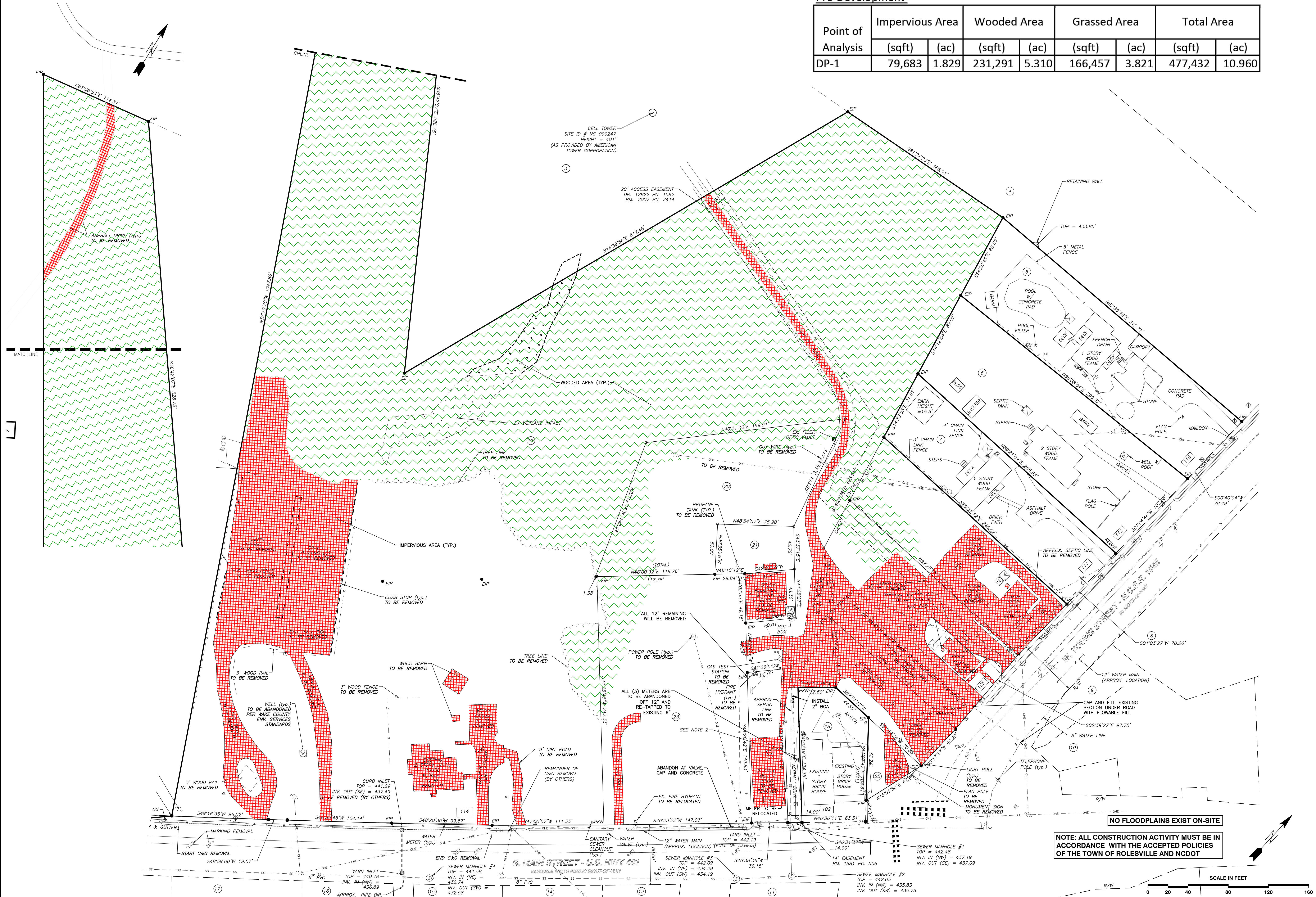


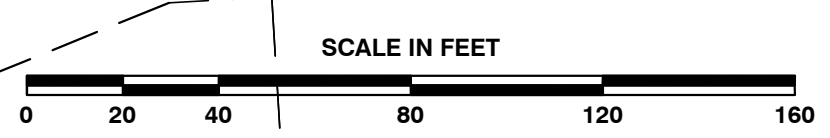
Pre-Development

Point of Analysis	Impervious Area		Wooded Area		Grassed Area		Total Area	
	(sqft)	(ac)	(sqft)	(ac)	(sqft)	(ac)	(sqft)	(ac)
DP-1	79,683	1.829	231,291	5.310	166,457	3.821	477,432	10.960



NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF ROLESVILLE AND NCDOT

NO FLOODPLAINS EXIST ON-SITE



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 881-1122 FAX: (919) 881-6888
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	09-21-23	CHANGES FROM 06-02-22 CDS	MRM
2	10-16-23	T.O.R. COMMENTS	MRM
3	12-06-23	TOWN OF ROLESVILLE COMMENTS	MRM

03-18881 PROGRESS RAB
 JOB NO. DATE DRAWN BY
PRE-DEVELOPMENT DRAINAGE MAP
 SCALE: 1" = 40'
 CHK BY: MDB

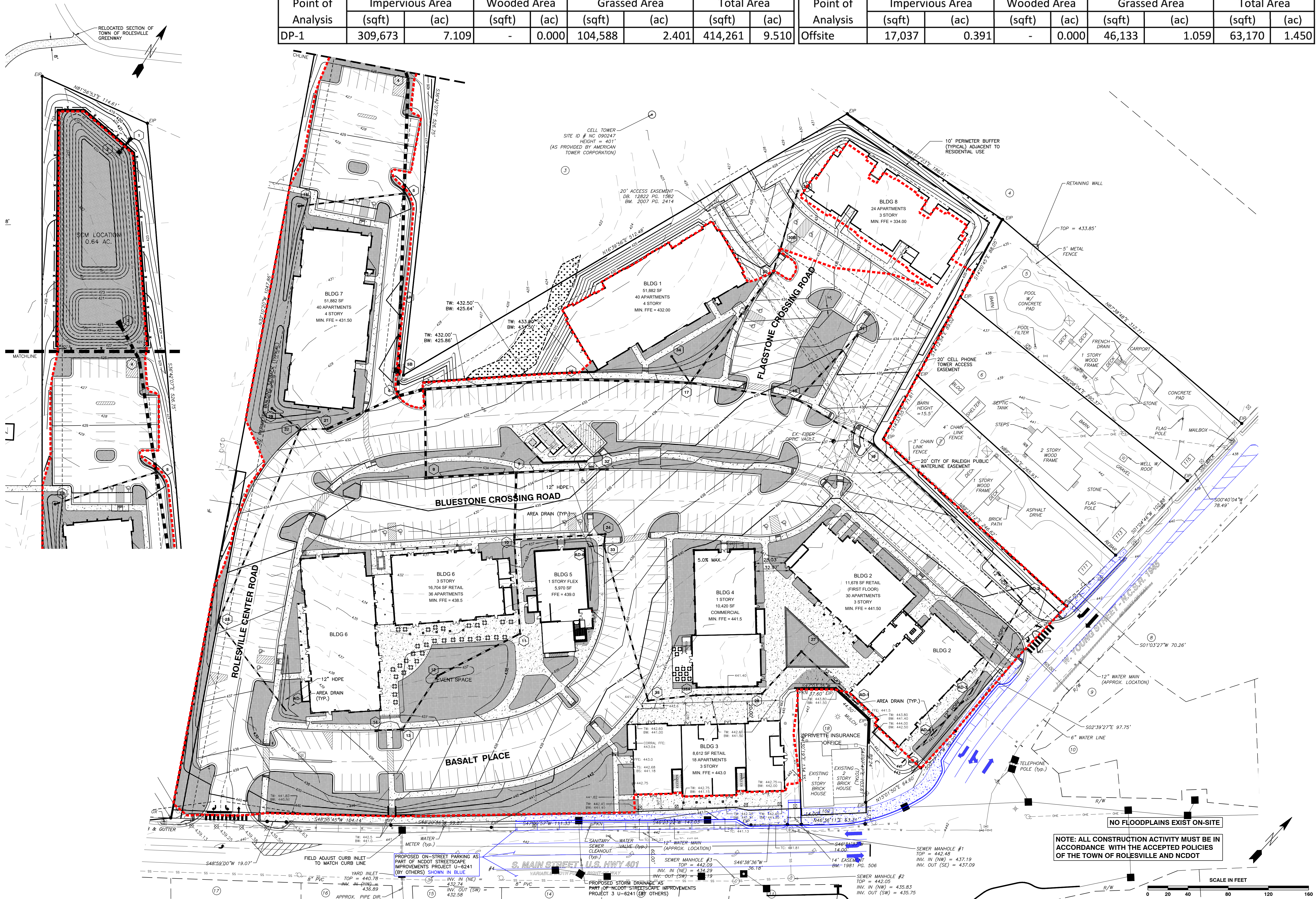
COBBLESTONE VILLAGE MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA
 SHEET 1 OF 3
 NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION

Post-Development - to SCM

Point of Analysis	Impervious Area		Wooded Area		Grassed Area		Total Area	
	(sqft)	(ac)	(sqft)	(ac)	(sqft)	(ac)	(sqft)	(ac)
DP-1	309,673	7.109	-	0.000	104,588	2.401	414,261	9.510

Post-Development - Bypass

Point of Analysis	Impervious Area		Wooded Area		Grassed Area		Total Area	
	(sqft)	(ac)	(sqft)	(ac)	(sqft)	(ac)	(sqft)	(ac)
Offsite	17,037	0.391	-	0.000	46,133	1.059	63,170	1.450

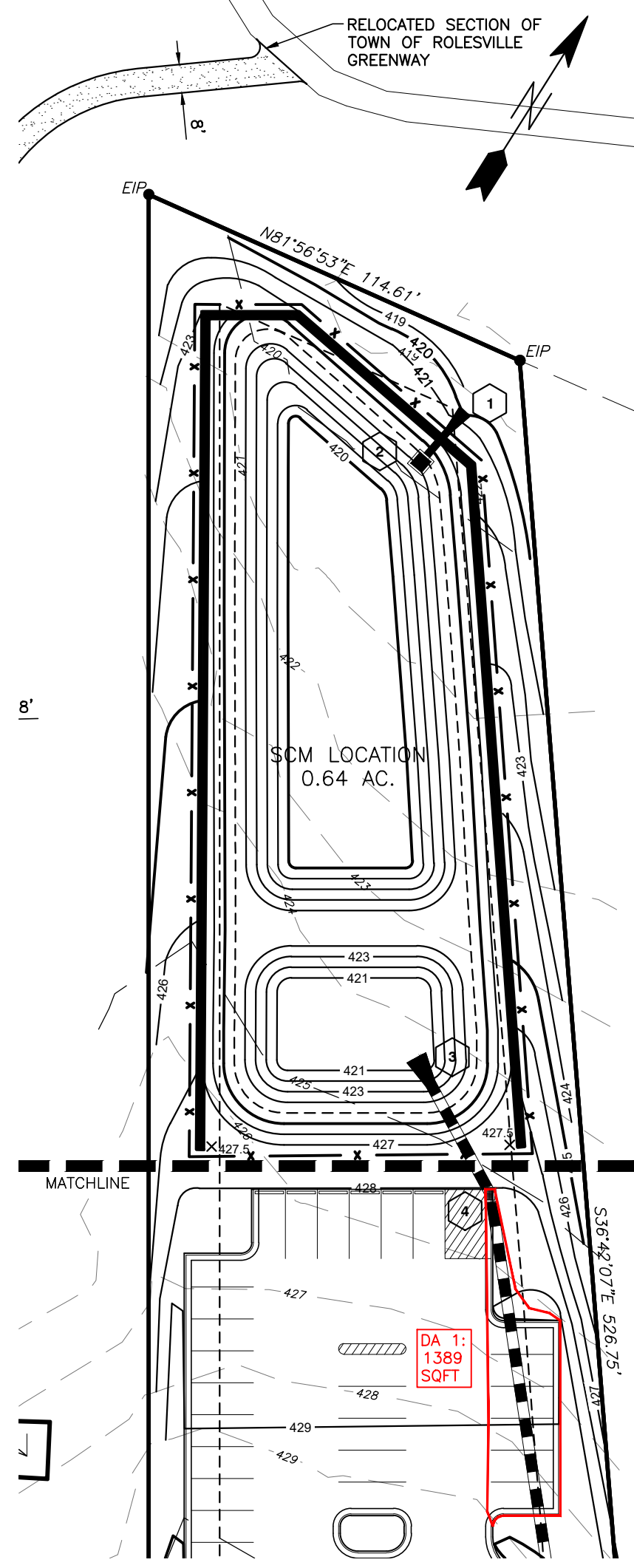
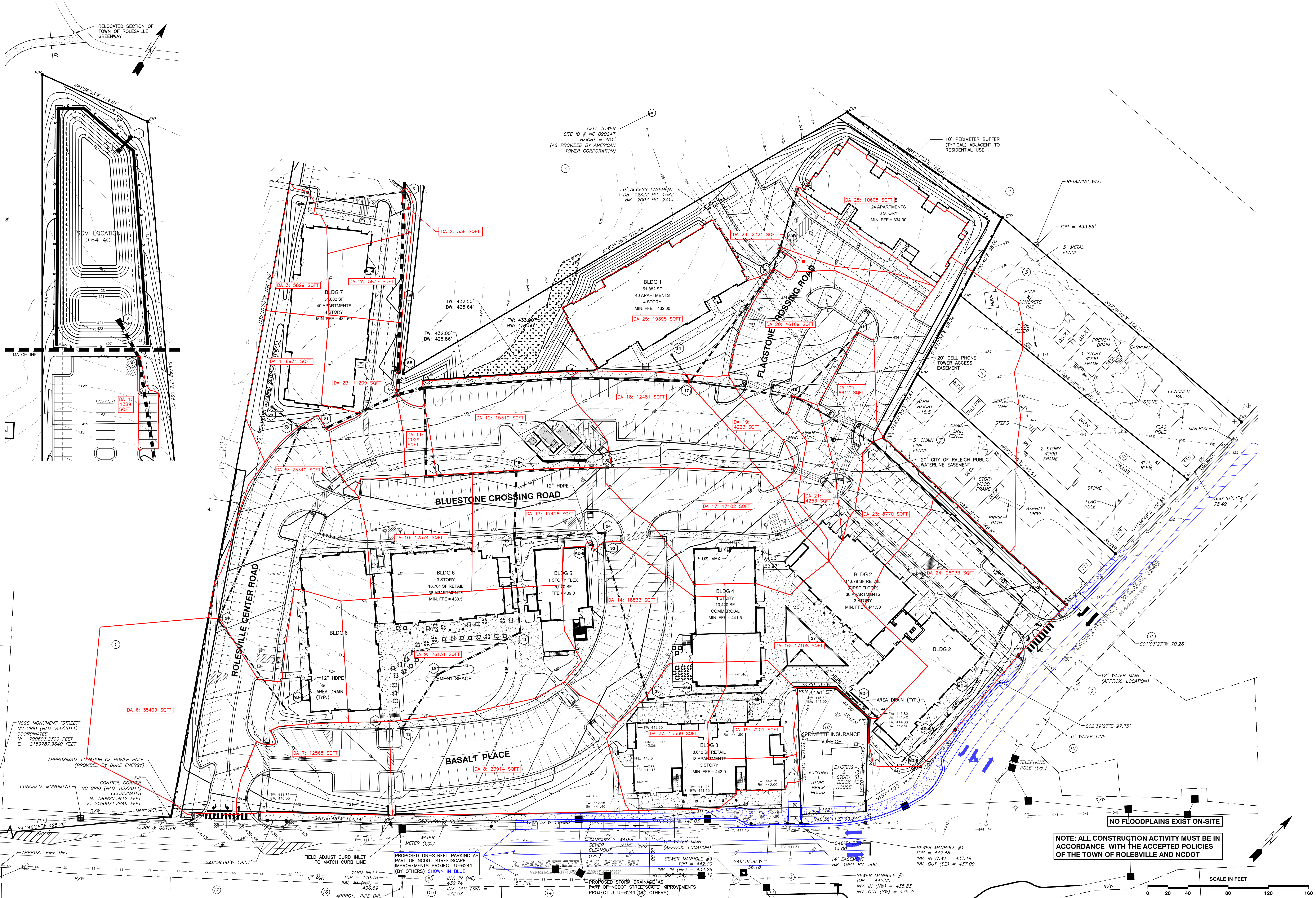


BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 881-4422 FAX: (919) 881-8686
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	09-21-23	CHANGES FROM 06-02-22 CDS	MRM
2	10-16-23	T.O.R. COMMENTS	MRM
3	12-06-23	TOWN OF ROLESVILLE COMMENTS	MRM

COBBLESTONE VILLAGE MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION



NCGS MONUMENT "STREET"
 NC GRID (NAD '83/2011)
 COORDINATES
 N: 790603.2300 FEET
 E: 2159787.9640 FEET

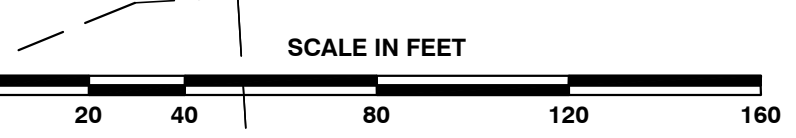
APPROXIMATE LOCATION OF POWER POLE
 (PROVIDED BY DUKE ENERGY)

CONCRETE MONUMENT
 CONTROL CORNER
 NC GRID (NAD '83/2011)
 COORDINATES
 N: 790920.3912 FEET
 E: 2160071.2846 FEET

PROPOSED ON-STREET PARKING AS
 PART OF NCDOT STREETSCAPE
 IMPROVEMENTS PROJECT U-6241
 (BY OTHERS) SHOWN IN BLUE

PROPOSED STORM DRAINAGE AS
 PART OF NCDOT STREETSCAPE IMPROVEMENTS
 PROJECT 3 U-6241 (BY OTHERS)

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF ROLESVILLE AND NCDOT



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 881-1122 FAX: (919) 881-6868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	09-21-23	CHANGES FROM 06-02-22 CDS	MRM
2	10-16-23	T.O.R. COMMENTS	MRM
3	12-06-23	TOWN OF ROLESVILLE COMMENTS	MRM

INLET DRAINAGE MAP

PROGRESS RAB
 DATE DRAWN BY

03-18881
 JOB NO.

SCALE: 1" = 40'

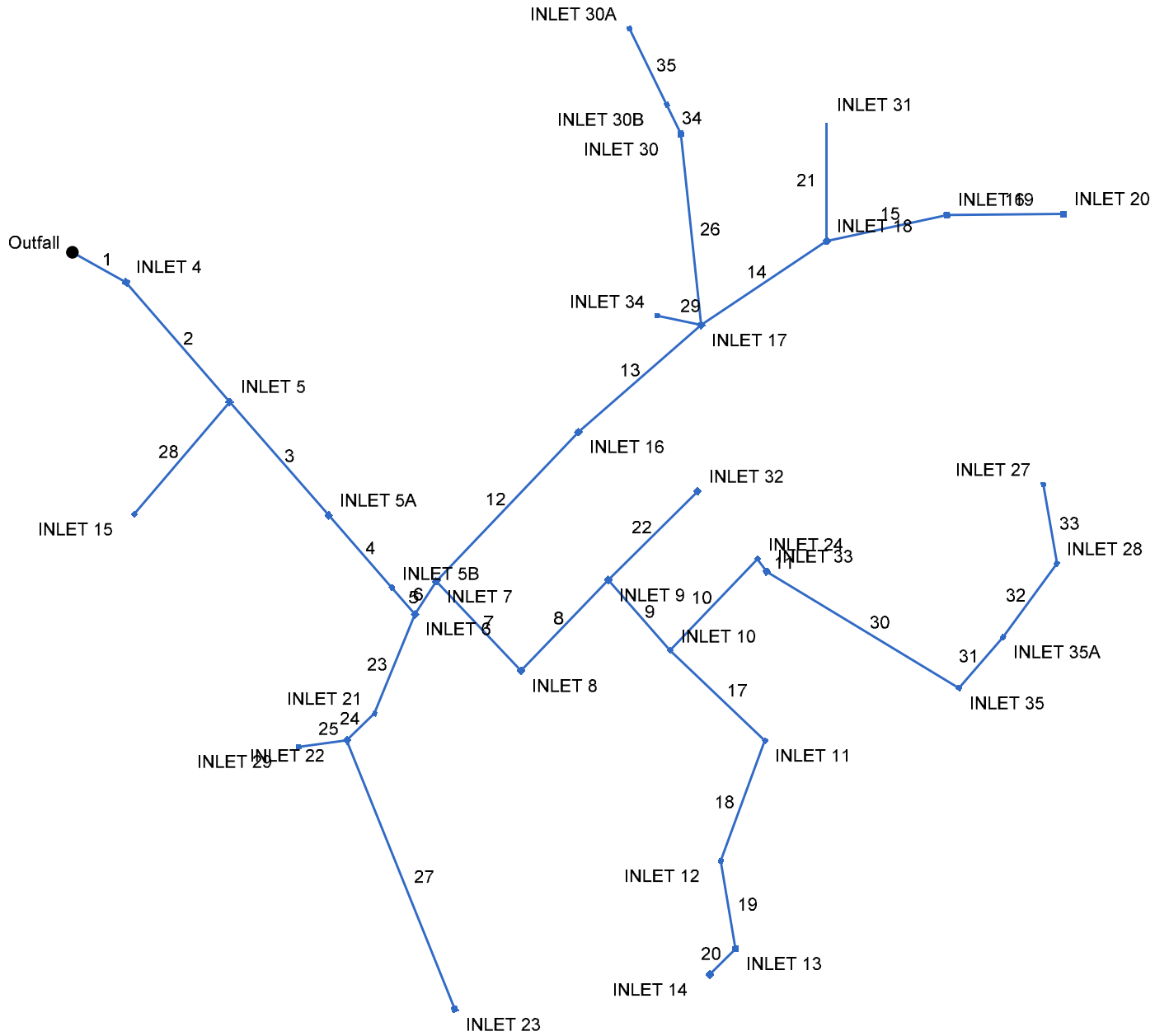
CHK BY: MDB

COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET
3 OF 3

NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: 19157 - Pipe Sizing.stm

Number of lines: 35

Date: 12/7/2023

Line No.	Inlet ID	Drng Area (ac)	Runoff Coeff (C)	Incr CxA	Inlet Time (min)	i Inlet (in/hr)	Incr Q (cfs)	Q Capt (cfs)	Q Byp (cfs)	Q Carry (cfs)	Capac Full (cfs)	Flow Rate (cfs)	Vel Ave (ft/s)	Line Size (in)
1	INLET 4	0.03	0.86	0.03	5.0	7.19	0.19	0.19	0.00	0.00	51.32	45.36	8.18	36
2	INLET 5	0.01	0.71	0.01	5.0	7.19	0.05	0.05	0.00	0.00	51.64	45.73	7.52	36
3	INLET 5A	0.13	0.87	0.11	5.0	7.19	0.81	0.81	0.00	0.00	51.78	45.83	8.25	36
4	INLET 5B	0.26	0.85	0.22	5.0	7.19	1.59	1.59	0.00	0.00	51.54	45.45	8.19	36
5	INLET 6	0.05	0.75	0.04	5.0	7.19	0.27	0.27	0.00	0.00	51.34	44.19	8.04	36
6	INLET 7	0.35	0.84	0.29	5.0	7.19	2.11	2.63	0.00	0.52	51.93	36.22	7.21	36
7	INLET 8	0.29	0.95	0.28	5.0	7.19	1.98	1.98	0.00	0.00	22.59	19.71	7.72	24
8	INLET 9	0.40	0.84	0.34	5.0	7.19	2.41	3.20	0.00	0.79	22.59	18.14	7.11	24
9	INLET 10	0.01	0.95	0.01	5.0	7.19	0.07	0.07	0.00	0.00	22.59	13.99	6.01	24
10	INLET 24	0.01	0.95	0.01	5.0	7.19	0.07	0.07	0.00	0.00	7.91	7.28	6.90	15
11	INLET 33	0.43	0.88	0.38	5.0	7.19	2.72	2.72	0.00	0.00	6.39	7.23	5.89	15
12	INLET 16	0.29	0.79	0.23	5.0	7.19	1.65	1.18	0.52	0.05	17.55	15.33	5.58	24
13	INLET 17	0.10	0.77	0.08	5.0	7.19	0.55	0.50	0.05	0.00	17.54	14.10	5.61	24
14	INLET 18	0.10	0.86	0.09	5.0	7.19	0.62	0.62	0.00	0.00	6.46	5.71	5.78	15
15	INLET 19	0.20	0.85	0.17	5.0	7.19	1.22	2.63	0.00	1.41	6.44	4.52	5.35	15
16	INLET 20	0.64	0.74	0.47	5.0	7.19	3.40	1.99	1.41	0.00	6.46	3.40	4.41	15
17	INLET 11	0.01	0.95	0.01	5.0	7.19	0.07	0.07	0.00	0.00	10.52	7.05	4.98	18
18	INLET 12	0.60	0.71	0.43	5.0	7.19	3.06	3.06	0.00	0.00	10.51	7.11	5.84	18
19	INLET 13	0.55	0.71	0.39	5.0	7.19	2.81	2.81	0.00	0.00	6.46	4.19	4.57	15
20	INLET 14	0.29	0.70	0.20	5.0	7.19	1.46	1.46	0.00	0.00	6.46	1.46	2.68	15
21	INLET 31	0.15	0.89	0.13	5.0	7.19	0.96	0.96	0.00	0.00	6.45	0.96	2.03	15
22	INLET 32	0.39	0.84	0.33	5.0	7.19	2.35	1.56	0.79	0.00	6.45	2.35	4.39	15
23	INLET 21	0.01	0.95	0.01	5.0	7.19	0.07	0.07	0.00	0.00	22.63	8.63	3.33	24

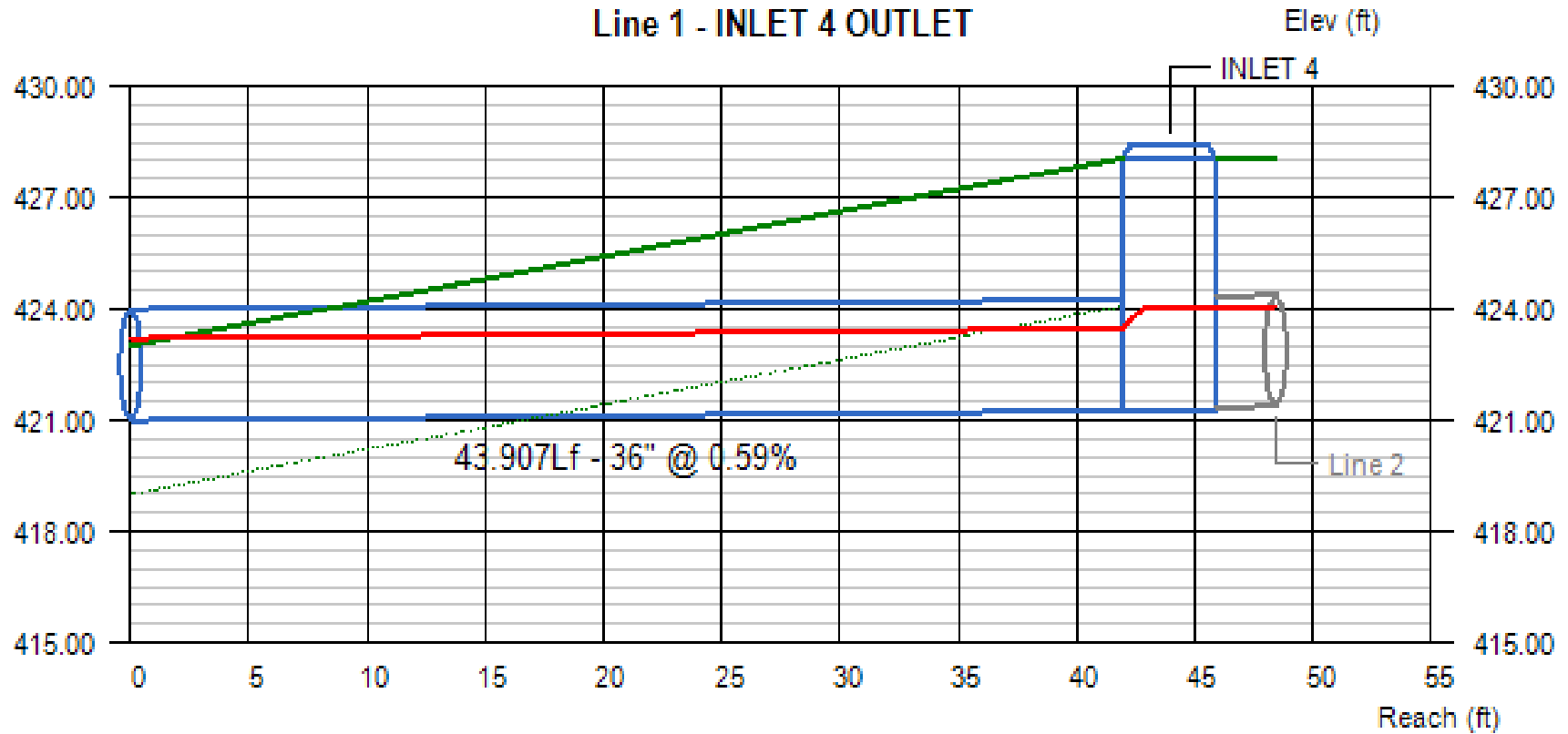
Project File: 19157 - Pipe Sizing.stm	Number of lines: 35	Date: 12/7/2023
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NOTES: Intensity = 67.84 / (Inlet time + 12.00) ^ 0.79 -- Return period = 10 Yrs. ; ** Critical depth

Line No.	Inlet ID	Drng Area (ac)	Runoff Coeff (C)	Incr CxA	Inlet Time (min)	i Inlet (in/hr)	Incr Q (cfs)	Q Capt (cfs)	Q Byp (cfs)	Q Carry (cfs)	Capac Full (cfs)	Flow Rate (cfs)	Vel Ave (ft/s)	Line Size (in)
24	INLET 22	0.54	0.88	0.48	5.0	7.19	3.42	5.62	0.00	2.20	6.50	8.59	7.00	15
25	INLET 29	0.21	0.51	0.11	5.0	7.19	0.77	0.77	0.00	0.00	6.47	0.77	0.63	15
26	INLET 30	1.06	0.56	0.59	5.0	7.19	4.27	4.27	0.00	0.00	8.15	5.96	3.37	18
27	INLET 23	0.81	0.82	0.66	5.0	7.19	4.77	2.57	2.20	0.00	6.46	4.77	3.89	15
28	INLET 15	0.13	0.60	0.08	5.0	7.19	0.56	0.56	0.00	0.00	6.44	0.56	1.52	15
29	INLET 34	0.45	0.79	0.36	5.0	7.19	2.55	2.55	0.00	0.00	3.55	2.55	4.69	12
30	INLET 35	0.01	0.92	0.01	5.0	7.19	0.07	0.07	0.00	0.00	6.46	4.86	4.57	15
31	INLET 35A	0.36	0.92	0.33	0.0	0.00	0.00	0.00	0.00	0.00	6.71	4.84	5.53	15
32	INLET 28	0.04	0.94	0.04	5.0	7.19	0.27	0.27	0.00	0.00	5.92	2.62	3.44	15
33	INLET 27	0.39	0.86	0.34	5.0	7.19	2.41	2.41	0.00	0.00	7.90	2.41	4.31	15
34	INLET 30B	0.05	0.93	0.05	5.0	7.19	0.33	0.19	0.14	0.00	4.65	1.91	1.55	15
35	INLET 30A	0.24	0.95	0.23	5.0	7.19	1.64	1.64	0.00	0.00	4.53	1.64	1.34	15

Project File: 19157 - Pipe Sizing.stm	Number of lines: 35	Date: 12/7/2023
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NOTES: Intensity = 67.84 / (Inlet time + 12.00) ^ 0.79 -- Return period = 10 Yrs. ; ** Critical depth



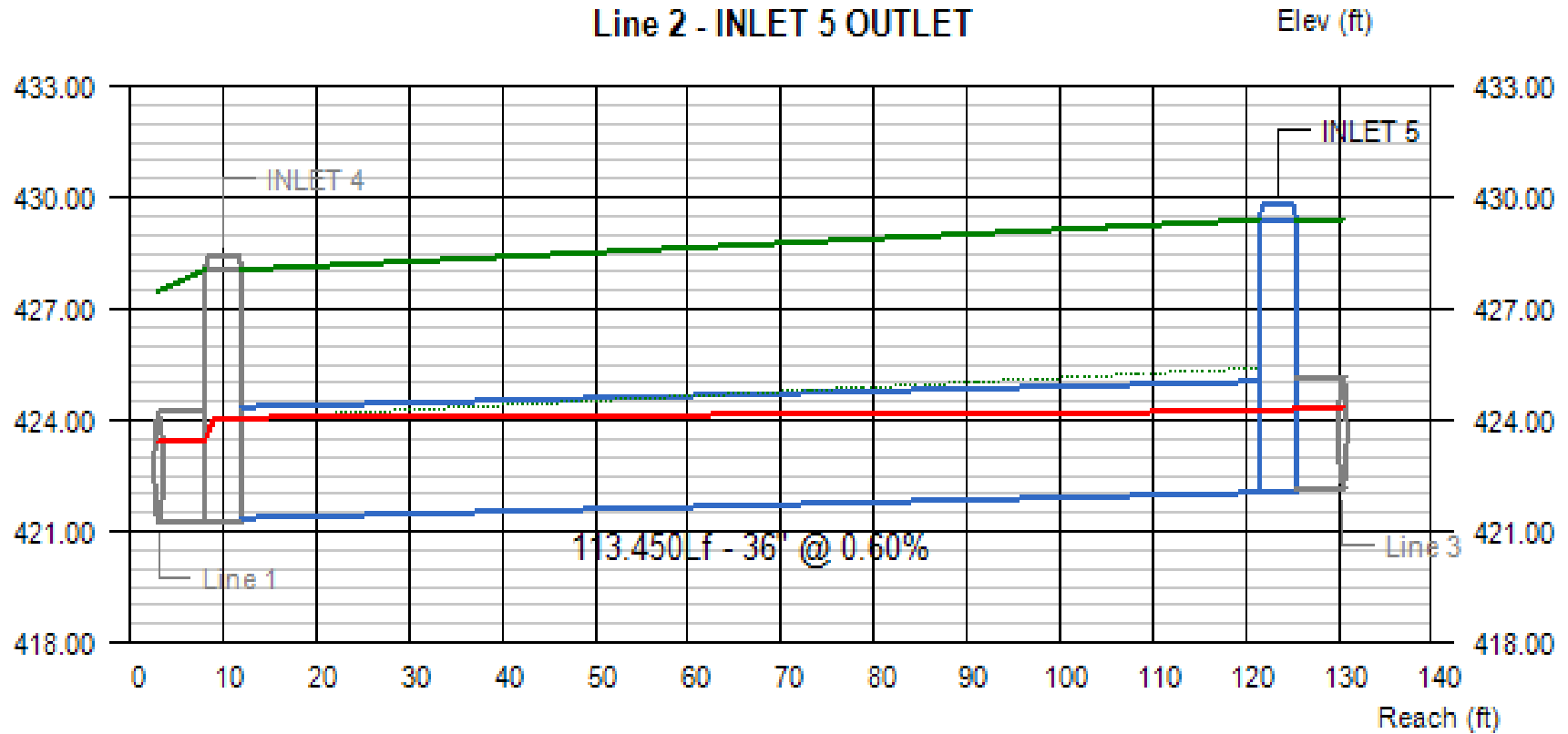
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
1	45.36	421.00	421.26	2.19	2.20	2.81	423.19	423.46	424.07	8.20	8.17	-1.00	3.80

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 2) - INLET 5 OUTLET



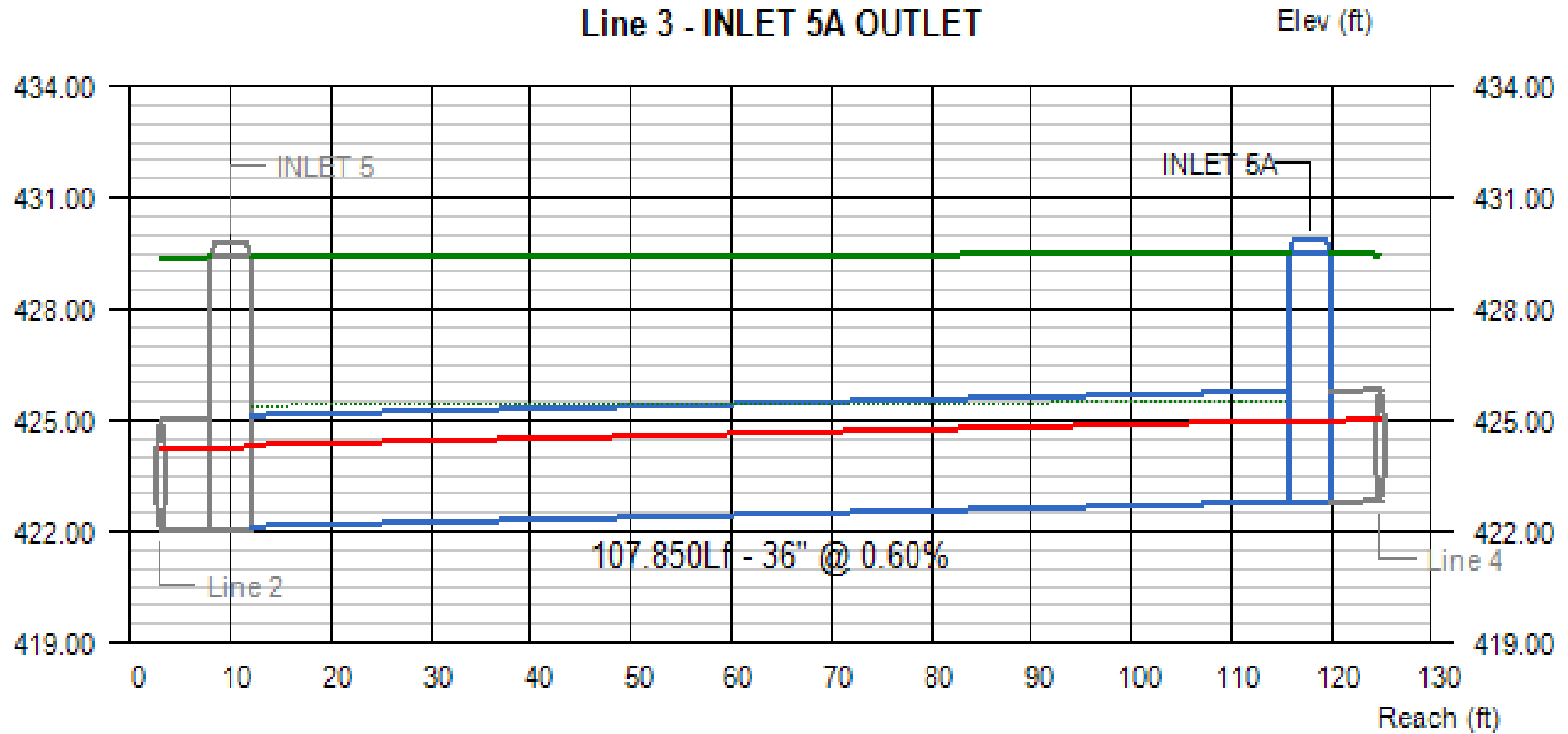
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
2	45.73	421.36	422.04	2.71	2.20	2.20	424.07	424.24	424.24	6.80	8.23	3.70	4.36

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 3) - INLET 5A OUTLET



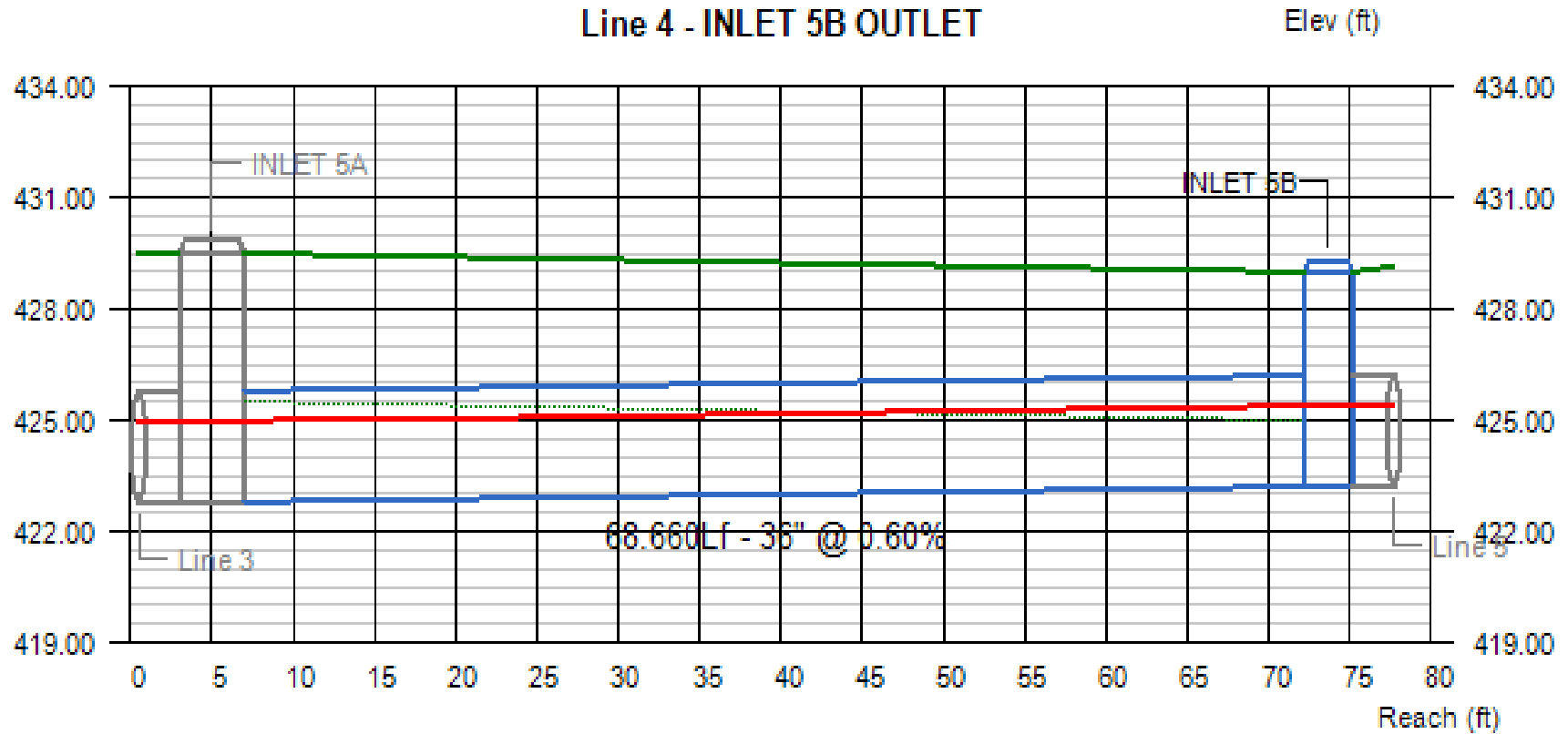
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
3	45.83	422.14	422.79	2.19	2.20	2.20	424.33	424.99	424.99	8.27	8.24	4.26	3.71

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 4) - INLET 5B OUTLET

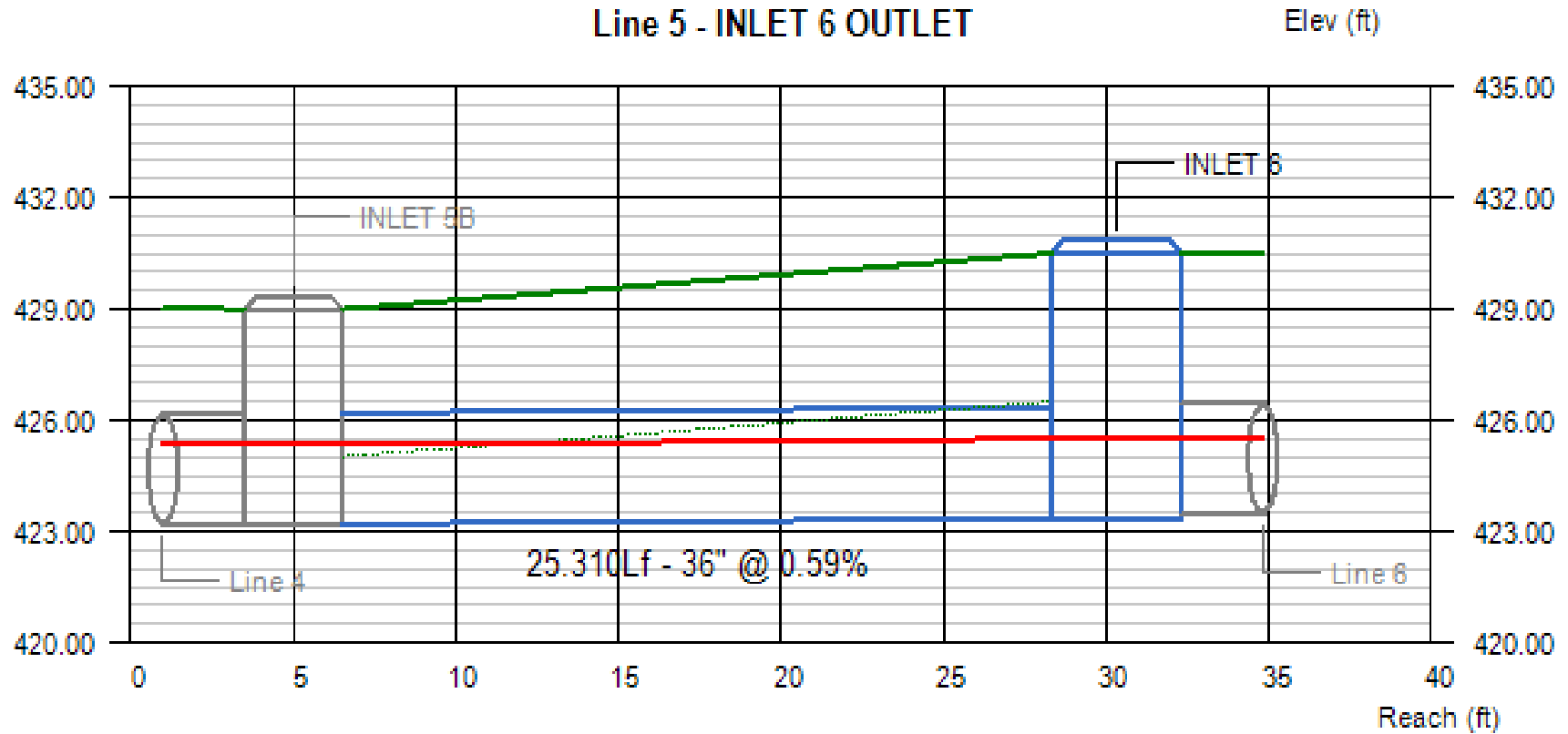


Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
4	45.45	422.79	423.20	2.20	2.19	2.19	424.99	425.39 j	425.39	8.17	8.20	3.71	2.80

Project File:

No. Lines: 35

Run Date: 12/7/2023



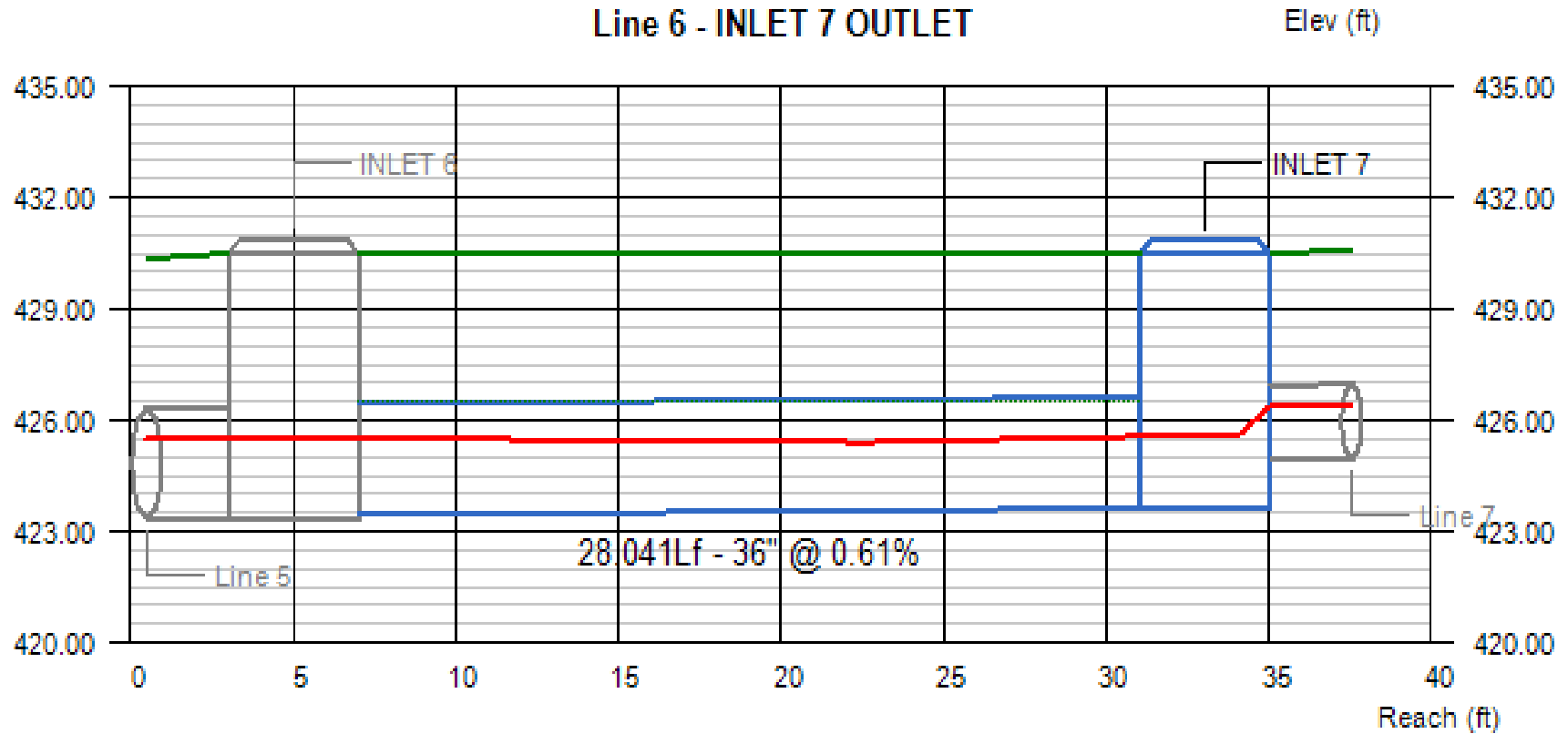
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
5	44.19	423.20	423.35	2.19	2.16	2.16	425.39	425.51 j	425.51	7.98	8.10	2.80	4.15

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 6) - INLET 7 OUTLET

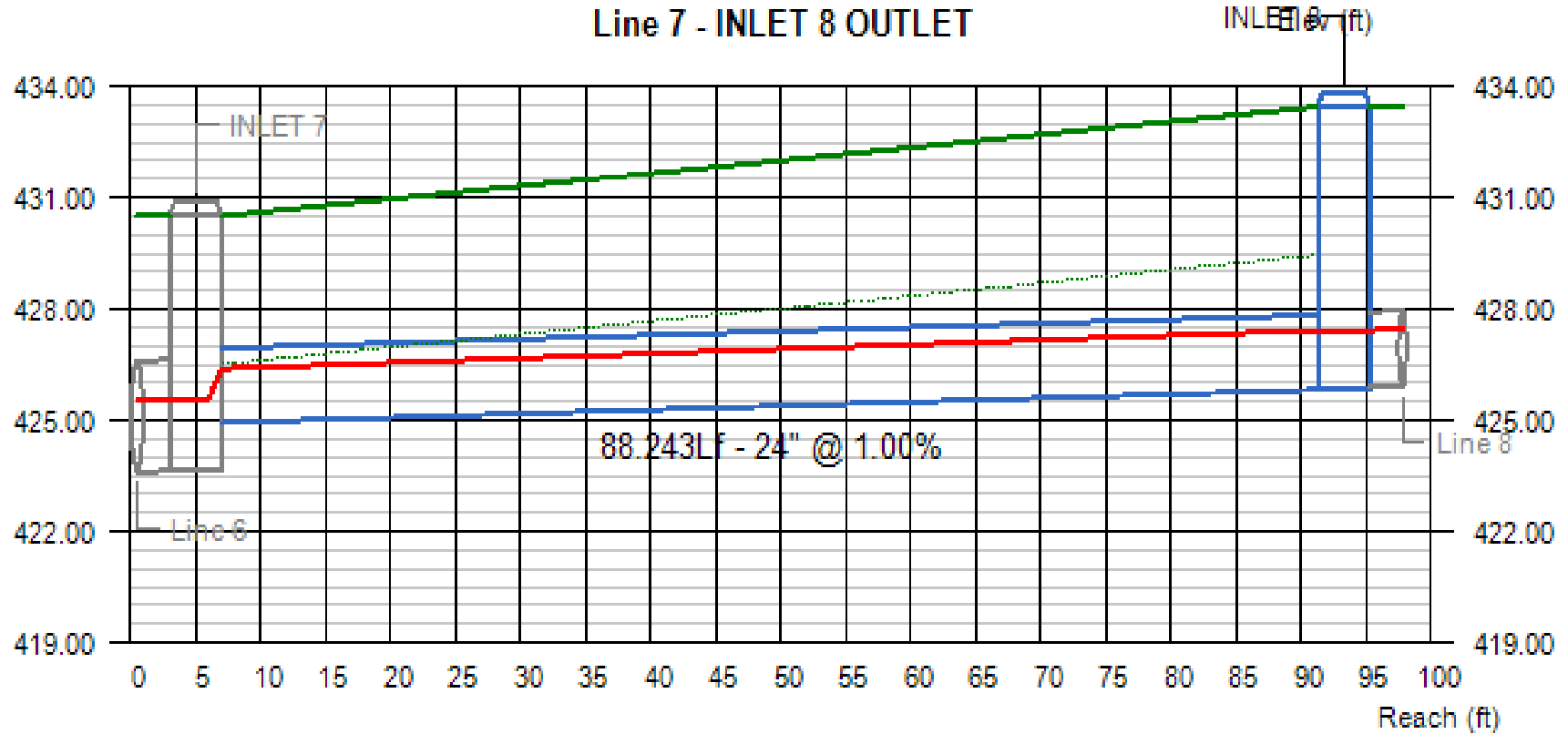


Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
6	36.22	423.45	423.62	2.06	1.95	1.95	425.51	425.58 j	425.58	6.99	7.43	4.05	3.88

Project File:

No. Lines: 35

Run Date: 12/7/2023



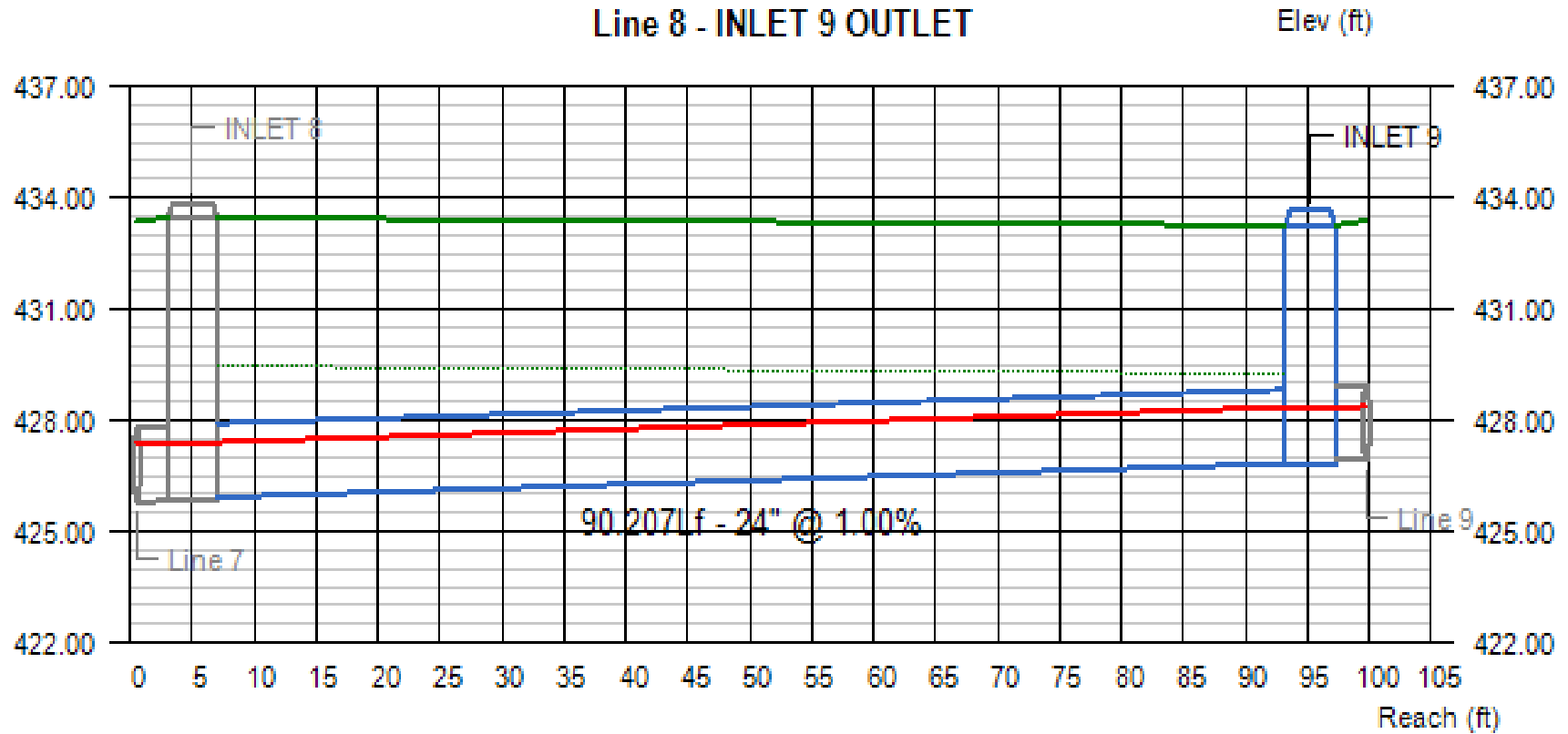
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
7	19.71	424.94	425.82	1.45	1.59	1.59	426.39	427.41	427.41	8.10	7.34	3.56	5.63

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 8) - INLET 9 OUTLET

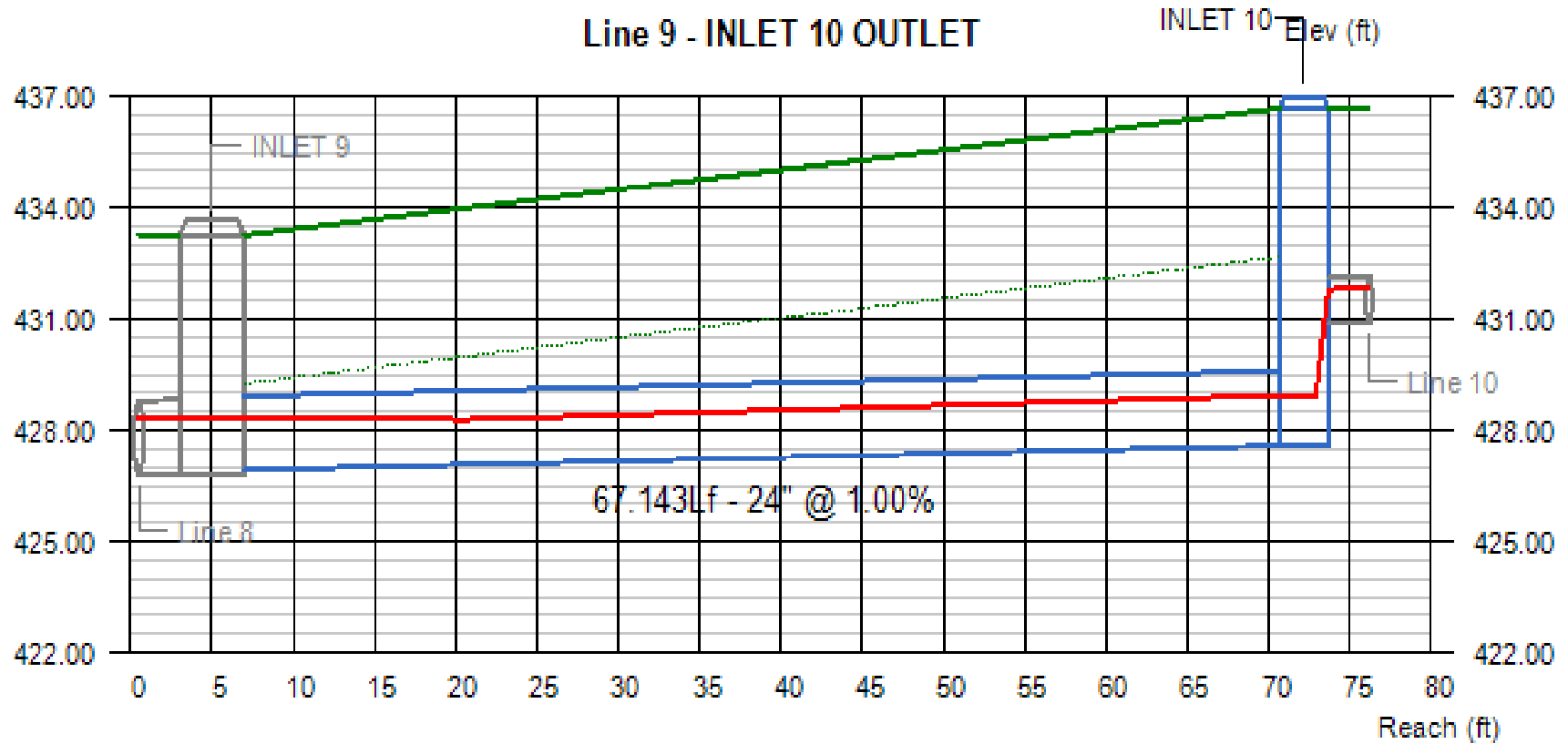


Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
8	18.14	425.92	426.82	1.49	1.53	1.53	427.41	428.35	428.35	7.21	7.02	5.53	4.43

Project File:

No. Lines: 35

Run Date: 12/7/2023



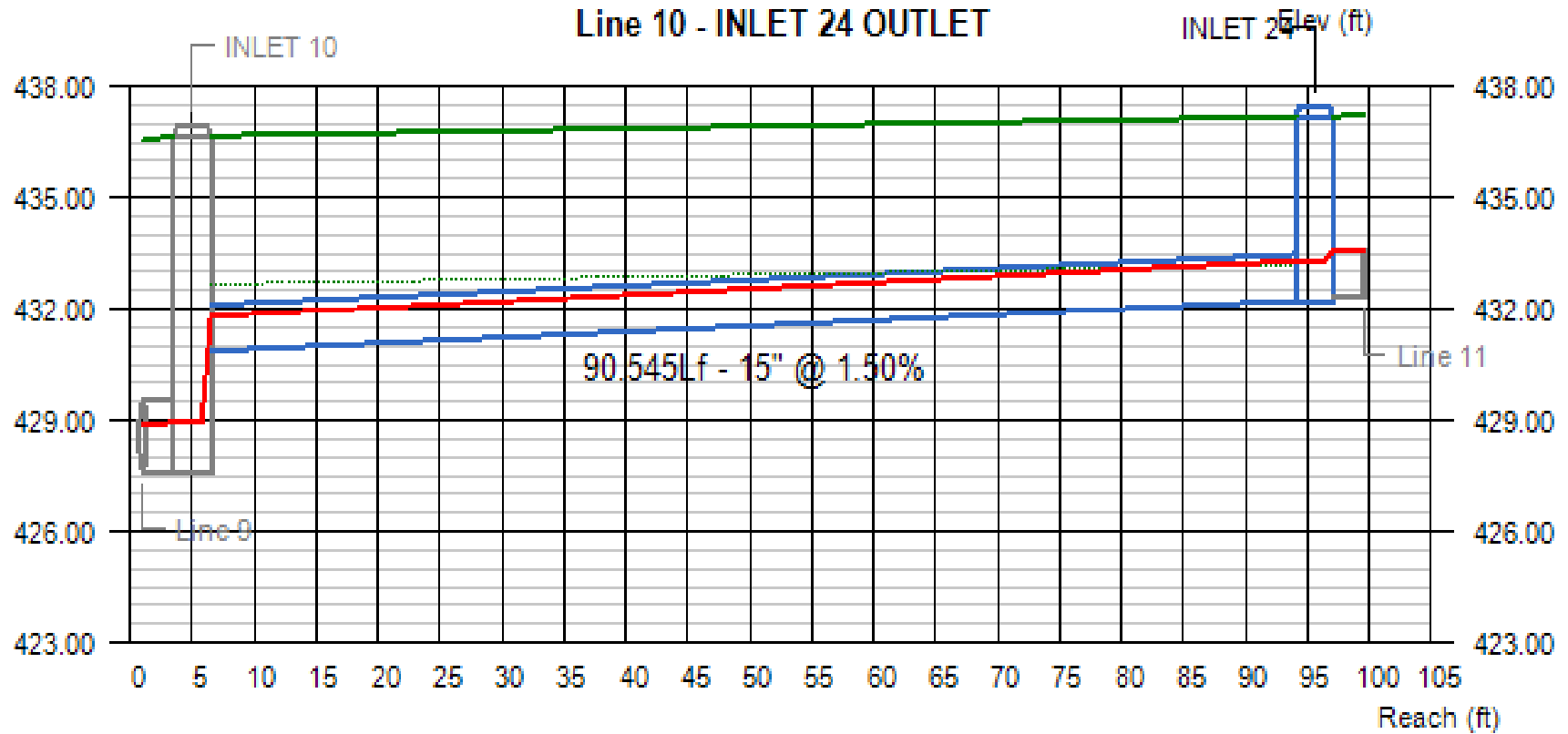
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
9	13.99	426.92	427.59	1.43	1.35	1.35	428.35	428.94 j	428.94	5.81	6.22	4.33	7.08

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 10) - INLET 24 OUTLET



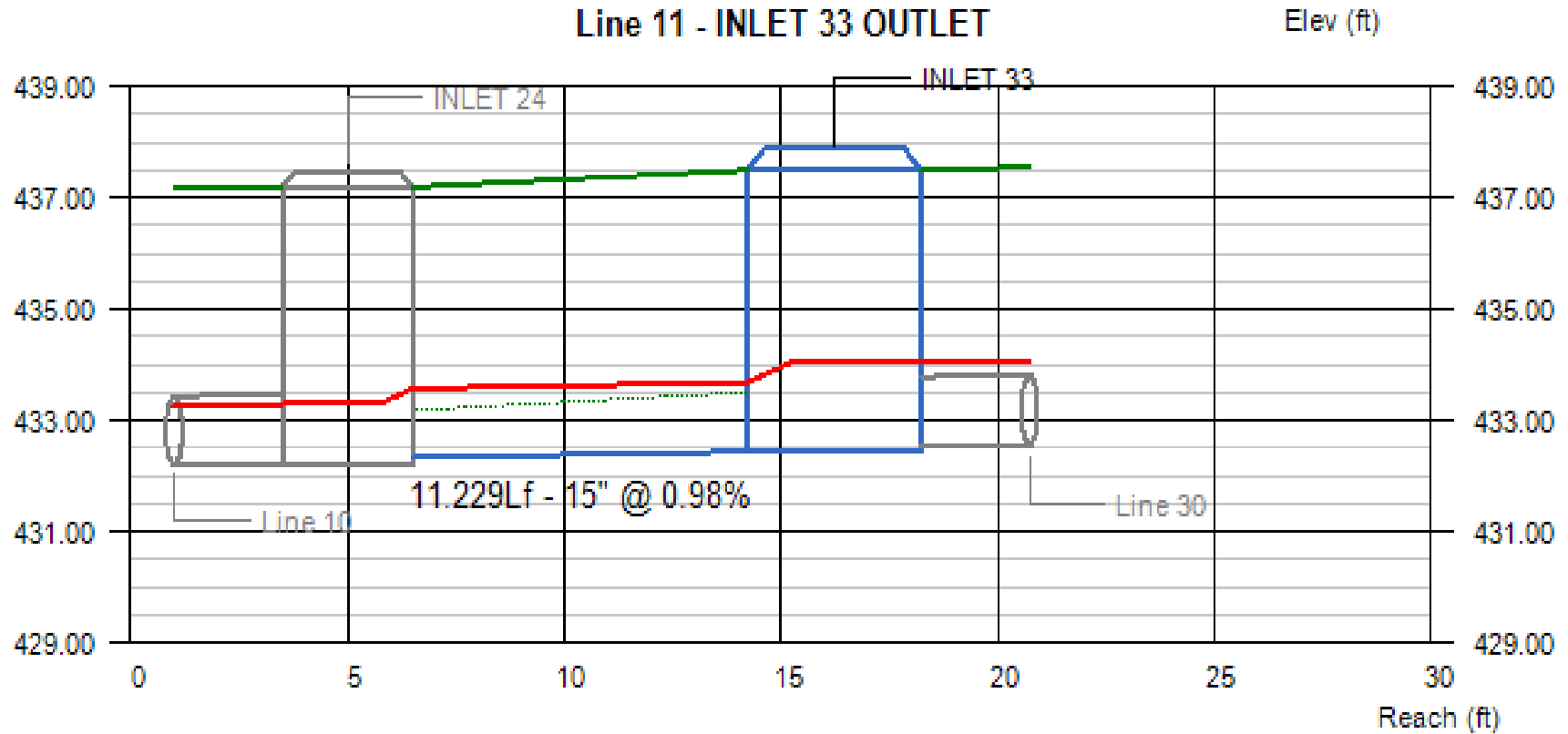
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
10	7.28	430.86	432.22	0.94	1.08	1.08	431.80	433.30	433.30	7.32	6.48	4.56	3.71

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 11) - INLET 33 OUTLET



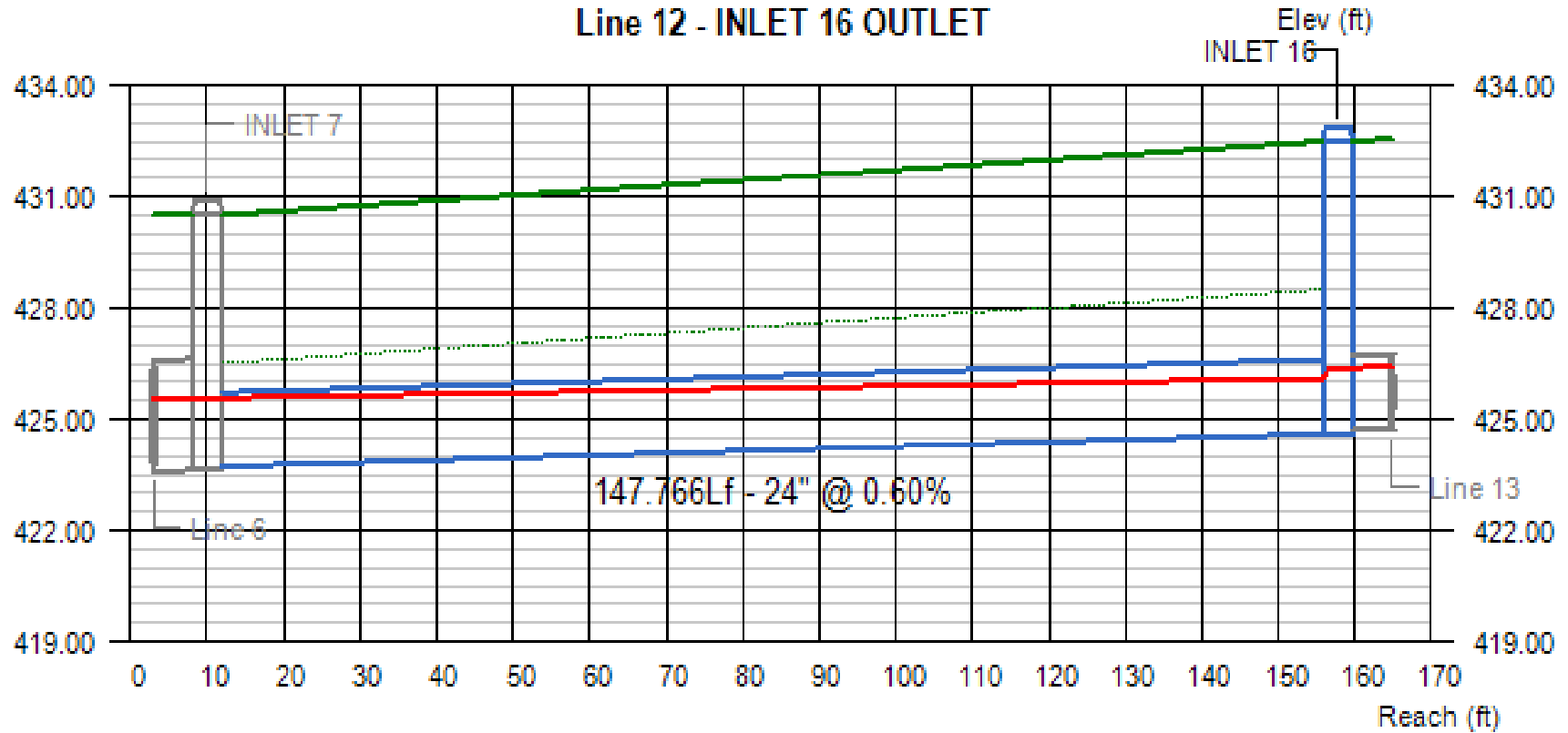
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
11	7.23	432.32	432.43	1.25	1.25	1.60	433.57	433.68	434.03	5.89	5.89	3.61	3.82

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line 12 - INLET 16 OUTLET



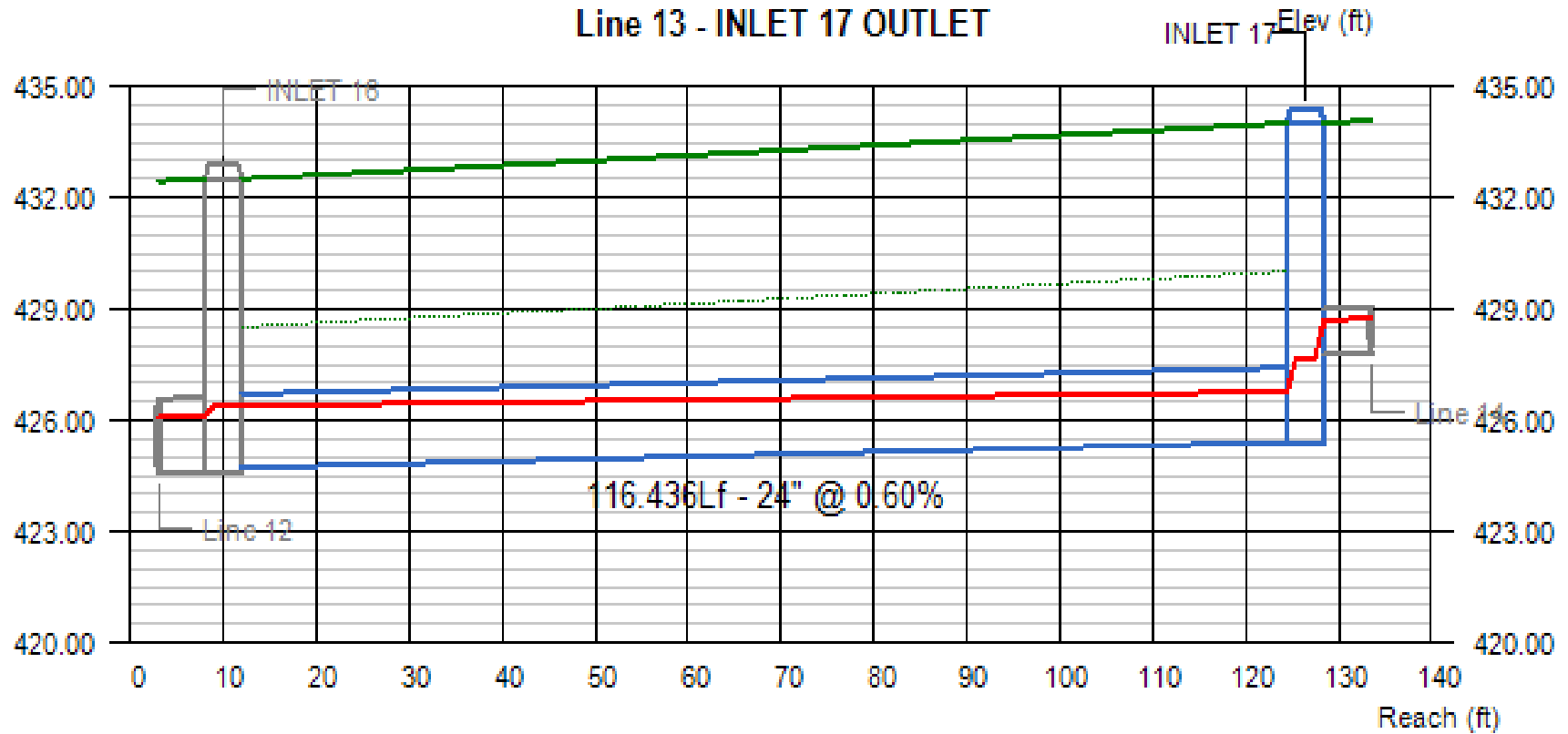
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
12	15.33	423.72	424.61	1.85	1.49	1.78	425.58	426.10	426.39	5.04	6.11	4.78	5.89

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 13) - INLET 17 OUTLET



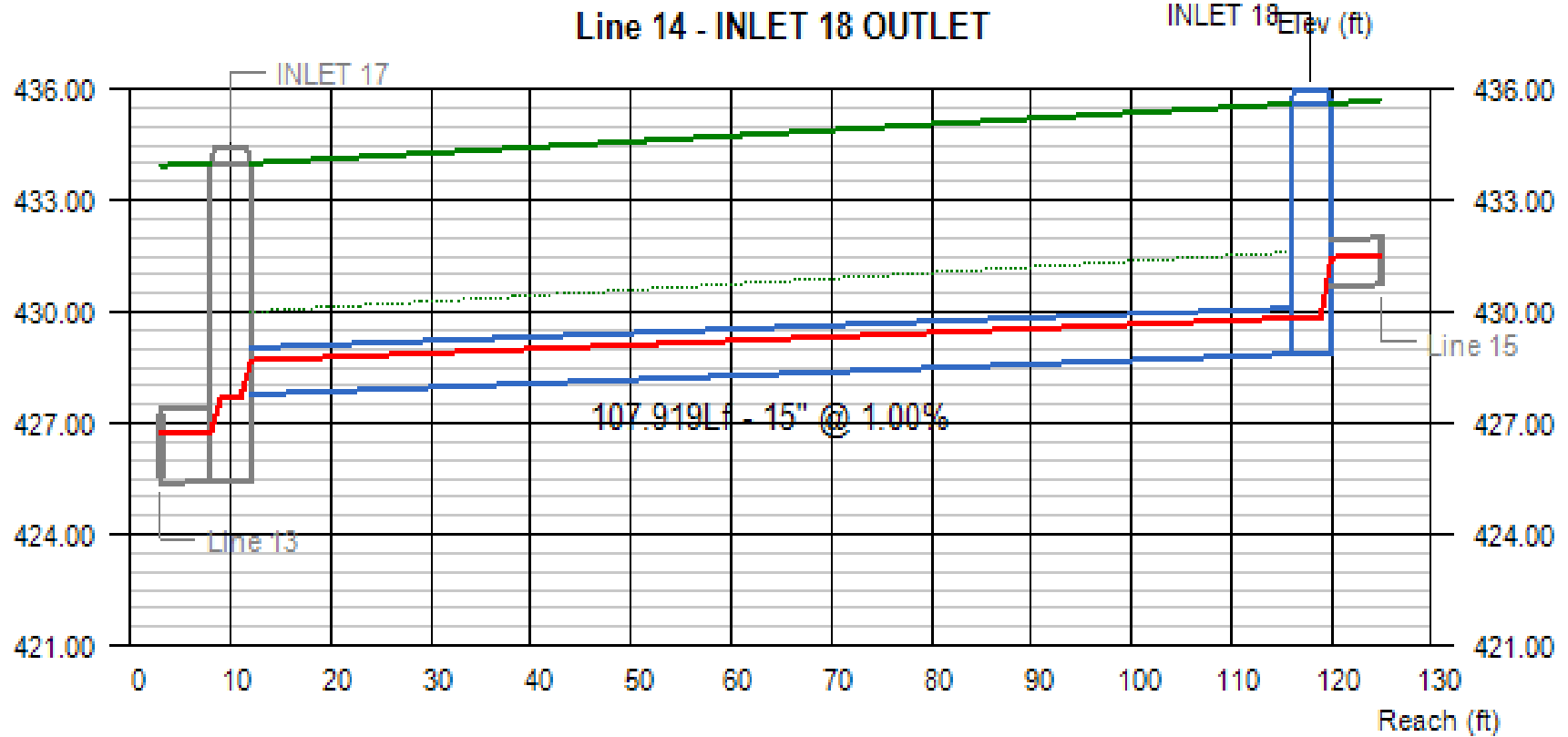
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
13	14.10	424.71	425.41	1.68	1.36	2.26	426.39	426.77	427.67	5.01	6.22	5.79	6.60

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 14) - INLET 18 OUTLET



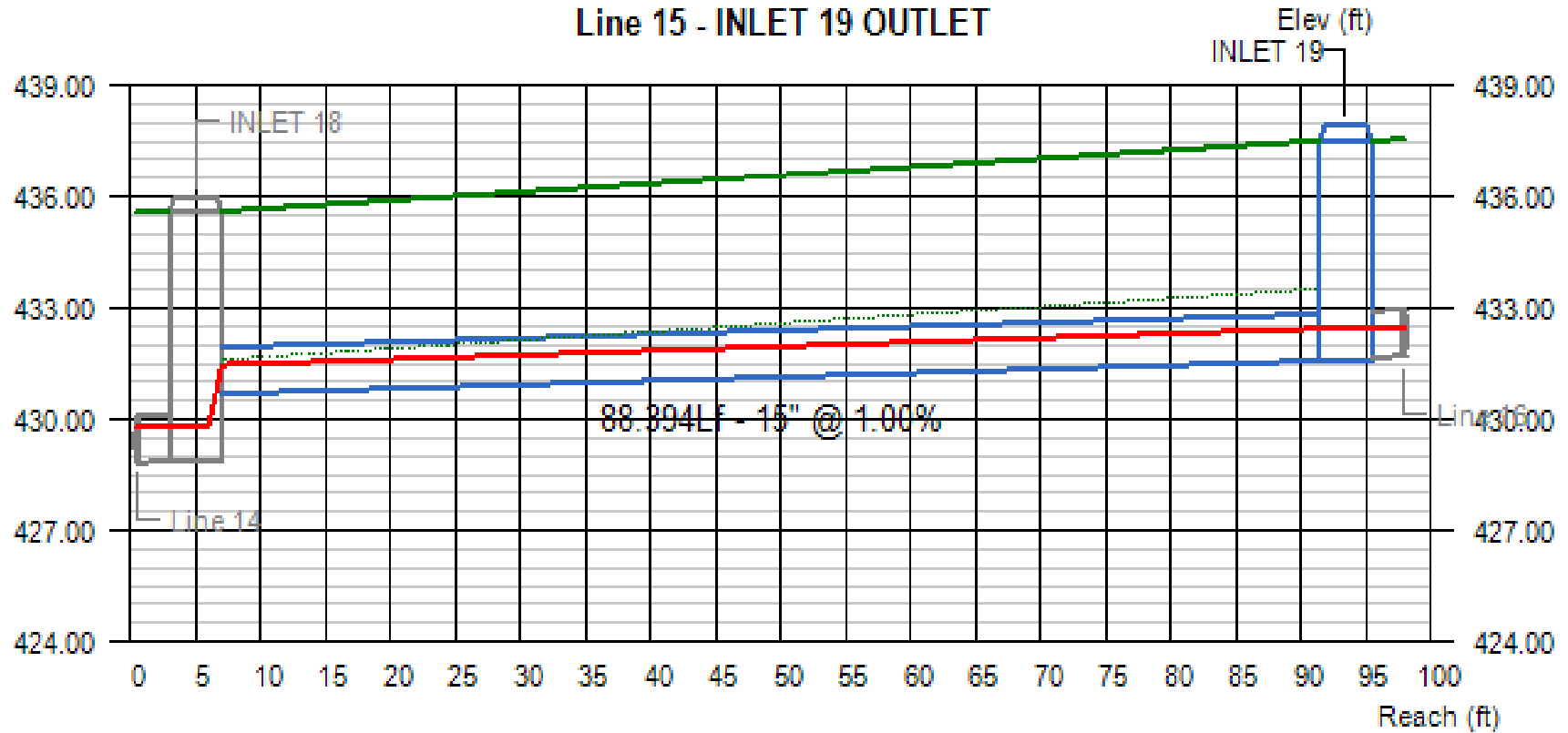
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
14	5.71	427.77	428.85	0.91	0.97	0.97	428.68	429.82	429.82	5.94	5.61	4.99	5.50

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line 15 - INLET 19 OUTLET



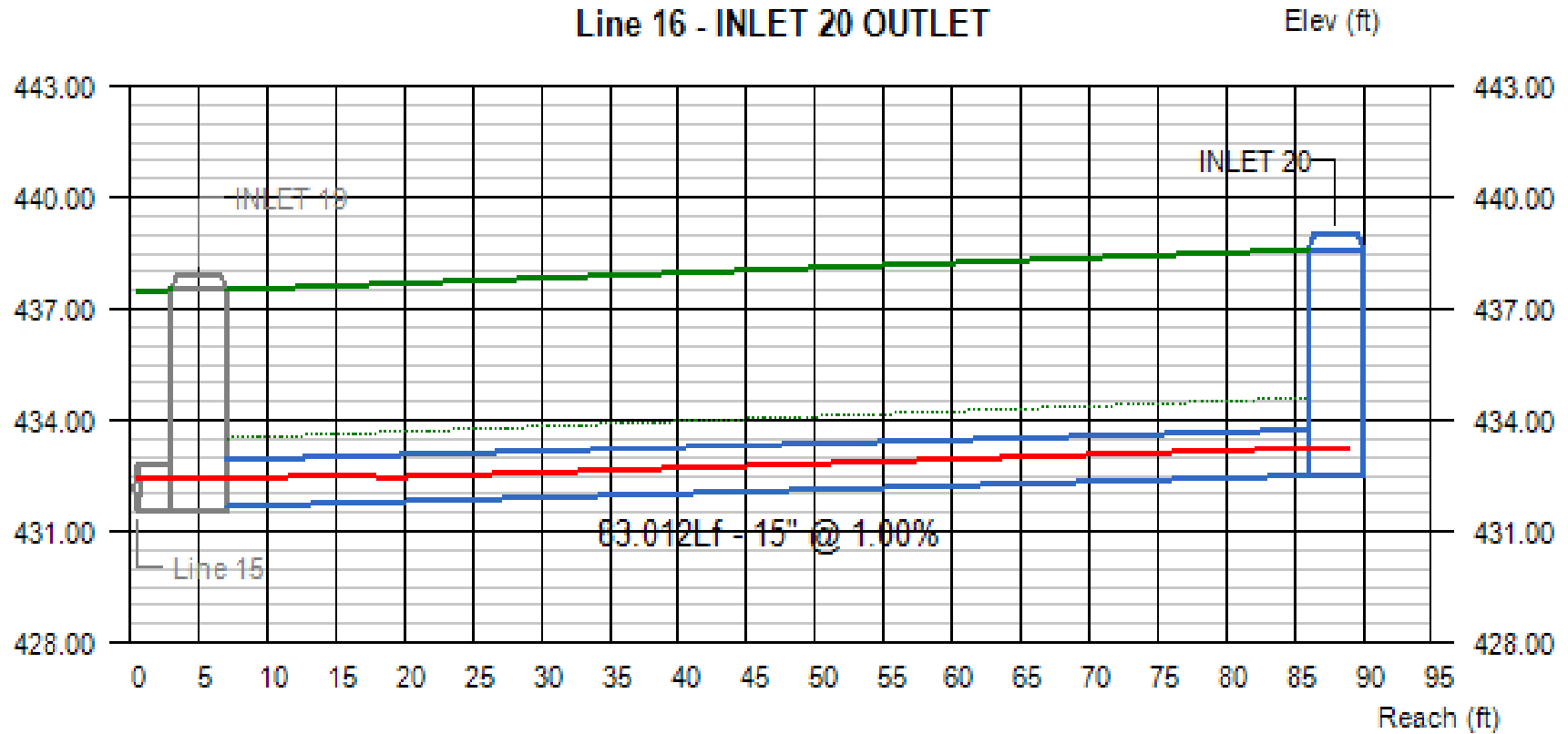
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
15	4.52	430.69	431.57	0.77	0.86	0.86	431.46	432.43	432.43	5.68	5.02	3.66	4.70

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 16) - INLET 20 OUTLET



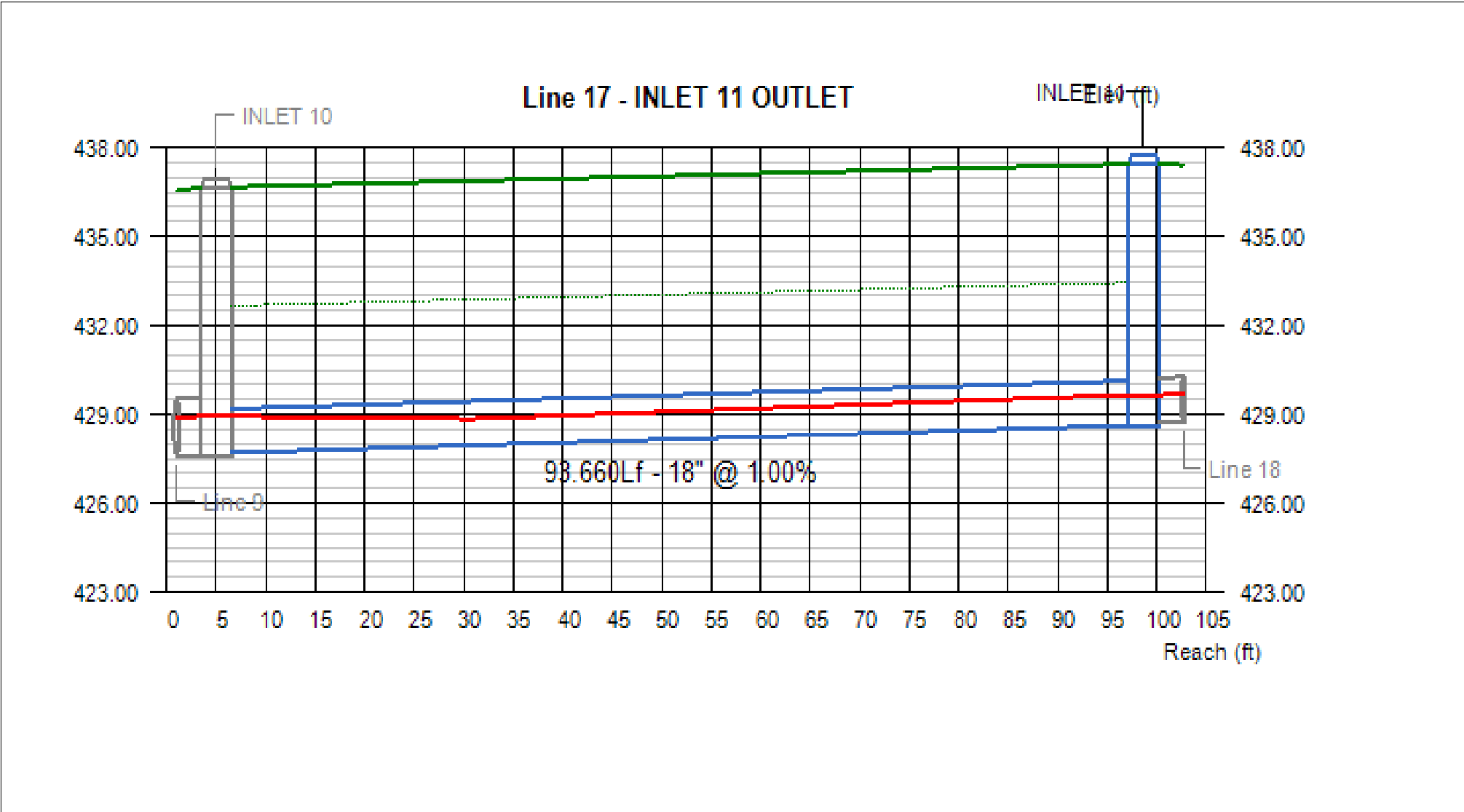
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
16	3.40	431.67	432.50	0.76	0.74	0.74	432.43	433.24 j	433.24	4.35	4.47	4.60	4.85

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 17) - INLET 11 OUTLET

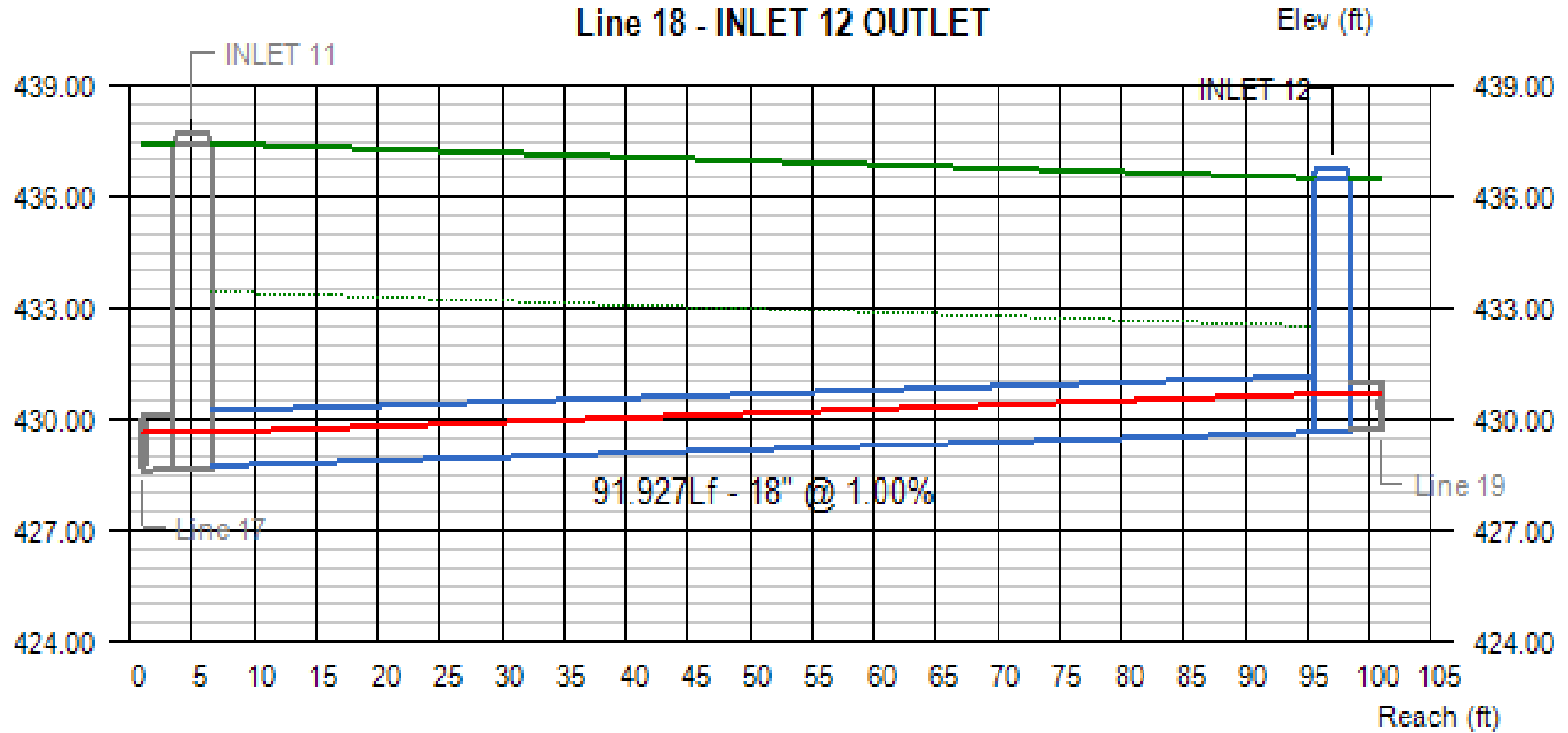


Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
17	7.05	427.69	428.63	1.25	1.03	1.03	428.94	429.66 j	429.66	4.49	5.47	7.48	7.31

Project File: _____ No. Lines: 35 Run Date: 12/7/2023

Line Profile (Line 18) - INLET 12 OUTLET

Line 18 - INLET 12 OUTLET

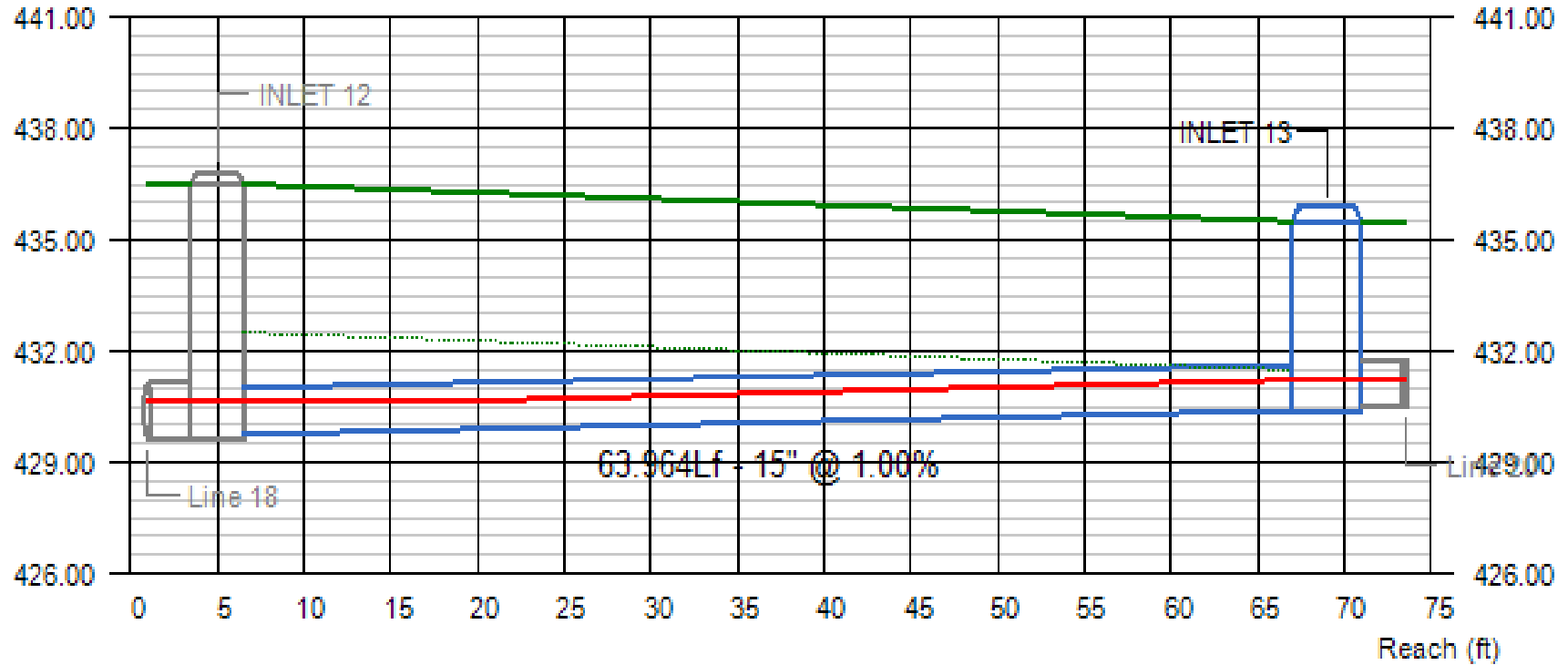


Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
18	7.11	428.73	429.65	0.93	1.03	1.03	429.66	430.68	430.68	6.19	5.49	7.21	5.35

Project File:	No. Lines: 35	Run Date: 12/7/2023
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Line 19 - INLET 13 OUTLET

Elev (ft)



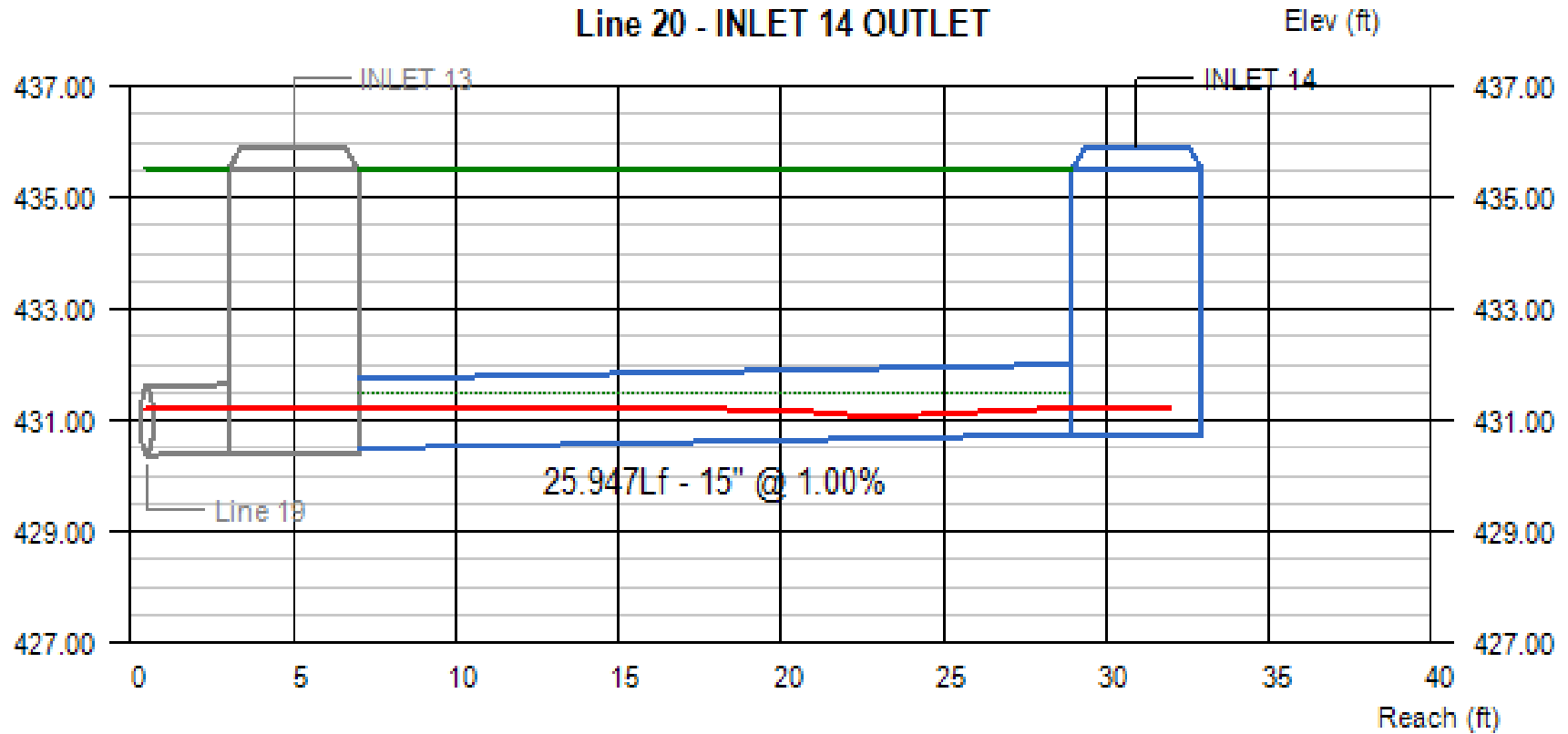
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
19	4.19	429.75	430.39	0.93	0.83	0.83	430.68	431.22 j	431.22	4.28	4.86	5.50	3.86

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 20) - INLET 14 OUTLET



Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
20	1.46	430.49	430.75	0.73	0.48	0.48	431.22	431.23 j	431.23	1.97	3.39	3.76	3.50

Project File:

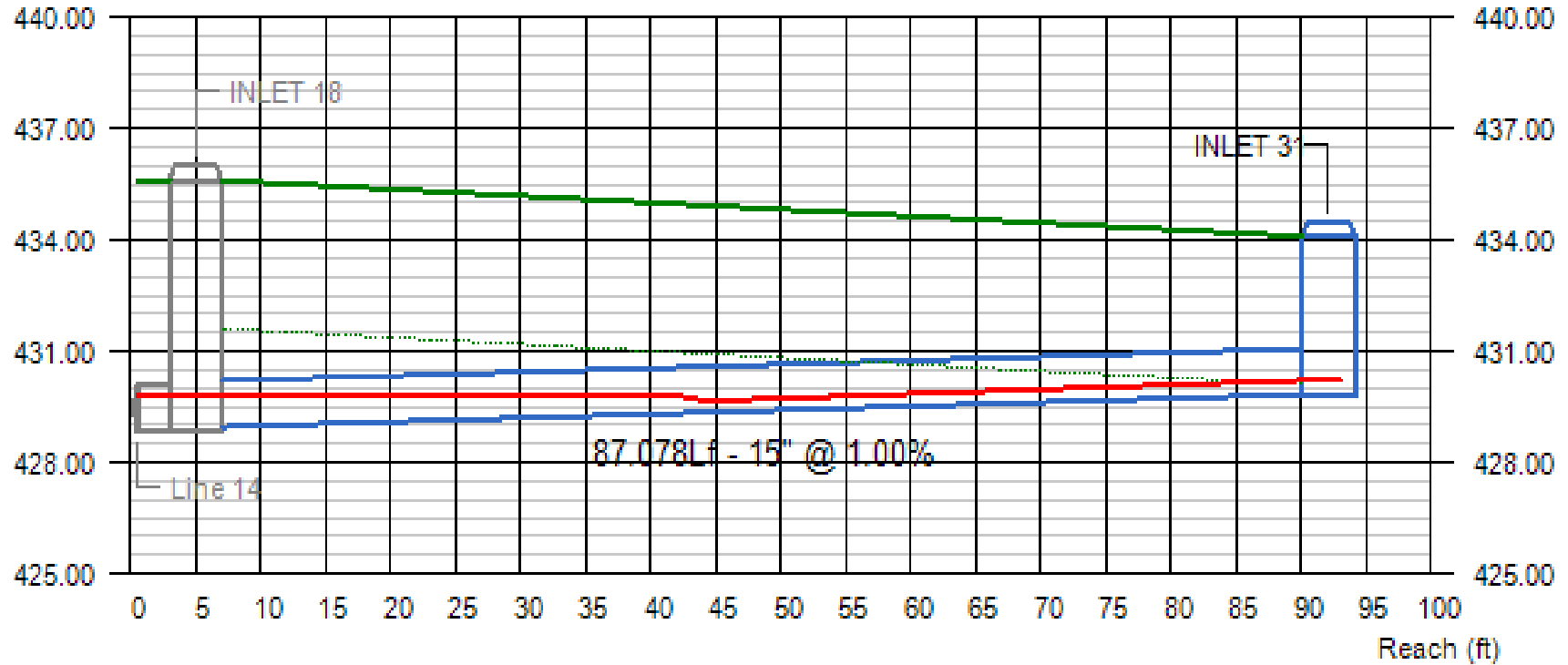
No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 21) - INLET 31 OUTLET

Line 21 - INLET 31 OUTLET

Elev (ft)



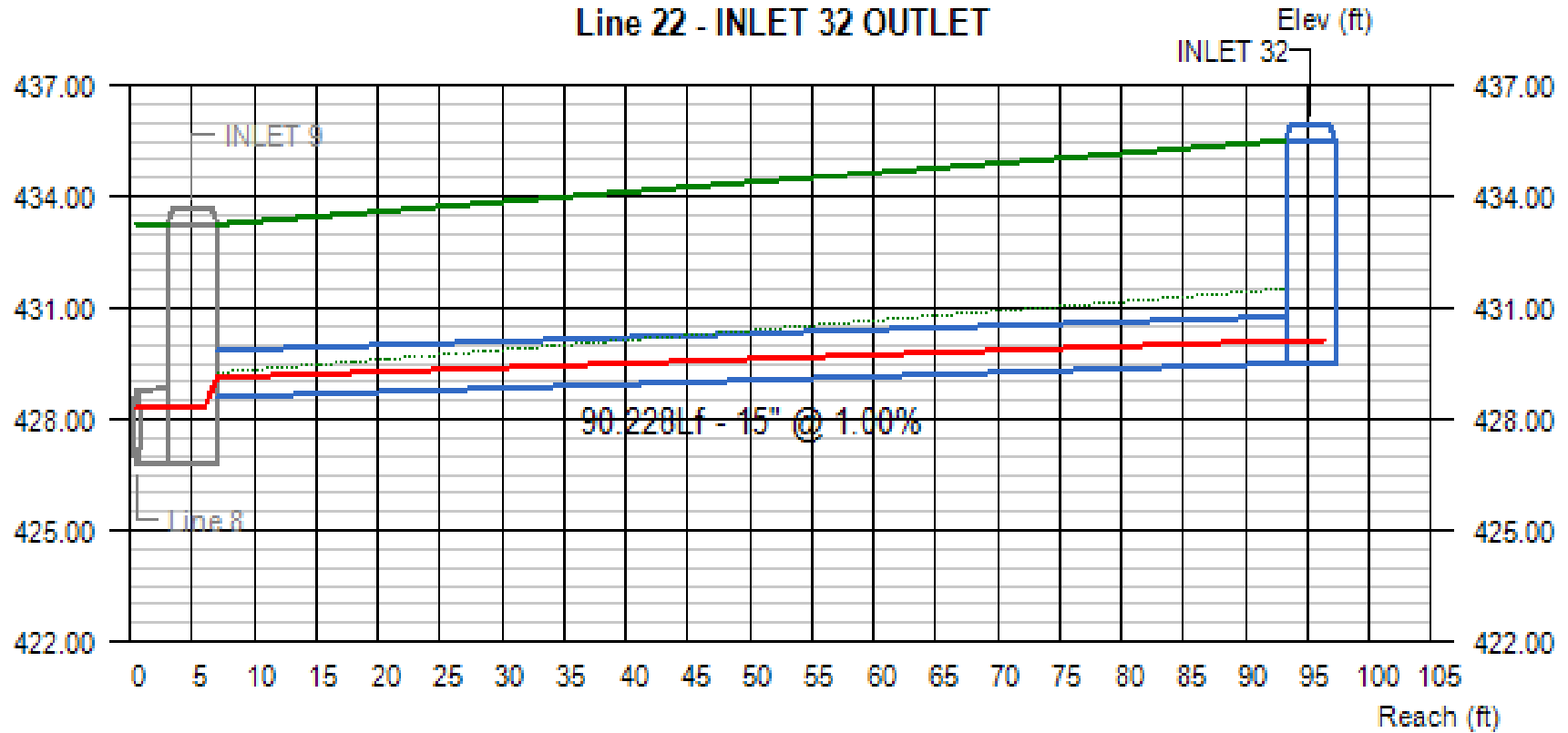
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
21	0.96	428.95	429.82	0.87	0.38	0.38	429.82	430.20 j	430.20	1.06	2.99	5.40	3.03

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 22) - INLET 32 OUTLET



Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
22	2.35	428.60	429.50	0.52	0.61	0.61	429.12	430.11	430.11	4.84	3.93	3.40	4.77

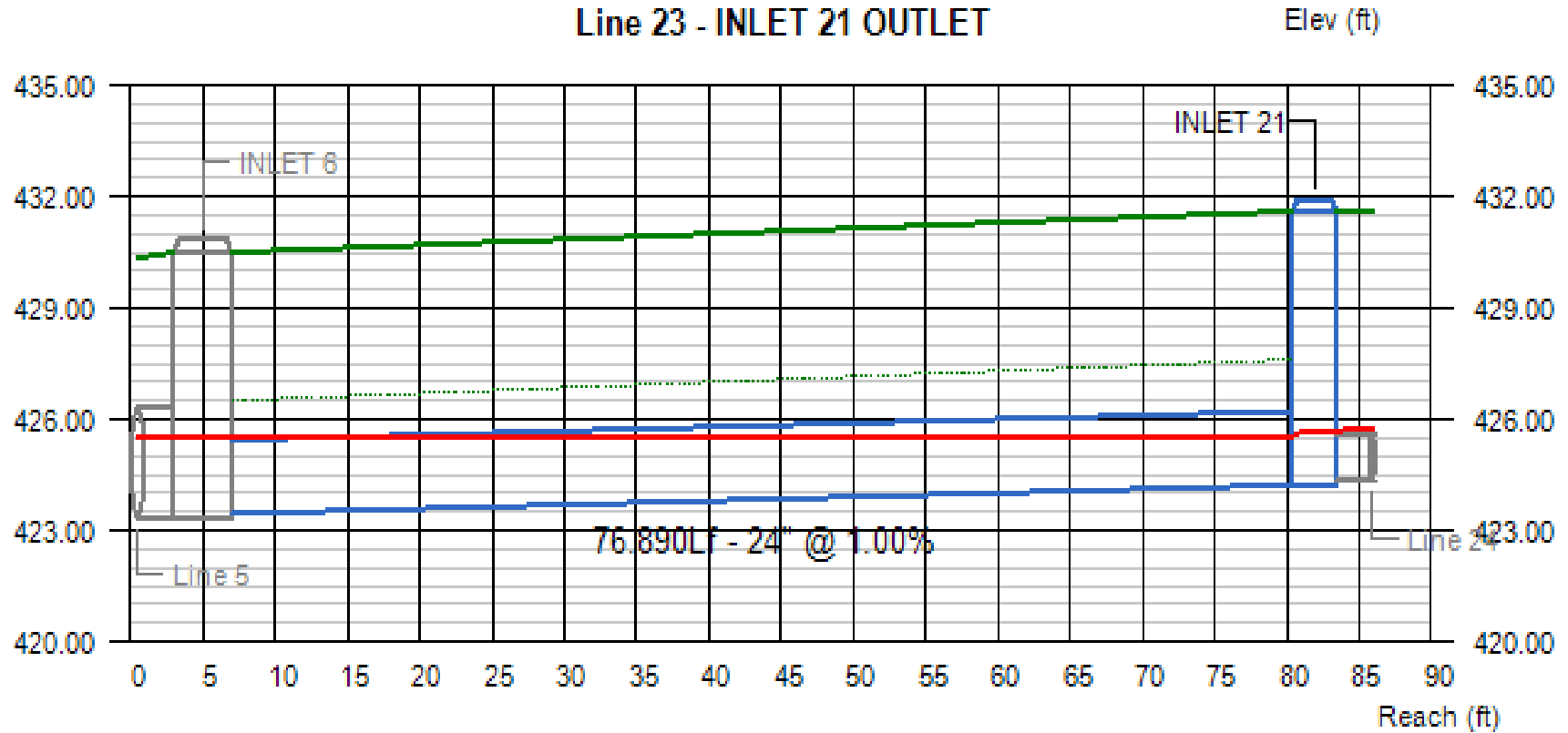
Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 23) - INLET 21 OUTLET

Line 23 - INLET 21 OUTLET

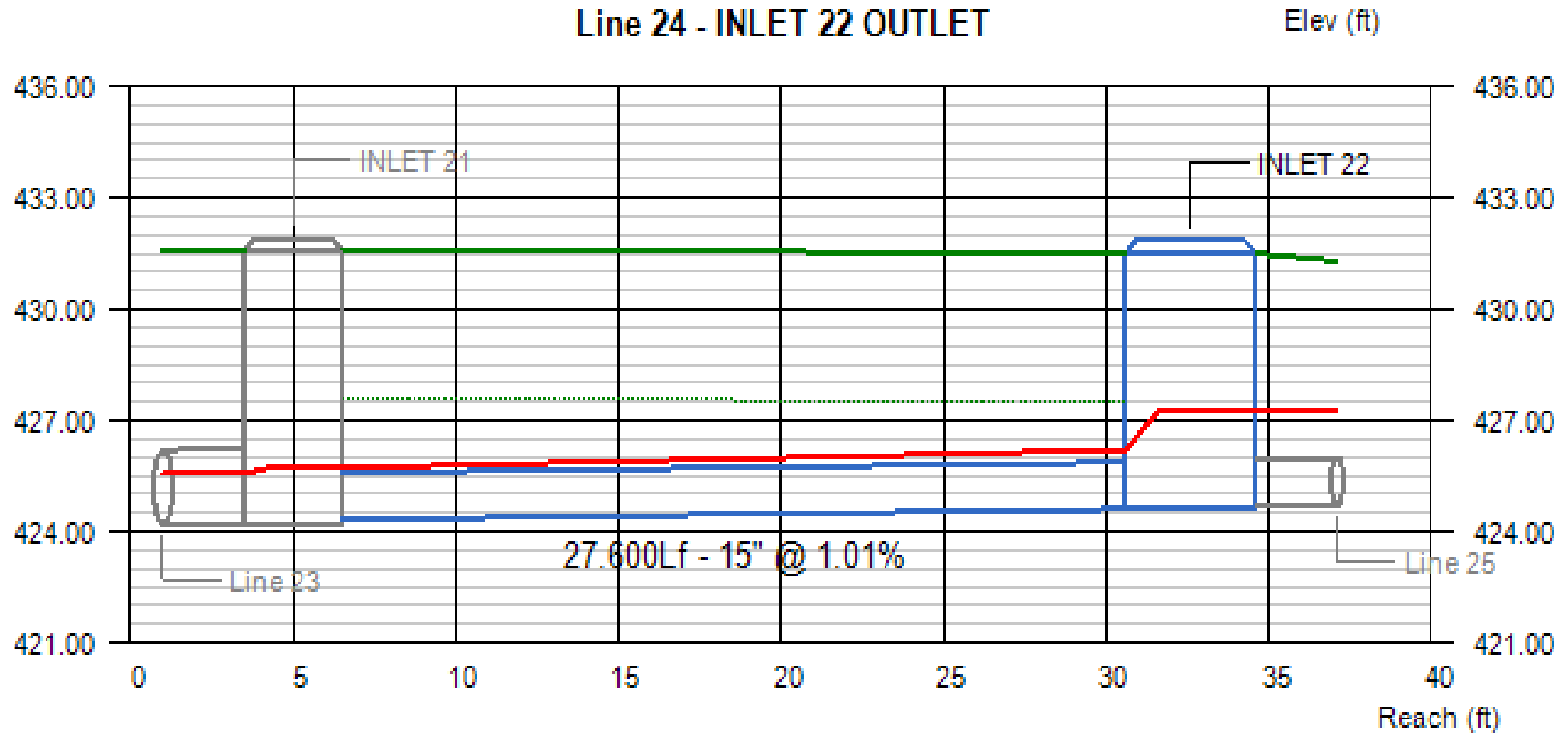


Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
23	8.63	423.45	424.22	2.00	1.32	1.48	425.51	425.54	425.70	2.75	3.92	5.05	5.38

Project File:

No. Lines: 35

Run Date: 12/7/2023



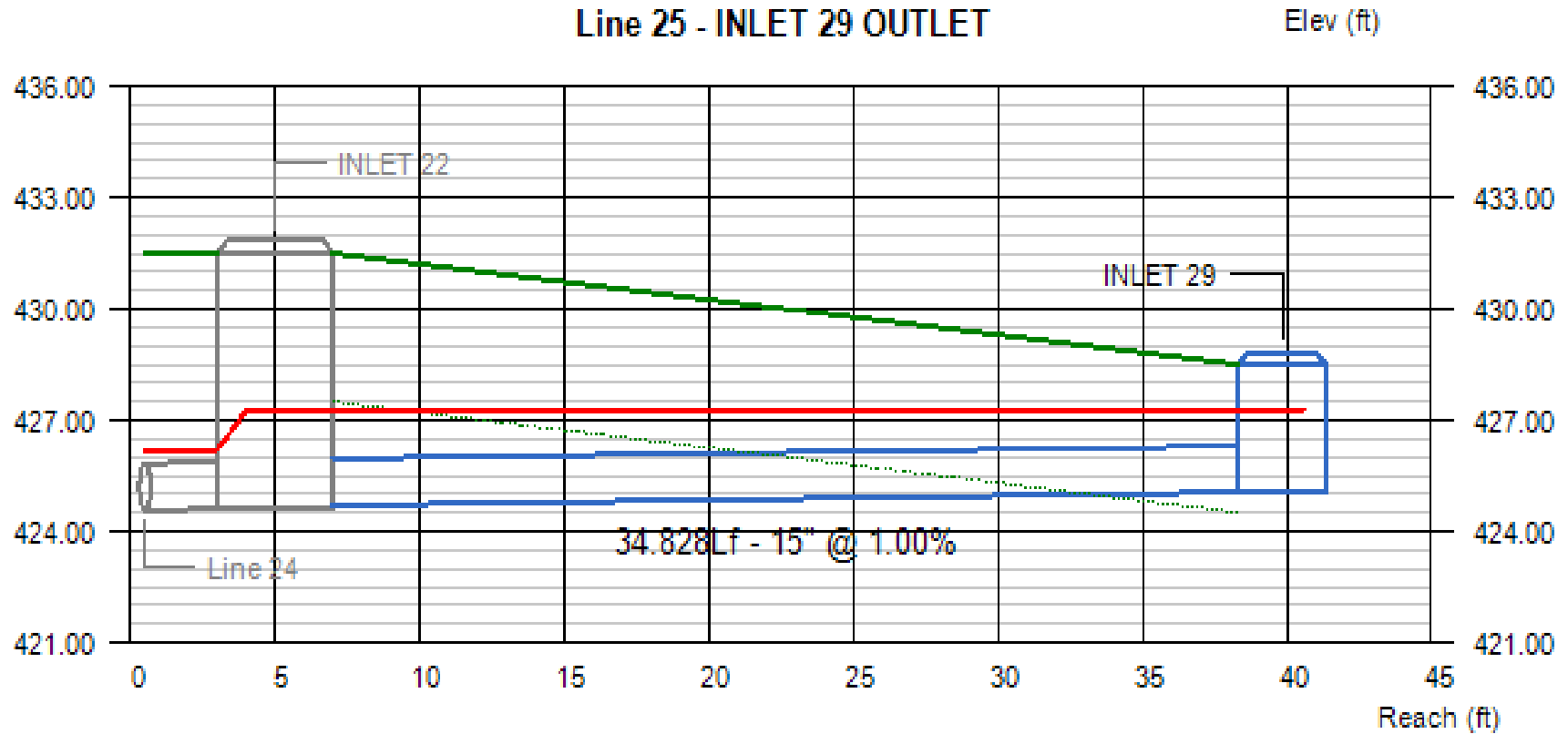
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
24	8.59	424.32	424.60	1.25	1.25	2.67	425.70	426.19	427.27	7.00	7.00	6.03	5.65

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 25) - INLET 29 OUTLET



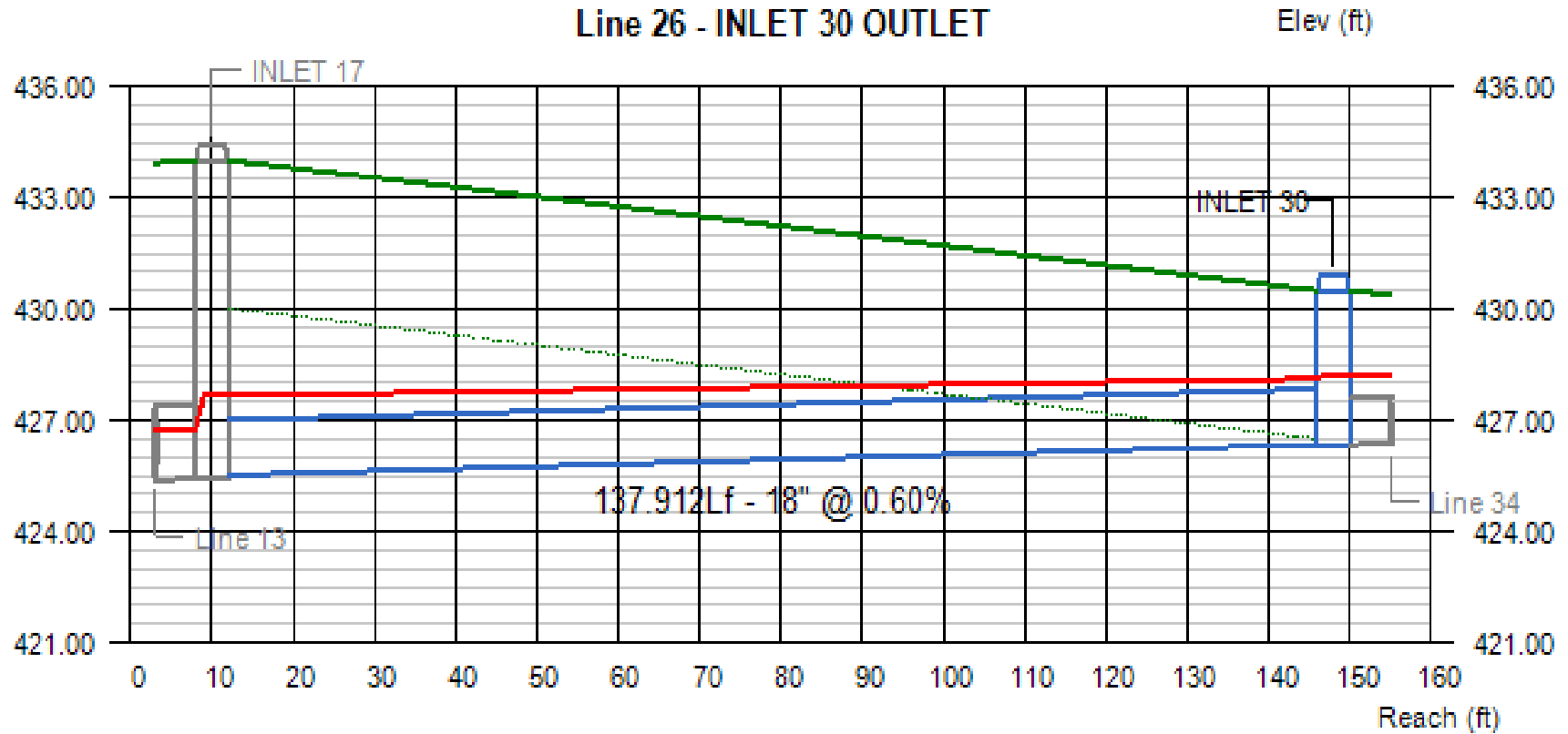
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
25	0.77	424.70	425.05	1.25	1.25	2.23	427.27	427.27	427.28	0.63	0.63	5.55	2.20

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 26) - INLET 30 OUTLET



Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
26	5.96	425.51	426.34	1.50	1.50	1.88	427.67	428.11	428.22	3.37	3.37	7.00	2.66

Project File:

No. Lines: 35

Run Date: 12/7/2023

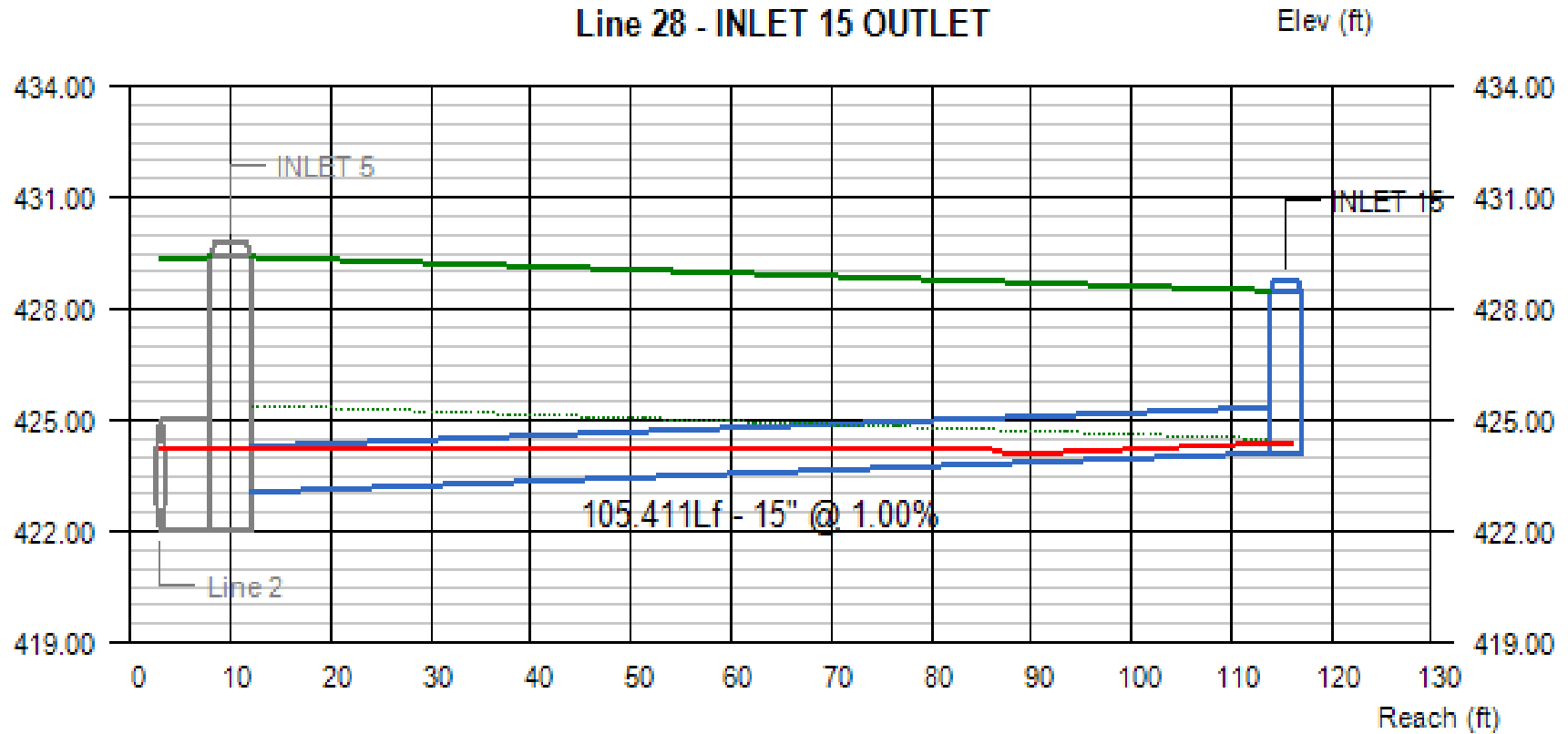


Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
27	4.77	424.70	426.78	1.25	1.25	1.86	427.27	428.40	428.64	3.89	3.89	5.55	7.77

Project File:

No. Lines: 35

Run Date: 12/7/2023

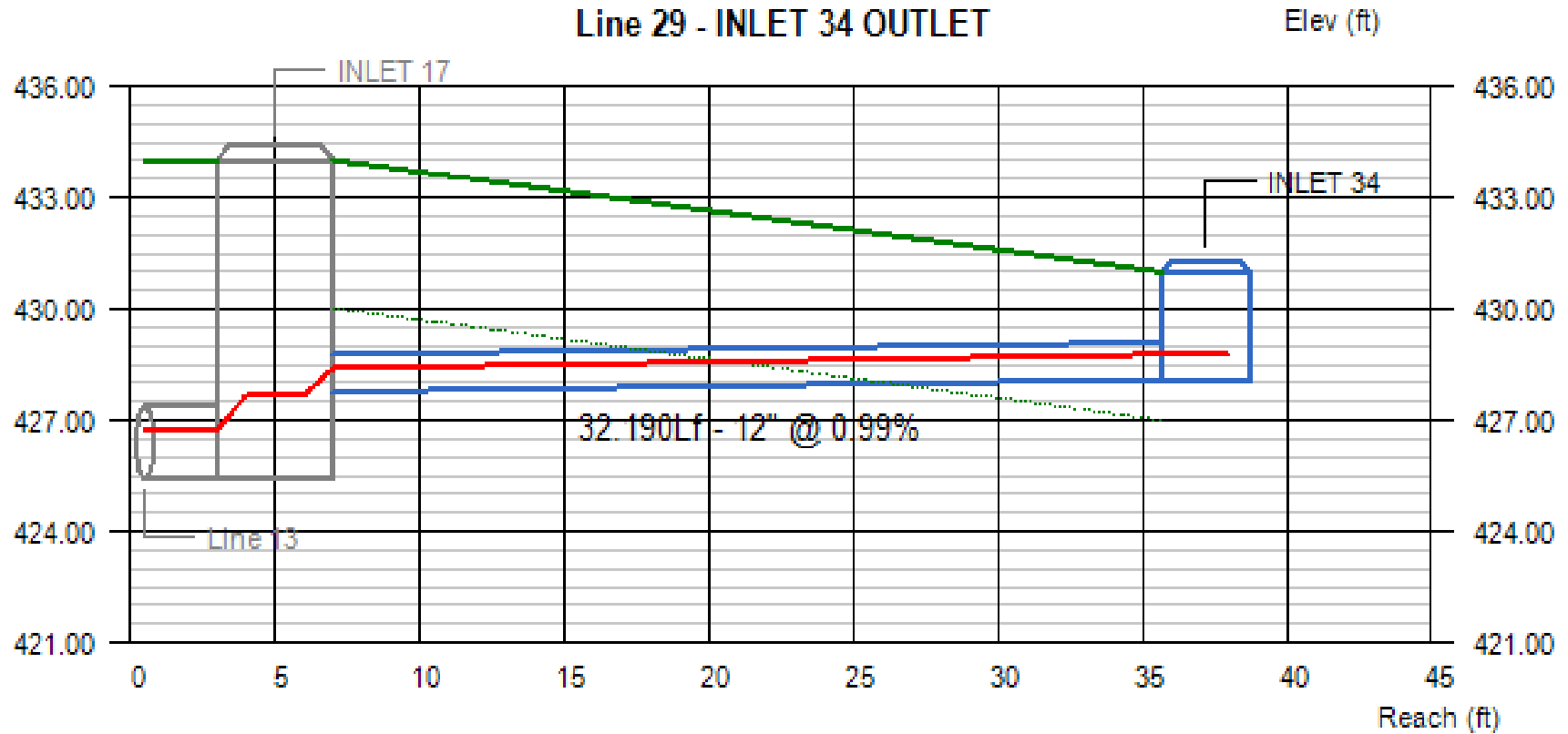


Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
28	0.56	423.05	424.10	1.19	0.29	0.29	424.24	424.39 j	424.39	0.46	2.58	5.10	3.15

Project File:

No. Lines: 35

Run Date: 12/7/2023



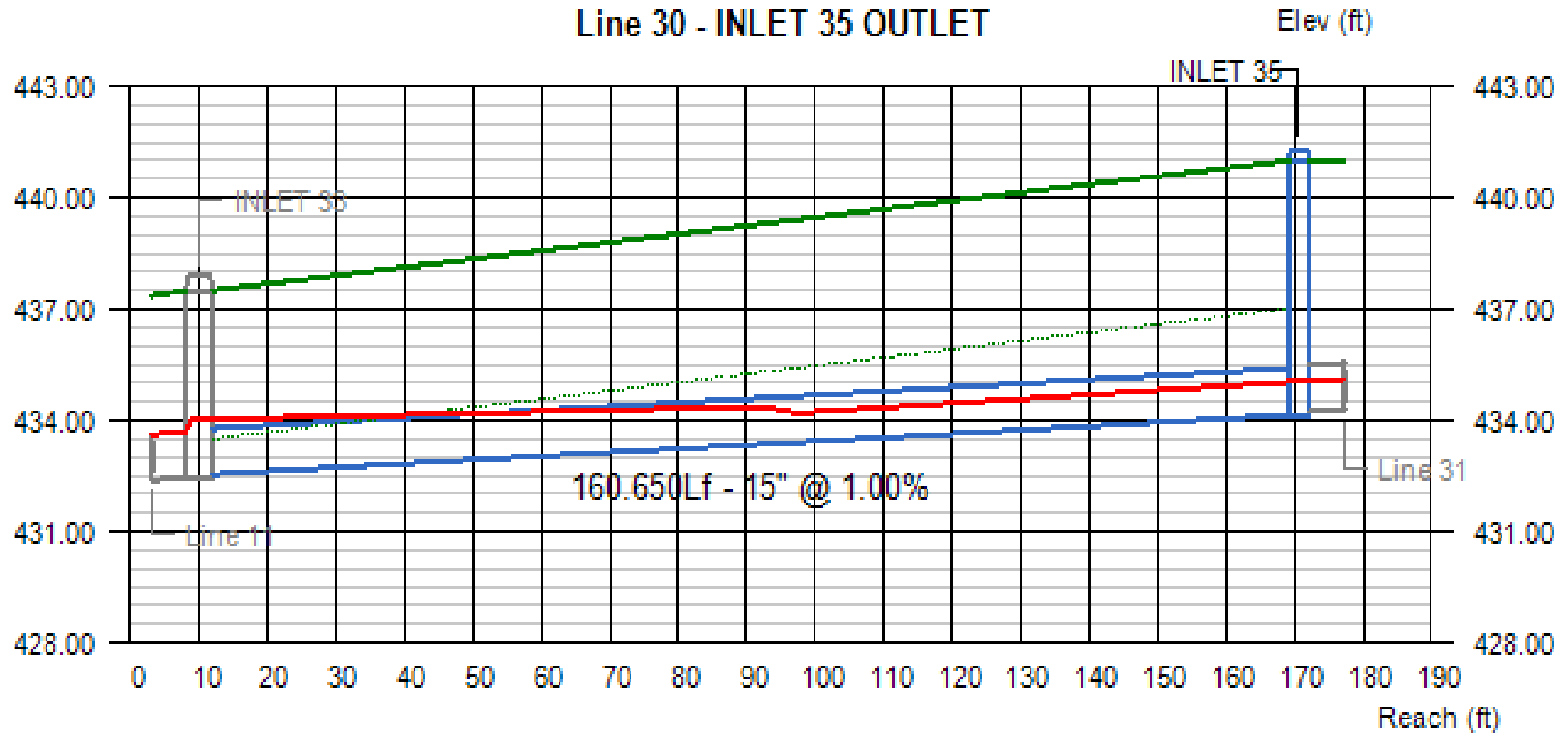
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
29	2.55	427.77	428.09	0.63	0.68	0.68	428.40	428.77	428.77	4.92	4.46	5.24	1.91

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 30) - INLET 35 OUTLET



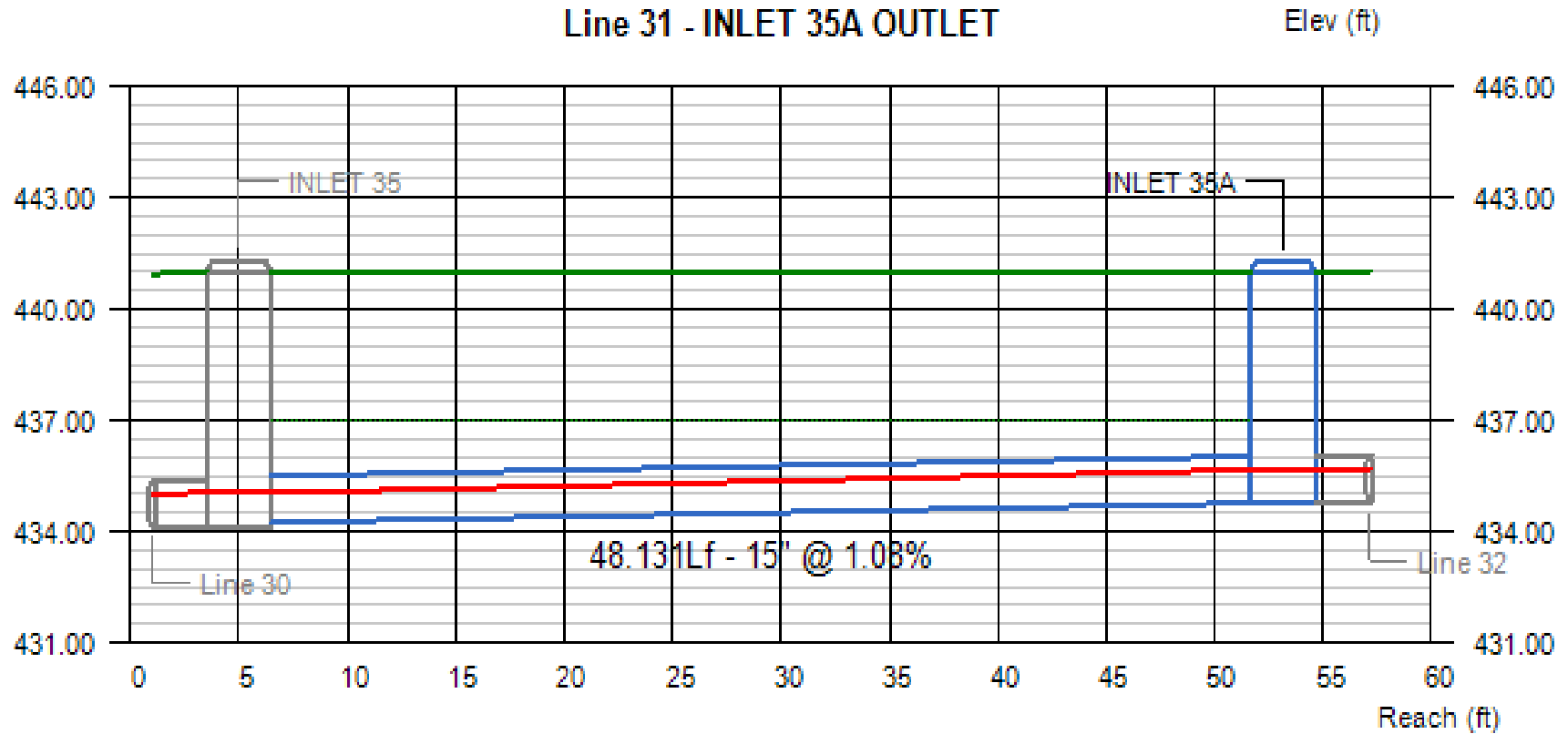
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
30	4.86	432.53	434.14	1.25	0.89	0.89	434.03	435.03 j	435.03	3.96	5.18	3.72	5.61

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 31) - INLET 35A OUTLET



Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
31	4.84	434.24	434.76	0.79	0.89	0.89	435.03	435.65	435.65	5.89	5.17	5.51	4.99

Project File:

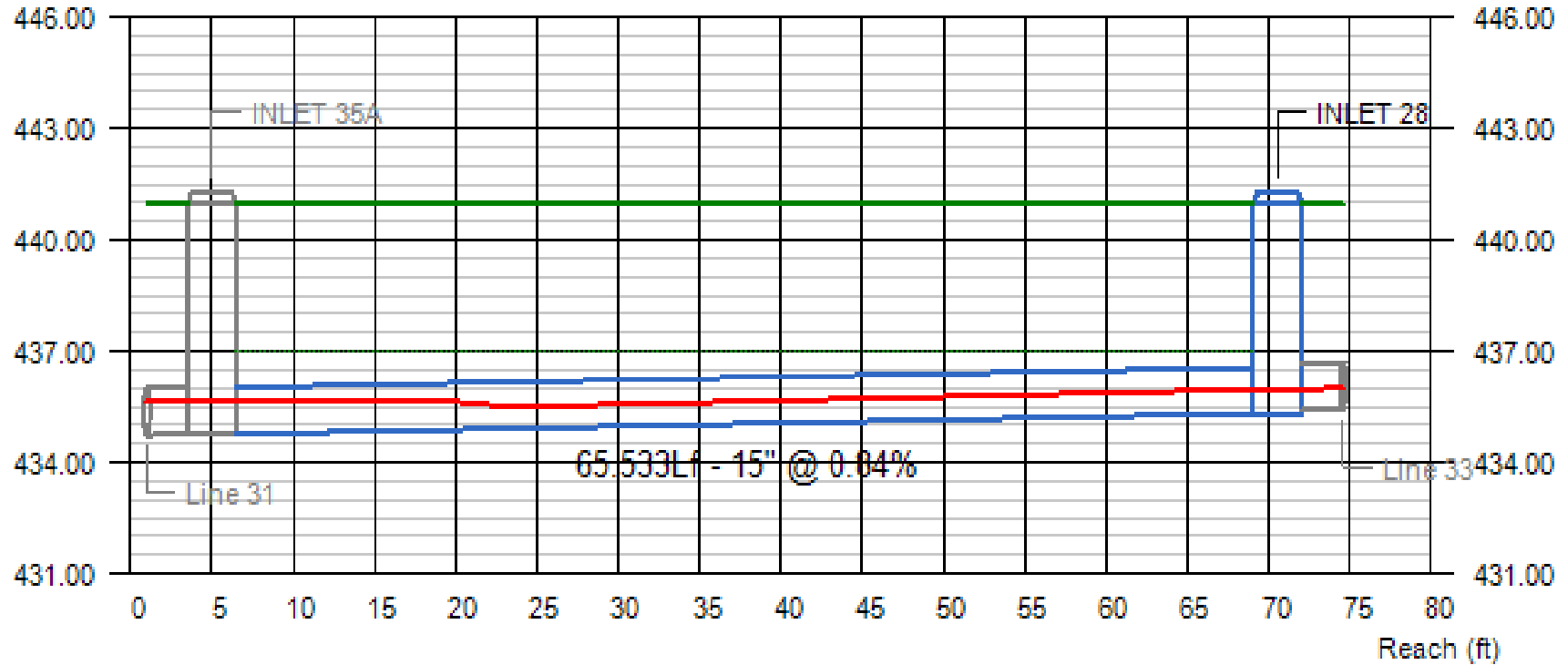
No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 32) - INLET 28 OUTLET

Line 32 - INLET 28 OUTLET

Elev (ft)



Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
32	2.62	434.76	435.31	0.89	0.65	0.65	435.65	435.96 j	435.96	2.80	4.08	4.99	4.44

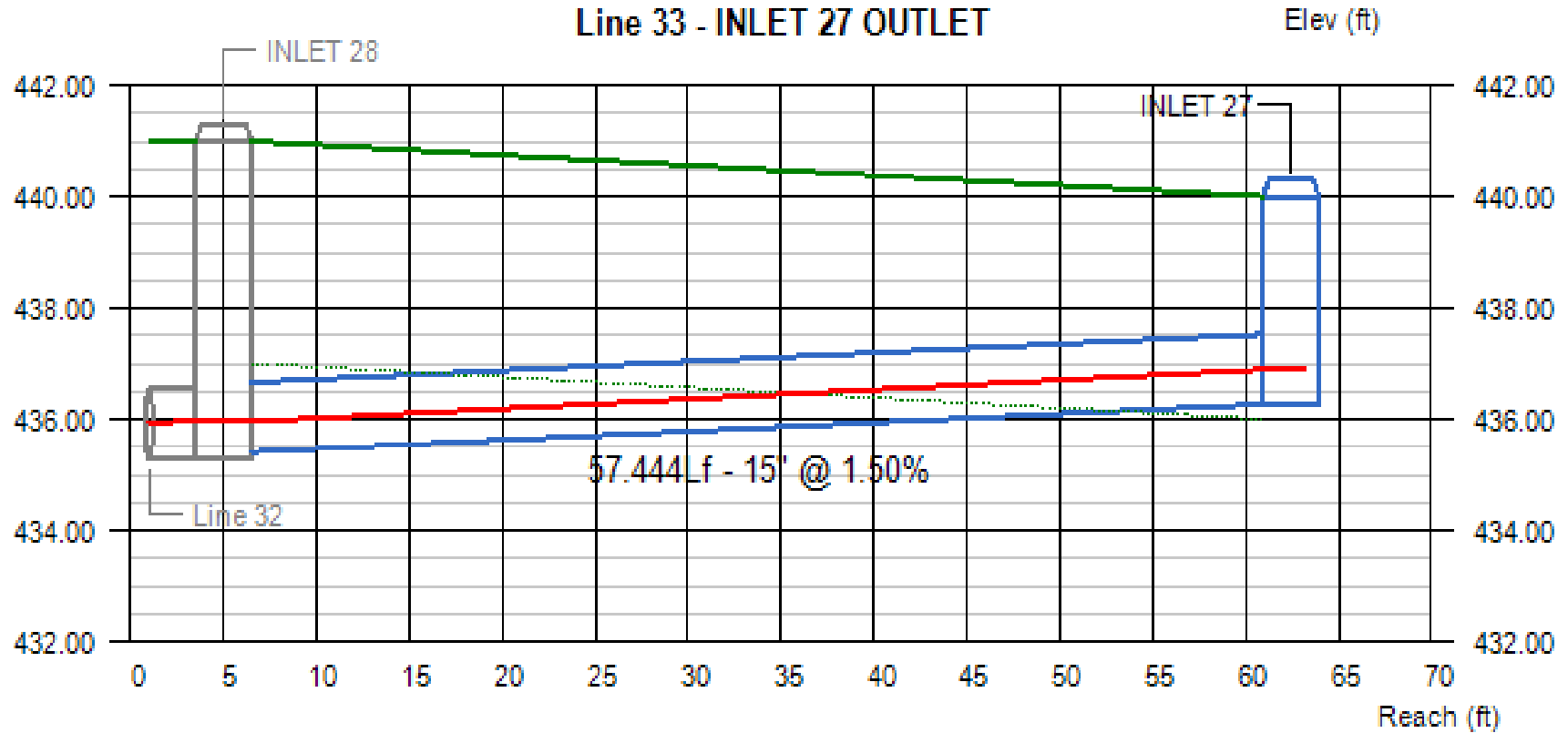
Project File:

No. Lines: 35

Run Date: 12/7/2023

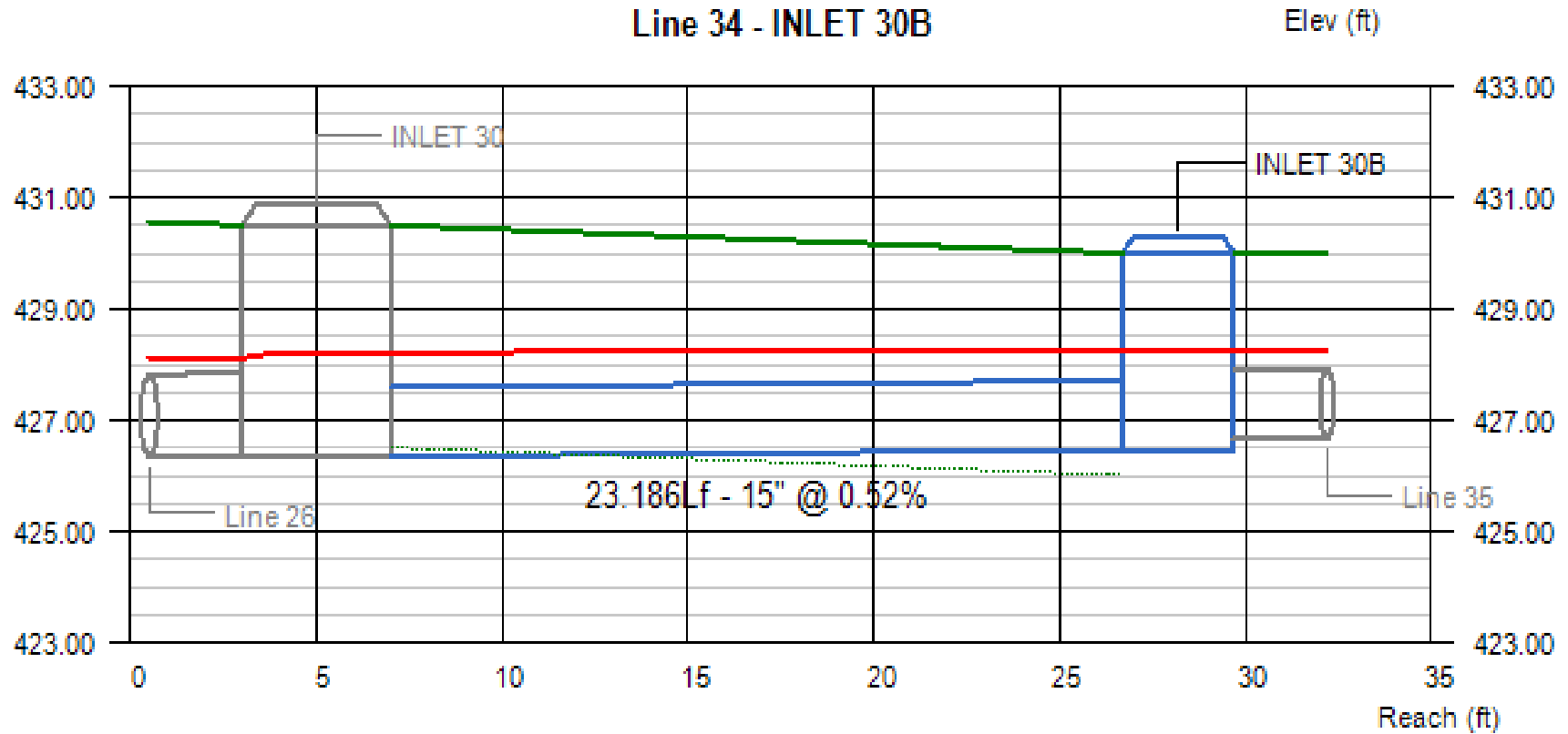
Line Profile (Line 33) - INLET 27 OUTLET

Line 33 - INLET 27 OUTLET



Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
33	2.41	435.41	436.27	0.55	0.62	0.62	435.96	436.89	436.89	4.65	3.96	4.34	2.48

Project File:	No. Lines: 35	Run Date: 12/7/2023
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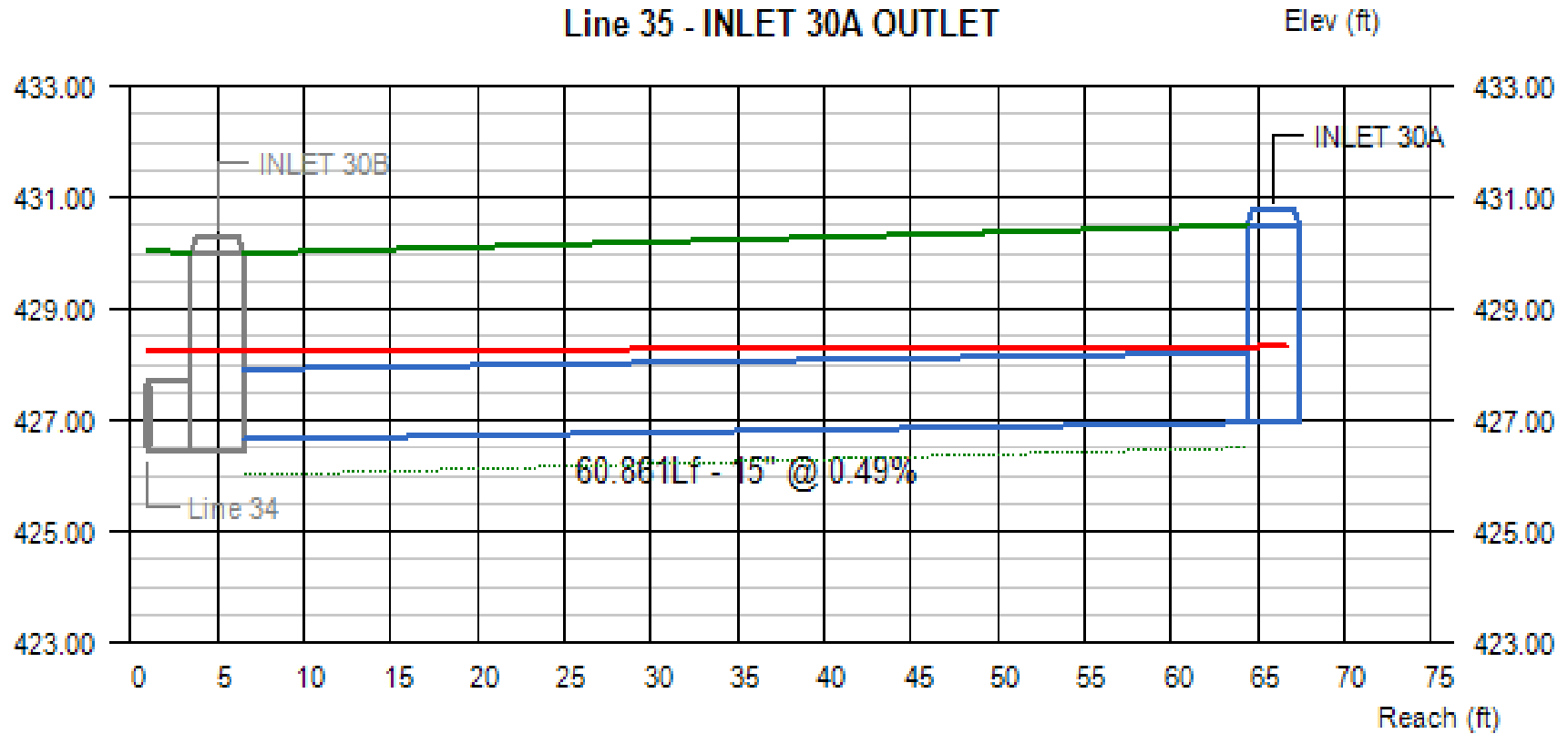
Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
34	1.91	426.34	426.46	1.25	1.25	1.80	428.22	428.24	428.26	1.55	1.55	2.91	2.29

Project File:

No. Lines: 35

Run Date: 12/7/2023

Line Profile (Line 35) - INLET 30A OUTLET



Line #	Q (cfs)	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
		Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
35	1.64	426.66	426.96	1.25	1.25	1.36	428.26	428.30	428.32	1.34	1.34	2.09	2.29

Project File:

No. Lines: 35

Run Date: 12/7/2023