Structure Report

SCM #5 10-YEAR REPORT

Struct No.	Structure ID	Junction	Rim		Structure			Line Out			Line In	
		Туре	Elev (ft)	Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	YI 501	DropGrate	350.87	Rect	4.00	4.00	30	Cir	347.15	30	Cir	347.35
2	YI 501A	DropGrate	351.17	Rect	4.00	4.00	30	Cir	347.41	30 15	Cir Cir	347.61 347.82
3	CB 502	Combination	357.04	Rect	4.00	4.00	30	Cir	350.66	24 15	Cir Cir	351.06 353.30
4	CB 504	Combination	366.04	Rect	4.00	4.00	24	Cir	361.17	18 15	Cir Cir	361.37 362.27
5	CB 505	Combination	367.77	Rect	4.00	4.00	18	Cir	361.85	18 15	Cir Cir	362.35 362.69
6	CB 506	Combination	367.48	Rect	4.00	4.00	18	Cir	362.49	15	Cir	362.69
7	CB 507	Combination	367.00	Rect	8.00	4.00	15	Cir	362.94	15	Cir	363.14
8	CB 508	Combination	367.00	Rect	4.00	4.00	15	Cir	363.28	15	Cir	363.48
9	CB 514	Combination	374.03	Rect	4.00	4.00	15	Cir	369.95	15	Cir	370.15
10	CB 515	Combination	374.10	Rect	4.00	4.00	15	Cir	370.43			
11	CB 511	Combination	368.61	Rect	4.00	4.00	15	Cir	363.12	15 15	Cir Cir	363.62 364.00
12	CB 517	Combination	371.62	Rect	4.00	4.00	15	Cir	366.59	15	Cir	367.09
13	CB 516	Combination	371.63	Rect	4.00	4.00	15	Cir	367.50	15	Cir	367.70
14	FES 516A	OpenHeadwall	369.81	n/a	n/a	n/a	15	Cir	368.29			
15	CB 510	Combination	368.57	Rect	4.00	4.00	15	Cir	364.24			
16	CB 513	Combination	368.66	Rect	4.00	4.00	15	Cir	363.16	15	Cir	363.36
17	YI 513A	DropGrate	367.63	Rect	4.00	4.00	15	Cir	363.95			
18	CB 503	Combination	357.04	Rect	4.00	4.00	15	Cir	353.44			
19	YI 501B	DropGrate	351.81	Rect	4.00	4.00	15	Cir	348.35	15	Cir	348.45
20	YI 501C		353.72	Rect	4.00	4.00	15	Cir	349.18			
Project I	ile: SCM#5 stm	SEAL 56528					 Ni	umber of Structu	ıres: 20	Run	Date: 3/28/202	5
		VGINEE OBP.KLEN					I				S	torm Sewers v2023.00

Storm Sewer Summary Report

SCM #5 10-YEAR REPORT

ine o.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (39)	21.02	30	Cir	45.553	346.92	347.15	0.505	348.95	349.01	0.54	349.56	End	DropGrate
2	Pipe - (38) (1)	18.63	30	Cir	11.310	347.35	347.41	0.530	349.56	348.87	0.91	348.87	1	DropGrate
3	Pipe - (38)	15.99	30	Cir	152.248	347.61	350.66	2.003	348.87	352.01	n/a	352.01	2	Combination
4	Pipe - (37)	13.81	24	Cir	215.399	351.06	361.17	4.694	352.01	362.51	0.82	362.51	3	Combination
5	Pipe - (36)	7.70	18	Cir	48.260	361.37	361.85	0.995	362.51	362.92	n/a	362.92 j	4	Combination
6	Pipe - (35)	3.86	18	Cir	27.000	362.35	362.49	0.518	363.11	363.25	0.33	363.58	5	Combination
7	Pipe - (34)	2.60	15	Cir	49.032	362.69	362.94	0.510	363.58	363.65	0.22	363.87	6	Combination
8	Pipe - (33)	2.03	15	Cir	27.000	363.14	363.28	0.518	363.87	363.90	0.26	364.16	7	Combination
9	Pipe - (31)	1.25	15	Cir	184.905	363.48	369.95	3.499	364.16	370.39	n/a	370.39 j	8	Combination
10	Pipe - (30)	0.40	15	Cir	27.526	370.15	370.43	1.017	370.39	370.67	0.09	370.67	9	Combination
11	Pipe - (44)	6.37	15	Cir	64.208	362.27	363.12	1.324	363.16	364.14	0.75	364.14	4	Combination
12	Pipe - (150)	5.99	15	Cir	98.954	363.62	366.59	3.001	364.27	367.58	0.77	367.58	11	Combination
13	Pipe - (28)	5.57	15	Cir	27.000	367.09	367.50	1.519	367.86	368.46	n/a	368.46	12	Combination
14	Pipe - (176)	5.12	15	Cir	36.500	367.70	368.29	1.616	368.46	369.21	0.44	369.21	13	OpenHeadwall
15	Pipe - (43)	0.22	15	Cir	27.000	364.00	364.24	0.889	364.16	364.42	0.06	364.42	11	Combination
16	Pipe - (42)	3.15	15	Cir	94.508	362.69	363.16	0.497	363.45	363.92	0.38	364.30	5	Combination
17	Pipe - (168)	2.71	15	Cir	117.000	363.36	363.95	0.504	364.30	364.61	0.26	364.87	16	DropGrate
18	Pipe - (40)	1.23	15	Cir	27.001	353.30	353.44	0.519	353.74	353.88	0.16	354.04	3	Combination
19	Pipe - (183)	2.59	15	Cir	106.328	347.82	348.35	0.498	348.87	349.06	0.20	349.26	2	DropGrate
20	Pipe - (182)	1.66	15	Cir	145.494	348.45	349.18	0.502	349.26	349.69	n/a	349.69 j	19	DropGrate
Project	t File: SCM#5.stm	I	1			1	1	_	Number	of lines: 20	1	Run I	Date: 3/28	/2025

Inlet Report

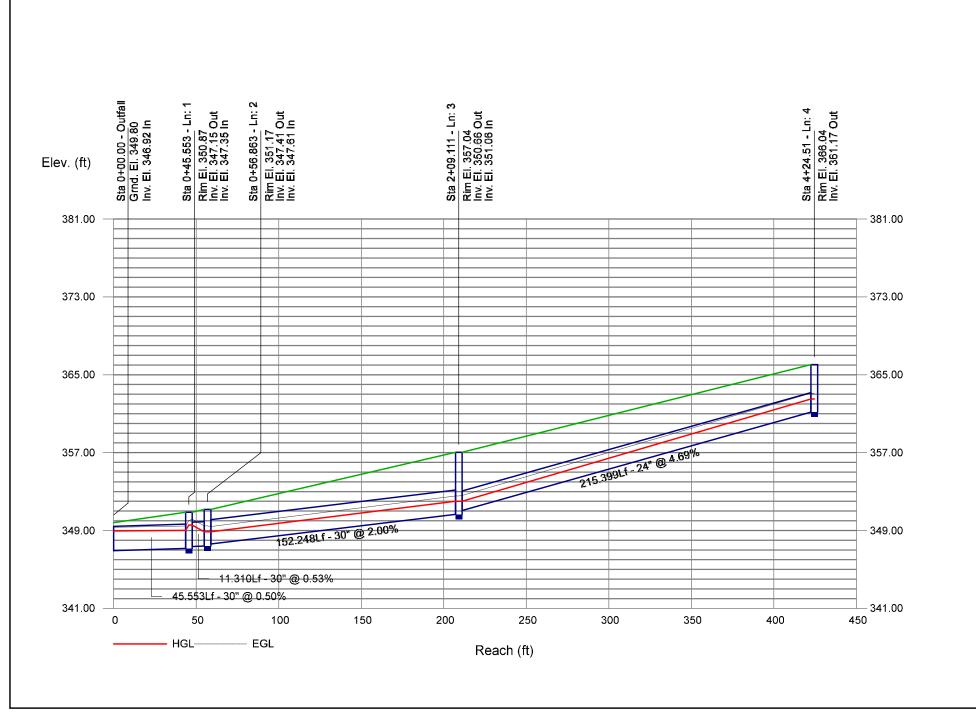
SCM #5 10-YEAR REPORT

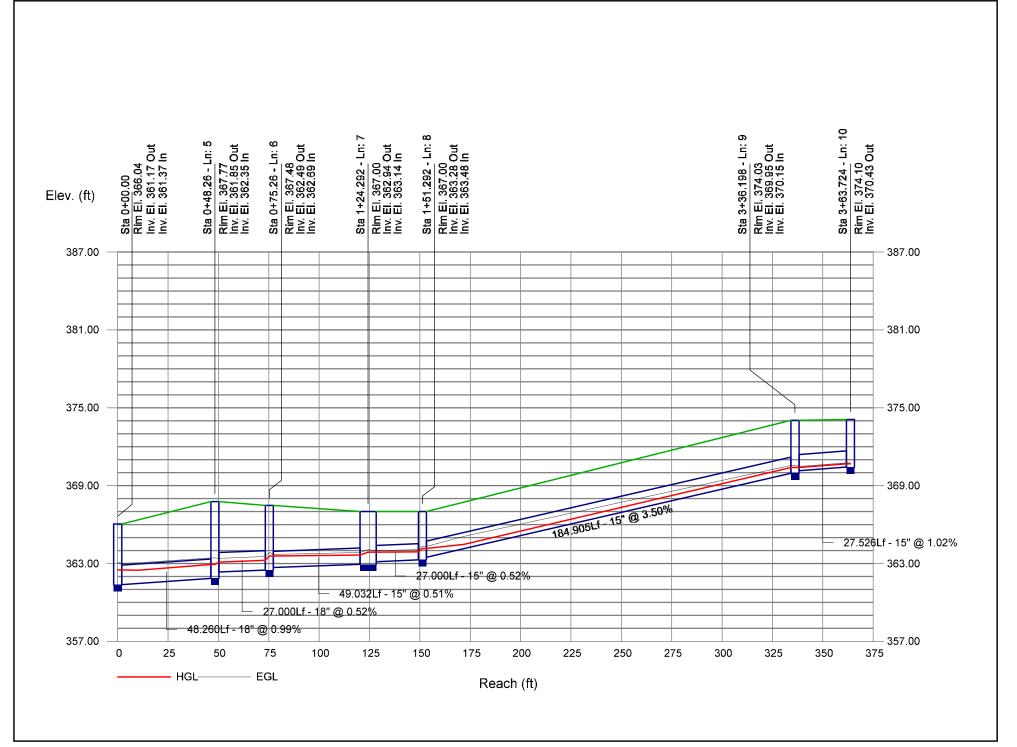
Line No	Inlet ID	Q =	Q	Q	Q	Junc	Curb li	nlet	Gra	te Inlet				G	utter					Inlet		Вур
NO		CIA (cfs)	carry (cfs)	capt (cfs)	Byp (cfs)	Туре	Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	Line No
1	YI 501	2.67	0.00	2.67	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.19	21.19	0.19	21.19	0.0	Off
2	YI 501A	0.47	0.11	0.58	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.07	9.27	0.07	9.27	0.0	1
3	CB 502	1.37	0.06	1.32	0.11	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.16	4.23	0.06	1.08	0.0	2
4	CB 504	0.14	0.00	0.14	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.07	1.19	0.00	0.00	0.0	3
5	CB 505	0.90	0.10	0.97	0.03	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.15	3.29	0.04	0.63	0.0	Off
6	CB 506	1.37	0.00	1.27	0.10	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.16	4.10	0.06	1.02	0.0	5
7	CB 507	0.61	0.01	0.62	0.00	Comb	6.0	1.50	0.00	6.00	2.50	0.054	2.00	0.060	0.020	0.013	0.12	2.16	0.00	0.00	0.0	6
8	CB 508	0.87	0.01	0.86	0.01	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.14	2.96	0.03	0.46	0.0	7
9	CB 514	0.87	0.00	0.86	0.01	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.14	2.93	0.03	0.45	0.0	8
10	CB 515	0.40	0.00	0.40	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.10	1.73	0.00	0.00	0.0	7
11	CB 511	0.22	0.00	0.22	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.08	1.38	0.00	0.00	0.0	4
12	CB 517	0.43	0.00	0.43	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.11	1.79	0.00	0.00	0.0	11
13	CB 516	0.47	0.00	0.47	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.11	1.84	0.00	0.00	0.0	15
14	FES 516A	5.12	0.00	5.12	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	2.00	0.060	0.020	0.013	0.00	0.00	0.00	0.00	0.0	13
15	CB 510	0.22	0.00	0.22	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.08	1.38	0.00	0.00	0.0	Off
16	CB 513	0.51	0.00	0.51	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.11	1.90	0.00	0.00	0.0	5
17	YI 513A	2.71	0.00	2.71	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.19	21.36	0.19	21.36	0.0	Off
18	CB 503	1.23	0.00	1.16	0.06	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.16	3.81	0.05	0.88	0.0	3
19	YI 501B	1.01	0.00	1.01	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.10	12.27	0.10	12.27	0.0	Off
20	YI 501C	1.66	0.00	1.66	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.14	16.11	0.14	16.11	0.0	Off
Proje	t File: SCM#5.stm						<u> </u>				<u> </u>	<u> </u>		Number	of lines:	20		R	un Date:	3/28/202	 :5	
NOTE	S: Inlet N-Values =	• 0.016; Inte	ensity = 7	74.09 / (I	nlet time	+ 12.50)) ^ 0.81;	Return	period =	10 Yrs.	; * Indic	ates Kno	wn Q ad	dded.All	curb inle	ts are th	nroat.	1				

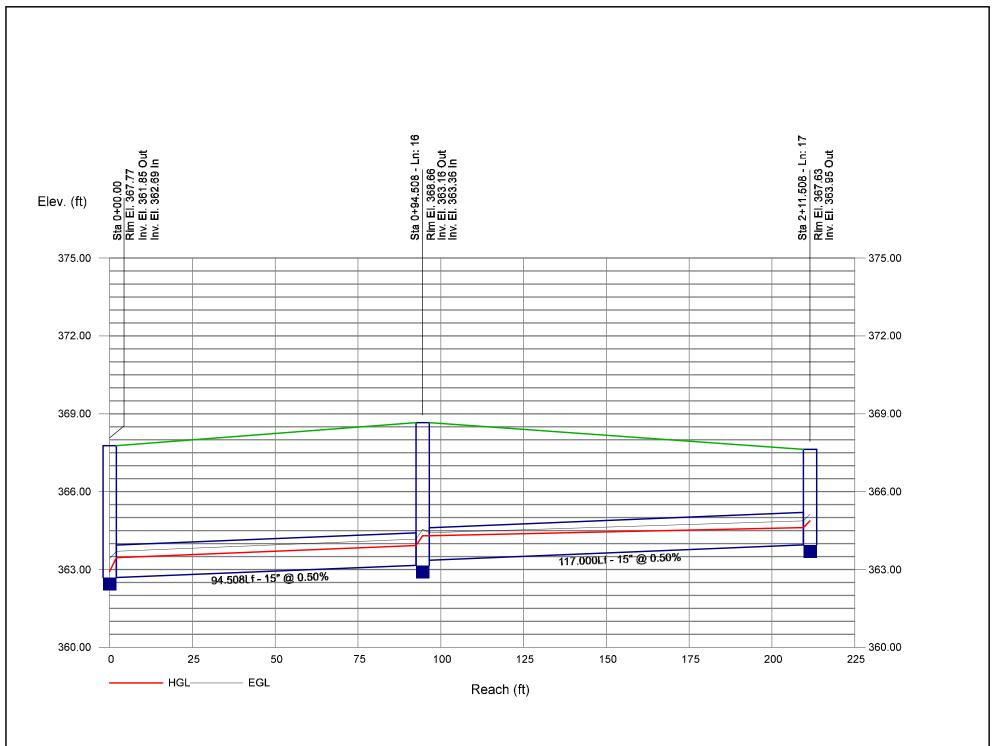
Hydraulic Grade Line Computations

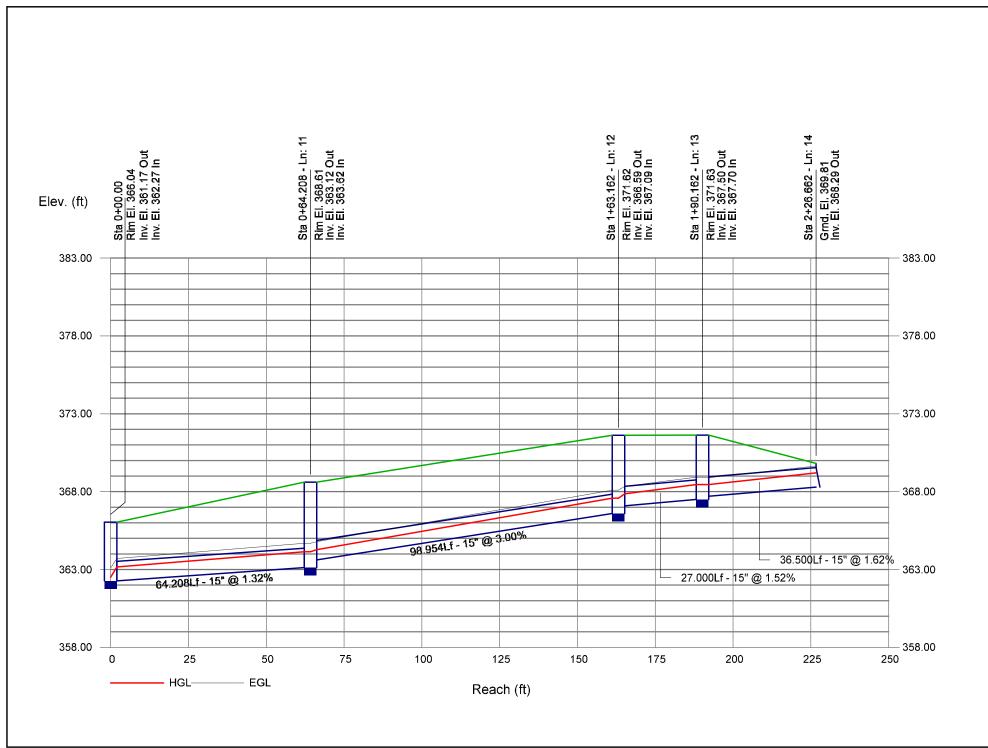
SCM #5 10-YEAR REPORT Page 1

Line	Size	Q			D	ownstre	eam				Len				Upst	ream				Chec	k	JL	Minor
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	coeff (K)	loss (ft)
1	30	21.02	346.92	348.95	2.03	4.27	4.92	0.38	349.33	0.267	45.553	347.15	349.01	1.86	3.92	5.36	0.45	349.46	0.321	0.294	0.134	1.22	0.54
2	30	18.63	347.35	349.56	2.21	2.98	4.06	0.61	350.16	0.000	11.310	347.41	348.87	1.46**	2.98	6.25	0.61	349.48	0.000	0.000	n/a	1.50	0.91
3	30	15.99	347.61	348.87	1.26	2.48	6.44	0.54	349.42	0.000	152.24	8350.66	352.01	1.35**	2.70	5.92	0.54	352.55	0.000	0.000	n/a	1.50	n/a
4	24	13.81	351.06	352.01	0.95	1.47	9.40	0.60	352.60	0.000	215.39	9361.17	362.51	1.34**	2.23	6.19	0.60	363.10	0.000	0.000	n/a	1.38	0.82
5	18	7.70	361.37	362.51	1.14	1.35	5.36	0.50	363.01	0.000	48.260	361.85	362.92 j	1.07**	1.35	5.69	0.50	363.43	0.000	0.000	n/a	1.49	0.75
6	18	3.86	362.35	363.11	0.76*	0.88	4.30	0.29	363.40	0.518	27.000	362.49	363.25	0.76**	0.90	4.31	0.29	363.54	0.521	0.520	0.140	1.13	0.33
7	15	2.60	362.69	363.58	0.88	0.93	2.80	0.12	363.70	0.224	49.032	362.94	363.65	0.71	0.72	3.59	0.20	363.85	0.418	0.321	0.157	1.08	0.22
8	15	2.03	363.14	363.87	0.73	0.74	2.72	0.12	363.99	0.237	27.000	363.28	363.90	0.62	0.60	3.36	0.18	364.07	0.412	0.325	0.088	1.50	0.26
9	15	1.25	363.48	364.16	0.68	0.39	1.84	0.16	364.32	0.000	184.90	5369.95	370.39 j	0.44**	0.39	3.23	0.16	370.55	0.000	0.000	n/a	1.48	0.24
10	15	0.40	370.15	370.39	0.24	0.17	2.38	0.09	370.48	0.000	27.526	370.43	370.67	0.24**	0.17	2.35	0.09	370.76	0.000	0.000	n/a	1.00	0.09
11	15	6.37	362.27	363.16	0.89*	0.94	6.80	0.55	363.71	0.000	64.208	363.12	364.14	1.02**	1.07	5.96	0.55	364.69	0.000	0.000	n/a	1.36	0.75
12	15	5.99	363.62	364.27	0.65*	0.65	9.27	0.51	364.79	0.000	98.954	366.59	367.58	0.99**	1.04	5.75	0.51	368.09	0.000	0.000	n/a	1.50	0.77
13	15	5.57	367.09	367.86	0.77*	0.79	7.01	0.48	368.34	0.000	27.000	367.50	368.46	0.96**	1.01	5.54	0.48	368.93	0.000	0.000	n/a	0.50	n/a
14	15	5.12	367.70	368.46	0.76	0.78	6.61	0.44	368.89	0.000	36.500	368.29	369.21	0.92**	0.96	5.31	0.44	369.65	0.000	0.000	n/a	1.00	0.44
15	15	0.22	364.00	364.16	0.16*	0.09	2.33	0.06	364.22	0.000	27.000	364.24	364.42	0.18**	0.11	2.00	0.06	364.48	0.000	0.000	n/a	1.00	0.06
16	15	3.15	362.69	363.45	0.76*	0.79	4.00	0.25	363.70	0.497	94.508	363.16	363.92	0.76	0.78	4.01	0.25	364.17	0.500	0.498	0.471	1.50	0.38
17	15	2.71	363.36	364.30	0.94	0.66	2.74	0.12	364.41	0.211	117.00	0363.95	364.61	0.66**	0.66	4.10	0.26	364.87	0.578	0.394	0.461	1.00	0.26
18	15	1.23	353.30	353.74	0.44*	0.38	3.20	0.16	353.90	0.518	27.001	353.44	353.88	0.44**	0.39	3.18	0.16	354.04	0.513	0.516	0.139	1.00	0.16
19	15	2.59	347.82	348.87	1.05	1.10	2.35	0.09	348.96	0.154	106.32	8348.35	349.06	0.71	0.72	3.58	0.20	349.26	0.417	0.286	0.304	0.98	0.20
20	15	1.66	348.45	349.26	0.81	0.47	1.98	0.06	349.32	0.117	145.49	4349.18	349.69 j	0.51**	0.47	3.52	0.19	349.88	0.538	0.328	n/a	1.00	0.19
Proj	ect File: S	SCM#5.s	tm											N	umber c	of lines: 2	20		Rur	Date: 3	3/28/202	5	
Note	Notes: * depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box																						

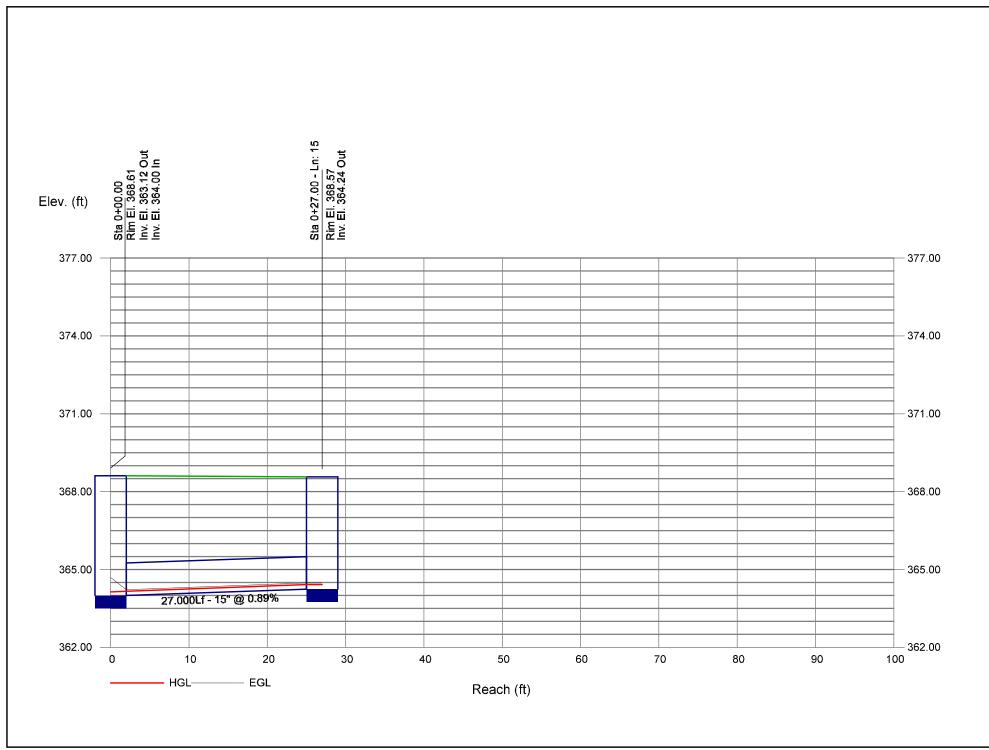




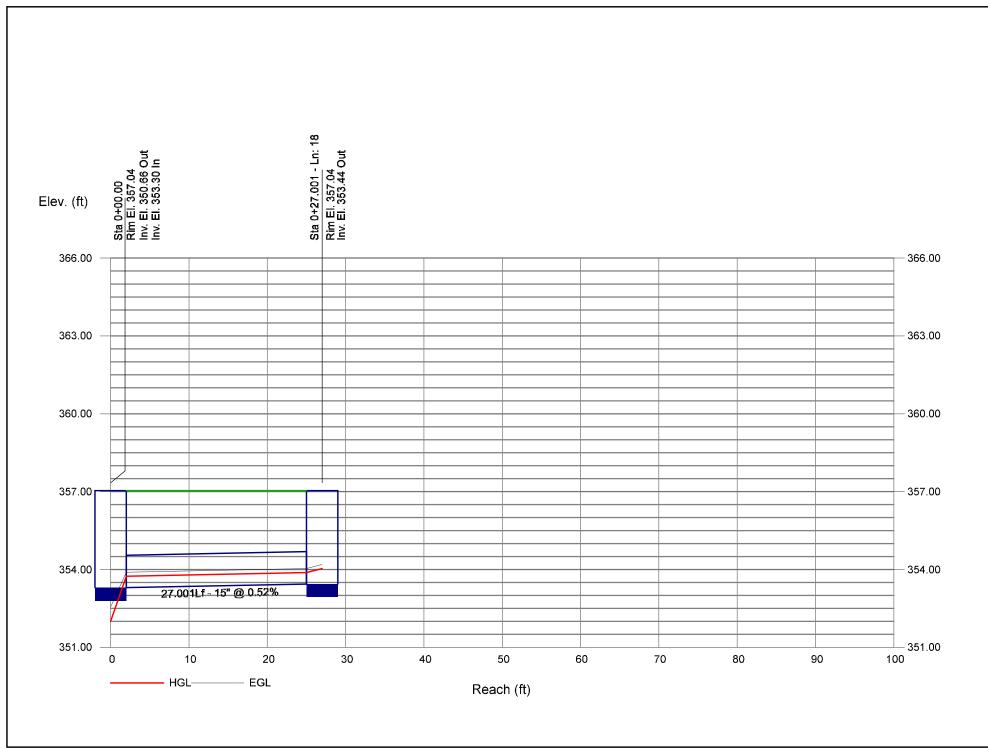


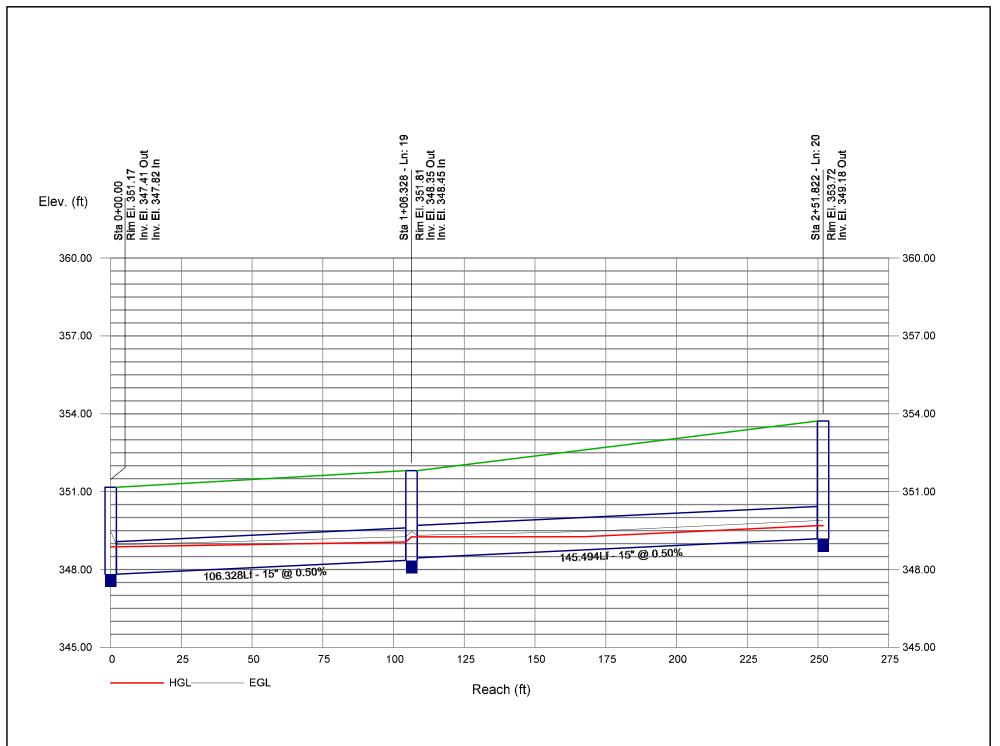


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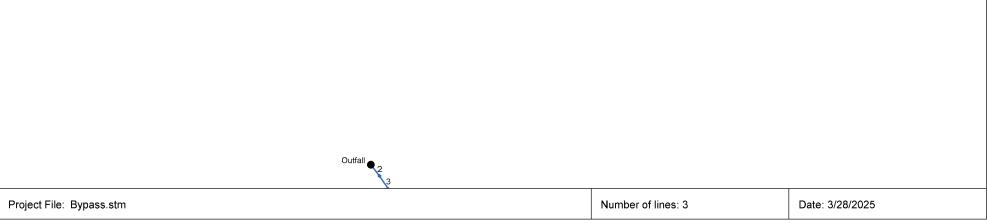
Proj. file: SCM#5.stm





Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan BYPASS 10-YEAR REPORT

Outfall



Storm Sewer Inventory Report

Line		Aligni	ment			Flow	Data					Physical	Data				Line ID
No.	Dnstr Line No.	Length	Defl angle (deg)	Туре	Q	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	Coeff	Inlet/ Rim El (ft)	
1	End	93.420	3.619	Hdwl	0.00	1.58	0.60	10.0	364.86	5.50	370.00	18	Cir	0.013	1.00	371.79	Pipe - (27)
2	End	24.870			0.00	0.08	0.60	10.0	356.16	0.48	356.28	15	Cir	0.013	0.50	360.04	Pipe - (26)
3	2	27.000	3.159	Comb	0.00	0.09	0.60	10.0	356.41	0.52	356.55	15	Cir	0.013	1.00	360.04	Pipe - (25)
Project File: Bypass.stm												Number o	of lines: 3		1	Date: 3	/28/2025

Structure Report

Struct	Structure ID	Junction	Rim		Structure			Line Out			Line In	
No.		Туре	Elev (ft)	Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	FES INLET 601	OpenHeadwall	371.79	n/a	n/a	n/a	18	Cir	370.00			
2	CB 421	Combination	360.04	Rect	4.00	4.00	15	Cir	356.28	15	Cir	356.41
3	CB 422	Combination	360.04	Rect	4.00	4.00	15	Cir	356.55			
Project F	- File: Bypass.stm						 	lumber of Struct	ures: 3	Run	Date: 3/28/202	5

Storm Sewer Summary Report

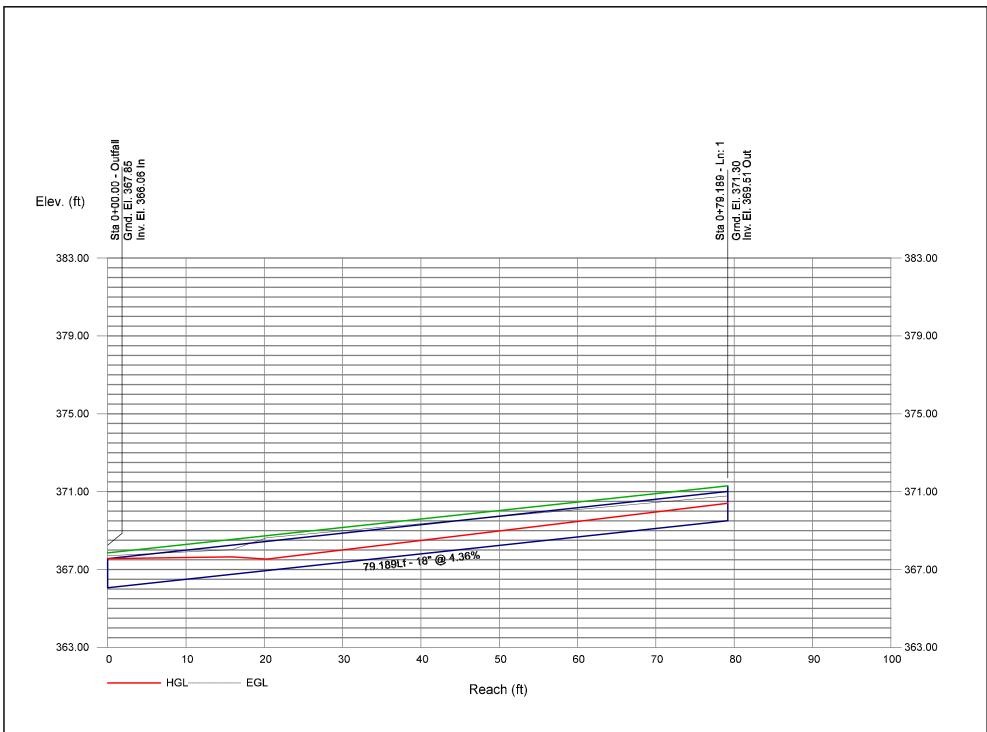
Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (27)	5.69	18	Cir	93.420	364.86	370.00	5.502	365.78	370.92	0.39	370.92	End	OpenHeadwall
2	Pipe - (26)	0.61	15	Cir	24.870	356.16	356.28	0.482	356.48	356.59	0.05	356.64	End	Combination
3	Pipe - (25)	0.32	15	Cir	27.000	356.41	356.55	0.518	356.64	356.77	0.07	356.85	2	Combination
Project F	File: Bypass.stm								Number o	of lines: 3		Run	Date: 3/28/	2025
	-ile: Bypass.stm : Return period = 10 Yrs.								Number o	of lines: 3		Run	Date: 3/28/	2025

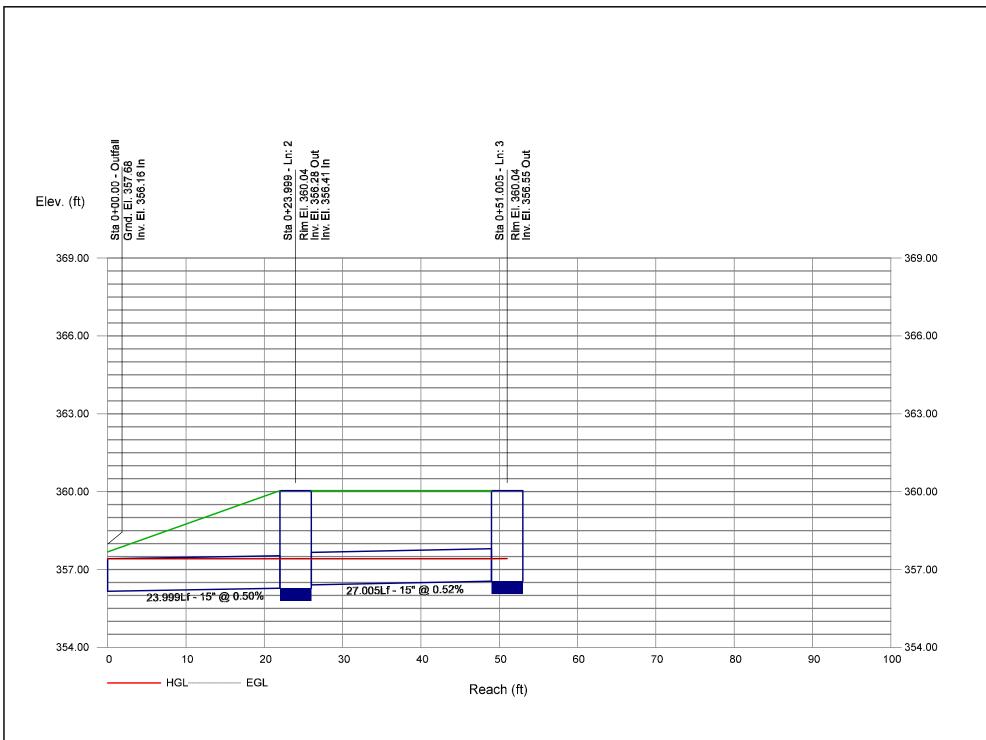
Inlet Report

Line	Inlet ID	Q =		Q	Q		Curb lı	nlet	Gra	te Inlet				G	utter					Inlet		Вур
No		CIA (cfs)		capt (cfs)	Byp (cfs)	Туре	Ht (in)	L (ft)	Area (sqft)		W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	Line No
1	FES INLET 601	5.69	0.00	5.69	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	CB 421	0.29	0.00	0.29	0.00	Comb	6.0	3.00	7.50	3.00	2.50	Sag	2.00	0.060	0.020	0.013	0.00	1.14	0.16	1.14	2.0	Off
3	CB 422	0.32	0.00	0.32	0.00	Comb	6.0	3.00	7.50	3.00	2.50	Sag	2.00	0.060	0.020	0.013	0.01	1.22	0.17	1.22	2.0	Off
Projec	t File: Bypass.stm													Number	of lines:	3		R	un Date:	3/28/202	5	
NOTE	S: Inlet N-Values = (0.016; Int e	nsity = 7	'4.09 / (lı	nlet time	+ 12.50)	^ 0.81;	Return	period =	10 Yrs.	; * Indic	ates Kno	own Q ac	dded.All	curb inle	ts are th	iroat.					

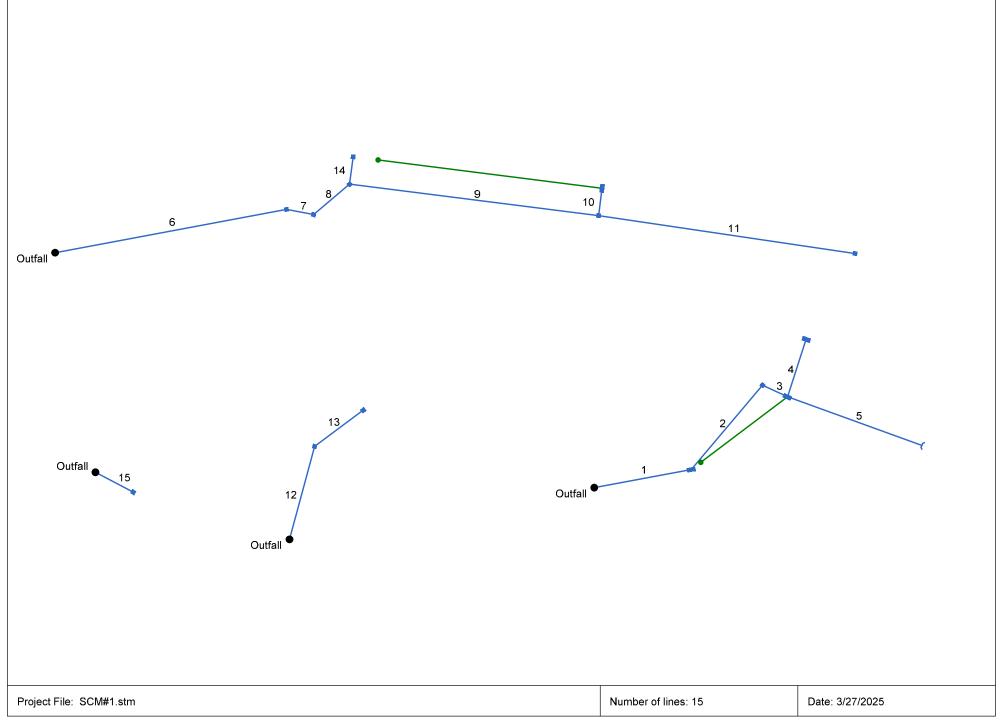
Hydraulic Grade Line Computations

_ine	Size	Q			D	ownstre	am				Len				Upsti	eam				Chec	k	JL	Minor
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)			Vel head (ft)	EGL elev (ft)	Sf (%)		lnvert elev (ft)	elev	Depth (ft)		Vel (ft/s)	Vel head (ft)	EGL elev (ft)		Sf	Enrgy loss (ft)	coeff (K)	loss (ft)
1	18	5.69	364.86	365.78	0.92	1.14	5.01	0.39	366.17	0.000	93.420	370.00	370.92	0.92**	1.14	5.01	0.39	371.31	0.000	0.000	n/a	1.00	0.39
2	15	0.61	356.16	356.48	0.32	0.23	2.45	0.09	356.57	0.431	24.870	356.28	356.59	0.31**	0.23	2.60	0.11	356.69	0.508	0.470	0.117	0.50	0.05
3	15	0.32	356.41	356.64	0.23	0.15	2.10	0.07	356.71	0.466	27.000	356.55	356.77	0.22**	0.15	2.19	0.07	356.85	0.526	0.496	0.134	1.00	0.07
	ect File: E		l	I	1	I	1	1	1		1		1		· ·	f lines: 3		1		Date: 3			





Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan_{SCM #1 25-YEAR REPORT}



Storm Sewer Inventory Report

SCM #1 25-YEAR REPORT

Line No.		Alignr	ment			Flow	Data					Physical	Data				Line ID
NO.	Dnstr Line No.	Length		Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	96.027	-10.617	Comb	0.00	0.74	0.60	10.0	380.50	0.58	381.06	18	Cir	0.013	1.03	386.00	Pipe - (97)
2	1	107.815	-39.453	Comb	0.00	0.19	0.60	10.0	381.26	1.00	382.34	15	Cir	0.013	1.46	387.03	Pipe - (95)
3	2	26.999	75.004	Comb	0.00	0.10	0.60	10.0	382.54	0.52	382.68	15	Cir	0.013	1.82	387.04	Pipe - (94)
4	3	59.003	-96.968	Comb	0.00	0.18	0.60	10.0	382.88	0.51	383.18	15	Cir	0.013	1.00	387.89	Pipe - (93)
5	3	139.352	-4.932	Hdwl	0.00	0.86	0.60	15.0	382.78	0.50	383.48	15	Cir	0.013	1.00	385.00	Pipe - (175)
6	End	229.120	-10.656	Comb	0.00	0.19	0.60	10.0	363.00	2.20	368.04	18	Cir	0.013	0.63	373.98	Pipe - (86)
7	6	27.000	21.423	Comb	0.00	0.18	0.60	10.0	368.14	0.52	368.28	18	Cir	0.013	1.22	373.87	Pipe - (85)
8	7	45.912	-51.157	Comb	0.00	0.20	0.60	10.0	368.48	3.27	369.98	18	Cir	0.013	1.62	375.04	Pipe - (84)
9	8	244.371	47.632	Comb	0.00	0.19	0.60	10.0	370.18	2.92	377.31	15	Cir	0.013	1.50	382.61	Pipe - (83)
10	9	27.044	-90.017	Comb	0.00	0.74	0.60	10.0	378.23	0.63	378.40	15	Cir	0.013	1.00	382.57	Pipe - (88)
11	9	252.428	1.235	Comb	0.00	0.20	0.60	10.0	377.41	2.98	384.92	15	Cir	0.013	1.00	390.04	Pipe - (82)
12	End	94.321	-74.896	Comb	0.00	0.52	0.60	10.0	369.93	0.51	370.41	15	Cir	0.013	1.00	374.00	Pipe - (92)
13	12	59.044	38.083	Comb	0.00	0.22	0.60	10.0	370.61	0.49	370.90	15	Cir	0.013	1.00	374.05	Pipe - (91)
14	8	27.000	-42.459	Comb	0.00	0.15	0.60	10.0	370.18	0.52	370.32	15	Cir	0.013	1.00	375.04	Pipe - (87)
15	End	41.513	27.855	Comb	0.00	3.90	0.60	10.0	363.50	0.51	363.71	24	Cir	0.013	1.00	366.59	Pipe - (89)
Project	oject File: SCM#1.stm										1	Number o	f lines: 15	1		Date: 3	/27/2025

Page 1

Structure Report

SCM #1 25-YEAR REPORT

Struct	Structure ID	Junction	Rim		Structure			Line Out			Line In	
No.		Туре	Elev (ft)	Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	CB 111	Combination	386.00	Rect	8.00	4.00	18	Cir	381.06	15	Cir	381.26
2	CB 114	Combination	387.03	Rect	4.00	4.00	15	Cir	382.34	15	Cir	382.54
3	CB 115	Combination	387.04	Rect	8.00	4.00	15	Cir	382.68	15 15	Cir Cir	382.88 382.78
4	CB 116	Combination	387.89	Rect	4.00	8.00	15	Cir	383.18			
5	FES 115	OpenHeadwall	385.00	n/a	n/a	n/a	15	Cir	383.48			
6	CB 101	Combination	373.98	Rect	4.00	4.00	18	Cir	368.04	18	Cir	368.14
7	CB 102	Combination	373.87	Rect	4.00	4.00	18	Cir	368.28	18	Cir	368.48
8	CB 103	Combination	375.04	Rect	4.00	4.00	18	Cir	369.98	15 15	Cir Cir	370.18 370.18
9	CB 105	Combination	382.61	Rect	4.00	4.00	15	Cir	377.31	15 15	Cir Cir	378.23 377.41
10	CB 106	Combination	382.57	Rect	8.00	4.00	15	Cir	378.40			
11	CB 107	Combination	390.04	Rect	4.00	4.00	15	Cir	384.92			
12	CB 121	Combination	374.00	Rect	4.00	4.00	15	Cir	370.41	15	Cir	370.61
13	CB 122	Combination	374.05	Rect	4.00	4.00	15	Cir	370.90			
14	CB 104	Combination	375.04	Rect	4.00	4.00	15	Cir	370.32			
15	DI 126	Combination	366.59	Rect	4.00	4.00	24	Cir	363.71			
Project I	File: SCM#1.stm						Nu	mber of Structu	ires: 15	Run	Date: 3/27/202	5

Storm Sewer Summary Report

Page 1 SCM #1 25-YEAR REPORT

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (97)	6.78	18	Cir	96.027	380.50	381.06	0.583	381.58	382.11	0.43	382.53	End	Combination
2	Pipe - (95)	4.41	15	Cir	107.815	381.26	382.34	1.002	382.53	383.19	n/a	383.19 j	1	Combination
3	Pipe - (94)	3.79	15	Cir	26.999	382.54	382.68	0.518	383.40	383.54	0.50	384.04	2	Combination
4	Pipe - (93)	0.72	15	Cir	59.003	382.88	383.18	0.508	384.04	384.05	0.01	384.06	3	Combination
5	Pipe - (175)	2.93	15	Cir	139.352	382.78	383.48	0.502	384.04	384.33	0.17	384.50	3	OpenHeadwall
6	Pipe - (86)	6.64	18	Cir	229.120	363.00	368.04	2.200	364.50	369.04	n/a	369.04 j	End	Combination
7	Pipe - (85)	5.98	18	Cir	27.000	368.14	368.28	0.518	369.15	369.28	0.43	369.71	6	Combination
8	Pipe - (84)	5.36	18	Cir	45.912	368.48	369.98	3.267	369.71	370.87	n/a	370.87 j	7	Combination
9	Pipe - (83)	4.19	15	Cir	244.371	370.18	377.31	2.918	370.87	378.14	n/a	378.14	8	Combination
10	Pipe - (88)	2.95	15	Cir	27.044	378.23	378.40	0.629	378.91	379.09	n/a	379.09	9	Combination
11	Pipe - (82)	0.80	15	Cir	252.428	377.41	384.92	2.975	378.14	385.27	n/a	385.27 j	9	Combination
12	Pipe - (92)	2.88	15	Cir	94.321	369.93	370.41	0.509	370.88	371.12	0.25	371.37	End	Combination
13	Pipe - (91)	0.88	15	Cir	59.044	370.61	370.90	0.491	371.37	371.39	0.06	371.45	12	Combination
14	Pipe - (87)	0.60	15	Cir	27.000	370.18	370.32	0.519	370.87	370.87	0.02	370.89	8	Combination
15	Pipe - (89)	15.53	24	Cir	41.513	363.50	363.71	0.506	365.50	365.69	0.38	366.07	End	Combination
Project	File: SCM#1.stm	I	<u> </u>	1	<u> </u>	1		1	Number o	f lines: 15	1	Run	Date: 3/27/	2025
NOTES	S: Return period = 25 Yrs. ; j - Li	ine contains hy	yd. jump.						1					

Inlet Report

SCM #1 25-YEAR REPORT

Line	Inlet ID	Q =	Q	Q	Q	Junc	Curb Ir	nlet	Gra	te Inlet				G	utter				Inlet			Вур
No		CIA (cfs)	carry (cfs)	capt (cfs)	Byp (cfs)	Туре	Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)		Sx (ft/ft)	n		Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	Line No
1	CB 111	2.95	0.00	2.40	0.55	Comb	6.0	1.50	0.00	6.00	2.50	0.054	2.00	0.060	0.020	0.013	0.21	6.30	0.12	1.96	0.0	Off
2	CB 114	0.76	0.00	0.75	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.61	0.02	0.26	0.0	1
3	CB 115	0.40	0.00	0.40	0.00	Comb	6.0	1.50	0.00	6.00	2.50	0.054	2.00	0.060	0.020	0.013	0.10	1.74	0.00	0.00	0.0	1
4	CB 116	0.72	0.00	0.72	0.00	Comb	6.0	1.50	0.00	6.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.48	0.01	0.18	0.0	3
5	FES 115	2.93	0.00	2.93	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	2.00	0.060	0.020	0.013	0.00	0.00	0.00	0.00	0.0	3
6	CB 101	0.76	0.00	0.76	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.61	0.02	0.25	0.0	Off
7	CB 102	0.72	0.00	0.72	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.48	0.01	0.20	0.0	6
8	CB 103	0.80	0.00	0.79	0.01	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.74	0.02	0.34	0.0	Off
9	CB 105	0.76	0.00	0.76	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.62	0.02	0.26	0.0	8
10	CB 106	2.95	0.00	2.40	0.55	Comb	6.0	1.50	0.00	6.00	2.50	0.054	2.00	0.060	0.020	0.013	0.21	6.30	0.12	1.95	0.0	14
11	CB 107	0.80	0.00	0.79	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.73	0.02	0.32	0.0	9
12	CB 121	2.07	0.01	1.76	0.32	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.19	5.26	0.10	1.59	0.0	Off
13	CB 122	0.88	0.00	0.86	0.01	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.14	2.96	0.03	0.46	0.0	12
14	CB 104	0.60	0.55	1.10	0.05	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.15	3.63	0.05	0.80	0.0	Off
15	DI 126	15.53	0.00	6.82	8.71	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.34	13.09	0.29	10.31	0.0	Off
Projec	t File: SCM#1.stm	1	1	1	1	1	1	1	1	1	1	1		Number	of lines:	15	1	R	un Date:	3/27/202	5	1
	S: Inlet N-Values =	0 016 [.] Inte	ensity = 6	32 86 / (1)	nlet time	+ 11 00	^	Return	period =	25 Yrs	· * Indic	ates Knr	wn Q a	ded All	curb inlet	ts are th	iroat	I				

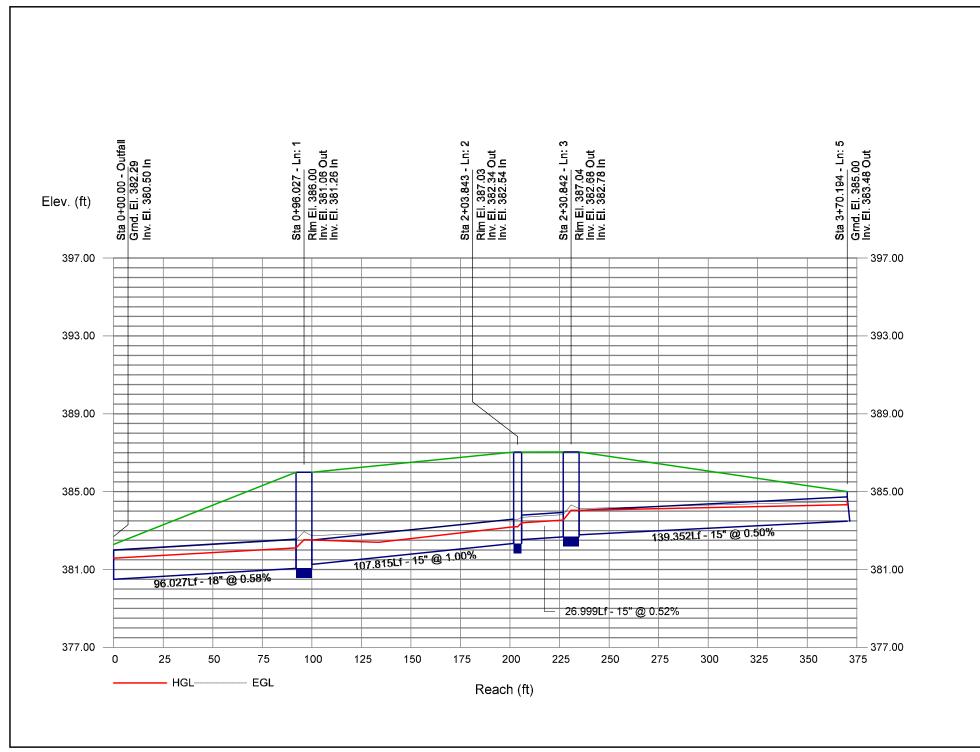
Hydraulic Grade Line Computations

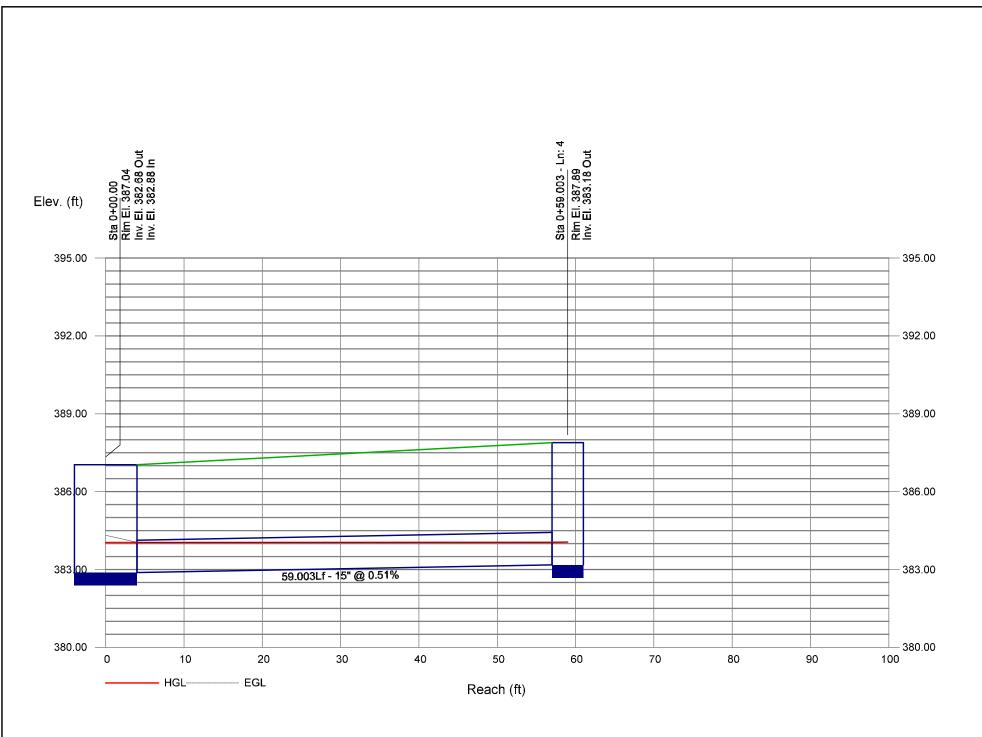
SCM #1 25-YEAR REPORT

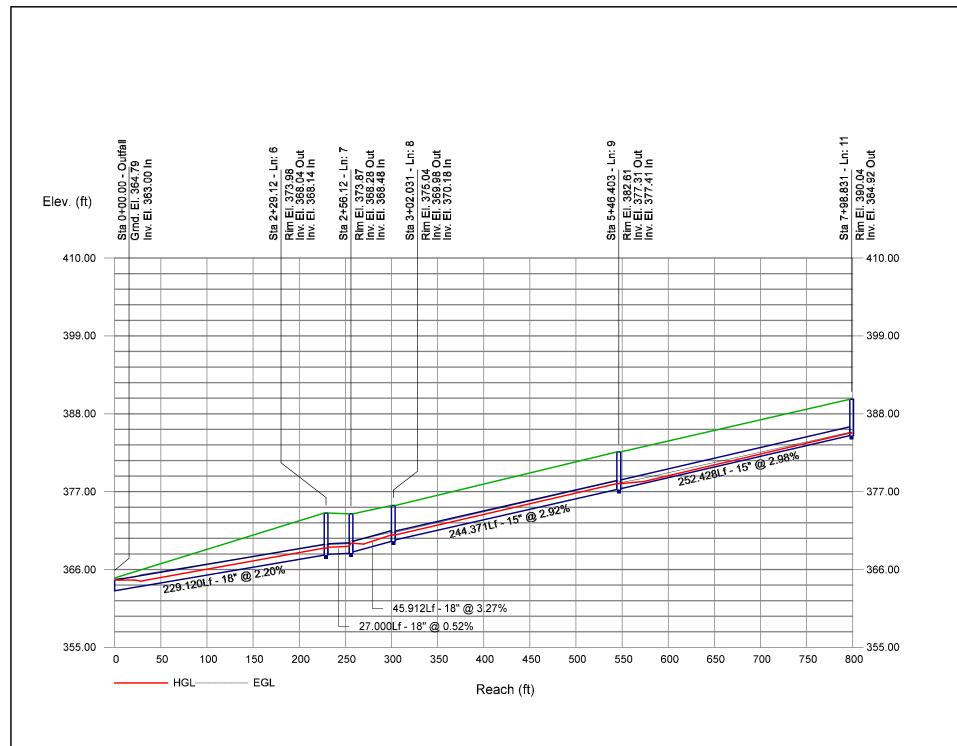
Page 1

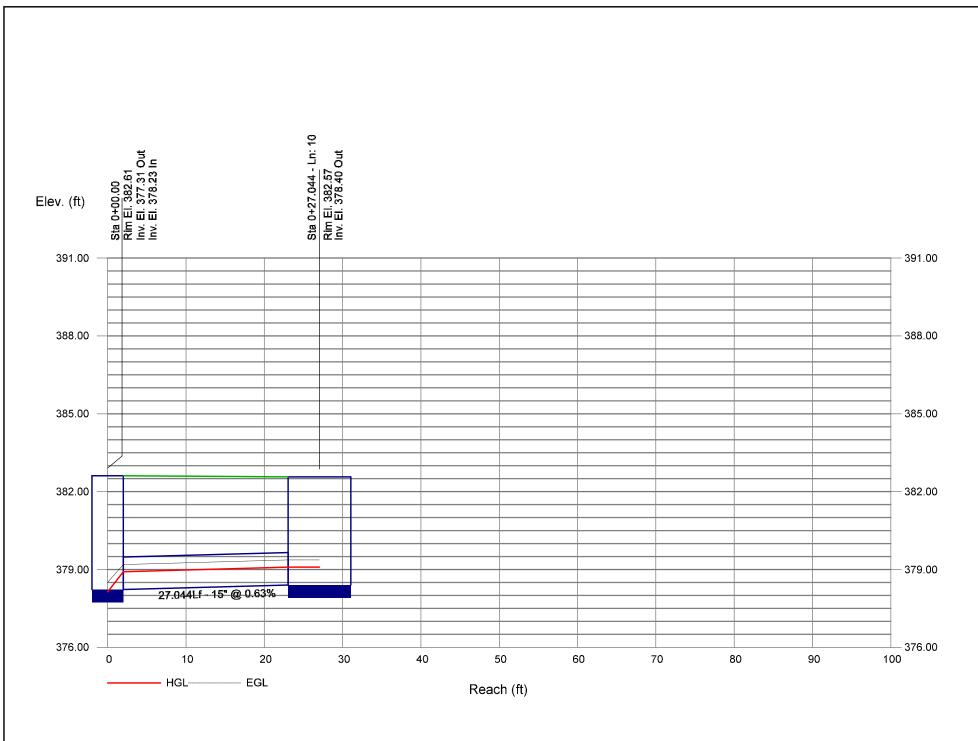
.ine	Size	Q	Downstream								Len	Upstream Che								Chec	Check		Minor
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)		Sf	Enrgy loss (ft)	coeff (K)	loss (ft)
1	18	6.78	380.50	381.58	1.08	1.36	4.98	0.39	381.97	0.554	96.027	381.06	382.11	1.05	1.32	5.16	0.41	382.52	0.602	0.578	0.555	1.03	0.43
2	15	4.41	381.26	382.53	1.25	0.89	3.59	0.20	382.73	0.466	107.81	5382.34	383.19 j	0.85**	0.89	4.96	0.38	383.57	0.719	0.592	n/a	1.46	0.56
3	15	3.79	382.54	383.40	0.86*	0.90	4.22	0.28	383.67	0.518	26.999	382.68	383.54	0.86	0.90	4.22	0.28	383.81	0.518	0.518	0.140	1.82	0.50
4	15	0.72	382.88	384.04	1.16	1.19	0.60	0.01	384.05	0.011	59.003	383.18	384.05	0.87	0.91	0.79	0.01	384.06	0.018	0.014	0.008	1.00	0.01
5	15	2.93	382.78	384.04	1.25	1.23	2.38	0.09	384.13	0.205	139.35	2383.48	384.33	0.85	0.89	3.30	0.17	384.50	0.319	0.262	0.365	1.00	0.17
6	18	6.64	363.00	364.50	1.50*	1.25	3.76	0.22	364.72	0.400	229.12	0368.04	369.04 j	1.00**	1.25	5.33	0.44	369.48	0.658	0.529	n/a	0.63	n/a
7	18	5.98	368.14	369.15	1.01*	1.26	4.74	0.35	369.50	0.518	27.000	368.28	369.28	1.00	1.26	4.75	0.35	369.64	0.521	0.520	0.140	1.22	0.43
8	18	5.36	368.48	369.71	1.23	1.09	3.45	0.37	370.09	0.000	45.912	369.98	370.87 j	0.89**	1.09	4.90	0.37	371.24	0.000	0.000	n/a	1.62	n/a
9	15	4.19	370.18	370.87	0.69	0.70	6.02	0.37	371.24	0.000	244.37	1377.31	378.14	0.83**	0.86	4.85	0.37	378.50	0.000	0.000	n/a	1.50	n/a
10	15	2.95	378.23	378.91	0.68*	0.68	4.32	0.28	379.19	0.000	27.044	378.40	379.09	0.69**	0.69	4.25	0.28	379.37	0.000	0.000	n/a	1.00	n/a
11	15	0.80	377.41	378.14	0.73	0.28	1.07	0.13	378.26	0.000	252.42	8384.92	385.27 j	0.35**	0.28	2.84	0.13	385.39	0.000	0.000	n/a	1.00	0.13
12	15	2.88	369.93	370.88	0.95	1.00	2.88	0.13	371.01	0.232	94.321	370.41	371.12	0.71	0.72	4.03	0.25	371.37	0.532	0.382	0.361	1.00	0.25
13	15	0.88	370.61	371.37	0.76	0.78	1.12	0.02	371.39	0.039	59.044	370.90	371.39	0.49	0.45	1.96	0.06	371.45	0.173	0.106	0.063	1.00	0.06
14	15	0.60	370.18	370.87	0.69	0.70	0.86	0.01	370.88	0.025	27.000	370.32	370.87	0.55	0.52	1.14	0.02	370.89	0.052	0.038	0.010	1.00	0.02
15	24	15.53	363.50	365.50	2.00*	3.14	4.94	0.38	365.88	0.472	41.513	363.71	365.69	1.98	3.13	4.95	0.38	366.07	0.432	0.452	0.188	1.00	0.38
Proje	ect File: S	SCM#1.s	tm											N	umber o	f lines: 1	5		Run	Date: 3	8/27/202	5	

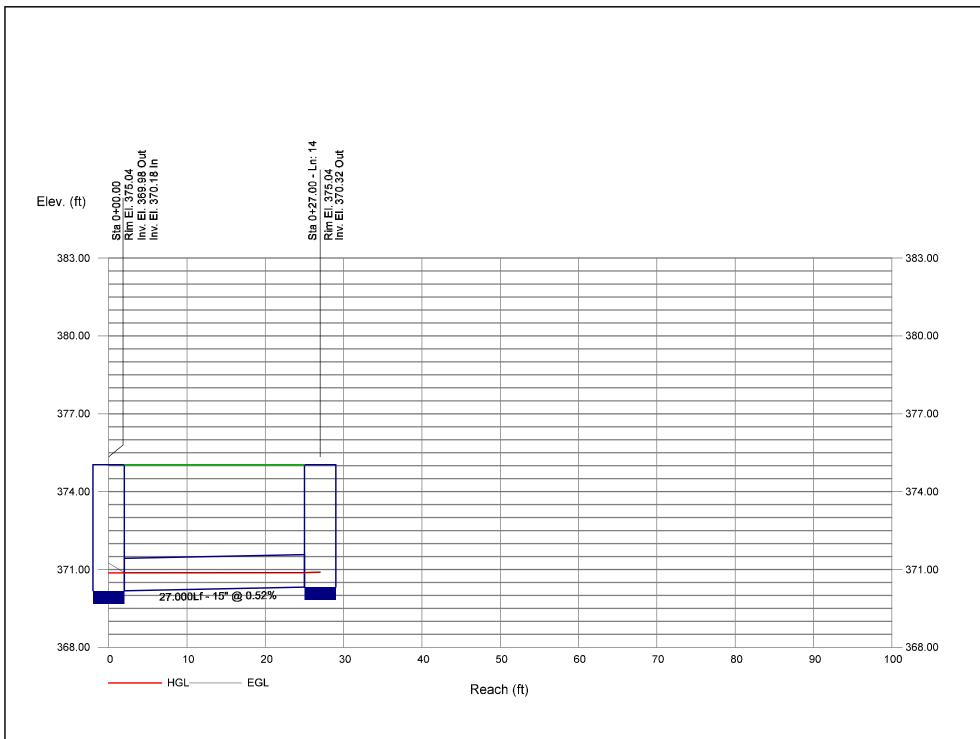
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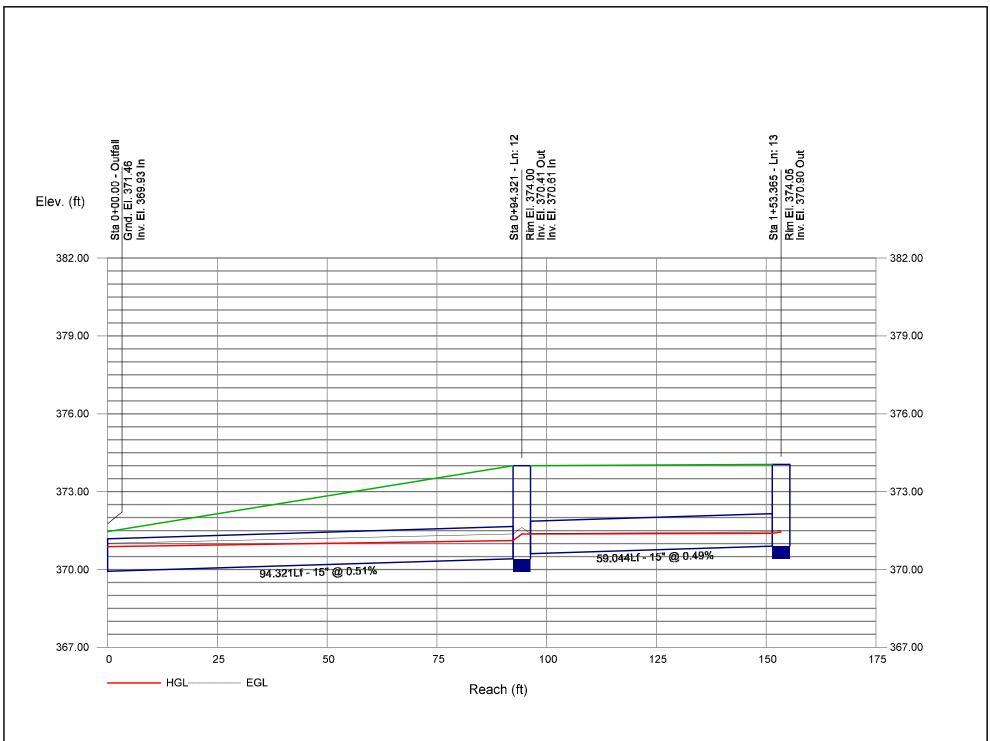


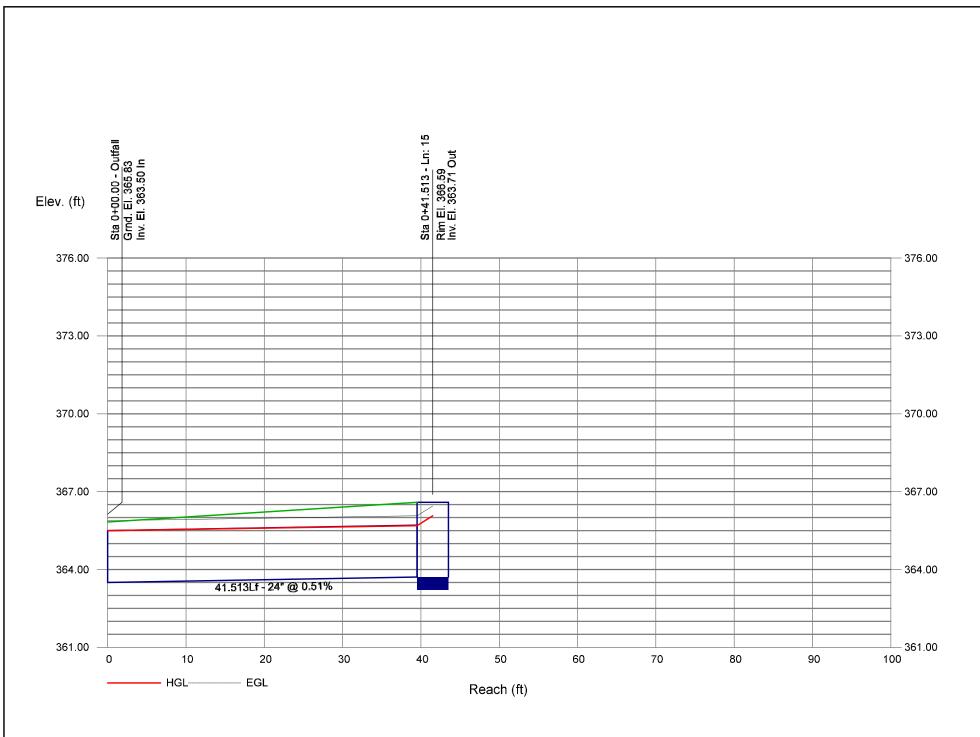




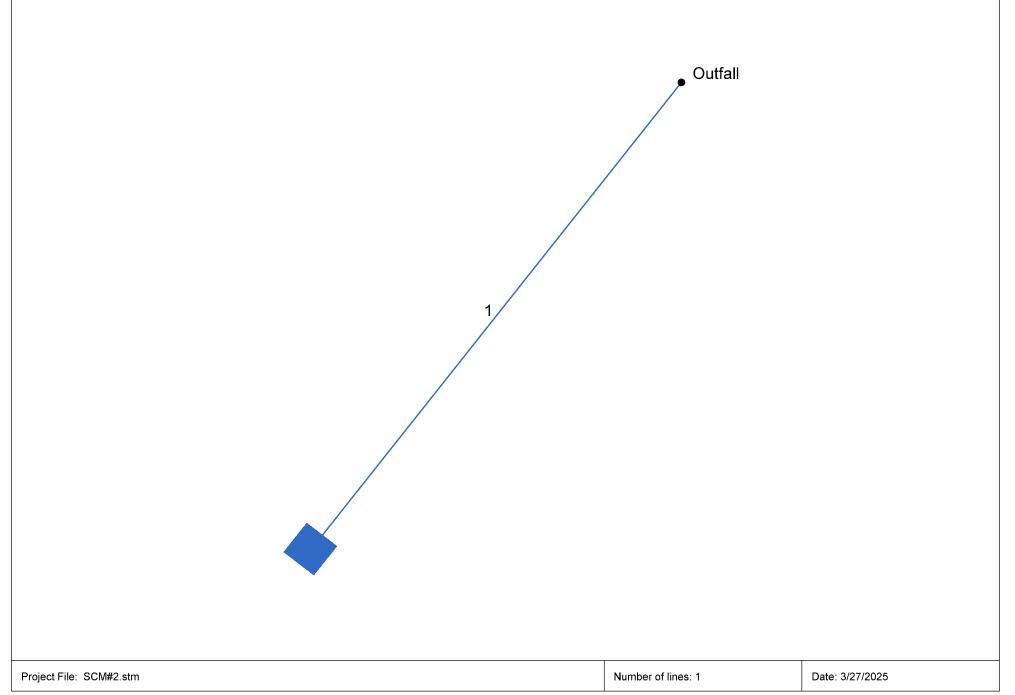








Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan SCM #2 25-YEAR REPORT



Storm Sewer Inventory Report

SCM #2 25-YEAR REPORT Page 1

Io.Distr Line Length No.Line Length (ft)Defl angle (deg)Junc Type1End64.790128.444DrGrt	Known Q (cfs)Drng Area (ac)Runoff Coeff (C)Inlet Time (min)0.000.760.6010.0	EI Dn Slope EI Up	Line Size (in)Line ShapeN Value (n)J-Loss Coeff (K)Inle Rim (ft)18Cir0.0131.00366	
1 End 64.790 128.444 DrGrt	0.00 0.76 0.60 10.0	361.50 1.16 362.25	18 Cir 0.013 1.00 366	
				6.26 Pipe - (164)
Project File: SCM#2.stm			Number of lines: 1	ate: 3/27/2025

Structure Report

SCM #2 25-YEAR REPORT

Struct No.	Structure ID	Junction Type	Rim		Structure			Line Out		Line In			
NO.		Туре	Elev (ft)	Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)	
1	YI 204	DropGrate	366.26	Rect	4.00	4.00	18	Cir	362.25				
Project	File: SCM#2.stm			Number of Struct	ures: 1	Ru	n Date: 3/27/202	5					

Storm Sewer Summary Report

SCM #2 25-YEAR REPORT

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (164)	3.03	18	Cir	64.790	361.50	362.25	1.158	362.56	362.91	n/a	362.91 j	End	DropGrate
Projec	t File: SCM#2.stm								Number o	of lines: 1		Run [Date: 3/27/	2025

Inlet Report

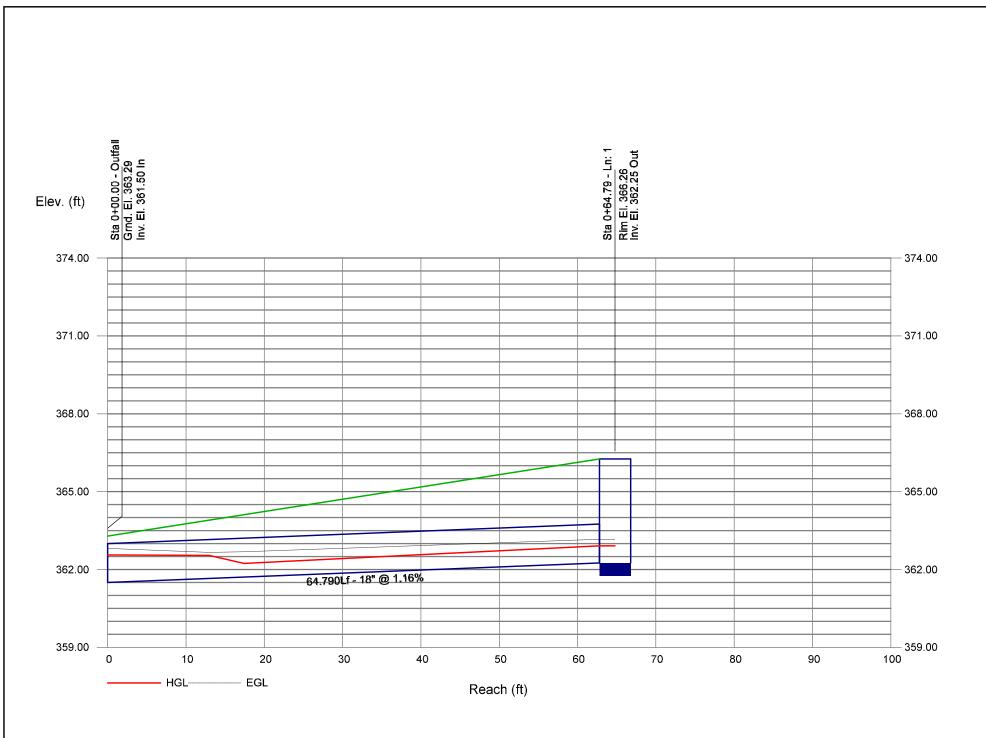
SCM #2 25-YEAR REPORT

Line	Inlet ID	Q =	Q				Curb In	nlet	Gra	te Inlet				G	utter					Inlet		Вур
No		CIA (cfs)	carry (cfs)		Byp (cfs)	Туре	Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	Line No
1	YI 204	3.03	0.00	3.03	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.20	22.82	0.20	22.82	0.0	Off
Projec	t File: SCM#2.stm		1		1					I	1		·	Number	of lines:	1		R	un Date:	3/27/202	5	
NOTE	S: Inlet N-Values = (0.016; Inte	ensity = 6	62.86 / (Ir	nlet time	+ 11.00)	^ 0.74;	Return	period =	25 Yrs.	; * Indic	ates Kno	wn Q ac	ded.All	curb inlet	ts are th	roat.	I				

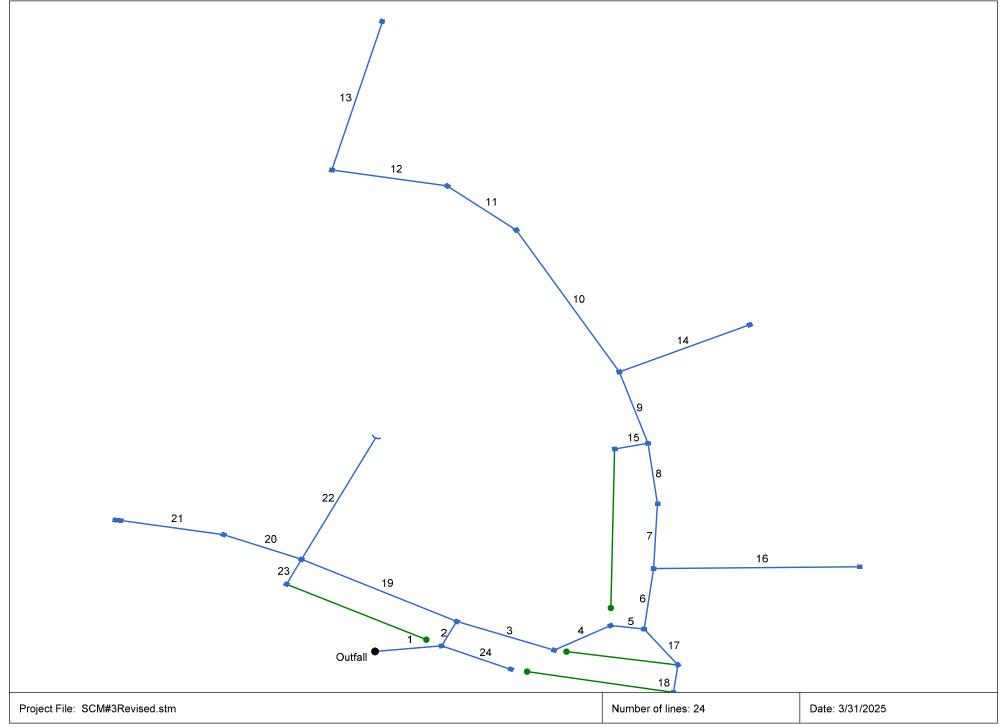
Hydraulic Grade Line Computations

SCM #2 25-YEAR REPORT Page 1

ine	Size	Q			D	ownstre	am				Len				Upstr	eam				Checl	k	JL	Mino
	(in)	(cfs)	Invert elev (ft)	elev	Depth (ft)		Vel (ft/s)	Vel head (ft)	elev	Sf (%)		Invert elev (ft)	elev	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	elev		Sf	Enrgy loss (ft)	coeff (K)	loss (ft)
1	(in) 18	3.03	361.50	(m) 362.56		0.75	2.27	0.25	362.81			(11)	(π) 362.91 j			4.03	0.25	(π) 363.16	0.000			1.00	(ff) 0.25
	ect File: S		ttm th.; j-Line c											N	umber o	f lines: 1			Rur	Date: 3	3/27/202	5	



Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan SCM #3 25-YEAR REPORT



Storm Sewer Inventory Report

SCM #3 25-YEAR REPORT Page 1

Line		Alignr	nent			Flow	Data					Physical	Data				Line ID
No.	Dnstr Line No.	Length	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	53.315	-5.817	Comb	0.00	0.12	0.60	10.0	360.94	0.51	361.21	36	Cir	0.013	1.31	366.00	Pipe - (51)
2	1	26.578	-57.823	Comb	0.00	0.48	0.60	10.0	361.31	0.49	361.44	36	Cir	0.013	1.50	366.04	Pipe - (50)
3	2	82.337	83.564	Comb	0.00	0.07	0.60	10.0	361.64	0.50	362.05	30	Cir	0.013	1.17	366.98	Pipe - (49) (1)
4	3	50.862	-48.069	Comb	0.00	0.13	0.60	10.0	362.25	0.49	362.50	24	Cir	0.013	0.95	367.04	Pipe - (68)
5	4	27.000	35.381	Comb	0.00	0.21	0.60	10.0	362.70	0.52	362.84	24	Cir	0.013	1.70	367.03	Pipe - (67)
6	5	59.521	-90.000	Comb	0.00	0.10	0.60	10.0	363.34	2.91	365.07	24	Cir	0.013	1.49	370.03	Pipe - (66)
7	6	63.410	-4.578	Comb	0.00	0.07	0.60	10.0	365.17	2.96	367.05	18	Cir	0.013	0.50	373.00	Pipe - (65)
8	7	59.348	-9.943	Comb	0.00	0.09	0.60	10.0	367.25	2.83	368.93	18	Cir	0.013	1.50	374.74	Pipe - (64)
9	8	73.131	-10.753	Comb	0.00	0.57	0.60	10.0	369.03	1.55	370.16	18	Cir	0.013	1.49	375.97	Pipe - (63)
10	9	160.765	-12.581	Comb	0.00	0.29	0.60	10.0	370.94	0.50	371.75	18	Cir	0.013	0.62	377.13	Pipe - (61)
11	10	69.865	-21.142	Comb	0.00	0.19	0.60	10.0	373.45	0.79	374.00	15	Cir	0.013	0.80	378.00	Pipe - (60) (1)
12	11	92.962	-28.715	Comb	0.00	0.08	0.60	10.0	374.60	0.50	375.07	15	Cir	0.013	1.50	378.78	Pipe - (59)
13	12	150.515	95.984	DrGrt	0.00	0.72	0.60	10.0	375.27	0.50	376.03	15	Cir	0.013	1.00	379.46	Pipe - (177)
14	9	113.000	84.063	DrGrt	0.00	0.59	0.60	10.0	371.88	1.18	373.21	15	Cir	0.013	1.00	376.09	Pipe - (178)
15	8	27.000	-94.816	Comb	0.00	0.29	0.60	10.0	369.94	0.67	370.12	15	Cir	0.013	1.00	374.73	Pipe - (71)
16	6	163.438	82.157	DrGrt	0.00	0.58	0.60	10.0	365.80	1.00	367.43	15	Cir	0.013	1.00	370.35	Pipe - (70)
17	5	44.000	45.555	Comb	0.00	0.12	0.60	10.0	363.24	0.50	363.46	24	Cir	0.013	1.12	368.91	Pipe - (56) (1)
18	17	27.000	44.445	Comb	0.00	0.17	0.60	10.0	364.58	1.15	364.89	15	Cir	0.013	1.00	368.93	Pipe - (56)
19	2	137.219	-90.157	Comb	0.00	0.12	0.60	10.0	361.64	0.50	362.33	24	Cir	0.013	2.25	367.00	Pipe - (49)
20	19	66.365	-4.859	Comb	0.00	0.13	0.60	10.0	363.00	0.50	363.33	24	Cir	0.013	0.50	367.90	Pipe - (48)
21	20	85.141	-11.831	Comb	0.00	0.46	0.60	10.0	363.53	0.51	363.96	18	Cir	0.013	1.00	368.63	Pipe - (47)
22	19	132.305	90.179	Hdwl	0.00	2.66	0.60	10.0	363.12	0.50	363.78	24	Cir	0.013	1.00	366.12	Pipe - (53)
23	19	27.000	-89.981	Comb	0.00	0.28	0.60	10.0	363.50	0.52	363.64	18	Cir	0.013	1.00	367.03	Pipe - (54)
Project	File: SCN	#3Revised.	stm									Number of	of lines: 24			Date: 3	/31/2025

Storm Sewer Inventory Report

SCM #3 25-YEAR REPORT Page 2

Line		Align	nment			Flov	w Data					Physical	l Data				Line ID
No.	Dnstr Line No.	Length	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
24	1	59.390	28.452	Comb	0.00	0.07	0.60	10.0	362.30	0.51	362.60	24	Cir	0.013	1.00	366.75	Pipe - (58)
Projec	+ File: SCI	M#3Revised	d etm									Number	of lines: 24	1		Date: 1	3/31/2025

Structure Report

SCM #3 25-YEAR REPORT

Image: Construction Combination 366.00 Rect. 4.00 4.00 96.00 Cir 361.20 96.00 Cir 1 CB 301 Combination 366.00 Rect. 4.00 4.00 36.0 Cir 361.21 32.4 Cir 22 2 CB 302 Combination 366.96 Rect. 4.00 4.00 30.0 Cir 362.05 2.4 Cir 3 CB 304 Combination 366.96 Rect. 4.00 4.00 2.4 Cir 362.05 2.4 Cir 4 CB 307 Combination 367.04 Rect. 4.00 4.00 2.4 Cir 362.05 2.4 Cir 5 CB 308 Combination 370.03 Rect. 4.00 4.00 2.4 Cir 365.07 18 Cir 7 CB 311 Combination 373.00 Rect. 4.00 4.00 18 Cir 369.03 18 Cir </th <th>Struct No.</th> <th>Structure ID</th> <th>Junction Type</th> <th>Rim</th> <th></th> <th>Structure</th> <th></th> <th></th> <th>Line Out</th> <th></th> <th></th> <th>Line In</th> <th></th>	Struct No.	Structure ID	Junction Type	Rim		Structure			Line Out			Line In	
2 CB 302 Combination 366.04 Ret 4.00 4.00 36 Cir 361.44 23 Cir 3 CB 304 Combination 368.98 Rect 4.00 4.00 30 Cir 362.05 24 Cir 4 CB 307 Combination 367.04 Rect 4.00 4.00 24 Cir 362.05 24 Cir 5 CB 309 Combination 367.03 Rect 4.00 4.00 24 Cir 362.05 24 Cir 6 CB 309 Combination 370.03 Rect 4.00 4.00 24 Cir 367.05 18 Cir 7 CB 311 Combination 373.00 Rect 4.00 4.00 18 Cir 369.33 18 Cir 9 CB 315 Combination 375.97 Rect 4.00 4.00 18 Cir 371.75 15 Cir 10	NO.		туре		Shape				Shape			Shape	Invert (ft)
3 CB 304 Cambination 366,98 Rect 4.00 4.00 30 Cir 362,05 24 Cir 4 CB 307 Cambination 367,04 Rect 4.00 400 24 Cir 362,50 24 Cir 5 CB 308 Cambination 367,03 Rect 4.00 4.00 24 Cir 362,50 24 Cir 6 CB 308 Cambination 367,03 Rect 4.00 4.00 24 Cir 362,60 24 Cir 362,60 24 Cir 362,60 24 Cir 365,07 18 Cir Cir 362,05 18 Cir Cir 367,05 18 Cir Cir 367,05 18 Cir Cir 366,93 18 Cir 366,93 18 Cir 366,93 18 Cir Cir 370,16 18 Cir Cir Cir Cir 370,16 18 Cir Cir	1	CB 301	Combination	366.00	Rect	4.00	4.00	36	Cir	361.21			361.31 362.30
4 CB 307 Combination 367.04 Rect 4.00 4.00 24 Cir 362.50 24 Cir 5 CB 308 Combination 367.03 Rect 4.00 4.00 24 Cir 362.50 24 Cir 6 CB 309 Combination 370.03 Rect 4.00 4.00 24 Cir 365.07 18 Cir 7 CB 311 Combination 373.00 Rect 4.00 4.00 18 Cir 365.07 18 Cir 8 CB 312 Combination 373.00 Rect 4.00 4.00 18 Cir 365.07 18 Cir 9 CB 315 Combination 375.97 Rect 4.00 4.00 18 Cir 370.16 18 Cir 15 Cir 16 15 Cir 370.16 18	2	CB 302	Combination	366.04	Rect	4.00	4.00	36	Cir	361.44			361.64 361.64
5 CB 308 Combination 367.03 Rect 4.00 4.00 24 Cir 362.84 24 24 Cir Cir 6 CB 309 Combination 370.03 Rect 4.00 4.00 24 Cir 365.07 18 Cir Cir 7 CB 311 Combination 373.00 Rect 4.00 4.00 18 Cir 365.07 18 Cir 8 CB 312 Combination 374.74 Rect 4.00 4.00 18 Cir 368.93 18 Cir 9 CB 315 Combination 375.97 Rect 4.00 4.00 18 Cir 370.16 18 Cir 10 CB 319 Combination 375.97 Rect 4.00 4.00 18 Cir 370.15 15 Cir 11 CB 324 Combination 376.97 Rect 4.00 4.00 15 Cir 370.01 15 Cir 370	3	CB 304	Combination	366.98	Rect	4.00	4.00	30	Cir	362.05	24	Cir	362.25
Image: Constraint of the second sec	4	CB 307	Combination	367.04	Rect	4.00	4.00	24	Cir	362.50	24	Cir	362.70
7 CB 311 Combination 373.00 Rect 4.00 4.00 18 Cir 367.05 18 Cir 8 CB 312 Combination 374.74 Rect 4.00 4.00 18 Cir 368.93 18 Cir 9 CB 315 Combination 375.97 Rect 4.00 4.00 18 Cir 370.16 18 Cir 10 CB 319 Combination 375.97 Rect 4.00 4.00 18 Cir 370.16 18 Cir 11 CB 319 Combination 375.97 Rect 4.00 4.00 15 Cir 374.00 15 Cir 12 CB 325 Combination 378.78 Rect 4.00 4.00 15 Cir 376.03 I I I I I I I I I I I I I I I I I I I <	5	CB 308	Combination	367.03	Rect	4.00	4.00	24	Cir	362.84			363.34 363.24
8 CB 312 Combination 374.74 Rect 4.00 4.00 18 Cir 368.93 18 15 Cir Cir 9 CB 315 Combination 375.97 Rect 4.00 4.00 18 Cir 370.16 18 15 Cir Cir 10 CB 319 Combination 377.13 Rect 4.00 4.00 18 Cir 371.75 15 Cir 11 CB 321 Combination 378.00 Rect 4.00 4.00 15 Cir 374.00 15 Cir 12 CB 325 Combination 378.78 Rect 4.00 4.00 15 Cir 375.07 15 Cir 13 YI 325A DropGrate 379.46 Rect 4.00 4.00 15 Cir 372.11 Image: Cir Image: C	6	CB 309	Combination	370.03	Rect	4.00	4.00	24	Cir	365.07	18 15		365.17 365.80
9 CB 315 Combination 375.97 Rect 4.00 4.00 18 Cir 370.16 18 Cir 10 CB 319 Combination 377.13 Rect 4.00 400 18 Cir 370.16 18 Cir 11 CB 319 Combination 377.13 Rect 4.00 4.00 18 Cir 371.75 15 Cir 11 CB 321 Combination 378.00 Rect 4.00 4.00 15 Cir 374.00 15 Cir 12 CB 325 Combination 378.78 Rect 4.00 4.00 15 Cir 376.03 Ir Ir 13 YI 325A DropGrate 376.09 Rect 4.00 4.00 15 Cir 370.12 Ir Ir If Ir Ir <td< td=""><td>7</td><td>CB 311</td><td>Combination</td><td>373.00</td><td>Rect</td><td>4.00</td><td>4.00</td><td>18</td><td>Cir</td><td>367.05</td><td>18</td><td>Cir</td><td>367.25</td></td<>	7	CB 311	Combination	373.00	Rect	4.00	4.00	18	Cir	367.05	18	Cir	367.25
CB 319 Combination 377.13 Rect 4.00 4.00 18 Cir 15 Cir 11 CB 319 Combination 377.13 Rect 4.00 4.00 18 Cir 371.75 15 Cir 11 CB 321 Combination 378.00 Rect 4.00 4.00 15 Cir 374.00 15 Cir 12 CB 325 Combination 378.78 Rect 4.00 4.00 15 Cir 375.07 15 Cir 13 YI 325A DropGrate 379.46 Rect 4.00 4.00 15 Cir 376.03	8	CB 312	Combination	374.74	Rect	4.00	4.00	18	Cir	368.93			369.03 369.94
11 CB 321 Combination 378.00 Rect 4.00 4.00 15 Cir 374.00 15 Cir 12 CB 325 Combination 378.78 Rect 4.00 4.00 15 Cir 375.07 15 Cir 13 YI 325A DropGrate 379.46 Rect 4.00 4.00 15 Cir 376.03 Image: Cir 370.12 Image: Cir 367.43 Image: Cir 367.43 Image: Cir Image: Cir 363.46 15 Cir Image: Cir Image: Cir Image: Cir Image: Cir Image: Ci	9	CB 315	Combination	375.97	Rect	4.00	4.00	18	Cir	370.16			370.94 371.88
12 CB 325 Combination 378.78 Rect 4.00 4.00 15 Cir 375.07 15 Cir 13 YI 325A DropGrate 379.46 Rect 4.00 4.00 15 Cir 376.03 15 Cir 373.21 15 Cir 376.12 15 Cir 370.12 15 Cir 370.12 15 Cir 376.13 15 Cir 376.13 15 Cir 367.43 15 Cir 367.43 15 Cir 363.46 15 Cir 15 Cir 16 YI 310 DropGrate 368.91 Rect 4.00 4.00 15 Cir 363.46 15 Cir 15 Cir 16 S63.05 Combination 368.93 Rect 4.00 4.00 15 Cir 364.89 15 Cir 24 Cir 24 Cir 24 Cir 24	10	CB 319	Combination	377.13	Rect	4.00	4.00	18	Cir	371.75	15	Cir	373.45
13 YI 325A DropGrate 379.46 Rect 4.00 4.00 15 Cir 376.03	11	CB 321	Combination	378.00	Rect	4.00	4.00	15	Cir	374.00	15	Cir	374.60
14 Y1 316B DropGrate 376.09 Rect 4.00 4.00 15 Cir 373.21 11 15 CB 313 Combination 374.73 Rect 4.00 4.00 15 Cir 370.12 11 16 Y1 310 DropGrate 370.35 Rect 4.00 4.00 15 Cir 367.43 15 Cir 363.46 15 Cir 16 17 CB 305 Combination 368.93 Rect 4.00 4.00 15 Cir 364.89 15 Cir 15 Cir 364.89 18 Cir 24 Cir Cir 24 Cir Cir 18 Cir <td< td=""><td>12</td><td>CB 325</td><td>Combination</td><td>378.78</td><td>Rect</td><td>4.00</td><td>4.00</td><td>15</td><td>Cir</td><td>375.07</td><td>15</td><td>Cir</td><td>375.27</td></td<>	12	CB 325	Combination	378.78	Rect	4.00	4.00	15	Cir	375.07	15	Cir	375.27
15 CB 313 Combination 374.73 Rect 4.00 4.00 15 Cir 370.12 10 11 16 Y1 310 DropGrate 370.35 Rect 4.00 4.00 15 Cir 367.43 15 Cir 367.43 15 Cir 363.46 15 Cir 15 Cir 364.89 15 Cir 15 Cir 362.33 24 Cir 24 Cir 362.33 24 Cir 24 Cir 18 Cir 24 Cir 18 Cir 18 Cir 18 Cir 362.33 24 Cir Cir 24 Cir 18 Cir <	13	YI 325A	DropGrate	379.46	Rect	4.00	4.00	15	Cir	376.03			
16 YI 310 DropGrate 370.35 Rect 4.00 4.00 15 Cir 367.43 August 1 17 CB 306 Combination 368.91 Rect 4.00 4.00 24 Cir 363.46 15 Cir 18 CB 305 Combination 368.93 Rect 4.00 4.00 15 Cir 364.89 Tor 15 Cir 16 15 Cir 16 15 Cir 15 Cir 16 <td< td=""><td>14</td><td>YI 316B</td><td>DropGrate</td><td>376.09</td><td>Rect</td><td>4.00</td><td>4.00</td><td>15</td><td>Cir</td><td>373.21</td><td></td><td></td><td></td></td<>	14	YI 316B	DropGrate	376.09	Rect	4.00	4.00	15	Cir	373.21			
17 CB 306 Combination 368.91 Rect 4.00 4.00 24 Cir 363.46 15 Cir 18 CB 305 Combination 368.93 Rect 4.00 4.00 15 Cir 364.89	15	CB 313	Combination	374.73	Rect	4.00	4.00	15	Cir	370.12			
18 CB 305 Combination 368.93 Rect 4.00 4.00 15 Cir 364.89 19 CB 330 Combination 367.00 Rect 4.00 4.00 24 Cir 362.33 24 Cir 19 CB 330 Combination 367.00 Rect 4.00 4.00 24 Cir 362.33 24 Cir 18 CI	16	YI 310	DropGrate	370.35	Rect	4.00	4.00	15	Cir	367.43			
19 CB 330 Combination 367.00 Rect 4.00 4.00 24 Cir 362.33 24 Cir 19 CB 330 Combination 367.00 Rect 4.00 4.00 24 Cir 362.33 24 Cir 19 CB 330 Combination 367.00 Rect 4.00 4.00 24 Cir 362.33 24 Cir 18 Cir Cir Cir Cir Cir Cir Cir Cir Cir 18 Cir Cir Cir Cir Cir Cir Cir Cir	17	CB 306	Combination	368.91	Rect	4.00	4.00	24	Cir	363.46	15	Cir	364.58
24 Cir 18 Cir	18	CB 305	Combination	368.93	Rect	4.00	4.00	15	Cir	364.89			
	19	СВ 330	Combination	367.00	Rect	4.00	4.00	24	Cir	362.33	24	Cir	363.00 363.12 363.50
roject rile. Scivi#SRevised.sun	Project F	ile: SCM#3Revised.stm			<u> </u>			Nu	mber of Structu	res: 24	Run I	Date: 3/31/202	5

Structure Report

SCM #3 25-YEAR REPORT

Struct No.	Structure ID	Junction	Rim		Structure			Line Out			Line In	
NO.		Туре	Elev (ft)	Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
20	CB 333	Combination	367.90	Rect	4.00	4.00	24	Cir	363.33	18	Cir	363.53
21	CB 334	Combination	368.63	Rect	8.00	4.00	18	Cir	363.96			
22	FES INLET 331	OpenHeadwall	366.12	n/a	n/a	n/a	24	Cir	363.78			
23	CB 332	Combination	367.03	Rect	4.00	4.00	18	Cir	363.64			
24	CB 303	Combination	366.75	Rect	4.00	4.00	24	Cir	362.60			
Project I	ile: SCM#3Revised.stm	1					N	lumber of Structu	res: 24	Run E) Date: 3/31/2025	5

Storm Sewer Summary Report

SCM #3 25-YEAR REPORT

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (51)	30.84	36	Cir	53.315	360.94	361.21	0.506	363.29	363.01	n/a	363.01	End	Combination
2	Pipe - (50)	30.22	36	Cir	26.578	361.31	361.44	0.489	363.07	363.22	n/a	363.22	1	Combination
3	Pipe - (49) (1)	15.48	30	Cir	82.337	361.64	362.05	0.498	363.22	363.38	n/a	363.38 j	2	Combination
4	Pipe - (68)	15.30	24	Cir	50.862	362.25	362.50	0.492	363.83	364.08	0.49	364.57	3	Combination
5	Pipe - (67)	14.87	24	Cir	27.000	362.70	362.84	0.518	364.57	364.65	0.65	365.30	4	Combination
6	Pipe - (66)	13.12	24	Cir	59.521	363.34	365.07	2.907	365.30	366.37	n/a	366.37 j	5	Combination
7	Pipe - (65)	10.67	18	Cir	63.410	365.17	367.05	2.965	366.37	368.30	0.36	368.30	6	Combination
8	Pipe - (64)	10.46	18	Cir	59.348	367.25	368.93	2.831	368.30	370.17	n/a	370.17	7	Combination
9	Pipe - (63)	9.11	18	Cir	73.131	369.03	370.16	1.545	370.17	371.33	n/a	371.33	8	Combination
10	Pipe - (61)	4.87	18	Cir	160.765	370.94	371.75	0.504	371.82	372.64	0.19	372.83	9	Combination
11	Pipe - (60) (1)	3.80	15	Cir	69.865	373.45	374.00	0.787	374.19	374.79	0.27	374.79	10	Combination
12	Pipe - (59)	3.11	15	Cir	92.962	374.60	375.07	0.500	375.36	375.82	0.38	376.20	11	Combination
13	Pipe - (177)	2.87	15	Cir	150.515	375.27	376.03	0.502	376.20	376.71	0.27	376.98	12	DropGrate
14	Pipe - (178)	2.35	15	Cir	113.000	371.88	373.21	1.177	372.38	373.82	0.24	373.82	9	DropGrate
15	Pipe - (71)	1.15	15	Cir	27.000	369.94	370.12	0.667	370.34	370.54	0.15	370.54	8	Combination
16	Pipe - (70)	2.31	15	Cir	163.438	365.80	367.43	0.997	366.37	368.04	0.24	368.04	6	DropGrate
17	Pipe - (56) (1)	1.14	24	Cir	44.000	363.24	363.46	0.500	365.30	365.31	0.00	365.31	5	Combination
18	Pipe - (56)	0.68	15	Cir	27.000	364.58	364.89	1.148	365.31	365.21	0.11	365.21	17	Combination
19	Pipe - (49)	14.08	24	Cir	137.219	361.64	362.33	0.503	363.22	363.77	1.19	364.95	2	Combination
20	Pipe - (48)	2.32	24	Cir	66.365	363.00	363.33	0.497	364.95	363.86	0.09	363.86	19	Combination
21	Pipe - (47)	1.83	18	Cir	85.141	363.53	363.96	0.505	364.04	364.47	0.19	364.47	20	Combination
22	Pipe - (53)	10.59	24	Cir	132.305	363.12	363.78	0.499	364.95	365.16	0.33	365.49	19	OpenHeadwall
23	Pipe - (54)	1.12	18	Cir	27.000	363.50	363.64	0.519	364.95	364.03	n/a	364.03	19	Combination
24	Pipe - (58)	0.28	24	Cir	59.390	362.30	362.60	0.505	363.01	363.01	0.01	363.02	1	Combination
Projec	t File: SCM#3Revised.stm								Number o	of lines: 24		Run	Date: 3/31/	/2025

NOTES: Return period = 25 Yrs. ; j - Line contains hyd. jump.

Inlet Report

SCM #3 25-YEAR REPORT

.ine Io	Inlet ID	Q = CIA	Q	Q	Q	Junc	Curb li	nlet	Gra	ate Inlet				G	utter					Inlet		Byp
10		(cfs)	carry (cfs)	capt (cfs)	Byp (cfs)	Туре	Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	–Line No
1	CB 301	0.48	0.04	0.52	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.12	1.92	0.00	0.00	0.0	Off
2	CB 302	1.91	0.00	1.65	0.26	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.18	5.01	0.09	1.47	0.0	Off
3	CB 304	0.28	0.00	0.28	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.52	0.00	0.00	0.0	2
4	CB 307	0.52	0.06	0.58	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.12	1.99	0.00	0.00	0.0	3
5	CB 308	0.84	0.00	0.83	0.01	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.14	2.85	0.02	0.40	0.0	4
6	CB 309	0.40	0.00	0.40	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.10	1.73	0.00	0.00	0.0	5
7	CB 311	0.28	0.00	0.28	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.52	0.00	0.00	0.0	6
8	CB 312	0.36	0.41	0.76	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.64	0.02	0.30	0.0	7
9	CB 315	2.27	0.05	1.91	0.41	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.19	5.57	0.11	1.75	0.0	8
10	CB 319	1.15	0.00	1.11	0.05	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.15	3.66	0.05	0.80	0.0	9
11	CB 321	0.76	0.00	0.75	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.61	0.02	0.26	0.0	10
12	CB 325	0.32	0.00	0.32	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.10	1.59	0.00	0.00	0.0	11
13	YI 325A	2.87	0.00	2.87	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.20	22.10	0.20	22.10	0.0	Off
14	YI 316B	2.35	0.00	2.35	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.17	19.66	0.17	19.66	0.0	Off
15	CB 313	1.15	0.00	1.10	0.05	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.15	3.66	0.05	0.80	0.0	4
16	YI 310	2.31	0.00	2.31	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.17	19.47	0.17	19.47	0.0	Off
17	CB 306	0.48	0.00	0.48	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.11	1.86	0.00	0.00	0.0	3
18	CB 305	0.68	0.00	0.68	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.34	0.01	0.11	0.0	24
19	CB 330	0.48	0.00	0.48	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.11	1.86	0.00	0.00	0.0	2
20	CB 333	0.52	0.18	0.70	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.42	0.01	0.18	0.0	19
21	CB 334	1.83	0.00	1.65	0.18	Comb	6.0	1.50	0.00	6.00	2.50	0.054	2.00	0.060	0.020	0.013	0.18	4.89	0.08	1.30	0.0	20
22	FES INLET 331	10.59	0.00	10.59	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	2.00	0.060	0.020	0.013	0.00	0.00	0.00	0.00	0.0	Off
23	CB 332	1.12	0.00	1.07	0.04	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.15	3.57	0.05	0.76	0.0	1
Projec	L t File: SCM#3Revis	ed.stm	1	1	I	1						1		Number	of lines:	24	1	R	un Date:	3/31/202	ـــــــــــــــــــــــــــــــــــــ	

NOTES: Inlet N-Values = 0.016; Intensity = 62.86 / (Inlet time + 11.00) ^ 0.74; Return period = 25 Yrs.; * Indicates Known Q added.All curb inlets are throat.

Inlet Report

SCM #3 25-YEAR REPORT

.ine No	Inlet ID			Q			Curb Ir	nlet	Gra	te Inlet				G	utter					Inlet		Вур
10		(cfs)	carry (cfs)		сfs)	Туре	Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	–Line No
24	CB 303	0.28	0.00	0.28	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.52	0.00	0.00	0.0	1
Projec	t File: SCM#3Revise	ed.stm												Number	of lines:	24		R	un Date:	3/31/202	5	

Hydraulic Grade Line Computations

SCM #3 25-YEAR REPORT Page 1

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 | | | | | | Len | |
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 | ean | | | | Chec | n | JL
coeff | Mino
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(ft) | HGL
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(ft) | Depth
(ft)

 | Area
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(ft/s) | Vel
head
(ft) | EGL
elev
(ft) | Sf
(%) | (ft) | Invert
elev
(ft) |
HGL
elev
(ft) | Depth
(ft) | Area
(sqft)
 | Vel
(ft/s) | Vel
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(ft) | EGL
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(ft) | Sf
(%) | Ave
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(%) | Enrgy
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(ft) | (K) | (ft)
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 |
| 36 | 30.84 | 360.94 | 363.29 | 2.35

 | 4.42 | 5.19 | 0.76 | 364.05 | 0.000 | 53.315 | 361.21 | 363.01
 | 1.80* | 4.42
 | 6.97 | 0.76 | 363.76 | 0.000 | 0.000 | n/a | 1.31 | n/a
 |
| 36 | 30.22 | 361.31 | 363.07 | 1.76*

 | 4.31 | 7.02 | 0.74 | 363.81 | 0.000 | 26.578 | 361.44 | 363.22
 | 1.78* | 4.37
 | 6.92 | 0.74 | 363.96 | 0.000 | 0.000 | n/a | 1.50 | n/a
 |
| 30 | 15.48 | 361.64 | 363.22 | 1.58

 | 2.65 | 4.74 | 0.53 | 363.75 | 0.000 | 82.337 | 362.05 | 363.38 j
 | 1.33* | 2.65
 | 5.85 | 0.53 | 363.91 | 0.000 | 0.000 | n/a | 1.17 | n/a
 |
| 24 | 15.30 | 362.25 | 363.83 | 1.58*

 | 2.66 | 5.75 | 0.51 | 364.34 | 0.491 | 50.862 | 362.50 | 364.08
 | 1.58 | 2.66
 | 5.75 | 0.51 | 364.59 | 0.492 | 0.492 | 0.250 | 0.95 | 0.49
 |
| 24 | 14.87 | 362.70 | 364.57 | 1.87

 | 3.05 | 4.87 | 0.37 | 364.94 | 0.374 | 27.000 | 362.84 | 364.65
 | 1.81 | 2.99
 | 4.97 | 0.38 | 365.04 | 0.378 | 0.376 | 0.101 | 1.70 | 0.65
 |
| 24 | 13.12 | 363.34 | 365.30 | 1.96

 | 2.17 | 4.19 | 0.57 | 365.88 | 0.000 | 59.521 | 365.07 | 366.37 j
 | 1.30** | 2.17
 | 6.06 | 0.57 | 366.94 | 0.000 | 0.000 | n/a | 1.49 | n/a
 |
| 18 | 10.67 | 365.17 | 366.37 | 1.20

 | 1.52 | 7.03 | 0.71 | 367.08 | 0.000 | 63.410 | 367.05 | 368.30
 | 1.25* | 1.58
 | 6.77 | 0.71 | 369.02 | 0.000 | 0.000 | n/a | 0.50 | 0.36
 |
| 18 | 10.46 | 367.25 | 368.30 | 1.05

 | 1.33 | 7.89 | 0.69 | 369.00 | 0.000 | 59.348 | 368.93 | 370.17
 | 1.24* | 1.56
 | 6.68 | 0.69 | 370.87 | 0.000 | 0.000 | n/a | 1.50 | n/a
 |
| 18 | 9.11 | 369.03 | 370.17 | 1.14

 | 1.44 | 6.31 | 0.59 | 370.77 | 0.000 | 73.131 | 370.16 | 371.33
 | 1.17* | 1.47
 | 6.18 | 0.59 | 371.92 | 0.000 | 0.000 | n/a | 1.49 | n/a
 |
| 18 | 4.87 | 370.94 | 371.82 | 0.88*

 | 1.08 | 4.50 | 0.31 | 372.14 | 0.504 | 160.76 | 5371.75 | 372.64
 | 0.89 | 1.09
 | 4.49 | 0.31 | 372.95 | 0.502 | 0.503 | 0.808 | 0.62 | 0.19
 |
| 15 | 3.80 | 373.45 | 374.19 | 0.74*

 | 0.76 | 4.99 | 0.34 | 374.53 | 0.000 | 69.865 | 374.00 | 374.79
 | 0.79** | 0.81
 | 4.67 | 0.34 | 375.13 | 0.000 | 0.000 | n/a | 0.80 | 0.27
 |
| 15 | 3.11 | 374.60 | 375.36 | 0.76*

 | 0.78 | 4.00 | 0.25 | 375.61 | 0.500 | 92.962 | 375.07 | 375.82
 | 0.76 | 0.78
 | 4.01 | 0.25 | 376.07 | 0.503 | 0.501 | 0.466 | 1.50 | 0.38
 |
| 15 | 2.87 | 375.27 | 376.20 | 0.93

 | 0.68 | 2.94 | 0.13 | 376.33 | 0.244 | 150.51 | 5376.03 | 376.71
 | 0.68** | 0.69
 | 4.18 | 0.27 | 376.98 | 0.588 | 0.416 | 0.626 | 1.00 | 0.27
 |
| 15 | 2.35 | 371.88 | 372.38 | 0.50*

 | 0.46 | 5.14 | 0.24 | 372.62 | 0.000 | 113.00 | 0373.21 | 373.82
 | 0.61** | 0.60
 | 3.93 | 0.24 | 374.06 | 0.000 | 0.000 | n/a | 1.00 | 0.24
 |
| 15 | 1.15 | 369.94 | 370.34 | 0.40*

 | 0.34 | 3.44 | 0.15 | 370.49 | 0.000 | 27.000 | 370.12 | 370.54
 | 0.42** | 0.37
 | 3.16 | 0.15 | 370.70 | 0.000 | 0.000 | n/a | 1.00 | 0.15
 |
| 15 | 2.31 | 365.80 | 366.37 | 0.57

 | 0.55 | 4.22 | 0.24 | 366.61 | 0.000 | 163.43 | 8367.43 | 368.04
 | 0.61** | 0.59
 | 3.91 | 0.24 | 368.27 | 0.000 | 0.000 | n/a | 1.00 | 0.24
 |
| 24 | 1.14 | 363.24 | 365.30 | 2.00

 | 3.14 | 0.36 | 0.00 | 365.31 | 0.003 | 44.000 | 363.46 | 365.31
 | 1.85 | 3.03
 | 0.38 | 0.00 | 365.31 | 0.002 | 0.002 | 0.001 | 1.12 | 0.00
 |
| 15 | 0.68 | 364.58 | 365.31 | 0.73

 | 0.25 | 0.91 | 0.11 | 365.42 | 0.000 | 27.000 | 364.89 | 365.21
 | 0.32** | 0.25
 | 2.71 | 0.11 | 365.33 | 0.000 | 0.000 | n/a | 1.00 | 0.11
 |
| 24 | 14.08 | 361.64 | 363.22 | 1.58

 | 2.66 | 5.29 | 0.44 | 363.65 | 0.416 | 137.21 | 9362.33 | 363.77
 | 1.44 | 2.42
 | 5.82 | 0.53 | 364.30 | 0.516 | 0.466 | 0.640 | 2.25 | 1.19
 |
| 24 | 2.32 | 363.00 | 364.95 | 1.95

 | 0.66 | 0.74 | 0.19 | 365.14 | 0.000 | 66.365 | 363.33 | 363.86
 | 0.53** | 0.66
 | 3.49 | 0.19 | 364.05 | 0.000 | 0.000 | n/a | 0.50 | 0.09
 |
| 18 | 1.83 | 363.53 | 364.04 | 0.51*

 | 0.52 | 3.49 | 0.19 | 364.22 | 0.000 | 85.141 | 363.96 | 364.47
 | 0.51** | 0.53
 | | 0.19 | 364.66 | 0.000 | 0.000 | n/a | 1.00 |
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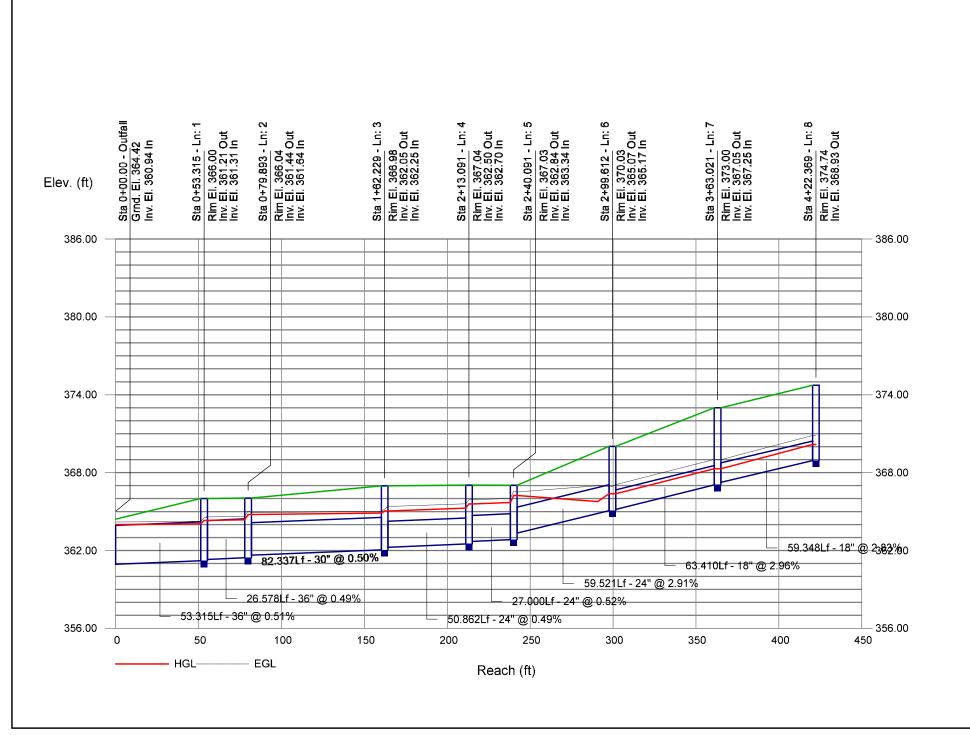
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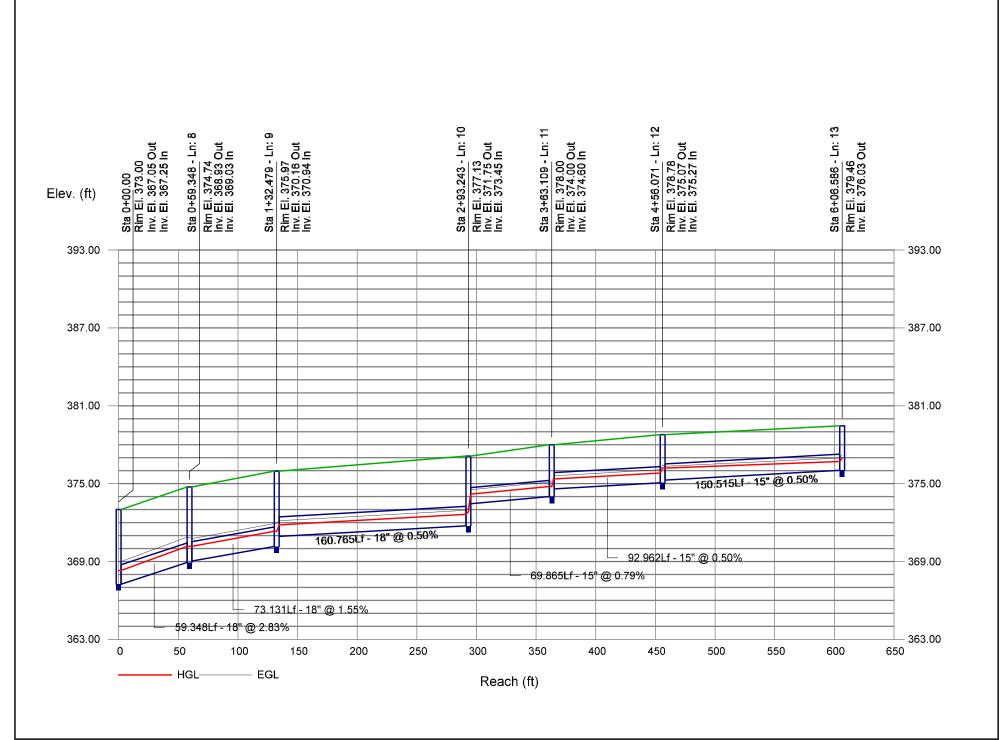
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24 | 36 30.84 36 30.22 30 15.48 24 15.30 24 14.87 24 13.12 18 10.67 18 10.46 18 9.11 18 4.87 15 3.80 15 3.11 15 2.35 15 1.15 15 2.31 24 14.08 24 1.4 15 2.31 24 1.408 24 1.408 24 1.83 24 1.83 24 1.83 24 10.59 | 36 30.84 360.94 36 30.22 361.31 30 15.48 361.64 24 15.30 362.25 24 14.87 362.70 24 13.12 363.34 18 10.67 365.17 18 10.46 367.25 18 9.11 369.03 18 4.87 370.94 15 3.80 373.45 15 3.11 374.60 15 2.35 371.88 15 1.15 369.94 15 2.31 365.80 24 1.408 361.64 24 2.32 363.00 18 1.83 363.53 24 14.08 361.64 24 2.32 363.00 18 1.83 363.53 24 10.59 363.12 | 1 1 1 1 1 1 36 30.84 360.94 363.29 36 30.22 361.31 363.07 30 15.48 361.64 363.22 24 15.30 362.25 363.83 24 14.87 362.70 364.57 24 13.12 363.34 365.30 18 10.67 365.17 366.37 18 10.46 367.25 368.30 18 10.47 370.94 371.82 15 3.80 373.45 374.19 15 3.11 374.60 375.36 15 2.87 375.27 376.20 15 2.35 371.88 372.38 15 1.15 369.94 370.34 15 2.31 365.80 366.37 24 1.14 363.24 365.30 15 0.68 364.58 365.31 24 14.08 <td>1 1 1 1 1 1 36 30.84 360.94 363.29 2.35 36 30.22 361.31 363.07 1.76* 30 15.48 361.64 363.22 1.58 24 15.30 362.25 363.83 1.58* 24 14.87 362.70 364.57 1.87 24 13.12 363.34 365.30 1.96 18 10.67 365.17 366.37 1.20 18 10.46 367.25 368.30 1.05 18 9.11 369.03 370.17 1.14 18 9.11 369.03 370.17 1.14 18 9.11 369.03 370.47 0.74* 15 3.11 374.60 375.36 0.76* 15 2.35 371.88 372.38 0.50* 15 1.15 369.94 370.34 0.40* 15 2.31</td> <td>1 1 1 1 1 1 1 1 36 30.84 360.94 363.29 2.35 4.42 36 30.22 361.31 363.07 1.76* 4.31 30 15.48 361.64 363.22 1.58 2.65 24 15.30 362.25 363.83 1.58* 2.66 24 14.87 362.70 364.57 1.87 3.05 24 13.12 363.34 365.30 1.96 2.17 18 10.67 365.17 366.37 1.20 1.52 18 10.46 367.25 368.30 1.05 1.33 18 9.11 369.03 370.17 1.14 1.44 18 4.87 370.94 371.82 0.88* 1.08 15 3.11 374.60 375.36 0.76* 0.78 15 2.35 371.88 372.38 0.50* 0.46 15<</td> <td>1 1</td> <td>1 1</td> <td>1 1</td> <td>1 1</td> <td>1 1
 1 1</td> <td>36 30.84 360.94 363.29 2.35 4.42 5.19 0.76 364.05 0.000 53.315 361.21 36 30.22 361.31 363.07 1.76* 4.31 7.02 0.74 363.81 0.000 26.578 361.44 30 15.48 361.64 363.22 1.58 2.65 4.74 0.53 363.75 0.000 82.337 362.05 24 15.30 362.25 363.83 1.58* 2.66 5.75 0.51 364.94 0.374 27.000 362.84 24 13.12 363.34 365.30 1.96 2.17 4.19 0.57 365.88 0.000 63.410 367.05 18 10.67 365.17 366.37 1.20 1.52 7.03 0.71 367.08 0.000 63.410 367.05 18 10.46 367.25 368.30 1.05 1.33 7.89 0.69 369.00 0.000 73.131 370.16</td> <td>1 1</td> <td>36 30.84 360.94 363.29 2.35 4.42 5.19 0.76 364.05 0.000 53.315 361.21 363.01 1.80** 36 30.22 361.31 363.07 1.76* 4.31 7.02 0.74 363.81 0.000 26.578 361.44 363.22 1.78** 30 15.48 361.64 363.22 1.58 2.65 4.74 0.53 363.75 0.000 82.337 362.05 363.38j 1.33** 24 15.30 362.70 364.57 1.87 3.05 4.87 0.37 364.94 0.374 27.000 362.84 366.37 1.30** 18 10.67 365.17 366.37 1.20 1.52 7.03 0.71 369.90 0.000 59.48 368.93 370.17 1.24*** 18 0.46 367.25 368.30 1.05 1.33 7.89 0.69 369.00 0.000 59.48 368.93 370.17 1.24**** <!--</td--><td>1 1</td><td>1 1</td><td>1 1</td><td>1.1 1.1</td><td>1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<></td><td>36 36.9 360.94 363.29 2.35 4.42 5.19 0.76 364.05 0.000 53.315 51.21 363.01 1.80⁻⁺⁺ 4.42 6.97 0.76 363.76 0.000 0.000 30 15.48 361.64 363.22 1.58⁺⁺ 4.31 7.02 0.74 363.31 0.000 26.578 361.44 363.22 1.78⁺⁺ 4.37 6.52 0.74 363.36 0.000 0.000 24 15.30 362.25 383.81 1.58 2.66 5.75 0.51 364.34 0.491 50.862 362.50 364.08 1.88 2.66 5.75 0.51 364.94 0.376 365.48 0.000 63.410 367.05 1.66 0.57 0.51 366.49 0.000 1.30⁺⁺ 1.30⁺⁺ 56 6.66 0.69 370.87 0.000 0.000 1.30⁺⁺ 1.36 6.68 0.69 370.87
0.000 0.000 1.30⁺⁺ 1.30⁺⁺ 1.56 6.77 0.71 369.09 0.000 59.348 369.39 1.00⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺</td><td>act b</td><td>36 36.9 360.94 363.29 2.3 4.42 5.19 0.76 364.05 0.00 53.31 361.21 363.01 1.80⁺⁺ 4.42 6.97 0.76 363.76 0.00 0.00 n/a 1.31 36 30.22 361.31 363.07 1.76⁺⁺ 4.31 7.02 0.74 363.81 0.000 25.75 361.41 363.22 1.76⁺⁺ 4.37 6.92 0.74 363.81 0.000 n/a 1.59 30 15.46 361.64 383.22 1.58 2.65 7.50 0.51 364.30 0.491 50.82 362.50 364.06 1.58 2.66 5.75 0.51 364.97 0.700 1.77 364.94 0.74 7.00 365.97 365.07 365.97 1.30⁺⁺ 2.15 6.00 5.75 0.51 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 367.07 7.01 369.07 0.000 n/a 1.90 18</td></td> | 1 1 1 1 1 1 36 30.84 360.94 363.29 2.35 36 30.22 361.31 363.07 1.76* 30 15.48 361.64 363.22 1.58 24 15.30 362.25 363.83 1.58* 24 14.87 362.70 364.57 1.87 24 13.12 363.34 365.30 1.96 18 10.67 365.17 366.37 1.20 18 10.46 367.25 368.30 1.05 18 9.11 369.03 370.17 1.14 18 9.11 369.03 370.17 1.14 18 9.11 369.03 370.47 0.74* 15 3.11 374.60 375.36 0.76* 15 2.35 371.88 372.38 0.50* 15 1.15 369.94 370.34 0.40* 15 2.31 | 1 1 1 1 1 1 1 1 36 30.84 360.94 363.29 2.35 4.42 36 30.22 361.31 363.07 1.76* 4.31 30 15.48 361.64 363.22 1.58 2.65 24 15.30 362.25 363.83 1.58* 2.66 24 14.87 362.70 364.57 1.87 3.05 24 13.12 363.34 365.30 1.96 2.17 18 10.67 365.17 366.37 1.20 1.52 18 10.46 367.25 368.30 1.05 1.33 18 9.11 369.03 370.17 1.14 1.44 18 4.87 370.94 371.82 0.88* 1.08 15 3.11 374.60 375.36 0.76* 0.78 15 2.35 371.88 372.38 0.50* 0.46 15< | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 | 36 30.84 360.94 363.29 2.35 4.42 5.19 0.76 364.05 0.000 53.315 361.21
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 b b</td> <td>36 36.9 360.94 363.29 2.3 4.42 5.19 0.76 364.05 0.00 53.31 361.21 363.01 1.80⁺⁺ 4.42 6.97 0.76 363.76 0.00 0.00 n/a 1.31 36 30.22 361.31 363.07 1.76⁺⁺ 4.31 7.02 0.74 363.81 0.000 25.75 361.41 363.22 1.76⁺⁺ 4.37 6.92 0.74 363.81 0.000 n/a 1.59 30 15.46 361.64 383.22 1.58 2.65 7.50 0.51 364.30 0.491 50.82 362.50 364.06 1.58 2.66 5.75 0.51 364.97 0.700 1.77 364.94 0.74 7.00 365.97 365.07 365.97 1.30⁺⁺ 2.15 6.00 5.75 0.51 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 367.07 7.01 369.07 0.000 n/a 1.90 18</td> | 1 1 | 1 1 | 1 1 | 1.1 1.1 | 1 1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<> | 36 36.9 360.94 363.29 2.35 4.42 5.19 0.76 364.05 0.000 53.315 51.21 363.01 1.80 ⁻⁺⁺ 4.42 6.97 0.76 363.76 0.000 0.000 30 15.48 361.64 363.22 1.58 ⁺⁺ 4.31 7.02 0.74 363.31 0.000 26.578 361.44 363.22 1.78 ⁺⁺ 4.37 6.52 0.74 363.36 0.000 0.000 24 15.30 362.25 383.81 1.58 2.66 5.75 0.51 364.34 0.491 50.862 362.50 364.08 1.88 2.66 5.75 0.51 364.94 0.376 365.48 0.000 63.410 367.05 1.66 0.57 0.51 366.49 0.000 1.30 ⁺⁺ 1.30 ⁺⁺ 56 6.66 0.69 370.87 0.000 0.000 1.30 ⁺⁺ 1.36 6.68 0.69 370.87 0.000 0.000 1.30 ⁺⁺ 1.30 ⁺⁺ 1.56 6.77 0.71 369.09 0.000 59.348 369.39 1.00 ⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺⁺ | act b | 36 36.9 360.94 363.29 2.3 4.42 5.19 0.76 364.05 0.00 53.31 361.21 363.01 1.80 ⁺⁺ 4.42 6.97 0.76 363.76 0.00 0.00 n/a 1.31 36 30.22 361.31 363.07 1.76 ⁺⁺ 4.31 7.02 0.74 363.81 0.000 25.75 361.41 363.22 1.76 ⁺⁺ 4.37 6.92 0.74 363.81 0.000 n/a 1.59 30 15.46 361.64 383.22 1.58 2.65 7.50 0.51 364.30 0.491 50.82 362.50 364.06 1.58 2.66 5.75 0.51 364.97 0.700 1.77
364.94 0.74 7.00 365.97 365.07 365.97 1.30 ⁺⁺ 2.15 6.00 5.75 0.51 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 365.07 367.07 7.01 369.07 0.000 n/a 1.90 18 |

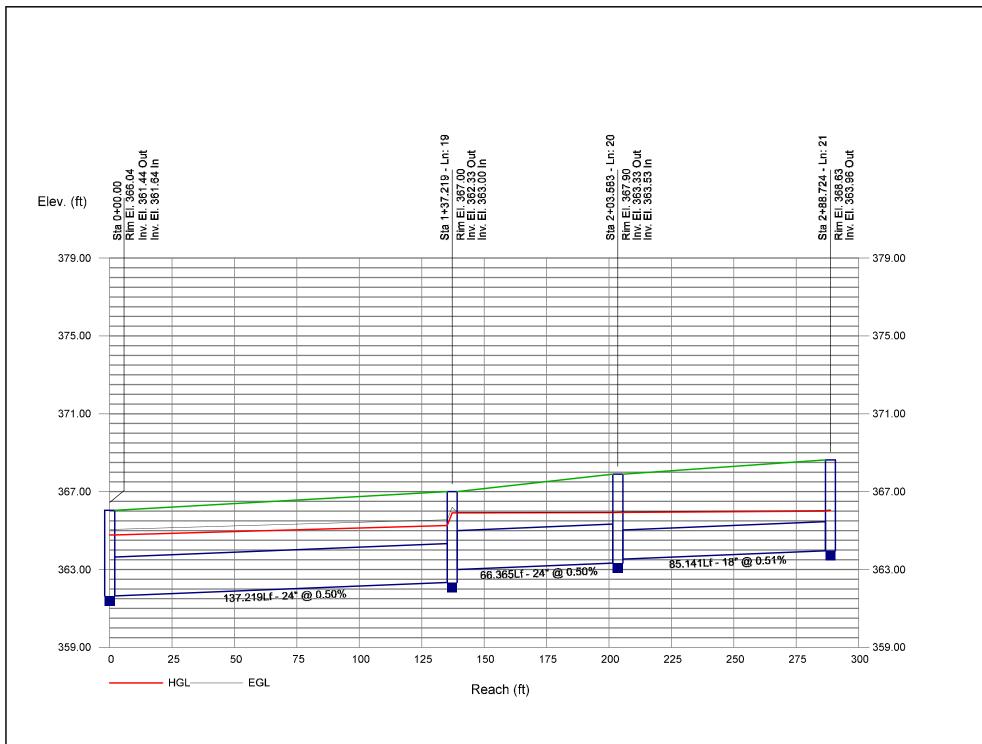
Hydraulic Grade Line Computations

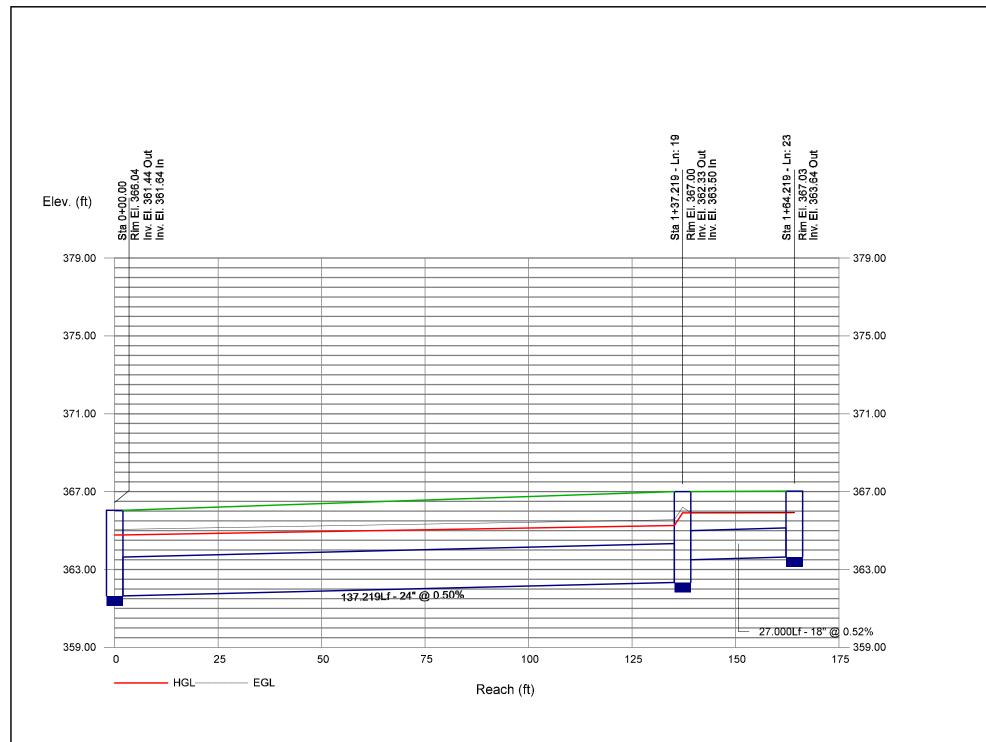
SCM #3 25-YEAR REPORT Page 2

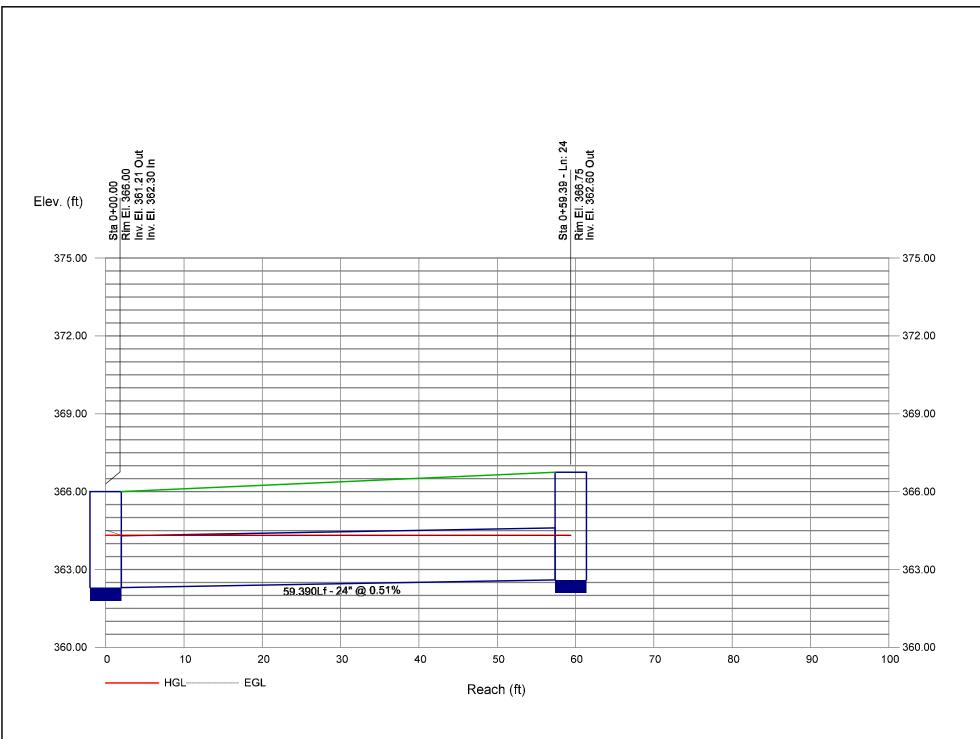
ne	Size	Q			D	ownstre	eam				Len				Upstr	eam				Chec	k	JL	Min
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)		Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)		Invert elev (ft)	HGL elev (ft)	Depth (ft)		Vel (ft/s)	Vel head (ft)	EGL elev (ft)		Sf	Enrgy loss (ft)	coeff (K)	los: (ft)
23	18	1.12	363.50	364.95	1.45	0.37	0.64	0.14	365.09	0.000	27.000	363.64	364.03	0.39**	0.37	3.01	0.14	364.18	0.000	0.000	n/a	1.00	n/
:4	24	0.28	362.30	363.01	0.71	1.00	0.28	0.00	363.01	0.002	59.390	362.60	363.01	0.41	0.46	0.60	0.01	363.02	0.018	0.010	0.006	1.00	0.
roje	ect File: S	SCM#3R	evised.stm											N	umber o	f lines: 2	24		Run	Date: 3	3/31/202	5	

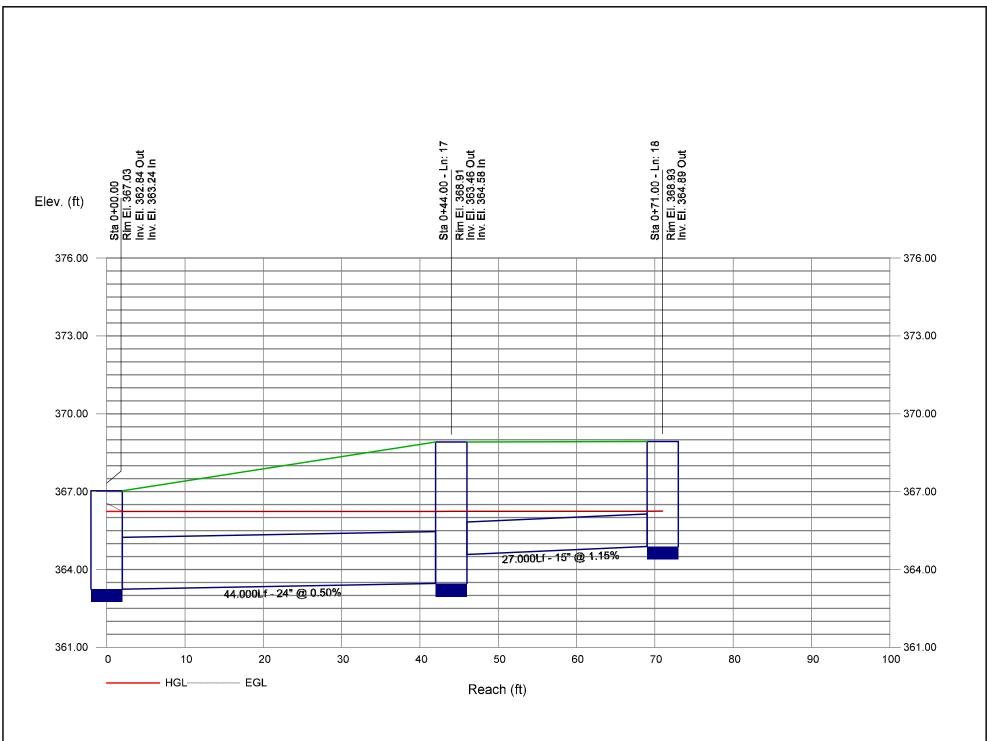


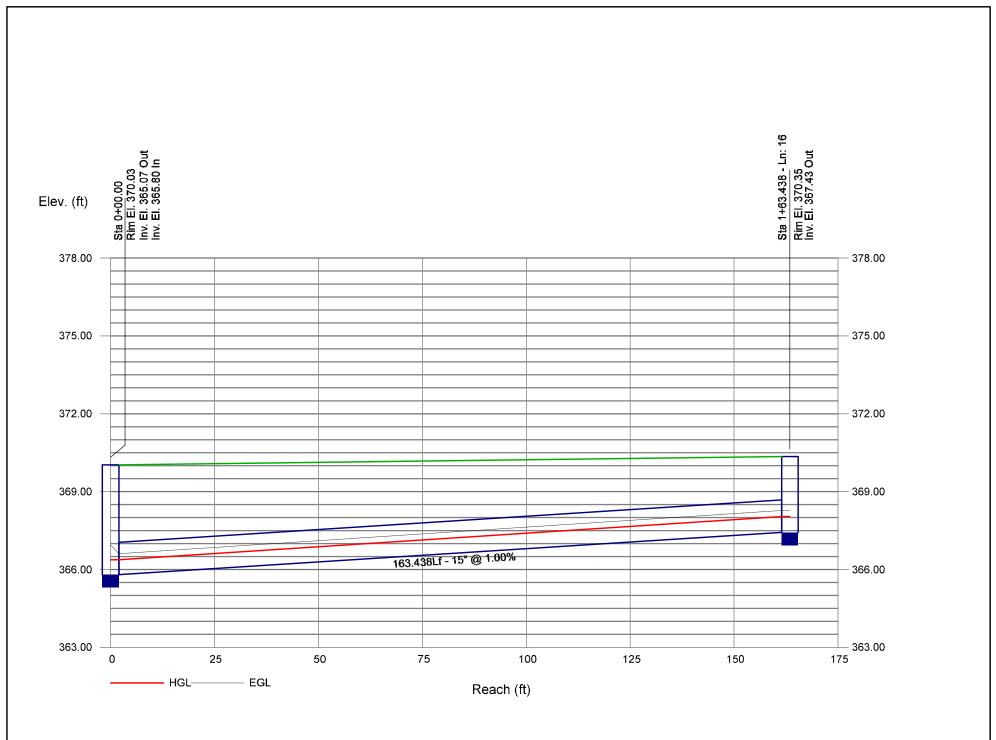




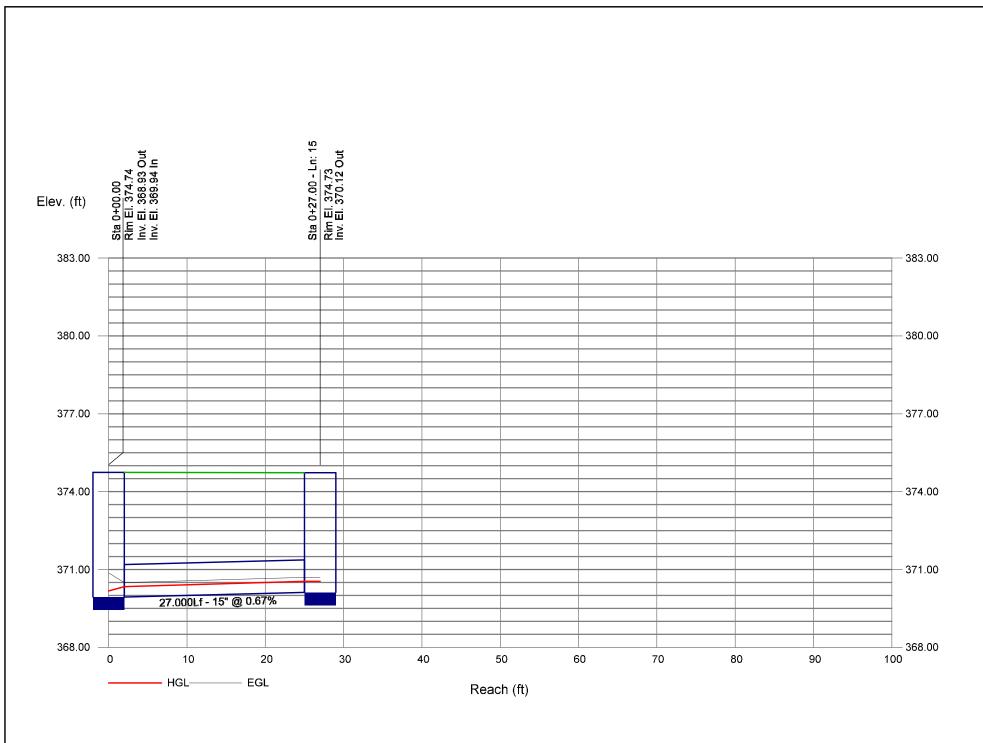


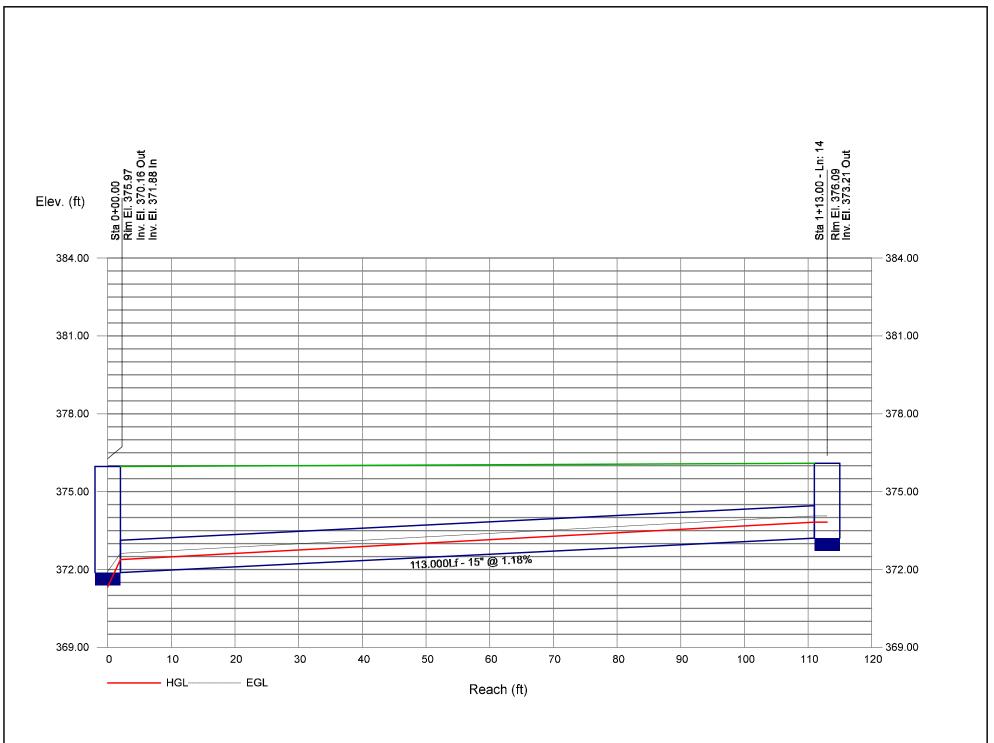




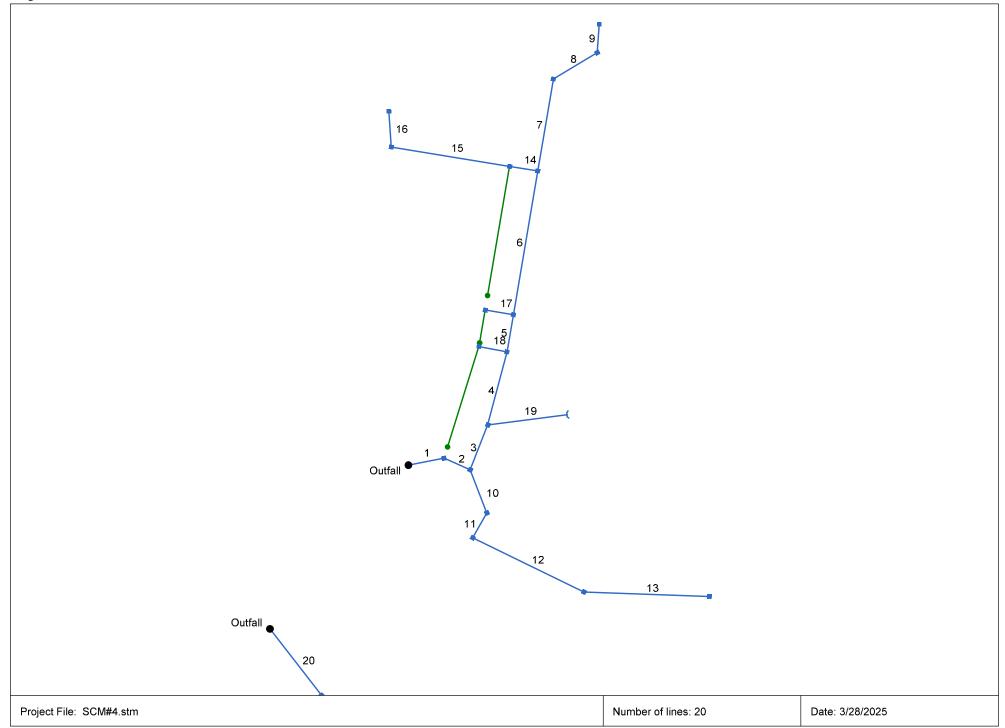


Storm Sewer Profile





Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan SCM #4 25-YEAR REPORT



Storm Sewer Inventory Report

SCM #4 25-YEAR REPORT

Page 1

Line		Aligni	ment			Flow	Data					Physical	Data				Line ID
No.	Dnstr Line No.		Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	34.253	-11.231	Comb	0.00	0.07	0.60	10.0	357.00	0.50	357.17	30	Cir	0.013	0.95	363.04	Pipe - (14)
2	1	27.000	35.364	Comb	0.00	0.04	0.60	10.0	357.27	0.52	357.41	24	Cir	0.013	1.68	363.02	Pipe - (19)
3	2	45.598	-92.825	Comb	0.00	0.03	0.60	10.0	357.60	0.50	357.83	24	Cir	0.013	1.35	362.81	Pipe - (13) (1)
4	3	71.733	-6.548	Comb	0.00	0.06	0.60	10.0	357.93	0.50	358.29	24	Cir	0.013	1.50	362.39	Pipe - (13)
5	4	35.770	-5.010	Comb	0.00	0.07	0.60	10.0	358.49	0.50	358.67	18	Cir	0.013	1.50	362.56	Pipe - (12)
6	5	138.243	-0.182	Comb	0.00	0.06	0.60	10.0	358.87	1.00	360.25	18	Cir	0.013	1.50	365.52	Pipe - (11)
7	6	88.557	0.022	Comb	0.00	0.02	0.60	10.0	360.58	4.21	364.31	15	Cir	0.013	1.19	368.85	Pipe - (9)
8	7	48.252	49.402	Comb	0.00	0.17	0.60	10.0	364.51	0.50	364.75	15	Cir	0.013	1.27	369.03	Pipe - (8)
9	8	26.989	-54.988	Comb	0.00	0.52	0.60	10.0	364.95	0.52	365.09	15	Cir	0.013	1.00	369.03	Pipe - (7)
10	2	43.911	44.750	Comb	0.00	0.15	0.60	10.0	357.60	0.50	357.82	24	Cir	0.013	1.21	362.71	Pipe - (18)
11	10	27.000	50.538	Comb	0.00	0.19	0.60	10.0	358.02	1.00	358.29	18	Cir	0.013	1.50	362.73	Pipe - (17)
12	11	116.822	-93.303	Comb	0.00	0.07	0.60	10.0	358.79	3.00	362.29	15	Cir	0.013	0.69	368.09	Pipe - (16)
13	12	118.495	-24.005	Comb	0.00	0.25	0.60	10.0	363.30	3.00	366.85	15	Cir	0.013	1.00	372.03	Pipe - (15)
14	6	26.980	-90.285	Comb	0.00	0.16	0.60	10.0	360.45	0.48	360.58	15	Cir	0.013	0.50	365.51	Pipe - (10)
15	14	113.243	0.000	мн	0.00	0.00	0.60	10.0	360.69	0.50	361.26	15	Cir	0.013	0.98	366.21	Pipe - (181)
16	15	34.087	76.970	DrGrt	0.00	0.68	0.60	10.0	361.36	0.50	361.53	15	Cir	0.013	1.00	363.50	Pipe - (180)
17	5	27.000	-90.174	Comb	0.00	0.07	0.60	10.0	358.97	0.52	359.11	15	Cir	0.013	1.00	361.82	Pipe - (20)
18	4	27.000	-94.006	Comb	0.00	0.08	0.60	10.0	358.68	0.74	358.88	15	Cir	0.013	1.00	361.65	Pipe - (21)
19	3	75.640	61.294	Hdwl	0.00	1.03	0.60	10.0	358.53	0.50	358.91	18	Cir	0.013	1.00	360.20	Pipe - (163)
20	End	79.656	52.362	DrGrt	0.00	1.73	0.60	10.0	356.95	0.50	357.35	18	Cir	0.013	1.00	359.68	Pipe - (24)(0)
Project	t File: SCN	/#4.stm										Number	of lines: 20			Date: 3	/28/2025

Structure Report

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Struct Struct No.	Structure ID	Junction	Rim		Structure			Line Out		Line In			
NO.		Туре	Elev (ft)	Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)	
1	CB 401	Combination	363.04	Rect	4.00	4.00	30	Cir	357.17	24	Cir	357.27	
2	CB 402	Combination	363.02	Rect	4.00	4.00	24	Cir	357.41	24 24	Cir Cir	357.60 357.60	
3	CB 407	Combination	362.81	Rect	4.00	4.00	24	Cir	357.83	24 18	Cir Cir	357.93 358.53	
4	CB 408	Combination	362.39	Rect	4.00	4.00	24	Cir	358.29	18	Cir Cir	358.49 358.68	
5	CB 409	Combination	362.56	Rect	4.00	4.00	18	Cir	358.67	18 15	Cir Cir	358.87 358.97	
6	CB 410	Combination	365.52	Rect	4.00	4.00	18	Cir	360.25	15 15	Cir Cir	360.58 360.45	
7	CB 411	Combination	368.85	Rect	4.00	4.00	15	Cir	364.31	15	Cir	364.51	
8	CB 412	Combination	369.03	Rect	4.00	4.00	15	Cir	364.75	15	Cir	364.95	
9	CB 413	Combination	369.03	Rect	4.00	4.00	15	Cir	365.09				
10	CB 403	Combination	362.71	Rect	4.00	4.00	24	Cir	357.82	18	Cir	358.02	
11	CB 404	Combination	362.73	Rect	4.00	4.00	18	Cir	358.29	15	Cir	358.79	
12	CB 405	Combination	368.09	Rect	4.00	4.00	15	Cir	362.29	15	Cir	363.30	
13	CB 406	Combination	372.03	Rect	4.00	4.00	15	Cir	366.85				
14	CB 410A	Combination	365.51	Rect	4.00	4.00	15	Cir	360.58	15	Cir	360.69	
15	JB 410B	Manhole	366.21	Rect	4.00	4.00	15	Cir	361.26	15	Cir	361.36	
16	YI 410C	DropGrate	363.50	Rect	4.00	4.00	15	Cir	361.53				
17	CB 409A	Combination	361.82	Rect	4.00	4.00	15	Cir	359.11				
18	CB 408A	Combination	361.65	Rect	4.00	4.00	15	Cir	358.88				
19	FES 407A	OpenHeadwall	360.20	n/a	n/a	n/a	18	Cir	358.91				
20	YI 421	DropGrate	359.68	Rect	4.00	4.00	18	Cir	357.35				
Project	File: SCM#4.stm						Nui	mber of Structu	res: 20	Run I	Date: 3/28/202	5	

Storm Sewer Summary Report

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Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (14)	13.44	30	Cir	34.253	357.00	357.17	0.496	359.00	358.40	0.46	358.40	End	Combination
2	Pipe - (19)	13.22	24	Cir	27.000	357.27	357.41	0.519	358.64	358.78	0.87	359.65	1	Combination
3	Pipe - (13) (1)	10.76	24	Cir	45.598	357.60	357.83	0.504	359.65	359.74	0.25	359.99	2	Combination
4	Pipe - (13)	7.01	24	Cir	71.733	357.93	358.29	0.502	359.99	360.05	0.13	360.18	3	Combination
5	Pipe - (12)	6.52	18	Cir	35.770	358.49	358.67	0.503	360.18*	360.32*	0.32	360.64	4	Combination
6	Pipe - (11)	6.24	18	Cir	138.243	358.87	360.25	0.998	360.64	361.21	n/a	361.21 j	5	Combination
7	Pipe - (9)	2.79	15	Cir	88.557	360.58	364.31	4.212	361.21	364.98	0.32	364.98	6	Combination
8	Pipe - (8)	2.73	15	Cir	48.252	364.51	364.75	0.497	365.21	365.45	0.30	365.75	7	Combination
9	Pipe - (7)	2.07	15	Cir	26.989	364.95	365.09	0.519	365.75	365.77	0.15	365.91	8	Combination
10	Pipe - (18)	2.48	24	Cir	43.911	357.60	357.82	0.501	359.65	359.65	0.01	359.67	2	Combination
11	Pipe - (17)	1.94	18	Cir	27.000	358.02	358.29	1.000	359.67	359.67	0.03	359.70	10	Combination
12	Pipe - (16)	1.25	15	Cir	116.822	358.79	362.29	2.996	359.70	362.73	n/a	362.73 j	11	Combination
13	Pipe - (15)	1.00	15	Cir	118.495	363.30	366.85	2.996	363.55	367.24	0.14	367.24	12	Combination
14	Pipe - (10)	3.27	15	Cir	26.980	360.45	360.58	0.482	361.24	361.37	0.12	361.50	6	Combination
15	Pipe - (181)	2.69	15	Cir	113.243	360.69	361.26	0.503	361.50	361.92	0.25	362.18	14	Manhole
16	Pipe - (180)	2.71	15	Cir	34.087	361.36	361.53	0.499	362.18	362.25	0.21	362.46	15	DropGrate
17	Pipe - (20)	0.28	15	Cir	27.000	358.97	359.11	0.518	360.64*	360.64*	0.00	360.64	5	Combination
18	Pipe - (21)	0.32	15	Cir	27.000	358.68	358.88	0.741	360.18*	360.18*	0.00	360.18	4	Combination
19	Pipe - (163)	4.10	18	Cir	75.640	358.53	358.91	0.502	359.99	360.07	0.12	360.19	3	OpenHeadwall
20	Pipe - (24)(0)	6.89	18	Cir	79.656	356.95	357.35	0.502	358.45	358.76	0.25	359.01	End	DropGrate
Projec	t File: SCM#4.stm								Number o	of lines: 20		Run	Date: 3/28	/2025

Inlet Report

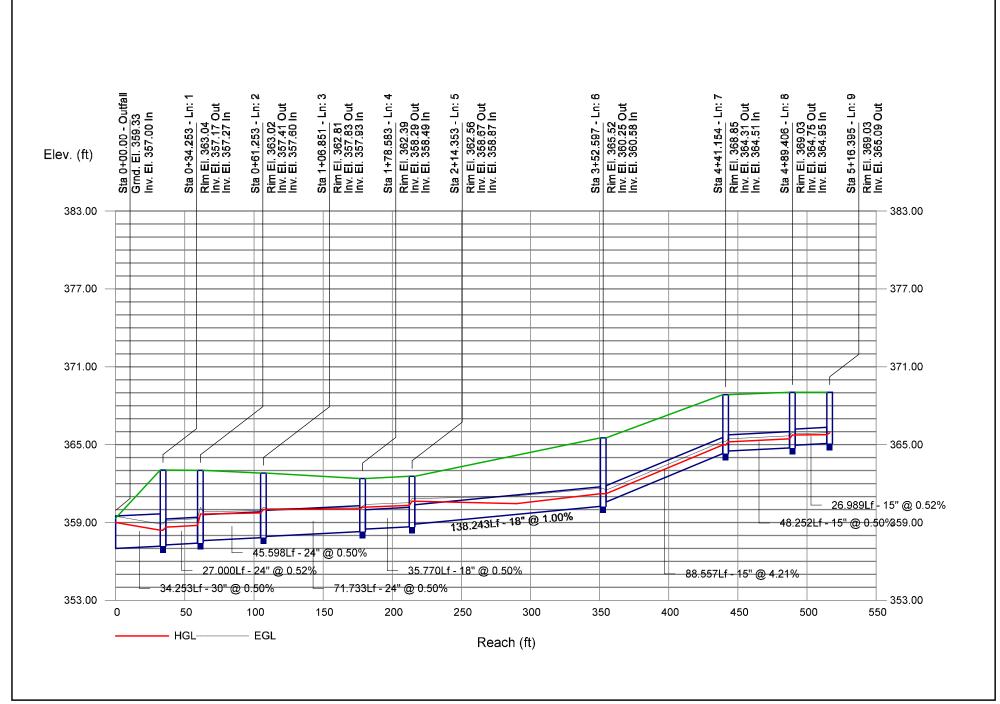
SCM #4 25-YEAR REPORT

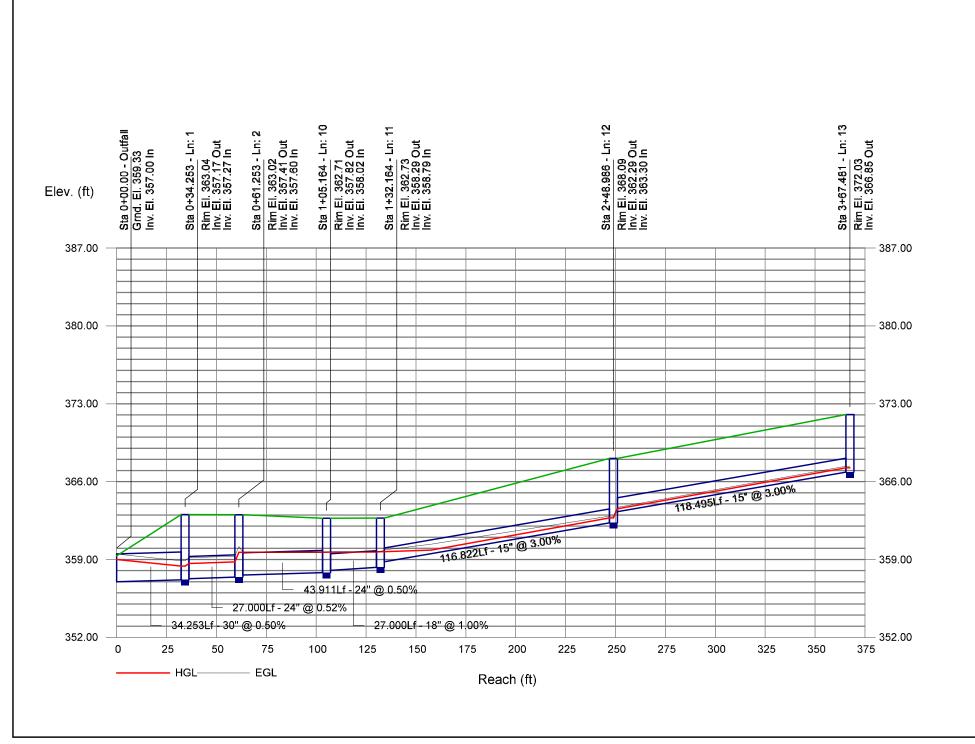
Line	Inlet ID	Q =	Q	Q	Q	Junc	Curb Ir	nlet	Gra	ate Inlet				G	utter					Inlet			
No		CIA (cfs)	carry (cfs)	capt (cfs)	Byp (cfs)	Туре	Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)		Spread (ft)	Depr (in)	Line No	
1	CB 401	0.28	0.00	0.28	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.52	0.00	0.00	0.0	Off	
2	CB 402	0.16	0.00	0.16	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.07	1.23	0.00	0.00	0.0	Off	
3	CB 407	0.12	0.00	0.12	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.07	1.10	0.00	0.00	0.0	2	
4	CB 408	0.24	0.00	0.24	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.43	0.00	0.00	0.0	Off	
5	CB 409	0.28	0.00	0.28	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.52	0.00	0.00	0.0	4	
6	CB 410	0.24	0.00	0.24	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.43	0.00	0.00	0.0	5	
7	CB 411	0.08	0.02	0.10	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.06	1.05	0.00	0.00	0.0	6	
8	CB 412	0.68	0.32	0.97	0.02	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.15	3.27	0.04	0.61	0.0	7	
9	CB 413	2.07	0.00	1.76	0.32	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.18	5.24	0.10	1.59	0.0	8	
10	CB 403	0.60	0.00	0.60	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.12	2.05	0.00	0.00	0.0	2	
11	CB 404	0.76	0.00	0.75	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.61	0.02	0.26	0.0	Off	
12	CB 405	0.28	0.03	0.30	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.57	0.00	0.00	0.0	11	
13	CB 406	1.00	0.00	0.97	0.03	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.15	3.28	0.04	0.62	0.0	12	
14	CB 410A	0.64	0.00	0.64	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.12	2.20	0.00	0.00	0.0	17	
15	JB 410B	0.00	0.00	0.00	0.00	мн	0.0	0.00	0.00	0.00	0.00	Sag	2.00	0.060	0.020	0.013	0.00	0.00	0.00	0.00	0.0	Off	
16	YI 410C	2.71	0.00	2.71	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.19	21.37	0.19	21.37	0.0	Off	
17	CB 409A	0.28	0.00	0.28	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.52	0.00	0.00	0.0	18	
18	CB 408A	0.32	0.00	0.32	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.10	1.59	0.00	0.00	0.0	1	
19	FES 407A	4.10	0.00	4.10	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	2.00	0.060	0.020	0.013	0.00	0.00	0.00	0.00	0.0	Off	
20	YI 421	6.89	0.00	6.89	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.35	37.68	0.35	37.68	0.0	Off	
Proie	ct File: SCM#4.stm											<u> </u>		Number	of lines:	20		R	un Date:	3/28/202	 5		
						. 14 00		Deter		05 1/	. * !!'												
NOTE	ES: Inlet N-Values =	= 0.016; Inte	ensity = 6	52.86 / (I)	nlet time	+ 11.00)) ^ 0.74;	Return	period =	25 Yrs.	; * Indic	ates Knc	own Q a	dded.All	curb inle	ts are th	iroat.						

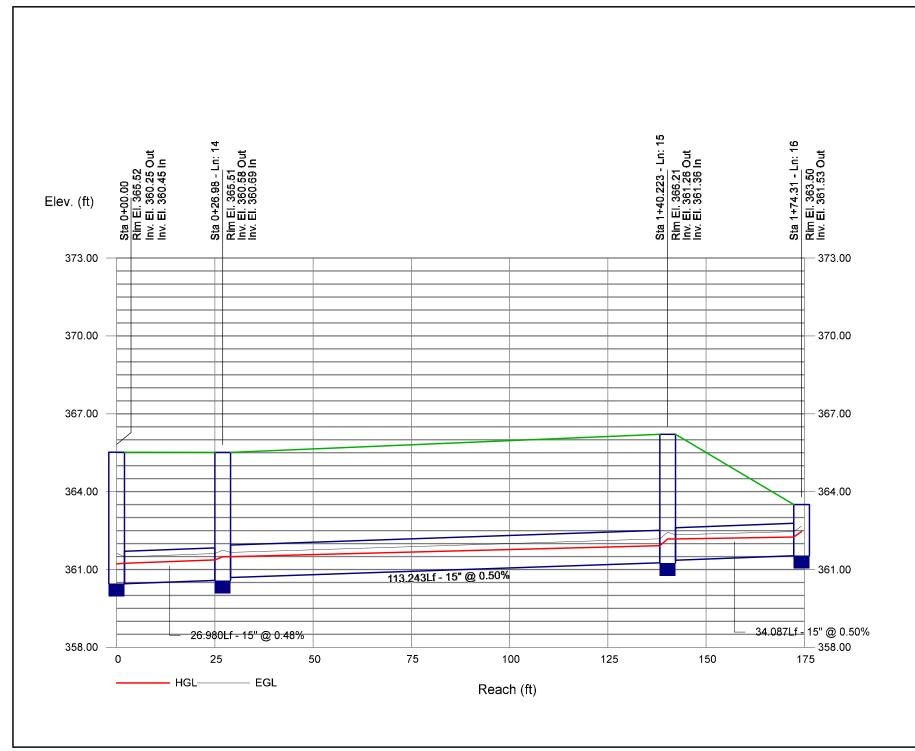
Hydraulic Grade Line Computations

SCM #4 25-YEAR REPORT Page 1

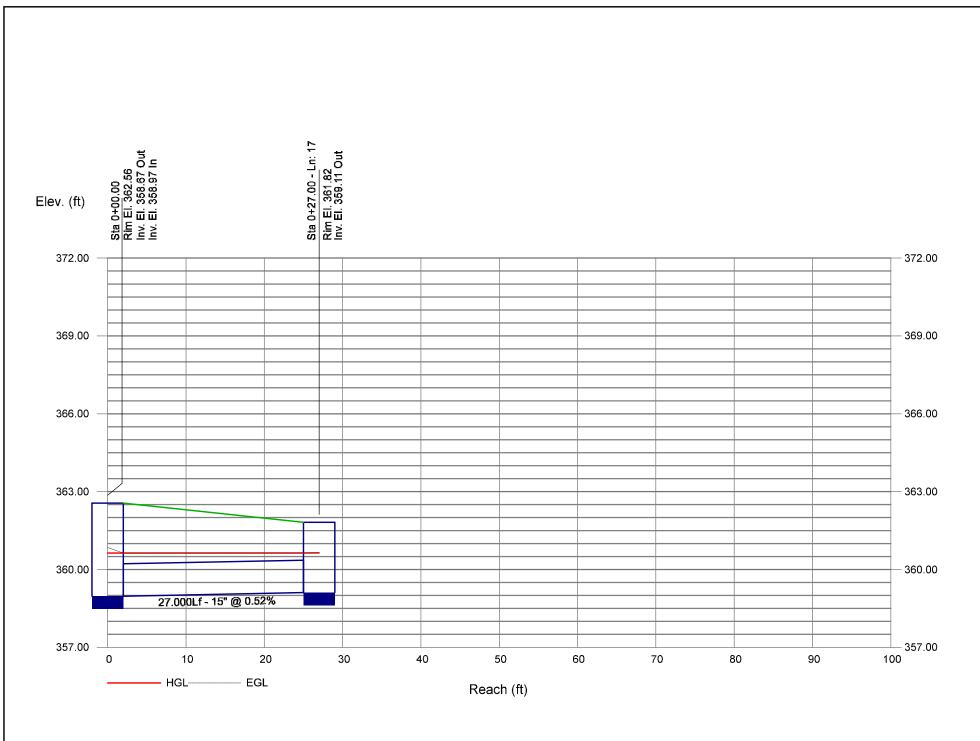
ine	Size	Q			D	ownstre	eam				Len				Upst	ream		Chec	k	JL	Mino		
	(in)	(cfs)	lnvert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	lnvert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	-coeff (K)	loss (ft)
1	30	13.44	357.00	359.00	2.00	2.41	3.19	0.48	359.48	0.000	34.253	357.17	358.40	1.23**	2.41	5.58	0.48	358.89	0.000	0.000	n/a	0.95	0.46
2	24	13.22	357.27	358.64	1.37*	2.29	5.77	0.52	359.16	0.518	27.000	357.41	358.78	1.37	2.29	5.77	0.52	359.30	0.518	0.518	0.140	1.68	0.87
3	24	10.76	357.60	359.65	2.00	3.14	3.43	0.18	359.83	0.226	45.598	357.83	359.74	1.91	3.09	3.48	0.19	359.93	0.196	0.211	0.096	1.35	0.25
4	24	7.01	357.93	359.99	2.00	3.14	2.23	0.08	360.07	0.096	71.733	358.29	360.05	1.76	2.92	2.40	0.09	360.14	0.087	0.091	0.065	1.50	0.13
5	18	6.52	358.49	360.18	1.50	1.77	3.69	0.21	360.39	0.386	35.770	358.67	360.32	1.50	1.77	3.69	0.21	360.53	0.386	0.386	0.138	1.50	0.32
6	18	6.24	358.87	360.64	1.50	1.20	3.53	0.19	360.83	0.353	138.24	3360.25	361.21 j	0.96**	1.20	5.19	0.42	361.63	0.636	0.495	n/a	1.50	n/a
7	15	2.79	360.58	361.21	0.63	0.63	4.46	0.27	361.48	0.000	88.557	364.31	364.98	0.67**	0.67	4.17	0.27	365.25	0.000	0.000	n/a	1.19	0.32
8	15	2.73	364.51	365.21	0.70*	0.70	3.88	0.23	365.44	0.497	48.252	364.75	365.45	0.70	0.70	3.88	0.23	365.68	0.499	0.498	0.240	1.27	0.30
9	15	2.07	364.95	365.75	0.79	0.82	2.52	0.10	365.84	0.191	26.989	365.09	365.77	0.68	0.68	3.06	0.15	365.91	0.316	0.254	0.069	1.00	0.15
10	24	2.48	357.60	359.65	2.00	3.14	0.79	0.01	359.66	0.012	43.911	357.82	359.65	1.83	3.02	0.82	0.01	359.66	0.010	0.011	0.005	1.21	0.01
11	18	1.94	358.02	359.67	1.50	1.77	1.10	0.02	359.69	0.034	27.000	358.29	359.67	1.38	1.70	1.14	0.02	359.69	0.030	0.032	0.009	1.50	0.03
12	15	1.25	358.79	359.70	0.91	0.39	1.31	0.16	359.87	0.000	116.82	2362.29	362.73 j	0.44**	0.39	3.24	0.16	362.89	0.000	0.000	n/a	0.69	0.11
13	15	1.00	363.30	363.55	0.25*	0.18	5.62	0.14	363.69	0.000	118.49	5366.85	367.24	0.39**	0.33	3.03	0.14	367.38	0.000	0.000	n/a	1.00	0.14
14	15	3.27	360.45	361.24	0.79*	0.82	3.98	0.25	361.49	0.482	26.980	360.58	361.37	0.79	0.82	3.99	0.25	361.62	0.482	0.482	0.130	0.50	0.12
15	15	2.69	360.69	361.50	0.81	0.65	3.22	0.16	361.66	0.312	113.24	3361.26	361.92	0.66**	0.66	4.09	0.26	362.18	0.577	0.444	0.503	0.98	0.25
16	15	2.71	361.36	362.18	0.82	0.85	3.19	0.16	362.33	0.304	34.087	361.53	362.25	0.72	0.73	3.71	0.21	362.46	0.445	0.374	0.128	1.00	0.21
17	15	0.28	358.97	360.64	1.25	1.23	0.23	0.00	360.64	0.002	27.000	359.11	360.64	1.25	1.23	0.23	0.00	360.64	0.002	0.002	0.001	1.00	0.00
18	15	0.32	358.68	360.18	1.25	1.23	0.26	0.00	360.18	0.002	27.000	358.88	360.18	1.25	1.23	0.26	0.00	360.18	0.002	0.002	0.001	1.00	0.00
19	18	4.10	358.53	359.99	1.46	1.76	2.34	0.08	360.08	0.135		358.91	360.07	1.16	1.47	2.79	0.12	360.19	0.170	0.153	0.116	1.00	0.12
20	18	6.89	356.95	358.45	1.50*	1.77	3.90	0.24	358.69	0.431	79.656	357.35	358.76	1.41	1.72	4.00	0.25	359.01	0.372	0.401	0.320	1.00	0.25
Proj	ect File: \$	SCM#4.s	stm											 N	umber c	f lines: 2	20		Rur	Date: 3	3/28/202	5	



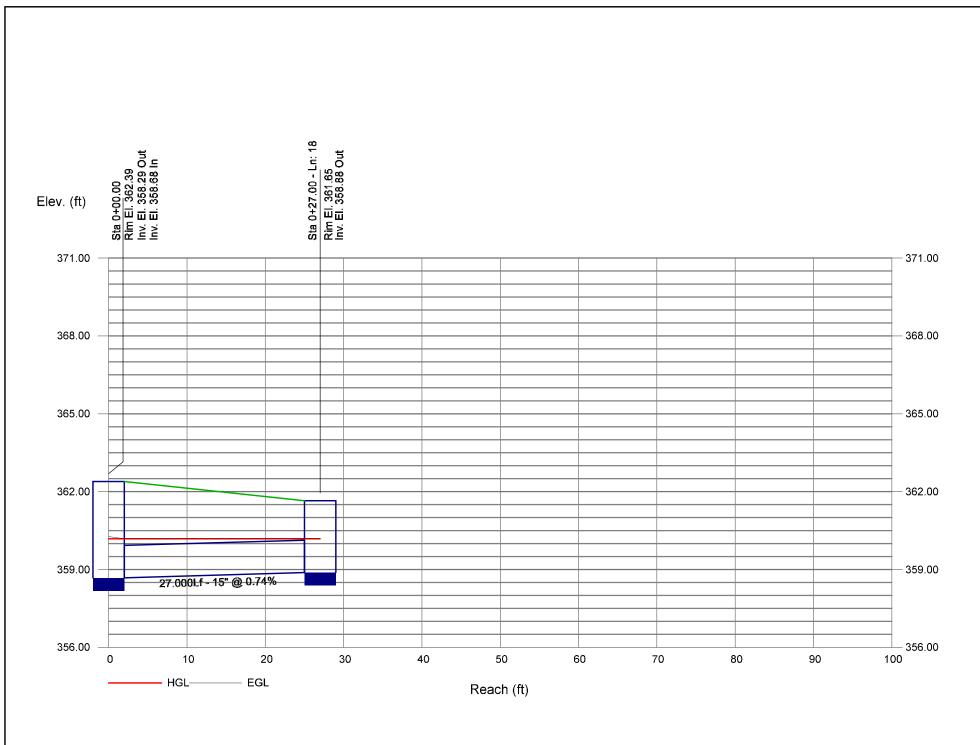


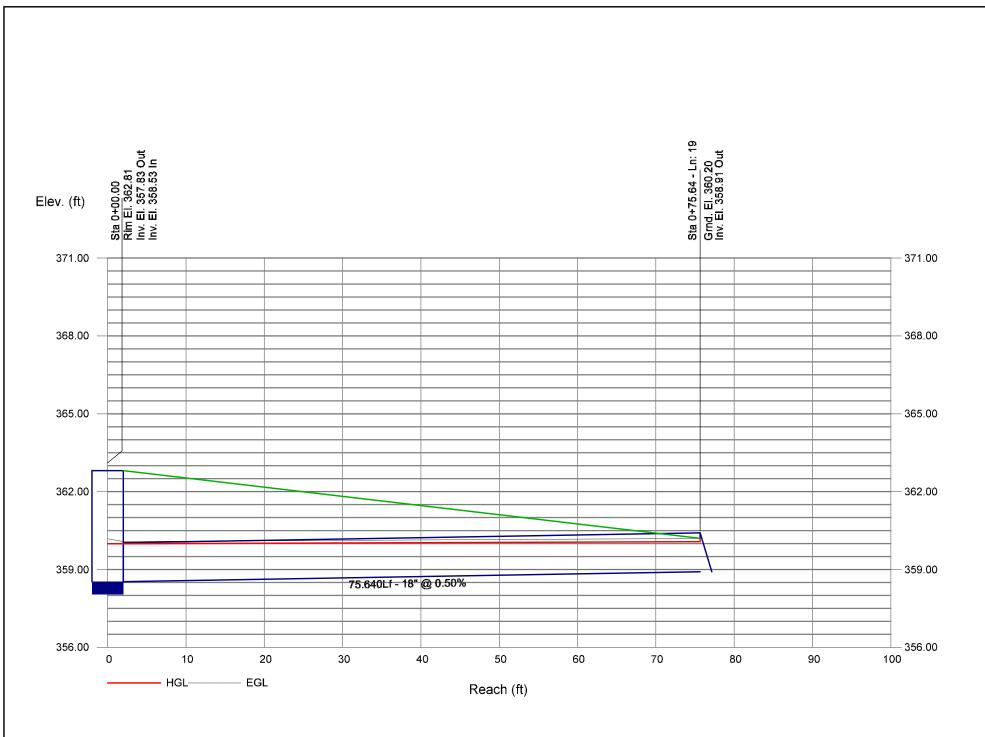


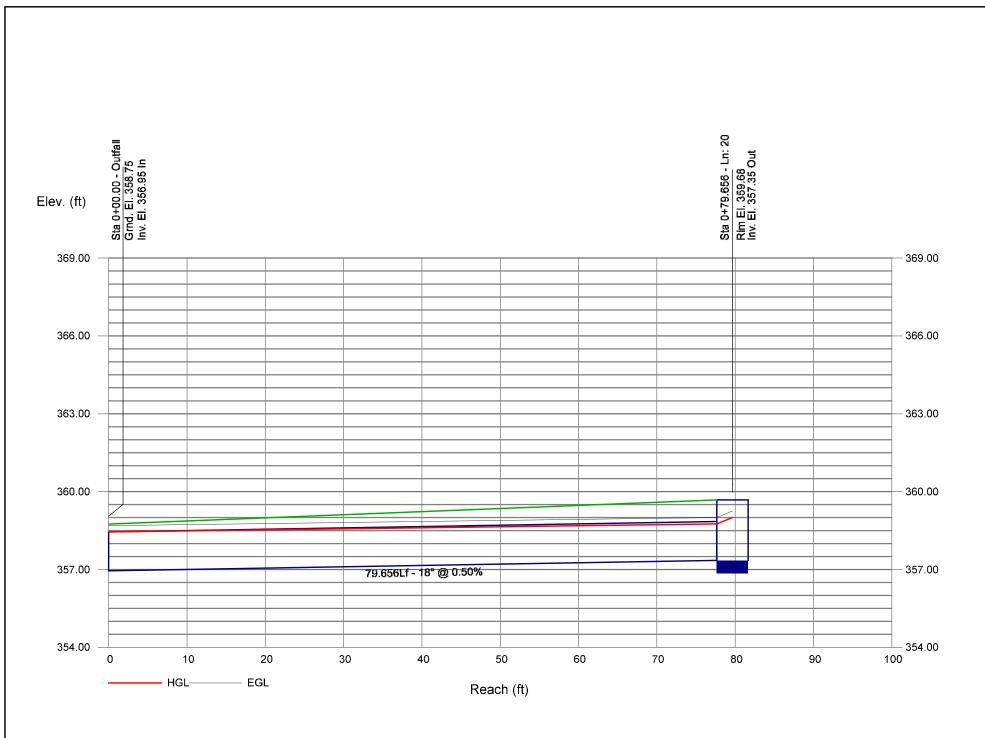
Storm Sewer Profile



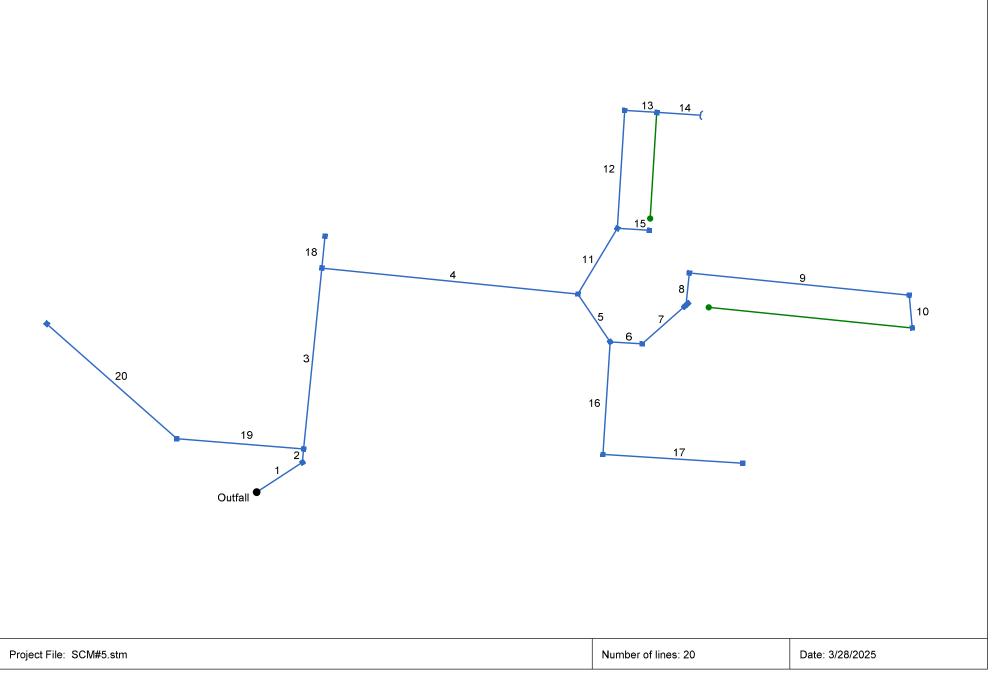
Storm Sewer Profile







Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan SCM #5 25-YEAR REPORT



Storm Sewer Inventory Report

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Line		Alignr	nent			Flow	Data					Physical	Data				Line ID
No.	Dnstr Line No.		Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	45.553	-33.168	DrGrt	0.00	0.74	0.60	10.0	346.92	0.50	347.15	30	Cir	0.013	1.22	350.87	Pipe - (39)
2	1	11.310	-51.139	DrGrt	0.00	0.13	0.60	10.0	347.35	0.53	347.41	30	Cir	0.013	1.50	351.17	Pipe - (38) (1)
3	2	152.248	0.000	Comb	0.00	0.38	0.60	10.0	347.61	2.00	350.66	30	Cir	0.013	1.50	357.04	Pipe - (38)
4	3	215.399	90.101	Comb	0.00	0.04	0.60	10.0	351.06	4.69	361.17	24	Cir	0.013	1.38	366.04	Pipe - (37)
5	4	48.260	50.241	Comb	0.00	0.25	0.60	10.0	361.37	0.99	361.85	18	Cir	0.013	1.49	367.77	Pipe - (36)
6	5	27.000	-52.412	Comb	0.00	0.38	0.60	10.0	362.35	0.52	362.49	18	Cir	0.013	1.13	367.48	Pipe - (35)
7	6	49.032	-45.200	Comb	0.00	0.17	0.60	10.0	362.69	0.51	362.94	15	Cir	0.013	1.08	367.00	Pipe - (34)
8	7	27.000	-42.628	Comb	0.00	0.24	0.60	10.0	363.14	0.52	363.28	15	Cir	0.013	1.50	367.00	Pipe - (33)
9	8	184.905	90.000	Comb	0.00	0.24	0.60	10.0	363.48	3.50	369.95	15	Cir	0.013	1.48	374.03	Pipe - (31)
10	9	27.526	78.789	Comb	0.00	0.11	0.60	10.0	370.15	1.02	370.43	15	Cir	0.013	1.00	374.10	Pipe - (30)
11	4	64.208	-64.883	Comb	0.00	0.06	0.60	10.0	362.27	1.32	363.12	15	Cir	0.013	1.36	368.61	Pipe - (44)
12	11	98.954	-27.289	Comb	0.00	0.12	0.60	10.0	363.62	3.00	366.59	15	Cir	0.013	1.50	371.62	Pipe - (150)
13	12	27.000	90.000	Comb	0.00	0.13	0.60	10.0	367.09	1.52	367.50	15	Cir	0.013	0.50	371.63	Pipe - (28)
14	13	36.500	0.000	Hdwl	0.00	1.42	0.60	10.0	367.70	1.62	368.29	15	Cir	0.013	1.00	369.81	Pipe - (176)
15	11	27.000	62.711	Comb	0.00	0.06	0.60	10.0	364.00	0.89	364.24	15	Cir	0.013	1.00	368.57	Pipe - (43)
16	5	94.508	37.588	Comb	0.00	0.14	0.60	10.0	362.69	0.50	363.16	15	Cir	0.013	1.50	368.66	Pipe - (42)
17	16	117.000	-90.000	DrGrt	0.00	0.75	0.60	10.0	363.36	0.50	363.95	15	Cir	0.013	1.00	367.63	Pipe - (168)
18	3	27.001	0.467	Comb	0.00	0.34	0.60	10.0	353.30	0.52	353.44	15	Cir	0.013	1.00	357.04	Pipe - (40)
19	2	106.328	-91.098	DrGrt	0.00	0.28	0.60	10.0	347.82	0.50	348.35	15	Cir	0.013	0.98	351.81	Pipe - (183)
20	19	145.494	36.855	DrGrt	0.00	0.46	0.60	10.0	348.45	0.50	349.18	15	Cir	0.013	1.00	353.72	Pipe - (182)
Project	t File: SCM#5.stm							<u> </u>		<u> </u>		Number o	of lines: 20			Date: 3	/28/2025

Structure Report

SCM #5 25-YEAR REPORT

Struct No.	Structure ID	Junction	Rim Elev		Structure			Line Out			Line In	
NO.		Туре	(ft)	Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	YI 501	DropGrate	350.87	Rect	4.00	4.00	30	Cir	347.15	30	Cir	347.35
2	YI 501A	DropGrate	351.17	Rect	4.00	4.00	30	Cir	347.41	30 15	Cir Cir	347.61 347.82
3	CB 502	Combination	357.04	Rect	4.00	4.00	30	Cir	350.66	24 15	Cir Cir	351.06 353.30
4	CB 504	Combination	366.04	Rect	4.00	4.00	24	Cir	361.17	18 15	Cir Cir	361.37 362.27
5	CB 505	Combination	367.77	Rect	4.00	4.00	18	Cir	361.85	18 15	Cir Cir	362.35 362.69
6	CB 506	Combination	367.48	Rect	4.00	4.00	18	Cir	362.49	15	Cir	362.69
7	CB 507	Combination	367.00	Rect	8.00	4.00	15	Cir	362.94	15	Cir	363.14
8	CB 508	Combination	367.00	Rect	4.00	4.00	15	Cir	363.28	15	Cir	363.48
9	CB 514	Combination	374.03	Rect	4.00	4.00	15	Cir	369.95	15	Cir	370.15
10	CB 515	Combination	374.10	Rect	4.00	4.00	15	Cir	370.43			
11	CB 511	Combination	368.61	Rect	4.00	4.00	15	Cir	363.12	15 15	Cir Cir	363.62 364.00
12	CB 517	Combination	371.62	Rect	4.00	4.00	15	Cir	366.59	15	Cir	367.09
13	CB 516	Combination	371.63	Rect	4.00	4.00	15	Cir	367.50	15	Cir	367.70
14	FES 516A	OpenHeadwall	369.81	n/a	n/a	n/a	15	Cir	368.29			
15	CB 510	Combination	368.57	Rect	4.00	4.00	15	Cir	364.24			
16	CB 513	Combination	368.66	Rect	4.00	4.00	15	Cir	363.16	15	Cir	363.36
17	YI 513A	DropGrate	367.63	Rect	4.00	4.00	15	Cir	363.95			
18	CB 503	Combination	357.04	Rect	4.00	4.00	15	Cir	353.44			
19	YI 501B	DropGrate	351.81	Rect	4.00	4.00	15	Cir	348.35	15	Cir	348.45
20	YI 501C	DropGrate	353.72	Rect	4.00	4.00	15	Cir	349.18			
Project I	File: SCM#5.stm						Nui	mber of Structu	res: 20	Run [Date: 3/28/202	5

Storm Sewer Summary Report

SCM #5 25-YEAR REPORT

Pipe - (39)		1		length (ft)	EL Dn (ft)	EL Up (ft)	Slope (%)	Down (ft)	Up (ft)	loss (ft)	Junct (ft)	Line No.	Туре
	23.30	30	Cir	45.553	346.92	347.15	0.505	348.95	349.05	0.65	349.69	End	DropGrate
Pipe - (38) (1)	20.65	30	Cir	11.310	347.35	347.41	0.530	349.69	348.95	0.98	348.95	1	DropGrate
Pipe - (38)	17.71	30	Cir	152.248	347.61	350.66	2.003	348.95	352.08	n/a	352.08	2	Combination
Pipe - (37)	15.29	24	Cir	215.399	351.06	361.17	4.694	352.08	362.58	0.90	362.58	3	Combination
Pipe - (36)	8.52	18	Cir	48.260	361.37	361.85	0.995	362.58	362.98	n/a	362.98 j	4	Combination
Pipe - (35)	4.27	18	Cir	27.000	362.35	362.49	0.518	363.16	363.30	0.34	363.64	5	Combination
Pipe - (34)	2.87	15	Cir	49.032	362.69	362.94	0.510	363.64	363.72	0.21	363.93	6	Combination
Pipe - (33)	2.24	15	Cir	27.000	363.14	363.28	0.518	363.93	363.96	0.25	364.21	7	Combination
Pipe - (31)	1.38	15	Cir	184.905	363.48	369.95	3.499	364.21	370.41	n/a	370.41 j	8	Combination
Pipe - (30)	0.44	15	Cir	27.526	370.15	370.43	1.017	370.41	370.69	n/a	370.69 j	9	Combination
Pipe - (44)	7.04	15	Cir	64.208	362.27	363.12	1.324	363.24	364.18	0.85	364.18	4	Combination
Pipe - (150)	6.61	15	Cir	98.954	363.62	366.59	3.001	364.31	367.62	n/a	367.62	11	Combination
Pipe - (28)	6.15	15	Cir	27.000	367.09	367.50	1.519	367.92	368.50	0.27	368.50	12	Combination
Pipe - (176)	5.66	15	Cir	36.500	367.70	368.29	1.616	368.50	369.25	n/a	369.25	13	OpenHeadwall
Pipe - (43)	0.24	15	Cir	27.000	364.00	364.24	0.889	364.18	364.43	0.07	364.43	11	Combination
Pipe - (42)	3.48	15	Cir	94.508	362.69	363.16	0.497	363.51	363.98	0.39	364.37	5	Combination
Pipe - (168)	2.99	15	Cir	117.000	363.36	363.95	0.504	364.37	364.68	0.25	364.93	16	DropGrate
Pipe - (40)	1.35	15	Cir	27.001	353.30	353.44	0.519	353.76	353.90	0.17	354.07	3	Combination
Pipe - (183)	2.86	15	Cir	106.328	347.82	348.35	0.498	348.95	349.14	0.19	349.33	2	DropGrate
Pipe - (182)	1.83	15	Cir	145.494	348.45	349.18	0.502	349.33	349.72	n/a	349.72 j	19	DropGrate
ile: SCM#5.stm		1		1	1			Number	of lines: 20		Run I	Date: 3/28/	/2025
i	Pipe - (37) Pipe - (36) Pipe - (35) Pipe - (34) Pipe - (33) Pipe - (31) Pipe - (30) Pipe - (44) Pipe - (44) Pipe - (150) Pipe - (28) Pipe - (176) Pipe - (43) Pipe - (42) Pipe - (42) Pipe - (168) Pipe - (183) Pipe - (182) Pipe - (182)	Pipe - (37) 15.29 Pipe - (36) 8.52 Pipe - (35) 4.27 Pipe - (34) 2.87 Pipe - (33) 2.24 Pipe - (31) 1.38 Pipe - (30) 0.44 Pipe - (30) 0.44 Pipe - (150) 6.61 Pipe - (150) 6.61 Pipe - (176) 5.66 Pipe - (42) 3.48 Pipe - (168) 2.99 Pipe - (183) 2.86 Pipe - (182) 1.83	Pipe - (37) 15.29 24 Pipe - (36) 8.52 18 Pipe - (35) 4.27 18 Pipe - (34) 2.87 15 Pipe - (33) 2.24 15 Pipe - (31) 1.38 15 Pipe - (30) 0.44 15 Pipe - (44) 7.04 15 Pipe - (150) 6.61 15 Pipe - (176) 5.66 15 Pipe - (42) 3.48 15 Pipe - (42) 3.48 15 Pipe - (168) 2.99 15 Pipe - (182) 1.83 15	Pipe - (37) 15.29 24 Cir Pipe - (36) 8.52 18 Cir Pipe - (35) 4.27 18 Cir Pipe - (34) 2.87 15 Cir Pipe - (33) 2.24 15 Cir Pipe - (31) 1.38 15 Cir Pipe - (30) 0.44 15 Cir Pipe - (44) 7.04 15 Cir Pipe - (150) 6.61 15 Cir Pipe - (176) 5.66 15 Cir Pipe - (42) 3.48 15 Cir Pipe - (43) 0.24 15 Cir Pipe - (43) 0.24 15 Cir Pipe - (168) 2.99 15 Cir Pipe - (182) 1.83 15 Cir	Pipe - (37) 15.29 24 Cir 215.399 Pipe - (36) 8.52 18 Cir 48.260 Pipe - (35) 4.27 18 Cir 27.000 Pipe - (34) 2.87 15 Cir 49.032 Pipe - (33) 2.24 15 Cir 27.000 Pipe - (31) 1.38 15 Cir 27.000 Pipe - (30) 0.44 15 Cir 27.526 Pipe - (44) 7.04 15 Cir 27.000 Pipe - (150) 6.61 15 Cir 28.954 Pipe - (176) 5.66 15 Cir 27.000 Pipe - (42) 3.48 15 Cir 27.000 Pipe - (42) 3.48 15 Cir 27.000 Pipe - (42) 3.48 15 Cir 17.000 Pipe - (168) 2.99 15 Cir 17.001 Pipe - (182) 1.83 15 Cir 145.494 View - Cir 1.83 15 Cir 145.494 View - C	Pipe - (37)15.2924Cir215.399351.06Pipe - (36)8.5218Cir48.260361.37Pipe - (35)4.2718Cir27.000362.35Pipe - (34)2.8715Cir49.032362.69Pipe - (33)2.2415Cir27.000363.14Pipe - (31)1.3815Cir184.905363.48Pipe - (30)0.4415Cir64.208362.27Pipe - (44)7.0415Cir64.208362.27Pipe - (150)6.6115Cir98.954363.62Pipe - (28)6.1515Cir36.500367.70Pipe - (176)5.6615Cir36.500367.70Pipe - (42)3.4815Cir117.000363.36Pipe - (168)2.9915Cir117.000363.36Pipe - (182)1.8315Cir106.328347.82Pipe - (182)1.8315Cir145.494348.45	Pipe - (37)15.2924Cir215.399351.06361.17Pipe - (36)8.5218Cir48.260361.37361.85Pipe - (35)4.2718Cir27.000362.35362.49Pipe - (34)2.8715Cir49.032362.69362.34Pipe - (33)2.2415Cir27.000363.14363.28Pipe - (31)1.3815Cir184.905363.48369.95Pipe - (30)0.4415Cir27.526370.15370.43Pipe - (44)7.0415Cir86.95367.70363.12Pipe - (150)6.6115Cir36.500367.70368.29Pipe - (176)5.6615Cir36.500367.70368.29Pipe - (42)3.4815Cir94.508362.69363.16Pipe - (168)2.9915Cir117.000363.36363.95Pipe - (183)2.8615Cir106.328347.82348.35Pipe - (182)1.8315Cir145.494348.45349.18Pipe - (182)1.8315Cir145.494348.45349.18	Pipe - (37)15.2924Cir215.399351.06361.174.694Pipe - (36)8.5218Cir48.260361.37361.850.995Pipe - (35)4.2718Cir27.000362.35362.490.518Pipe - (34)2.8715Cir49.032362.69362.240.510Pipe - (33)2.2415Cir27.000363.14363.280.518Pipe - (30)0.4415Cir27.526370.15370.431.017Pipe - (30)0.4415Cir84.208362.27363.121.324Pipe - (150)6.6115Cir98.954363.62366.593.001Pipe - (176)5.6615Cir27.000364.00364.240.889Pipe - (42)3.4815Cir27.000364.00364.240.889Pipe - (168)2.9915Cir17.000363.36363.950.504Pipe - (182)1.8315Cir106.328347.82348.350.498Pipe - (182)1.8315Cir145.494348.45349.180.502Pipe - (182)1.8315Cir145.494348.45349.180.502Pipe - (182)1.8315Cir145.494348.45349.180.502	Pipe - (37) 15.29 24 Cir 215.399 351.06 361.17 4.694 352.08 Pipe - (36) 8.52 18 Cir 48.260 361.37 361.85 0.995 362.58 Pipe - (35) 4.27 18 Cir 27.000 362.35 362.49 0.518 363.16 Pipe - (33) 2.24 15 Cir 49.032 362.69 362.94 0.510 363.43 Pipe - (33) 2.24 15 Cir 27.000 363.14 363.28 0.518 363.93 Pipe - (30) 0.44 15 Cir 27.526 370.15 370.43 1.017 370.41 Pipe - (150) 6.61 15 Cir 98.954 363.62 366.59 3.001 364.18 Pipe - (176) 5.66 15 Cir 36.500 367.70 368.29 1.616 368.50 Pipe - (176) 5.66 15 Cir 27.000 367.00 364.12 9.893 364.18 Pipe - (168) 2.99 15 Cir 17.00	Pipe - (37) 15.29 24 Cir 215.399 351.06 361.17 4.694 352.08 362.58 Pipe - (36) 8.52 18 Cir 48.260 361.37 361.85 0.995 362.58 362.98 Pipe - (35) 4.27 18 Cir 49.032 362.69 362.49 0.518 363.16 363.30 Pipe - (33) 2.87 15 Cir 49.032 363.48 369.98 3.499 364.21 370.41 Pipe - (31) 1.38 15 Cir 27.56 370.15 370.43 1.017 370.41 370.41 370.41 Pipe - (30) 0.44 15 Cir 27.56 370.15 370.43 1.017 370.41 363.28 364.21 364.21 370.41 Pipe - (150) 6.61 15 Cir 98.964 363.22 365.90 3.01 364.31 364.32 369.95 3.01 364.31 367.92 365.55 Pipe - (160) 5.66 15 Cir 27.00 364.00 364.24 0.899 364.18 <td>Pipe - (37) 15.29 24 Cir 215.39 351.06 361.17 4.694 352.08 362.58 0.90 Pipe - (36) 8.52 18 Cir 42.00 361.37 361.85 0.905 362.58 362.98 362.98 362.98 362.98 363.00 0.31 Pipe - (33) 2.24 15 Cir 27.00 363.14 363.28 369.95 34.93 363.93 363.96 0.25 Pipe - (33) 2.24 15 Cir 27.00 363.14 363.28 369.95 34.99 364.21 370.41 n/a Pipe - (31) 1.38 15 Cir 27.52 370.15 370.43 1.017 370.41 370.69 n/a Pipe - (30) 0.44 15 Cir 87.56 370.15 370.43 1.017 363.24 364.18 0.85 Pipe - (30) 6.61 15 Cir 87.50 367.01 363.12 1.324 364.31 367.62 n/a Pipe - (150) 6.61 15 Cir 7.00 367.00<!--</td--><td>Pipe - (37) 15.29 24 Cir 215.39 351.06 361.17 4.694 352.08 362.80 0.90 362.78 Pipe - (36) 4.27 18 Cir 4.826 361.37 361.85 0.905 362.86 362.98 n/a 32.9 1 Pipe - (36) 4.27 18 Cir 4.903 362.96 362.49 0.518 363.46 363.93 363.96 0.24 0.51 363.48 363.95 363.98 364.11 n/a 37 47 37 37 47 37.99 37 37 37 37.41 37.41 70.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41</td><td>Pipe - (3) 15.29 24 Cir 215.39 351.06 361.17 4.694 352.08 362.58 1.80 32 ⋅ 1 3 3< ⋅ 1 3</td></td>	Pipe - (37) 15.29 24 Cir 215.39 351.06 361.17 4.694 352.08 362.58 0.90 Pipe - (36) 8.52 18 Cir 42.00 361.37 361.85 0.905 362.58 362.98 362.98 362.98 362.98 363.00 0.31 Pipe - (33) 2.24 15 Cir 27.00 363.14 363.28 369.95 34.93 363.93 363.96 0.25 Pipe - (33) 2.24 15 Cir 27.00 363.14 363.28 369.95 34.99 364.21 370.41 n/a Pipe - (31) 1.38 15 Cir 27.52 370.15 370.43 1.017 370.41 370.69 n/a Pipe - (30) 0.44 15 Cir 87.56 370.15 370.43 1.017 363.24 364.18 0.85 Pipe - (30) 6.61 15 Cir 87.50 367.01 363.12 1.324 364.31 367.62 n/a Pipe - (150) 6.61 15 Cir 7.00 367.00 </td <td>Pipe - (37) 15.29 24 Cir 215.39 351.06 361.17 4.694 352.08 362.80 0.90 362.78 Pipe - (36) 4.27 18 Cir 4.826 361.37 361.85 0.905 362.86 362.98 n/a 32.9 1 Pipe - (36) 4.27 18 Cir 4.903 362.96 362.49 0.518 363.46 363.93 363.96 0.24 0.51 363.48 363.95 363.98 364.11 n/a 37 47 37 37 47 37.99 37 37 37 37.41 37.41 70.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41</td> <td>Pipe - (3) 15.29 24 Cir 215.39 351.06 361.17 4.694 352.08 362.58 1.80 32 ⋅ 1 3 3< ⋅ 1 3</td>	Pipe - (37) 15.29 24 Cir 215.39 351.06 361.17 4.694 352.08 362.80 0.90 362.78 Pipe - (36) 4.27 18 Cir 4.826 361.37 361.85 0.905 362.86 362.98 n/a 32.9 1 Pipe - (36) 4.27 18 Cir 4.903 362.96 362.49 0.518 363.46 363.93 363.96 0.24 0.51 363.48 363.95 363.98 364.11 n/a 37 47 37 37 47 37.99 37 37 37 37.41 37.41 70.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41 37.41	Pipe - (3) 15.29 24 Cir 215.39 351.06 361.17 4.694 352.08 362.58 1.80 32 ⋅ 1 3 3< ⋅ 1 3

Inlet Report

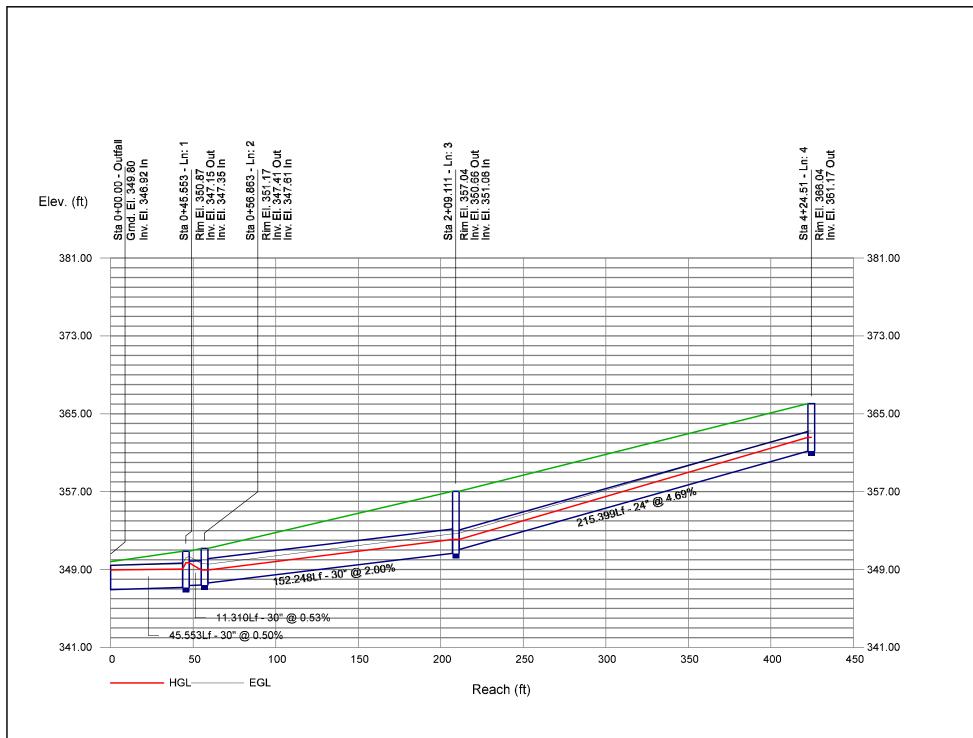
SCM #5 25-YEAR REPORT

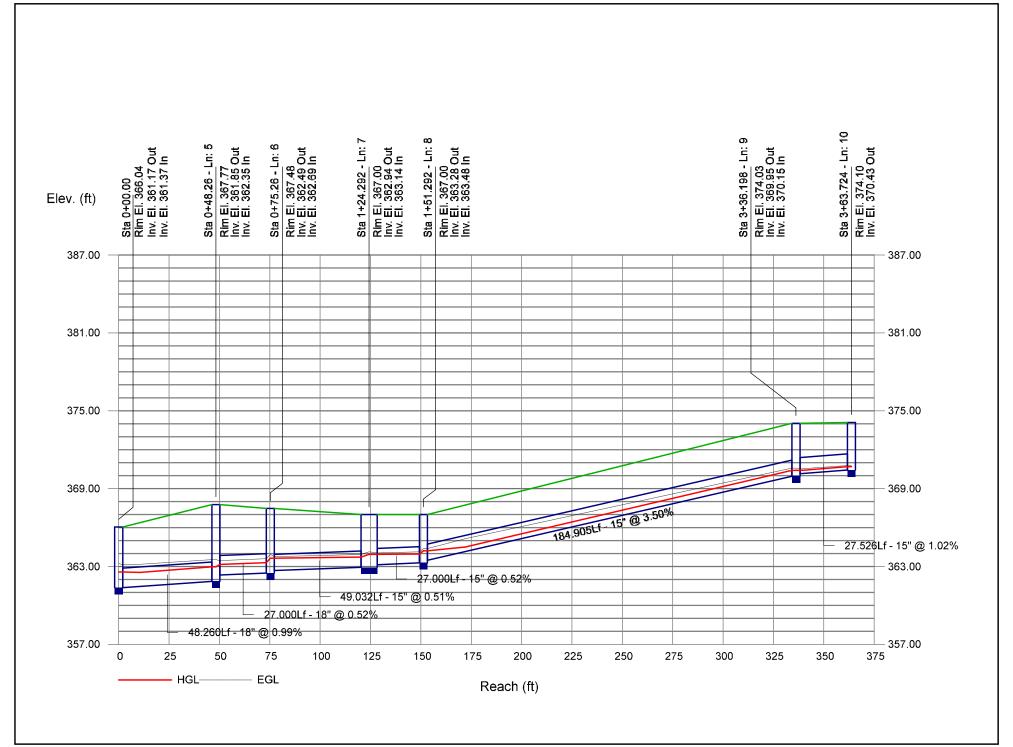
Line No	Inlet ID	Q = CIA	Q	Q	Q	Junc	Curb Ir	nlet	Gra	ate Inlet				G	utter					Inlet		Byp
NO		(cfs)	carry (cfs)	capt (cfs)	Byp (cfs)		Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	Line No
1	YI 501	2.95	0.00	2.95	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.20	22.46	0.20	22.46	0.0	Off
2	YI 501A	0.52	0.16	0.68	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.07	10.00	0.07	10.00	0.0	1
3	CB 502	1.51	0.09	1.45	0.16	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.17	4.53	0.07	1.23	0.0	2
4	CB 504	0.16	0.00	0.16	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.07	1.23	0.00	0.00	0.0	3
5	CB 505	1.00	0.13	1.08	0.05	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.15	3.60	0.05	0.77	0.0	Off
6	CB 506	1.51	0.00	1.38	0.13	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.17	4.37	0.07	1.15	0.0	5
7	CB 507	0.68	0.02	0.70	0.00	Comb	6.0	1.50	0.00	6.00	2.50	0.054	2.00	0.060	0.020	0.013	0.13	2.42	0.01	0.12	0.0	6
8	CB 508	0.96	0.02	0.95	0.02	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.14	3.23	0.04	0.60	0.0	7
9	CB 514	0.96	0.00	0.94	0.02	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.14	3.18	0.03	0.57	0.0	8
10	CB 515	0.44	0.00	0.44	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.11	1.80	0.00	0.00	0.0	7
11	CB 511	0.24	0.00	0.24	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.43	0.00	0.00	0.0	4
12	CB 517	0.48	0.00	0.48	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.11	1.86	0.00	0.00	0.0	11
13	CB 516	0.52	0.00	0.52	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.11	1.91	0.00	0.00	0.0	15
14	FES 516A	5.66	0.00	5.66	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	2.00	0.060	0.020	0.013	0.00	0.00	0.00	0.00	0.0	13
15	CB 510	0.24	0.00	0.24	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.09	1.43	0.00	0.00	0.0	Off
16	CB 513	0.56	0.00	0.56	0.00	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.12	1.97	0.00	0.00	0.0	5
17	YI 513A	2.99	0.00	2.99	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.20	22.64	0.20	22.64	0.0	Off
18	CB 503	1.35	0.00	1.26	0.09	Comb	6.0	1.50	0.00	3.00	2.50	0.054	2.00	0.060	0.020	0.013	0.16	4.07	0.06	1.01	0.0	3
19	YI 501B	1.12	0.00	1.12	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.10	12.94	0.10	12.94	0.0	Off
20	YI 501C	1.83	0.00	1.83	0.00	DrGrt	0.0	0.00	7.50	3.00	2.50	Sag	2.00	0.020	0.020	0.013	0.15	17.04	0.15	17.04	0.0	Off
Projec	t File: SCM#5.stm				1	1	1	1	1	1	1	1		Number	of lines:	20	1	R	un Date:	3/28/202	5	
NOTE	ES: Inlet N-Values =	• 0.016; Inte	ensity = 6	52.86 / (I	nlet time	+ 11.00)) ^ 0.74;	Return	period =	25 Yrs.	; * Indic	ates Kno	own Q a	dded.All	curb inle	ts are th	nroat.	I				

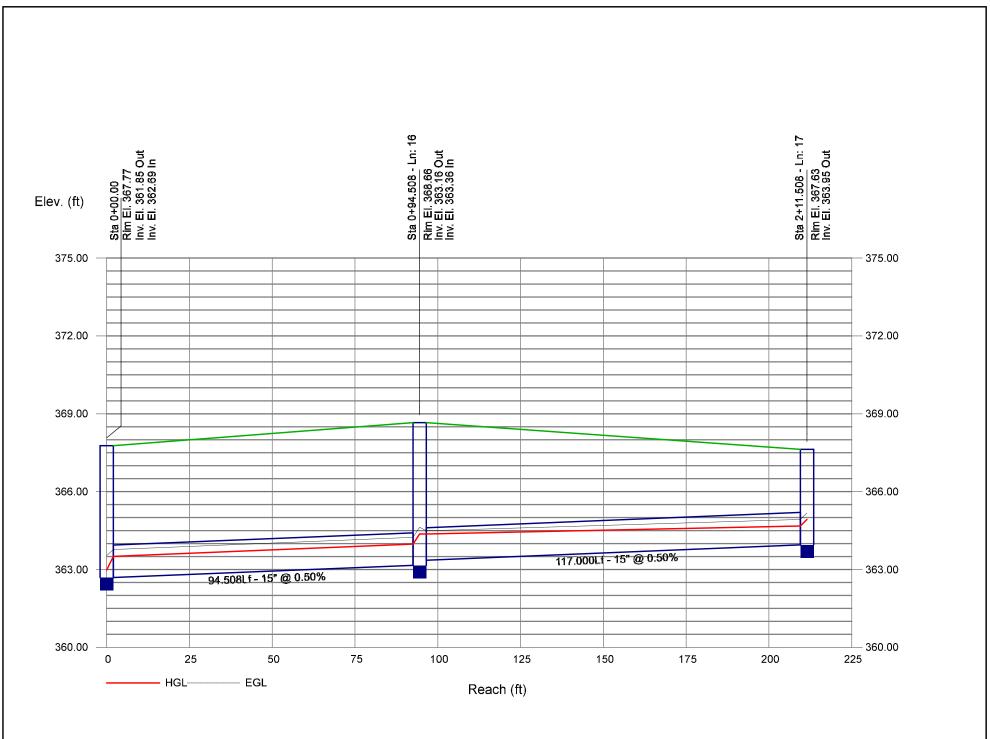
Hydraulic Grade Line Computations

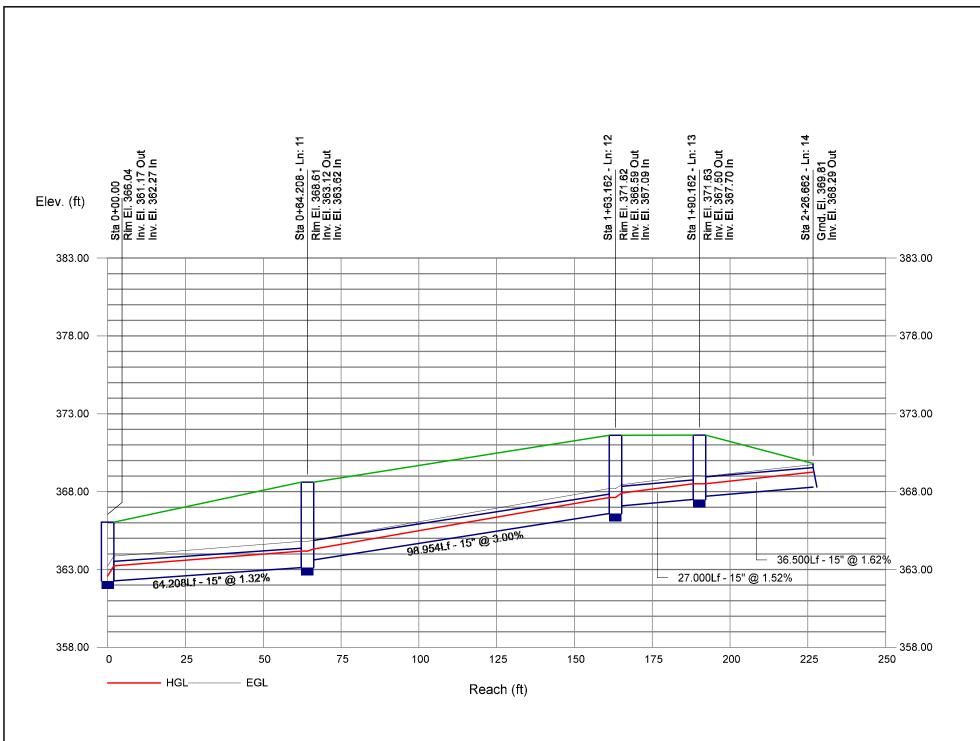
SCM #5 25-YEAR REPORT Page 1

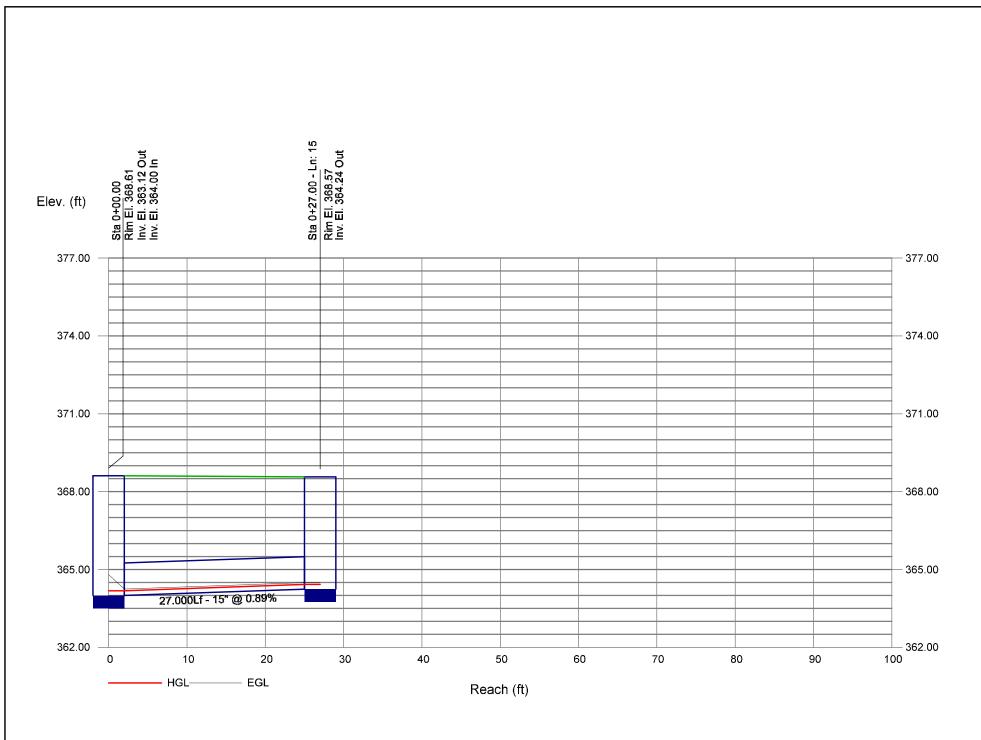
ine	Size	Q			D	ownstre	am				Len				Upstr	eam				Chec	k	JL coeff	Minor
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)		EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	(K)	(ft)
		00.00	0.40.00	240.05	0.00	4.07	5.40	0.40	240.44	0.000	45 550	047.45	0.40.05	4.00	4.00	5.00	0.50	0.40 50	0.070	0.050	0.404	4.00	0.65
1	30	23.30	346.92	348.95	2.03	4.27	5.46	0.46	349.41	0.328		347.15	349.05	1.90	4.00	5.83	0.53	349.58	0.378	0.353	0.161	1.22	
2	30	20.65	347.35	349.69	2.34	3.18	4.32 6.60		350.35	0.000		347.41 8350.66	348.95	1.54**	3.18	6.50	0.66	349.61	0.000	0.000	n/a	1.50	0.98
3 4	30 24	17.71	347.61 351.06	348.95 352.08	1.34	2.68	9.45	0.59 0.65	349.54 352.73	0.000			352.08 362.58	1.42**	2.89 2.36	6.14 6.47	0.59	352.67 363.23	0.000	0.000	n/a n/a	1.50 1.38	n/a 0.90
4 5	18	15.29 8.52	361.37	362.58	1.02	1.43	5.59	0.55	363.13	0.000		9361.17 361.85		1.13**	1.43	5.97	0.55	363.53	0.000	0.000	n/a	1.30	0.90
6	18	4.27	362.35	363.16	0.81*	0.97	4.41	0.30	363.46	0.518		362.49	363.30	0.81	0.97	4.41	0.30	363.60	0.520	0.519	0.140	1.49	0.83
7	15	2.87	362.69	363.64	0.95	1.00	2.87	0.13	363.77	0.232		362.94	363.72	0.78	0.81	3.56	0.20	363.92	0.387	0.309	0.140	1.08	0.34
, 8	15	2.24	363.14	363.93	0.79	0.82	2.72	0.13	364.05	0.225		363.28	363.96	0.68	0.68	3.27	0.17	364.13	0.361	0.293	0.079	1.50	0.25
9	15	1.38	363.48	364.21	0.73	0.42	1.85	0.17	364.38	0.000		5369.95	370.41 j	0.46**	0.42	3.33	0.17	370.59	0.000	0.000	n/a	1.48	0.26
10	15	0.44	370.15	370.41	0.26	0.18	2.31	0.09	370.50	0.000		370.43	370.69 j		0.18	2.41	0.09	370.78	0.000	0.000	n/a	1.00	n/a
11	15	7.04	362.27	363.24	0.97*	1.02	6.89	0.62	363.86	0.000		363.12	364.18	1.06**	1.11	6.33	0.62	364.81	0.000	0.000	n/a	1.36	0.85
12	15	6.61	363.62	364.31	0.69*	0.70	9.49	0.58	364.89	0.000		366.59	367.62	1.03**	1.09	6.09	0.58	368.20	0.000	0.000	n/a	1.50	n/a
13	15	6.15	367.09	367.92	0.83*	0.86	7.16	0.53	368.45	0.000		367.50	368.50	1.00**	1.05	5.84	0.53	369.03	0.000	0.000	n/a	0.50	0.27
14	15	5.66	367.70	368.50	0.80	0.83	6.81	0.48	368.98	0.000		368.29	369.25	0.96**	1.01	5.58	0.48	369.74	0.000	0.000	n/a	1.00	n/a
15	15	0.24	364.00	364.18	0.18	0.11	2.17	0.07	364.25	0.000	27.000	364.24	364.43	0.19**	0.12	2.05	0.07	364.49	0.000	0.000	n/a	1.00	0.07
16	15	3.48	362.69	363.51	0.82*	0.85	4.08	0.26	363.77	0.497	94.508	363.16	363.98	0.82	0.85	4.08	0.26	364.24	0.497	0.497	0.470	1.50	0.39
17	15	2.99	363.36	364.37	1.01	1.06	2.82	0.12	364.49	0.221	117.00	0363.95	364.68	0.73	0.74	4.04	0.25	364.93	0.526	0.373	0.437	1.00	0.25
18	15	1.35	353.30	353.76	0.46*	0.41	3.28	0.17	353.93	0.518	27.001	353.44	353.90	0.46**	0.41	3.28	0.17	354.07	0.517	0.518	0.140	1.00	0.17
19	15	2.86	347.82	348.95	1.13	1.17	2.45	0.09	349.05	0.172	106.32	8348.35	349.14	0.79	0.82	3.49	0.19	349.33	0.369	0.270	0.287	0.98	0.19
20	15	1.83	348.45	349.33	0.88	0.50	1.99	0.06	349.39	0.114	145.49	4349.18	349.72 j	0.54**	0.50	3.63	0.20	349.92	0.545	0.330	n/a	1.00	0.20
Proj	ect File: S	SCM#5.s	tm											N	umber o	f lines: 2	0		Run	Date: 3	8/28/202	5	

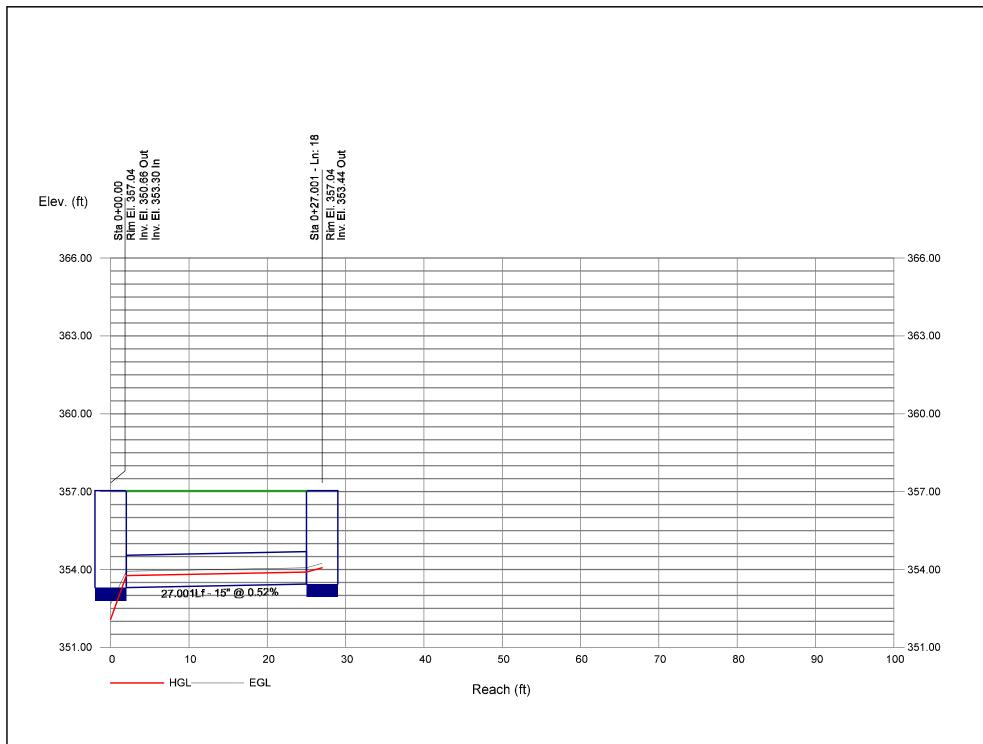


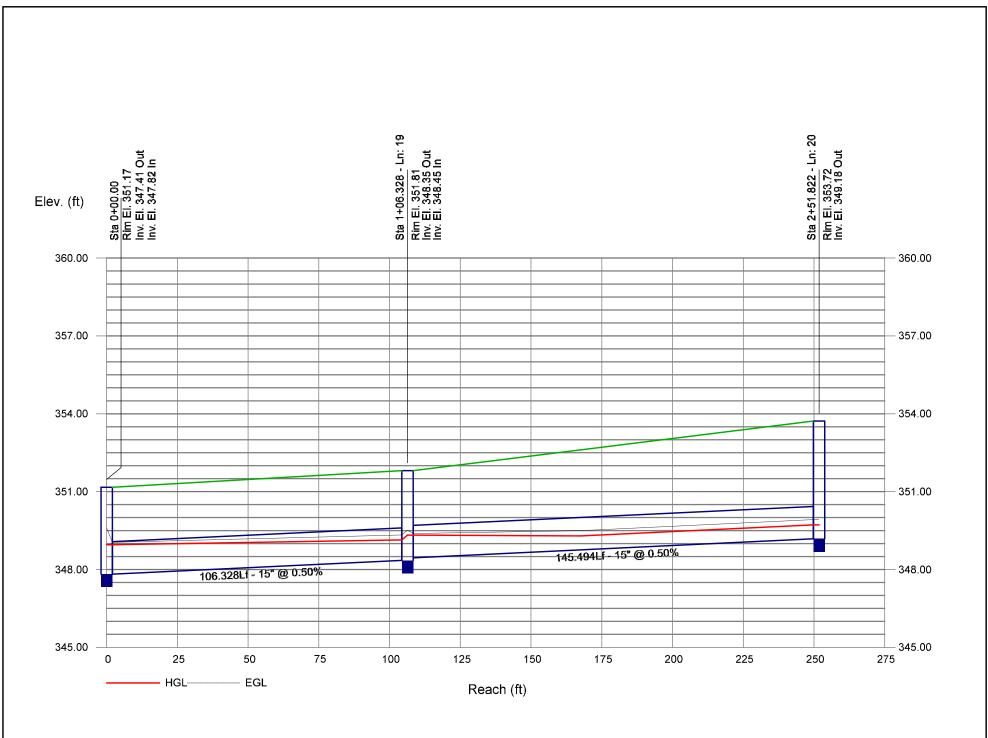












Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan BYPASS 25-YEAR REPORT

Outfall



Storm Sewer Inventory Report

BYPASS 25-YEAR REPORT Page 1

Line		Align	ment			Flow	/ Data					Physica	l Data				Line ID
No.	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	93.420	3.619	Hdwl	0.00	1.58	0.60	10.0	364.86	5.50	370.00	18	Cir	0.013	1.00	371.79	Pipe - (27)
2	End	24.870	52.575	Comb	0.00	0.08	0.60	10.0	356.16	0.48	356.28	15	Cir	0.013	0.50	360.04	Pipe - (26)
3	2	27.000	3.159	Comb	0.00	0.09	0.60	10.0	356.41	0.52	356.55	15	Cir	0.013	1.00	360.04	Pipe - (25)
Projec	t File: Byp	ass.stm										Number	of lines: 3			Date: 3	3/28/2025

Structure Report

BYPASS 25-YEAR REPORT

Struct	Structure ID	Junction	Rim		Structure			Line Out			Line In	
No.		Туре	Elev (ft)	Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	FES INLET 601	OpenHeadwall	371.79	n/a	n/a	n/a	18	Cir	370.00			
2	CB 421	Combination	360.04	Rect	4.00	4.00	15	Cir	356.28	15	Cir	356.41
3	CB 422	Combination	360.04	Rect	4.00	4.00	15	Cir	356.55			
Project	File: Bypass.stm							Number of Structu	ires: 3	Run	Date: 3/28/202	5

Storm Sewer Summary Report

BYPASS 25-YEAR REPORT

Line No.	Line ID	Flow rate (cfs)	∎ Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	EL Up	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (27)	6.28	18	Cir	93.420	364.86	370.00	5.502	365.78	370.97	0.42	370.97	End	OpenHeadwall
2	Pipe - (26)	0.67	15	Cir	24.870	356.16	356.28	0.482	356.48	356.61	0.05	356.66	End	Combination
3	Pipe - (25)	0.36	15	Cir	27.000	356.41	356.55	0.518	356.66	356.78	0.08	356.86	2	Combination
Project F	File: Bypass.stm		·						Number o	f lines: 3	·	Run E) Date: 3/28/2	2025
NOTES:	: Return period = 25 Yrs.													

Inlet Report

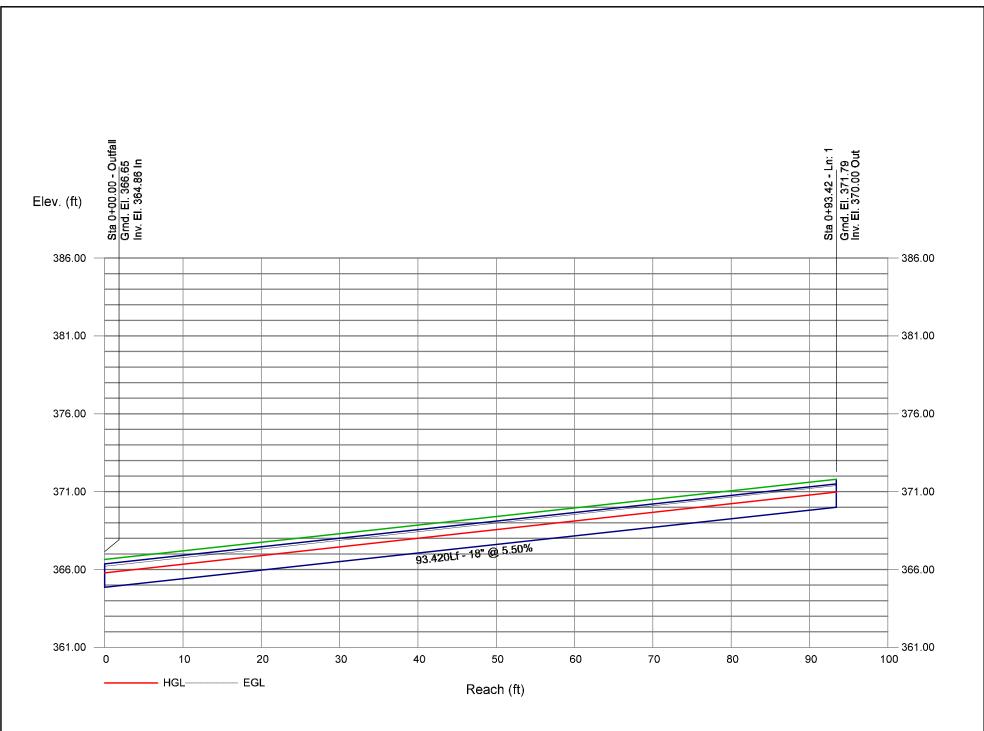
BYPASS 25-YEAR REPORT

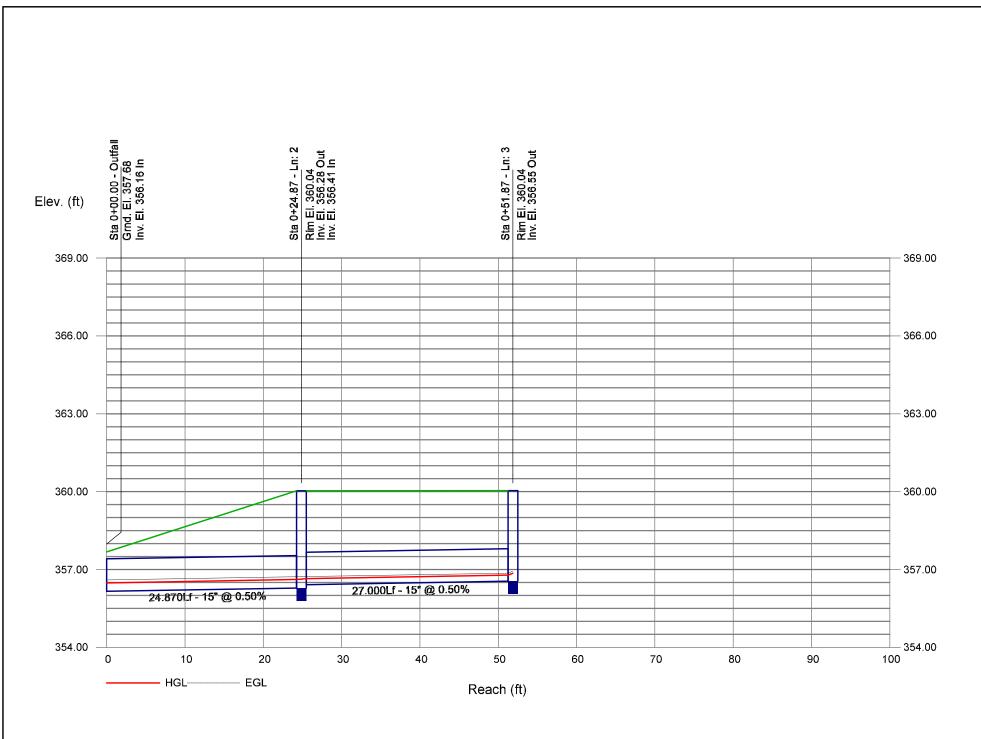
Line No	Inlet ID	Q = CIA	Q	Q	Q Byp		Curb lı	nlet	Gra	te Inlet				G	utter					Inlet		Byp Line
NO		(cfs)		capt (cfs)	⊐ур (cfs)	Туре	Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	No
1	FES INLET 601	6.28	0.00	6.28	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	CB 421	0.32	0.00	0.32	0.00	Comb	6.0	3.00	7.50	3.00	2.50	Sag	2.00	0.060	0.020	0.013	0.01	1.20	0.17	1.20	2.0	Off
3	CB 422	0.36	0.00	0.36	0.00	Comb	6.0	3.00	7.50	3.00	2.50	Sag	2.00	0.060	0.020	0.013	0.02	1.28	0.18	1.28	2.0	Off
Projec	t File: Bypass.stm													Number	of lines	3			un Date:	3/28/202	5	

Hydraulic Grade Line Computations

BYPASS 25-YEAR REPORT Page 1

.ine	Size	Q			D	ownstre	am				Len				Upstr	eam				Checl	k	JL	Mino
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	elev	Sf (%)		Invert elev (ft)	elev	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Sf	Enrgy Ioss (ft)	coeff (K)	loss (ft)
1	18	6.28	364.86	365.78	0.92	1.14	5.53	0.42	366.20	0.000	93.420	370.00	370.97	0.97**	1.21	5.21	0.42	371.39	0.000	0.000	n/a	1.00	0.42
2	15	0.67	356.16	356.48	0.32*	0.25	2.71	0.11	356.59	0.526	24.870	356.28	356.61	0.33	0.26	2.55	0.10	356.72	0.445	0.485	0.121	0.50	0.05
3	15	0.36	356.41	356.66	0.25	0.16	2.00	0.06	356.73	0.374	27.000	356.55	356.78	0.23**	0.16	2.25	0.08	356.86	0.521	0.448	0.121	1.00	0.08
	ect File: E	l Svnass s	tm												umber o		<u> </u>		 Dur	Date: 3		F	







APPENDIX D

STORMWATER CONTROL MEASURE CALCULATIONS

Project Information

Complete this sheet if required by your reviewing authority. Contact them for any questions. Grey boxes/text are optional.

SNAP v4.2.0

LOCATION

Project Name (optional):	Moody Development		Parcel ID (optional):	1767284304 & 1767284925	
Submission Date (optional):	12/16/2024	date	Nutrient Management Watershed:	Neuse	menu
Local Jurisdiction / Reviewing Agency:	Wake County	menu	Subwatershed:	Neuse-Upper	menu
Project Latitude Coordinates (optional):		Ν	Phosphorus Delivery Zone:	Neuse - Upper 03020201	menu
Project Longitude Coordinates (optional):		W	Nitrogen Delivery Zone:	Neuse - Upper 03020201	menu
	PRO	JECT	DETAILS		
Development Land Use Type:	Single Family Residential	menu	Disturbed Area:	827,640	ft ²
Part of Common Development Plan?	no	y/n	Project Activity:	New Development	menu
Designated Downtown Area?	no	y/n	Project Drains to SA Waters?	no	y/n
Public Linear Road/Sidewalk Project?	no	y/n	Pre-Project Land Use:	crops	menu
Project Owner Type:	Private	menu	Project Description (optional):		
	STORN	WAT	ER DETAILS		
(Falls ONLY) Onsite Reduction % Req.		%	Project Uses LID/Runoff Volume Match?	no	y/n
Existing BUA/Development Onsite?	yes	y/n	Local Gov't nutrient req's same as State?	yes	y/n
Local Gov't cutoff date for Existing BUA:		date	Project Drains to Regional SCM?	no	y/n
Nitrogen Export Rate Target:	3.60	lb/ac/yr	Total Nitrogen Offset Credits Needed:		lb/yr
Phosphorus Export Rate Target:		lb/ac/yr	Total Phosphorus Offset Credits Needed:		lb/yr

Project Area and Offsite Land Cover Characteristics

Raleigh Station: Copy & Paste VALUES ONLY for Best Results

Precipitation

Click here to scroll down to error messages on this sheet.

PROJECT AREA LAND COVERS	TN EMC (mg/L)	TP EMC (mg/L)	Pre-Project Area (ft ²)	Post-Project Area (ft ²)	Change pre-to-post (ft ²)
Roof	1.18	0.11		324,522	324,522
Roadway	1.64	0.34		169,884	169,884
Parking/Driveway/Sidewalk	1.42	0.18		120,661	120,661
Protected Forest	0.97	0.03	198,564	198,564	0
Managed Pervious/Landscaping	2.48	1.07	1,908,895	1,243,734	-665,161
Offsite or Existing Roof	1.18	0.11	6,411	6,411	0
Offsite or Existing Roadway	1.64	0.34			0
Offsite or Existing Parking/Driveway/Sidew	: 1.42	0.18	24,233	24,233	0
Offsite Protected Forest	0.97	0.03			0
Offsite Managed Pervious	2.48	1.07			0
CUSTOM LAND COVER 1					0
CUSTOM LAND COVER 2					0
CUSTOM LAND COVER 3					0
LAND TAKEN UP BY SCM	1.18	0.11		50,094	50,094
	Total (Regulate	d & UnReg) Area	2,138,103.00	2,138,103.00	
	Project	(Regulated) Area	2,107,459.00	2,107,459.00	

AP v4.2.0	Copy & Paste		Click here to go to SCM101's Land Cover Data		Summary Data																
Catchment ID		Results	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	ו		
SCM ID	101 Dr	ins to 1 102 Drai	s to 103	2 201	ains to 2 202	203	301 Dra	lins to 3 302 Dra	ins to 303	401	insto 4 402 Dr	403	501 Dra	ains to 5 Drail	503	601	6 602	ins to 503			
Type of SCM	Wet Pond			Wet Pond			Wet Pond			Wet Pond			Wet Pond								
drologic soil group at SCM location	в			с			с			с			с								
SCM Description	SCM #1			SCM #2			SCM #3			SCM #4			SCM #5								
Design Storm Size (inches/24hrs)	0.13			0.13			0.13			0.13			0.13								
Percent of Full Size	100%			100%			100%			100%			100%								
% Annual Effluent	68%	0%	0%	72%	0%	0%	72%	0%	0%	72%	0%	0%	72%	0%	0%	0%	0%	0%			
% Annual Overflow % Annual ET/Infiltrated	16%	0%	0%	16%	0%	0%	16%	0%	0%	16%	0%	0%	16%	0%	0%	0%	0%	0%			
% Annual ET/Infiltrated	17%	0%	0%	13%	0%	0%	13%	0%	0%	13%	0%	0%	13%	0%	0%	0%	0%	0%			
Custom % Annual Overflow																			-		
Custom % Annual ET/Infiltrated																			-		
SCM Effluent TP EMC (mg/L)	0.13	0.00	0.00	0.13	0.00	0.00	0.13	0.00	0.00	0.13	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00			
SCM Effluent TN EMC (mg/L)	0.86	0.00	0.00	0.86	0.00	0.00	0.86	0.00	0.00	0.86	0.00	0.00	0.86	0.00	0.00	0.00	0.00	0.00			
Custom Effluent TP EMC																			n		
Custom Effluent TN EMC																					
SCM Land Cover TP EMC (mg/L)	0.11	0.00	0.00	0.11	0.00	0.00	0.11	0.00	0.00	0.11	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00			
SCM Land Cover TN EMC (mg/L)	1.18	0.00	0.00	1.18	0.00	0.00	1.18	0.00	0.00	1.18	0.00	0.00	1.18	0.00	0.00	0.00	0.00	0.00			
his SCM Drains to Numbered SCM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Catchment Routing	Catchments Draining to SCM 101	Catchments Draining to SCM 102	Catchments Draining to SCM 103	Catchments Draining to SCM 201	Catchments Draining to SCM 202	Catchments Draining to SCM 203	Catchments Draining to SCM 301	Catchments Draining to SCM 302	Catchments Draining to SCM 303	Catchments Draining to SCM 401	Catchments Draining to SCM 402	Catchments Draining to SCM 403	Catchments Draining to SCM 501	Catchments Draining to SCM 502	Catchments Draining to SCM 503	Catchments Draining to SCM 601	Catchments Draining to SCM 602	Catchments Draining to SCM 603			
Catchment 1																					-
Catchment 2																					
Catchment 3																					
Catchment 4 Catchment 5																					
Catchment 6																					
Error Check - Missing SCM Area:																					
Error Check - Min/Max Size:																				_	
Error Check - Hydrology:																				_	
Error Check - Missing SCM Info:																				_	
Error Check - Drainage Data w/o SCM:																					1
Error Checks - SCM Type:																					<u> </u>
SCM ID:	101	102	103	201	202	203	301	302	303	401	402	403	501	502	503	601	602	603		Allowable Total Land Use	
		Area Draining Directly to SCM 102 (ft2)	Area Draining Directly to SCM 103 (ft2)	Area Draining Directly to SCM 201 (ft2)	Area Draining Directly to SCM 202 (ft2)	Area Draining Directly to SCM 203 (ft2)	Area Draining Directly to SCM 301 (ft2)	Area Draining Directly to SCM 302 (ft2)	Area Draining Directly to SCM 303 (ft2)	Area Draining Directly to SCM 401 (ft2)	Area Draining Directly to SCM 402 (ft2)	Area Draining Directly to SCM 403 (ft2)	Area Draining Directly to SCM 501 (ft2)	Area Draining Directly to SCM 502 (ft2)	Area Draining Directly to SCM 503 (ft2)	Area Draining Directly to SCM 601 (ft2)	Area Draining Directly to SCM 602 (ft2)	Area Draining Directly to SCM 603 (ft2)	Total Land Use Area Treated By All SCMs (ft ²)	Area to be Treated Based on Post-Project Areas (ft ²)	Post-Project Untr Land Area (ft
SCM Drainage Area Land Covers	SCM 101 (ft2)				Self Ede (ite)	3CW 203 (112)	50m 501 (n2)														
SCM Drainage Area Land Covers	72,745			13,939		3CW 203 (12)	86,249			42,689			74,488						290,110	324,522	34,412
way	72,745			13,939		SCW 205 (112)	86,249 43,124			36,590			41,818						290,110 165,092	169,884	34,412 4,792
way ng/Driveway/Sidewalk	72,745					5cm 205 (12)	86,249 43,124 21,345			36,590 16,553			41,818 50,530						290,110 165,092 115,871	169,884 120,661	34,412 4,792 4,790
way ng/Driveway/Sidewalk cted Forest	72,745			13,939		3CW 203 (12)	86,249 43,124			36,590			41,818						290,110 165,092	169,884	34,412
vay g/Driveway/Sidewalk ted Forest ged Pervious/Landscaping	72,745 43,560 26,572			13,939 871		Sch 25 (12)	86,249 43,124 21,345 6,970			36,590 16,553 871			41,818 50,530 2,178						290,110 165,092 115,871 10,019	169,884 120,661 198,564	34,412 4,792 4,790 188,54
vay g/Driveway/Sidewalk ted Forest ed Pervious/Landscaping 2 or Existing Roof or Existing Roof	72,745 43,560 26,572 265,280			13,939 871			86,249 43,124 21,345 6,970			36,590 16,553 871			41,818 50,530 2,178						290,110 165,092 115,871 10,019 782,337 0 0	169,884 120,661 198,564 1,243,734 6,411 0	34,41 4,79 4,79 188,5 461,3 6,41 0
ray g/Driveway/Sidewalk ted Forest ted Porvious/Landscaping or Existing Roof or Existing Roof or Existing Roadway or Existing Parking/Driveway/Sidew	72,745 43,560 26,572 265,280			13,939 871			86,249 43,124 21,345 6,970			36,590 16,553 871			41,818 50,530 2,178						290,110 165,092 115,871 10,019 782,337 0 0 0	169,884 120,661 198,564 1,243,734 6,411	34,41 4,79 4,79 188,5 461,3 6,41 0 24,23
vay g/Driveway/Sidewalk ted Forest ged Pervious/Landscaping e or Existing Roof e or Existing Roadway e or Existing Parking/Driveway/Sidew Protected Forest	72,745 43,560 26,572 265,280			13,939 871			86,249 43,124 21,345 6,970			36,590 16,553 871			41,818 50,530 2,178						290,110 165,092 115,871 10,019 782,337 0 0	169,884 120,661 198,564 1,243,734 6,411 0	34,41 4,79; 4,79(188,54 461,35 6,41; 0 24,23 0
ray g/Oriveway/Sidewaik ted Forest ged Pervious/Landscaping or Existing Roof or Existing Roadway or Existing Panking/Driveway/Sidew Protected Forest Managed Pervious	72,745 43,560 26,572 265,280			13,939 871			86,249 43,124 21,345 6,970			36,590 16,553 871			41,818 50,530 2,178						290,110 165,092 115,871 10,019 782,337 0 0 0 0 0	169,884 120,661 198,564 1,243,734 6,411 0 24,233 0	34,41 4,79 188,5 461,3 6,41 0 24,22 0 0 0
way ng/Driveway/Sidewalk cted Forest ged Pervious/Landscaping e or Existing Roadway e or Existing Roadway e or Existing Parking/Driveway/Sidew e Protected Forest e Managed Pervious OM LAND COVER 1	72,745 43,560 26,572 265,280			13,939 871			86,249 43,124 21,345 6,970			36,590 16,553 871			41,818 50,530 2,178						290,110 165,092 115,871 10,019 782,337 0 0 0 0 0 0 0 0 0 0 0 0 0	169,884 120,661 1995,564 0,411 0 24,233 0 0 0 0 0 0 0 0	34,41 4,79 4,79 188,5 461,3 6,41 0 24,23 0 0 0 0 0 0 0
way g/Driveway/Sidewalk cted Forest cted Forest e or Existing Roof e or Existing Roofway e or Existing Rodway e or Existing Parking/Driveway/Sidew Protected Forest e Managed Pervious OM LAND COVER 1 DOM LAND COVER 3	72,745 43,560 26,572 265,280			13,939 871 60,113			86,249 43,124 21,345 6,970 216,493			36,590 16,553 871 116,305			41,818 50,530 2,178 124,146						290,110 165,092 115,871 10,019 782,337 0 0 0 0 0 0 0 0 0 0 0 0 0	169,884 120,661 199,554 6,411 0 24,233 0 0 0 0 0 0 0 0 0 0	34,41: 4,792 4,790 188,54 461,39 6,411 0 24,23: 0 0 0 0 0 0 0 0 0 0 0
SCM Drainage Area Land Covers f dway ing/Driveway/Sidewalk ected Forest aged Pervious/Landscaping ite or Existing Roof ite or Existing Roof ite or Existing Roof ite or Existing Roof TOM LAND COVER 1 TOM LAND COVER 2 TOM LAND COVER 3 D TAKEN UP BY SCM OTAL AREA DRAINING TO SCM (ft ²):	72,745 43,560 26,572 265,280		0	13,939 871	0		86,249 43,124 21,345 6,970	0	0	36,590 16,553 871	0	0	41,818 50,530 2,178	0	0		0	0	290,110 165,092 115,871 10,019 782,337 0 0 0 0 0 0 0 0 0 0 0 0 0	169,884 120,661 1995,564 0,411 0 24,233 0 0 0 0 0 0 0 0	34,41 4,79 4,79 188,5 461,3 6,41 0 24,23 0 0 0 0 0 0 0

Nutrient Export Summary

SNAP v4.2.0

Landcover & SCM Data Re	<u>eview</u>	E	rrors / Advisorie	es					E	rrors / Advisorie	es
Avg Annual precip (in) =	46.22					SCN	/I Area (ft ²) =	50,094			
Total (Regulated + Unregulated) Area (ft ²) =	2,138,103					SCM Treate	ed Area (ft²) =	1,413,523			
Project (Regulated) Area (ft ²) =	2,107,459					Catchn	nent Routing:	No errors			
Net BUA (Project Area BUA only ft ²) =	615,067	Net BUA indicates	new development o	or expansion.			Runoff from JA or Offsite:	no			
Custom Landcovers are present:	no					Disturbe	ed Area (ft ²) =	827,640			
Total Nitrogen Scaled to Project	• •	174.17					al Phosphorus I caled to Project		0.00		
Nutrient Export Summa	<u>ry</u>	Total Area (Onsite + Offsite) P <u>re-Project</u>	Project Area (Onsite Only) <u>Pre-Project</u>	Total Area Post-Project before Treatment	Project Area Post-Project before Treatment	Total Area Post-Project after Treatment	Project Area Post-Project after Treatment	Total Area Post-Project SCM-Treated Area Only	Project Area Post-Project SCM-Treated Area Only	Total Area Post-Project Untreated Areas	Project Area Post-Project Untreated Areas
Area (All Landcover Types) (ac	res)	49.0841	48.3806	49.0841	48.3806	49.0841	48.3806	32.4500	32.4500	16.6341	15.9306
Percent Built-Upon Area (BUA)) (%)	1%	0%	30%	29%	30%	29%	40%	40%	10%	6%
Built-Upon Area (BUA) (sqft)		30,644	0	645,711	606,252	645,711	606,252	571,073	571,073	74,638	43,994
Annual Runoff Volume (ft ³ /yr)		466,191	365,275	2,550,076	2,449,160	2,248,200	2,147,284	1,889,752	1,889,752	358,447	257,531
Annual Runoff % Change											
, annual realion /o enange				447%	570%	382%	488%				
Total Runoff Change (cuft/yr)				447% 2,083,885	570% 2,083,885	382% 1,782,008	488% 1,782,008				
v		2.13	1.86					0.96	0.96	1.54	1.60
Total Runoff Change (cuft/yr)	te (lb/yr)	2.13 61.95	1.86 53.32	2,083,885	2,083,885	1,782,008	1,782,008	0.96 113.07	0.96 113.07	1.54 34.36	1.60 25.73
Total Runoff Change (cuft/yr) Total Nitrogen EMC (mg/L)				2,083,885 1.43	2,083,885 1.44	1,782,008 1.05	1,782,008 1.04			-	
Total Runoff Change (cuft/yr) Total Nitrogen EMC (mg/L) Total Nitrogen Load Leaving Si	b/ac/yr)	61.95	53.32	2,083,885 1.43 228.16	2,083,885 1.44 219.53	1,782,008 1.05 147.43	1,782,008 1.04 138.80	113.07	113.07	34.36	25.73
Total Runoff Change (cuft/yr) Total Nitrogen EMC (mg/L) Total Nitrogen Load Leaving Si Total Nitrogen Loading Rate (I	b/ac/yr) o-Post	61.95	53.32	2,083,885 1.43 228.16 4.65	2,083,885 1.44 219.53 4.54	1,782,008 1.05 147.43 <i>3.00</i>	1,782,008 1.04 138.80 2.87	113.07	113.07	34.36	25.73
Total Runoff Change (cuft/yr) Total Nitrogen EMC (mg/L) Total Nitrogen Load Leaving Si Total Nitrogen Loading Rate (I Total Nitrogen % Change Pre-tr	b/ac/yr) o-Post	61.95	53.32	2,083,885 1.43 228.16 4.65 268%	2,083,885 1.44 219.53 4.54 312%	1,782,008 1.05 147.43 3.00 138%	1,782,008 1.04 138.80 2.87 160%	113.07	113.07	34.36	25.73
Total Runoff Change (cuft/yr) Total Nitrogen EMC (mg/L) Total Nitrogen Load Leaving Si Total Nitrogen Loading Rate (/ Total Nitrogen & Change Pre-t Total Nitrogen Change (lb/yr)	b/ac/yr) o-Post Pre-to-Post	61.95 1.26	53.32 1.10	2,083,885 1.43 228.16 4.65 268% 166.21	2,083,885 1.44 219.53 4.54 312% 166.21	1,782,008 1.05 147.43 3.00 138% 85.48	1,782,008 1.04 138.80 2.87 160% 85.48	113.07 3.48	113.07 3.48	34.36 2.07	25.73 1.62
Total Runoff Change (cuft/yr) Total Nitrogen EMC (mg/L) Total Nitrogen Load Leaving Si Total Nitrogen Loading Rate (I Total Nitrogen % Change (Ib/yr) I Total Nitrogen Change (Ib/yr) Total Phosphorus EMC (mg/L)	b/ac/yr) o-Post Pre-to-Post g Site (Ib/yr)	61.95 1.26 0.80	53.32 1.10 0.77	2,083,885 1.43 228.16 4.65 268% 166.21 0.25	2,083,885 1.44 219.53 4.54 312% 166.21 0.26	1,782,008 1.05 147.43 3.00 138% 85.48 0.18	1,782,008 1.04 138.80 2.87 160% 85.48 0.18	113.07 3.48 0.15	113.07 3.48 0.15	34.36 2.07 0.35	25.73 1.62 0.42
Total Runoff Change (cuft/yr) Total Nitrogen EMC (mg/L) Total Nitrogen Load Leaving Si Total Nitrogen Loading Rate [/l Total Nitrogen % Change Pre-t Total Nitrogen Change (lb/yr) I Total Phosphorus EMC (mg/L) Total Phosphorus Load Leaving	b/ac/yr) o-Post Pre-to-Post g Site (Ib/yr) e (Ib/ac/yr)	61.95 1.26 0.80 23.21	53.32 1.10 0.77 22.17	2,083,885 1.43 228.16 4.65 268% 166.21 0.25 40.39	2,083,885 1.44 219.53 4.54 312% 166.21 0.26 39.34	1,782,008 1.05 147.43 3.00 138% 85.48 0.18 25.35	1,782,008 1.04 138.80 2.87 160% 85.48 0.18 24.31	113.07 3.48 0.15 17.61	113.07 3.48 0.15 17.61	34.36 2.07 0.35 7.74	25.73 1.62 0.42 6.70

SCM/Catchment Summary

SCM ID and Type	Volume Reduction (%)	TN Reduction (%)	TP Reduction (%)	TN Out (Ibs/ac/yr)	TP Out (Ibs/ac/yr)
Catchment 1	16.88%	44.06%	50.02%	2.96	0.47
101: Wet Pond	16.88%	44.06%	50.02%	2.96	0.47
102: NA	0.00%	0.00%	0.00%	0.00	0.00
103: NA	0.00%	0.00%	0.00%	0.00	0.00
Catchment 2	12.66%	38.48%	42.93%	2.40	0.37
201: Wet Pond	12.66%	38.48%	42.93%	2.40	0.37
202: NA	0.00%	0.00%	0.00%	0.00	0.00
203: NA	0.00%	0.00%	0.00%	0.00	0.00
Catchment 3	12.66%	40.89%	45.85%	3.34	0.52
301: Wet Pond	12.66%	40.89%	45.85%	3.34	0.52
302: NA	0.00%	0.00%	0.00%	0.00	0.00
303: NA	0.00%	0.00%	0.00%	0.00	0.00
Catchment 4	12.66%	41.82%	47.51%	3.73	0.59
401: NA	12.66%	41.82%	47.51%	3.73	0.59
402: NA	0.00%	0.00%	0.00%	0.00	0.00
403: NA	0.00%	0.00%	0.00%	0.00	0.00
Catchment 5	12.66%	40.37%	41.27%	4.53	0.69
501: NA	12.66%	40.37%	41.27%	4.53	0.69
502: NA	0.00%	0.00%	0.00%	0.00	0.00
503: NA	0.00%	0.00%	0.00%	0.00	0.00
Catchment 6	0.00%	0.00%	0.00%	0.00	0.00
601: NA	0.00%	0.00%	0.00%	0.00	0.00
602: NA	0.00%	0.00%	0.00%	0.00	0.00
603: NA	0.00%	0.00%	0.00%	0.00	0.00

Falls Lake ONLY: Onsite Reduction	n Compliance Cl	Falls Lake ONLY: Onsite Reduction Compliance Check									
Nitrogen Phosphorus											
Onsite % Reduction Requirement											
Export Target Scaled to Area (lb/yr)	174.17										
Export Load Post-Project Before Treatment	219.53	39.34									
Total Reduction Need (lb/yr)											
Onsite Reduction Need (lb/yr)											
Onsite Export Target (lb/yr)											
Project Area Post-Project After Treatment	138.80	24.31									

Nutrient Management Strategy Watershed - Nutrient Offset Credit Reporting Form

SNAP v4.2.0

Please complete and submit the following information to the local government permitting your development project to characterize it and assess the need to purchase nutrient offset credits. Contact and rule implementation information can be found online at:

http://deq.nc.gov/about/divisions/water-resources/planning/nonpoint-source-management/nutrient-offset-information

	-		PROJE	CI INFORM	ATION			
Арр	licant Name:	Caruso Home	/S					
	roject Name:	2	1					
Proj	ect Address:	0 Rolesville R	RD & 0 Amazo	n Trail				
Date: ((mm/dd/yyyy)	12/3/2024	Dev	elopment Lar	nd Use Type:	Single	e Family Resid	ential
	County:	Wake		Project /	Activity Type:	Ne	ew Developme	nt
	Projec	t Area (sqft):	2,107	,459	Proj	ject Latitude:	0.000	0000
Post-P	Project Built-U	pon Area %:	28.7	7%	Projec	ct Longitude:	0.000	0000
		-				-		
		r	r	SHED INFOR	1		I	·
Nutrient	t Management	-			4	rget Export Ra	· · · · -	3.60
		ibwatershed:	Neuse-	11	P Tar	rget Export Ra		0.00
	-	elivery Zone:			1	-	livery Factor:	100%
Р	hosphorus De	elivery Zone:	Neuse - Uppe	er 03020201	Phe	osphorus Del	ivery Factor:	100%
			MANENT NU		-			
	Post-Pr	oject Nitroge	n Calculation	s - Projects w	/ith No Offsite	e or Built-Upo		
(A)	(B)	(C)	(D)		(F)	(G)	(Where Applicable)	
「N Untreated Load (lb/yr)	TN Export Target Load (lb/yr)	TN Treated Load (lb/yr)	TN Remaining Reduction Need (lb/yr)		TN Delivery Factor (%)	TN Permanent Offsets Required (lb/yr)		Total TN Permanent Offsets to Buy (Ib/yr)
219.5	174.2	138.8	0.0		100.0%	0.0	·	0.0
219.5				Projects		ite or Built-Up		0.0
	-			IS - Flujecia			Where	
(A)	(B)	(C)	(D)		(F)	(G)	Applicable)	
ΓΡ Untreated Load (lb/yr)	TP Export Target Load (lb/yr)	TP Treated Load (lb/yr)	TP Remaining Reduction Need (lb/yr)		TP Delivery Factor (%)	TP Permanent Offsets Required (lb/yr)	Additional Local Gov't Offsets (lb/yr)	Total TP Permanent Offsets to Buy (Ib/yr)
			ī		<u> </u>	Ē	ī]	0.0
	· · · · · · · · · · · · · · · · · · ·							
		LO	OCAL GOVER	RNMENT AU	THORIZATIC	<u>о</u> м		
	Local Govern	iment Name:						
	Staff Name:					Phone:		
	Staff Email:					Date:		
	-			·	_ _	<u></u>		
				1				

Local Government Authorizing Signature:

PROJECT INFORMATION



SITE DATA

		Project Information
	Project Name:	The Preserve at Moody Farm
	Applicant:	American Engineeinrg
	Applicant Contact Name:	Jakob Klein
	Applicant Contact Number:	(919) 469-1101
	Contact Email:	jklein@american-ea.com
	Municipal Jurisdiction (Select from dropdown menu):	Rolesville
	Last Updated:	Monday, March 31, 2025
		Site Data:
	Total Site Area (Ac):	48.28
	Existing Lake/Pond Area (Ac):	1.49
	Proposed Disturbed Area (Ac):	40.00
	Impervious Surface Area (acre):	15.13
	Type of Development (Select from Dropdown menu):	Residential
	Percent Built Upon Area (BUA):	31%
	Project Density:	High
	Is the proposed project a site expansion?	No
	Number of Drainage Areas on Site:	2
	1-Year, 24-Hour Storm (inches) (See NOAA Website):	2.86
NOAA	2-Year, 24-Hour Storm (inches) (See NOAA Website):	3.46
	10-Year, 24-Hour Storm (inches) (See NOAA Website):	5.06
		Lot Data (if applicable):
	Total Acreage in Lots:	24.38
	Number of Lots:	82
	Average Lot Size (SF):	10000.00
	Total Impervious Surface Area on Lots (SF):	402666.00
	Average Impervious Surface Area Per Lot (SF):	4910.56
	Otomanatan Namating (limit to 4 000	

Stormwater Narrative (limit to 1,200 characters - attach additional pages with submittal if necessary):

See project Stormwater Impact Analysis Report for detailed narrative and calculations. The Moody project will have five (5) SCM's which the cumalitive areas are post-development POD 2. Hydrograph modeling for the project shows peak flows being attenuated for the 1-year and 10-year storm events. Although the Wake County tool calculations show 5.56 lb/ac/yr as the nitrogen loading rate on site, the NCDEQ SNAP Tool was implemented as well for for nitrogen removal and shows no offets required as the site is currently below the traget Nitrogen export rate of 3.6 lb/ac/yr. Thank you.



The Preserve at Moody Farm Project Name: DRAINAGE AREA 1 STORMWATER PRE-POST CALCULATIONS POD #1 BYPASS

NORTH CAROLINA								
LAND USE & SITE DATA	P	RE-DEVE		NT	POS		LOPMEN	IT
Drainage Area (Acres)= Site Acreage within Drainage=			68 54			5.3		_
One-year, 24-hour rainfall (in)=		0.			2.86	2.1	-	
Two-year, 24-hour rainfall (in)=					3.46			
Ten-year, 24-hour storm (in)=					5.06			
Total Lake/Pond Area (Acres)=		0.	00			0.0	0	
Lake/Pond Area not in the Tc flow path (Acres)=		0.	00			0.0	0	
Site Land Use (acres):	A	В	С	D	A	В	С	D
Pasture								
Woods, Poor Condition Woods, Fair Condition		1.23	4.84	0.01				
Woods, Good Condition		1.23	4.04	0.01				
Open Space, Poor Condition								
Open Space, Fair condition		0.12	0.16					
Open Space, Good Condition			3.14				4.39	0.40
Reforestation (in dedicated OS)								
Connected Impervious			0.18				0.51	
Disconnected Impervious	DD		OPMEN		0001	DEVEL	ODMENT	т.
Sheet Flow	FR	E-DEVEL	OFMEN	1 I _C	P051	-DEVEL	OPMENT	10
Length (ft)=	Kirpich L	Jsed, See 3	SCM Sizing	& Calcs	Kirpich Us	ed, See Si	CM Sizing	& Calcs
Slope (ft/ft)=								
Surface Cover:								
n-value=								
T, (hrs)=								
Shallow Flow		_		_		_	_	_
Length (ft)= Slope (ft/ft)=		_		_		_	_	_
Slope (t/tt)= Surface Cover:								
Average Velocity (ft/sec)=								
T ₁ (hrs)=								
Channel Flow 1								
Length (ft)=								
Slope (ft/ft)=								
Cross Sectional Flow Area (ft ²)=								
Wetted Perimeter (ft)= Channel Lining:								
n-value=								
Hydraulic Radius (ft)=								
Average Velocity (ft/sec)=								
T, (hrs)=								
Channel Flow 2					1			
Length (ft)=								
Slope (ft/ft)=								
Cross Sectional Flow Area (ft ²)= Wetted Perimeter (ft)=								
Channel Lining:								
n-value=								
Hydraulic Radius (ft)=								
Average Velocity (ft/sec)=								
T _t (hrs)=								
Channel Flow 3								
Length (ft)= Slope (ft/ft)=								
Cross Sectional Flow Area (ft ²)=								
Wetted Perimeter (ft)=								
Channel Lining:								
n-value=								
Hydraulic Radius (ft)=								
Average Velocity (ft/sec)=								
T ₁ (hrs)= Tc (hrs)=		A	67		-	6.6	7	
RESULTS	р	RE-DEVE		NT	POS	T-DEVE		т
Composite Curve Number=			2		100	77		
Disconnected Impervious Adjustment								
Disconnected impervious area (acre) =								
CN _{adjusted} (t-year)=	L				77			
High Density Only	-							
Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) =	1			2	,628			
1-year, 24-hour storm (Peak Flow)								
Runoff (inches) = Q*1-year		0.				0.9		_
Volume of runoff (ft ³) =	L	17,	445			7,44	10	
Volume change (ft ³) =								
Peak Discharge (cfs)= Q _{1-year} =		0.1	330			0.59	15	
2-year, 24-hour storm (LID)								
Runoff (inches) = Q*2-year			11			1.3		
Volume of runoff (ft ³) =			250			10,7		
Peak Discharge (cfs)= Q _{2-year} =	I	1.3	249			0.85	ы	
10-year, 24-hour storm (DIA) Runoff (inches) = Q* _{10-year}	-	-	26			2.6	5	
Volume of runoff (ft ³) =		53,				62,9		
Peak Discharge (cfs)= Q _{10-year} =			552			1.64		
,=								

*	
WAKE	
COUNTY	

Project Name: The Preserve at Moody Farm DRAINAGE AREA 2 STORMWATER PRE-POST CALCULATIONS DA #2 and #3 equal hydrograph modeling POD 2

COUNTY DA #2 and	r#3 equal	Thru SCM	ph modelir 's	1g POD 2						
AND USE & SITE DATA	Р		ELOPME	NT	PC	ST-DEV		NT		
Drainage Area (Acres)= Site Acreage within Drainage=			1.72				.99 .29			
One-year, 24-hour rainfall (in)=				2	86					
Two-year, 24-hour rainfall (in)=					46					
Ten-year, 24-hour storm (in)= Total Lake/Pond Area (Acres)=				5.	0.68					
Total Lake/Pond Area (Acres)= Lake/Pond Area not in the Tc flow path (Acres)=			.68		0.68					
Site Land Use (acres):	A	В	С	D	А	В	С	D		
Pasture			0.35		0.00	0.00	0.00	0.00		
Woods, Poor Condition Woods, Fair Condition		1.72	10.03	2.82						
Woods, Fair Condition Woods, Good Condition		1.72	10.03	2.02		0.17	0.00			
Open Space, Poor Condition										
Open Space, Fair condition		2.07	10.09	4.07						
Open Space, Good Condition Reforestation (in dedicated OS)						3.61	14.34	1.00		
Connected Impervious		0.14	0.39	0.05			13.87			
Disconnected Impervious										
ITE FLOW	PR	E-DEVEL	LOPMEN	T T _c	POS	T-DEVE	LOPMEN	IT Tc		
Sheet Flow		40	0.00			400				
Length (ft)= Slope (ft/ft)=			0.00).00)28			
Surface Cover:			ass			Gr	ass			
n-value=			240				240			
T ₁ (hrs)=		0.	214	_	I	0.2	220	_		
Shallow Flow Length (ft)=		53	0.00			150	0.00	_		
Slope (ft/ft)=			030)30			
Surface Cover:			oaved				aved			
Average Velocity (ft/sec)= T, (hrs)=			.79				79			
Channel Flow 1		0	.05			0.	01			
Length (ft)=		160	00.00			550	0.00			
Slope (ft/ft)=			020)50			
Cross Sectional Flow Area (ft ²)=			.50				77			
Wetted Perimeter (ft)= Channel Lining:			.00 eeds				90 finished			
n-value=			040		Concrete, finished 0.012					
Hydraulic Radius (ft)=		0	.50			0.	61			
Average Velocity (ft/sec)=			.32				.98			
T ₁ (hrs)= Channel Flow 2		0.	.13		0.01					
Length (ft)=					20.00					
Slope (ft/ft)=										
Cross Sectional Flow Area (ft ²)= Wetted Perimeter (ft)=						00 13				
Channel Lining:					Gr	avel Bottor		des		
n-value=							033			
Hydraulic Radius (ft)=							33			
Average Velocity (ft/sec)= T ₁ (hrs)=							03			
Channel Flow 3						0.				
Length (ft)=						135	0.00			
Slope (ft/ft)=)25			
Cross Sectional Flow Area (ft ²)=							.00			
Wetted Perimeter (ft)= Channel Lining:		_				12 We				
n-value=						0.0	040			
Hydraulic Radius (ft)=						0.				
Average Velocity (ft/sec)= T ₁ (hrs)=						5.	69 07			
Tc (hrs)=		0	.25			0.	31			
RESULTS	Р	RE-DEVE	ELOPME	NT	PC	ST-DEV	ELOPME	NT		
Composite Curve Number= Disconnected Impervious Adjustment		3	76			8	13			
Disconnected impervious Adjustment Disconnected impervious area (acre) =										
CN _{adjusted (1-year)} =				8	3					
High Density Only										
Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) =				51,	301					
1-year, 24-hour storm (Peak Flow)										
Runoff (inches) = Q* _{1-year} =			.94				32 ,517			
Volume of runoff (ft ³) =		108	,204			154	,110			
Volume change (ft ³) =		-	457	46,	253			-		
Peak Discharge (cfs)= Q _{1-year} =	ļ	25	.457			39.	377	_		
2-year, 24-hour storm (LID)		1	.36			1.	81			
2-year, 24-hour storm (LID) Runoff (inches) = Q* _{2-year} =		-	5,432		1.81 211,681					
Runoff (inches) = Q* _{2-year} = Volume of runoff (ft ³) =				211,681 53.944						
Runoff (inches) = Q* _{2-yea} = Volume of runoff (ft ³) = Peak Discharge (cfs)= Q _{2-yea} =			.783			53.		_		
Runoff (inches) = Q* _{2yee} = Volume of runoff (h [*]) = Peak Discharge (cfs)= Q _{2yee} = 10-year, 24-hour storm (DIA)		36	.783				944			
Runoff (inches) = Q* _{2-yea} = Volume of runoff (ft ³) = Peak Discharge (cfs)= Q _{2-yea} =		36				3.				

VALUE PRIOR TO SCM ATTENUATION





DRAINAGE AREA 3 STORMWATER PRE-POST CALCULATIONS DA #2 and #3 equal hydrograph modeling POD 2 Bypass

LAND USE & SITE DATA	P	RE-DEVE		NT	POST-DEVELOPMENT					
Drainage Area (Acres)=		10	.26			13	.92			
Site Acreage within Drainage=		10	.26	13.92						
One-year, 24-hour rainfall (in)=		2.86								
Two-year, 24-hour rainfall (in)=				3.	16					
Ten-year, 24-hour storm (in)=				5.						
Total Lake/Pond Area (Acres)=	5.06									
Lake/Pond Area not in the Tc flow path (Acres)=										
Site Land Use (acres):	А	В	С	D	А	В	С	D		
Pasture			0.13							
Woods, Poor Condition										
Woods, Fair Condition		0.67	2.75	1.10						
Woods, Good Condition							0.07	1.74		
Open Space, Poor Condition										
Open Space, Fair condition		0.80	3.03	1.58						
Open Space, Good Condition							6.06	5.30		
Reforestation (in dedicated OS)										
Connected Impervious		0.05	0.12	0.02			0.75			
Disconnected Impervious										
SITE FLOW	PR	E-DEVEL	OPMEN	Г Т _с	POS	ST-DEVE	LOPMEN	T Tc		
Sheet Flow										
Length (ft)=	Ν	/linimum 5	min Tc use	ed	Ν	/linimum 5	min Tc use	d		
Slope (ft/ft)=										
Surface Cover:										
n-value=										
T _t (hrs)=										
Shallow Flow										
Length (ft)=										
Slope (ft/ft)=										
Surface Cover:										
Average Velocity (ft/sec)=										
T _t (hrs)=										
Channel Flow 1										
Length (ft)=										
Slope (ft/ft)=										
Cross Sectional Flow Area (ft ²)=										
Wetted Perimeter (ft)=										
Channel Lining:										
n-value=										
Hydraulic Radius (ft)=										
Average Velocity (ft/sec)=										
T _t (hrs)=										



DRAINAGE AREA 3 STORMWATER PRE-POST CALCULATIONS DA #2 and #3 equal hydrograph modeling POD 2 Bypass

Project Name:

Channel Flow 2			
Length (ft)=			
Slope (ft/ft)=			
Cross Sectional Flow Area (ft ²)=			
Wetted Perimeter (ft)=			
Channel Lining:			
n-value=			
Hydraulic Radius (ft)=			
Average Velocity (ft/sec)=			
T _t (hrs)=			
Channel Flow 3			TO ENABLE DATA TO PROPERLY BE INPUT INTC
Length (ft)=			THIS SPREADSHEET, POD
Slope (ft/ft)=			2 WAS BROKEN INTO BYPASS AREA AND SCM
Cross Sectional Flow Area (ft ²)=			AREAS. THE ADDITIONAL
Wetted Perimeter (ft)=			POST-DEV CFS IS DUE TO SEVERAL ROOFS ADDED
Channel Lining:			TO THE DRAINAGE AREA.
n-value=			MODELING SEEN WITHIN
Hydraulic Radius (ft)=			THE PROJECT SIA REPORT PROVES THAT
Average Velocity (ft/sec)=			POD 2 ATTENUATION IS
T _t (hrs)=			IMPROVED IN POST-DEV.
Tc (hrs)=	5.00	5.00	
RESULTS	PRE-DEVELOPMENT	POST-DEVELOPMENT	
RESULTS Composite Curve Number=	PRE-DEVELOPMENT 76	POST-DEVELOPMENT 78	
Composite Curve Number=			
Composite Curve Number= Disconnected Impervious Adjustment	76		
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) =	76	78	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} =	76	78	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA	76	78	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) =	76	78	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted} (1-year)= High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow)	76	78 78 977	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted} (1-year)= High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} =	76 	78 78 977 1.03	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted} (1-year)= High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) =	76 	78 78 977 1.03 51,860	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) = Volume change (ft ³) =	76 	78 78 977 1.03 51,860 665	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted} (1-year)= High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) = Volume change (ft ³) = Peak Discharge (cfs)= Q _{1-year} =	76 	78 78 977 1.03 51,860 665	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted} (1-year)= High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) = Volume change (ft ³) = Peak Discharge (cfs)= Q _{1-year} = 2-year, 24-hour storm (LID)	76 	78 78 977 1.03 51,860 665 2.465	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume change (ft ³) = Peak Discharge (cfs) = Q _{1-year} = 2-year, 24-hour storm (LID) Runoff (inches) = Q* _{2-year} =	76 	78 78 977 1.03 51,860 665 2.465 1.46	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) = Volume change (ft ³) = Peak Discharge (cfs)= Q _{1-year} = 2-year, 24-hour storm (LID) Runoff (inches) = Q* _{2-year} = Volume of runoff (ft ³) =	76 	78 78 977 1.03 51,860 665 2.465 1.46 73,892	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted} (1-year)= High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) = Volume change (ft ³) = Peak Discharge (cfs)= Q _{1-year} = Volume of runoff (inches) = Q* _{2-year} = Volume of runoff (ft ³) = Peak Discharge (cfs) = Q _{2-year} =	76 	78 78 977 1.03 51,860 665 2.465 1.46 73,892	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year}] High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) = Volume change (ft ³) = Peak Discharge (cfs) = Q _{1-year} = Volume of runoff (ft ³) = Peak Discharge (cfs) = Q* _{2-year} = Volume of runoff (ft ³) = Peak Discharge (cfs) = Q- _{2-year} =	76 76 4, 0.94 35,195 16 1.424 1.36 50,816 2.056	78 78 78 78 78 78 78 78 78 78	

Post-development peak flow exceeds pre-development peak flow for this DA!



DRAINAGE AREA 4 STORMWATER PRE-POST CALCULATIONS

Project Name:

LAND USE & SITE DATA	P	RE-DEVE	LOPME	T	P	OST-DEV	ELOPME	NT			
Drainage Area (Acres)=						13	.94				
Site Acreage within Drainage=		0.	00			0.	.00				
One-year, 24-hour rainfall (in)=				2.	86						
Two-year, 24-hour rainfall (in)=				3.	46						
Ten-year, 24-hour storm (in)=				5.	06						
Total Lake/Pond Area (Acres)=		0.79				0.79					
Lake/Pond Area not in the Tc flow path (Acres)=		0.	79		0.79						
Site Land Use (acres):	А	В	С	D	А	В	С	D			
Pasture											
Woods, Poor Condition											
Woods, Fair Condition											
Woods, Good Condition		1.61	2.90	0.97		1.61	2.90	0.97			
Open Space, Poor Condition											
Open Space, Fair condition											
Open Space, Good Condition		2.35	4.54	0.26		2.35	4.54	0.26			
Reforestation (in dedicated OS)						1					
Connected Impervious			0.52	0.79			0.52	0.79			
Disconnected Impervious											
SITE FLOW	PR	E-DEVEL	OPMEN	Г Т _с	PO	ST-DEVE	LOPMEN	T Tc			
Sheet Flow											
Length (ft)=	Fro	m Culvert 1	Fc Calculat	ions	Fro	om Culvert	Tc Calculat	ions			
Slope (ft/ft)=											
Surface Cover:											
n-value=											
T _t (hrs)=											
Shallow Flow											
Length (ft)=											
Slope (ft/ft)=											
Surface Cover:											
Average Velocity (ft/sec)=											
T _t (hrs)=											
Channel Flow 1											
Length (ft)=											
Slope (ft/ft)=											
Cross Sectional Flow Area (ft ²)=											
Wetted Perimeter (ft)=											
Channel Lining:											
n-value=											
Hydraulic Radius (ft)=											
Average Velocity (flood)=											
Average Velocity (ft/sec)=											



Project Name:

DRAINAGE AREA 4 STORMWATER PRE-POST CALCULATIONS

Channel Flow 2		
Length (ft)=		
Slope (ft/ft)=		
Cross Sectional Flow Area (ft ²)=		
Wetted Perimeter (ft)=		
Channel Lining:		
n-value=		
Hydraulic Radius (ft)=		
Average Velocity (ft/sec)=		
T _t (hrs)=		
Channel Flow 3		
Length (ft)=		
Slope (ft/ft)=		
Cross Sectional Flow Area (ft ²)=		
Wetted Perimeter (ft)=		
Channel Lining:		
n-value=		
Hydraulic Radius (ft)=		
Average Velocity (ft/sec)=		
T _t (hrs)=		
Tc (hrs)=	34.70	34.70
RESULTS	PRE-DEVELOPMENT	POST-DEVELOPMENT
RESULTS Composite Curve Number=	PRE-DEVELOPMENT 71	POST-DEVELOPMENT 71
Composite Curve Number=		
Composite Curve Number= Disconnected Impervious Adjustment	71	
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) =	71	71
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} =	71	71
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA	71	71
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) =	71	71
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow)	71 71 6,6	71 71 71 309
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted} (1-year)= High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} =	71 71 6,6	71 71 71 309
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted} (1-year) = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) =	71 71 6,6	71 71 71 309
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Volume of runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) =	71 7 6,6	71 1 309 0.70
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) = Volume change (ft ³) = Peak Discharge (cfs)= Q _{1-year} =	71 7 6,6	71 1 309 0.70
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) = Volume change (ft ³) = Peak Discharge (cfs) = Q _{1-year} = 2-year, 24-hour storm (LID)	71 7 6,8 0.70 0.185	71 71 309 0.70 0.185
Composite Curve Number= Disconnected Impervious Adjustment Disconnected Impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Volume of runoff (inches) = Q* _{1-year} = Volume change (ft ³) = Peak Discharge (cfs) = Q _{1-year} = 2-year, 24-hour storm (LID) Runoff (inches) = Q* _{2-year} =	71 7 6,8 0.70 0.185 1.06	71 71 309 0.70 0.185
Composite Curve Number= Disconnected Impervious Adjustment Disconnected Impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA High Density Only Volume of runoff from 1" rainfall for DA High Density Only Volume of runoff from 1" rainfall for DA High Density Only Volume Colspan="2">Volume Colspan="2">Note of runoff (fr³) = 1-year, 24-hour storm (Peak Flow) Volume of runoff (ft³) = Volume of runoff (ft³) = Volume change (ft³) = Peak Discharge (cfs) = Q _{1-year} = Volume of runoff (ftr³) = Peak Discharge (cfs) = Q [*] _{2-year} = Volume of runoff (ftr³) = Peak Discharge (cfs) = Q _{2-year} = Volume of runoff (ftr³) = Peak Discharge (cfs) = Q _{2-year} =	71 7 6,6 0.70 0.185 1.06 0	71 1 309 0.70 0.185 1.06
Composite Curve Number= Disconnected Impervious Adjustment Disconnected impervious area (acre) = CN _{adjusted} (1-year)= High Density Only Volume of runoff from 1" rainfall for DA HIGH DENSITY REQUIREMENT = (ft ³) = 1-year, 24-hour storm (Peak Flow) Runoff (inches) = Q* _{1-year} = Volume of runoff (ft ³) = Volume change (ft ³) = Peak Discharge (cfs)= Q _{1-year} = Volume of runoff (ft ³) = Peak Discharge (cfs) = Q* _{2-year} = Peak Discharge (cfs) = Q _{2-year} =	71 7 6,6 0.70 0.185 1.06 0	71 1 309 0.70 0.185 1.06
Composite Curve Number= Disconnected Impervious Adjustment Disconnected Impervious area (acre) = CN _{adjusted (1-year)} = High Density Only Volume of runoff from 1" rainfall for DA High Density Only Volume of runoff from 1" rainfall for DA High Density Only Volume of runoff from 1" rainfall for DA High Density Only Volume Colspan="2">Volume Colspan="2">Note of runoff (fr³) = 1-year, 24-hour storm (Peak Flow) Volume of runoff (ft³) = Volume of runoff (ft³) = Volume change (ft³) = Peak Discharge (cfs) = Q _{1-year} = Volume of runoff (ftr³) = Peak Discharge (cfs) = Q [*] _{2-year} = Volume of runoff (ftr³) = Peak Discharge (cfs) = Q _{2-year} = Volume of runoff (ftr³) = Peak Discharge (cfs) = Q _{2-year} =	71 7 6,8 0.70 0.185 1.06 0 0.282	71 71 309 0.70 0.185 1.06 0.282



DA SITE SUMMARY STORMWATER PRE-POST CALCULATIONS

		SITE	SUMMAR	(
DRAINAGE AREA SUMMARIES												
DRAINAGE AREA:	DA1	DA2	DA3	DA4	DA5	DA6	DA7	DA8	DA9	DA10		
			(1-year, 24-		m)	1	1	1	[[
Runoff (in) = Q _{pre,1-year} =	0.73	0.94 25.457	0.94	0.70								
Peak Flow (cfs)=Q _{1-year} = 0.830			1.424	0.185								
		1	(1-year, 24	-nour sto	rm)	1	1	[1			
Proposed Impervious Surface (acre) =	0.51	13.87	0.75	0.70		VALUE PR		OR TO	SCM -			
Runoff (in)=Q _{1-year} =	0.96	1.32	1.03	0.70		🗕 ATT	ENUAT	ION	-			
Peak Flow (cfs)=Q _{1-year} =	0.595	39.377	2.465	0.185								
Increase in volume per DA (ft ³)_1-yr storm= Minimum Volume to be Managed for DA HIGH DENSITY REQUIREMENT = (ft ³) =	2,628	46,253 51,301	16,665 4,977	0 6,809								
TARGET CURVE NUMBER (TCN)		1				1	1	1	I			
		Si	te Data									
	5		COMPOSI	TION								
HYDROLOGIC SOIL GRO					Area		%		Target CN	<u>l</u>		
А					.00)%		N/A			
В				4.	.65	ę	9%		N/A			
С				36	.22	7	4%		N/A			
D				8.	.05	1	6%		N/A			
		То	tal Site Area	(acres) =			48	.92				
Percent B	UA (Include	es Existing	Lakes/Pond	Areas) =			30	0%				
		Project Density =				High						
		Target Curve Number (TCN) =				N/A						
			CN _{adju}	sted (1-year)=			8	30				
Minimum Volume to be Mana	ged (Total S	Site) Per T	CN Requirer	nent= ft ³ =			Ν	I/A				
	s	Site Nitrog	en Loading	Data								
HSG			TN export		Site			N				
		coefficient (Ibs/ac/yr)				Acreage		Export				
Pasture		1.2				0.00		0.00				
Woods, Poor Condition			1.6			0.00			0.00			
Woods, Fair Condition			1.2			0.00		0.00				
Woods, Good Condition		0.8				7.46		5.97				
Open Space, Poor Condition		1.0				0.00		0.00				
Open Space, Fair Condition		0.8				0.00		0.00 25.35				
Open Space, Good Condition	Open Space, Good Condition			0.6			42.25					
Reforestation (in dedicated OS)			0.6			0.00			0.00			
Impervious			21.2	16.44 348.53								
SITE NITROGEN LOADING RATE						5.74						
Nitrogen Lo						379.84						
S	ite Nitroge	n Loading	Data For E	xpansion	s Only							
		Existing				New						
Impervious(acres)=			NA					NA				
"Expansion Area" (acres=)												
Nitrogen Load (lbs/yr)=		NA						NA				
SITE NITROGEN LOADING RATE (lbs/ac/yr)=			NA			<u> </u>		NA				
Total Site loading rate (lbs/ac/yr)												
TOTAL SITE NITROGEN TO MITIGATE (lbs/yr)=					NA	4						

MAKE
COUNTY

Project Name: DRAINAGE AREA 1 BMP CALCULATIONS

The Preserve at Moody Farm

COUNTY NORTH CAROLINA											
DRAINAGE AREA 1 - BMP DEVICES AND	DADJUSTMENTS										
DA1 Site Acreage= DA1 Off-Site Acreage=				2.13							
Total Required Storage Volume for Site TCN Requirement (ft ³)=				N/A							
Total Required Storage Volume for DA1 1" Rainfall for High Density (ft ²)=				2,62	8						
r Kalilial for High Density (it)-											
Will site use underground detention/cistern?	No	Enter %	of the year v	vater will be reused=		0%		Note: Supp submitted t	orting inform o demonstra	ation/details te water usa	should be
ENTER ACREAGE FOR ALL SUB-DRAINAGE		Sub-D	A1(a)	Sub-D	DA1(b)	Sub-	DA1(c)	Sub-I	DA1(d)	Sub-	DA1(e)
	HSG	(A Site	c) Off-site	(A Site	Ac) Off-site	(/ Site	Ac) Off-site	(/ Site	Ac) Off-site	(# Site	Ac) Off-site
Pasture											
Woods, Poor Condition Woods. Fair Condition											
Woods, Fair Condition Woods. Good Condition											
Open Space, Poor Condition											
Open Space, Fair Condition											
Open Space, Good Condition Reforestation (in dedicated OS)		1.62	3.17								
Impervious		0.51									
Sub-DA1(a) BMP(s)	Γ				1			1	1	1	1
Device Name (As Shown on Plan)	Device Type	Water Quality Volume for Sub-DA (ft ³)			V <u>drar</u>	Provided olume that w wdown 2-5 ((ft ³)	vill Jays	Nitrogen Removal Efficiency	Sub-DA Nitrogen (lbs)	Nitrogen Removed (lbs)	Drawdown Time (hours)
N/A								0%	13.69	0.00	
								0%	13.69	0.00	
			2,628					0%	13.69	0.00	
								0%	13.69 13.69	0.00	
То	otal Nitrogen remaining leaving the subbasin (lbs):					13	1.69	578	- 3.05	0.00	
Sub-DA1(b) BMP(s)											
enter ti	If Sub-DA1(b) is connected to upstream subbasin(s), he nitrogen leaving the most upstream subbasin(lbs):										
						Provided		Nitrogen	Sub-DA	Nitrogen	Drawdown
Device Name (As Shown on Plan)	Device Type	Wate fo	er Quality Vo er Sub-DA (ft	iume ³)	V drar	olume that w wdown 2-5 (vul <u>days</u>	Removal Efficiency	Nitrogen (lbs)	Removed (lbs)	Time (hours)
						(ft ²)		0%	0.00	0.00	1. 1
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
	otal Nitrogen remaining leaving the subbasin (lbs):							0%	0.00	0.00	
Sub-DA1 (c) BMP(s)	san widogen remaining leaving the subbasin (lbs).										
	If Sub-DA1(c) is connected to upstream subbasin(s), he nitrogen leaving the most upstream subbasin(lbs):										
enter ti	ne nirrogen leaving the most upstream subbasin(lbs):				1	Denside		1	1	1	
Device Name (As Shown on Plan)	Device Type	Wate	er Quality Vo er Sub-DA (ft	lume ³)	Provided Volume that will drawdown 2-5 days (ft ²)			Nitrogen Removal Efficiency	Sub-DA Nitrogen (lbs)	Nitrogen Removed (lbs)	Drawdown Time (hours)
								0%	0.00	0.00	
								0%	0.00	0.00	
		-						0%	0.00	0.00	
								0%	0.00	0.00	
	otal Nitrogen remaining leaving the subbasin (lbs):										
Sub-DA1(d) BMP(s)	coin(a) onter the nitrogen locking the most unstream										
If Sub-Livit(d) is connected to upstream subb	asin(s), enter the nitrogen leaving the most upstream subbasin(lbs):										
Device Name (As Shown on Plan)	Device Type		er Quality Vo er Sub-DA (ft		Provided Volume that will drawdown 2-5 days			Nitrogen Removal Efficiency	Sub-DA Nitrogen (lbs)	Nitrogen Removed (lbs)	Drawdown Time (hours)
						(ft ²)		0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
-	otal Nitrogen remaining leaving the subbasin (lbs):							0%	0.00	0.00	
Sub-DA1(e) BMP(s)											
	asin(s), enter the nitrogen leaving the most upstream subbasin(lbs):										
Device Name (As Shown on Plan)	subbasin(ibs): Device Type		er Quality Vo or Sub-DA (ft			Provided olume that v wdown 2-5 (Nitrogen Removal Efficiency	Sub-DA Nitrogen	Nitrogen Removed (lbs)	Drawdown Time (hours)
						(ft ²)			(lbs)		(nodis)
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
T.	otal Nitrogen remaining leaving the subbasin (lbs):							0%	0.00	0.00	
		A1 BMP SL	JMMARY								
	Total Volume Treated (ft ³)=					4,	107				
1-year, 24-hour storm	Nitrogen Mitigated(lbs)=										
ryear, 24-nour storm	Post BMP Volume of Runoff (ft ²)(1-year)=					3,	333				
	Post BMP Runoff (inches) = Q*(1-year)=					0	.43				
	Post BMP CN(1-year)=						34				
	Post BMP Peak Discharge (cfs)= Q _{1-yaar} =					0	.84				
2-year, 24-hour storm (LID)	Post BMP Volume of Runoff (ft3) _(2-year) =	-				6	603				
	Post BMP Runoff (inches) = Q*(2-year)=						.85				
						(37				
	Post BMP CN _(2-year) =										
	Post BMP CN _(2-year) = Post BMP Peak Discharge (cfs)= Q _(2-year) =										
10-year, 24-hour storm (DIA)	Post BMP Peak Discharge (cfs)= Q _(2-yaw) =										
10-year, 24-hour storm (DIA)	Post BMP Peak Discharge (cfs)= Q _(2-year) = Post BMP Volume of Runoff (ft ²) _(10-year) =						,852				
10-year, 24-hour storm (DIA)	Post BMP Peak Discharge (cfs)= Q _(2-yaw) =					7	852 61 98				
18-year, 24-hour storm (DIA)	Post BMP Peak Discharge (ds)= Q _(2-yen) = Post BMP Volume of Runoff (ft ²) _(3-yen) = Post BMP Runoff (inches) = Q [*] _(3-yen) =					7	.61				

*	
WAKE	
COUNTY	

Project Name: DRAINAGE AREA 2 BMP CALCULATIONS

The Preserve at Moody Farm

COUNTY NORTH CARDEINA												
DRAINAGE AREA 1 - BMP DEVICES AND	ADJUSTMENTS			32.2	-							
DA2 Site Acreage= DA2 Off-Site Acreage=				0.70								
Total Required Storage Volume TCN Requirement (ft ²)= Total Required Storage Volume for DA2				N/A 51,30								
1" Rainfall for High Density (ft3)= Will site use underground detention/cistern?	No	Enter %	of the year v			0%		Note: Supp submitted b	orting inform o demonstra	ation/details te water usa	should be	
ENTER ACREAGE FOR ALL SUB-DRAINAGE	AREAS IN DA											
HSG			DA2(a) ic) Off-site	Sub-E (A Site	DA2(b) ic) Off-site	Sub-l (/ Site	DA2(c) Ac) Off-site	Sub-I (A Site	DA2(d) lc) Off-site	Sub-I (/ Site	Sub-DA2(e) (Ac) Site Off-site	
Pasture		Site										
Woods, Poor Condition Woods, Fair Condition												
Woods, Good Condition						0.17						
Open Space, Poor Condition												
Open Space, Fair Condition Open Space, Good Condition		5.18	0.70	0.93		4.87		3.21		4.06		
Reforestation (in dedicated OS)												
Impervious Sub-DA1(a) BMP(s)		3.58		0.45		3.68		2.82		3.34		
Device Name (As Shown on Plan)	Device Type	Water Quality Volume for Sub-DA (tt ³)			V. drar	Provided olume that v wdown 2-5 ((ft ²)	vill Jays	Nitrogen Removal Efficiency	Sub-DA Nitrogen (lbs)	Nitrogen Removed (lbs)	Drawdown Time (hours)	
WP#1	Wet Detention Basin					(π)		25%	79.42	19.86	69	
								0%	59.57	0.00	09	
			5,071			5,071		0%	59.57	0.00		
								0%	59.57 59.57	0.00		
	otal Nitrogen remaining leaving the subbasin (lbs):					55	.57					
Sub-DA1(b) BMP(s)												
enter ti	If Sub-DA1(b) is connected to upstream subbasin(s), he nitrogen leaving the most upstream subbasin(lbs):											
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (ft		V. drar	Provided olume that v wdown 2-5 ((ft ²)	vill <u>Jays</u>	Nitrogen Removal Efficiency	Sub-DA Nitrogen (lbs)	Nitrogen Removed (lbs)	Drawdown Time (hours)	
WP#2	Wet Detention Basin							25%	10.10	2.52	73	
								0%	7.57	0.00		
			312			312		0%	7.57	0.00		
								0%	7.57	0.00		
	otal Nitrogen remaining leaving the subbasin (lbs):					7.	.57		1			
Sub-DA1 (c) BMP(s)	If Sub-DA1(c) is connected to upstream subbasin(s),											
enter ti	he nitrogen leaving the most upstream subbasin(bs):											
Device Name (As Shown on Plan)	Device Type	Water Quality Volume for Sub-DA (R ³)			Provided Volume that will drawdown 2-5 days (ft ³)			Nitrogen Removal Efficiency	Sub-DA Nitrogen (lbs)	Nitrogen Removed (lbs)	Drawdown Time (hours)	
WP#3	Wet Detention Basin							25%	81.07	20.27	85	
								0%	60.81	0.00		
			4,761		4,761			0%	60.81 60.81	0.00		
								0%	60.81	0.00		
	otal Nitrogen remaining leaving the subbasin (lbs):					60	.81					
Sub-DA1(d) BMP(s) If Sub-DA1(d) is connected to upstream subb	asin(s), enter the nitrogen leaving the most upstream											
()	subbasin(lbs):			Provided						1		
								Nitrogen	Sub-DA	Nitrogen		
Device Name (As Shown on Plan)	Device Type	Wate	er Quality Vo or Sub-DA (ft	lume 3)	V. <u>dra</u> r	Provided olume that v wdown 2-5 (ft ²)	vill <u>Jays</u>	Nitrogen Removal Efficiency	Sub-DA Nitrogen (lbs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)	
Device Name (As Shown on Plan) WP#4	Device Type Wet Detention Basin	Wate fc	er Quality Vo or Sub-DA (ft	lume ⁵)	V. <u>dra</u>	olume that w wdown 2-5	vill <u>Jays</u>	Removal Efficiency 25%	Nitrogen (lbs) 61.71	Removed (lbs) 15.43	Time	
		Wate fc	er Quality Vo or Sub-DA (ft 2,778	ume ⁵)	V. <u>dra</u>	olume that w wdown 2-5	vill <u>Jays</u>	Removal Efficiency	Nitrogen (lbs)	(lbs)	Time (hours)	
		Wate	or Sub-DA (ft	iume ³)	V. <u>dra</u>	olume that v wdown 2-5 ((ft ³)	vill Jays	Removal Efficiency 25% 0% 0% 0%	Nitrogen (lbs) 61.71 46.28 46.28 46.28	Removed (lbs) 15.43 0.00 0.00 0.00	Time (hours)	
WP64	Wet Detention Basin	Wate fc	or Sub-DA (ft	lume ³)	V. <u>dra</u>	olume that v vdown 2-5 (ft ²) (ft ²)	<u>Jays</u>	Removal Efficiency 25% 0% 0%	Nitrogen (lbs) 61.71 46.28 46.28	Removed (lbs) 15.43 0.00 0.00	Time (hours)	
WP64		Wate	or Sub-DA (ft	lume ^b)	V. drav	olume that v vdown 2-5 (ft ²) (ft ²)	vill days	Removal Efficiency 25% 0% 0% 0%	Nitrogen (lbs) 61.71 46.28 46.28 46.28	Removed (lbs) 15.43 0.00 0.00 0.00	Time (hours)	
WP#4 5ub-DA1(e) BMP(s)	Wet Detention Basin	Wate	or Sub-DA (ft	lume ⁵)	V <u>dar</u>	olume that v vdown 2-5 (ft ²) (ft ²)	<u>Jays</u>	Removal Efficiency 25% 0% 0% 0%	Nitrogen (lbs) 61.71 46.28 46.28 46.28	Removed (lbs) 15.43 0.00 0.00 0.00	Time (hours)	
WP#4 5ub-DA1(e) BMP(s)	Wet Detention Basin	fc Wate	or Sub-DA (ft	^b)	<u>drar</u>	olume that v vdown 2-5 r (ft ²) 2,778 46 Provided olume that v vdown 2-5 r	139 <u>5</u> 5.28	Removal Efficiency 25% 0% 0% 0%	Nitrogen (lbs) 61.71 46.28 46.28 46.28	Removed (lbs) 15.43 0.00 0.00 0.00	Time (hours)	
WP95 Sub-DAt(e) BMP(s) If Sub-DAt(e) is connected to upstream subb Device Name (As Shown on Plan)	Wet Detention Basin Wet Detention Basin Data Nitrogen remaining leaving the subbasin (ba): sain(c), enter the nitrogen leaving the most upsteam subbasin(las): Device Type	fc Wate	2,778	^b)	<u>drar</u>	olume that x wdown 2-5 ((ft ²) 2,778 46 Provided olume that x	139 <u>5</u> 5.28	Removal Efficiency 25% 0% 0% 0% 0% 0%	Nitrogen (lbs) 61.71 46.28 46.28 46.28 46.28 46.28 46.28 Vitrogen (lbs)	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 Nitrogen Removed (lbs)	Time (hours) 65	
WPes To Sub-DAT(e) BMP(a) If Sub-DAT(e) is connected to upstream subb	Wet Detention Basin Wet Detention Basin Data Nitrogen remaining leaving the subbasin (lbs): sain(c), enter the nitrogen leaving the most (galanean subbasin(lbs))	fc Wate	2,778	^b)	<u>drar</u>	Provided wdown 2-5 ((ft ²) 2,778 46 Provided blume that 1 wdown 2-5 ((ft ²)	139 <u>5</u> 5.28	Removal Efficiency 25% 0% 0% 0% 0% 0%	Nitrogen (lbs) 61.71 46.28 46.28 46.28 46.28 46.28 Vitrogen (lbs) 73.24 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 Nitrogen Removed (lbs) 18.31 0.00	Time (hours) 65	
WP#4 Sub-DA1(e) BMP(s) If Sub-DA1(e) is connected to upstream subb Device Name (A4 Shown on Plan)	Wet Detention Basin Wet Detention Basin Data Nitrogen remaining leaving the subbasin (ba): sain(c), enter the nitrogen leaving the most upsteam subbasin(las): Device Type	fc Wate	2,778	^b)	<u>drar</u>	olume that v vdown 2-5 r (ft ²) 2,778 46 Provided olume that v vdown 2-5 r	139 <u>5</u> 5.28	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (lbs) 61.71 46.28 46.28 46.28 46.28 46.28 46.28 46.28 73.24 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 Nitrogen Removed (lbs) 18.31 0.00 0.00	Time (hours) 65	
WP#4 Sub-DA1(e) BMP(s) If Sub-DA1(e) is connected to upstream subb Device Name (A4 Shown on Plan)	Wet Detention Basin Wet Detention Basin Data Nitrogen remaining leaving the subbasin (ba): sain(c), enter the nitrogen leaving the most upsteam subbasin(las): Device Type	fc Wate	z,778 2,778 er Quality Vo x Sub-DA (ft	^b)	<u>drar</u>	Provided wdown 2-5 ((ft ²) 2,778 46 Provided blume that 1 wdown 2-5 ((ft ²)	139 <u>5</u> 5.28	Removal Efficiency 25% 0% 0% 0% 0% 0%	Nitrogen (lbs) 61.71 46.28 46.28 46.28 46.28 46.28 46.28 Vitrogen (lbs) 73.24 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 Nitrogen Removed (lbs) 18.31 0.00	Time (hours) 65	
WP94 Sub-DA1(e) BMP(e) If Sub-DA1(e) is connected to upstream subb Device Name (As Shown on Plan) WP95	Wet Detention Basin Use Detention Basin Data Nitrogen remaining leaving the subbasin (Ba): satin(s), enter the relingen leaving the most (patients subbasin(tio) Device Type Wet Detention Basin Cal Nitrogen remaining leaving the subbasin (Ba):	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	olume that v (ft ²) 2,778 46 Provided plume that v wdown 2-5 r (ft ²) 3,791	139 <u>5</u> 5.28	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP84 Sub-DA1(e) BMP(e) If Sub-DA1(e) is connected to upstream subb Device Name (As Shown on Plan) Device Name (As Shown on Plan)	Wet Detention Basin Wet Detention Basin Val Nitrogen remaining leaving the subbasin (flag: asin(s), enter the nitrogen leaving the most upsteam subbasin(flag) Device Type Wet Detention Basin Val Nitrogen remaining leaving the subbasin (flag). D	fc Wate	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	Provided olume that t (ft ²) 2,778 46 Provided olume that t wdown 2-5 (ft ²) 3,791	i.28 vill i.93	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 Sub-DA1(e) BMP(s) If Sub-DA1(e) is connected to upstream subb Device Name (As Shown on Plan) Device Name (As Shown on Plan) WP95 To	Wet Detention Basin Use Detention Basin Data Nitrogen remaining leaving the subbasin (Ba): satin(s), enter the relingen leaving the most (patients subbasin(tio) Device Type Wet Detention Basin Cal Nitrogen remaining leaving the subbasin (Ba):	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	Provided obume that values (ft ²) 2,778 46 Provided obume that values (ft ²) 3,791 16	328	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 Sub-DA1(e) BMP(s) If Sub-DA1(e) is connected to upstream subb Device Name (As Shown on Plan) Device Name (As Shown on Plan) WP95 To	Wet Detention Basin Vet Detention Basin Deta Nitrogen remaining leaving the subbasin (Basi Device Type Wet Detention Basin Device Type Vet Detention Basin Device Type Nitrogen remaining leaving the subbasin (Basi Total Volume Treated (P)- Nitrogen Keigate(Su-)	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	Diverse that 1 weights 2,778 46 Provided obum that 1 0,778 46 0,778 3,791 54 16 76	2393 228 vill 1393 713 .39	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 Sub-DA1(e) BMP(s) If Sub-DA1(e) is connected to upstream subb Device Name (As Shown on Plan) Device Name (As Shown on Plan) WP95 To	Wet Detention Basin bit Nitrogen remaining leaving the subbasin (lbs): bit Nitrogen remaining leaving the subbasin (lbs): Device Type Wet Detention Basin bit Nitrogen remaining leaving the subbasin (lbs): Data Nitrogen remaining leaving the subbasin (lbs): Data Vietore Transformer (lbs): Data Vietore Transformer (lbs): Nitrogen Milighted(lbs): Nitrogen Milighted(lbs): Post BMP Volume of Runoff (lbs): pages BMP Volume of Runoff (lbs):	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	2,778 46 Provided 9 3,791 54 16 16 17 76	4372 4372 4372 4372 4372 713 713 713 39 713 (39)	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 Sub-DA1(e) BMP(s) If Sub-DA1(e) is connected to upstream subb Device Name (As Shown on Plan) Device Name (As Shown on Plan) WP95 To	Wet Detention Basin Vet Detention Basin Vet Notogen remaining leaving the subbasin (Basi) Vet Notogen remaining leaving the subbasin (Basi) Vet Detention Basin Vet Detention Vet Detention Basin Vet Detentio	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	Delume that 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2393 228 vill 1393 713 .39	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 Sub-DA1(e) BMP(e) If Sub-DA1(e) is connected to upstream subb Device Name (As Shown on Plan) WP95	Wet Detention Basin Wet Detention Basin Use Notogen remaining leaving the subbasin (tas): sain(s), enter the nitrogen leaving the most upstream subbasin(tas) Device Type Wet Detention Basin Use Notogen remaining leaving the subbasin (tas): Device Type Wet Detention Basin Use Notogen Notogen (tas): Device Type Post BMP Value of Runof (t ² ₁): ₁₀₀₇ Post BMP Value of funct of ² ₁₀₁₆₀₇	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	2,778 48 Provided 0	2.28 2.28 2.28 2.29 2.20 2.20 2.20 2.20 2.20 2.20 2.20	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 To Sub-DAt(e) BMF(e) If Sub-DAt(e) BMF(e) Device Name (As Shown on Plan) Device Name (As Shown on Plan) Resc. To	Wet Detention Basin Wet Detention Basin Veta Nktrogen remaining leaving the subbasin (flas): asin(s), enter the nitrogen leaving the most upsteam subbasin(tes) Device Type Wet Detention Basin Veta Nktrogen remaining leaving the subbasin (flas): Device Type Veta Basin Veta Nktrogen remaining leaving the subbasin (flas): Device Type Veta Basin Vetame of Runnel (flas): Post BASI Vetame of Runnel (flas): Post BASI National (flas): Post National (flas): P	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	2,776 44 Provided Provided 4 0 0 0 0 0 0 0 0 0	1975 1975	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 To Sub-DAt(e) BMF(e) If Sub-DAt(e) BMF(e) Device Name (As Shown on Plan) Device Name (As Shown on Plan) Resc. To	Wet Detention Basin Vet Detention Basin Def Ntrogen remaining leaving the subbasin (Bas): Derice Type Wet Detention Basin Derice Type Vet Detention Basin Derice Type Vet Detention Basin Derice Type Post BMP Past Detention Basin Post BMP Past Bashward (Phy- Post BMP	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	2,778 2,778 46 778 778 46 778 778 46 778 778 778 778 778 778 778 778 778 77	228 228 228 229 229 229 229 229 229 229	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 To Sub-DAt(e) BMF(e) If Sub-DAt(e) BMF(e) Device Name (As Shown on Plan) Device Name (As Shown on Plan) Resc. To	Wet Detention Basin Wet Detention Basin Veta Nktrogen remaining leaving the subbasin (flas): asin(s), enter the nitrogen leaving the most upsteam subbasin(tes) Device Type Wet Detention Basin Veta Nktrogen remaining leaving the subbasin (flas): Device Type Veta Basin Veta Nktrogen remaining leaving the subbasin (flas): Device Type Veta Basin Vetame of Runnel (flas): Post BASI Vetame of Runnel (flas): Post BASI National (flas): Post National (flas): P	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	2,778 2,778 46 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	1975 1975	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 To Sub-DAt(e) BMF(e) If Sub-DAt(e) BMF(e) Device Name (As Shown on Plan) Device Name (As Shown on Plan) Resc. To	Wet Detertion Basin Wet Detertion Basin Val Nitrogen remaining leaving the subbasin (tep) Val Nitrogen remaining leaving the subbasin(tep) Device Type Wet Detertion Basin Val Nitrogen remaining leaving the subbasin(tep) Val Device Type Val Detertion Basin Val Nitrogen remaining leaving the subbasin (tep) Val Nitrogen Remaining (tep) Val Nitrogen Remaining (tep) Val Nitrogen Point BMP Values of Remoting (tep) Point BMP Values of Comparing Point BMP Values of	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	2,778 2,778 46 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4.28 .28 .28 .28 .28 .28 .28 .28	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP84 To Sub-DA1(e) BMP(e) To Sub-DA1(e) BMP(e) To Device Name (As Shown on Plan) Device Name (As Shown on Plan) VP85 To 4-year, 24-hour storm 2-year, 24-hour storm (LD)	Wet Detertion Basin Wet Detertion Basin Wet Detertion Basin Veta Ntrogen remaining leaving the subbasin (tes): Device Type Device Type Wet Detertion Basin Veta Ntrogen remaining leaving the subbasin (tes): Device Type Wet Detertion Basin Veta Ntrogen remaining leaving the subbasin (tes): Device Type Wet Detertion Basin Veta Ntrogen remaining leaving the subbasin (tes): Device Type Veta BMP Vetame of Runnet (ft): Post BMP Peak Discharge (cb): Post: Post	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	2,778 2,778 44 Provided Provided 3,791 16 16 16 16 17 11 11 11 11 1	1905 1,28 1,29 1	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP94 Sub-DA1(e) BMP(s) If Sub-DA1(e) is connected to upstream subb Device Name (As Shown on Plan) Device Name (As Shown on Plan) WP95 To	Wet Detention Basin Vest Basin Post Basin Post Basin	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	(t ²) (t ²)	128 28 28 28 28 28 29 20 20 20 20 20 20 20 20 20	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
WP84 To Sub-DA1(e) BMP(e) To Sub-DA1(e) BMP(e) To Device Name (As Shown on Plan) Device Name (As Shown on Plan) VP85 To 4-year, 24-hour storm 2-year, 24-hour storm (LD)	Wet Detertion Basin Wet Detertion Basin Wet Detertion Basin Veta Ntrogen remaining leaving the subbasin (tes): Device Type Device Type Wet Detertion Basin Veta Ntrogen remaining leaving the subbasin (tes): Device Type Wet Detertion Basin Veta Ntrogen remaining leaving the subbasin (tes): Device Type Wet Detertion Basin Veta Ntrogen remaining leaving the subbasin (tes): Device Type Veta BMP Vetame of Runnet (ft): Post BMP Peak Discharge (cb): Post: Post	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	(R ²) (R ²)	1905 1,28 1,29 1	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours) 65	
(P84 ub-DA1(e) BMP(e) If Sub-DA1(e) BMP(e) Device Name (As Shown on Plan) (P85 year, 24-hour storm year, 24-hour storm (LID)	Wei Detertion Basin Wei Detertion Basin Val Nitrogen remaining leaving the subbasin (tep) Val Nitrogen remaining leaving the most upsteam subbasin(the) Device Type Use to the integration of the subbasin (tep) Device Type Wei Detertion Basin Val Nitrogen remaining leaving the subbasin (tep) Total Volume Tender (tep) Post BMP Volume of Runoff (th) _{trangen}	fc Wate fc	2,778 2,778 er Quality Vo x Sub-DA (ft 3,791	^b)	<u>drar</u>	(R ²) (R ²)	1975 1975	Removal Efficiency 25% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Nitrogen (Ibs) 61.71 46.28 46.28 46.28 46.28 46.28 54.93 54.93 54.93	Removed (lbs) 15.43 0.00 0.00 0.00 0.00 0.00 18.31 0.00 0.00 0.00 0.00	Time (hours)	



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DRAINAGE AREA 3 BMP CALCULATIONS

DRAINAGE AREA 1 - BMP DEVICES A	ND ADJUSTMENTS										
DA3 Site Acreage=				13.9	2						
DA3 Off-Site Acreage=											
Total Required Storage Volume				N/A							
TCN Requirement (ft ³)= Total Required Storage Volume for DA3				19/7	`						
1" Rainfall for High Density (ft3)=			4,977								
Will site use underground detention/cistern?	Νο	Enter %	of the year v	r water will be reused=		0%		Note: Supporting information/details shoul submitted to demonstrate water usage.			
ENTER ACREAGE FOR ALL SUB-DRAINAGE	AREAS IN DA	L									
	HSG	(A	DA3(a) Ac)	(A	DA3(b) Ac)	(4	DA3(c) Ac)	(A	DA3(d) (c)	(A	DA3(e) Ac)
Pasture		Site	Off-site	Site	Off-site	Site	Off-site	Site	Off-site	Site	Off-site
Woods, Poor Condition											
Woods, Fair Condition		0.04				0.34					
Woods, Good Condition		0.87				0.27					
Open Space, Poor Condition		0.07				0.27					
Open Space, Fair Condition											
Open Space, Fair Condition Open Space, Good Condition		5.36		0.12		6.05					
Reforestation (in dedicated OS)		5.30		0.12		0.05					
Impervious		0.57		0.12		0.18					
Sub-DA1(a) BMP(s)		0.57		0.12		0.18					
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (fl		Provided Volume that will <u>drawdown 2-5 days</u> (ft ³)			Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
N/A (BYPASS)								0%	16.04	0.00	
					2,157		0%	16.04	0.00		
			2,157				0%	16.04	0.00		
			_,			2,101		0%	16.04	0.00	
								0%	16.04	0.00	
Tot	al Nitrogen remaining leaving the subbasin (Ibs):					16	.04				
Sub-DA1(b) BMP(s)											
	If Sub-DA1(b) is connected to upstream subbasin(s), he nitrogen leaving the most upstream subbasin(lbs):										
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (fl			Provided olume that v wdown 2-5 o (ft ³)		Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
N/A (BYPASS)								0%	2.62	0.00	
		1						0%	2.62	0.00	
		1	50			50		0%	2.62	0.00	
		1						0%	2.62	0.00	
								0%	2.62	0.00	
Tot	al Nitrogen remaining leaving the subbasin (lbs):					2	62				
Sub-DA1 (c) BMP(s)											
enter t	If Sub-DA1(c) is connected to upstream subbasin(s), he nitrogen leaving the most upstream subbasin(lbs):										
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (fl			Provided olume that v wdown 2-5 o (ft ³)		Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
N/A (BYPASS)								0%	8.07	0.00	
		1						0%	8.07	0.00	
		1	1,530			1,530		0%	8.07	0.00	
								0%	8.07	0.00	
								0%	8.07	0.00	
Tot	al Nitrogen remaining leaving the subbasin (lbs):					8	.07		ı		



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DRAINAGE AREA 3 BMP CALCULATIONS

NORTH CAROLINA							
Sub-DA1(d) BMP(s)							
If Sub-DA1(d) is connected to upstream subba	asin(s), enter the nitrogen leaving the most upstream subbasin(lbs):						
Device Name (As Shown on Plan)	Device Type	Water Quality Volume for Sub-DA (ft ³)	Provided Volume that will <u>drawdown 2-5 days</u> (ft ³)	Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
Tota	al Nitrogen remaining leaving the subbasin (lbs):						
Sub-DA1(e) BMP(s)							
If Sub-DA1(e) is connected to upstream subba	asin(s), enter the nitrogen leaving the most upstream subbasin(lbs):						
Device Name (As Shown on Plan)	Device Type	Water Quality Volume for Sub-DA (ft ³)	Provided Volume that will <u>drawdown 2-5 days</u> (ft ³)	Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
Tota	al Nitrogen remaining leaving the subbasin (lbs):						
		A3 BMP SUMMARY					
	Total Volume Treated (ft ³)=		3,737				
	Nitrogen Mitigated(Ibs)=						
1-year, 24-hour storm							
	Post BMP Volume of Runoff (ft ³) _(1-year) =		48,123				
	Post BMP Runoff (inches) = Q*(1-year)=		0.95				
	Post BMP CN _(1-year) =		76				
	Post BMP Peak Discharge (cfs)= Q _{1-year} =		2.47				
2-year, 24-hour storm (LID)							
	Post BMP Volume of Runoff (ft3)(2-year)=		70,155				
	Post BMP Runoff (inches) = Q* _(2-year) =		1.39				
	Post BMP CN _(2-year) =		76				
	Post BMP Peak Discharge (cfs)= Q _(2-year) =						
10-year, 24-hour storm (DIA)							
	Post BMP Volume of Runoff (ft ³) _(10-year) =		98,962				
	Post BMP Runoff (inches) = Q* _(10-year) =		1.96				
	Post BMP CN(10-year)=		84				
	Post BMP Peak Discharge (cfs)= Q _(10-year) =						



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DRAINAGE AREA 4 BMP CALCULATIONS

DRAINAGE AREA 1 - BMP DEVICES A	ND ADJUSTMENTS										
DA4 Site Acreage=											
DA4 Off-Site Acreage=				13.94	4						
Total Required Storage Volume TCN Requirement (ft ³)=				N/A							
Total Required Storage Volume for DA4				6,809	0						
1" Rainfall for High Density (ft3)=				0,003	5						
Will site use underground detention/cistern?		Enter %	of the year	water will be reused=						nation/details ite water usa	
ENTER ACREAGE FOR ALL SUB-DRAINAGE	AREAS IN DA										
	HSG	(A	DA4(a) Ac)	(A		(A	DA4(c) (c)	(A	DA4(d) (c)	(A	DA4(e) Ac)
Pasture		Site	Off-site	Site	Off-site	Site	Off-site	Site	Off-site	Site	Off-site
Woods, Poor Condition											
Woods, Fair Condition											
Woods, Good Condition			5.48								
Open Space, Poor Condition											
Open Space, Fair Condition											
Open Space, Good Condition			7.15								
Reforestation (in dedicated OS)											
Impervious			1.31								
Sub-DA1(a) BMP(s)		ſ			1			1	1	1	1
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (fl		Provided Volume that will <u>drawdown 2-5 days</u> (ft ³)		Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdow Time (hours)	
								0%	36.44	0.00	
								0%	36.44	0.00	
			6,809					0%	36.44	0.00	
								0%	36.44	0.00	
								0%	36.44	0.00	
Tat	al Nitrogen remaining leaving the subbasin (Ibs):					36	.44	0.0	00.11	0.00	
Sub-DA1(b) BMP(s)	a har ogen remaining reaving the subbasin (183).										
	If Sub-DA1(b) is connected to upstream subbasin(s), ne nitrogen leaving the most upstream subbasin(lbs):										
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (fl		Provided Volume that will drawdown 2-5 days			Nitrogen Removal	Sub-DA Nitrogen	Nitrogen Removed	Drawdowr Time
			JI SUD-DA (II	.)	<u></u>	(ft ³)		Efficiency	(lbs)	(lbs)	(hours)
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
Tota Sub-DA1 (c) BMP(s)	al Nitrogen remaining leaving the subbasin (lbs):										
	If Sub-DA1(c) is connected to upstream subbasin(s),										
	he nitrogen leaving the most upstream subbasin(lbs):							T			
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (fl			Provided olume that w wdown 2-5 c (ft ³)		Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdow Time (hours)
								0%	0.00	0.00	
								0%	0.00	0.00	
		1						0%	0.00	0.00	
								0%	0.00	0.00	



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DRAINAGE AREA 4 BMP CALCULATIONS

Sub-DA1(d) BMP(s) If Sub-DA1(d) is connected to upstream subba Device Name (As Shown on Plan)	isin(s), enter the nitrogen leaving the most upstream subbasin(lbs): Device Type	Water Quality Volume					
	subbasin(lbs):	Water Quality Volume	-				
Device Name (As Shown on Plan)	Device Type	Water Quality Volume					
		for Sub-DA (ft ³)	Provided Volume that will <u>drawdown 2-5 days</u> (ft ³)	Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
Tota	al Nitrogen remaining leaving the subbasin (lbs):						
Sub-DA1(e) BMP(s)							
If Sub-DA1(e) is connected to upstream subba	usin(s), enter the nitrogen leaving the most upstream subbasin(lbs):						
Device Name (As Shown on Plan)	Device Type	Water Quality Volume for Sub-DA (ft ³)	Provided Volume that will <u>drawdown 2-5 days</u> (ft ³)	Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
				0%	0.00	0.00	
Tota	al Nitrogen remaining leaving the subbasin (Ibs):						
		4 BMP SUMMARY					
	Total Volume Treated (ft ³)= Nitrogen Mitigated(lbs)=						
1-year, 24-hour storm	Nill Ogen Milligated(IDS)-						
1-year, 24-nour storm	Post BMP Volume of Runoff (ft ³) _(1-year) =						
	Post BMP Runoff (inches) = Q* _(1-year) =		0.70				
	Post BMP CN _(1-year) =		71				
	Post BMP Peak Discharge (cfs)= Q _{1-year} =		0.19				
]	r ost binn i car biosnarge (ors)- ort-year		0.19				
<u>-</u>	Post BMP Volume of Runoff (ft3) _(2-year) =		0				
	Post BMP Runoff (inches) = Q*(2-year)=						
	Post BMP CN _(2-year) =						
	Post BMP Peak Discharge (cfs)= Q _(2-year) =						
10-year, 24-hour storm (DIA)							
	Post BMP Volume of Runoff (ft ³) _(10-year) =		0				
	Post BMP Runoff (inches) = Q* _(10-year) =						
	Post BMP CN(10-year)=						
	Post BMP Peak Discharge (cfs)= Q _(10-year) =						



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DRAINAGE AREA 5 BMP CALCULATIONS

NORTH CAROLINA											
DRAINAGE AREA 1 - BMP DEVICES A	ND ADJUSTMENTS										
DA5 Site Acreage=											
DA5 Off-Site Acreage=											
Total Required Storage Volume				N/A							
TCN Requirement (ft ³)= Total Required Storage Volume for DA5											
1" Rainfall for High Density (ft3)=											
Will site use underground detention/cistern?		Enter % of the year water will be reused=						Note: Supporting information/details should b submitted to demonstrate water usage.			
ENTER ACREAGE FOR ALL SUB-DRAINAGE	AREAS IN DA										
	HSG	(A	DA5(a) Ac)		ic)	Sub-E (A	ic)	(A	DA5(d) Sub-DA Ac) (Ac		(c)
Pasture		Site	Off-site	Site	Off-site	Site	Off-site	Site	Off-site	Site	Off-site
Woods, Poor Condition											
Woods, Fair Condition											
Woods, Good Condition											
Open Space, Poor Condition											
Open Space, Fair Condition											
Open Space, Good Condition											
Reforestation (in dedicated OS)											
Impervious											
Sub-DA1(a) BMP(s)											
						Provided					
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (ft		Volume that will drawdown 2-5 days (ft ³)			Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
							0%	0.00	0.00		
								0%	0.00	0.00	
Tota	al Nitrogen remaining leaving the subbasin (lbs):										
Sub-DA1(b) BMP(s)											
	If Sub-DA1(b) is connected to upstream subbasin(s), ie nitrogen leaving the most upstream subbasin(lbs):							1		I	
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (ft			Provided /olume that w awdown 2-5 d (ft ³)		Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
Tota	al Nitrogen remaining leaving the subbasin (lbs):										
Sub-DA1 (c) BMP(s)											
	If Sub-DA1(c) is connected to upstream subbasin(s), in nitrogen leaving the most upstream subbasin(lbs):							1			
Device Name (As Shown on Plan)	Device Type		er Quality Vo or Sub-DA (ft			Provided /olume that w awdown 2-5 d (ft ³)		Nitrogen Removal Efficiency	Sub-DA Nitrogen (Ibs)	Nitrogen Removed (Ibs)	Drawdown Time (hours)
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
								0%	0.00	0.00	
Tota	al Nitrogen remaining leaving the subbasin (lbs):										



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DA SITE SUMMARY BMP CALCULATIONS

	BM	P SUMM	ARY									
DRAINAGE AREA SUMMARIES												
DRAINAGE AREA:	DA1	DA2	DA3	DA4	DA5	DA6	DA7	DA8	DA9	DA10		
Pre	Pre-Development (1-year, 24-hour storm)											
Runoff (in)=Q* _{1-year} =	0.73	0.94	0.94	0.70								
Peak Flow (cfs)=Q _{1-year} =	0.830	25.457	1.424	1.424 0.185 OVERALL POST-DEV PEAK FLOW IMPRO								
Post	-Developm	ent (1-yea	r, 24-hour s	storm)				LSU SEE S		1).		
Target Curve Number (TCN) =				\checkmark	NA	PRE: 2 POST: 14		_				
Post BMP Runoff (inches) = Q* _(1-year) =	0.43	1.18	0.95	0.70		-						
Post BMP Peak Discharge (cfs)= Q _{1-year} =	0.842	11.053	2.470	0.185								
Post BMP CN _(1-year) =				•	78				-			
	Post-BM	P Nitroge	n Loading									
TOTAL SITE NITROGEN MITIGATED (Ibs)=					76.3	9						
SITE NITROGEN LOADING RATE (lbs/ac/yr)=					4.59)						
TOTAL SITE NITROGEN LEFT TO MITIGATE_Wendell Only (lbs)=					65.3	2						

Moody: Supplemental & Supporting Info for Hydrograph Generation

PreDev POD Calcs

<u>Roman Cook</u>

<u>3/28/2025</u>

PreDev_POD #1:	285072	S.F.	6.54	Ac
Land Use	Area	CN	Wtd. CN	
Pasture (Fair) - B Soils	0.12	69	1.25	
Pasture (Fair) - C Soils	0.16	79	1.96	
Pasture (Fair) - D Soils	0.00	84	0.00	
Woods/Wetlands (Fair) -B Soils	1.23	60	11.28	
Woods/Wetlands (Fair) -C Soils	5.02	73	56.02	
Woods/Wetlands (Fair) -D Soils	0.01	79	0.08	
Roofs	0.00	98	0.00	
Roadway	0.00	98	0.00	
Open Water	0.00	98	0.00	
Total (Check):	6.54	Composite "CN"	70.6	
Tc (Kirpich):	Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L^.77/S^.385	1299	46	6.67	Minutes

PreDev_POD #2	1918625	S.F.	44.05	Ac
Land Use	Area	CN	Wtd. CN	
Pasture (Fair) - B Soils	2.87	69	4.50	
Pasture (Fair) - C Soils	13.78	79	24.72	
Pasture (Fair) - D Soils	1.85	84	3.53	
Woods/Wetlands (Fair) -B Soils	2.39	60	3.25	
Woods/Wetlands (Fair) -C Soils	12.44	73	20.62	
Woods/Wetlands (Fair) -D Soils	6.46	79	11.59	
Roof	0.15	98	0.33	
Roadway	0.56	98	1.24	
Open Water	1.49	98	3.32	
Total (Check):	41.98	Composite "CN"	73.1	
Tc (Kirpich):	Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L^.77/S^.385	2427	38	14.78	Minutes

Moody: Supplemental & Supporting Info for Hydrograph Generation

PostDev POD 1 - bypass

Roman Cook

ok <u>3/28/2025</u>

PostDev POD 1 - Bypass	9270	08 S.F.	2.13	Ac
Land Use	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	0.00	98	0.00	
Roofs	0.48	98	22.20	
Driveways	0.03	98	1.25	
Sidewalks	0.00	98	0.00	
Openspace- B Soils	0.00	61	0.00	
Openspace- C Soils	1.22	74	42.53	
Openspace- D Soils	0.40	80	14.88	
Woods/Wetlands-B Soils	0.00	55	0.00	
Woods/Wetlands-C Soils	0.00	70	0.00	
Woods/Wetlands-D Soils	0.00	77	0.00	
Lands Taken Up by BMP	0.00	98	0.00	
Open Water (Exist'g or Proposed Ponds)	0.00	98	0.00	
Total (Check):	2.1	13 Composite "CN"	80.9	
	Percent Impervious		24%	
Tc (Kirpich):	Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L^.77/S^.385	60)5 30	3.25	Minutes
Percent Impervious		24%		

Moody: Supplemental & Supporting Info for Hydrograph Generation	
Post Dev - POD 2A #1 (SCM #1)	Roman Cook

Table 1: Piedmont and Mountain SA/DA Table (A	Adapted from Driscoll, 19	36)
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0.37

0.61

0.84

1.09

1.31

1.49

1.80

2.07

2.31

2.52 2.34

3

1.17

1.51

1.43

11540 sf 6440 cf

36969 cf 17 %

rmanent Pool Average Depth (ft)

0.30

0.51

0.72

0.91

1.13

1.31

1.56

1.82

2.04

4

0.94

1.24

0.27

0.44

0.61

0.78

0.95

1.12

1.34

1.62

1.84

2.04

1.17 1.30 SA/DA

0.25

0.40

0.56

0.71

0.87

1.03

1.17

1.40

1.59

1.75

Post	Dev - POD 2A #1 (SCM #1)	412092	S.F.	9.46	Ac		Percent	Perma			
	Land Use	Area, Ac.	"CN"	Wtd'd "CN"			Impervious Cover	3.0	4.0		
	Roadways + C&G (not Sidewalks)	0.93	98	9.64							
	Roofs	1.67	98	17.34			10%	0.51	0.43		
	Driveways/Parking	0.39	98	4.05			20%	0.84	0.69		
	Sidewalks	0.19	98	1.95			30%	1.17	0.94		
	Openspace- A Soils	0.00	39	0.00			40%	1.51	1.24		
	Openspace- B Soils	1.48	61	9.55							
	Openspace- C Soils	4.11	74	32.19			50%	1.79	1.51		
	Openspace- D Soils	0.28	80	2.40			60%	2.09	1.77		
	Woods-A Soils	0.00	30	0.00			70%	2.51	2.09		
	Woods-B Soils	0.00	55	0.00			80%	2.92	2.41		
	Woods-C Soils	0.00	70	0.00			90%	3.25	2.64		
	Woods-D Soils	0.00	77	0.00							
	Lands Taken Up by BMP	0.40	98	4.11			100%	3.55	2.79		
	Open Water (Exist'g or Proposed Ponds)	0.00	98	0.00							
	Total (Check):	9.46	Composite "CN"	81.2							
		Percent Impervious		37.8%							
	Tc (Kirpich):	Length	Elev Delta	Tc=					3	0%	
	Tc, min.= 60*.000132*L^.77/S^.385	1083			Minutes				4	0%	
	Percent Impervious		37.8%					37.0	6% (interpolation	on)	
		Pond Design Depth, ft.:	3.50								
SCM #1 Design Elements:	SA/DA Factor:			From NCDEQ	SA/DA Char	D Avg, f					
Davg = VPP-Vshelf /A shelf bottom	Min.SCM Surface Area:		5357			3.43			rea (no forebay	/):	
		VPP, c.f.	Perimeter, ft.	Vshelf, C.f.	Abottom, s.f.	3.50		rebay Volume			
Freatment Volume Requirement	··	43,409	605	7,259.00	10,525		Perma	nent Pool Volu	ume (Total):		
	(From HydraFlow Attachment)			Design Pon	d Depth, ft.=		Fc	rebay Size (Vo	olume):		
Rv=0.05009*(%Impervious)											
Total Runoff for 1" Event= S in A	DA to SCM:	9.46	Ac.								
Freatment "S" in Cu. Ft. =	Composite % Impervious (Above) =	38%									
Freatment Volume to Be Stored:			inch/inch								
Freatment Volume Provided, Cu	. Total Runoff for 1" Event= S in Ac-Ft:	0.31	S=1"*Rv*Drainag	e Area/12							
	Treatment "S" in Cu. Ft. =	13414.80)								
	Treatment Volume to Be Stored:	13415	Cu. FT]				
	Volume Achieved at Elev.	364.26	Orifice Dia	2.00	Inch Drawd	own Pipe]				
	Drawdown Pipe Elev.	363.5	Elev Diff, H., ft.	0.76							

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Post Dev - POD 2A #2	Dev - POD 2A #2 (SCM #2) Roman Cook 3/28/2025						Table	1: Piedmon	t and Mounta	ain SA/DA	Table (Ad	lapted fi	rom Driscoll	l, 1986)
Post	: Dev - POD 2A #2 (SCM #2)	59917	S.F.	1.38	Ac	Percent				Permanent F	Pool Averag	e Depth (ft)	
	Land Use	Area, Ac.	"CN"	Wtd'd "CN"			Impervious Cover	3.0	4.0	5.0		6.0	7.0	≥8.0
	Roadways + C&G (not Sidewalks)	0.00	98	0.00										
	Roofs	0.19	98	13.74			10%	0.51	0.43	0.37	C	.30	0.27	0.25
	Driveways/Parking	0.03	98	1.97		1	20%	0.84	0.69	0.61	C	.51	0.44	0.40
	Sidewalks	0.00	98	0.00		1	30%	1.17	0.94	0.84	C	.72	0.61	0.56
	Openspace- A Soils	0.00	39	0.00			40%	1.51	1.24	1.09	0	.91	0.78	0.71
	Openspace- B Soils	0.15	61	6.56										
	Openspace- C Soils	0.60	74	32.08			50%	1.79	1.51	1.31		.13	0.95	0.87
	Openspace- D Soils	0.21	80	12.21			60%	2.09	1.77	1.49	1	.31	1.12	1.03
	Woods-A Soils	0.00	30	0.00			70%	2.51	2.09	1.80	1	.56	1.34	1.17
	Woods-B Soils	0.00	55	0.00			80%	2.92	2.41	2.07	1	.82	1.62	1.40
	Woods-C Soils	0.00	70	0.00			90%	3.25	2.64	2.31		.04	1.84	1.59
	Woods-D Soils	0.00	77	0.00										
	Lands Taken Up by BMP	0.20	98	14.32			100%	3.55	2.79	2.52	2	.34	2.04	1.75
	Open Water (Exist'g or Proposed Ponds)	0.00	98	0.00										
	Total (Check):	1.38	Composite "CN"	80.9										
		Percent Impervious		30.6%							3	4		
	Tc (Kirpich):	Length	Elev Delta	Tc=						20%	0.84	0.69		
	Tc, min.= 60*.000132*L^.77/S^.385	390	-	-	Minutes	use 5 mi	n. minimum			30%	1.17	0.94		
	Percent Impervious		30.6%						28.0% (inter	polation)	1.10	0.89	1.00 SA/	DA
		Pond Design Depth, ft.	3.50											
SCM #1 Design Elements:	SA/DA Factor:			From NCDEC	SA/DA Char	r D Avg, ft								
Davg = VPP-Vshelf /A shelf bottom	Min.SCM Surface Area:			S.F.		4.40	Permaner	t Pool Surfac	e Area (no fore	bay):	5547 sf			
		VPP, c.f.	Perimeter, ft.		Abottom, S.f.	3.50		Forebay Volu			2567 cf			
Treatment Volume Requirement	ti	15,908	517	3,197.00	2,888		Perr	nanent Pool \	/olume (Total):		13341 cf			
	(From HydraFlow Attachment)			Design Pon	d Depth, ft.=	3.50		Forebay Size	(Volume):		19 %			
Rv=0.05009*(%Impervious)														
Total Runoff for 1" Event= S in A	DA to SCM:	1.38	Ac.											
Treatment "S" in Cu. Ft. =	Composite % Impervious (Above) =	31%												
Treatment Volume to Be Stored:		0.33	inch/inch											
Treatment Volume Provided, Cu	. Total Runoff for 1" Event= S in Ac-Ft:	0.04	S=1"*Rv*Drainag	ge Area/12										
	Treatment "S" in Cu. Ft. =	1626.50	0				7							
	Treatment Volume to Be Stored:	1627	Cu. FT				7							
	Volume Achieved at Elev.	361.71	l Orifice Dia	1.00	Inch Drawd	lown Pipe								
	Drawdown Pipe Elev.	361.5	Elev Diff, H., ft.	. 0.21										

Moody: Supplemental & Supporting Info for Hydrograph Generation

Moody: Supplemental & Supporting Info for Hydrograph Generation	
Post Dev - POD 2A #3 (SCM #3)	Roman Cook

Table 1: Piedmont and Mountain SA/DA Table (A	Adapted from Driscoll, 19	36)
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Post	Dev - POD 2A #3 (SCM #3)	385162	S.F.	8.84	Ac		Percent	Permane			
	Land Use	Area, Ac.	"CN"	Wtd'd "CN"	Wtd'd "CN"		Impervious Cover	3.0	4.0	5	
	Roadways + C&G (not Sidewalks)	1.08	98	11.95							
	Roofs	1.91	98	21.18			10%	0.51	0.43	0.	
	Driveways/Parking	0.28	98	3.08			20%	0.84	0.69	0.	
	Sidewalks	0.24	98	2.66			30%	1.17	0.94	0.	
	Openspace- A Soils	0.00	39	0.00			40%	1.51	1.24	1.	
	Openspace- B Soils	1.51	61	10.45							
	Openspace- C Soils	2.80	74	23.43			50%	1.79	1.51	1.	
	Openspace- D Soils	0.75	80	6.77			60%	2.09	1.77	1.	
	Woods-A Soils	0.00	30	0.00			70%	2.51	2.09	1.	
	Woods-B Soils	0.10	55	0.62			80%	2.92	2.41	2.	
	Woods-C Soils	0.00	70	0.00			90%	3.25	2.64	2.	
	Woods-D Soils	0.00	77	0.00							
	Lands Taken Up by BMP	0.17	98	1.92			100%	3.55	2.79	2.	
	Open Water (Exist'g or Proposed Ponds)	0.00	98	0.00							
	Total (Check):	8.84	Composite "CN"	82.1							
		Percent Impervious		41.6%							
	Tc (Kirpich):	Length	Elev Delta	Tc=						40%	
	Tc, min.= 60*.000132*L^.77/S^.385	1140	25	7.25	Minutes					50%	
	Percent Impervious		41.6%						41.5% (interp	olation)	
		Pond Design Depth, ft.:	3.50								
SCM #1 Design Elements:	SA/DA Factor:		1.20	From NCDEQ	SA/DA Char	D Avg, f	t				
Davg = VPP-Vshelf /A shelf bottom	Min.SCM Surface Area:		4622	S.F.		3.72	Permaner	t Pool Surface	e Area (no forel	bay):	
		VPP, c.f.	Perimeter, ft.	Vshelf, C.f.	Abottom, S.f.	3.50		Forebay Volu	me (Total):		
Treatment Volume Requirement		16,418	354	2,957.00	3,619		Perr	nanent Pool V	/olume (Total):		
	(From HydraFlow Attachment)			Design Pone	l Depth, ft.=	3.50		Forebay Size	(Volume):		
Rv=0.05009*(%Impervious)											
Total Runoff for 1" Event= S in A	DA to SCM:	8.842	Ac.								
Freatment "S" in Cu. Ft. =	Composite % Impervious (Above) =	42%									
Freatment Volume to Be Stored:	Rv=0.05+.009*(%Impervious)		inch/inch								
Freatment Volume Provided, Cu.	Total Runoff for 1" Event= S in Ac-Ft:	0.31	S=1"*Rv*Drainag	e Area/12							
	Treatment "S" in Cu. Ft. =	13627.82									
	Treatment Volume to Be Stored:	13628	Cu. FT								
	Volume Achieved at Elev.	363.13	Orifice Dia	2.00	Inch Drawdo	own Pipe					
	Drawdown Pipe Elev.	361.5	Elev Diff, H., ft.	1.63							

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Percent	Permanent Pool Average Depth (ft)										
Impervious Cover	3.0	4.0	5.0	6.0	7.0	≥8.0					
10%	0.51	0.43	0.37	0.30	0.27	0.25					
20%	0.84	0.69	0.61	0.51	0.44	0.40					
30%	1.17	0.94	0.84	0.72	0.61	0.56					
40%	1.51	1.24	1.09	0.91	0.78	0.71					
50%	1.79	1.51	1.31	1.13	0.95	0.87					
60%	2.09	1.77	1.49	1.31	1.12	1.03					
70%	2.51	2.09	1.80	1.56	1.34	1.17					
80%	2.92	2.41	2.07	1.82	1.62	1.40					
90%	3.25	2.64	2.31	2.04	1.84	1.59					
100%	3.55	2.79	2.52	2.34	2.04	1.75					

	4	5		
40%	1.24	1.09		
50%	1.51	1.31		
.5% (interpolation)	1.28	1.12	1.20 SA/DA	

4788 sf 3009 cf 16422 cf

18 %

Hawthorne Trail: Supplemental & Supporting Info for Hydrograph Generation

Post Dev POD 2A #4 - Bypass

<u>Roman Cook</u>

3/28/2025

st Dev POD 2A #4 - Bypass	29798	S.F.	6.84	Ac
Land Use	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	0.00	98	0.00	
Roofs	0.57	98	8.18	
Driveways	0.00	98	0.00	
Sidewalks	0.00	98	0.00	
Openspace- B Soils	0.00	61	0.00	
Openspace- C Soils	1.13	74	12.17	
Openspace- D Soils	3.53	80	41.33	
Woods/Wetlands-B Soils	0.00	55	0.00	
Woods/Wetlands-C Soils	0.04	70	0.38	
Woods/Wetlands-D Soils	0.87	77	9.81	
Lands Taken Up by BMP	0.00	98	0.00	
Open Water (Exist'g or Proposed Ponds)	0.70	98	10.05	
Total (Check):	6.84	Composite "CN"	81.9	
	Percent Impervious		19%	
Tc (Kirpich):	Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L^.77/S^.385	11.50 min TR-55 cal	cs, see Tc onsite by	pass in SIA for	^r culvert
Percent Impervious		18.6%		

Hawthorne Trail: Supplemental & Supporting Info for Hydrograph Generation

Post Dev POD 2B #1 - Bypass

<u>Roman Cook</u> <u>3/28/2025</u>

t Dev POD 2B #1 - Bypass	10275	S.F.	0.24	Ac
Land Use	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	0.10	98	40.70	
Roofs	0.00	98	0.00	
Driveways	0.00	98	0.00	
Sidewalks	0.02	98	7.94	
Openspace- B Soils	0.00	39	0.00	
Openspace- C Soils	0.12	74	37.27	
Openspace- D Soils	0.00	80	0.00	
Woods/Wetlands-B Soils	0.00	30	0.00	
Woods/Wetlands-C Soils	0.00	70	0.00	
Woods/Wetlands-D Soils	0.00	77	0.00	
Lands Taken Up by BMP	0.00	98	0.00	
Open Water (Exist'g or Proposed Ponds)	0.00	98	0.00	
Total (Check):	0.24	Composite "CN"	85.9	
	Percent Impervious		50%	
Tc (Kirpich):	Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L^.77/S^.385	143	11	0.90	Minute
Percent Impervious		49.6%		

Post Dev - POD 2B #	<u>2 (SCM #4)</u>		Roman Cook	3/28/2025			Table	1: Piedmon	t and Mounta	nin SA/DA T	able (Adap	ted fro	m Driscoll,	, 1986)
Pos	st Dev - POD 2B #2 (SCM #4)	#2 (SCM #4) 257434 S.F. 5.91 Ac		Percent		Permanent Pool Average Depth (ft)								
	Land Use	Area, Ac.	"CN"	Wtd'd "CN"			Impervious Cover	3.0	4.0	5.0	6.0		7.0	≥8.0
	Roadways + C&G (not Sidewalks)	0.81	98	13.39										
	Roofs	1.40	98	23.24			10%	0.51	0.43	0.37	0.30	(0.27	0.25
	Driveways/Parking	0.29	98	4.83			20%	0.84	0.69	0.61	0.51		0.44	0.40
	Sidewalks	0.14	98	2.38			30%	1.17	0.94	0.84	0.72		0.61	0.56
	Openspace- A Soils	0.00	39	0.00			40%	1.51	1.24	1.09	0.91		0.78	0.71
	Openspace- B Soils	0.77	61	7.90										
	Openspace- C Soils	2.26	74	28.35			50%	1.79	1.51	1.31	1.13		0.95	0.87
	Openspace- D Soils	0.04	80	0.60			60%	2.09	1.77	1.49	1.31		1.12	1.03
	Woods-A Soils	0.00	30	0.00			70%	2.51	2.09	1.80	1.56	4	1.34	1.17
	Woods-B Soils	0.02	55	0.18			80%	2.92	2.41	2.07	1.82	,	1.62	1.40
	Woods-C Soils	0.00	70	0.00			90%	3.25	2.64	2.31	2.04		1.84	1.59
	Woods-D Soils	0.00	77	0.00										
	Lands Taken Up by BMP	0.17	98	2.86			100%	3.55	2.79	2.52	2.34		2.04	1.75
	Open Water (Exist'g or Proposed Ponds)	0.00	98	0.00										
	Total (Check):	5.91	Composite "CN"	84										
		Percent Impervious		47.7%							3	4		
	Tc (Kirpich):	Length	Elev Delta	Tc=						40%	1.51	1.24		
	Tc, min.= 60*.000132*L^.77/S^.385	710	2.5	10.19	Minutes	use 10 mii	n. minimum			50%	1.79	1.51		
	Percent Impervious		47.7%						46.4% (inter	polation)	1.69	1.41	1.55 SA/D	DA
		Pond Design Depth, ft.:	3.50											
SCM #1 Design Elements:	SA/DA Factor:		1.55	From NCDEQ	SA/DA Char	r D Avg, ft	T							
Davg = VPP-Vshelf /A shelf botto	Min.SCM Surface Area:		3990	S.F.		4.94	Permaner	nt Pool Surfac	e Area (no fore	bay):	4279 sf			
		VPP, c.f.	Perimeter, ft.	Vshelf, C.f.	Abottom, S.f.	3.50		Forebay Volu	me (Total):		2387 cf			
Treatment Volume Requireme	ent:	12,515	537	2,661.00	1,995		Peri	manent Pool \	/olume (Total):		12515 cf			
	(From HydraFlow Attachment)			Design Pone	Depth, ft.=	3.50		Forebay Size	(Volume):		19 %			
Rv=0.05009*(%Impervious)							1							
Total Runoff for 1" Event= S in	Ac DA to SCM:	5.910	Ac.											
Treatment "S" in Cu. Ft. =	Composite % Impervious (Above) =	48%	1				1							
Treatment Volume to Be Store	ed: Rv=0.05+.009*(%Impervious)	0.48	inch/inch				1							
Treatment Volume Provided, 0	Cu. Total Runoff for 1" Event= S in Ac-Ft:	0.24	S=1"*Rv*Drainag	e Area/12			1							
	Treatment "S" in Cu. Ft. =	10273.87					1							
	Treatment Volume to Be Stored:	10274	Cu. FT				1							
	Volume Achieved at Elev.	358.82	Orifice Dia	1.50	Inch Drawd	own Pipe	1							
	Drawdown Pipe Elev.	357.5	Elev Diff, H., ft.	1.32			1							

Hawthorne Trail: Supplemental & Supporting Info for Hydrograph Generation

Post Dev POD 2B #3 - Bypass

<u>Roman Cook</u>

3/28/2025

st Dev POD 2B #3 - Bypass	262581	S.F.	6.03	Ac
Land Use	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	0.00	98	0.00	
Roofs	0.08	98	1.34	
Driveways	0.01	98	0.19	
Sidewalks (+Pump Station)	0.00	98	0.00	
Openspace- A Soils	0.00	39	0.00	
Openspace- C Soils	3.55	74	43.60	
Openspace- D Soils	1.77	80	23.46	
Woods/Wetlands-A Soils	0.00	30	0.00	
Woods/Wetlands-C Soils	0.27	70	3.17	
Woods/Wetlands-D Soils	0.34	77	4.37	
Lands Taken Up by BMP	0.00	98	0.00	
Open Water (Exist'g or Proposed Ponds)	0.00	98	0.00	
Total (Check):	6.03	Composite "CN"	76.1	
	Percent Impervious		2%	
Tc (Kirpich):	Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L^.77/S^.385	931	15	6.99	Minutes
Percent Impervious		2%		

Moody: Supplemental & Supporting Info for Hydrograph Generation	
Post Dev - POD 2B #4 (SCM #5)	Roman Cook

Table 1: Piedmont and Mountain SA/DA Table (A	Adapted from Driscoll, 19	36)
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Post	Dev - POD 2B #4 (SCM #5)	322273	S.F.	7.40	Ac		Percent	Permanent Pool Average Depth (ft)						
		Area, Ac.		Wtd'd "CN"			Impervious Cover	3.0	4.0	5.0		6.0	7.0	≥8.0
	Roadways + C&G (not Sidewalks)	0.95	98	12.65										
	Roofs	1.67	98	22.09			10%	0.51	0.43	0.37		0.30	0.27	0.25
	Driveways/Parking	0.23	98	3.09			20%	0.84	0.69	0.61		0.51	0.44	0.40
	Sidewalks	0.26	98	3.45			30%	1.17	0.94	0.84		0.72	0.61	0.56
	Openspace- A Soils	0.00	39	0.00			40%	1.51	1.24	1.09		0.91	0.78	0.71
	Openspace- B Soils	0.59	61	4.89										
	Openspace- C Soils	3.41	74	34.12			50%	1.79	1.51	1.31		1.13	0.95	0.87
	Openspace- D Soils	0.00	80	0.00	1		60%	2.09	1.77	1.49		1.31	1.12	1.03
	Woods-A Soils	0.00	30	0.00			70%	2.51	2.09	1.80		1.56	1.34	1.17
	Woods-B Soils	0.05	55	0.37			80%	2.92	2.41	2.07		1.82	1.62	1.40
	Woods-C Soils	0.00	70	0.00			90%	3.25	2.64	2.31		2.04	1.84	1.59
	Woods-D Soils	0.00	77	0.00										
	Lands Taken Up by BMP	0.23	98	3.03			100%	3.55	2.79	2.52		2.34	2.04	1.75
	Open Water (Exist'g or Proposed Ponds)	0.00	98	0.00	1									
	Total (Check):	7.40	Composite "CN"	84										
		Percent Impervious		45.2%							3	4		
	Tc (Kirpich):	Length	Elev Delta	Tc=						50%	1.79	1.51		
	Tc, min.= 60*.000132*L^.77/S^.385	1195	12	10.16	Minutes					60%	2.09	1.77		
	Percent Impervious		45.2%						57.7% (interp	olation)	2.02	1.71	1.87 SA/I	DA
		Pond Design Depth, ft.:		(4.5' w/ 0.5'			_							
	SA/DA Factor:			From NCDEQ	SA/DA Char	D Avg, ft								
Davg = VPP-Vshelf /A shelf bottom	Min.SCM Surface Area:		6027			4.04	Permaner	nt Pool Surface	e Area (no foreb	oay):	5760 sf			
		VPP, c.f.	Perimeter, ft.	Vshelf, C.f.	Abottom, S.f.	3.50		Forebay Volur	me (Total):		3881 cf			
Treatment Volume Requirement		19,680	537	3,760.00	3,945		Perr	manent Pool V	olume (Total):		19680 cf			
	(From HydraFlow Attachment)			Design Pon	d Depth, ft.=	3.50		Forebay Size	(Volume):		20 %			
Rv=0.05009*(%Impervious)														
Fotal Runoff for 1" Event= S in Ad	DA to SCM:	7.398	Ac.											
Treatment "S" in Cu. Ft. =	Composite % Impervious (Above) =	45%												
Treatment Volume to Be Stored:	Rv=0.05+.009*(%Impervious)	0.46	inch/inch											
Freatment Volume Provided, Cu.	Total Runoff for 1" Event= S in Ac-Ft:	0.28	S=1"*Rv*Drainag	e Area/12			7							
	Treatment "S" in Cu. Ft. =	12269.18					7							
	Treatment Volume to Be Stored:	12269	Cu. FT				7							
	Volume Achieved at Elev.	348.7	Orifice Dia	2.00	Inch Drawdo	own Pipe]							
	Drawdown Pipe Elev.	347.5	Elev Diff, H., ft.	1.2										

3/28/2025

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Pond No. 1 - SCM #1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 360.00 ft

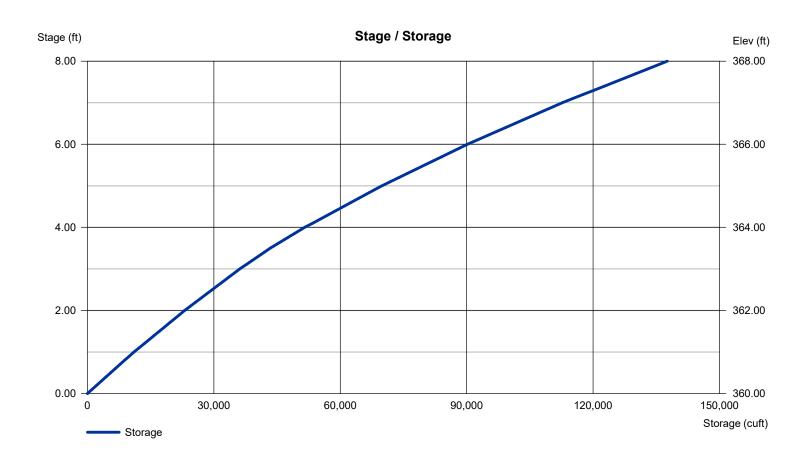
Stage / Storage Table

Stage (ft) Elevation (ft)		Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	360.00	10,525	0	0
1.00	361.00	11,518	11,017	11,017
2.00	362.00	12,558	12,033	23,050
3.00	363.00	13,653	13,100	36,150
3.50	363.50	15,404	7,259	43,409
4.00	364.00	17,281	8,166	51,575
5.00	365.00	19,287	18,273	69,848
6.00	366.00	21,423	20,344	90,192
7.00	367.00	23,693	22,546	112,738
8.00	368.00	26,063	24,866	137,604

Culvert / Orifice Structures

Weir Structures

	[A]	[B]	[C]	[PrfRsr]		[A]	[B]	[C]	[D]
Rise (in)	= 24.00	2.00	6.00	0.00	Crest Len (ft)	= 14.00	24.00	0.00	0.00
Span (in)	= 24.00	2.00	24.00	0.00	Crest El. (ft)	= 366.25	366.75	0.00	0.00
No. Barrels	= 1	1	3	0	Weir Coeff.	= 3.33	3.33	3.33	3.33
Invert El. (ft)	= 360.00	363.50	365.75	0.00	Weir Type	= 1	Rect		
Length (ft)	= 50.00	0.50	0.50	0.00	Multi-Stage	= Yes	No	No	No
Slope (%)	= 0.50	0.50	0.50	n/a					
N-Value	= .013	.013	.013	n/a					
Orifice Coeff.	= 0.60	0.60	0.60	0.60	Exfil.(in/hr)	= 0.000 (by	Wet area)		
Multi-Stage	= n/a	Yes	Yes	No	TW Elev. (ft)	= 0.00			



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Pond No. 2 - SCM #2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 358.00 ft

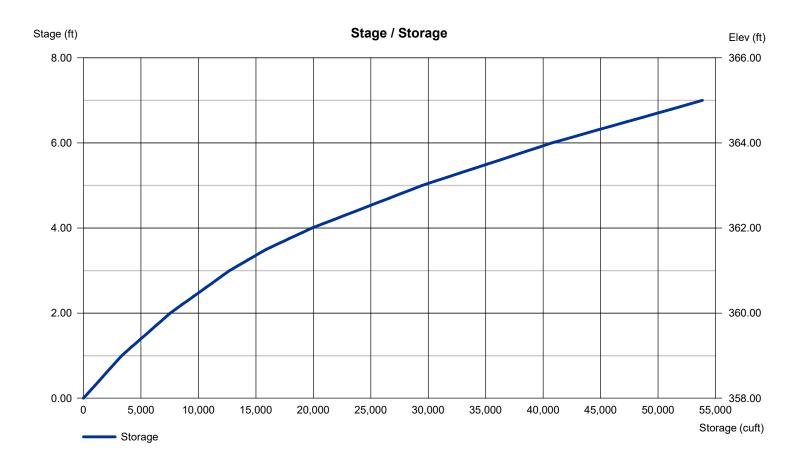
Stage / Storage Table

Stage (ft) Elevation (ft)		Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	358.00	2,888	0	0
1.00	359.00	3,772	3,320	3,320
2.00	360.00	4,695	4,225	7,545
3.00	361.00	5,655	5,167	12,712
3.50	361.50	7,163	3,197	15,908
4.00	362.00	8,755	3,972	19,881
5.00	363.00	10,430	9,579	29,460
6.00	364.00	12,189	11,297	40,757
7.00	365.00	14,033	13,099	53,856

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]		[A]	[B]	[C]	[D]
Rise (in)	= 18.00	1.00	6.00	0.00	Crest Len (ft)	= 14.00	12.00	0.00	0.00
Span (in)	= 18.00	1.00	12.00	0.00	Crest El. (ft)	= 363.25	363.75	0.00	0.00
No. Barrels	= 1	1	1	0	Weir Coeff.	= 3.33	3.33	3.33	3.33
Invert El. (ft)	= 358.00	361.50	362.75	0.00	Weir Type	= 1	Rect		
Length (ft)	= 100.00	0.50	0.50	0.00	Multi-Stage	= Yes	No	No	No
Slope (%)	= 0.50	0.50	0.50	n/a					
N-Value	= .013	.013	.013	n/a					
Orifice Coeff.	= 0.60	0.60	0.60	0.60	Exfil.(in/hr)	= 0.000 (by	Wet area)		
Multi-Stage	= n/a	Yes	Yes	No	TW Elev. (ft)	= 0.00			

Weir Structures



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Pond No. 3 - SCM #3

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 357.00 ft

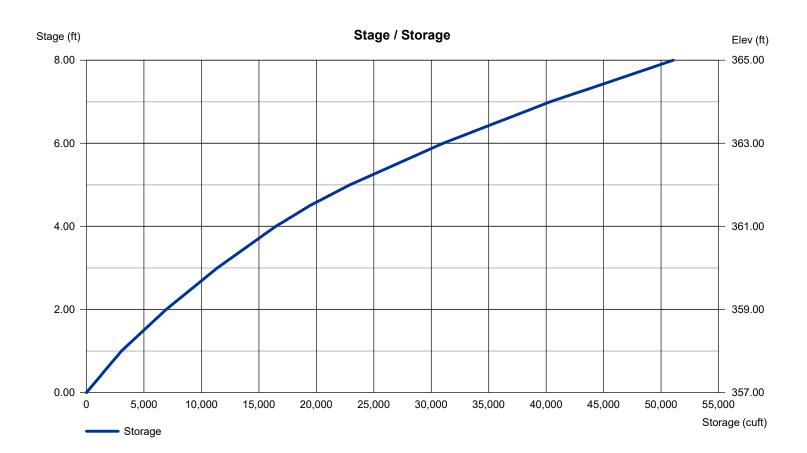
Stage / Storage Table

Stage (ft) Elevation (ft)		Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	357.00	2,465	0	0
1.00	358.00	3,606	3,036	3,036
2.00	359.00	4,169	3,888	6,923
3.00	360.00	4,767	4,468	11,391
4.00	361.00	5,401	5,084	16,475
4.50	361.50	6,424	2,956	19,431
5.00	362.00	7,528	3,488	22,919
6.00	363.00	8,717	8,123	31,042
7.00	364.00	9,993	9,355	40,397
8.00	365.00	11,354	10,674	51,070

Culvert / Orifice Structures

Weir Structures

	[A]	[B]	[C]	[PrfRsr]		[A]	[B]	[C]	[D]
Rise (in)	= 24.00	2.00	6.00	0.00	Crest Len (ft)	= 22.00	24.00	0.00	0.00
Span (in)	= 24.00	2.00	42.00	0.00	Crest El. (ft)	= 363.25	363.90	0.00	0.00
No. Barrels	= 1	1	3	0	Weir Coeff.	= 3.33	3.33	3.33	3.33
Invert El. (ft)	= 358.00	361.50	362.75	0.00	Weir Type	= 1	Rect		
Length (ft)	= 0.00	0.00	0.50	0.00	Multi-Stage	= Yes	No	No	No
Slope (%)	= 0.00	0.00	0.50	n/a					
N-Value	= .013	.013	.013	n/a					
Orifice Coeff.	= 0.60	0.60	0.60	0.60	Exfil.(in/hr)	= 0.000 (by	Wet area)		
Multi-Stage	= n/a	Yes	Yes	No	TW Elev. (ft)	= 0.00	-		



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Pond No. 5 - SCM #4

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 354.00 ft

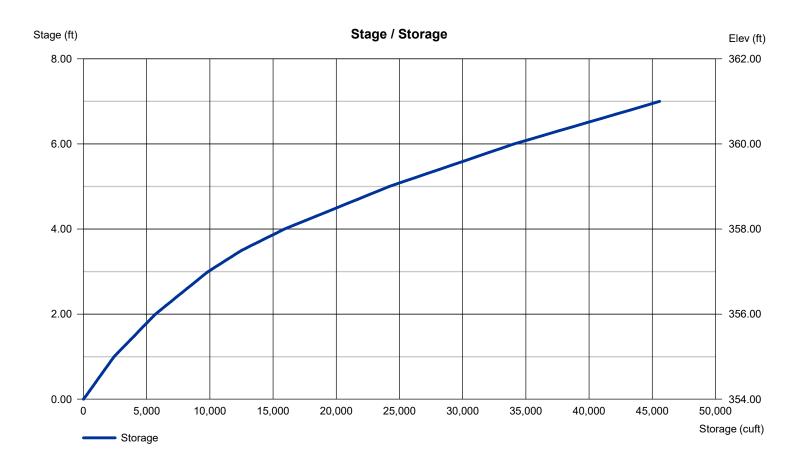
Stage / Storage Table

Stage (ft) Elevation (ft)		Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	354.00	1,995	0	0
1.00	355.00	2,838	2,417	2,417
2.00	356.00	3,711	3,275	5,691
3.00	357.00	4,615	4,163	9,854
3.50	357.50	6,029	2,661	12,515
4.00	358.00	7,511	3,385	15,900
5.00	359.00	9,061	8,286	24,186
6.00	360.00	10,681	9,871	34,057
7.00	361.00	12,369	11,525	45,582

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]		[A]	[B]	[C]	[D]
Rise (in)	= 24.00	1.50	6.00	0.00	Crest Len (ft)	= 22.00	24.00	0.00	0.00
Span (in)	= 24.00	1.50	30.00	0.00	Crest El. (ft)	= 359.25	360.00	0.00	0.00
No. Barrels	= 1	1	3	0	Weir Coeff.	= 3.33	3.33	3.33	3.33
Invert El. (ft)	= 354.00	357.50	358.75	0.00	Weir Type	= 1	Rect		
Length (ft)	= 100.00	0.00	0.50	0.00	Multi-Stage	= Yes	No	No	No
Slope (%)	= 0.50	0.00	0.50	n/a					
N-Value	= .013	.013	.013	n/a					
Orifice Coeff.	= 0.60	0.60	0.60	0.60	Exfil.(in/hr)	= 0.000 (by	Wet area)		
Multi-Stage	= n/a	Yes	Yes	No	TW Elev. (ft)	= 0.00			

Weir Structures



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Pond No. 4 - SCM #5

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 344.00 ft

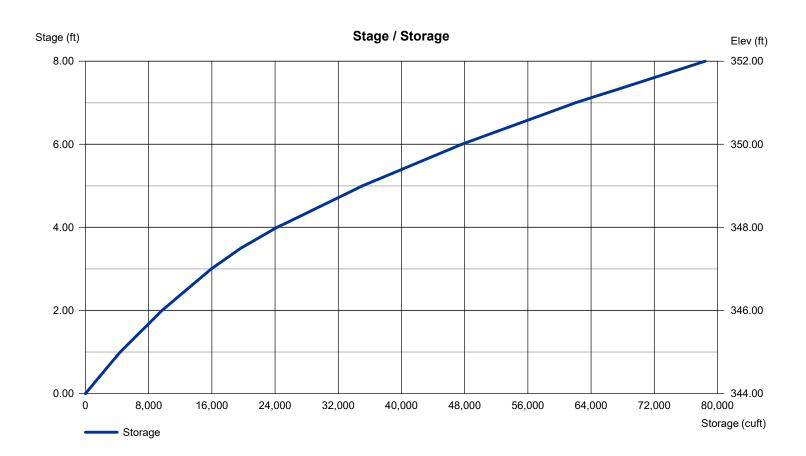
Stage / Storage Table

Stage (ft) Elevation (ft)		Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	344.00	3,945	0	0
1.00	345.00	4,823	4,384	4,384
2.00	346.00	5,755	5,289	9,673
3.00	347.00	6,738	6,247	15,920
3.50	347.50	8,303	3,760	19,680
4.00	348.00	9,952	4,564	24,244
5.00	349.00	11,681	10,817	35,060
6.00	350.00	13,490	12,586	47,646
7.00	351.00	15,379	14,435	62,080
8.00	352.00	17,348	16,364	78,444

Culvert / Orifice Structures

Weir Structures

	[A]	[B]	[C]	[PrfRsr]		[A]	[B]	[C]	[D]
Rise (in)	= 24.00	2.00	6.00	0.00	Crest Len (ft)	= 14.00	24.00	0.00	0.00
Span (in)	= 24.00	2.00	24.00	0.00	Crest El. (ft)	= 350.50	351.00	0.00	0.00
No. Barrels	= 1	1	3	0	Weir Coeff.	= 3.33	3.33	3.33	3.33
Invert El. (ft)	= 344.00	347.50	350.00	0.00	Weir Type	= 1	Rect		
Length (ft)	= 100.00	0.50	0.50	0.00	Multi-Stage	= Yes	No	No	No
Slope (%)	= 0.50	0.50	0.50	n/a					
N-Value	= .013	.013	.013	n/a					
Orifice Coeff.	= 0.60	0.60	0.60	0.60	Exfil.(in/hr)	= 0.000 (by	/Wet area)		
Multi-Stage	= n/a	Yes	Yes	No	TW Elev. (ft)	= 0.00	-		



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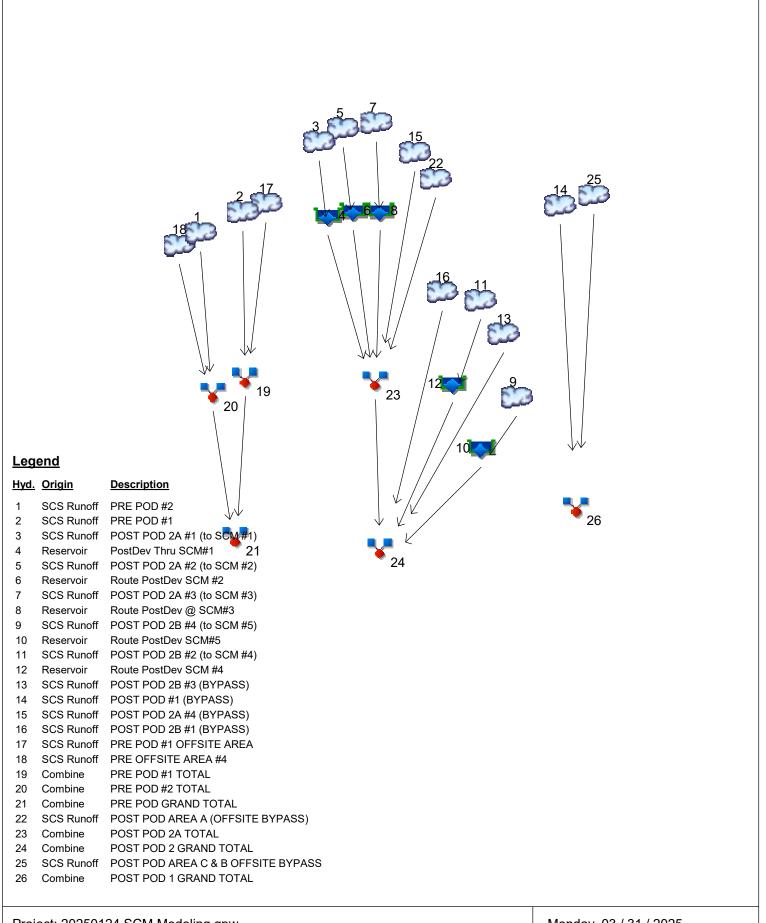
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Hydrograph Return Period Recap Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No.	Hydrograph	Inflow	oh Inflow Peak Outflow (cfs) hyd(s)						Hydrograph		
NO.	type (origin)	nya(s)	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	Description
1	SCS Runoff		42.90				121.51			230.07	PRE POD #2
2	SCS Runoff		7.331				21.78			42.19	PRE POD #1
3	SCS Runoff		19.90				45.07			76.81	POST POD 2A #1 (to SCM #1)
4	Reservoir	3	0.150				7.801			58.18	PostDev Thru SCM#1
5	SCS Runoff		3.057				6.893			11.74	POST POD 2A #2 (to SCM #2)
6	Reservoir	5	0.020				0.074			0.730	Route PostDev SCM #2
7	SCS Runoff		19.41				43.19			72.90	POST POD 2A #3 (to SCM #3)
8	Reservoir	7	10.84				33.43			67.90	Route PostDev @ SCM#3
9	SCS Runoff		16.19				34.78			57.71	POST POD 2B #4 (to SCM #5)
10	Reservoir	9	0.550				18.85			50.37	Route PostDev SCM#5
11	SCS Runoff		12.93				27.78			46.09	POST POD 2B #2 (to SCM #4)
12	Reservoir	11	6.542				25.84			37.38	Route PostDev SCM #4
13	SCS Runoff		9.688				24.50			44.33	POST POD 2B #3 (BYPASS)
14	SCS Runoff		4.718				10.64			18.12	POST POD #1 (BYPASS)
15	SCS Runoff		13.49				30.35			51.51	POST POD 2A #4 (BYPASS)
16	SCS Runoff		0.667				1.362			2.205	POST POD 2B #1 (BYPASS)
17	SCS Runoff		4.826				12.60			23.29	PRE POD #1 OFFSITE AREA
18	SCS Runoff		9.181				25.99			49.11	PRE OFFSITE AREA #4
19	Combine	2, 17,	<mark>11.80</mark>				34.24			<mark>65.08</mark>	PRE POD #1 TOTAL
20	Combine	1, 18,	48.86				138.98			263.30	PRE POD #2 TOTAL
21	Combine	19, 20	56.68				163.83			310.97	PRE POD GRAND TOTAL
22	SCS Runoff		9.181				25.99			49.11	POST POD AREA A (OFFSITE BYP
23	Combine	4, 6, 8,	28.97				82.80			208.45	POST POD 2A TOTAL
24	Combine	15, 22 10, 12, 13,	39.89				137.28			329.46	POST POD 2 GRAND TOTAL
25	SCS Runoff	16, 23	4.872				12.72			23.52	POST POD AREA C & B OFFSITE B
26	Combine	14, 25	<mark>9.590</mark>				23.36			<mark>41.64</mark>	POST POD 1 GRAND TOTAL
Pro	j. file: 20250	124 SCM	Modeling	g.gpw					Mc	onday, 03	3 / 31 / 2025

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

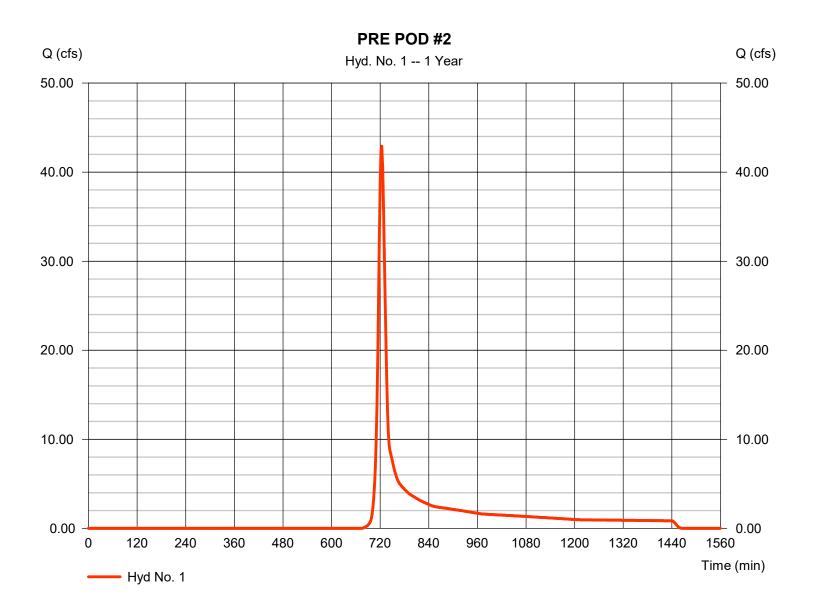
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	42.90	2	724	128,128				PRE POD #2
2	SCS Runoff	7.331	2	720	17,610				PRE POD #1
3	SCS Runoff	19.90	2	720	45,549				POST POD 2A #1 (to SCM #1)
4	Reservoir	0.150	2	1446	35,663	3	365.63	82,682	PostDev Thru SCM#1
5	SCS Runoff	3.057	2	718	6,138				POST POD 2A #2 (to SCM #2)
6	Reservoir	0.020	2	1442	4,751	5	362.14	21,206	Route PostDev SCM #2
7	SCS Runoff	19.41	2	718	44,464				POST POD 2A #3 (to SCM #3)
8	Reservoir	10.84	2	726	41,381	7	363.20	32,889	Route PostDev @ SCM#3
9	SCS Runoff	16.19	2	720	42,003				POST POD 2B #4 (to SCM #5)
10	Reservoir	0.550	2	906	40,370	9	350.06	48,504	Route PostDev SCM#5
11	SCS Runoff	12.93	2	720	33,546				POST POD 2B #2 (to SCM #4)
12	Reservoir	6.542	2	730	33,138	11	359.15	25,654	Route PostDev SCM #4
13	SCS Runoff	9.688	2	720	22,339				POST POD 2B #3 (BYPASS)
14	SCS Runoff	4.718	2	718	9,474				POST POD #1 (BYPASS)
15	SCS Runoff	13.49	2	720	35,139				POST POD 2A #4 (BYPASS)
16	SCS Runoff	0.667	2	716	1,352				POST POD 2B #1 (BYPASS)
17	SCS Runoff	4.826	2	718	9,705				PRE POD #1 OFFSITE AREA
18	SCS Runoff	9.181	2	736	45,436				PRE OFFSITE AREA #4
19	Combine	11.80	2	718	27,315	2, 17,			PRE POD #1 TOTAL
20	Combine	48.86	2	724	173,564	1, 18,			PRE POD #2 TOTAL
21	Combine	56.68	2	722	200,879	19, 20			PRE POD GRAND TOTAL
22	SCS Runoff	9.181	2	736	45,436				POST POD AREA A (OFFSITE BYP
23	Combine	28.97	2	724	162,371	4, 6, 8,			POST POD 2A TOTAL
24	Combine	39.89	2	724	259,570	15, 22 10, 12, 13,			POST POD 2 GRAND TOTAL
25	SCS Runoff	4.872	2	718	9,798	16, 23 			POST POD AREA C & B OFFSITE B
26	Combine	9.590	2	718	19,272	14, 25			POST POD 1 GRAND TOTAL
20250124 SCM Modeling.gpw				Return F	Period: 1 Ye	ear	Monday, 0	3 / 31 / 2025	

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

PRE POD #2

Hydrograph type	= SCS Runoff	Peak discharge	= 42.90 cfs
Storm frequency	= 1 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 128,128 cuft
Drainage area	= 41.980 ac	Curve number	= 73.1
Basin Slope	= 1.4 %	Hydraulic length	= 4320 ft
Tc method	= User	Time of conc. (Tc)	= 14.00 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



4

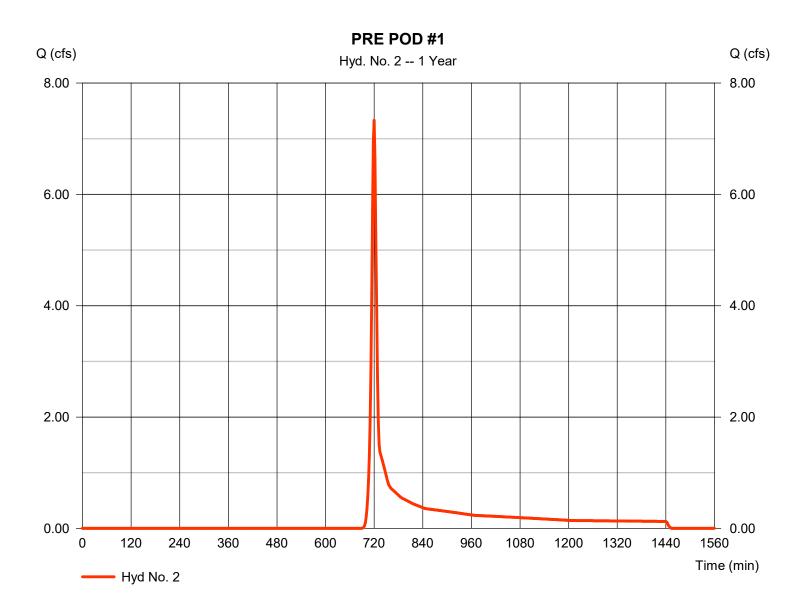
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Monday, 03 / 31 / 2025

Hyd. No. 2

PRE POD #1

Hydrograph type	= SCS Runoff	Peak discharge	= 7.331 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 17,610 cuft
Drainage area	= 6.540 ac	Curve number	= 70.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.70 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

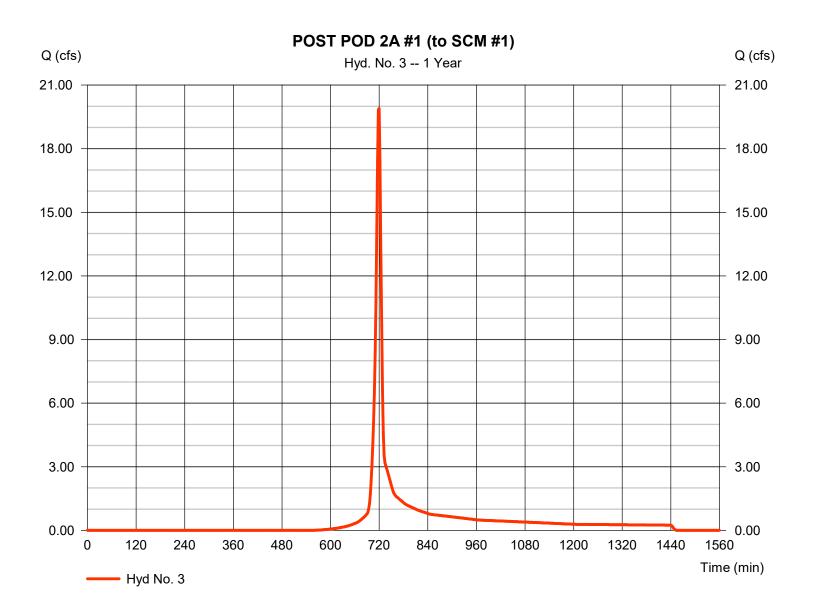


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 3

POST POD 2A #1 (to SCM #1)

Hydrograph type	= SCS Runoff	Peak discharge	= 19.90 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 45,549 cuft
Drainage area	= 9.460 ac	Curve number	= 81.2
Basin Slope	= 2.4 %	Hydraulic length	= 1000 ft
Tc method	= User	Time of conc. (Tc)	= 6.60 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



6

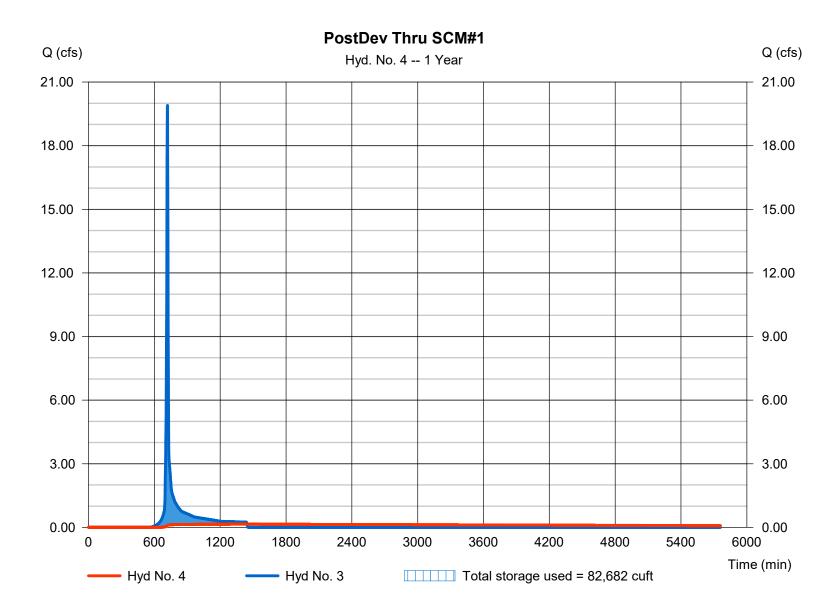
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 4

PostDev Thru SCM#1

Hydrograph type	= Reservoir	Peak discharge	= 0.150 cfs
Storm frequency	= 1 yrs	Time to peak	= 1446 min
Time interval	= 2 min	Hyd. volume	= 35,663 cuft
Inflow hyd. No.	= 3 - POST POD 2A #1 (to S	CMMax. Elevation	= 365.63 ft
Reservoir name	= SCM #1	Max. Storage	= 82,682 cuft

Storage Indication method used. Wet pond routing start elevation = 363.50 ft.

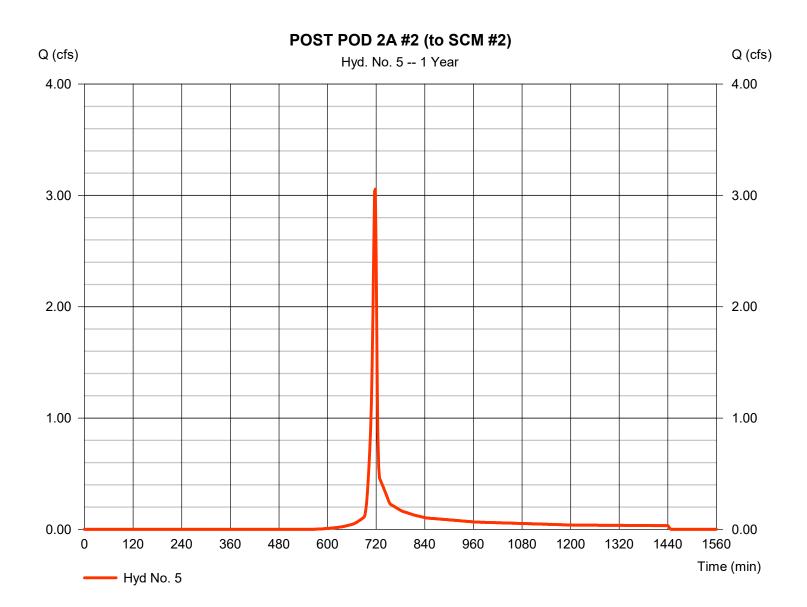


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 5

POST POD 2A #2 (to SCM #2)

Hydrograph type	= SCS Runoff	Peak discharge	= 3.057 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 6,138 cuft
Drainage area	= 1.380 ac	Curve number	= 80.9
Basin Slope	= 0.5 %	Hydraulic length	= 450 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



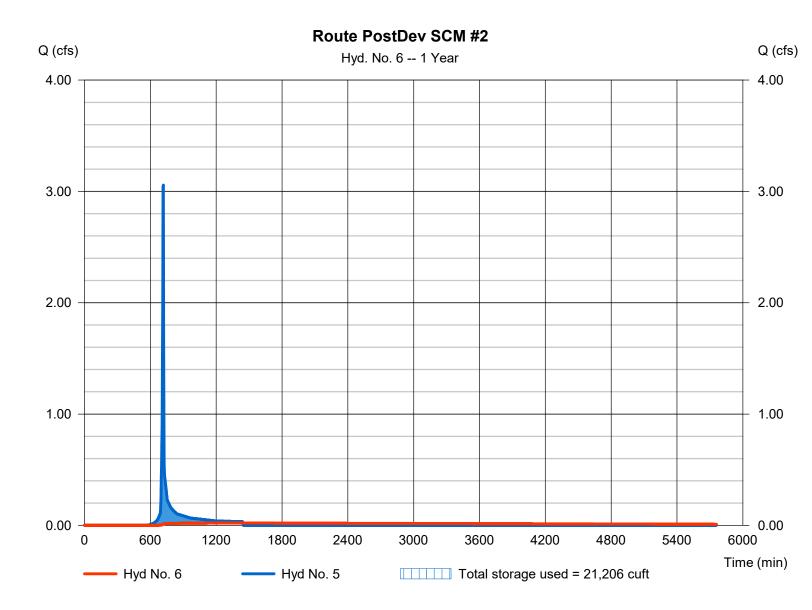
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 6

Route PostDev SCM #2

Hydrograph type	= Reservoir	Peak discharge	= 0.020 cfs
Storm frequency	= 1 yrs	Time to peak	= 1442 min
Time interval	= 2 min	Hyd. volume	= 4,751 cuft
Inflow hyd. No.	= 5 - POST POD 24	₩2 (to SCM₩2). Elevation	= 362.14 ft
Reservoir name	= SCM #2	Max. Storage	= 21,206 cuft

Storage Indication method used. Wet pond routing start elevation = 361.50 ft.



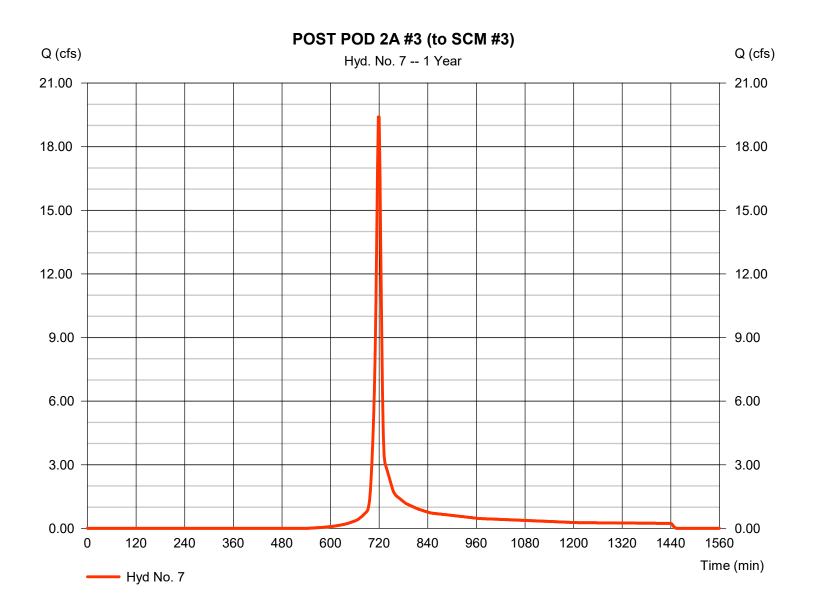
9

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 7

POST POD 2A #3 (to SCM #3)

Hydrograph type	= SCS Runoff	Peak discharge	= 19.41 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 44,464 cuft
Drainage area	= 8.840 ac	Curve number	= 82.1
Basin Slope	= 2.6 %	Hydraulic length	= 1120 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



10

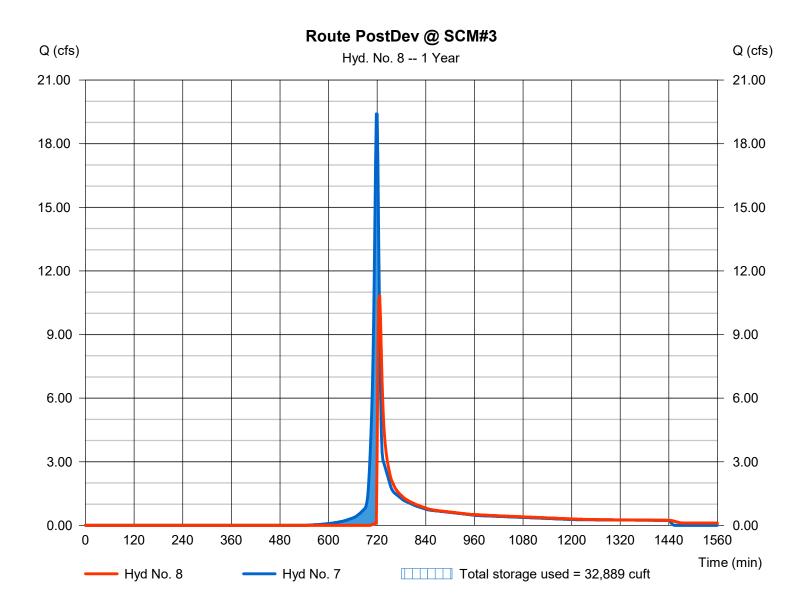
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 8

Route PostDev @ SCM#3

Hydrograph type Storm frequency Time interval Inflow hyd. No.	 Reservoir 1 yrs 2 min 7 - POST POD 2A #3 (to SCM 	7	 = 10.84 cfs = 726 min = 41,381 cuft = 363.20 ft = 22,880 cuft
Reservoir name	= SCM #3	Max. Storage	= 32,889 cuft

Storage Indication method used. Wet pond routing start elevation = 361.00 ft.



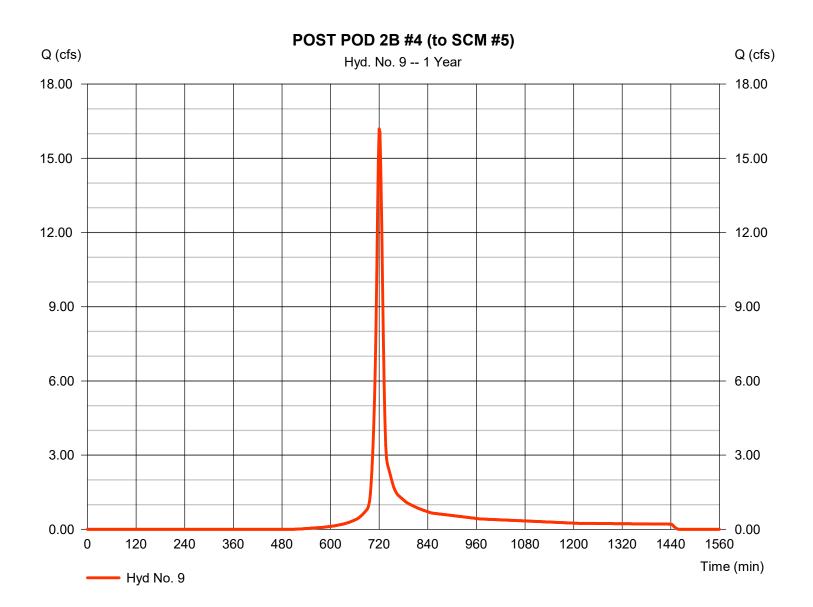
11

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 9

POST POD 2B #4 (to SCM #5)

Hydrograph type	= SCS Runoff	Peak discharge	= 16.19 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 42,003 cuft
Drainage area	= 7.400 ac	Curve number	= 84
Basin Slope	= 3.2 %	Hydraulic length	= 1270 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



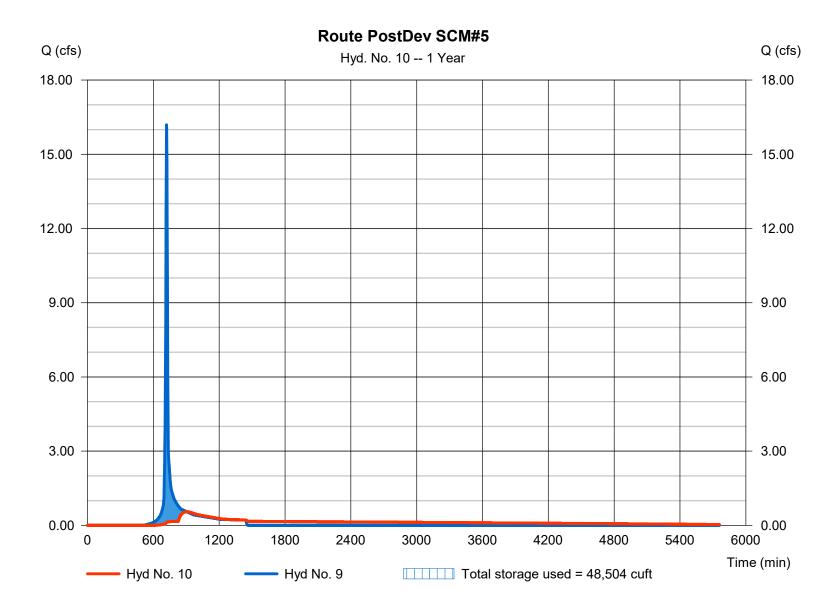
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 10

Route PostDev SCM#5

Hydrograph type Storm frequency Time interval Inflow hyd. No.	 Reservoir 1 yrs 2 min 9 - POST POD 2B #4 (to SCI 	,	= 0.550 cfs = 906 min = 40,370 cuft = 350.06 ft
Reservoir name	= SCM #5	Max. Storage	= 48,504 cuft

Storage Indication method used. Wet pond routing start elevation = 347.50 ft.

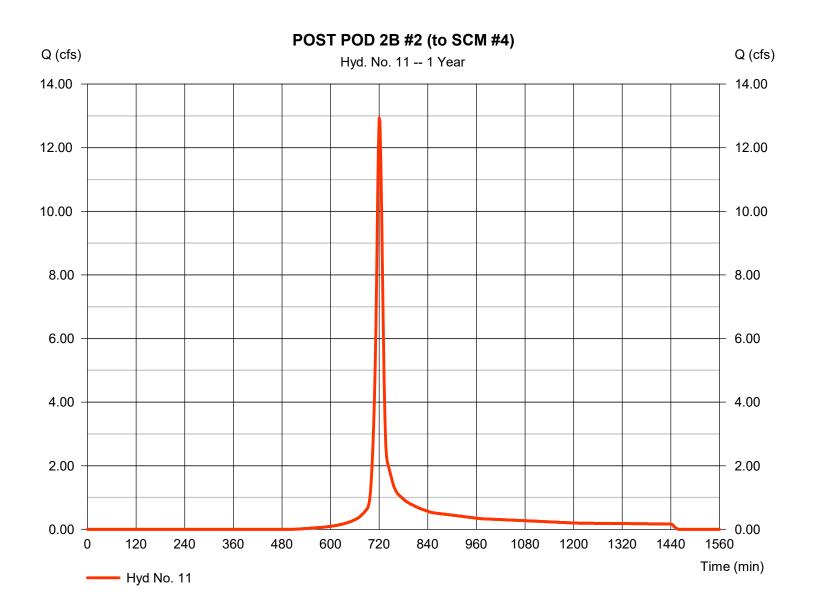


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 11

POST POD 2B #2 (to SCM #4)

Hydrograph type	= SCS Runoff	Peak discharge	= 12.93 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 33,546 cuft
Drainage area	= 5.910 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484
		-	



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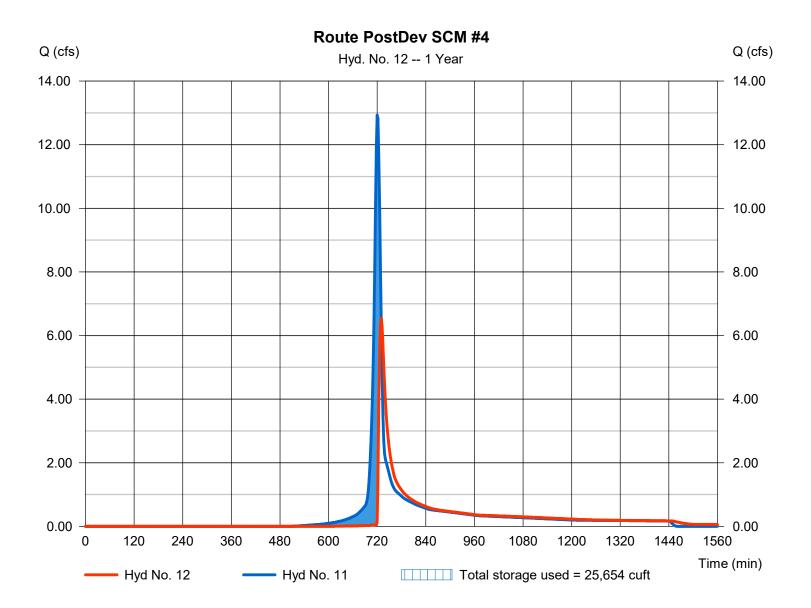
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 12

Route PostDev SCM #4

Hydrograph type Storm frequency Time interval Inflow hyd. No.	 Reservoir 1 yrs 2 min 11 - POST POD 2B #2 (to SC SCM #4 	,	 = 6.542 cfs = 730 min = 33,138 cuft = 359.15 ft = 25.654 cuft
Reservoir name	= SCM #4	Max. Storage	= 25,654 cuft

Storage Indication method used. Wet pond routing start elevation = 357.50 ft.



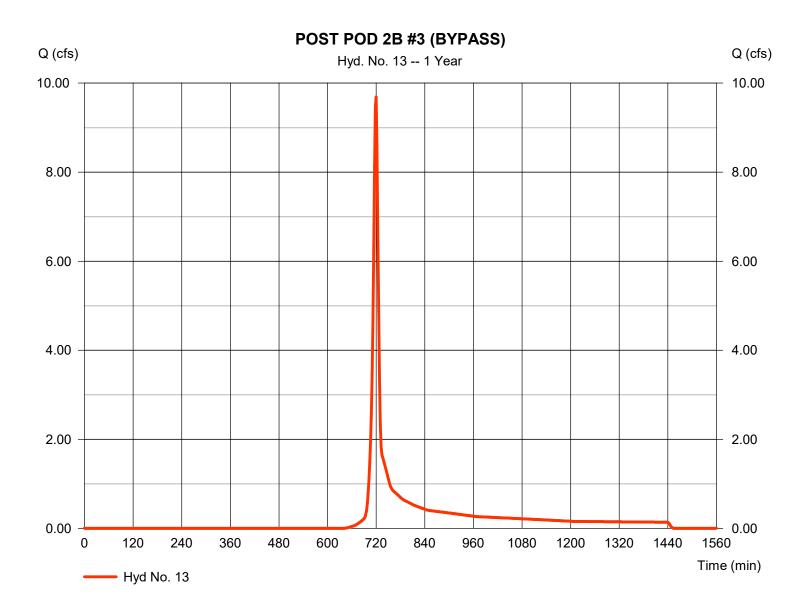
15

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 13

POST POD 2B #3 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 9.688 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 22,339 cuft
Drainage area	= 6.030 ac	Curve number	= 76.1
Basin Slope	= 1.3 %	Hydraulic length	= 4170 ft
Tc method	= User	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



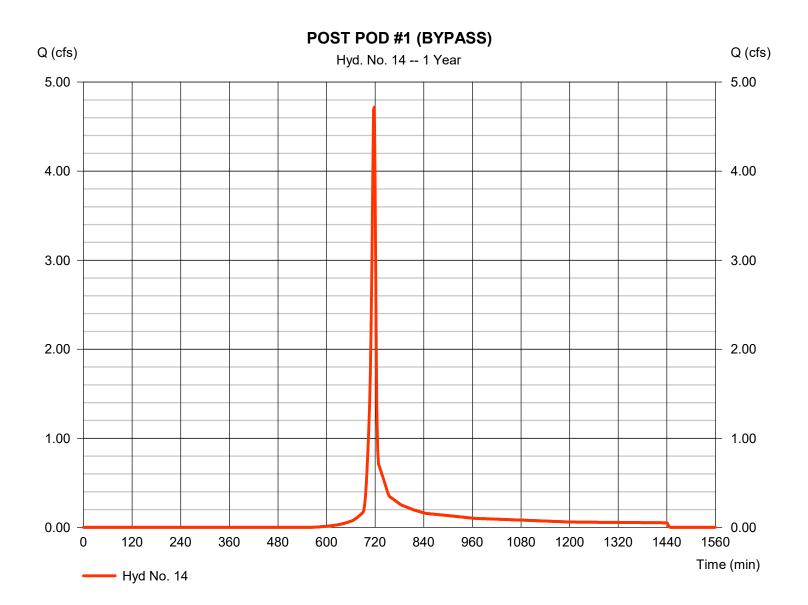
16

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 14

POST POD #1 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 4.718 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 9,474 cuft
Drainage area	= 2.130 ac	Curve number	= 80.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

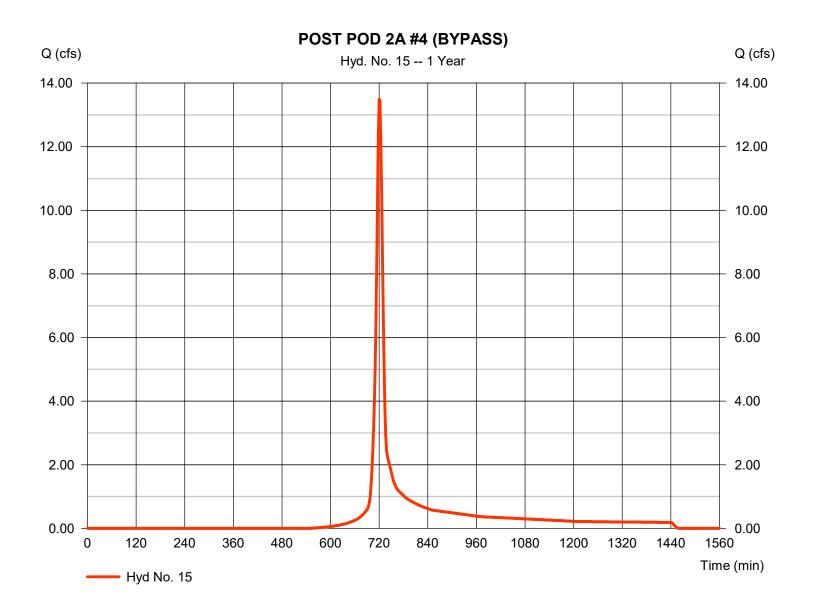


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 15

POST POD 2A #4 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 13.49 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 35,139 cuft
Drainage area	= 6.840 ac	Curve number	= 81.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



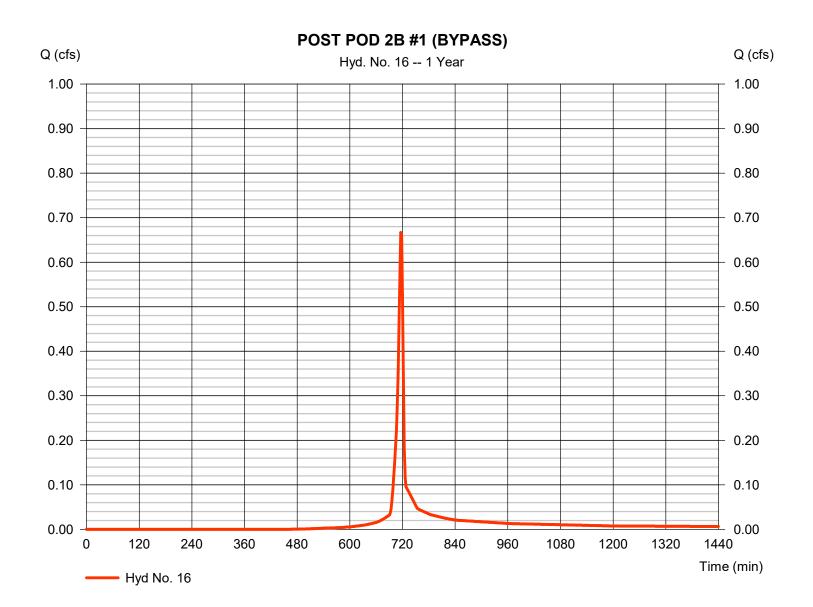
18

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 16

POST POD 2B #1 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.667 cfs
Storm frequency	= 1 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 1,352 cuft
Drainage area	= 0.240 ac	Curve number	= 85.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



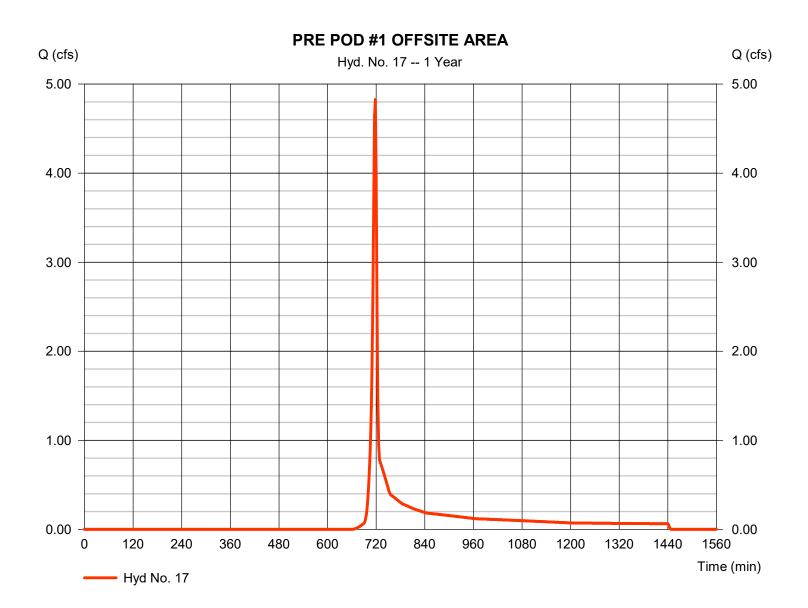
19

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 17

PRE POD #1 OFFSITE AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 4.826 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 9,705 cuft
Drainage area	= 3.140 ac	Curve number	= 74
Basin Slope	= 4.5 %	Hydraulic length	= 1030 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 5.38 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



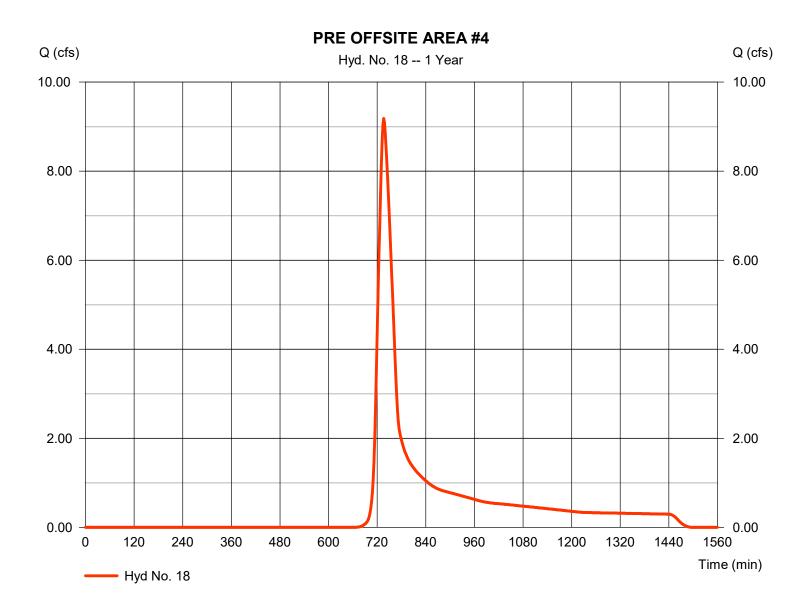
20

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 18

PRE OFFSITE AREA #4

Hydrograph type	= SCS Runoff	Peak discharge	= 9.181 cfs
Storm frequency	= 1 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 45,436 cuft
Drainage area	= 13.940 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.70 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

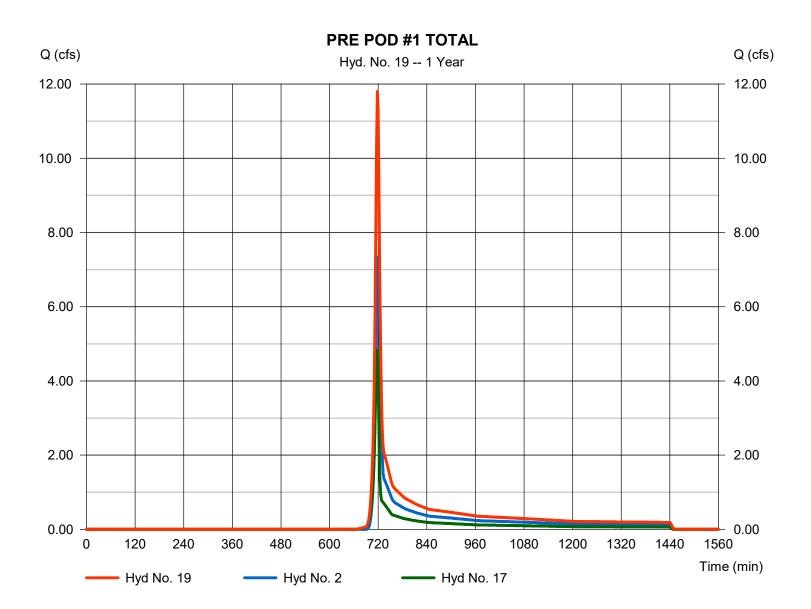


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 19

PRE POD #1 TOTAL

Hydrograph type	Combine1 yrs2 min	Peak discharge	= 11.80 cfs
Storm frequency		Time to peak	= 718 min
Time interval		Hyd. volume	= 27,315 cuft
Inflow hyds.	= 2, 17	Contrib. drain. area	= 9.680 ac



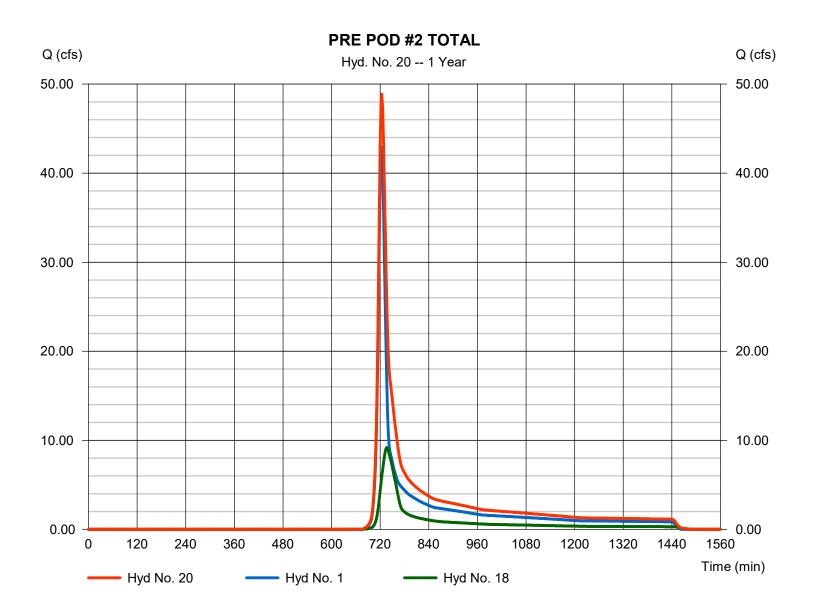
22

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 20

PRE POD #2 TOTAL

Hydrograph type	 Combine 1 yrs 2 min 1, 18 	Peak discharge	= 48.86 cfs
Storm frequency		Time to peak	= 724 min
Time interval		Hyd. volume	= 173,564 cuft
Inflow hyds.		Contrib. drain. area	= 55.920 ac
innow nyas.	= 1, 18	Contrib. drain. area	= 55.920 ac



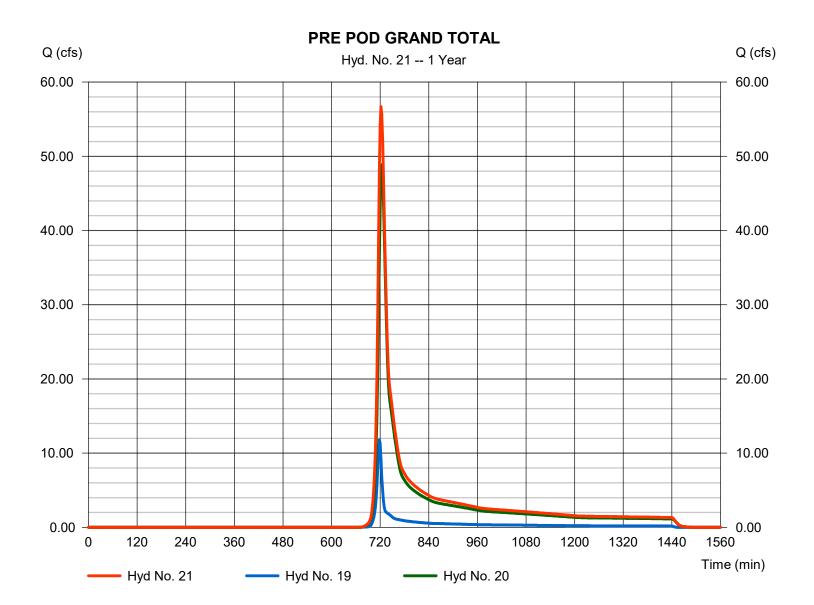
23

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 21

PRE POD GRAND TOTAL

Hydrograph type	= Combine	Peak discharge	= 56.68 cfs
Storm frequency	= 1 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 200,879 cuft
Inflow hyds.	= 19, 20	Contrib. drain. area	= 0.000 ac



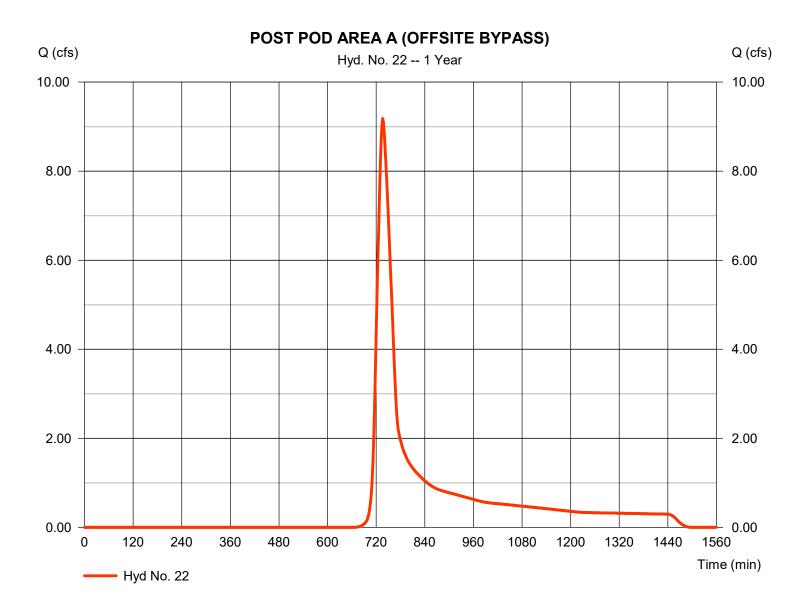
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Monday, 03 / 31 / 2025

Hyd. No. 22

POST POD AREA A (OFFSITE BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 9.181 cfs
Storm frequency	= 1 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 45,436 cuft
Drainage area	= 13.940 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.70 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

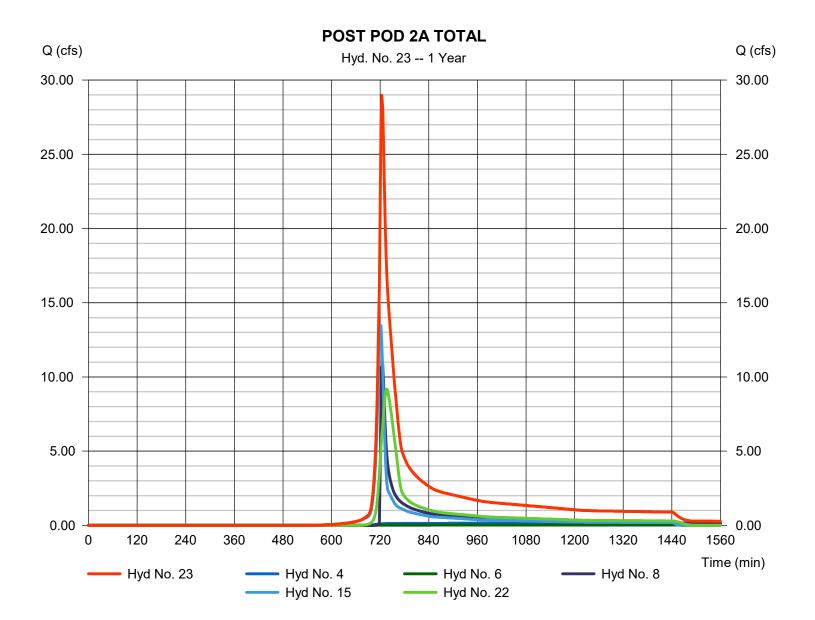


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 23

POST POD 2A TOTAL

Hydrograph type	= Combine	Peak discharge	= 28.97 cfs
Storm frequency	= 1 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 162,371 cuft
Inflow hyds.	= 4, 6, 8, 15, 22	Contrib. drain. area	= 20.780 ac

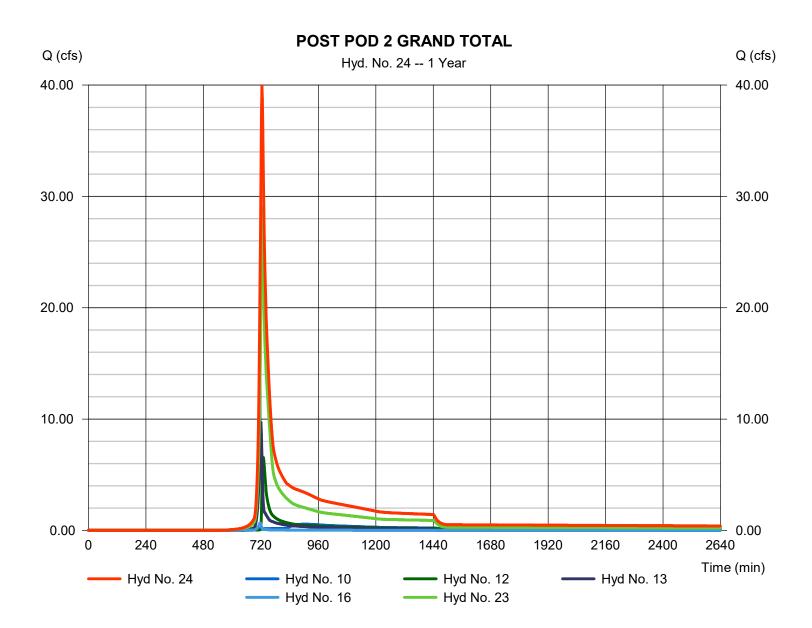


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 24

POST POD 2 GRAND TOTAL

Hydrograph type	= Combine	Peak discharge	= 39.89 cfs
Storm frequency	= 1 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 259,570 cuft
Inflow hyds.	= 10, 12, 13, 16, 23	Contrib. drain. area	= 6.270 ac

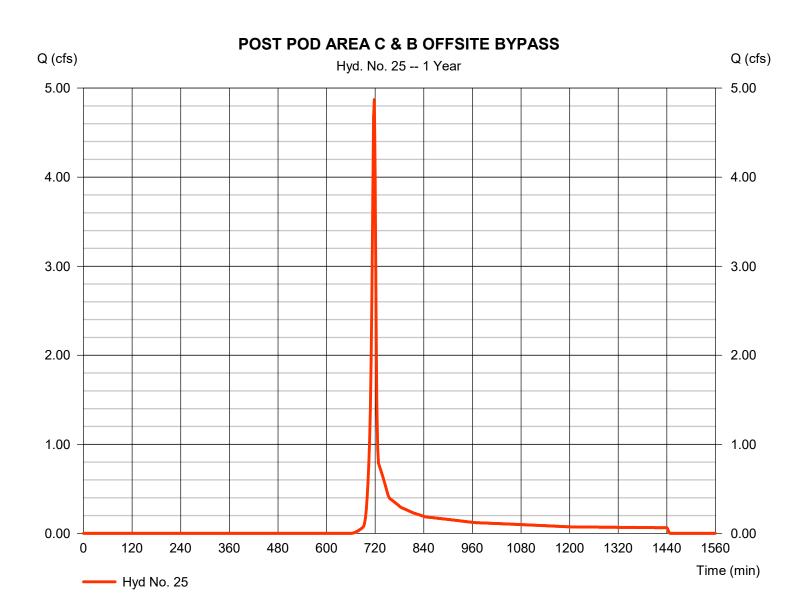


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 25

POST POD AREA C & B OFFSITE BYPASS

Hydrograph type	= SCS Runoff	Peak discharge	= 4.872 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 9,798 cuft
Drainage area	= 3.170 ac	Curve number	= 74
Basin Slope	= 4.5 %	Hydraulic length	= 1030 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 5.38 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

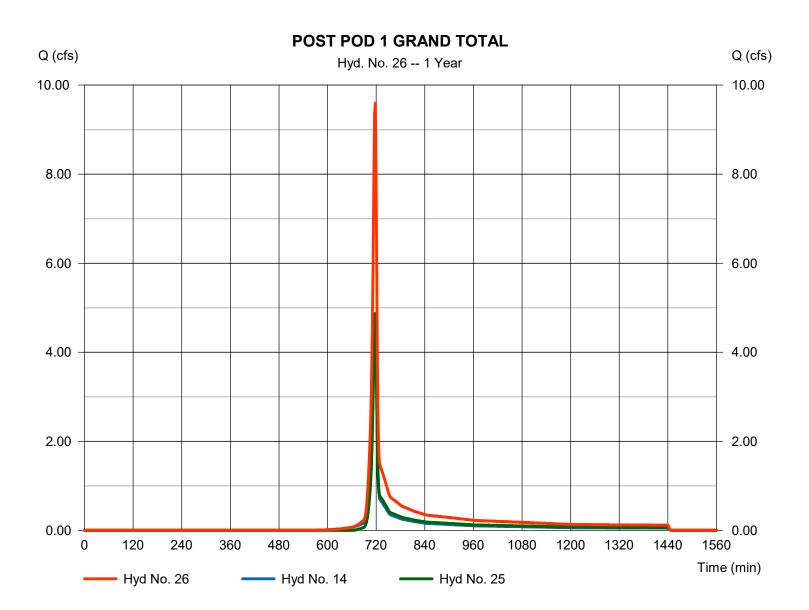


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 26

POST POD 1 GRAND TOTAL

Hydrograph type	= Combine	Peak discharge	= 9.590 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 19,272 cuft
Inflow hyds.	= 14, 25	Contrib. drain. area	= 5.300 ac



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Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

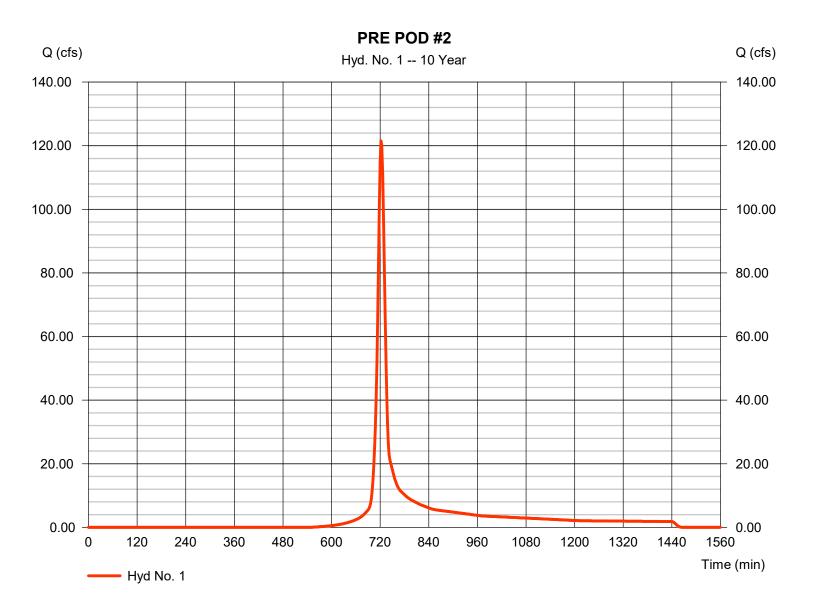
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	121.51	2	722	342,397				PRE POD #2
2	SCS Runoff	21.78	2	720	49,838				PRE POD #1
3	SCS Runoff	45.07	2	718	103,764				POST POD 2A #1 (to SCM #1)
4	Reservoir	7.801	2	732	92,501	3	366.26	96,156	PostDev Thru SCM#1
5	SCS Runoff	6.893	2	716	14,059				POST POD 2A #2 (to SCM #2)
6	Reservoir	0.074	2	1204	9,082	5	362.80	27,586	Route PostDev SCM #2
7	SCS Runoff	43.19	2	718	99,683				POST POD 2A #3 (to SCM #3)
8	Reservoir	33.43	2	722	96,598	7	363.91	39,587	Route PostDev @ SCM#3
9	SCS Runoff	34.78	2	720	91,102				POST POD 2B #4 (to SCM #5)
10	Reservoir	18.85	2	728	89,424	9	350.81	59,275	Route PostDev SCM#5
11	SCS Runoff	27.78	2	720	72,759				POST POD 2B #2 (to SCM #4)
12	Reservoir	25.84	2	724	72,342	11	359.56	29,687	Route PostDev SCM #4
13	SCS Runoff	24.50	2	718	56,051				POST POD 2B #3 (BYPASS)
14	SCS Runoff	10.64	2	716	21,700				POST POD #1 (BYPASS)
15	SCS Runoff	30.35	2	720	79,056				POST POD 2A #4 (BYPASS)
16	SCS Runoff	1.362	2	716	2,839				POST POD 2B #1 (BYPASS)
17	SCS Runoff	12.60	2	718	25,435				PRE POD #1 OFFSITE AREA
18	SCS Runoff	25.99	2	736	119,076				PRE OFFSITE AREA #4
19	Combine	34.24	2	718	75,272	2, 17,			PRE POD #1 TOTAL
20	Combine	138.98	2	724	461,473	1, 18,			PRE POD #2 TOTAL
21	Combine	163.83	2	722	536,745	19, 20			PRE POD GRAND TOTAL
22	SCS Runoff	25.99	2	736	119,076				POST POD AREA A (OFFSITE BYP
23	Combine	82.80	2	724	396,313	4, 6, 8,			POST POD 2A TOTAL
24	Combine	137.28	2	724	616,968	15, 22 10, 12, 13,			POST POD 2 GRAND TOTAL
25	SCS Runoff	12.72	2	718	25,678	16, 23 			POST POD AREA C & B OFFSITE B
26	Combine	23.36	2	716	47,378	14, 25			POST POD 1 GRAND TOTAL
202	250124 SCM	 Modeling	.gpw		Return F	Period: 10 Y	/ ear	Monday, 0	3 / 31 / 2025

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

PRE POD #2

Hydrograph type	= SCS Runoff	Peak discharge	= 121.51 cfs
Storm frequency	= 10 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 342,397 cuft
Drainage area	= 41.980 ac	Curve number	= 73.1
Basin Slope	= 1.4 %	Hydraulic length	= 4320 ft
Tc method	= User	Time of conc. (Tc)	= 14.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



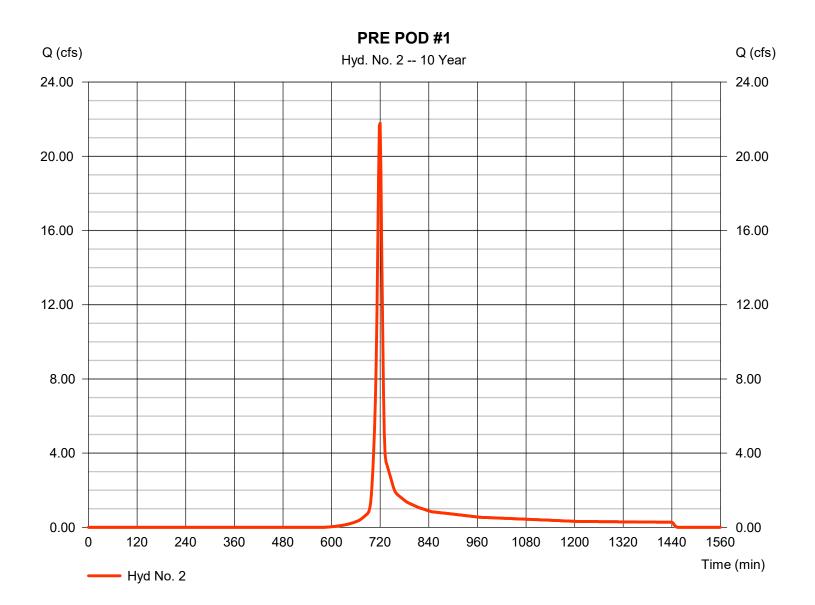
31

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 2

PRE POD #1

Hydrograph type	= SCS Runoff	Peak discharge	= 21.78 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 49,838 cuft
Drainage area	= 6.540 ac	Curve number	= 70.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.70 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



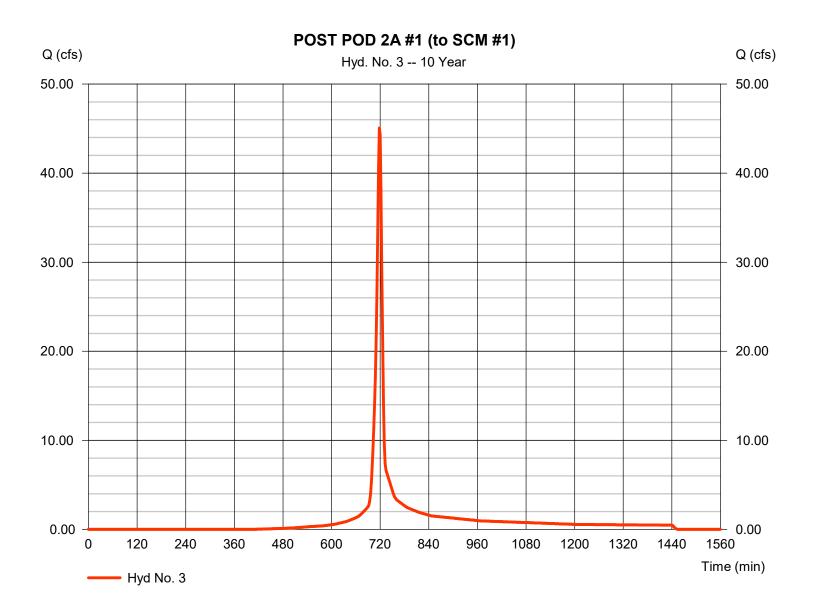
32

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 3

POST POD 2A #1 (to SCM #1)

Hydrograph type	= SCS Runoff	Peak discharge	= 45.07 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 103,764 cuft
Drainage area	= 9.460 ac	Curve number	= 81.2
Basin Slope	= 2.4 %	Hydraulic length	= 1000 ft
Tc method	= User	Time of conc. (Tc)	= 6.60 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



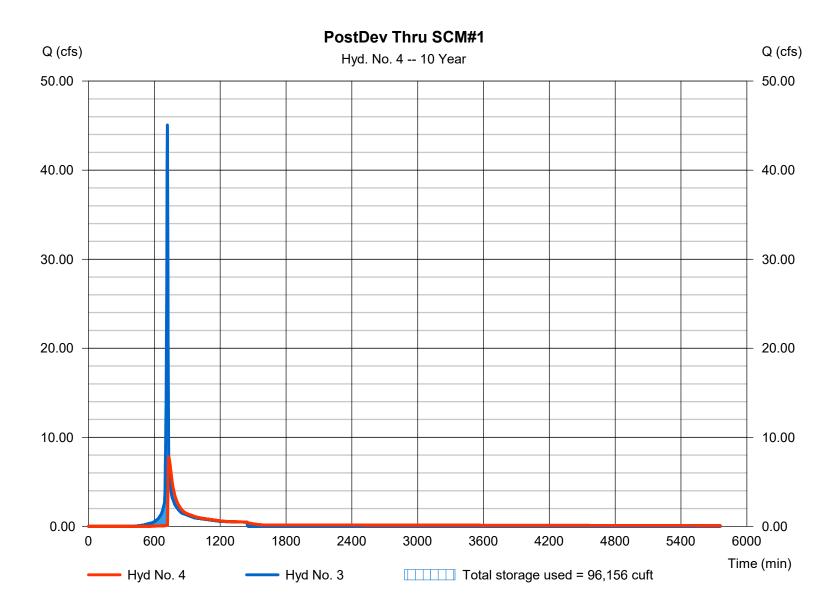
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 4

PostDev Thru SCM#1

Hydrograph type	= Reservoir	Peak discharge	= 7.801 cfs
Storm frequency	= 10 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 92,501 cuft
Inflow hyd. No.	= 3 - POST POD 2A #1	(to SCMᢂa). Elevation	= 366.26 ft
Reservoir name	= SCM #1	Max. Storage	= 96,156 cuft

Storage Indication method used. Wet pond routing start elevation = 363.50 ft.



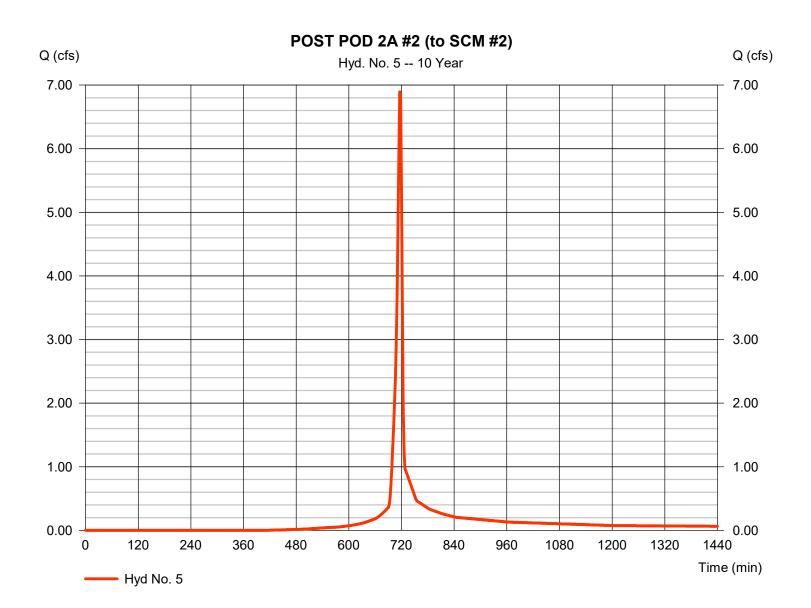
34

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 5

POST POD 2A #2 (to SCM #2)

Hydrograph type	= SCS Runoff	Peak discharge	= 6.893 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 14,059 cuft
Drainage area	= 1.380 ac	Curve number	= 80.9
Basin Slope	= 0.5 %	Hydraulic length	= 450 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



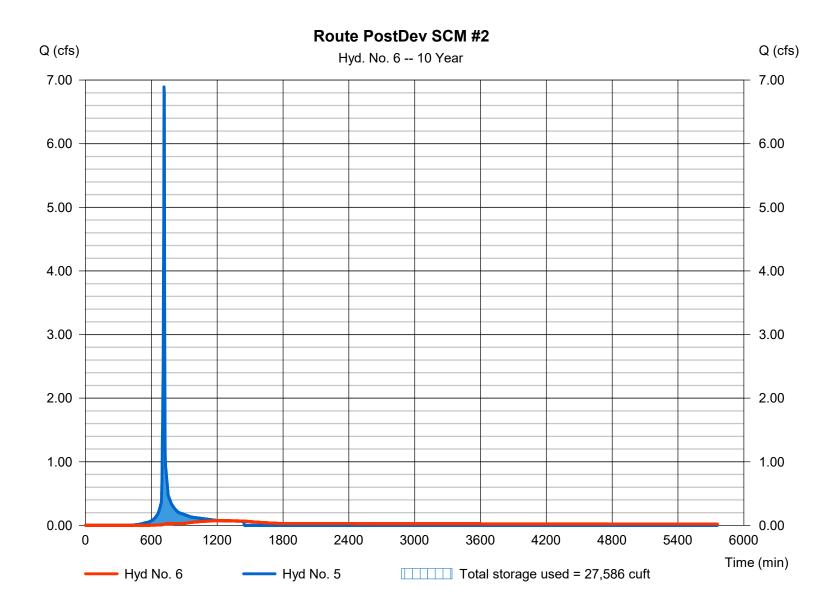
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 6

Route PostDev SCM #2

Hydrograph type	= Reservoir	Peak discharge	= 0.074 cfs
Storm frequency	= 10 yrs	Time to peak	= 1204 min
Time interval	= 2 min	Hyd. volume	= 9,082 cuft
Inflow hyd. No.	= 5 - POST POD 2A	#2 (to SCM #2)x. Elevation	= 362.80 ft
Reservoir name	= SCM #2	Max. Storage	= 27,586 cuft

Storage Indication method used. Wet pond routing start elevation = 361.50 ft.



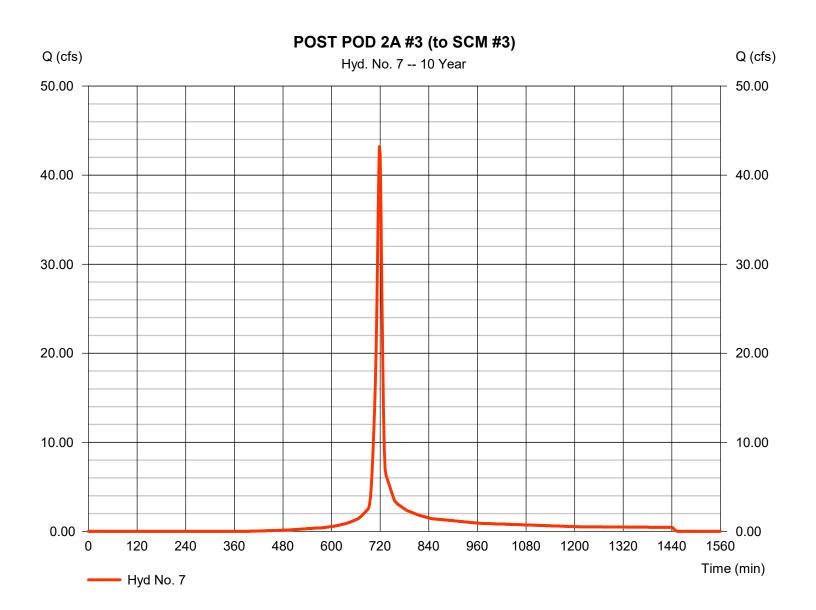
36

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 7

POST POD 2A #3 (to SCM #3)

Hydrograph type	= SCS Runoff	Peak discharge	= 43.19 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 99,683 cuft
Drainage area	= 8.840 ac	Curve number	= 82.1
Basin Slope	= 2.6 %	Hydraulic length	= 1120 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484
		·	



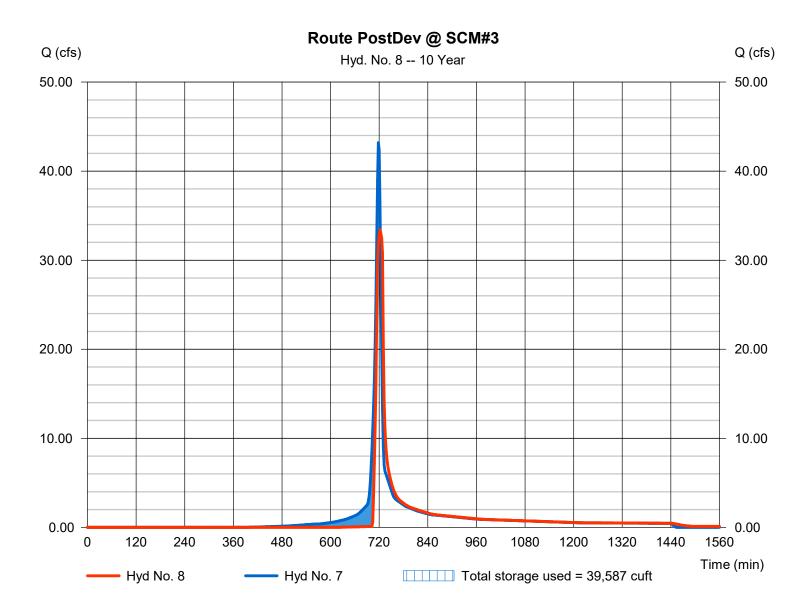
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 8

Route PostDev @ SCM#3

Hydrograph type	= Reservoir	Peak discharge	= 33.43 cfs
Storm frequency	= 10 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 96,598 cuft
Inflow hyd. No.	= 7 - POST POD 2/	A #3 (to SCM #a)x. Elevation	= 363.91 ft
Reservoir name	= SCM #3	Max. Storage	= 39,587 cuft

Storage Indication method used. Wet pond routing start elevation = 361.00 ft.



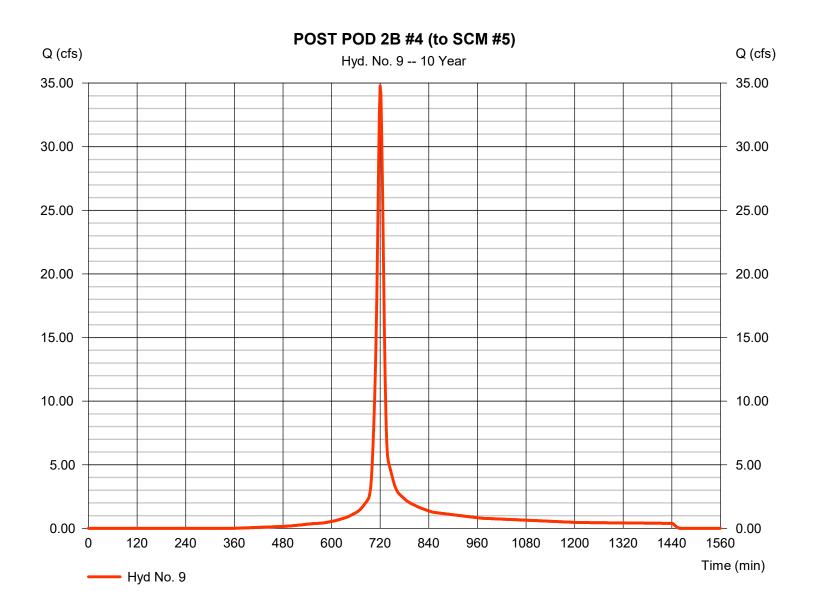
38

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 9

POST POD 2B #4 (to SCM #5)

Hydrograph type	= SCS Runoff	Peak discharge	= 34.78 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 91,102 cuft
Drainage area	= 7.400 ac	Curve number	= 84
Basin Slope	= 3.2 %	Hydraulic length	= 1270 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



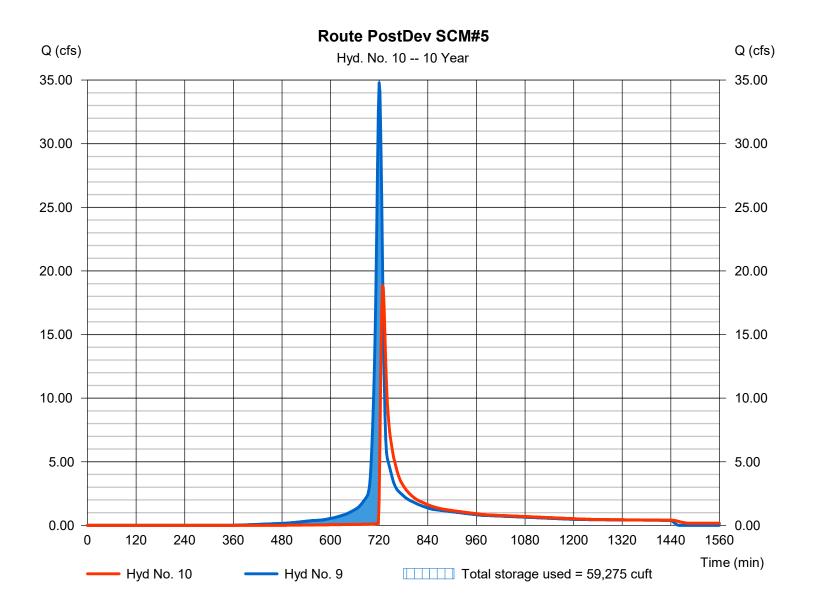
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 10

Route PostDev SCM#5

Storm frequency = Time interval = Inflow hyd. No. =	 Reservoir 10 yrs 2 min 9 - POST POD 2B #4 (to SCN SCM #5 	,	 = 18.85 cfs = 728 min = 89,424 cuft = 350.81 ft = 59.275 cuft
Reservoir name =	= SCM #5	Max. Storage	= 59,275 cuft

Storage Indication method used. Wet pond routing start elevation = 347.50 ft.

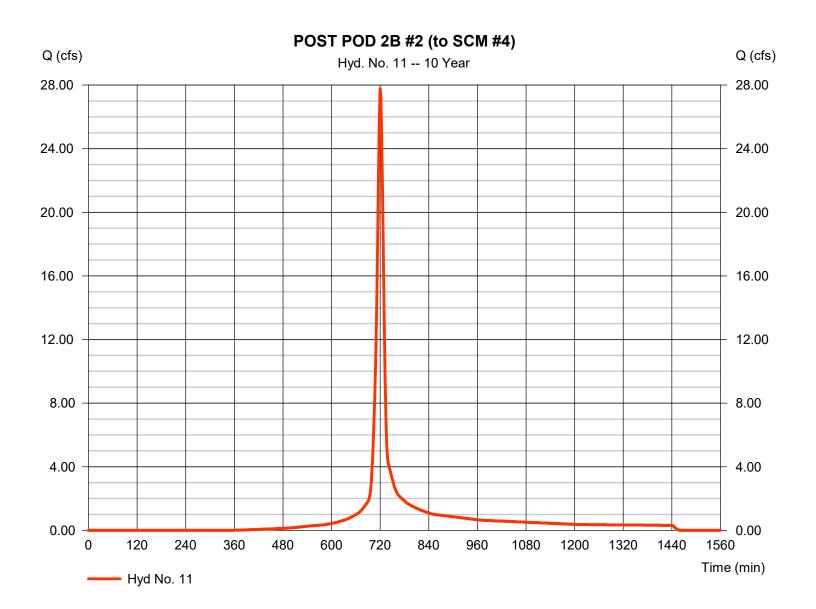


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 11

POST POD 2B #2 (to SCM #4)

Hydrograph type	= SCS Runoff	Peak discharge	= 27.78 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 72,759 cuft
Drainage area	= 5.910 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484
		·	



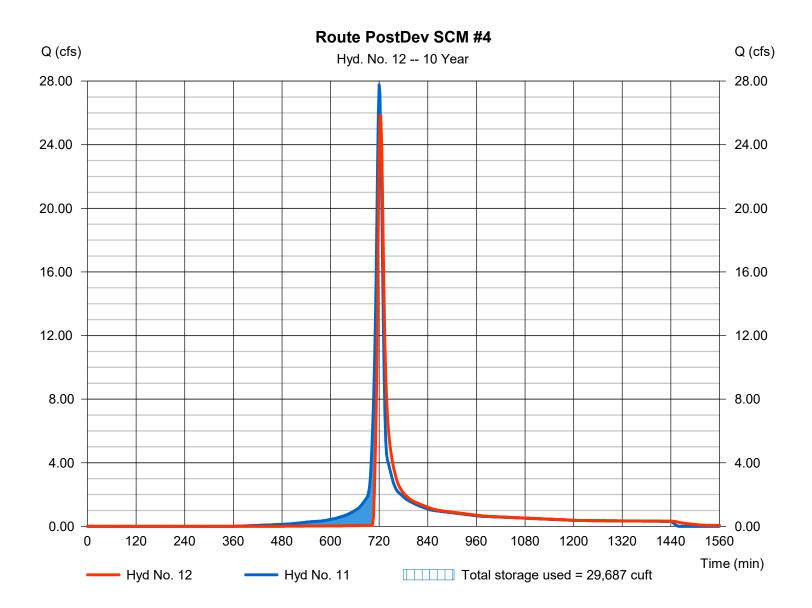
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 12

Route PostDev SCM #4

Hydrograph type Storm frequency Time interval	 Reservoir 10 yrs 2 min 11 DOST DOD 28 #2 (to SC 	Peak discharge Time to peak Hyd. volume	= 25.84 cfs = 724 min = 72,342 cuft = 250.56 ft
Inflow hyd. No.	= 11 - POST POD 2B #2 (to SC	CM/##) Elevation	= 359.56 ft
Reservoir name	= SCM #4	Max. Storage	= 29,687 cuft

Storage Indication method used. Wet pond routing start elevation = 357.50 ft.



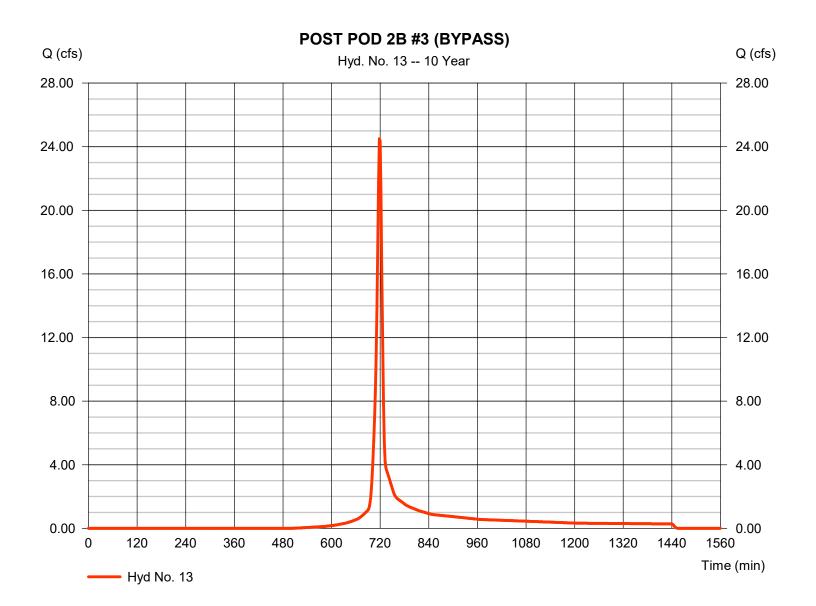
42

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Hyd. No. 13

POST POD 2B #3 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 24.50 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 56,051 cuft
Drainage area	= 6.030 ac	Curve number	= 76.1
Basin Slope	= 1.3 %	Hydraulic length	= 4170 ft
Tc method	= User	Time of conc. (Tc)	= 7.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

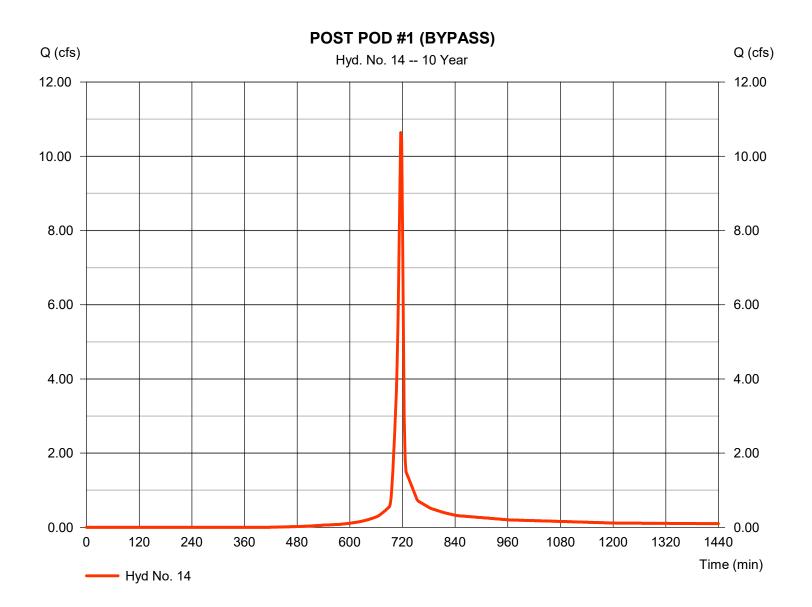


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 14

POST POD #1 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 10.64 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 21,700 cuft
Drainage area	= 2.130 ac	Curve number	= 80.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

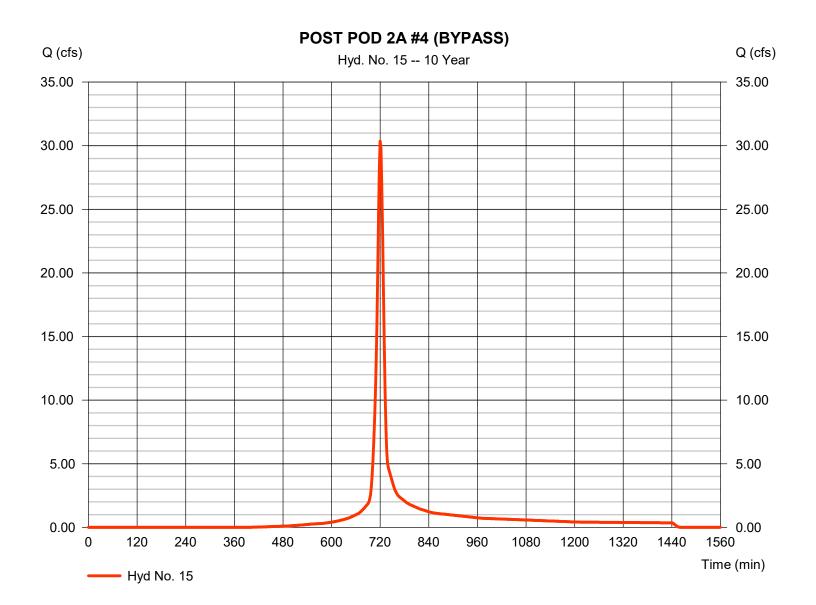


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 15

POST POD 2A #4 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 30.35 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 79,056 cuft
Drainage area	= 6.840 ac	Curve number	= 81.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

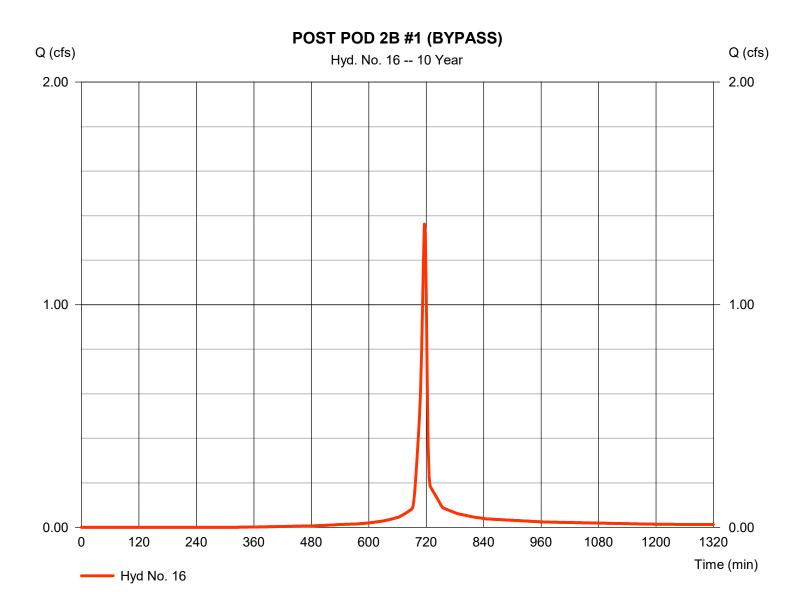


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 16

POST POD 2B #1 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 1.362 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 2,839 cuft
Drainage area	= 0.240 ac	Curve number	= 85.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



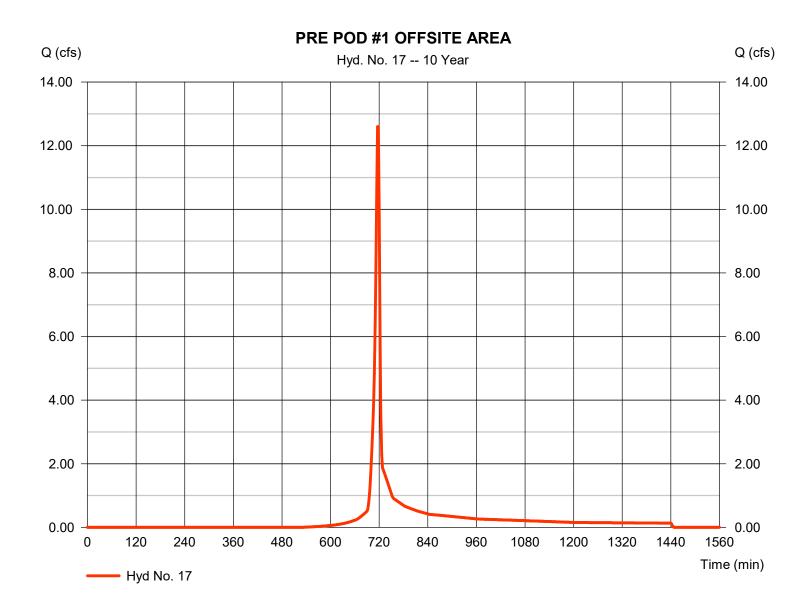
46

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 17

PRE POD #1 OFFSITE AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 12.60 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 25,435 cuft
Drainage area	= 3.140 ac	Curve number	= 74
Basin Slope	= 4.5 %	Hydraulic length	= 1030 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 5.38 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484
		·	

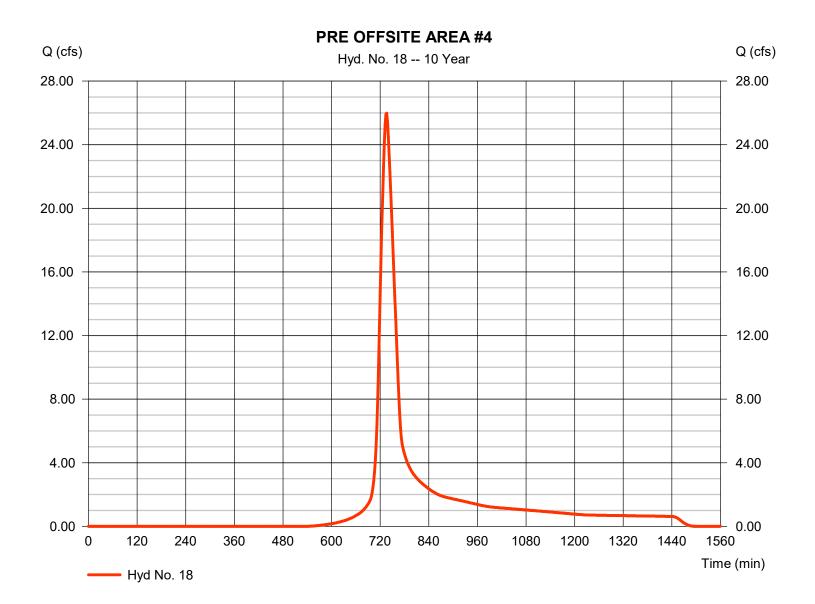


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 18

PRE OFFSITE AREA #4

Hydrograph type	= SCS Runoff	Peak discharge	= 25.99 cfs
Storm frequency	= 10 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 119,076 cuft
Drainage area	= 13.940 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.70 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

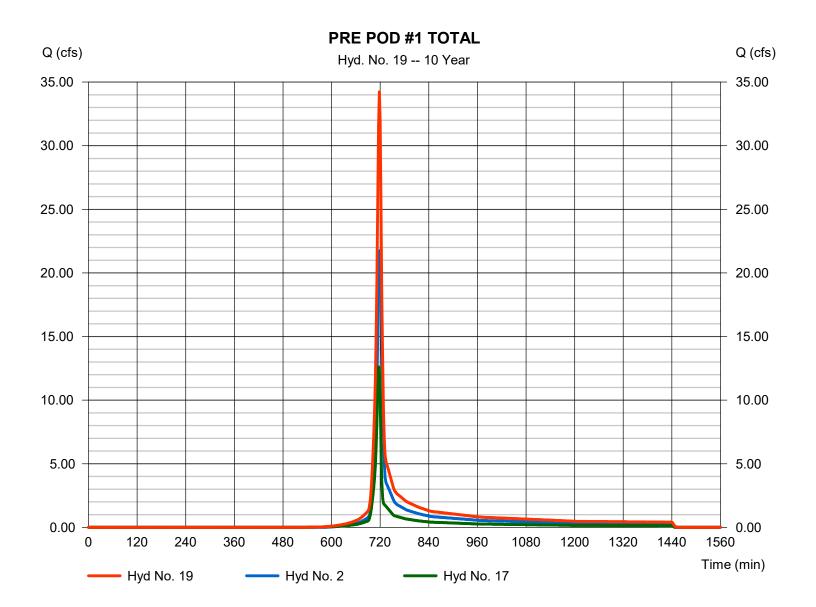


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 19

PRE POD #1 TOTAL

Hydrograph type= CombinStorm frequency= 10 yrsTime interval= 2 minInflow hyds.= 2, 17	Time to peak = 7 Hyd. volume = 7	4.24 cfs 18 min 5,272 cuft .680 ac
		.000 40

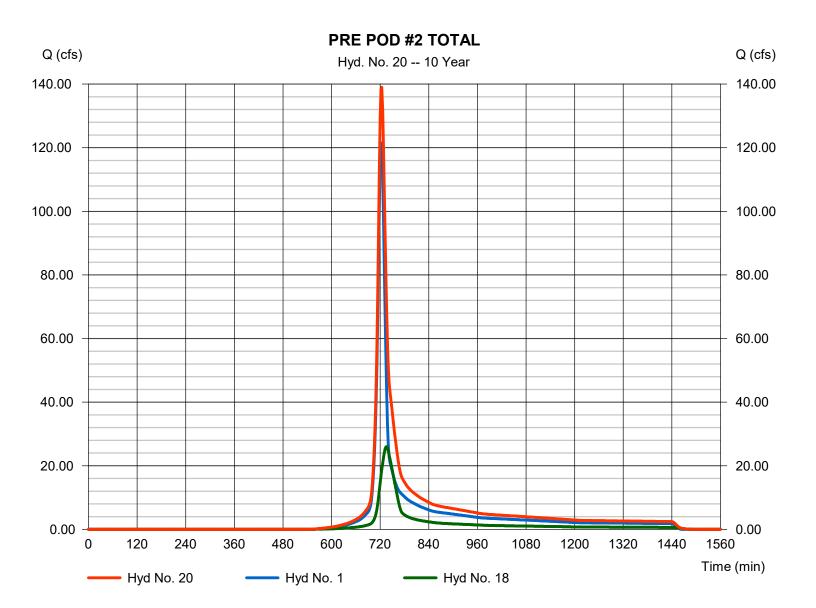


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 20

PRE POD #2 TOTAL

Hydrograph type Storm frequency	= Combine = 10 yrs	Peak discharge Time to peak	= 138.98 cfs = 724 min
Time interval	= 2 min	Hyd. volume	= 461,473 cuft
Inflow hyds.	= 1, 18	Contrib. drain. area	= 55.920 ac

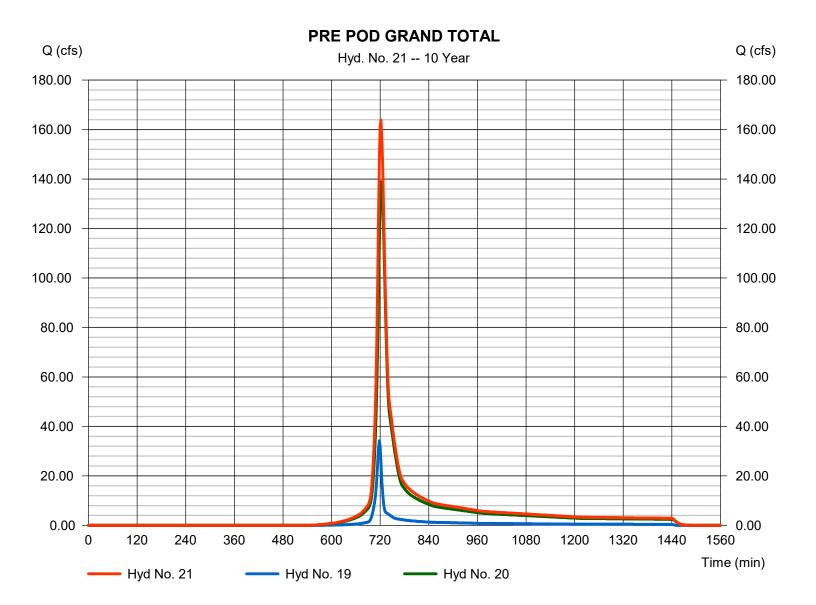


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 21

PRE POD GRAND TOTAL

Hydrograph type	= Combine	Peak discharge	= 163.83 cfs
Storm frequency	= 10 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 536,745 cuft
Inflow hyds.	= 19, 20	Contrib. drain. area	= 0.000 ac



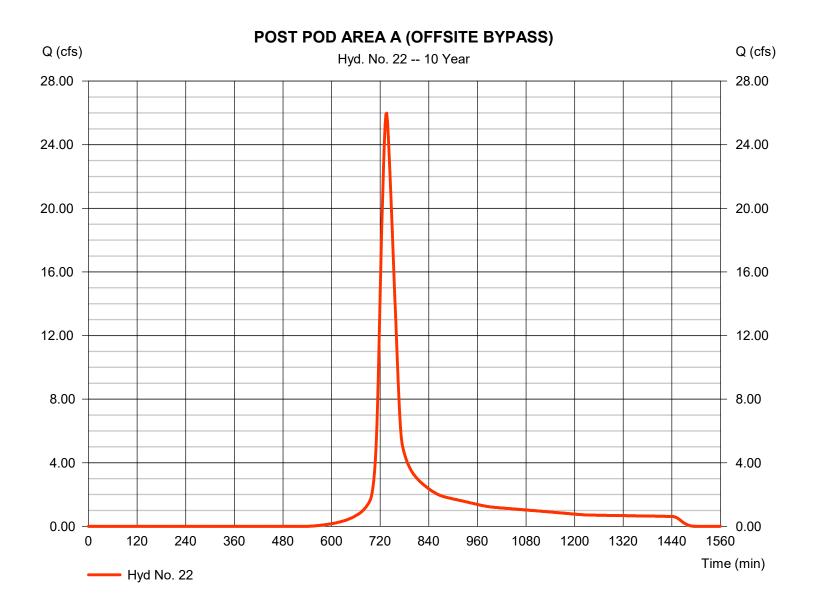
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Monday, 03 / 31 / 2025

Hyd. No. 22

POST POD AREA A (OFFSITE BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 25.99 cfs
Storm frequency	= 10 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 119,076 cuft
Drainage area	= 13.940 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.70 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

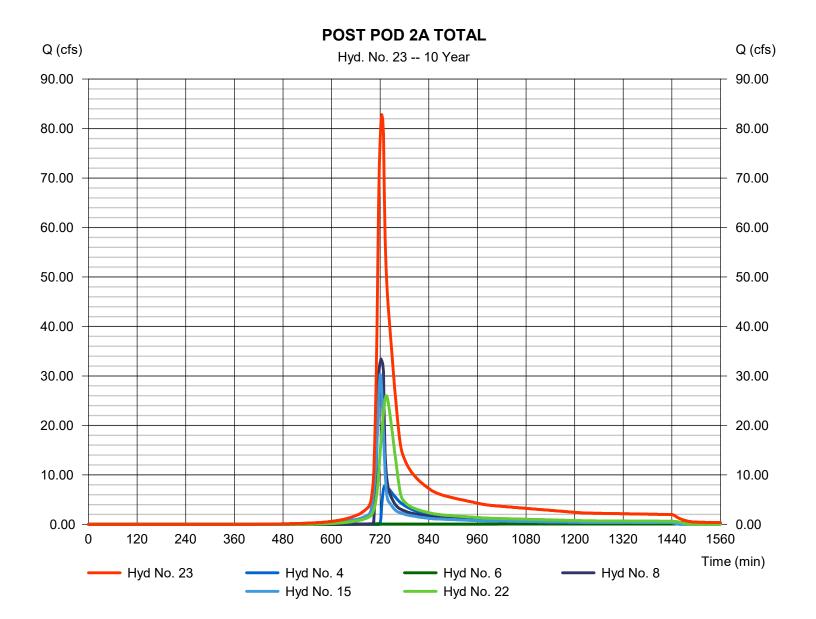


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 23

POST POD 2A TOTAL

Hydrograph type	= Combine	Peak discharge	= 82.80 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 396,313 cuft
Inflow hyds.	= 4, 6, 8, 15, 22	Contrib. drain. area	= 20.780 ac

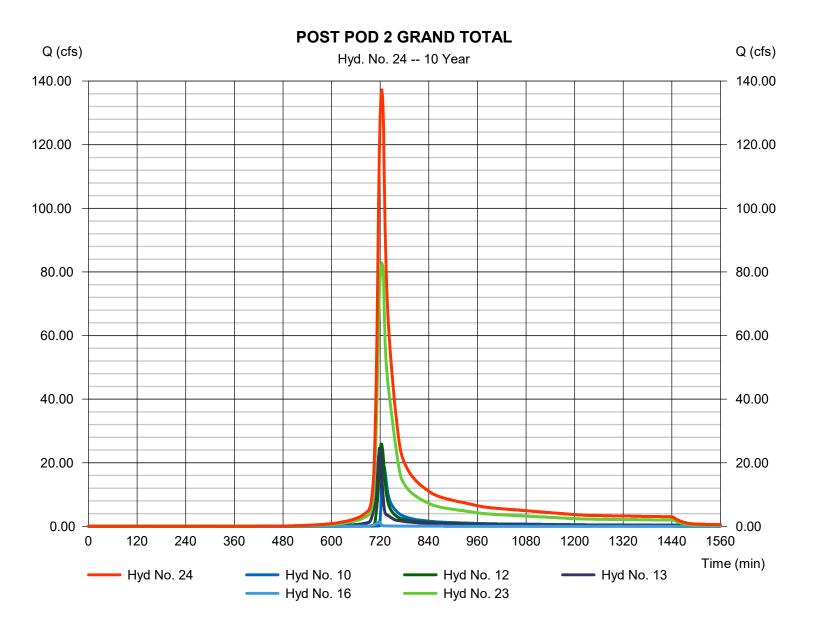


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 24

POST POD 2 GRAND TOTAL

Hydrograph type	= Combine	Peak discharge	= 137.28 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 616,968 cuft
Inflow hyds.	= 10, 12, 13, 16, 23	Contrib. drain. area	= 6.270 ac

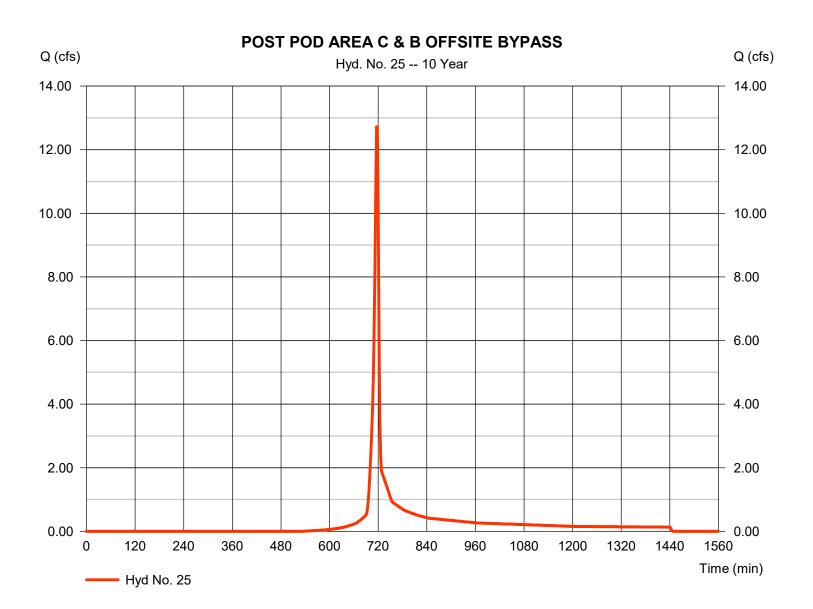


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 25

POST POD AREA C & B OFFSITE BYPASS

Hydrograph type Storm frequency Time interval	= SCS Runoff = 10 yrs = 2 min	Peak discharge Time to peak Hyd. volume	= 12.72 cfs = 718 min = 25,678 cuft
Drainage area	= 3.170 ac	Curve number	= 74
Basin Slope	= 4.5 %	Hydraulic length	= 1030 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 5.38 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

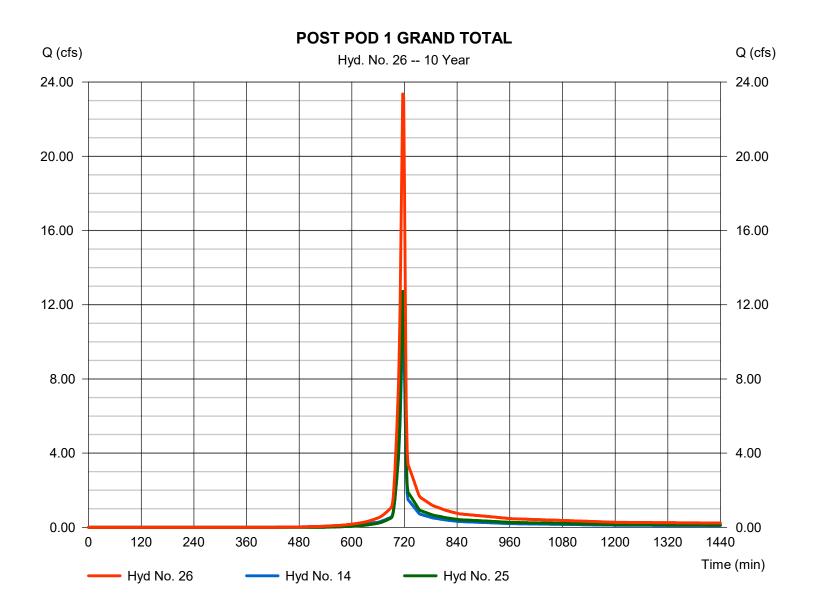


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 26

POST POD 1 GRAND TOTAL

Inflow hyds. = 14, 25 Contrib. drain. area = 5.300 ac	Storm frequency = Time interval =	Combine 10 yrs 2 min 14, 25	Peak discharge Time to peak Hyd. volume Contrib. drain. area	= 23.36 cfs = 716 min = 47,378 cuft = 5.300 ac
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Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

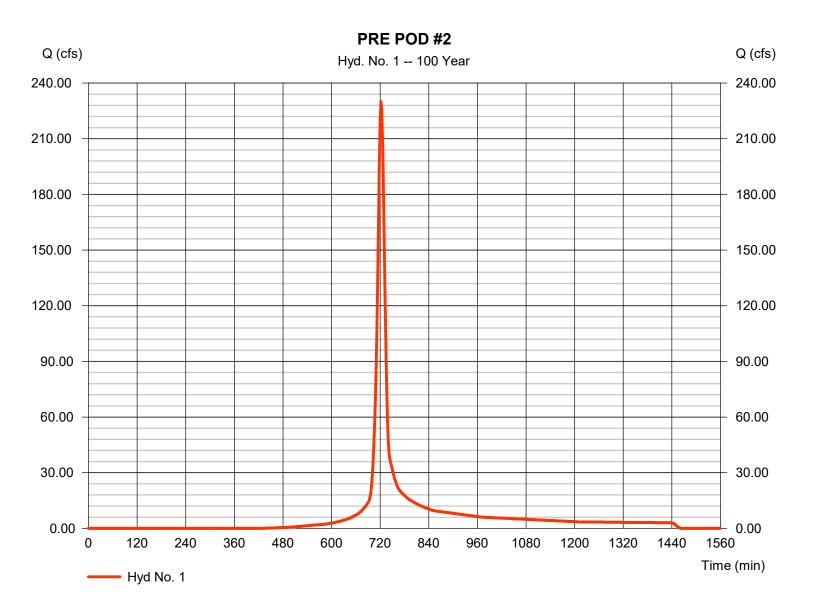
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	230.07	2	722	645,677				PRE POD #2
2	SCS Runoff	42.19	2	718	96,618				PRE POD #1
3	SCS Runoff	76.81	2	718	180,535				POST POD 2A #1 (to SCM #1)
4	Reservoir	58.18	2	722	169,194	3	367.02	113,357	PostDev Thru SCM#1
5	SCS Runoff	11.74	2	716	24,529				POST POD 2A #2 (to SCM #2)
6	Reservoir	0.730	2	758	19,495	5	363.10	30,558	Route PostDev SCM #2
7	SCS Runoff	72.90	2	718	172,002				POST POD 2A #3 (to SCM #3)
8	Reservoir	67.90	2	720	168,917	7	364.45	45,205	Route PostDev @ SCM#3
9	SCS Runoff	57.71	2	720	154,522				POST POD 2B #4 (to SCM #5)
10	Reservoir	50.37	2	724	152,811	9	351.32	67,340	Route PostDev SCM#5
11	SCS Runoff	46.09	2	720	123,409				POST POD 2B #2 (to SCM #4)
12	Reservoir	37.38	2	724	122,989	11	360.15	35,770	Route PostDev SCM #4
13	SCS Runoff	44.33	2	718	102,447				POST POD 2B #3 (BYPASS)
14	SCS Runoff	18.12	2	716	37,861				POST POD #1 (BYPASS)
15	SCS Runoff	51.51	2	720	136,661				POST POD 2A #4 (BYPASS)
16	SCS Runoff	2.205	2	716	4,735				POST POD 2B #1 (BYPASS)
17	SCS Runoff	23.29	2	716	47,506				PRE POD #1 OFFSITE AREA
18	SCS Runoff	49.11	2	734	222,406				PRE OFFSITE AREA #4
19	Combine	65.08	2	718	144,124	2, 17,			PRE POD #1 TOTAL
20	Combine	263.30	2	722	868,083	1, 18,			PRE POD #2 TOTAL
21	Combine	310.97	2	722	1,012,207	19, 20			PRE POD GRAND TOTAL
22	SCS Runoff	49.11	2	734	222,406				POST POD AREA A (OFFSITE BYP
23	Combine	208.45	2	722	716,674	4, 6, 8,			POST POD 2A TOTAL
24	Combine	329.46	2	722	1,099,656	15, 22 10, 12, 13,			POST POD 2 GRAND TOTAL
25	SCS Runoff	23.52	2	716	47,960	16, 23 			POST POD AREA C & B OFFSITE B
26	Combine	41.64	2	716	85,820	14, 25			POST POD 1 GRAND TOTAL
202	50124 SCM	Modeling.	gpw		Return P	Period: 100	Year	Monday, 0	3 / 31 / 2025

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

PRE POD #2

Hydrograph type	= SCS Runoff	Peak discharge	= 230.07 cfs
Storm frequency	= 100 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 645,677 cuft
Drainage area	= 41.980 ac	Curve number	= 73.1
Basin Slope	= 1.4 %	Hydraulic length	= 4320 ft
Tc method	= User	Time of conc. (Tc)	= 14.00 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

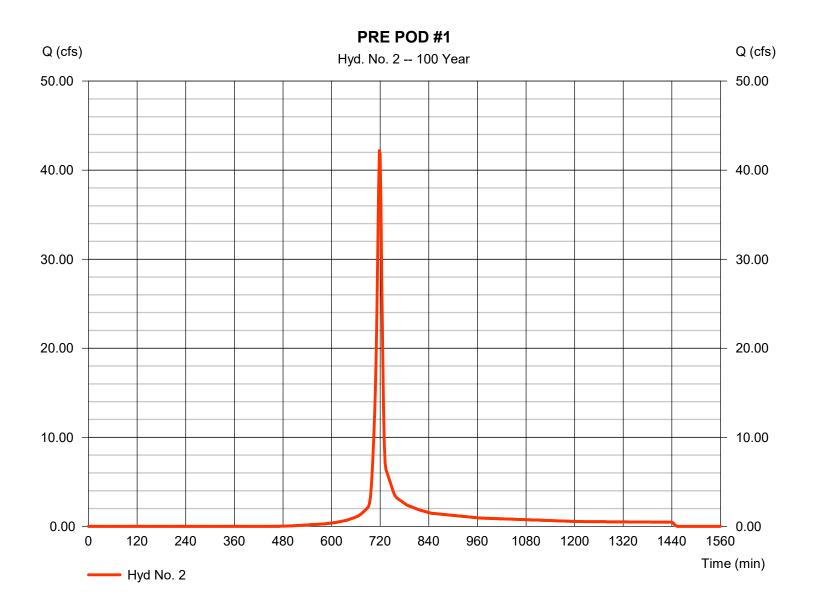


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 2

PRE POD #1

Hydrograph type	= SCS Runoff	Peak discharge	= 42.19 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 96,618 cuft
Drainage area	= 6.540 ac	Curve number	= 70.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.70 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

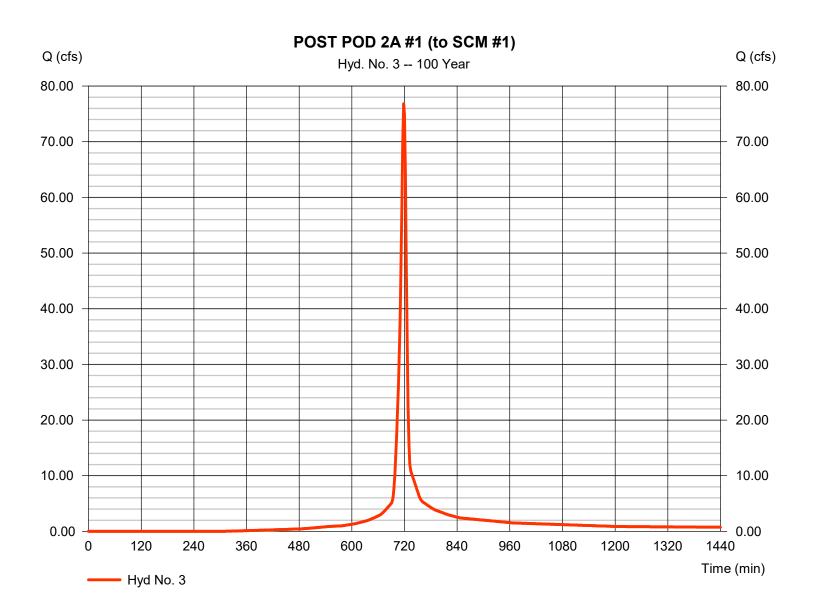


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 3

POST POD 2A #1 (to SCM #1)

Hydrograph type	= SCS Runoff	Peak discharge	= 76.81 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 180,535 cuft
Drainage area	= 9.460 ac	Curve number	= 81.2
Basin Slope	= 2.4 %	Hydraulic length	= 1000 ft
Tc method	= User	Time of conc. (Tc)	= 6.60 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484
		-	



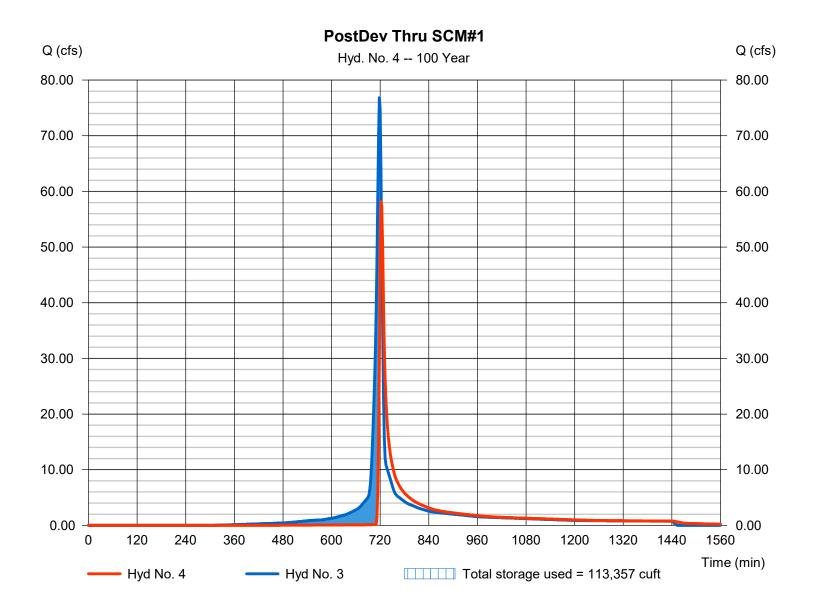
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 4

PostDev Thru SCM#1

Hydrograph type	= Reservoir	Peak discharge	= 58.18 cfs
Storm frequency	= 100 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 169,194 cuft
Inflow hyd. No.	= 3 - POST POD 2A #1 (to SC	MMax. Elevation	= 367.02 ft
Reservoir name	= SCM #1	Max. Storage	= 113,357 cuft

Storage Indication method used. Wet pond routing start elevation = 363.50 ft.

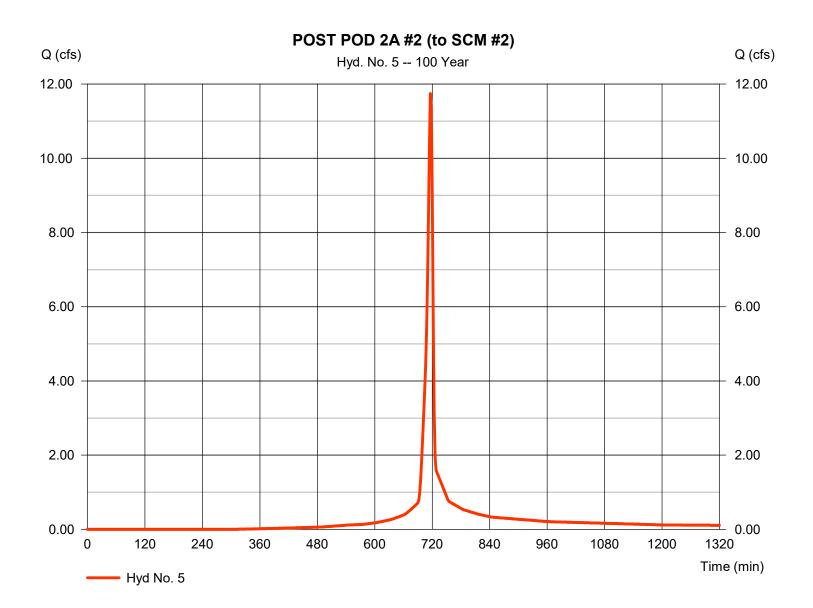


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 5

POST POD 2A #2 (to SCM #2)

Hydrograph type	= SCS Runoff	Peak discharge	= 11.74 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 24,529 cuft
Drainage area	= 1.380 ac	Curve number	= 80.9
Basin Slope	= 0.5 %	Hydraulic length	= 450 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



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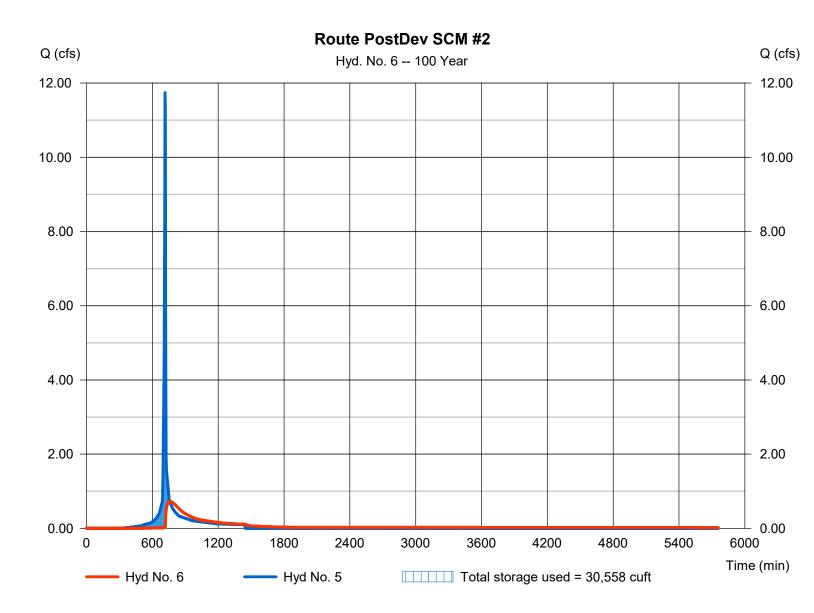
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 6

Route PostDev SCM #2

Hydrograph type	= Reservoir	Peak discharge	= 0.730 cfs
Storm frequency	= 100 yrs	Time to peak	= 758 min
Time interval	= 2 min	Hyd. volume	= 19,495 cuft
Inflow hyd. No.	= 5 - POST POD 2A #	2 (to SCMM2). Elevation	= 363.10 ft
Reservoir name	= SCM #2	Max. Storage	= 30,558 cuft

Storage Indication method used. Wet pond routing start elevation = 361.50 ft.

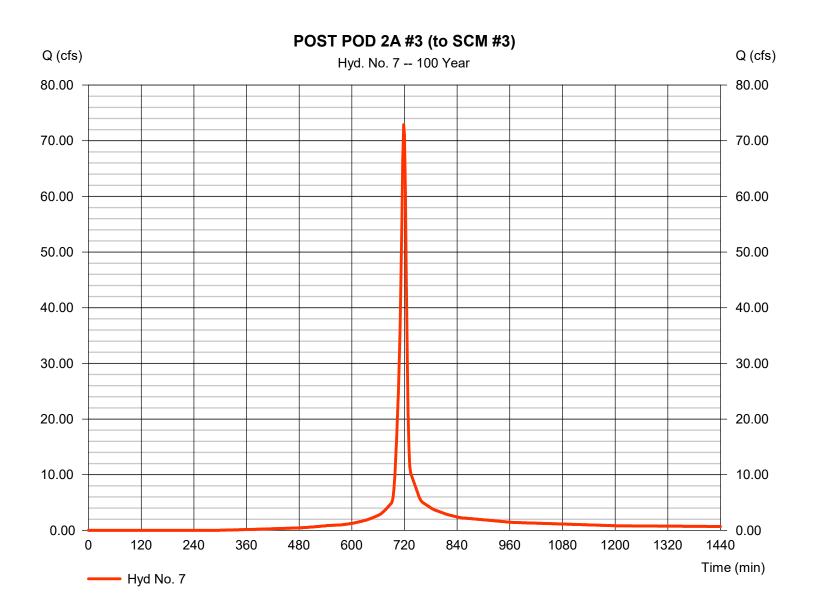


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 7

POST POD 2A #3 (to SCM #3)

Hydrograph type	= SCS Runoff	Peak discharge	= 72.90 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 172,002 cuft
Drainage area	= 8.840 ac	Curve number	= 82.1
Basin Slope	= 2.6 %	Hydraulic length	= 1120 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484
		-	



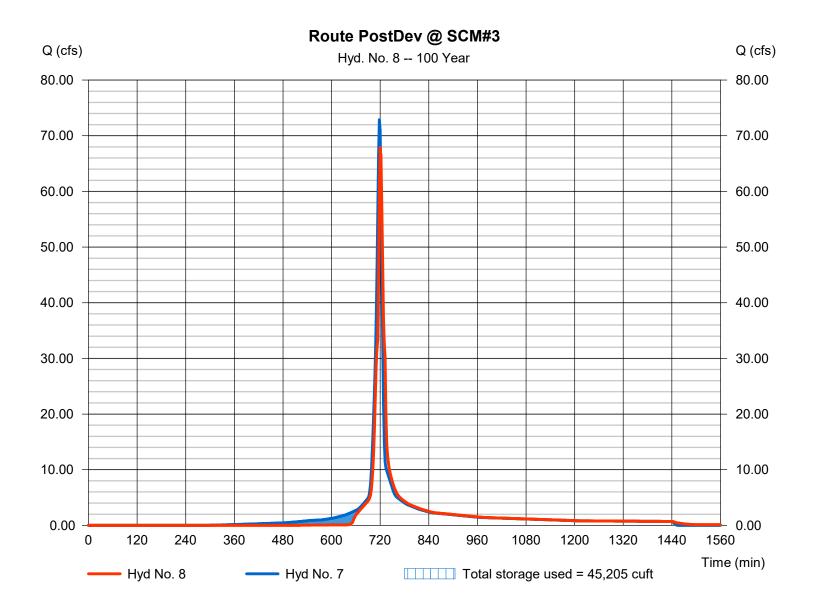
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 8

Route PostDev @ SCM#3

Hydrograph type	= Reservoir	Peak discharge	= 67.90 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 168,917 cuft
Inflow hyd. No.	= 7 - POST POD 2A #3 (to SCI		= 364.45 ft
Reservoir name	= SCM #3	Max. Storage	= 45,205 cuft

Storage Indication method used. Wet pond routing start elevation = 361.00 ft.

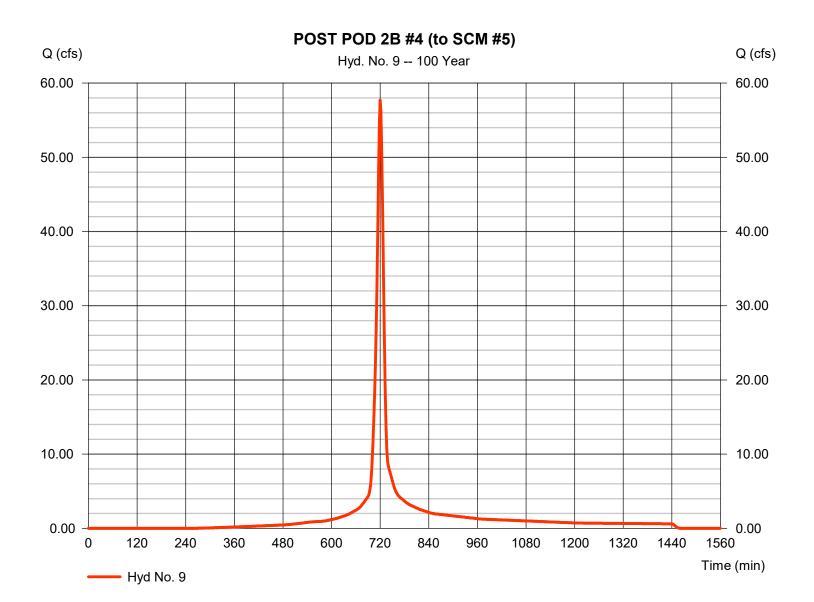


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 9

POST POD 2B #4 (to SCM #5)

Hydrograph type	= SCS Runoff	Peak discharge	= 57.71 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 154,522 cuft
Drainage area	= 7.400 ac	Curve number	= 84
Basin Slope	= 3.2 %	Hydraulic length	= 1270 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



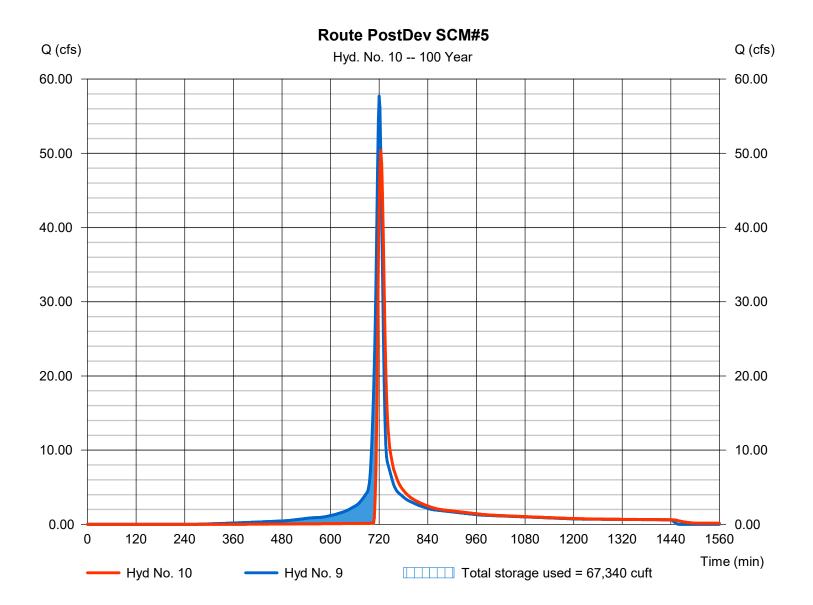
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 10

Route PostDev SCM#5

Hydrograph type Storm frequency Time interval Inflow hyd. No.	 Reservoir 100 yrs 2 min 9 - POST POD 2B #4 (to SCI 	,	= 50.37 cfs = 724 min = 152,811 cuft = 351.32 ft = 67.240 cuft
Reservoir name	= SCM #5	Max. Storage	= 67,340 cuft

Storage Indication method used. Wet pond routing start elevation = 347.50 ft.

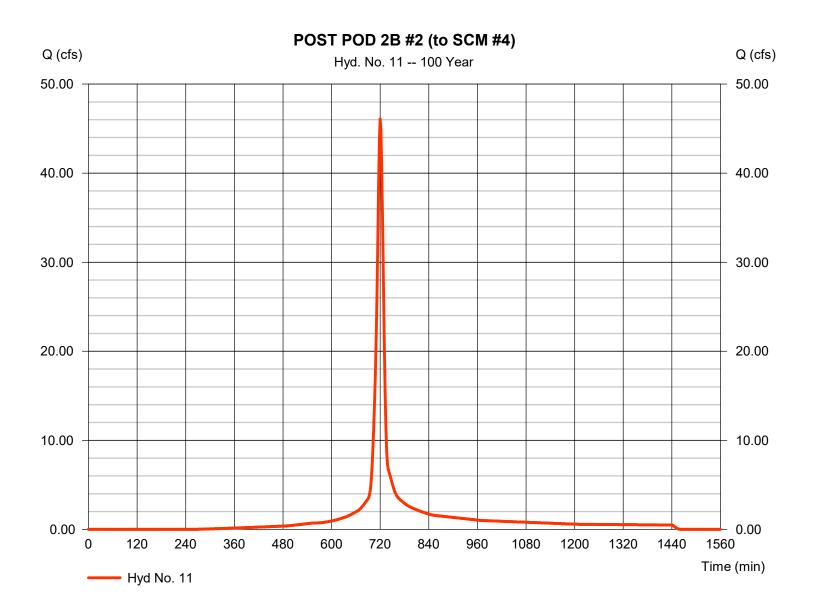


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 11

POST POD 2B #2 (to SCM #4)

Hydrograph type	= SCS Runoff	Peak discharge	= 46.09 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 123,409 cuft
Drainage area	= 5.910 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484
		-	



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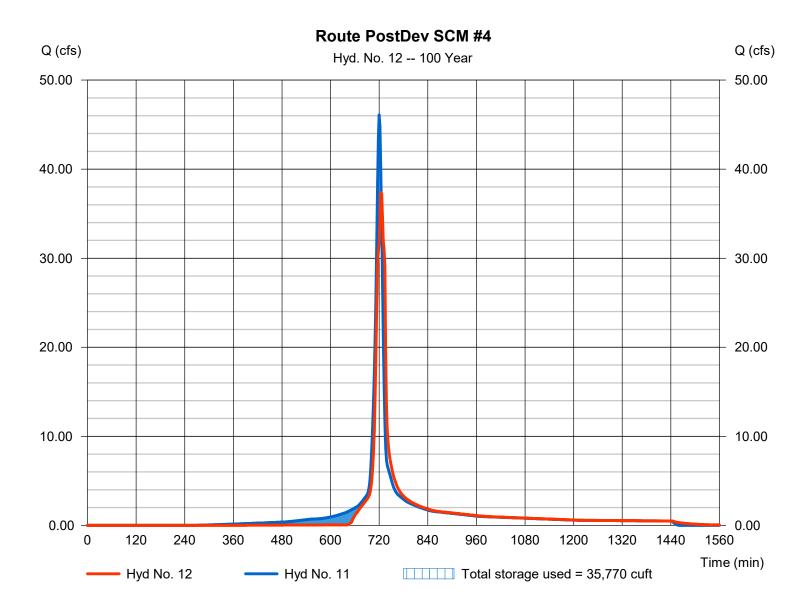
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 12

Route PostDev SCM #4

Hydrograph type	= Reservoir	Peak discharge	= 37.38 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	 = 122,989 cuft = 360.15 ft = 35,770 cuft
Inflow hyd. No.	= 11 - POST POD 2B #2 (to SC	CM/抽纸) Elevation	
Reservoir name	= SCM #4	Max. Storage	

Storage Indication method used. Wet pond routing start elevation = 357.50 ft.



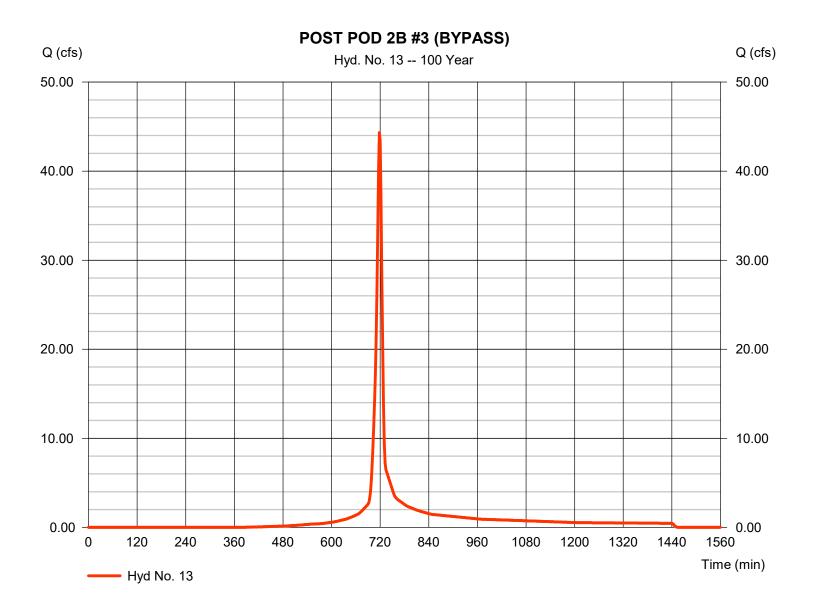
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Hyd. No. 13

POST POD 2B #3 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 44.33 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 102,447 cuft
Drainage area	= 6.030 ac	Curve number	= 76.1
Basin Slope	= 1.3 %	Hydraulic length	= 4170 ft
Tc method	= User	Time of conc. (Tc)	= 7.00 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

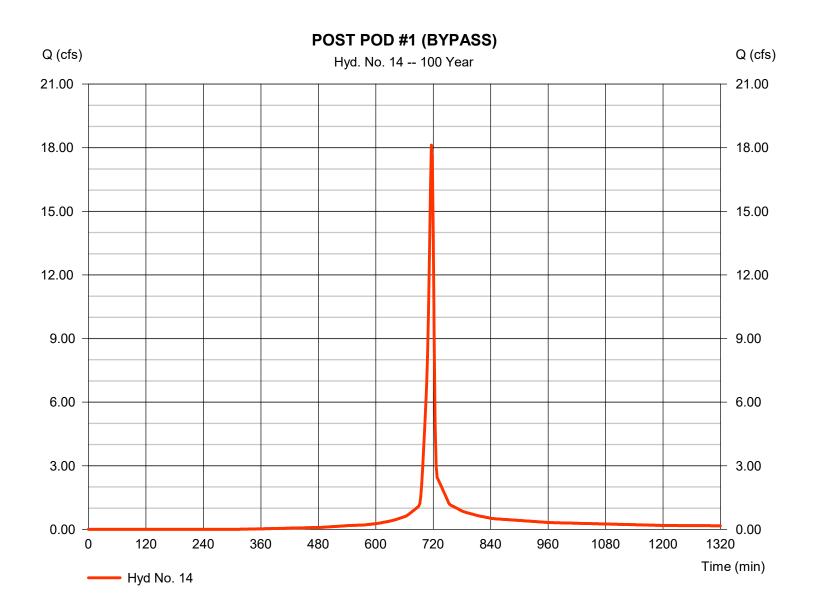


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 14

POST POD #1 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 18.12 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 37,861 cuft
Drainage area	= 2.130 ac	Curve number	= 80.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

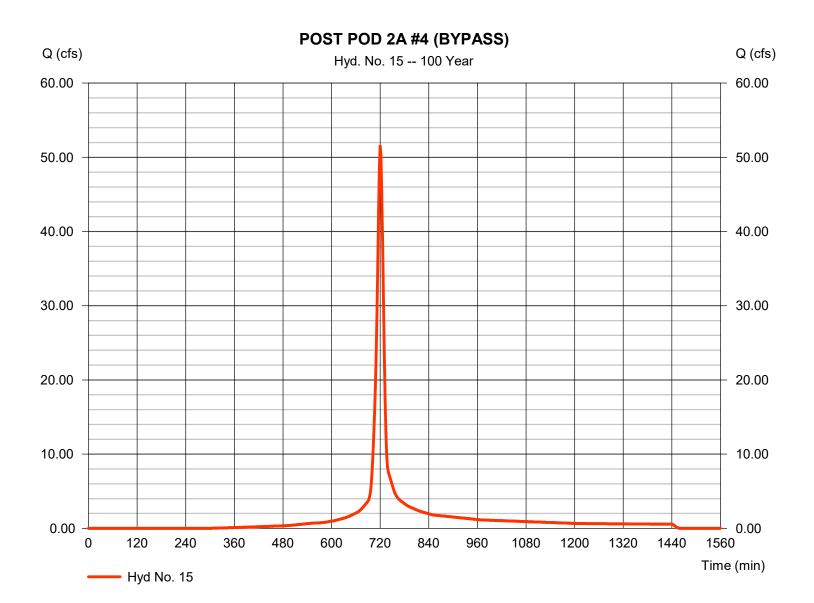


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 15

POST POD 2A #4 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 51.51 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 136,661 cuft
Drainage area	= 6.840 ac	Curve number	= 81.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.50 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

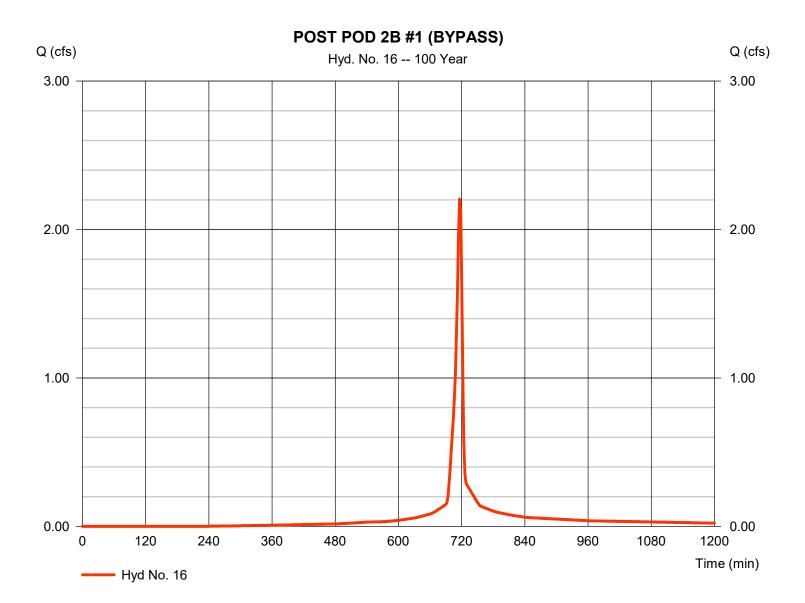


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 16

POST POD 2B #1 (BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.205 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 4,735 cuft
Drainage area	= 0.240 ac	Curve number	= 85.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

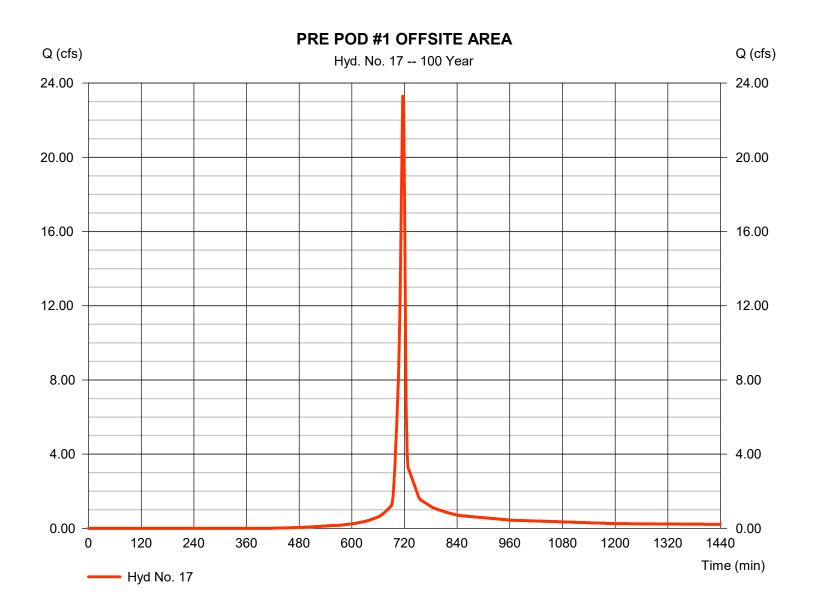


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 17

PRE POD #1 OFFSITE AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 23.29 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 47,506 cuft
Drainage area	= 3.140 ac	Curve number	= 74
Basin Slope	= 4.5 %	Hydraulic length	= 1030 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 5.38 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

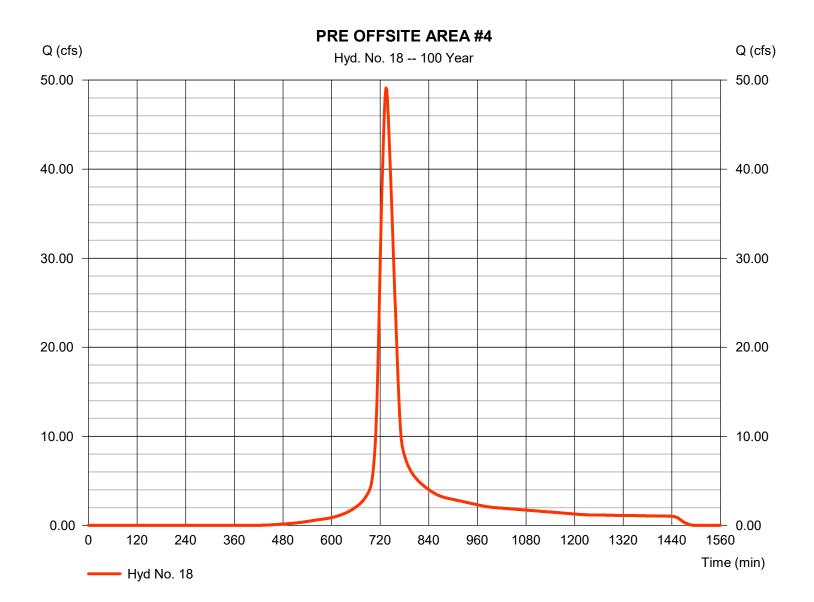


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 18

PRE OFFSITE AREA #4

Hydrograph type	= SCS Runoff	Peak discharge	= 49.11 cfs
Storm frequency	= 100 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 222,406 cuft
Drainage area	= 13.940 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.70 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

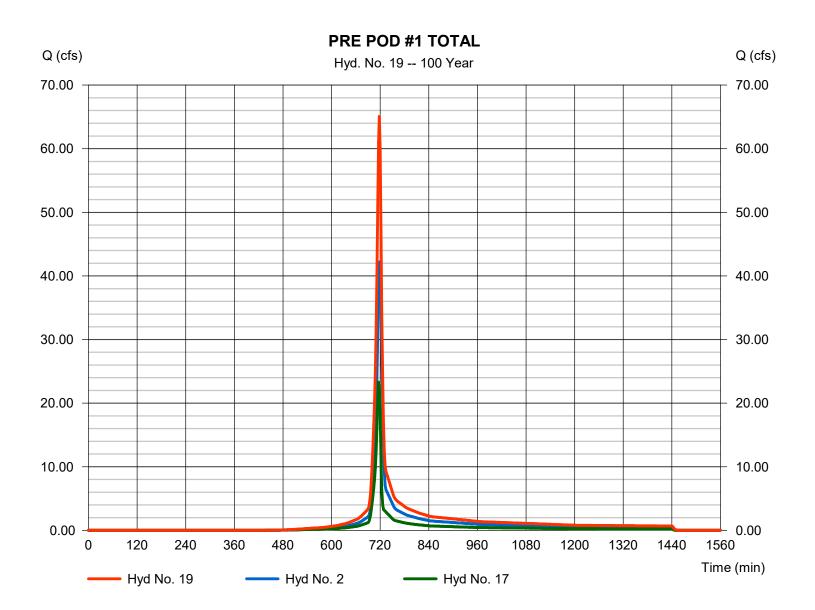


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 19

PRE POD #1 TOTAL

Hydrograph type	 Combine 100 yrs 2 min 2, 17 	Peak discharge	= 65.08 cfs
Storm frequency		Time to peak	= 718 min
Time interval		Hyd. volume	= 144,124 cuft
Inflow hyds.		Contrib. drain. area	= 9.680 ac

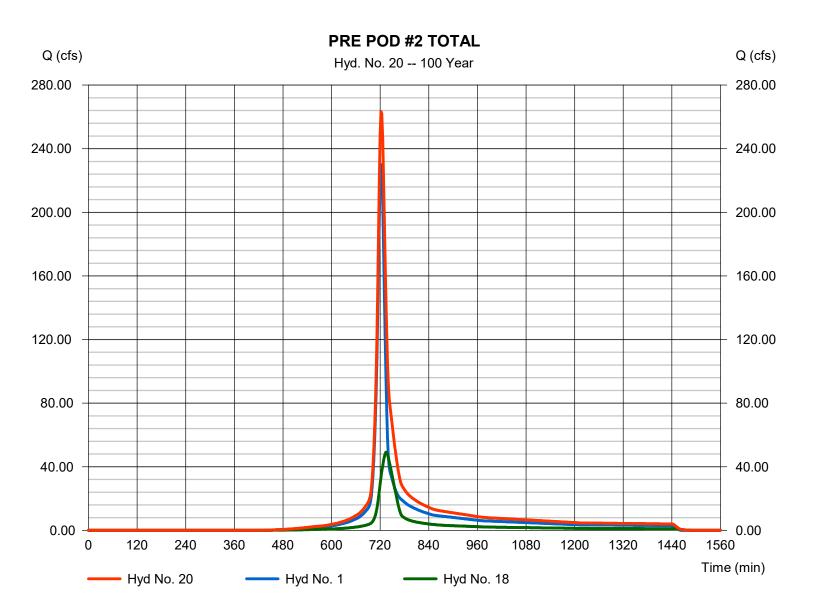


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 20

PRE POD #2 TOTAL

Hydrograph type	= Combine	Peak discharge	= 263.30 cfs
Storm frequency	= 100 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 868,083 cuft
Inflow hyds.	= 1, 18	Contrib. drain. area	= 55.920 ac
Inflow hyds.	= 1, 18	Contrib. drain. area	= 55.920 ac

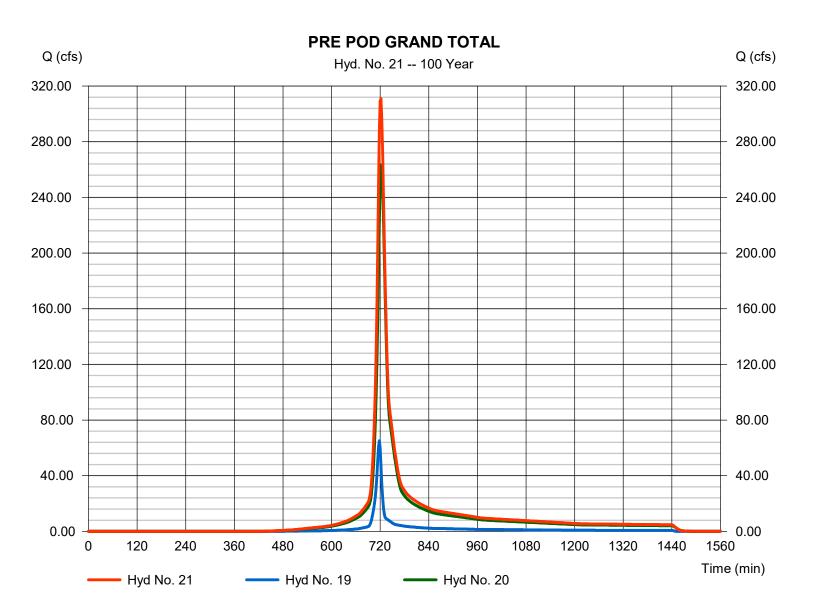


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Hyd. No. 21

PRE POD GRAND TOTAL

Hydrograph type	= Combine	Peak discharge	= 310.97 cfs
Storm frequency	= 100 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 1,012,207 cuft
Inflow hyds.	= 19, 20	Contrib. drain. area	= 0.000 ac



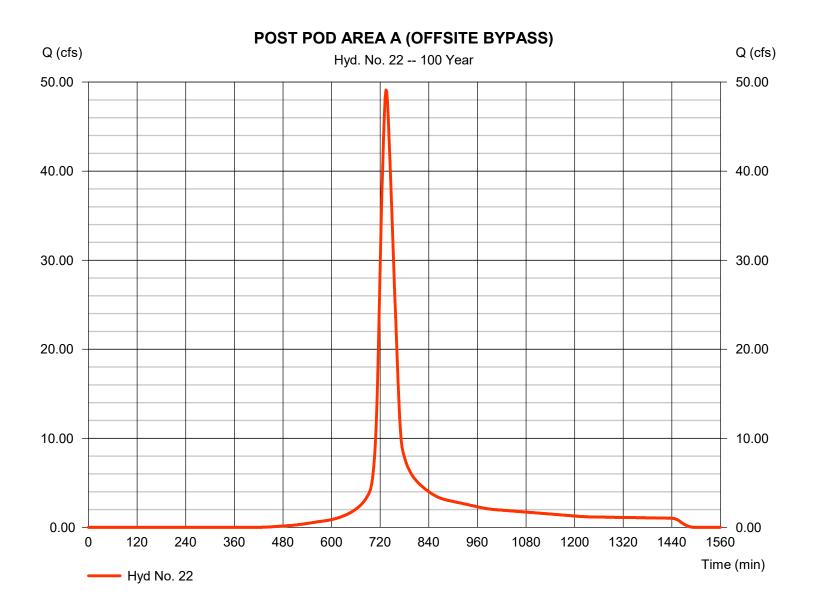
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Monday, 03 / 31 / 2025

Hyd. No. 22

POST POD AREA A (OFFSITE BYPASS)

Hydrograph type	= SCS Runoff	Peak discharge	= 49.11 cfs
Storm frequency	= 100 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 222,406 cuft
Drainage area	= 13.940 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 34.70 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

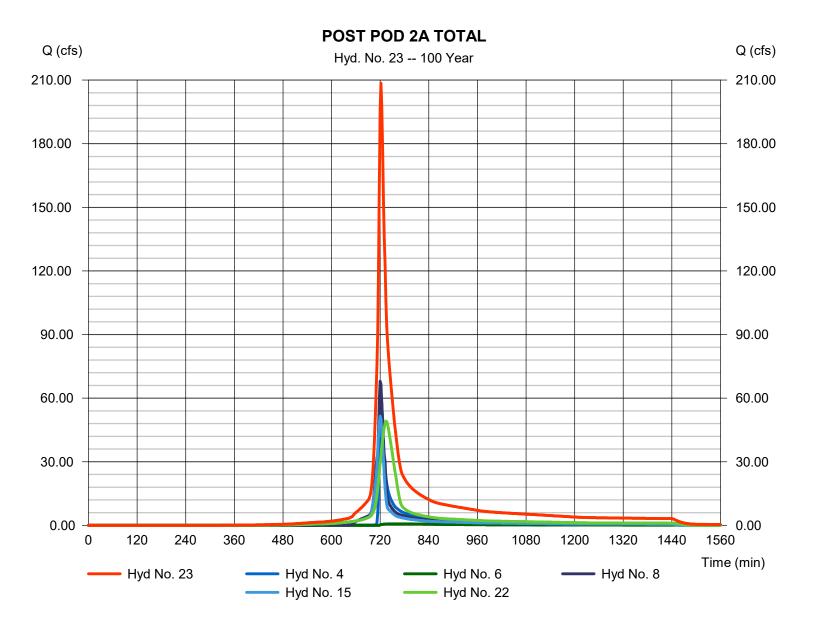


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 23

POST POD 2A TOTAL

Hydrograph type	= Combine	Peak discharge	= 208.45 cfs
Storm frequency	= 100 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 716,674 cuft
Inflow hyds.	= 4, 6, 8, 15, 22	Contrib. drain. area	= 20.780 ac

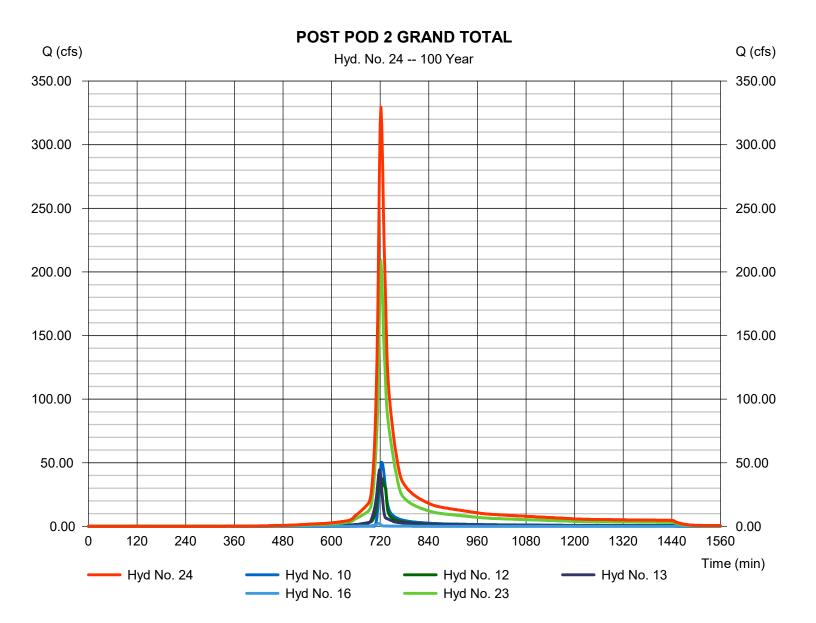


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 24

POST POD 2 GRAND TOTAL

Hydrograph type	= Combine	Peak discharge	= 329.46 cfs
Storm frequency	= 100 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 1,099,656 cuft
Inflow hyds.	= 10, 12, 13, 16, 23	Contrib. drain. area	= 6.270 ac

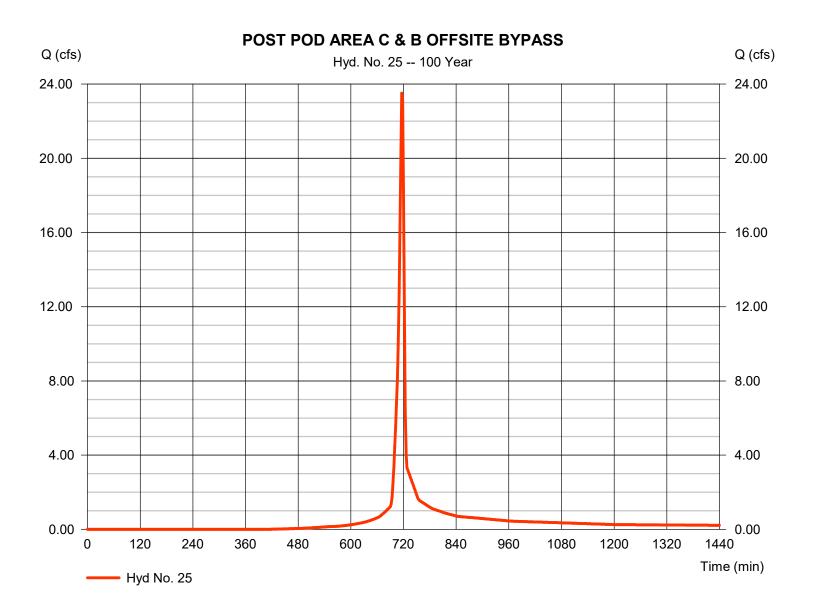


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 25

POST POD AREA C & B OFFSITE BYPASS

Hydrograph type	= SCS Runoff	Peak discharge	= 23.52 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 47,960 cuft
Drainage area	= 3.170 ac	Curve number	= 74
Basin Slope	= 4.5 %	Hydraulic length	= 1030 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 5.38 min
Total precip.	= 7.46 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

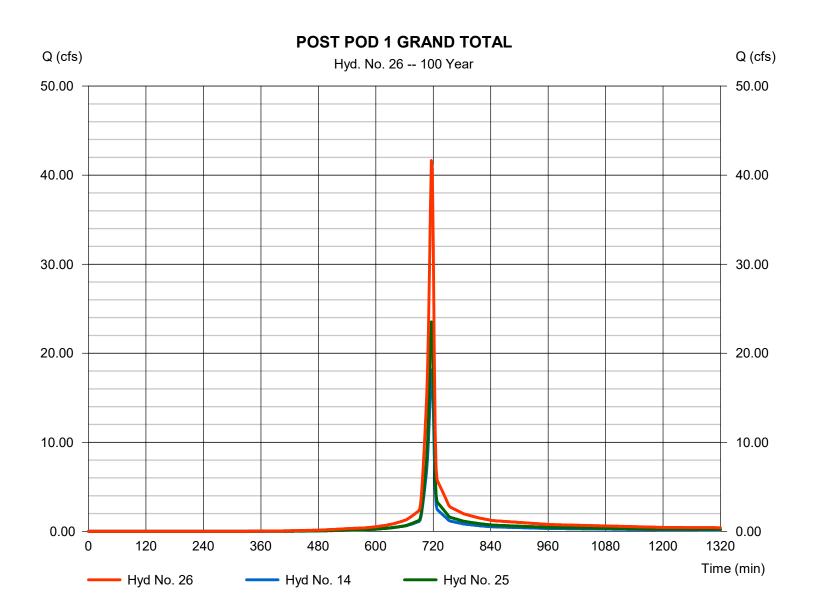


Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 26

POST POD 1 GRAND TOTAL

Hydrograph type	= Combine	Peak discharge	= 41.64 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 85,820 cuft
Inflow hyds.	= 14, 25	Contrib. drain. area	= 5.300 ac



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Return Period	Intensity-Duration-Frequency Equation Coefficients (FHA)							
(Yrs)	В	D	E	(N/A)				
1	0.0000	0.0000	0.0000					
2	69.0305	12.5000	0.8674					
3	0.0000	0.0000	0.0000					
5	0.0000	0.0000	0.0000					
10	74.0861	12.5000	0.8066					
25	62.8559	11.0000	0.7384					
50	56.0596	9.9000	0.6909					
100	53.0414	9.3000	0.6596					
	1		1	1				

File name: 20241113 Moody IDF.IDF

Intensity = B / (Tc + D)^E

Return	Intensity Values (in/hr)											
Period (Yrs)	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.76	4.64	3.89	3.37	2.98	2.67	2.42	2.22	2.05	1.91	1.79	1.68
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	7.36	6.01	5.11	4.47	3.98	3.60	3.29	3.04	2.82	2.64	2.48	2.34
25	8.11	6.64	5.67	4.98	4.46	4.05	3.72	3.45	3.22	3.02	2.85	2.70
50	8.67	7.10	6.08	5.36	4.82	4.39	4.05	3.76	3.52	3.32	3.14	2.98
100	9.17	7.53	6.47	5.72	5.15	4.71	4.35	4.06	3.81	3.59	3.40	3.24

Tc = time in minutes. Values may exceed 60.

		Rainfall Precipitation Table (in)							
Storm Distribution	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
SCS 24-hour	3.00	3.45	0.00	4.33	5.02	5.96	6.80	7.46	
SCS 6-Hr	2.05	2.46	0.00	3.04	3.55	0.00	0.00	5.32	
Huff-1st	0.00	0.00	0.00	2.75	0.00	5.38	6.50	0.00	
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Custom	0.00	0.00	0.00	2.80	0.00	5.25	6.00	0.00	

Precip. file name: F:\Kalas Assemblage\Raleigh-Wake County 24Hr Rain.pcp