FINAL STORMWATER MANAGEMENT REPORT

PROJECT SITE:

1200 E. DIEHL ROAD
NAPERVILLE, DUPAGE COUNTY, ILLINOIS

PREPARED FOR:

Hines
444 W. Lake St. Suite 2400
Chicago, IL 60606
312.419.4702

PREPARED BY:

V3 COMPANIES, LTD.
7325 JANES AVENUE
WOODRIDGE, ILLINOIS 60517
630.724.9200

FEBRUARY 19, 2025
LATEST REVISION APRIL 4, 2025

1200 E. Diehl Road

NAPERVILLE, DUPAGE COUNTY, ILLINOIS

Final Stormwater Report
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Final Stormwater Narrative

1200 E. Diehl Road
Naperville, DuPage County, Illinois

INTRODUCTION

The proposed mixed-use project is located at 1200 E. Diehl Road in Naperville, Illinois. The site is surrounded by Diehl Road to the north, existing office development to the east, an existing stormwater management basin and commercial development to the south, and commercial development to the west. The existing site is approximately 9.6 acres. The existing site contains a vacant commercial building, an existing parking structure, and existing surface parking and drive lanes. A Project Location Exhibit, Aerial Map, National Wetland Index (NWI) Map and FEMA Flood Insurance Rate Map (FIRM) are included in this report. These maps show that there are no wetlands or floodplain on site.

The proposed site is a mixed-use development that will contain a multi-family residential building and two commercial out lots. The existing parking structure and surface parking on the east side of the site will remain. The existing surface parking areas and drive aisles will be reworked in the proposed condition based on the proposed site modifications.

EXISTING CONDITIONS

The existing site contains one existing building and a two-story parking structure. The site also contains surface parking and perimeter drive lanes. There is storm sewer throughout the site that conveys drainage and ultimately discharges into the existing stormwater management basin south of the subject site. A survey was completed of the existing site and was used to determine the existing pervious and impervious coverage. The existing site has approximately 7.01 acres of impervious surface, and 2.58 acres of pervious surface. An existing impervious/pervious exhibit is included in this report.

Various historical plans and reports were reviewed to determine the existing stormwater management that was provided for the site. These documents show that when the site was originally constructed, stormwater management was provided for in the basin south of the site. The historical documents show that this is a regional detention basin that provides storage for the Ogden Mall development (now Costco), the subject property, the Indian Hills Unit 7 development, as well as some storage benefits for future upstream properties.

PROPOSED CONDITIONS

The stormwater management requirements for the site fall under the jurisdiction of the DuPage County Stormwater Ordinance. The ordinance requires site runoff storage for new developments, except for those that do not increase impervious area by 25,000 SF or more compared to the site as it existed in 1992. Post Construction Best Management Practices are required when the impervious area increases by 2,500 SF or more.

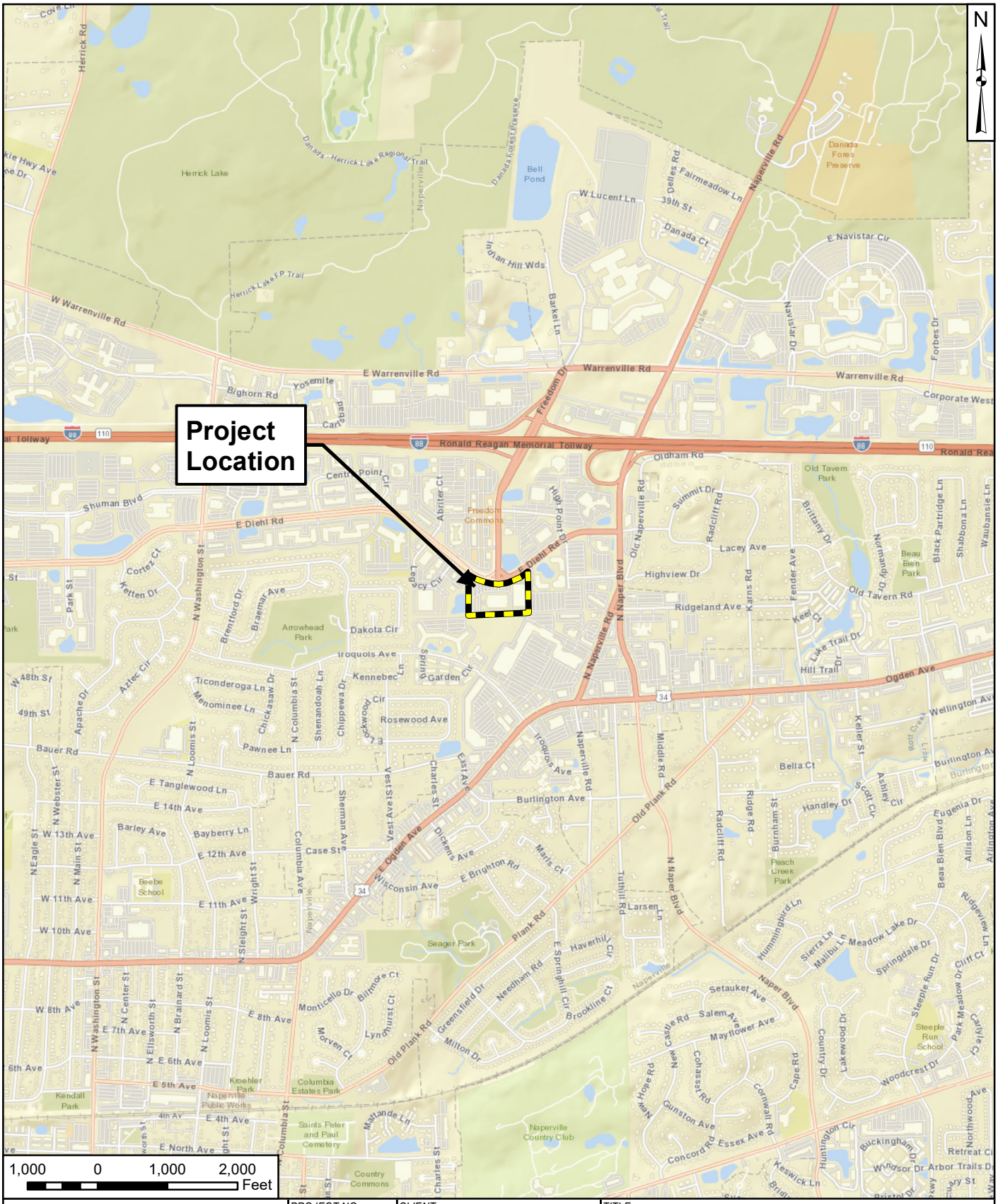
1200 E. Diehl Road
Naperville, DuPage County, Illinois

The proposed site plan will maintain existing drainage patterns and will have no net increase in impervious surface as compared to existing conditions. Permeable pavers will be incorporated into the proposed site plan to maintain impervious coverage as in existing conditions. Therefore, stormwater discharge from the site will not change since the impervious area is being maintained to match existing. There are multiple smaller storm pipes proposed into the existing pond (instead of the one 24" RCP in existing conditions), but the overall discharge rate into the pond will remain the same since the pervious/impervious ratio is the same in existing and proposed conditions. A proposed impervious/pervious exhibit is included in this report.

Proposed storm sewer will be included in the design to convey drainage to the existing stormwater management basin south of the subject site. The storm sewers will be designed to convey drainage up to the 10-year rainfall event. Runoff from the 10-year through 100-year rainfall events will be conveyed overland and ultimately directed to the existing stormwater management basin.

CONCLUSION

It is our opinion that the proposed stormwater design conforms to the requirements of the City of Naperville and DuPage County. Because the proposed site will not result in an increased amount of impervious area, therefore not increasing the site runoff from the property, additional stormwater management requirements will not be required.



7325 Janes Avenue Woodridge, IL 60517 630.724.9200 phone www.v3co.com	PROJECT NO.: 240048 CREATED BY: JRL	CLIENT: Hines 444 W. Lake St, Suite 2400 Chicago, IL 60606	TITLE: **PROJECT LOCATION**
	DATE: 02/26/2024	BASE LAYER: ESRI World Street Map	SITE: 1200 E. Diehl Road Naperville, Illinois FIGURE: 1
Visio, Vertere, Virtute... *"The Vision To Transform with Excellence"*	SCALE: See Scale Bar		

E:\2024\240048\Drawings\ArcGIS\FIG1loc240048.mxd

7325 Janes Avenue Woodridge, IL 60517 630.724.9200 phone www.v3co.com	PROJECT NO.: 240048 CREATED BY: JRL	CLIENT: Hines 444 W. Lake St, Suite 2400 Chicago, IL 60606	TITLE: **AERIAL**	
	DATE: 02/26/2024	BASE LAYER: ESRI Imagery	SITE: 1200 E. Diehl Road Naperville, Illinois	FIGURE: 2
Visio, Vertere, Virtute... *"The Vision To Transform with Excellence"*	SCALE: See Scale Bar			

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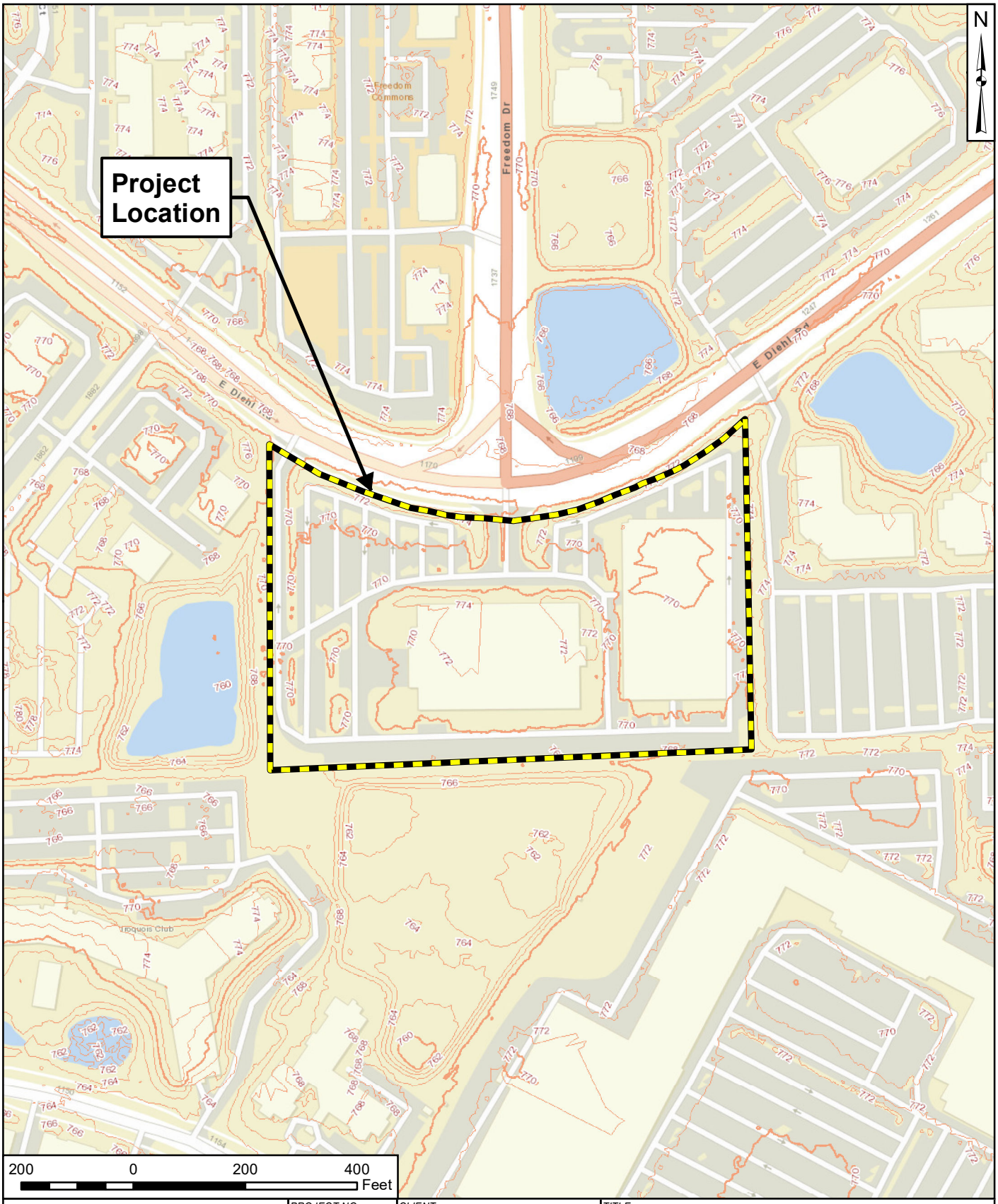

V3 Companies 7325 Janes Avenue Woodridge, IL 60517 630.724.9200 phone www.v3co.com	PROJECT NO.: 240048 CREATED BY: JRL	CLIENT: Hines 444 W. Lake St, Suite 2400 Chicago, IL 60606	TITLE: **TOPOGRAPHY 2' CONTOURS**	
Visio, Vertere, Virtute... *"The Vision To Transform with Excellence"*	DATE: 02/26/2024 SCALE: See Scale Bar	BASE LAYER: ESRI World Street Map	SITE: 1200 E. Diehl Road Naperville, Illinois	FIGURE: 3

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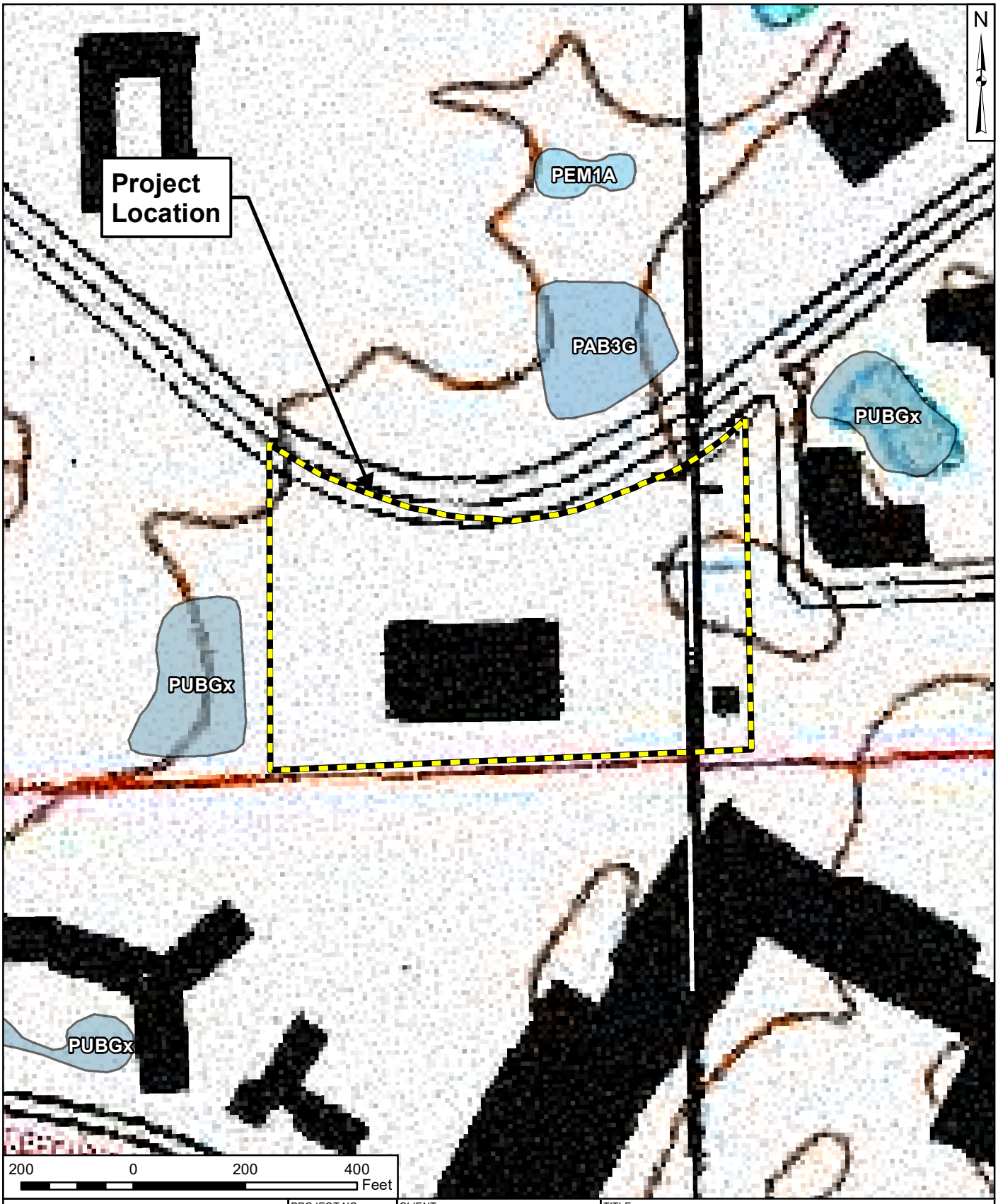

7325 Janes Avenue Woodridge, IL 60517 630.724.9200 phone www.v3co.com	PROJECT NO.: 240048 CREATED BY: JRL DATE: 02/26/2024 SCALE: See Scale Bar	CLIENT: Hines 444 W. Lake St, Suite 2400 Chicago, IL 60606 BASE LAYER: USGS Topographic Map Naperville Quadrangle	TITLE: **NATIONAL WETLAND INVERNTORY (NWI) MAP** SITE: 1200 E. Diehl Road Naperville, Illinois FIGURE: 4

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"The Vision To Transform with Excellence"

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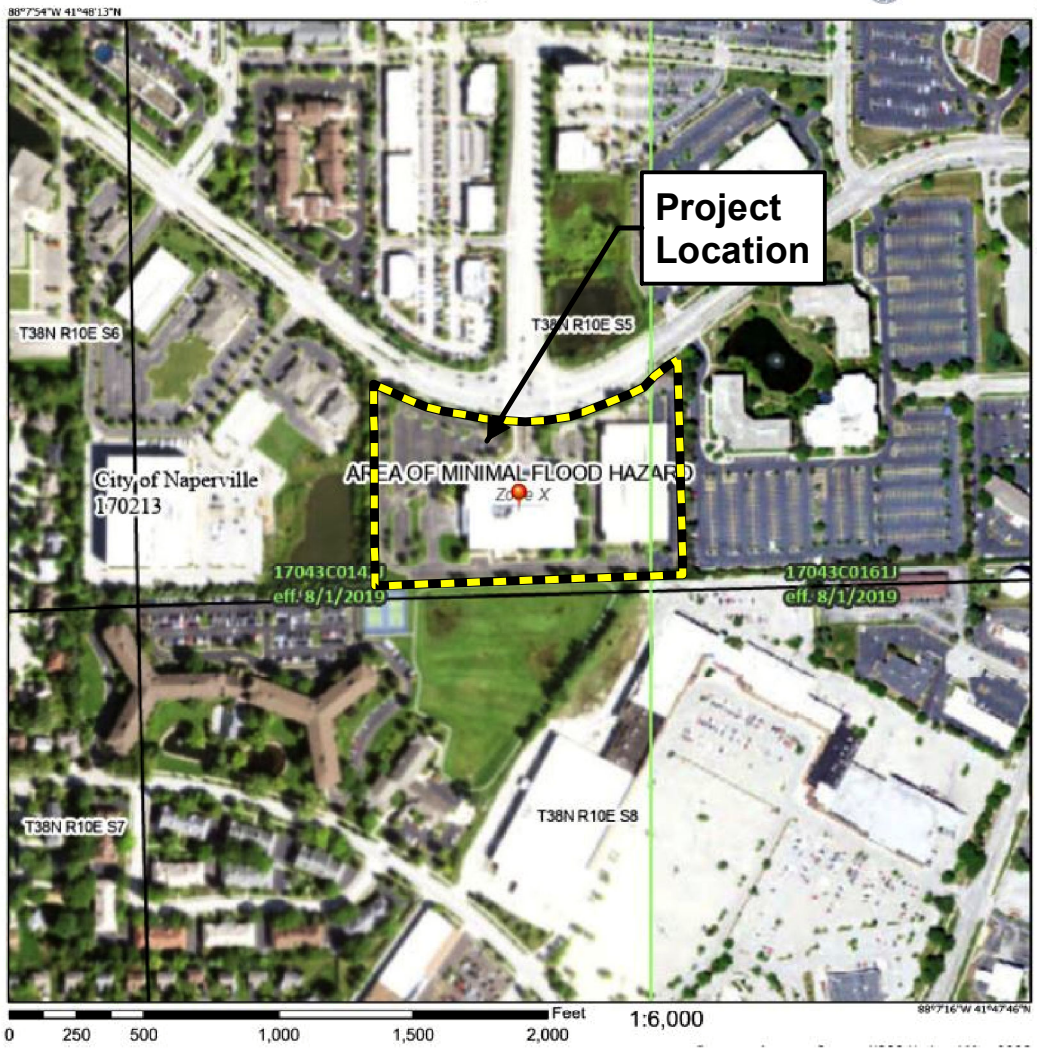
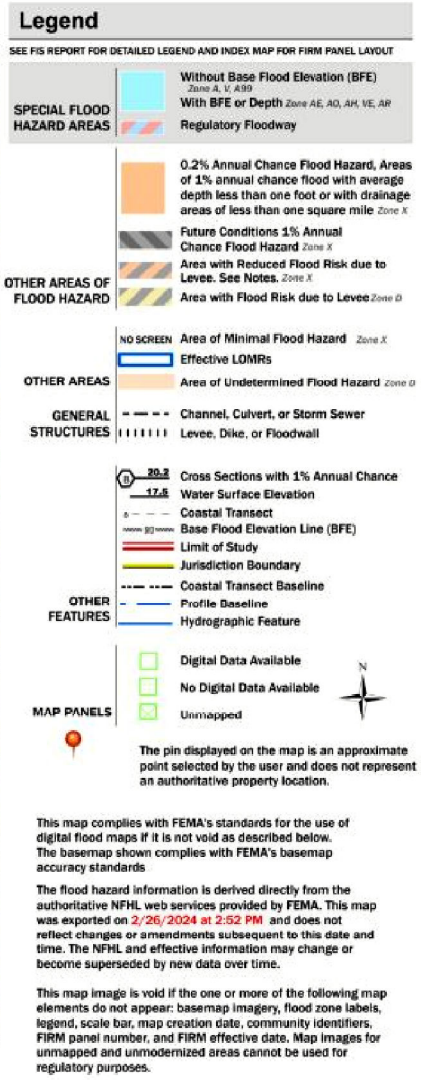
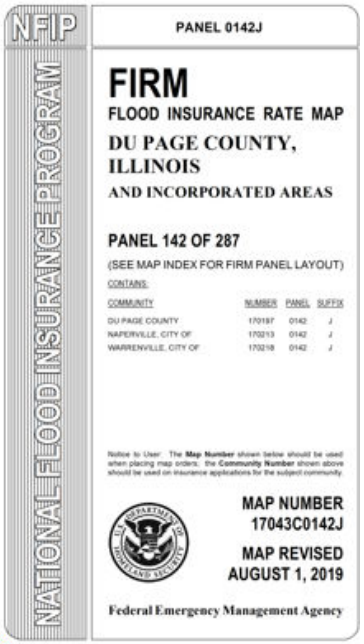
National Flood Hazard Layer FIRMette







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PROJECT NO.: 240048	CLIENT: Hicks, 444 W. Lake St, Suite 2400, Chicago, IL 60606	TITLE: **FEMA FLOOD INSURANCE RATE MAP (FIRM)**	
CREATED BY: JRL			
DATE: 02/26/2024	BASE LAYER: USGS National Map (2023)	SITE: 1200 E. DIEHL ROAD, NAPERVILLE, IL 60515	EXHIBIT: 5
SCALE: See Scale Bar			

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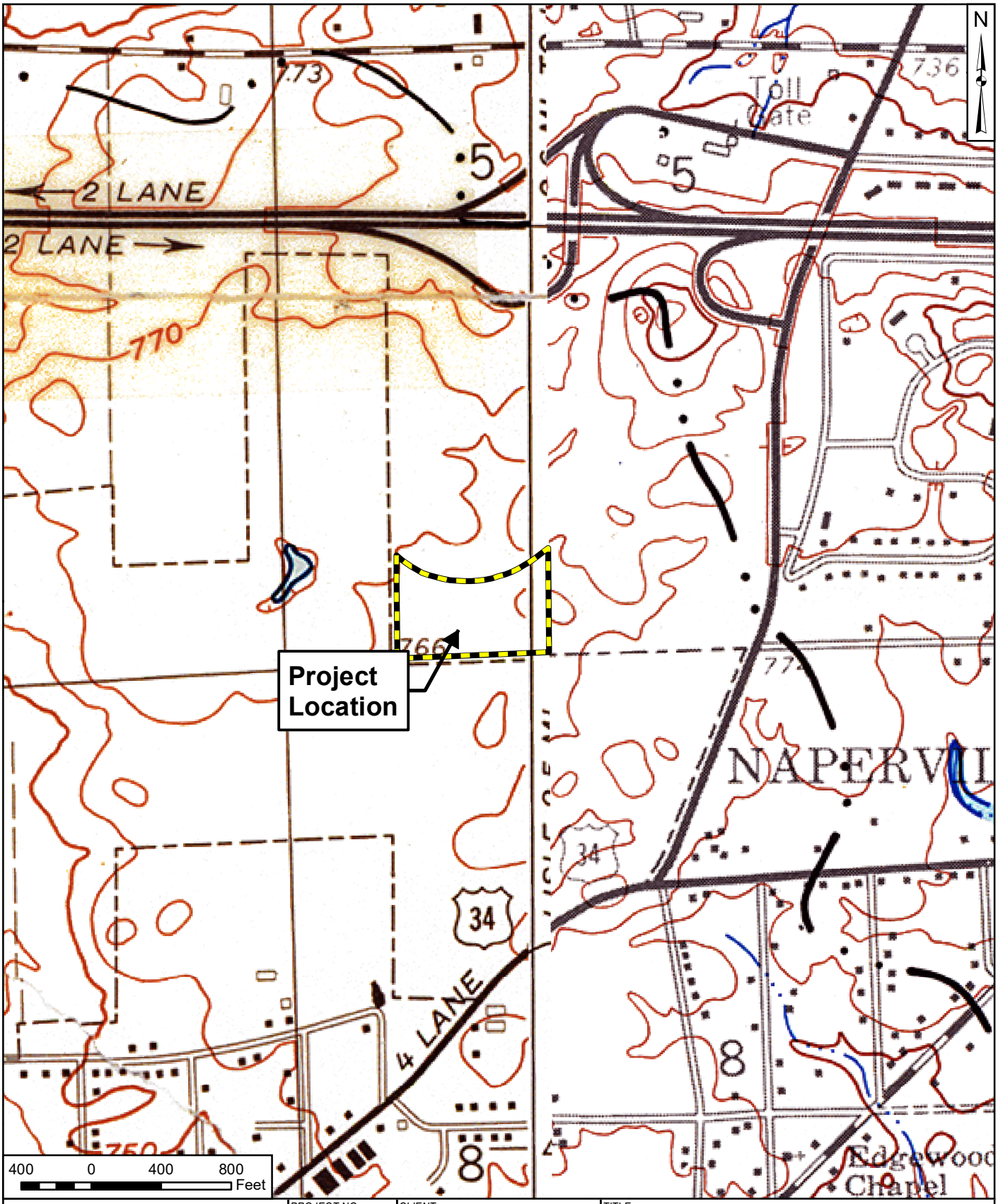

7325 Janes Avenue Woodridge, IL 60517 630.724.9200 phone www.v3co.com	PROJECT NO.: 240048 CREATED BY: CJL	CLIENT: Hines 444 West Lake Street Chicago, IL 60606	TITLE: **USGS HYDROLOGIC ATLAS**
	DATE: 02/06/2024	BASE LAYER: USGS Hydrologic Atlas Naperville and Wheaton Quads	SITE: 1200 E Diehl Road Naperville, DuPage County, IL FIGURE: 6
Visio, Vertere, Virtute... *"The Vision To Transform with Excellence"*	SCALE: See Scale Bar		

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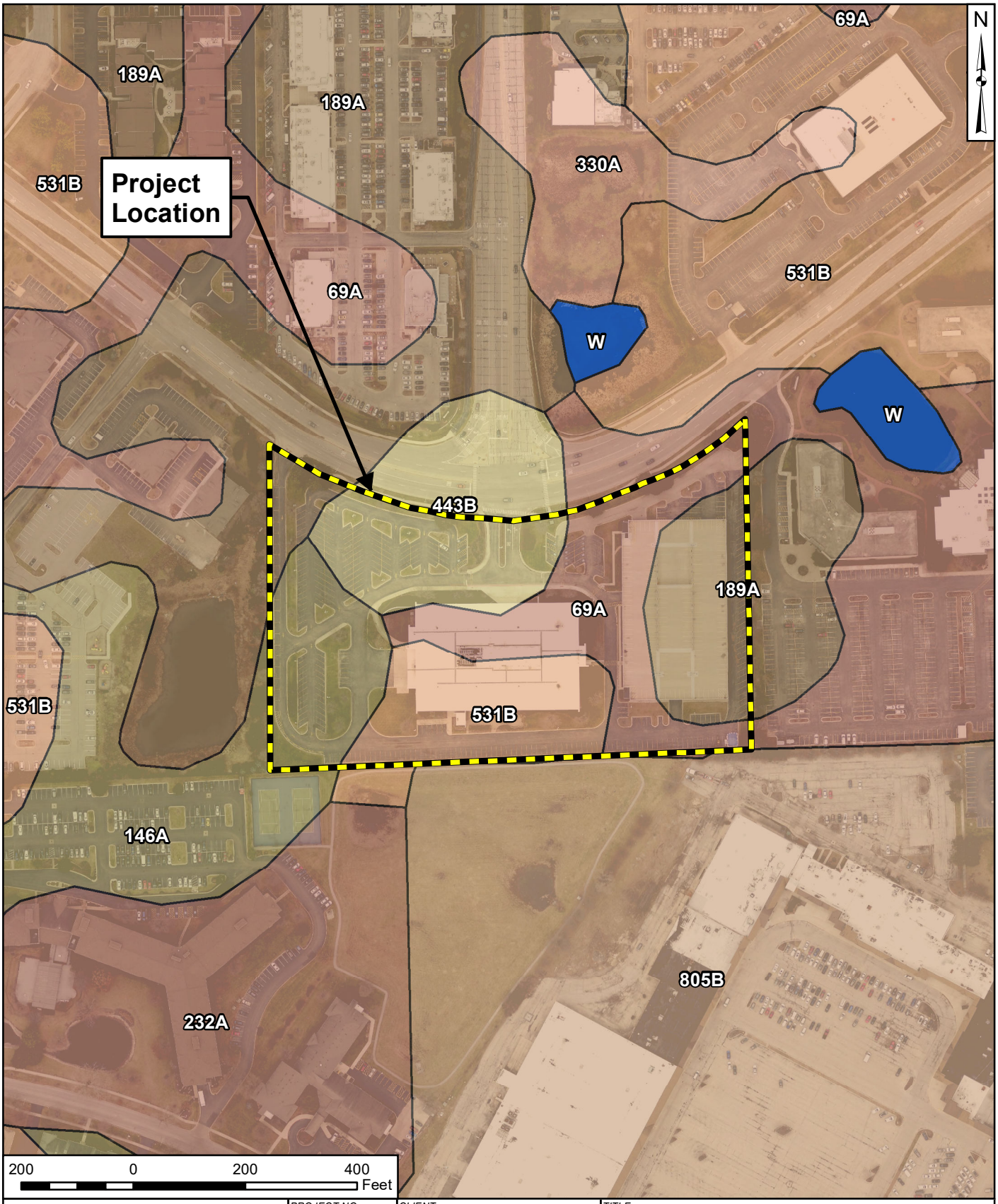

7325 Janes Avenue Woodridge, IL 60517 630.724.9200 phone www.v3co.com	PROJECT NO.: 240048 CREATED BY: JRL	CLIENT: Hines 444 W. Lake St, Suite 2400 Chicago, IL 60606	TITLE: **SOIL SURVEY OF DUPAGE COUNTY, ILLINOIS**
	DATE: 01/10/2025	BASE LAYER: DuPage Coutny Aerial Imagery (2019)	SITE: 1200 E. Diehl Road Naperville, Illinois
Visio, Vertere, Virtute... *"The Vision To Transform with Excellence"*	SCALE: See Scale Bar		FIGURE: 7

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PERVIOUS AREA = 2.58 AC

IMPERVIOUS AREA = 7.01 AC

TOTAL AREA = 9.59 AC

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1200 E. DIEHL ROAD

NAPERVILLE *ILLINOIS*

EXISTING IMPERVIOUS EXHIBIT

DATE: 02-27-24

0 40 80

SCALE: 1"=80'

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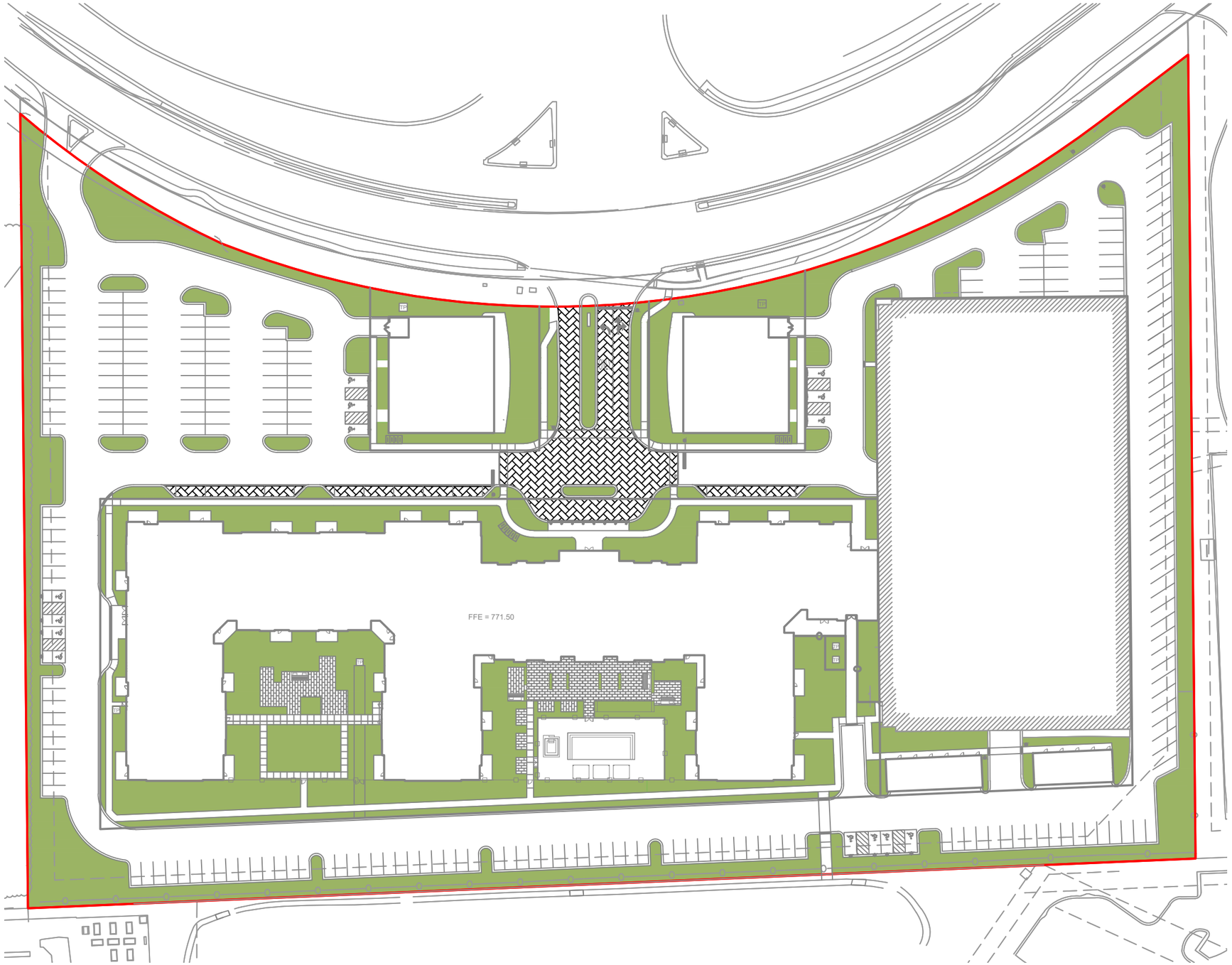

LEGEND

PERVIOUS AREA = 2.30 AC

PERMEABLE PAVERS AREA = 0.28 AC

IMPERVIOUS AREA = 7.01 AC

TOTAL AREA = 9.59 AC

###############
###############
###############
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1200 E. DIEHL

NAPERVILLE *ILLINOIS*

PROPOSED IMPERVIOUS EXHIBIT

DATE: 02-19-25

0 40 80

SCALE: 1"=80'

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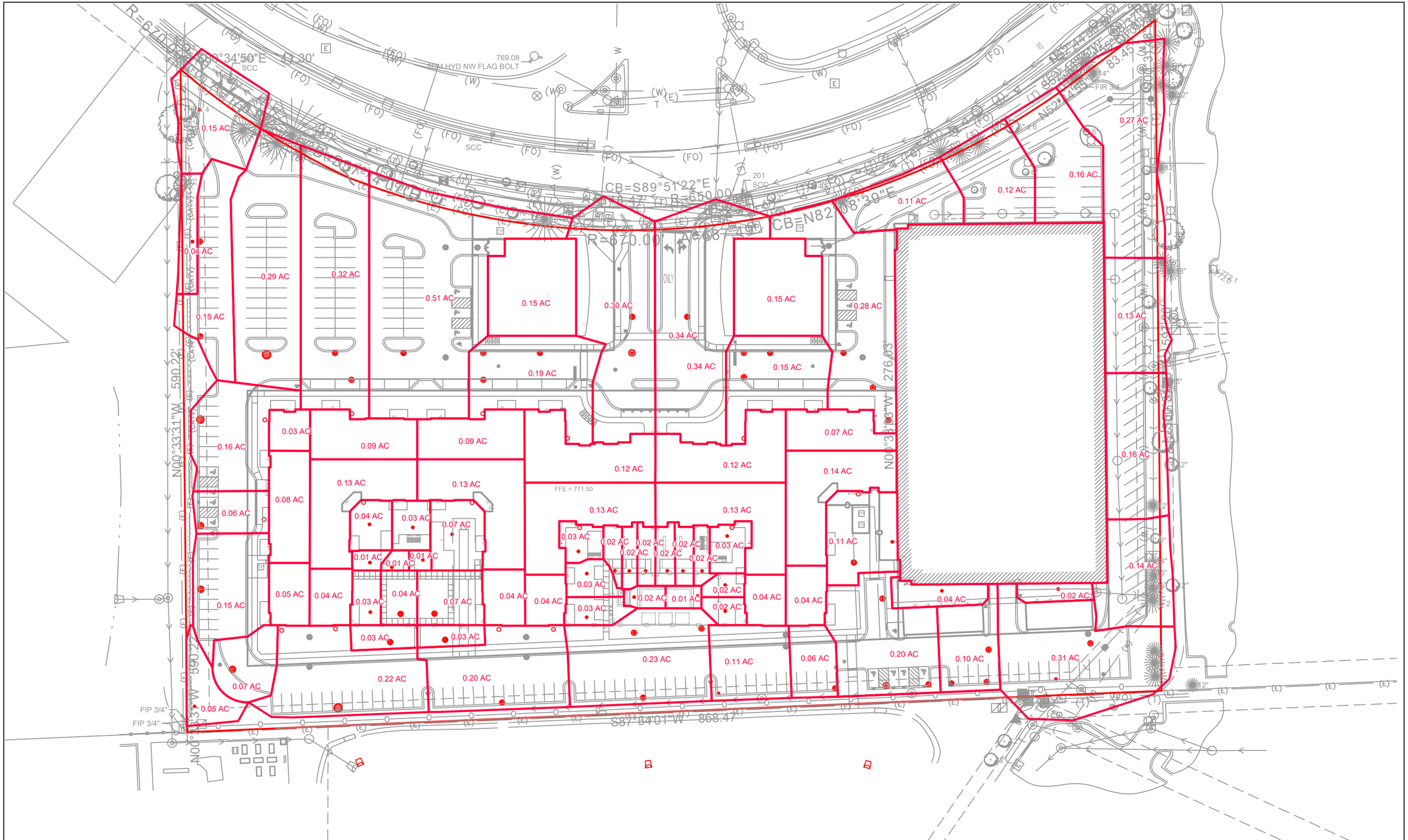

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1200 E. DIEHL

NAPERVILLE *ILLINOIS*

INLET DRAINAGE AREA EXHIBIT

DATE: 02-19-25

0 40 80

SCALE: 1"=80'

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RUNOFF COEFFICIENT CALCULATION

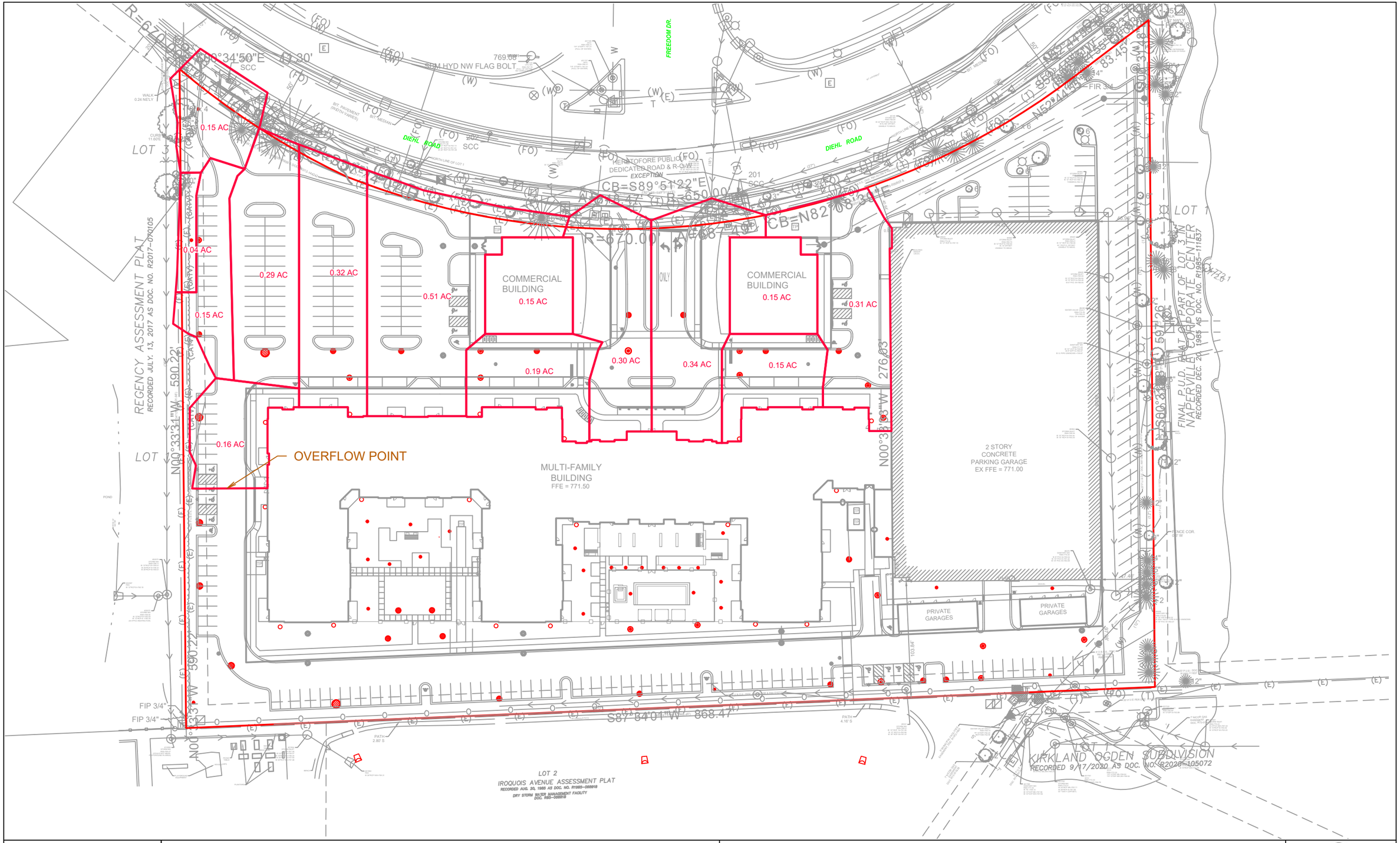
PROJECT: **1200 E. DIEHL ROAD**
V3 FILE NO.: **240048**
DATE: 04/04/25
PREPARED BY: JRL
REVIEWED DATE:
REVIEWED BY:

Impervious Area (ACRE)	7.01
Impervious c-factor	0.90 **Per 74-615 Calcs
Pervious Area (ACRE)	2.58
Pervious c-factor	0.45 **Per 74-615 Calcs
TOTAL AREA (ACRE)	9.59

$$C = \frac{0.90 * (\text{Impervious Area}) + 0.45 * (\text{Pervious Area})}{\text{Total Area}}$$

$$C = \frac{0.90 * (7.01\ \text{acre}) + 0.45 * (2.58\ \text{acre})}{9.59}$$

C = 0.78



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1200 E. DIEHL

NAPERVILLE *ILLINOIS*

OVERFLOW EXHIBIT

DATE: 02-19-25

0 40 80

SCALE: 1"=80'

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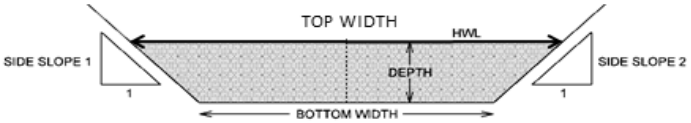
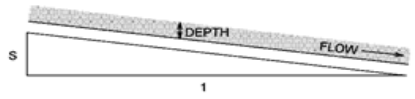
100 YEAR OVERFLOW CAPACITY CALCULATIONS
1200 Diehl Road
Naperville, IL

	Q required									Cross Section			Channel Flow			Weir Flow				
Overflow Route #	High Point	Tributary Area (acres)	Runoff Coefficient	Tc (FAA equation) (minutes)	Intensity (in/hr)	Q100 (cfs)	Additional Q_{100} (cfs)		$Q_{100TOTAL}$	Bottom Width (feet)	Side Slope 1	Side Slope 2	Manning's Coefficient (n)	Longitudinal Slope (S)	$Q_{provided}$	C_w	$Q_{provided}$	Overflow Depth (feet)	HWL	FF - HWL (min 1')
							From	Flow Rate												
1	770.70	3.06	0.78	30	6.34	15.13			*15.13*	0.00	1.00	0.02	0.012	0.01	10.06	2.70	16.15	**0.50**	769.80	1.7
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				

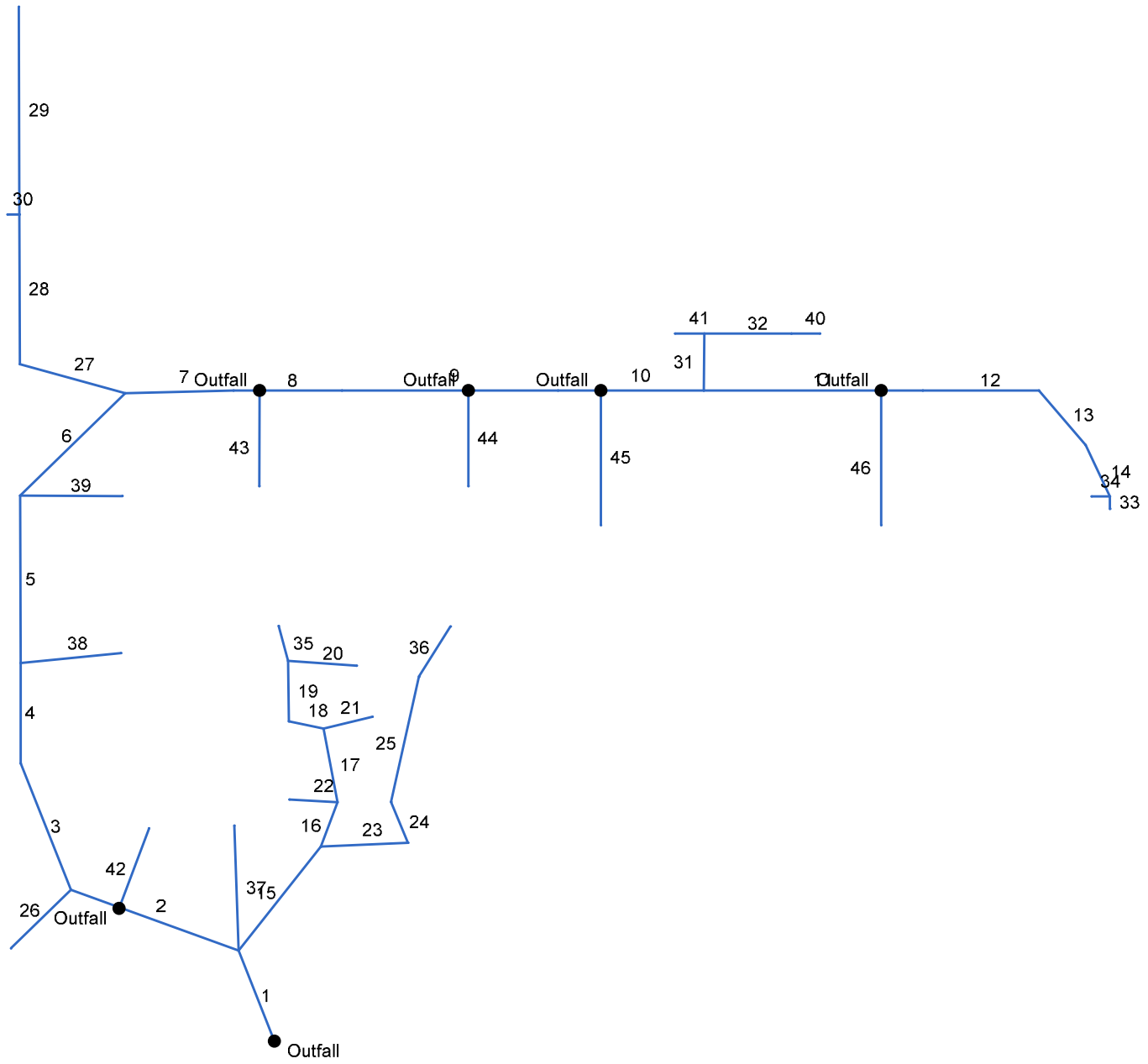


CROSS SECTION OF CHANNEL OR WEIR



CHANNEL SIDE VIEW

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



Project File: Run 1.stm	Number of lines: 46	Date: 2/19/2025

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	55.005	0.22	5.05	0.78	0.17	3.94	10.0	20.0	4.9	21.62	22.03	3.55	36	0.11	761.00	761.06	763.41	763.47	761.00	768.55	ST 1-1 - FES 1-1
2	1	100.128	0.07	4.16	0.78	0.05	3.24	10.0	18.5	5.1	18.83	19.23	3.90	30	0.22	761.06	761.28	763.47	763.65	768.55	768.80	ST 1-2 - ST 1-1
3	2	76.783	0.15	4.04	0.78	0.12	3.15	10.0	18.2	5.1	18.24	18.72	3.81	30	0.21	761.28	761.44	763.65	763.78	768.80	768.55	ST 1-3 - ST 1-2
4	3	56.614	0.06	3.89	0.78	0.05	3.03	10.0	17.9	5.1	17.75	18.08	3.73	30	0.19	761.44	761.55	763.78	763.87	768.55	768.90	ST 1-4 - ST 1-3
5	4	94.512	0.16	3.75	0.78	0.12	2.93	10.0	17.5	5.2	17.36	17.39	3.67	30	0.18	761.55	761.72	763.87	764.01	768.90	768.55	ST 1-5 - ST 1-4
6	5	82.593	0.29	3.56	0.78	0.23	2.78	10.0	17.1	5.3	16.74	16.89	3.57	30	0.17	761.72	761.86	764.01	764.13	768.55	768.55	ST 1-6 - ST 1-5
7	6	60.955	0.32	2.93	0.78	0.25	2.29	10.0	12.4	6.0	15.90	16.61	3.41	30	0.16	761.86	761.96	764.13	764.21	768.55	768.55	ST 1-7 - ST 1-6
8	7	61.006	0.51	2.61	0.78	0.40	2.04	10.0	12.0	6.1	14.53	14.85	3.14	30	0.13	761.96	762.04	764.21	764.27	768.55	768.55	ST 1-8 - ST 1-7
9	8	121.424	0.19	2.10	0.78	0.15	1.64	10.0	11.5	6.2	11.82	11.97	3.76	24	0.28	762.04	762.38	764.27	764.60	768.55	768.55	ST 1-9 - ST 1-8
10	9	81.950	0.00	1.91	0.78	0.00	1.49	10.0	11.2	6.2	10.51	11.42	5.95	18	1.18	762.38	763.35	764.60	765.42	768.55	769.20	ST 1-10 - ST 1-9
11	10	123.047	0.15	0.97	0.78	0.12	0.76	10.0	10.8	6.3	5.40	6.51	4.40	15	1.02	763.35	764.60	765.42	766.29	769.20	768.55	ST 1-11 - ST 1-10
12	11	65.371	0.29	0.82	0.78	0.23	0.64	10.0	10.4	6.4	4.09	4.59	3.34	15	0.50	764.60	764.93	766.29	766.55	768.55	768.95	ST 1-12 - ST 1-11
13	12	40.520	0.00	0.53	0.78	0.00	0.41	10.0	10.3	6.4	2.66	2.85	3.39	12	0.64	764.93	765.19	766.55	766.78	768.95	770.52	ST 1-13 - ST 1-12
14	13	32.056	0.00	0.53	0.78	0.00	0.41	10.0	10.1	6.5	2.68	2.73	3.41	12	0.50	765.19	765.35	766.78	766.93	770.52	771.28	ST 1-14 - ST 1-13
15	1	74.717	0.03	0.63	0.78	0.02	0.49	15.0	19.6	4.9	2.42	4.53	5.11	12	1.62	765.05	766.26	765.57	766.93	768.55	770.00	ST 1-15 - ST 1-1
16	15	26.784	0.04	0.30	0.78	0.03	0.23	15.0	19.4	5.0	1.16	2.57	2.35	12	0.52	766.26	766.40	766.93	766.95	770.00	770.40	ST 1-16 - ST 1-15
17	16	42.237	0.01	0.23	0.78	0.01	0.18	15.0	18.8	5.0	0.90	2.74	2.57	12	0.59	766.40	766.65	766.95	767.05	770.40	770.70	ST 1-17 - ST 1-16
18	17	19.932	0.01	0.21	0.78	0.01	0.16	15.0	17.2	5.2	0.86	2.76	3.00	12	0.60	766.65	766.77	767.05	767.16	770.70	770.60	ST 1-18 - ST 1-17
19	18	34.036	0.04	0.20	0.78	0.03	0.16	15.0	16.7	5.3	0.83	2.52	2.87	12	0.50	766.77	766.94	767.17	767.34	770.60	770.50	ST 1-19 - ST 1-18
20	19	38.676	0.03	0.03	0.78	0.02	0.02	15.0	15.0	5.6	0.13	1.21	1.27	8	1.01	766.94	767.33	767.34	767.49	770.50	770.50	ST 1-20 - ST 1-19
21	17	28.353	0.01	0.01	0.78	0.01	0.01	15.0	15.0	5.6	0.04	1.16	1.51	8	0.92	767.27	767.53	767.36	767.62	770.70	770.70	ST 1-21 - ST 1-17
22	16	27.012	0.03	0.03	0.78	0.02	0.02	15.0	15.0	5.6	0.13	1.23	2.12	8	1.04	766.95	767.23	767.10	767.39	770.40	770.40	ST 1-22 - ST 1-16

Project File: Run 1.stm

Number of lines: 46

Run Date: 2/19/2025

NOTES:Intensity = 147.00 / (Inlet time + 18.00) ^ 0.94; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
23	15	49.031	0.03	0.30	0.78	0.02	0.23	15.0	16.4	5.4	1.25	2.49	2.66	12	0.49	766.26	766.50	766.93	767.02	770.00	770.00	ST 1-23 - ST 1-15
24	23	25.100	0.07	0.27	0.78	0.05	0.21	15.0	16.1	5.4	1.14	2.75	3.05	12	0.60	766.50	766.65	767.02	767.10	770.00	770.40	ST 1-24 - ST 1-23
25	24	72.439	0.07	0.20	0.78	0.05	0.16	15.0	15.0	5.6	0.87	2.48	2.79	12	0.48	766.65	767.00	767.10	767.39	770.40	770.50	ST 1-25 - ST 1-24
26	2	47.210	0.05	0.05	0.78	0.04	0.04	15.0	15.0	5.6	0.22	1.14	2.38	8	0.89	765.01	765.43	765.21	765.64	768.80	768.60	ST 1-26 - ST 1-2
27	6	61.347	0.15	0.34	0.78	0.12	0.27	10.0	16.6	5.3	1.41	2.49	3.27	12	0.49	764.23	764.53	764.77	765.07	768.55	768.55	ST 1-27 - ST 1-6
28	27	84.417	0.00	0.19	0.78	0.00	0.15	10.0	15.2	5.5	0.82	2.48	2.44	12	0.49	764.53	764.94	765.07	765.32	768.55	769.62	ST 1-28 - ST 1-27
29	28	117.337	0.15	0.15	0.78	0.12	0.12	10.0	10.0	6.5	0.76	2.46	2.76	12	0.48	764.94	765.50	765.32	765.88	769.62	769.00	ST 1-29 - ST 1-28
30	28	6.635	0.04	0.04	0.78	0.03	0.03	15.0	15.0	5.6	0.17	1.15	2.24	8	0.90	765.77	765.83	765.95	766.02	769.62	769.00	ST 1-30 - ST 1-28
31	10	32.105	0.30	0.94	0.78	0.23	0.73	10.0	10.4	6.4	4.70	5.14	5.99	12	2.09	764.14	764.81	765.42	765.99	769.20	768.90	ST 1-31 - ST 1-10
32	31	49.008	0.34	0.49	0.78	0.27	0.38	10.0	10.1	6.5	2.47	2.49	3.15	12	0.49	764.81	765.05	765.99	766.22	768.90	768.55	ST 1-32 - ST 1-31
33	14	7.003	0.46	0.46	0.78	0.36	0.36	10.0	10.0	6.5	2.33	2.69	2.97	12	0.57	765.35	765.39	766.93	766.96	771.28	771.50	ROOF DRAIN - S
34	14	10.189	0.07	0.07	0.78	0.05	0.05	10.0	10.0	6.5	0.35	0.00	1.81	6	-2.75	768.28	768.00	768.78	768.82	771.28	771.50	ROOF DRAIN - S
35	19	20.306	0.13	0.13	0.78	0.10	0.10	10.0	10.0	6.5	0.66	0.88	4.37	6	2.46	767.50	768.00	767.82	768.41	770.50	771.50	ROOF DRAIN - S
36	25	33.278	0.13	0.13	0.78	0.10	0.10	10.0	10.0	6.5	0.66	0.69	3.90	6	1.50	767.50	768.00	767.89	768.41	770.50	771.50	ROOF DRAIN - S
37	1	70.551	0.04	0.04	0.78	0.03	0.03	10.0	10.0	6.5	0.20	1.04	3.24	6	3.47	765.55	768.00	765.70	768.23	768.55	771.50	ROOF DRAIN - S
38	4	56.726	0.08	0.08	0.78	0.06	0.06	10.0	10.0	6.5	0.41	1.08	4.06	6	3.70	765.90	768.00	766.11	768.32	768.90	771.50	ROOF DRAIN - S
39	5	57.463	0.03	0.03	0.78	0.02	0.02	10.0	10.0	6.5	0.15	1.16	3.12	6	4.26	765.55	768.00	765.67	768.19	768.55	771.50	ROOF DRAIN - S
40	32	16.146	0.15	0.15	0.78	0.12	0.12	10.0	10.0	6.5	0.76	3.56	2.77	8	8.67	765.38	766.78	766.22	767.19	768.55	770.45	ROOF DRAIN - S
41	31	16.357	0.15	0.15	0.78	0.12	0.12	10.0	10.0	6.5	0.76	3.06	4.77	8	6.42	765.73	766.78	765.99	767.19	768.90	770.45	ROOF DRAIN - S
42	End	48.336	0.04	0.04	0.78	0.03	0.03	10.0	10.0	6.5	0.20	1.01	3.19	6	3.25	766.43	768.00	766.58	768.23	769.43	771.50	ROOF DRAIN - PI
43	End	54.034	0.09	0.09	0.78	0.07	0.07	10.0	10.0	6.5	0.46	1.16	4.35	6	4.26	765.70	768.00	765.92	768.34	768.70	771.50	ROOF DRAIN - PI
44	End	54.030	0.09	0.09	0.78	0.07	0.07	10.0	10.0	6.5	0.46	1.07	4.20	6	3.65	766.03	768.00	766.26	768.34	769.03	771.50	ROOF DRAIN - PI

Project File: Run 1.stm | Number of lines: 46 | Run Date: 2/19/2025

NOTES:Intensity = 147.00 / (Inlet time + 18.00) ^ 0.94; Return period =Yrs. 10 ; c = cir e = ellip b = box

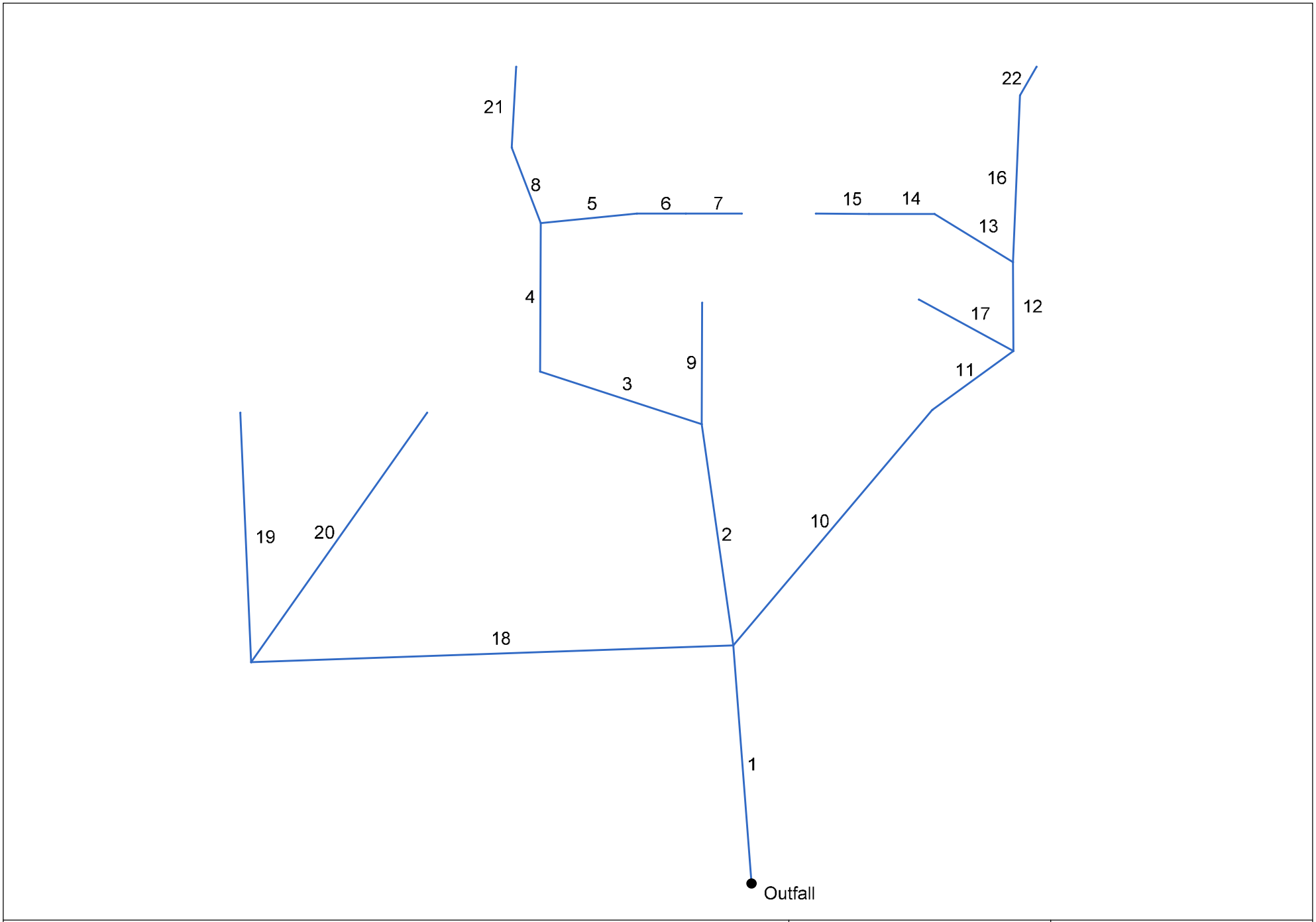
Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
45	End	76.074	0.12	0.12	0.78	0.09	0.09	10.0	10.0	6.5	0.61	0.97	4.44	6	3.01	765.71	768.00	766.00	768.40	768.71	771.50	ROOF DRAIN - PI
46	End	76.000	0.12	0.12	0.78	0.09	0.09	10.0	10.0	6.5	0.61	0.94	4.37	6	2.83	765.85	768.00	766.14	768.40	768.85	771.50	ROOF DRAIN - PI

Project File: Run 1.stm | Number of lines: 46 | Run Date: 2/19/2025

NOTES:Intensity = 147.00 / (Inlet time + 18.00) ^ 0.94; Return period =Yrs. 10 ; c = cir e = ellip b = box

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



Project File: Run 2.stm	Number of lines: 22	Date: 2/19/2025

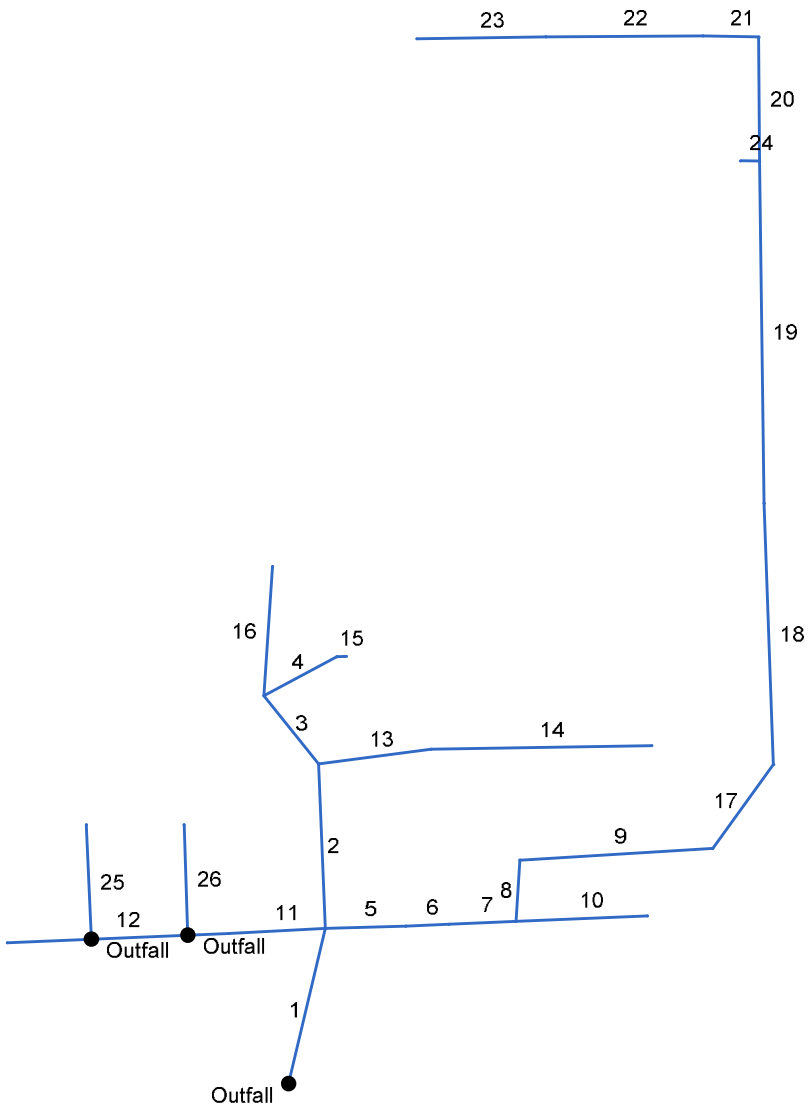
Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	62.415	0.23	1.08	0.78	0.18	0.84	10.0	17.3	5.2	4.40	6.05	7.21	12	2.88	763.00	764.80	763.63	765.68	763.00	768.90	ST 2-1 - FES 2-1
2	1	58.381	0.00	0.30	0.78	0.00	0.23	15.0	16.5	5.3	1.25	4.09	4.00	12	1.32	765.40	766.17	765.78	766.64	768.90	770.75	ST 2-2 - ST 2-1
3	2	44.333	0.03	0.28	0.78	0.02	0.22	15.0	16.3	5.4	1.17	1.30	4.14	8	1.15	766.17	766.68	766.67	767.19	770.75	770.30	ST 2-3 - ST 2-2
4	3	38.875	0.03	0.25	0.78	0.02	0.20	15.0	16.1	5.4	1.05	1.30	3.76	8	1.16	766.68	767.13	767.19	767.62	770.30	770.30	ST 2-4 - ST 2-3
5	4	25.213	0.02	0.06	0.78	0.02	0.05	15.0	15.8	5.4	0.26	0.57	2.02	6	1.03	767.21	767.47	767.62	767.72	770.30	770.75	ST 2-5 - ST 2-4
6	5	12.726	0.02	0.04	0.78	0.02	0.03	15.0	15.5	5.5	0.17	0.57	1.97	6	1.02	767.47	767.60	767.72	767.81	770.75	770.75	ST 2-6 - ST 2-5
7	6	14.559	0.02	0.02	0.78	0.02	0.02	15.0	15.0	5.6	0.09	0.57	1.49	6	1.03	767.60	767.75	767.81	767.90	770.75	770.75	ST 2-7 - ST 2-6
8	4	21.192	0.03	0.16	0.78	0.02	0.12	15.0	15.0	5.6	0.70	1.17	2.90	8	0.94	767.13	767.33	767.62	767.72	770.30	770.50	ST 2-8 - ST 2-4
9	2	31.799	0.02	0.02	0.78	0.02	0.02	10.0	10.0	6.5	0.10	0.56	2.04	6	1.01	767.68	768.00	767.82	768.16	770.75	771.00	ST 2-9 - ST 2-2
10	1	80.515	0.00	0.27	0.78	0.00	0.21	15.0	16.4	5.4	1.13	4.42	4.01	12	1.54	765.40	766.64	765.74	767.09	768.90	770.80	ST 2-10 - ST 2-1
11	10	26.155	0.02	0.27	0.78	0.02	0.21	15.0	16.3	5.4	1.13	1.25	4.03	8	1.07	766.64	766.92	767.14	767.42	770.80	770.40	ST 2-11 - ST 2-10
12	11	23.297	0.02	0.24	0.78	0.02	0.19	15.0	16.1	5.4	1.01	1.15	3.67	8	0.90	766.92	767.13	767.42	767.61	770.40	770.40	ST 2-12 - ST 2-11
13	12	24.087	0.02	0.06	0.78	0.02	0.05	15.0	15.8	5.4	0.25	0.56	2.01	6	1.00	767.20	767.44	767.61	767.69	770.40	770.75	ST 2-13 - ST 2-12
14	13	17.031	0.02	0.04	0.78	0.02	0.03	15.0	15.5	5.5	0.17	0.56	1.97	6	1.00	767.44	767.61	767.69	767.82	770.75	770.75	ST 2-14 - ST 2-13
15	14	13.881	0.02	0.02	0.78	0.02	0.02	15.0	15.0	5.6	0.09	0.56	1.49	6	1.01	767.61	767.75	767.82	767.90	770.75	770.75	ST 2-15 - ST 2-14
16	12	43.661	0.03	0.16	0.78	0.02	0.12	15.0	15.0	5.6	0.70	1.16	2.92	8	0.92	767.13	767.53	767.61	767.92	770.40	770.70	ST 2-16 - ST 2-12
17	11	28.127	0.01	0.01	0.78	0.01	0.01	10.0	10.0	6.5	0.05	0.63	1.75	6	1.24	767.40	767.75	767.50	767.86	770.40	770.75	ST 2-17 - ST 2-11
18	1	125.751	0.20	0.28	0.78	0.16	0.22	10.0	11.3	6.2	1.36	2.46	2.49	12	0.48	764.80	765.40	765.68	765.94	768.90	768.90	ST 2-18 - ST 2-1
19	18	65.274	0.04	0.04	0.78	0.03	0.03	10.0	10.0	6.5	0.20	1.01	3.18	6	3.22	765.90	768.00	766.05	768.23	768.90	771.50	ROOF DRAIN - S
20	18	79.713	0.04	0.04	0.78	0.03	0.03	10.0	10.0	6.5	0.20	0.91	3.04	6	2.63	765.90	768.00	766.06	768.23	768.90	771.50	ROOF DRAIN - S
21	8	21.056	0.13	0.13	0.78	0.10	0.10	10.0	10.0	6.5	0.66	0.86	4.33	6	2.37	767.50	768.00	767.83	768.41	770.50	771.50	ROOF DRAIN - S
22	16	8.653	0.13	0.13	0.78	0.10	0.10	10.0	10.0	6.5	0.66	1.04	4.72	6	3.47	767.70	768.00	767.99	768.41	770.70	771.50	ROOF DRAIN - S

Project File: Run 2.stm | Number of lines: 22 | Run Date: 2/19/2025

NOTES:Intensity = 147.00 / (Inlet time + 18.00) ^ 0.94; Return period =Yrs. 10 ; c = cir e = ellip b = box

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



Project File: Run 3.stm	Number of lines: 26	Date: 2/18/2025

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	75.098	0.00	3.10	0.78	0.00	2.42	10.0	23.8	4.5	11.19	12.24	4.42	24	0.29	762.00	762.22	763.50	763.72	762.00	769.25	ST 3-1 - FES 3-1
2	1	77.663	0.00	0.77	0.78	0.00	0.60	10.0	23.1	4.5	2.72	3.58	1.55	18	0.12	762.22	762.31	763.72	763.77	769.25	770.07	ST 3-2 - ST 3-1
3	2	41.038	0.11	0.71	0.78	0.09	0.55	10.0	10.3	6.4	3.56	3.90	2.91	15	0.37	762.31	762.46	763.77	763.90	770.07	770.40	ST 3-3 - ST 3-2
4	3	38.839	0.00	0.46	0.78	0.00	0.36	10.0	10.0	6.5	2.33	3.08	2.97	12	0.75	762.46	762.75	763.90	764.06	770.40	770.40	ST 3-4 - ST 3-3
5	1	37.698	0.20	2.16	0.78	0.16	1.68	10.0	14.6	5.6	9.49	11.65	3.79	24	0.27	762.22	762.32	763.72	763.80	769.25	768.95	ST 3-5 - ST 3-1
6	5	20.315	0.10	1.96	0.78	0.08	1.53	10.0	14.5	5.7	8.64	10.03	3.48	24	0.20	762.32	762.36	763.80	763.83	768.95	768.95	ST 3-6 - ST 3-5
7	6	31.557	0.00	1.86	0.78	0.00	1.45	10.0	14.3	5.7	8.25	10.65	3.35	24	0.22	762.36	762.43	763.83	763.88	768.95	769.17	ST 3-7 - ST 3-6
8	7	28.868	0.00	1.55	0.78	0.00	1.21	10.0	14.2	5.7	6.90	7.31	3.97	18	0.49	762.43	762.57	763.88	763.98	769.17	769.63	ST 3-8 - ST 3-7
9	8	90.798	0.00	1.55	0.78	0.00	1.21	10.0	13.8	5.8	6.98	7.23	4.15	18	0.47	762.57	763.00	763.98	764.31	769.63	769.48	ST 3-9 - ST 3-8
10	7	61.715	0.31	0.31	0.78	0.24	0.24	10.0	10.0	6.5	1.57	2.48	3.35	12	0.49	764.50	764.80	765.08	765.38	769.17	768.30	ST 3-10 - ST 3-7
11	1	45.440	0.06	0.17	0.78	0.05	0.13	10.0	11.4	6.2	1.22	2.48	3.14	12	0.48	765.03	765.25	765.53	765.75	769.25	769.45	ST 3-11 - ST 3-1
12	11	104.061	0.11	0.11	0.78	0.09	0.09	10.0	10.0	6.5	0.96	2.47	2.80	12	0.48	765.25	765.75	765.75	766.16	769.45	769.25	ST 3-12 - ST 3-11
13	2	53.340	0.04	0.06	0.78	0.03	0.05	15.0	21.9	4.7	0.22	1.15	2.39	8	0.90	764.72	765.20	764.92	765.41	770.07	769.20	ST 3-13 - ST 3-2
14	13	103.556	0.02	0.02	0.78	0.02	0.02	15.0	15.0	5.6	0.09	1.14	1.32	8	0.90	765.20	766.13	765.41	766.26	769.20	769.30	ST 3-14 - ST 3-13
15	4	4.369	0.46	0.46	0.78	0.36	0.36	10.0	10.0	6.5	2.33	3.41	2.97	12	0.92	762.75	762.79	764.06	764.08	770.40	771.00	ROOF DRAIN - S
16	3	61.032	0.14	0.14	0.78	0.11	0.11	10.0	10.0	6.5	0.71	0.89	4.51	6	2.51	766.97	768.50	767.31	768.92	770.40	771.50	ROOF DRAIN - S
17	9	48.653	0.14	1.55	0.78	0.11	1.21	10.0	13.6	5.8	7.02	7.22	4.35	18	0.47	763.00	763.23	764.31	764.49	769.48	768.46	EX. MH - ST 3-9
18	17	123.291	0.16	1.41	0.78	0.12	1.10	10.0	13.2	5.9	6.46	5.84	5.26	15	0.82	763.23	764.24	764.49	765.73	768.46	769.29	EXISTING PIPE
19	18	161.276	0.13	1.25	0.78	0.10	0.98	10.0	12.7	6.0	5.82	4.85	4.74	15	0.56	764.54	765.45	765.79	767.10	769.29	769.55	EXISTING PIPE
20	19	58.489	0.27	0.66	0.78	0.21	0.51	10.0	12.4	6.0	3.09	3.33	3.94	12	0.87	765.55	766.06	767.10	767.54	769.55	769.41	EXISTING PIPE
21	20	26.230	0.16	0.39	0.78	0.12	0.30	10.0	12.3	6.0	1.84	1.97	2.34	12	0.31	766.06	766.14	767.54	767.61	769.41	769.94	EXISTING PIPE
22	21	73.760	0.12	0.23	0.78	0.09	0.18	10.0	11.4	6.2	1.11	2.81	1.42	12	0.62	766.14	766.60	767.61	767.68	769.94	769.70	EXISTING PIPE

Project File: Run 3.stm | Number of lines: 26 | Run Date: 2/18/2025

NOTES:Intensity = 147.00 / (Inlet time + 18.00) ^ 0.94; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
23	22	60.506	0.11	0.11	0.78	0.09	0.09	10.0	10.0	6.5	0.56	3.24	0.93	12	0.83	766.60	767.10	767.68	767.69	769.70	770.30	EXISTING PIPE
24	19	8.896	0.46	0.46	0.78	0.36	0.36	10.0	10.0	6.5	2.33	0.59	11.87	6	1.12	766.55	766.65	767.10	768.64	769.55	771.00	EXISTING PIPE
25	End	54.101	0.04	0.04	0.78	0.03	0.03	10.0	10.0	6.5	0.20	1.06	3.27	6	3.60	766.55	768.50	766.70	768.73	769.55	771.50	ROOF DRAIN - PI
26	End	52.144	0.04	0.04	0.78	0.03	0.03	10.0	10.0	6.5	0.20	1.07	3.27	6	3.64	766.60	768.50	766.75	768.73	769.60	771.50	ROOF DRAIN - PI

Project File: Run 3.stm | Number of lines: 26 | Run Date: 2/18/2025

NOTES:Intensity = 147.00 / (Inlet time + 18.00) ^ 0.94; Return period =Yrs. 10 ; c = cir e = ellip b = box