM SEWER DESIGN CALCULATIONS
100-YR STORM EVENT - BULLETIN 70 RAINFALL DATA
1/14/2026

Drainage Area	Outflow Element	Area	Runoff	Tc	Intensity	Flow
		(Acres)	Coefficient	(min)	(in/hr)	(cfs)
EX. C1	EX. CB-3	0.29	0.66	5	10.92	2.08
EX. C2	EX. INL 7	0.32	0.66	5	10.92	2.30
EX. C3	EX. CB-4	0.26	0.66	5	10.92	1.87
EX. C4	EX. CB-5	1.85	0.66	5	10.92	13.45
EX. C5	EX. CB-6	1.12	0.66	5	10.92	8.14
EX. C6	EX. CB-7	1.22	0.66	5	10.92	8.89
EX. C7	EX. CB-8	0.26	0.66	5	10.92	1.92
EX. C8	EX. MH-9	0.99	0.66	5	10.92	7.18
EX. C9	EX. MH-10	0.00	0.66	5	10.92	0.00
EX. C10	EX. INL 11	0.97	0.66	5	10.92	7.08
EX. C11	EX. INL-12	122.00	0.66	5	10.92	886.31
EX. C12	EX. INL 8	0.24	0.66	5	10.92	1.75
EX. C15	EX. INL 6	0.12	0.66	5	10.92	0.89
EX. C16	EX. INL 5	0.19	0.66	5	10.92	1.37
EX. C-17	EX. INL 4	0.18	0.66	5	10.92	1.31
CM-19	EX. CB-4B	1.14	0.66	5	10.92	8.30
CM-22	INL-2	0.44	0.66	5	10.92	3.20
CM-23	MH-9	0.15	0.66	5	10.92	1.09
CM-24	MH-4	0.35	0.66	5	10.92	2.54
CM-25	CB-1	0.13	0.66	5	10.92	0.94
CM-26	MH-3	0.18	0.66	5	10.92	1.31
CM-27	INL-3	0.11	0.66	5	10.92	0.8
CM-28	MH-8	0.12	0.66	5	10.92	0.87
CM-29	INL-4	0.16	0.66	5	10.92	1.16
CM-30	MH-7	0.18	0.66	5	10.92	1.31
CM-31	MH-6	0.13	0.66	5	10.92	0.94
CM-33	MH-10	0.22	0.66	5	10.92	1.6
CM-34	INL-12	0.46	0.66	5	10.92	3.34
CM-35	MH-26	0.15	0.66	5	10.92	1.09
CM-36	MH-25	0.12	0.66	5	10.92	0.87
CM-37	CB-3	0.36	0.66	5	10.92	2.62
CM-38	MH-21	0.27	0.66	5	10.92	1.96
CM-39	MH-23	0.04	0.66	5	10.92	0.29
CM-40	MH-22	0.24	0.66	5	10.92	1.74
CM-41	MH-30	0.14	0.66	5	10.92	1.02
CM-42	MH-31	0.25	0.66	5	10.92	1.82
CM-43	INL-14	0.05	0.66	5	10.92	0.36
CM-44	MH-24	0.06	0.66	5	10.92	0.44
CM-47	MH-20	0.45	0.66	5	10.92	3.27
CM-48	MH-19	0.26	0.66	5	10.92	1.89
CM-49	MH-18	0.32	0.66	5	10.92	2.32

SEASONS AT CREST HILL
CITY OF CREST HILL, ILLINOIS
STORM SEWER DESIGN CALCULATIONS
100-YR STORM EVENT - BULLETIN 70 RAINFALL DATA
1/14/2026

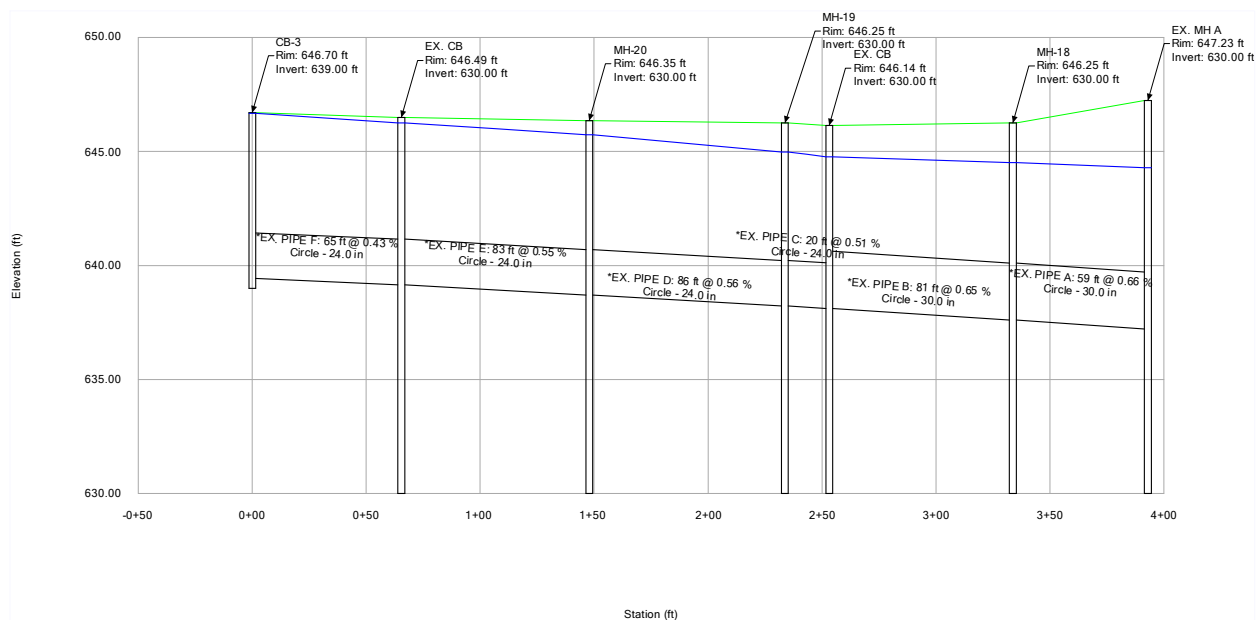
Drainage Area	Outflow Element	Area	Runoff	Tc	Intensity	Flow
		(Acres)	Coefficient	(min)	(in/hr)	(cfs)
CM-52	EX. MH-72	0.21	0.66	5	10.92	1.53
CM-53	MH-12	0.26	0.66	5	10.92	1.89
CM-55	MH-15	0.08	0.66	5	10.92	0.58
CM-56	MH-17	0.29	0.66	5	10.92	2.11
CM-57	INL-11	0.18	0.66	5	10.92	1.31
CM-58	INL-8	0.08	0.66	5	10.92	0.58
CM-59	CB-5	0.07	0.66	5	10.92	0.51
CM-60	MH-39	0.25	0.66	5	10.92	1.82
CM-61	MH-40	0.28	0.66	5	10.92	2.03
CM-63	MH-42	0.2	0.66	5	10.92	1.45
CM-64	INL-17	0.21	0.66	5	10.92	1.53
CM-65	INL-16	0.16	0.66	5	10.92	1.16
CM-66	MH-43	0.35	0.66	5	10.92	2.54
CM-67	MH-44	0.23	0.66	5	10.92	1.67
CM-69	MH-45	0.06	0.66	5	10.92	0.44
CM-70	MH-46	0.09	0.66	5	10.92	0.65
CM-71	MH-14	0.2	0.66	5	10.92	1.45
CM-72	INL-6	0.24	0.66	5	10.92	1.74
CM-77	EX. INLET 1	0.06	0.66	5	10.92	0.44
CM-1	MH-1	0.07	0.66	5	10.92	0.51
CM-2	MH-2	0.01	0.66	5	10.92	0.07
CM-3	EX. MH-1	0.02	0.66	5	10.92	0.15
CM-4	INL-1	0.07	0.66	5	10.92	0.51
CM-5	EX. INLET 2	0.02	0.66	5	10.92	0.15
CM-6	MH-5	0.13	0.66	5	10.92	0.94
CM-7	INL-5	0.1	0.66	5	10.92	0.74
CM-8	EX. INLET	0.43	0.66	5	10.92	3.12
CM-9	EX. INLET	0.23	0.66	5	10.92	1.67
CM-10	EX. INLET	0.06	0.66	5	10.92	0.44
CM-11	EX. INLET	0.26	0.66	5	10.92	1.89
CM-12	EX. MH-73	0.09	0.66	5	10.92	0.63
CM-13	MH-11	0.07	0.66	5	10.92	0.51
CM-14	CB-2	0.08	0.66	5	10.92	0.58
CM-15	MH-16	0.06	0.66	5	10.92	0.44
CM-16	INL-9	0.06	0.66	5	10.92	0.44
CM-17	INL-10	0.31	0.66	5	10.92	2.25
CM-18	MH-7	0.24	0.66	5	10.92	1.74
CM-19	MH-27	0.1	0.66	5	10.92	0.73
CM-20	MH-28	0.08	0.66	5	10.92	0.58
CM-21	MH-29	0.07	0.66	5	10.92	0.51
CM-22	INL-13	0.07	0.66	5	10.92	0.51

SEASONS AT CREST HILL
CITY OF CREST HILL, ILLINOIS
STORM SEWER DESIGN CALCULATIONS
100-YR STORM EVENT - BULLETIN 70 RAINFALL DATA
1/14/2026

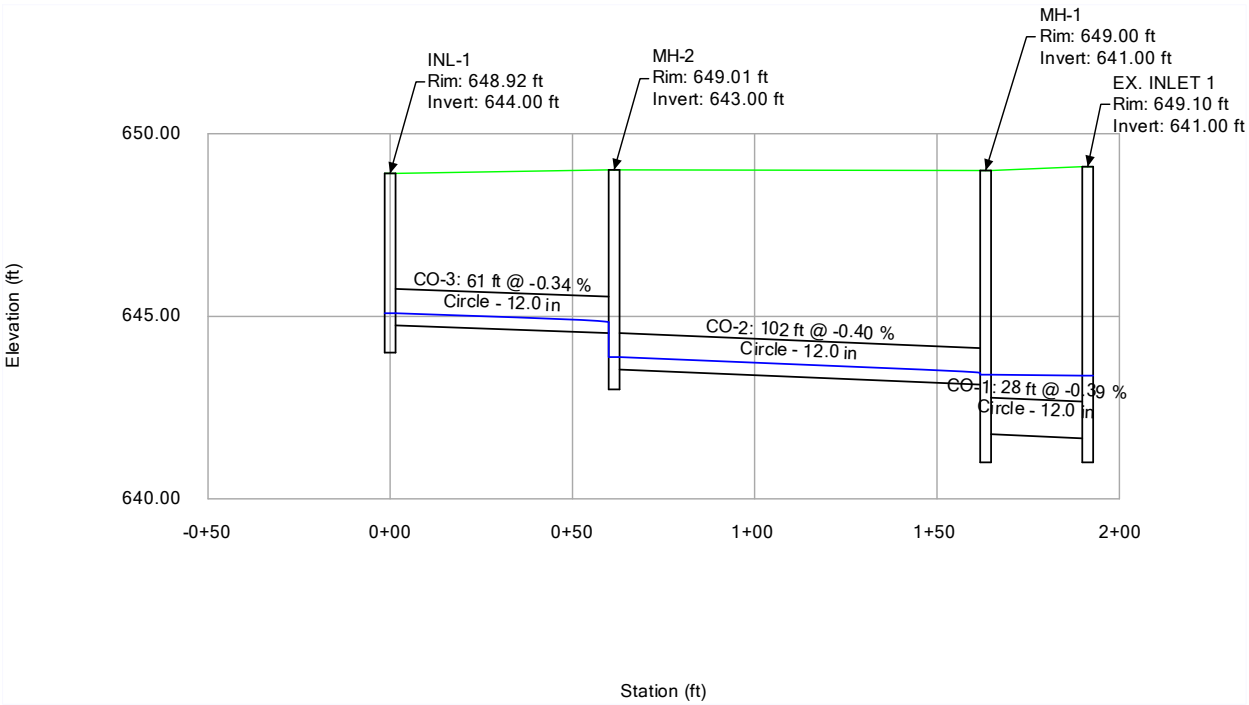
Drainage Area	Outflow Element	Area	Runoff	Tc	Intensity	Flow
		(Acres)	Coefficient	(min)	(in/hr)	(cfs)
CM-23	MH-33	0.33	0.66	5	10.92	2.4
CM-24	MH-34	0.43	0.66	5	10.92	3.12
CM-25	CB-4	0.17	0.66	5	10.92	1.24
CM-26	MH-36	0.26	0.66	5	10.92	1.89
CM-27	MH-37	0.16	0.66	5	10.92	1.16
CM-28	MH-38	0.08	0.66	5	10.92	0.58
CM-29	MH-41	0.07	0.66	5	10.92	0.51
CM-30	EX. CB A	0.02	0.66	5	10.92	0.15
CM-31	EX. MH-13	0.45	0.66	5	10.92	3.27
CM-3	EX. INL-6	0.36	0.66	5	10.92	2.62
CM-4	EX. INL-5	0.39	0.66	5	10.92	2.83
CM-5	EX. MH-11	0.83	0.66	5	10.92	6.03
CM-6	EX. MH-10	0.57	0.66	5	10.92	4.14

Profile Report

Engineering Profile - CB-3 TO EX. MH-A (FRDCR_repaired_FINAL.stsw)

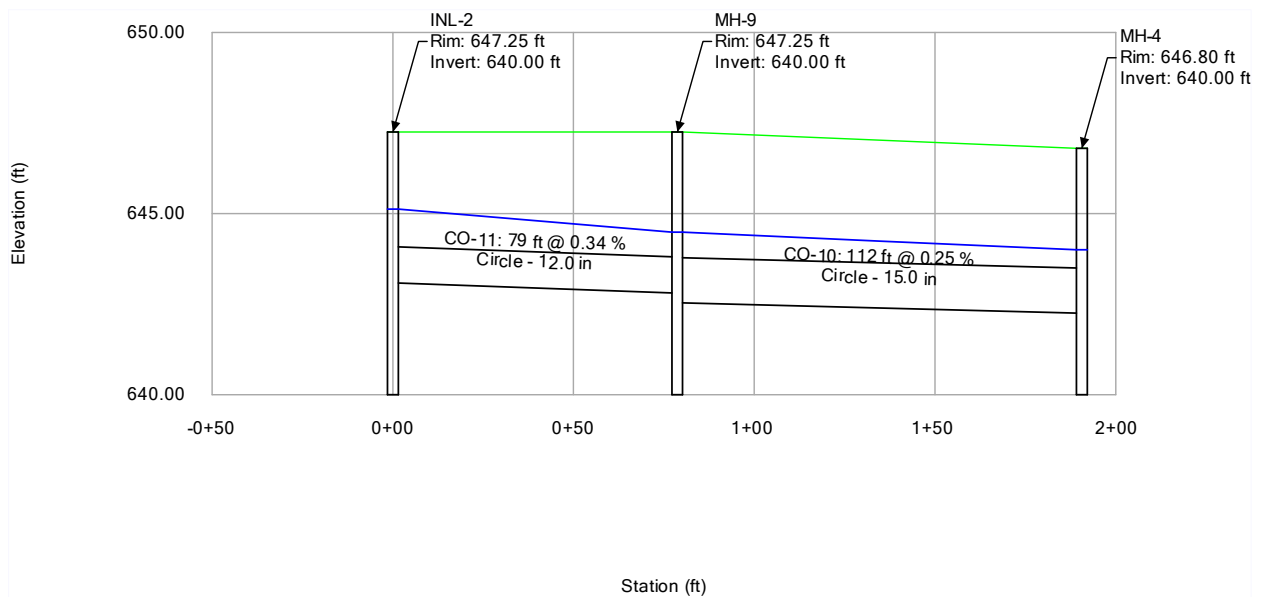


Profile Report
Engineering Profile - INL-1 TO EX. INL-1 (FRDCR_repaired_FINAL.stsw)

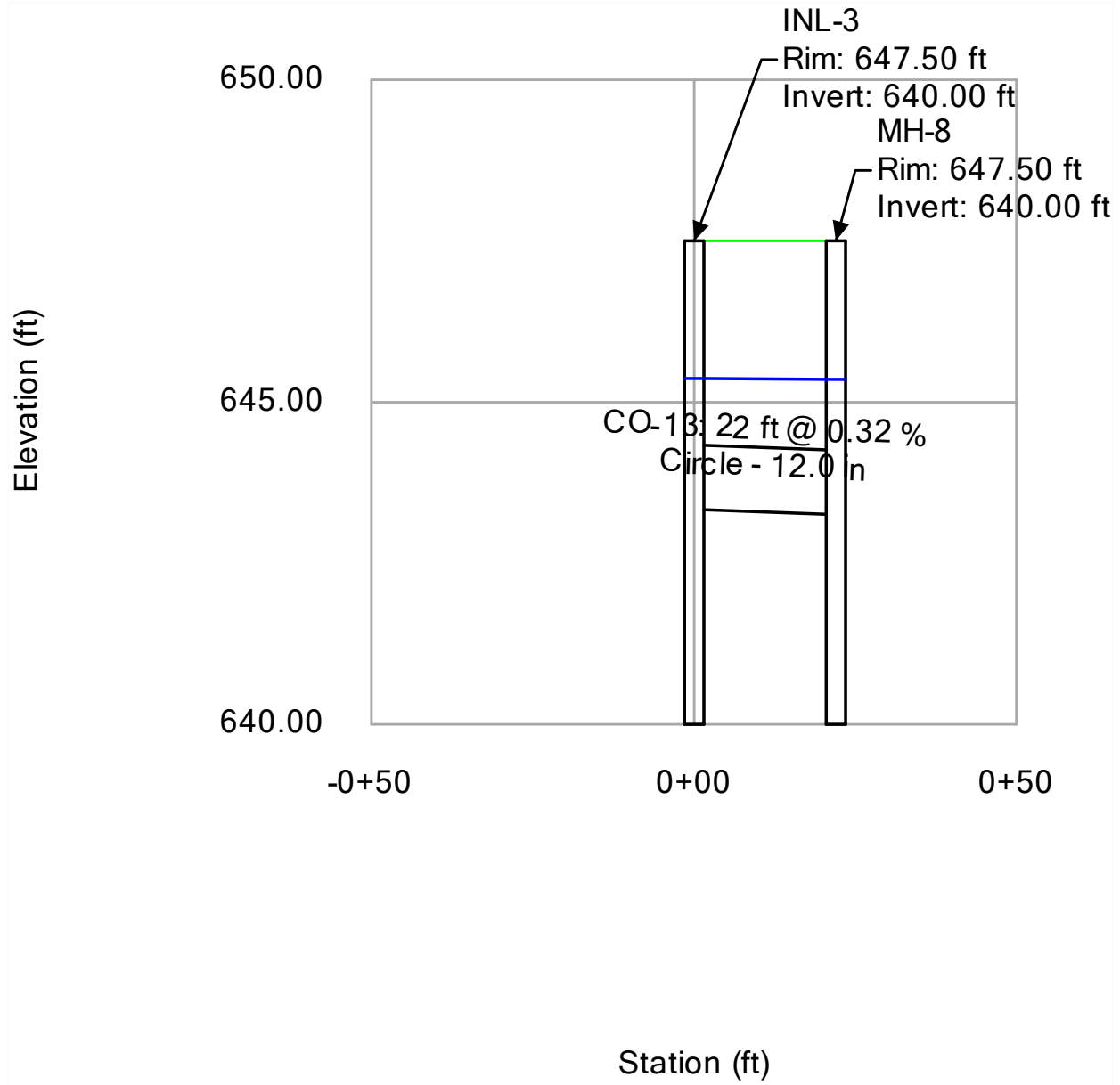


Profile Report

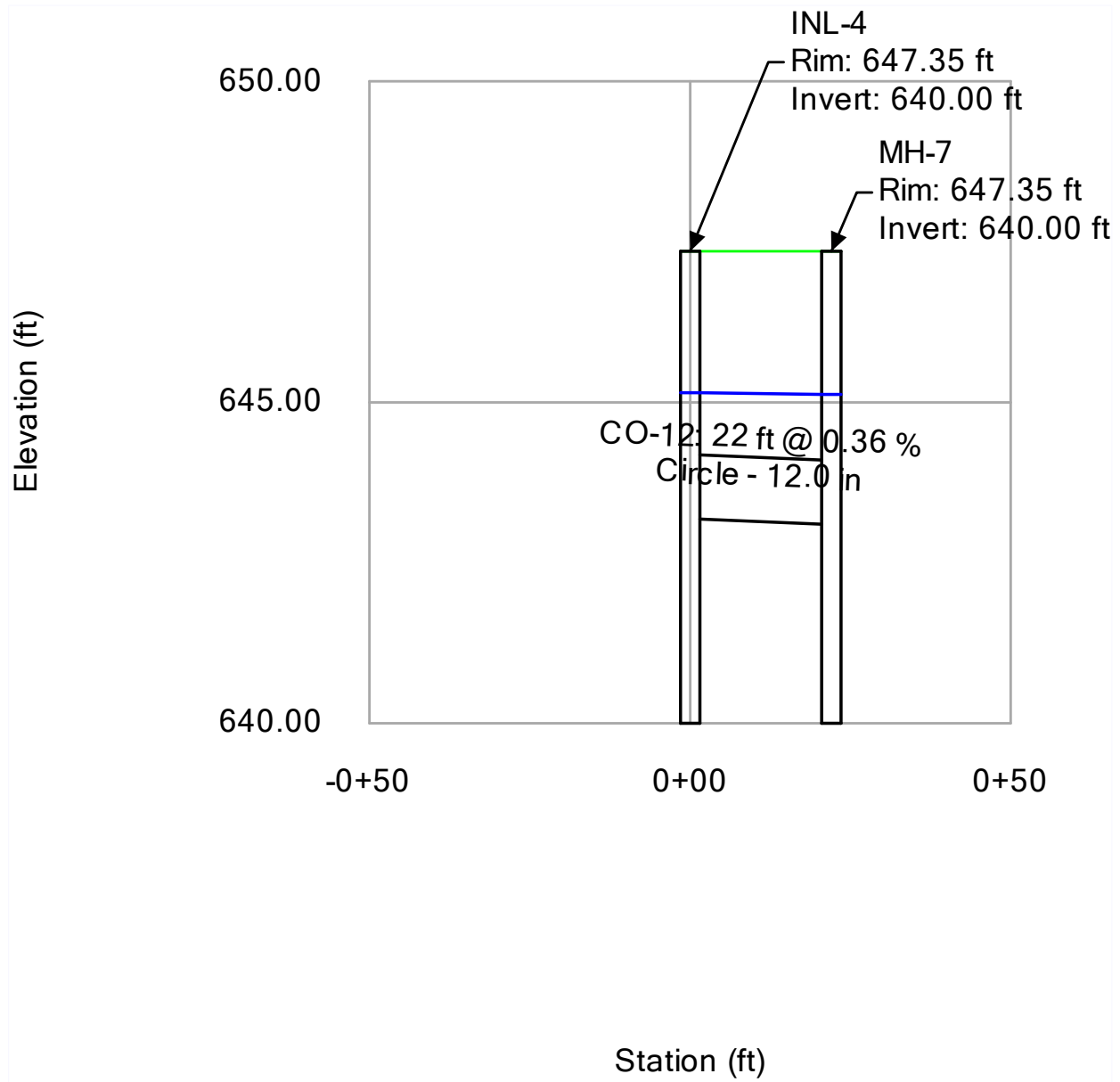
Engineering Profile - INL-2 TO MH-4 (FRDCR_repaired_FINAL.stsw)



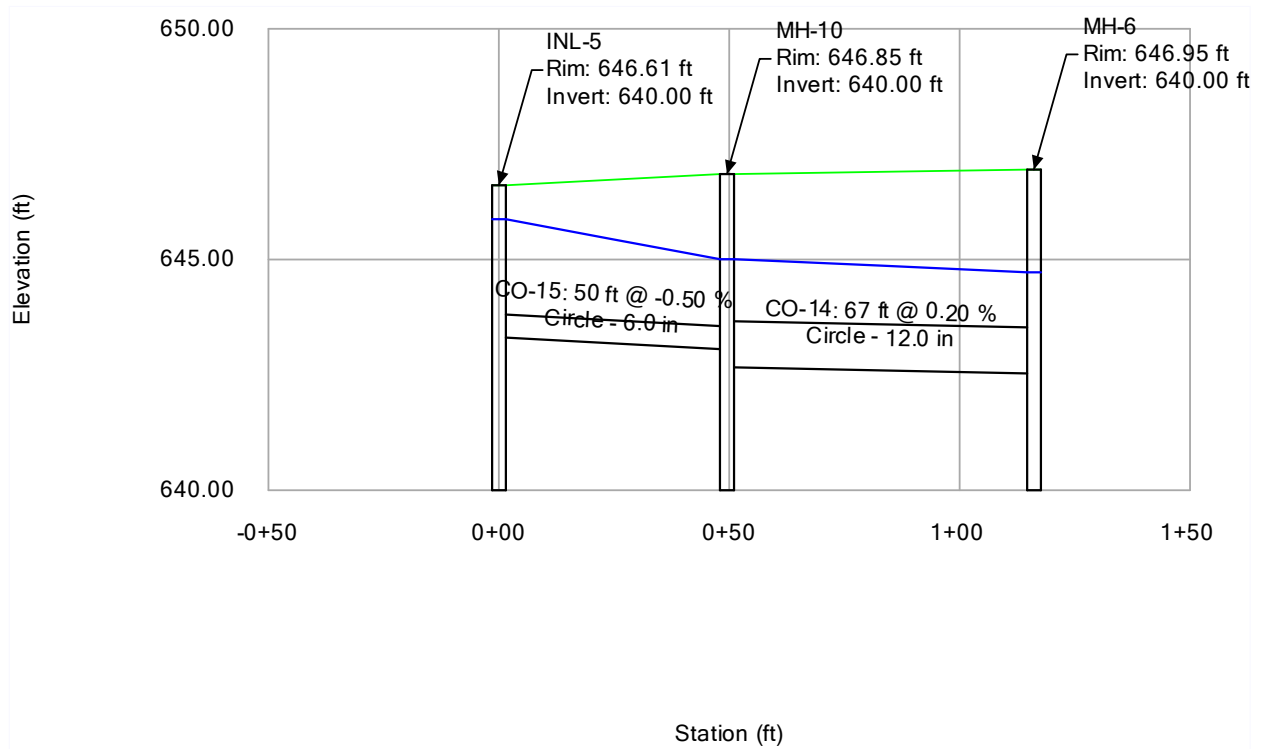
Profile Report
Engineering Profile - INL-3 TO MH-8 (FRDCR_repaired_FINAL.stsw)



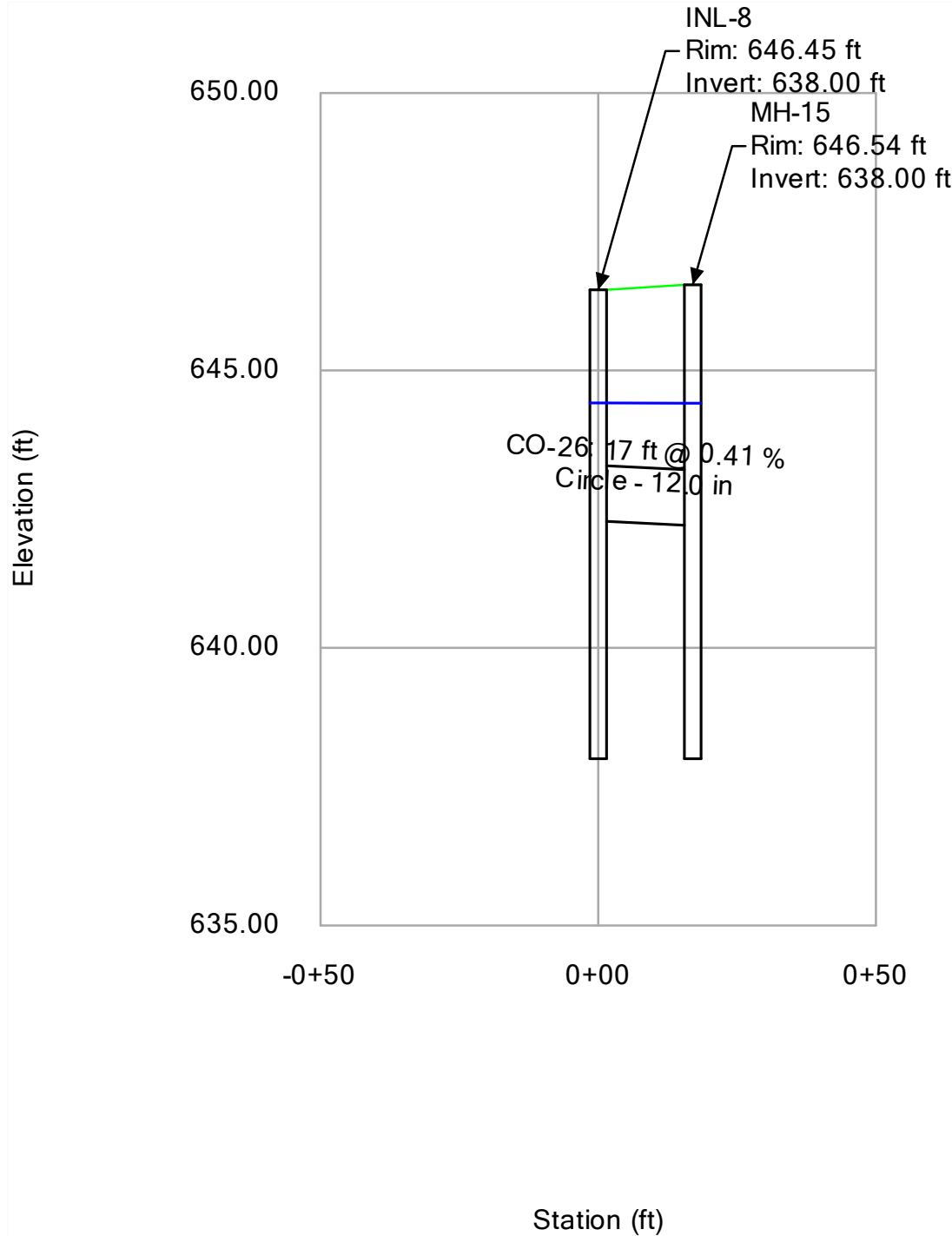
Profile Report
Engineering Profile - INL-4 TO MH-7 (FRDCR_repaired_FINAL.stsw)



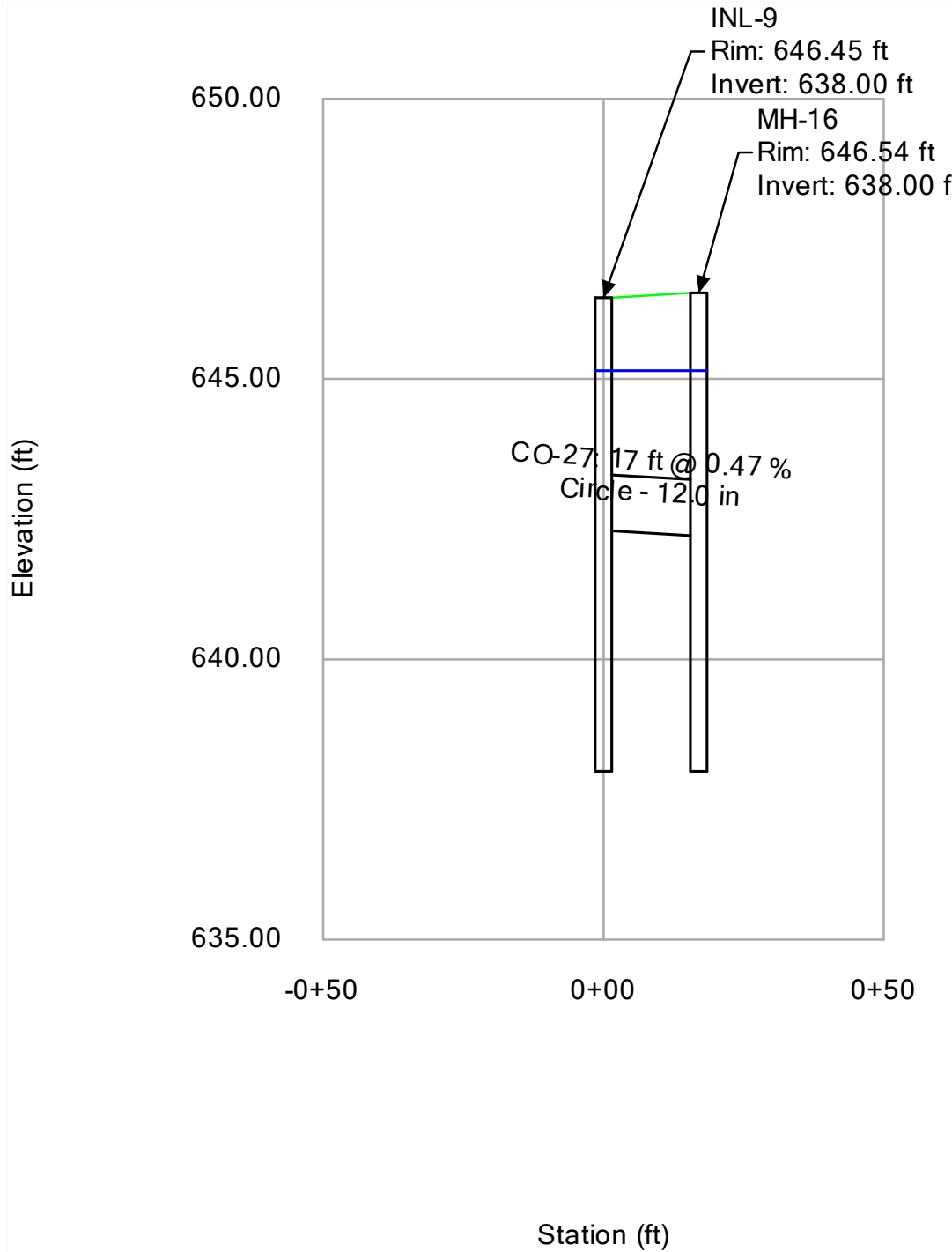
Profile Report **Engineering Profile - INL-5 TO MH-6 (FRDCR_repaired_FINAL.stsw)**



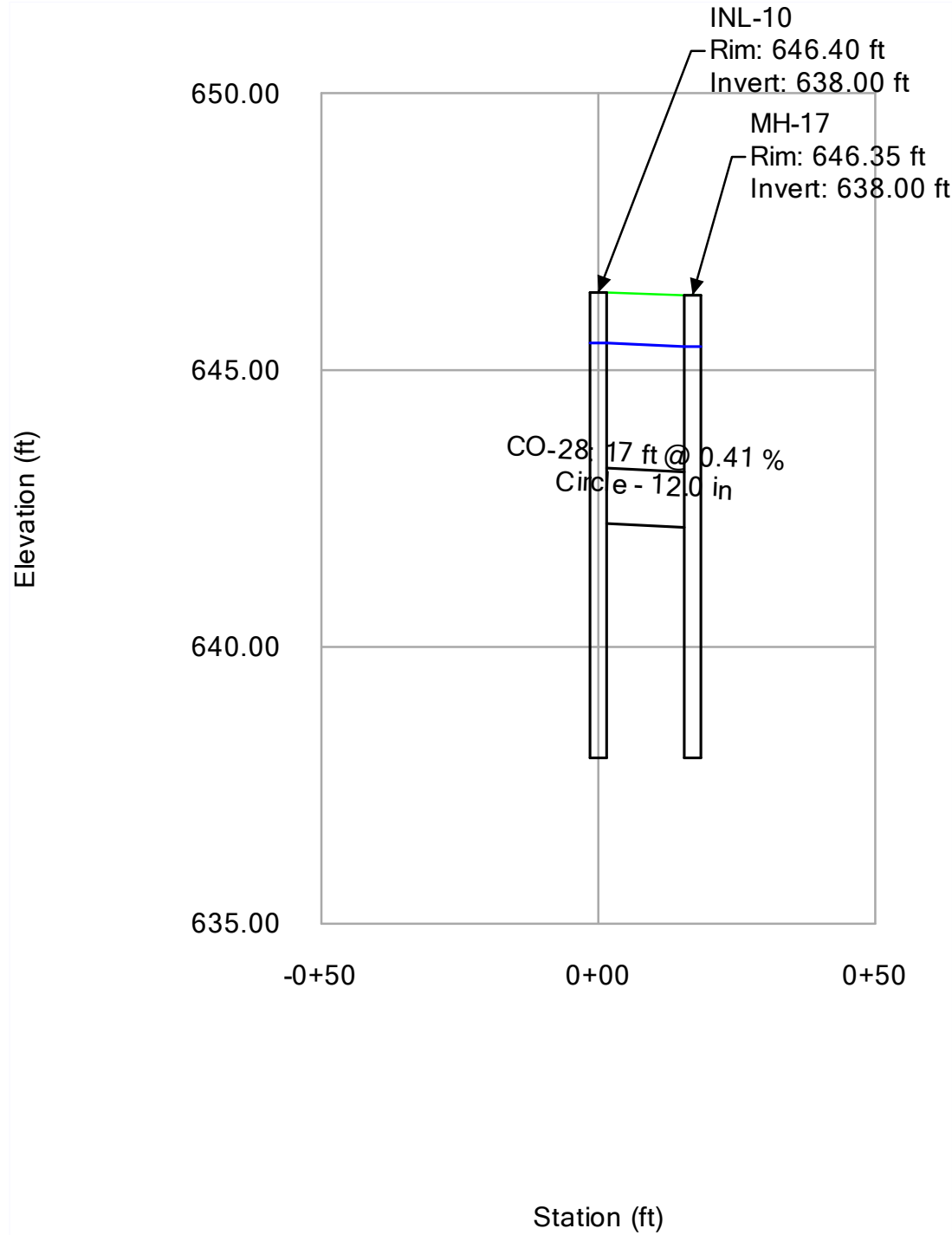
Profile Report **Engineering Profile - INL-8 TO MH-15 (FRDCR_repaired_FINAL.stsw)**



Profile Report **Engineering Profile - INL-9 TO MH-16 (FRDCR_repaired_FINAL.stsw)**

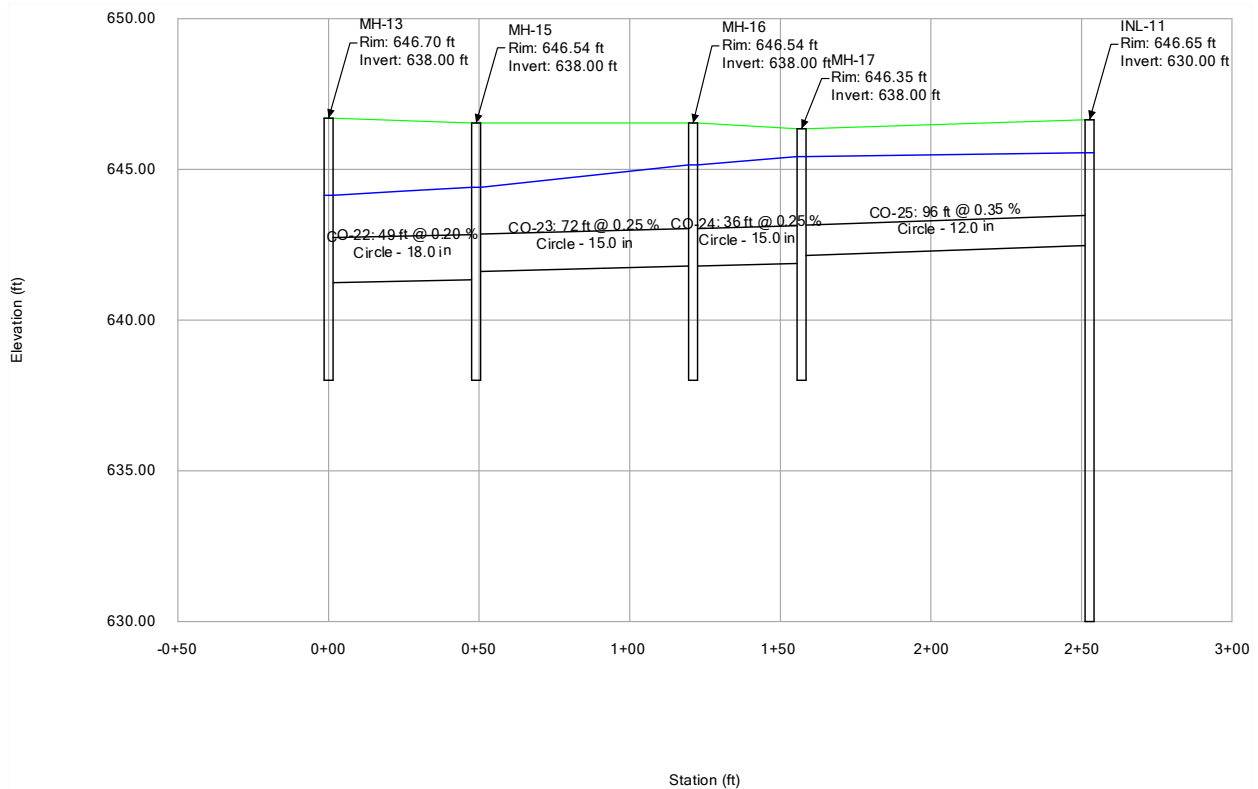


Profile Report
Engineering Profile - INL-10 TO MH-17 (FRDCR_repaired_FINAL.stsw)



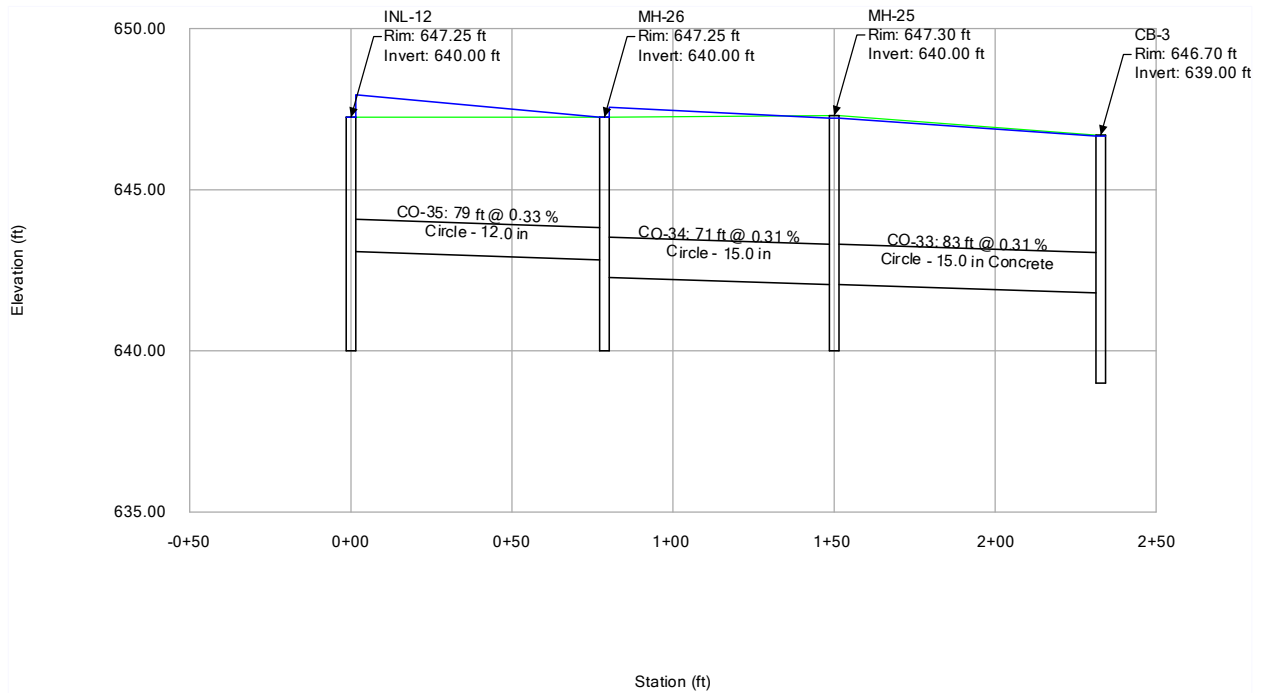
Profile Report

Engineering Profile - INL-11 TO MH-13 (FRDCR_repaired_FINAL.stsw)



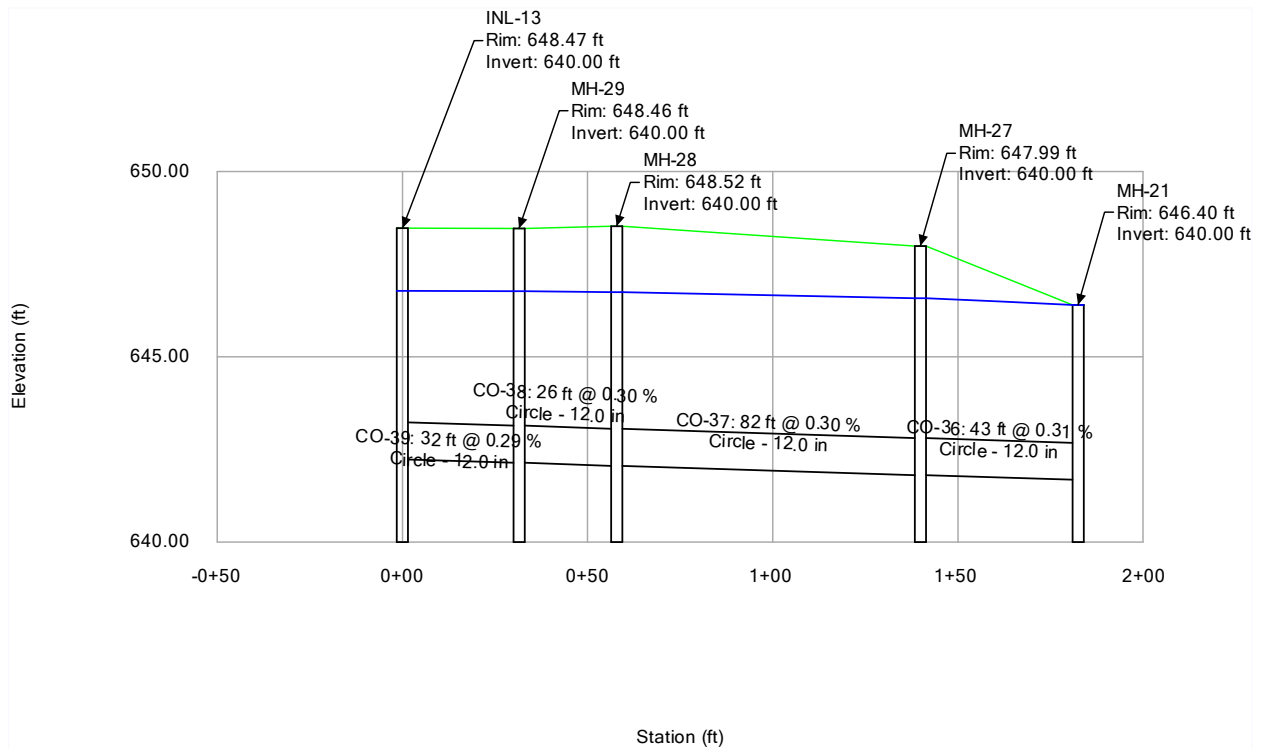
Profile Report

Engineering Profile - INL-12 TO CB-3 (FRDCR_repaired_FINAL.stsw)



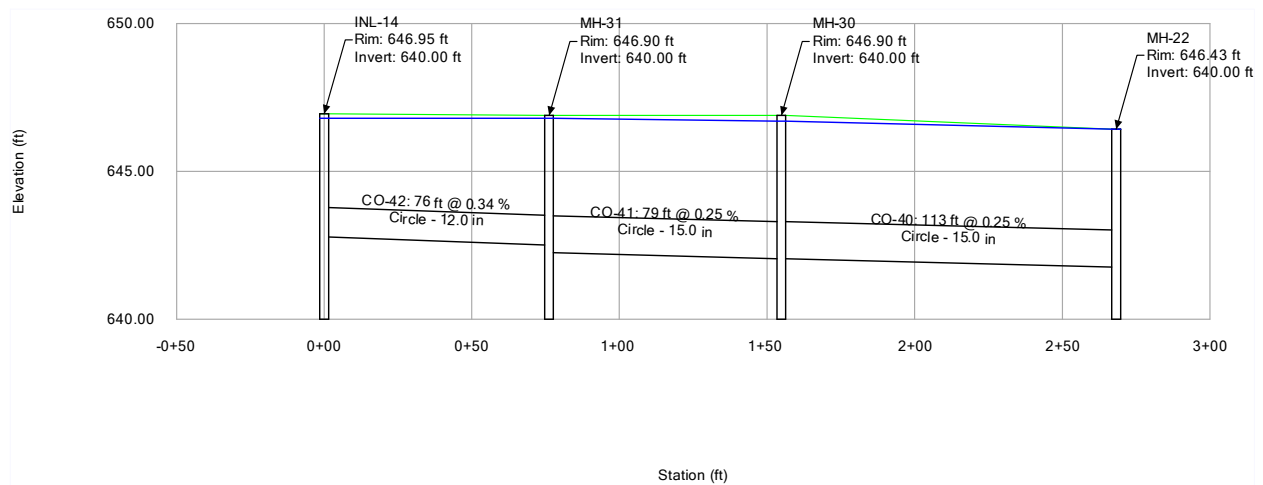
Profile Report

Engineering Profile - INL-13 TO MH-21 (FRDCR_repaired_FINAL.stsw)



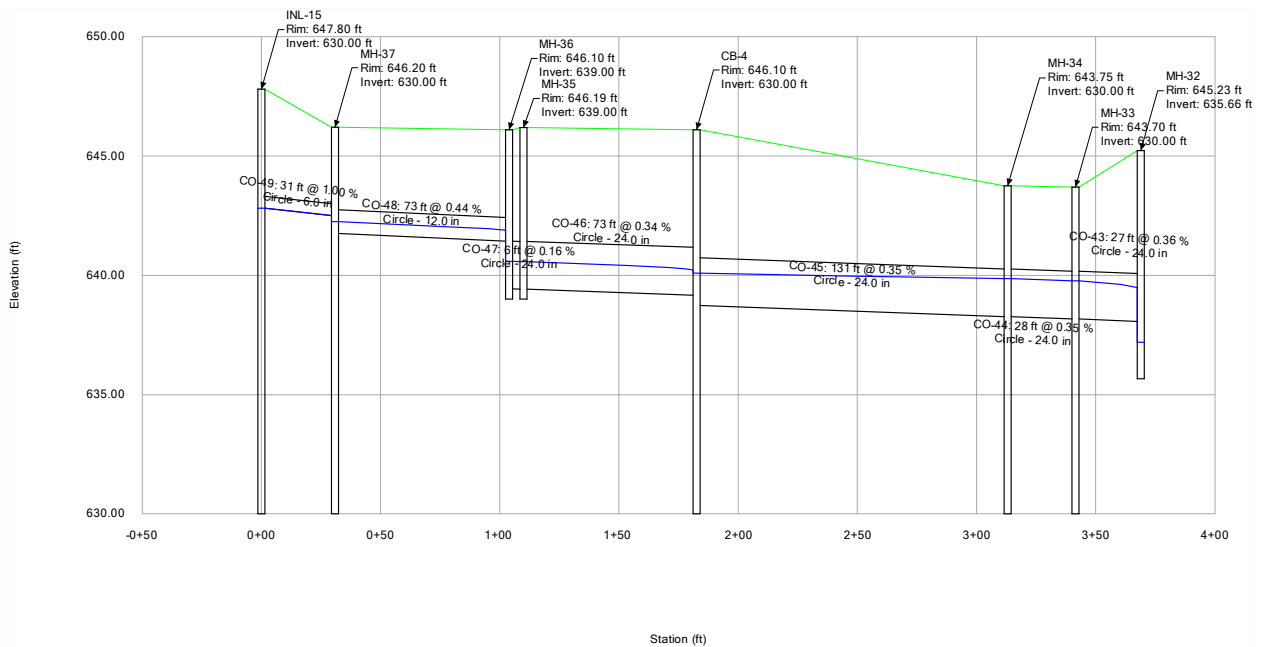
Profile Report

Engineering Profile - INL-14 TO MH-22 (FRDCR_repaired_FINAL.stsw)



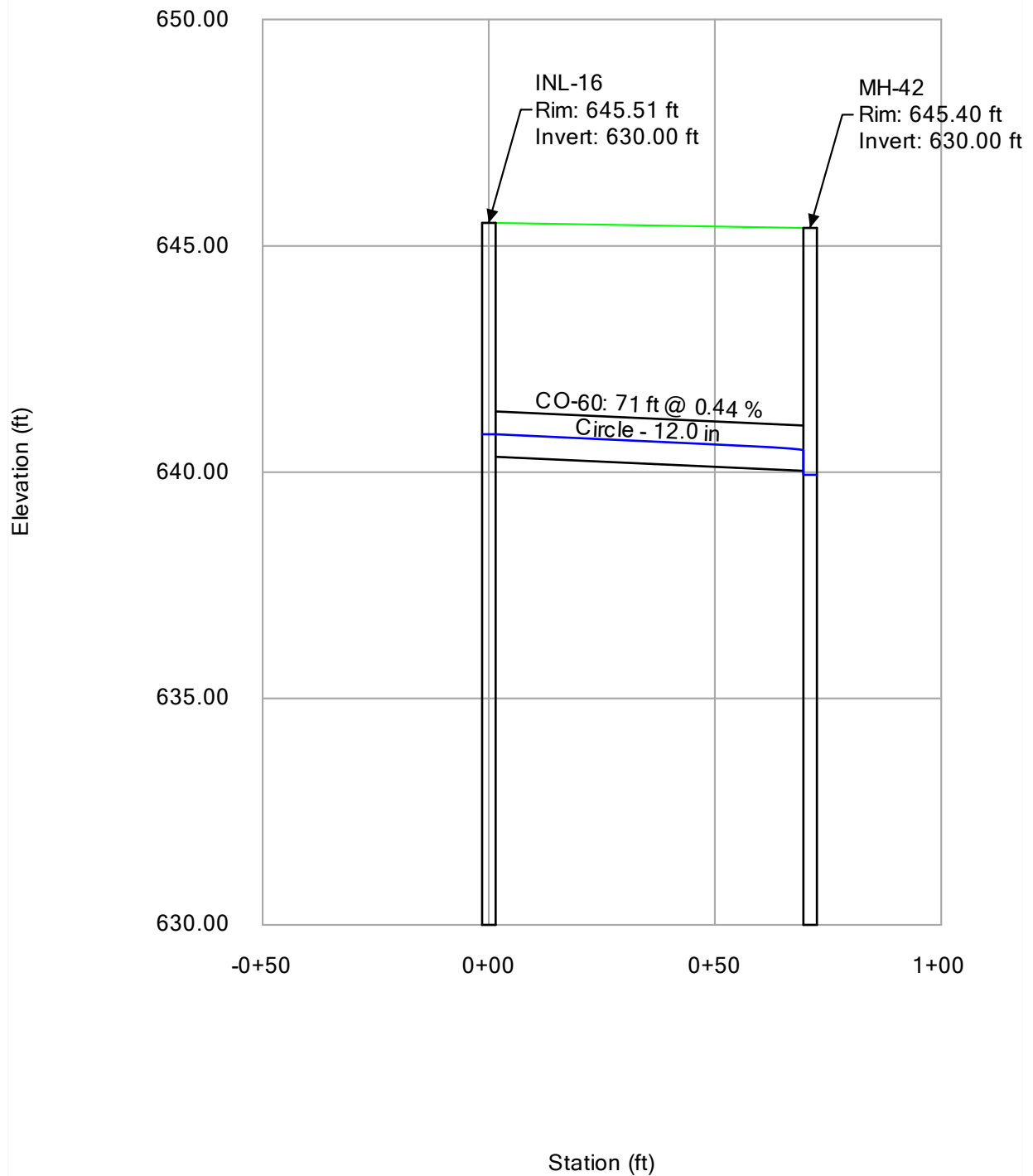
Profile Report

Engineering Profile - INL-15 TO MH-32 (FRDCR_repaired_FINAL.stsw)



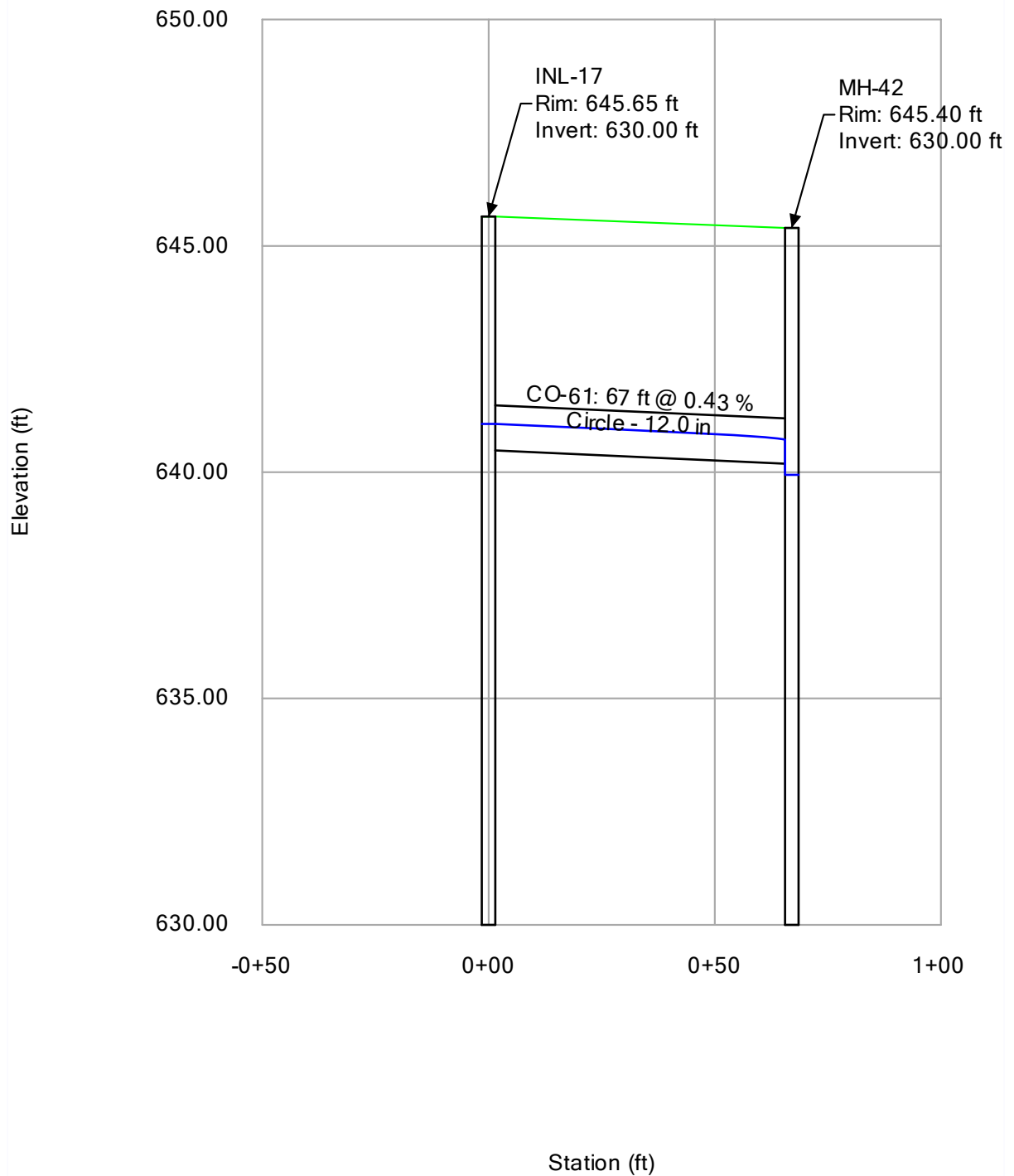
Profile Report

Engineering Profile - INL-16 TO MH-42 (FRDCR_repaired_FINAL.stsw)



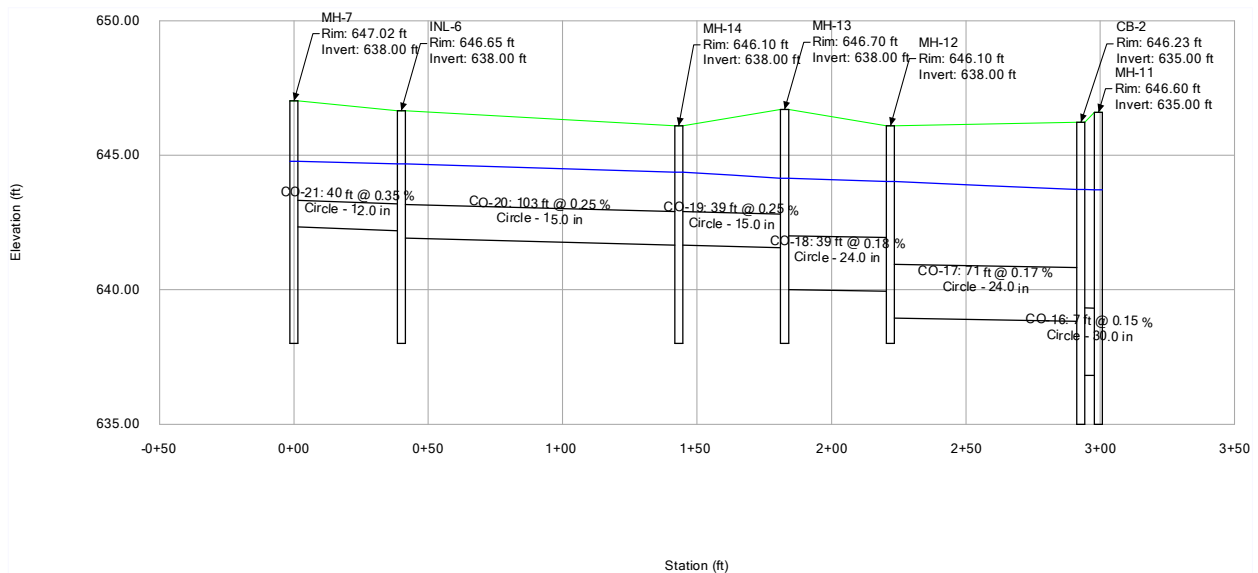
Profile Report

Engineering Profile - INL-17 TO MH-42 (FRDCR_repaired_FINAL.stsw)



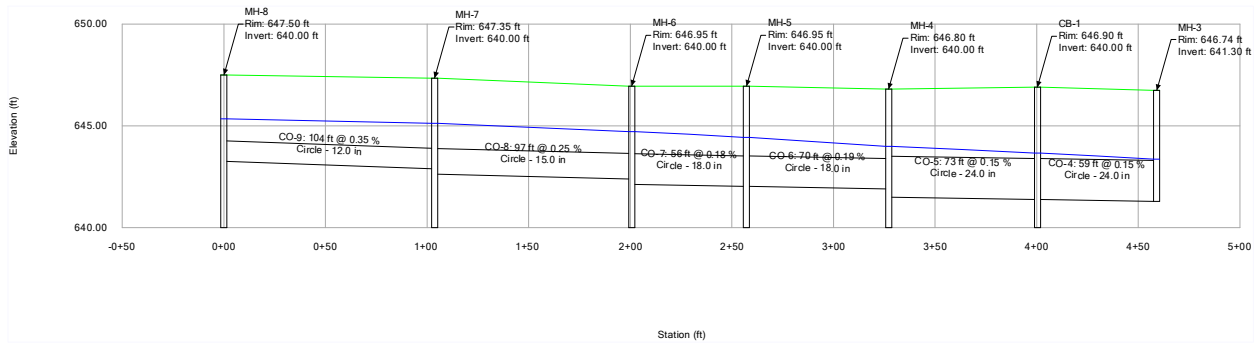
Profile Report

Engineering Profile - MH-7 TO MH-11 (FRDCR_repaired_FINAL.stsw)



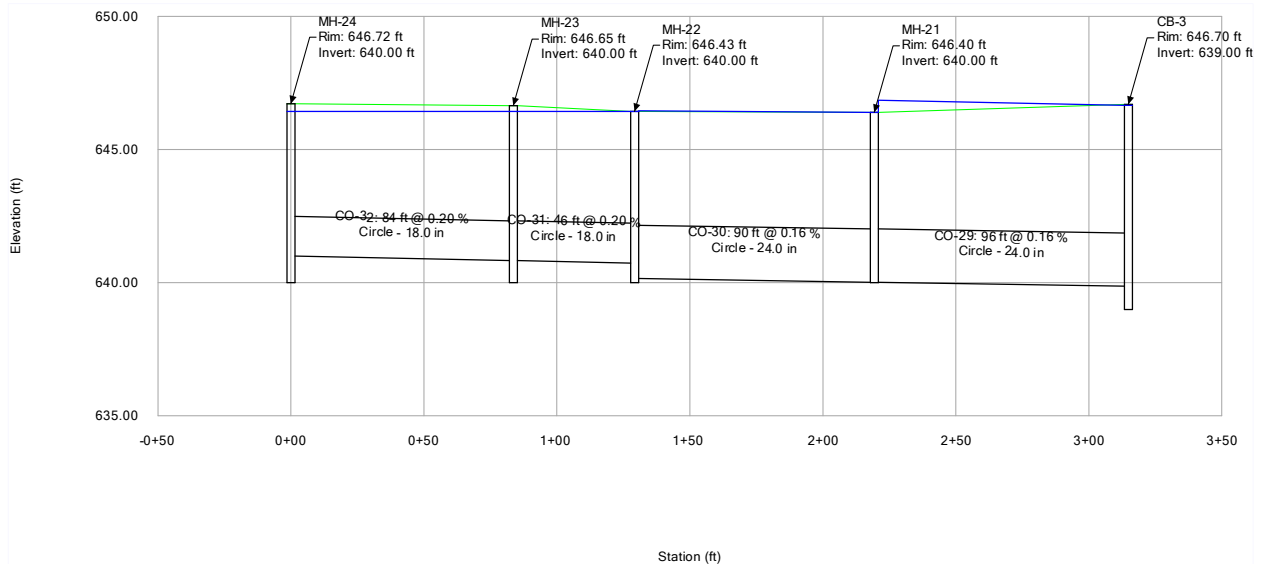
Profile Report

Engineering Profile - MH-8 TO EX. INL-3 (FRDCR_repaired_FINAL.stsw)



Profile Report

Engineering Profile - MH-24 TO CB-3 (FRDCR_repaired_FINAL.stsw)



Profile Report **Engineering Profile - MH-46 TO EX. MH-38** **(FRDCR_repaired_FINAL.stsw)**

