

FINAL



TECHNICAL MEMORANDUM

Project: SQUAW VALLEY PUBLIC SERVICE DISTRICT
VSVSP SEWER CAPACITY ANALYSIS

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1.0 PURPOSE

This memorandum presents an evaluation of hydraulic capacity of the Squaw Valley Public Service District's (District) wastewater collection system and will serve as the basis for understanding the Village at Squaw Valley Specific Plan (VSVSP) project impacts as well as projected cumulative development impacts on the collection system. The evaluation was performed using the District's hydraulic model and includes the following scenarios:

1. Existing sewer collection system
2. Existing sewer collection system + VSVSP at Buildout
3. Existing sewer collection system + VSVSP at Buildout + Projected Cumulative Development

The evaluation will define the short and long term sewer collection system capital improvements necessary to satisfy the capacity requirements defined in the District sewer code.

2.0 BACKGROUND

2.1 1994 Sewer Model

The original hydraulic model of the District's sewer collection system was completed as part of the 1994 Sewer Master Plan (West Yost & Associates). The model was constructed using the software HYDRA and based on base map data developed by 7-H Technical Services Group. Wastewater generation rates were calculated to be 282 gallons per day (gpd)/equivalent dwelling unit (EDU) with a per capita average flow of 76 gpd/capita. With only one flow monitoring station for the entire collection system area, infiltration and inflow (I/I) was spread equally across the collection system. The model used a future projected average dry weather flow (ADWF) of 0.69 million gallons per day (MGD), along with a peak I/I rate of 1.15 MGD. The model also used a peaking factor of 1.7 for Peak Hour:ADWF.

The results indicated the siphons that cross Squaw Creek and the Truckee River as being the areas of deficiency, as well as the need to install multiple sewer flow meters throughout the system.

FINAL

2.2 2007 Sewer Model

The sewer model was rebuilt in 2007 using InfoWorks and the then current geographic information system (GIS) infrastructure and flow meter data (SVPSD Sewer Capacity Study – DRAFT, ECO:LOGIC, December 2007). This effort also included a field survey of select manholes where elevation data was either missing or inconsistent. Unit wastewater generation rates were developed based on a comprehensive analysis of water meter and land use data. The unit wastewater generation rates were developed for a peak occupancy period, which included weekend and holiday occupancy for the month of February (assumed to be peak occupancy skier month as well as the President's Day holiday). These wastewater generation rates are referenced in the District's Sanitary Sewer Service Code and are shown in Table 1.

Table 1 – Unit Wastewater Generation Rates

Land Use	Unit Flow Factor (gpd/unit)
Residential	
Single Family	291
Single Family - Multiple Units	475
Multi-Family - Individually Metered	151
Multi-Family - Master Metered	244
Other	
Hotel/Motel	304
Commercial	0.38 gpd/ft ²

The model was calibrated to a peak wet weather flow (PWWF) of 1.25 MGD, which coincided with a small storm event in March 2004. The ADWF was indicated to be 0.48 MGD based on the dry weather days preceding the March 2004 storm event. The resultant peaking factor was 2.6 (PWWF:ADWF) based on this data. The modeling scenarios for the 2007 capacity analysis included the existing flows shown above, as well as the addition of estimated wastewater flows from the Resort at Squaw Creek Phase 2, which included an ADWF estimate of 0.054 MGD and a PWWF of 0.14 MGD. The estimated ADWF was calculated based on the projected development density and land use and the unit wastewater generation rates.

The 2007 capacity study showed no hydraulic limitations in the existing system. It should be noted that the model was run based on ADWF with an estimated infiltration/inflow based on the March 2004 storm peak flow rate. Generally, peak hour flows with storm events are used to conservatively assess the capacity of a sewer collection system.

2.3 2012 Sewer Model Update

The sewer model was most recently updated in 2012 in support of the VSVSP project. The purpose of this update was to create a sewer model using the District's current GIS information. In 2007, the District established a GIS for their wastewater system. It utilized known District wastewater infrastructure information including survey data for manholes and cleanout locations, unique manhole IDs, pipe material, rim elevations, invert elevations and installation dates. This information continues to be updated and improved upon as more infrastructure information becomes available through potholing, construction

FINAL

and additional survey data. Additional survey information was provided by Andregg Geomatics on the Squaw Valley Road sewer interceptor (T series manholes) and incorporated into the GIS.

Farr West utilized Bentley SewerGEMS Model Builder to create the updated wastewater hydraulic model from the existing GIS database. Initially the GIS data was reviewed thoroughly for accuracy and then it was migrated into the Farr West GIS data schema. Elevation data from both the original GIS database along with data from a previously created sewer model table were joined to the GIS via a unique identifier found in both the GIS and the elevation data table. The GIS database was used to generate the pipes configuration, sizes and material within SewerGEMS.

The sewer loads were distributed using the same sub-basins and load distribution used in the 2007 hydraulic model (SVPSD Sewer Capacity Study – DRAFT, ECO LOGIC December 2007). Flow data from 2008-2012 was evaluated for the TTSA flow meter at Highway 89 and data from the new flow monitoring site at T45A was analyzed mid-October 2011 through December 2012 to ensure loading rates from the 2007 Capacity Study were still accurate.

The 2012 modeling effort provided an initial understanding of the potential VSVSP project impacts on the District's sewer collection system. But, the VSVSP project has gone through numerous changes in development density since that time. So, this 2014 model update will be used to assess the current projected demands associated with the VSVSP project as well as other potential Valley development.

3.0 SEWER CAPACITY ANALYSIS

3.1 2014 Sewer Model Update

As part of the VSVSP sewer capacity analysis, the model was further updated to allow for modeling the effects of proposed and future development within the Valley.

As previously mentioned, the 2007 and 2012 sewer models analyzed collection system capacity based on average dry and peak wet weather conditions associated with flows from and around a March 2004 storm event. This data represented sewer flow in a low occupancy time period. Being a resort area with a high transient population, peak occupancy in the Valley is generally seen in peak ski season months, as well as the summertime vacation season. Peak sewer flows typically occur in the winter months when the occupancy is high and storm events are frequent (specifically rain on snow events). For the purpose of assessing sewer collection system capacity, peak hour flow events with a component of I/I (in the form of a storm event) are assessed.

This model update included revising the model flows to include a major rain on snow event that occurred in the region December 31, 2005 – January 1, 2006. This storm represented nearly a 25-year 24-hour storm event and produced historical peak flows in the District's system. Rainfall data for this event is shown in Table 2

FINAL

Table 2 – Temperature and Precipitation Data December 2005

Date	Day	Low Temp (°F)	High Temp (°F)	Precip (in)	Rain/Snow
12/22/2005	Thursday	37	46	0.07	Rain
12/23/2005	Friday	28	57	0.00	-
12/24/2005	Saturday	24	57	0.01	-
12/25/2005	Sunday	32	48	0.12	Rain
12/26/2005	Monday	30	35	0.18	Snow
12/27/2005	Tuesday	28	42	0.28	Snow & Rain
12/28/2005	Wednesday	24	51	0.02	Rain
12/29/2005	Thursday	15	35	0.00	-
12/30/2005	Friday	28	42	1.15	Rain
12/31/2005	Saturday	26	41	1.04	Rain
1/1/2006	Sunday	28	41	0.51	Snow
1/2/2006	Monday	24	32	0.05	Snow
1/3/2006	Tuesday	19	35	0.00	-
1/4/2006	Wednesday	23	39	0.00	-

Data from Weather Underground - Truckee-Tahoe, CA

The peak sewer collection system flow at the Highway 89 flowmeter occurred on December 31, 2005 with a recorded flow of 2.007 MGD at 11:00 AM. To develop peak dry weather flows associated with this storm event, data for dry days preceding the storm event were used. The ADWF was based on flow data for December 23, 24, and 29. Table 3 provides the hourly flow data for these dates.

The base model was then updated with the following flow scenarios:

- ADWF = 0.632 MGD
- Peak Hour DWF = 0.828 MGD
- PWWF = 2.007 MGD

From this data, peaking factors were also developed:

- Peak Hour DWF:ADWF = 1.31
- PWWF:ADWF = 3.18

These conditions accurately reflect the peak capacity of a major rain on snow storm event in the Valley during peak occupancy times, and were thus used as the baseline modeling scenario for this analysis.

FINAL

Table 3 – Diurnal Sewer Flow Data (at Highway 89 Flow Meter)

Time	12/23/2005	12/24/2005	12/29/2005	Overall Average (MGD)	Dec. 31 Peak (MGD)
1:00	0.5458	0.3600	0.5200	0.4753	1.1802
2:00	0.5487	0.3400	0.4800	0.4562	1.1874
3:00	0.4501	0.3200	0.4600	0.4100	1.0359
4:00	0.4186	0.2800	0.4500	0.3829	1.0244
5:00	0.3986	0.2700	0.4400	0.3695	1.0030
6:00	0.4286	0.2900	0.4700	0.3962	1.0159
7:00	0.5515	0.3700	0.6800	0.5338	1.1144
8:00	0.7172	0.6900	1.0000	0.8024	1.2272
9:00	0.7643	0.7043	0.9300	0.7995	1.7772
10:00	0.7601	0.7258	0.9130	0.7997	1.8672
11:00	0.8430	0.7145	0.8489	0.8021	2.0072
12:00	0.6974	0.6974	0.7489	0.7145	1.4844
13:00	0.6102	0.6117	0.7949	0.6723	1.03
14:00	0.6417	0.7375	0.8376	0.7389	0.9
15:00	0.6516	0.6617	0.8746	0.7293	1.03
16:00	0.6759	0.7031	0.9618	0.7803	1.1243
17:00	0.7016	0.7201	1.0630	0.8282	1.1659
18:00	0.7101	0.6729	0.9886	0.7905	1.2044
19:00	0.6229	0.5900	0.8500	0.6876	1.1857
20:00	0.5900	0.5700	0.7800	0.6467	1.0457
21:00	0.5700	0.5900	0.7500	0.6367	0.9643
22:00	0.5800	0.5500	0.7000	0.6100	0.9343
23:00	0.5500	0.5200	0.6100	0.5600	0.8928
0:00	0.5758	0.4500	0.5800	0.5353	0.89
		Average	0.6316	1.1789	
		Minimum	0.3695	0.8900	
		Maximum	0.8282	2.0073	

3.2 Scenarios

Three model scenarios were developed to assess the sewer collection system capacity impacts associated with the proposed VSVSP project as well as a projection of General Plan buildout:

1. Existing sewer collection system
2. Existing sewer collection system + VSVSP at Buildout
3. Existing sewer collection system + VSVSP at Buildout + Projected Cumulative Development

The sewer flows associated with each scenario are summarized in Table 4. The diurnal flow patterns and graphs for each scenario are provided in Appendix A.

FINAL

Table 4 – Collection System Sewer Flows

	Q _{ADWF}	Q _{Peak Hour DWF}	Q _{PWWF}
Existing Model Conditions (1)	0.632	0.828	2.007
VSVSP Loads (2)	0.427	0.559	1.241
General Plan Buildout Loads (3)	0.333	0.436	1.057
Model Scenarios			
Existing System	0.632	0.828	2.007
Existing System + VSVSP	1.059	1.387	3.248
Existing System + VSVSP + GP Buildout	1.392	1.824	4.305

(1) ADWF and Peak Hour DWF from 12/23, 24 and 29, 2005 flow data

Peak hour wet flow occurred on Dec. 31, 2005 at 11 AM

(2) VSVSP loads from MacKay & Somps Technical Memorandum No. 2 June 12, 2014

(3) Based on parcel based analysis provided by District, including SFR, MF, Commercial

3.2.1 VSVSP Project Sewer Flows

VSVSP consultants provided a detailed analysis of sewer flows associated with the proposed project. The original sewer flow analysis for the project was submitted in December 2012, and based on comments from the District on wastewater generation rates and changes to the project size and layout, sewer flows have been adjusted to incorporate these modifications. The wastewater generation rate used for multi-family development is 82 gpd/capita, which equates to approximately 285 gpd/unit. For commercial development, a wastewater generation rate of 0.38 gpd/square foot is used.

The ADWF for the VSVSP was taken from Sewer Master Plan The Village at Squaw Valley Specific Plan (MacKay & Somps, October 16, 2014). Only ADWF data was used from the Sewer Master Plan. Peaking factors developed by Farr West as presented in Section 3.1 were used to develop VSVSP Peak Hour ADWF and PWWF flows.

VSVSP sewer flows also include a backwash rate for the pool filters at the Mountain Adventure Camp (MAC). Sewer generation for the MAC was provided by Aquatic Development Group, Inc. (ADG), and includes a total daily backwash volume of approximately 12,000 gpd. Based on a telephone meeting with KSL and ADG, it was depicted that the system design would include a backwash water equalization tank equal to the total daily flow. Flow would be bled into the sewer system at a rate of no greater than 20 gpm, which would empty the tank over a 10 hour period.

Projected VSVSP sewer flows were added to manhole SSMH T-8 in the sewer model.

3.2.2 Cumulative Projection Sewer Flows

The District performed a comprehensive analysis of vacant and/or underbuilt residential and commercial properties in the Valley. Sewer flow projections were developed on a cumulative projection of growth in the Valley based on the 1983 Squaw Valley General Plan & Land Use Ordinance (Placer County) as well

FINAL

as discussions with land owners on approved and planned projects. For those parcels with existing commercial buildings that are assumed to be demolished and redeveloped, the future projection subtracts the existing building area and replaces it with the proposed/anticipated new commercial floor area. The result is a net increase or decrease in floor area and thus takes into account the existing sewer flow contribution. Table 5 presents the land use and parcel data for these properties, as well as a summary of the number of bedrooms and commercial square footage associated with the cumulative projection. Also included in the cumulative projection are vacant SFR lots within the District and Squaw Valley Mutual Water Company (SVMWC) water service boundaries. There are currently 66 vacant SFR lots within the District's water service boundary and 15 vacant SFR lots within the SVMWC water service boundary. Finally, Table 5 also presents the estimated ADWF wastewater flows for the projected development. Figure 1 provides the location of the identified parcels.

The District's analysis identified SFR, multi-family, and commercial development potential for approved projects, foreseeable projects, and forecasted development. Ultimately, estimated wastewater generation is based on number of lodging units (bedrooms) and commercial square footage and the wastewater generation rate factors presented previously in Table 1. For SFR development, a wastewater generation rate of 291 gpd/unit was used to estimate sewer flows. For multi-family residential, including condominiums, hotels, etc, wastewater generation was estimated based on number of bedrooms and an occupancy of 2 people per bedroom. The wastewater generation rate used for multi-family development is 82 gpd/capita, which equates to approximately 285 gpd/unit. For commercial development, a wastewater generation rate of 0.38 gpd/square foot is used. The wastewater generation factors represent an ADWF at 100% occupancy. Peak Hour ADWF and PWWF were calculated using the peaking factors presented in Section 3.1.

Projected cumulative buildout sewer flows were added to the manhole nearest the identified developable parcel in the model.

FINAL

Table 5 – Cumulative Development Projection and Wastewater Flows

APN	Customer Type (Residential or Commercial)	Street Address (Address # & Street Name)	Owner	Common Name	Zoning Abbreviation	Conversion Factor (# Units to Bedrooms)	Parcel Size (acres)	# Residence / Lodging Units	Residence / Lodging Type (SFR, Duplex, Condo)	Development Status (vacant, tear down, partial, developed)	GP BO (bedrooms)	GP BO (commercial square footage)	Wastewater Generation, GPD					
													MFR	Commercial	SFR			
Future Multi-Family Residential (MFR) & Commercial Development																		
096-290-027	Commercial	235 Squaw Valley Road	Squaw Valley Academy Inc.	Squaw Valley Academy	EC	2	1.245	--	Condo	developed	4	11,000	648	4,180				
096-230-036	Commercial	3039, 3041 River Road	Squaw Valley Gateway Properties LP	7-11, Tahoe Dave's Skis & Boards	EC	2	4.9	--	Condo	partial	147	15,490	23,814	5,886				
096-290-056	Commercial	285, 100, 1, 101 Squaw Valley Road	Placer County	Squaw Valley Park, soccer field, bike trail behind 305 SVR	FR	2	25.8	--	N/A	partial	0	14,500	-	5,510				
096-290-011	Commercial	Squaw Valley Road	Henrickson, Oliver & Carolyn	Empty Lot - north side of Squaw Valley Road at intersection of Squaw Creek Rd.	EC	2	0.551	--	N/A	vacant	0	12,001	-	4,560				
096-540-004	Commercial	1810 Squaw Valley Road	Squaw Valley Public Service District	SVPSD old facility - 1810	VC	2	1.5	--	Condo	tear down	75	25,000	12,150	9,500				
096-290-050	Residential	325 Squaw Valley Road	Eric J. Poulsen Trustee et al	Mrs. Poulsen Compound, wetlands, Squaw Creek	HDR-20	2	11.30	--	??	partial	166	10,000	26,811	3,800				
096-230-062	Commercial	Squaw Valley Road	Eric J. Poulsen Trustee et al	Parcel east of Meadows End Court, on Squaw Valley Rd., Squaw Creek.	HDR-20	2	3.43	--	??	vacant	51	5,000	8,335	1,900				
096-101-009	Commercial	1590, 1600, 1604 Squaw Valley Road	Poulsen Commercial Properties LP	Post Office, Unofficial Building	VC	2	1.7	--	??	tear down	85	1,264	13,770	480				
096-103-031	Commercial	1650 Squaw Valley Road	Poulsen Commercial Properties LP	Homestead Project, Graham's Restaurant, Christy Hill Lodge B&B	VC	1	0.736	0	Condo	tear down	-7	-2,500	(1,134)	(950)				
096-103-034	Commercial	1605 Christy Hill Road	Poulsen Commercial Properties LP	Homestead Project, 7-Plex	VC	2	0.093	6	Condo	tear down	-2	-940	(324)	(357)				
096-103-035	Commercial	1602 Squaw Valley Road	Poulsen Commercial Properties LP	Homestead Project, Old Bear Pen	VC	2	0.568	8	Condo	tear down	12	-5,220	1,944	(1,984)				
096-103-032	Commercial	Squaw Valley Road	Poulsen Commercial Properties LP	Homestead Project, Empty lot between Grahams and 72-hour parking	VC	2	1.4	28	Condo	vacant	56	7,280	9,072	2,766				
096-103-033	Commercial	1601 Christy Lane	Poulsen Commercial Properties LP	Homestead Project, Empty lot north of 7-plex, parking lots including behind Old Bear Pen	VC / HDR-25	3	0.589	18	Condo	vacant	54	7,020	8,748	2,668				
096-540-013	Commercial	Washoe Drive	Julie S. Carville Trustee et al	Empty Lot, PSD water tank with easement	VC	2	1.15	--	??	vacant	29	3,738	4,658	1,420				
096-540-013	Commercial	Washoe Drive	Julie S. Carville Trustee et al	Empty Lot, PSD water tank with easement	LDR=4	2	3.171	--	??	partial	6	824	1,027	313				
096-020-023	Commercial	995, 1920 Squaw Valley Road	CNCML	PlumpJacks	VC	1	3.194	34	Condo	tear down	122	7,799	19,764	2,964				
096-230-052	Commercial	Creeks End Court	Sena at Squaw LLC	Sena	HDR-20	3.5	16.5	--	N/A	vacant	0	27,000	-	10,260				
096-230-055	Commercial	Creeks End Court	Sena at Squaw LLC	Sena / SV Prep	HDR-20	2	3.4	--	N/A	vacant	0	56,000	-	21,280				
													MFR/Commercial:	798	195,256	129,283	74,197	
Resort at Squaw Creek Phase II																		
096-060-070	Commercial	350 Squaw Creek Road	Squaw Creek Associates	GolfCourse. Proposed RSC Ph. II; Phase A; 4-units Townhomes	HDR-20 / FR	2	0.139	4	Condo	vacant	8	0	1,296					
096-290-068	Commercial	310 Squaw Creek Road	Squaw Creek Associates	GolfCourse. Proposed RSC Ph. II; Phase A; 14-units Townhomes	FR	2	0.428	14	Condo	vacant	28	0	4,536					
096-290-069	Commercial	300 Squaw Creek Road	Squaw Creek Associates	GolfCourse. Proposed RSC Ph. II; Phase A; 6-units Townhomes	FR	2	0.205	6	Condo	vacant	12	0	1,944					
096-290-070	Commercial	320 Squaw Creek Road	Squaw Creek Associates	RSC Ph. I Parking Lot. Proposed RSC Ph. II; Phase B; Parking Garages and Employee Housing	HDR-20	2	1.732	9	Condo	vacant	18	0	2,916					
096-290-071	Commercial	330 Squaw Creek Road	Squaw Creek Associates	RSC Ph. I Parking Lot & Tennis Courts. Proposed RSC Ph. II; Phase B; Midrise Condo Tower	HDR-20	2	0.984	230	Condo	vacant	460	0	74,520					
													RSC Phase 2	526	-	85,212		
													SUBTOTAL: MF/COMM	1,324	195,256	214,495	74,197	
SFR																		
PSD	Residential	Public Service District	Public Service District	Public Service District	--	3	--	66	SFR	vacant	198	0				19,206		
MWC	Residential	Mutual Water Company	Mutual Water Company	Mutual Water Company	FR	3	--	15	SFR	vacant	45	0				4,365		
096-060-049	Commercial	1525 Squaw Valley Road	Maria T. Pavel Trustee	Stables	HDR-25	4	3.9	4	SFR	developed	12	0				1,164		
096-340-008	Commercial	448 Squaw Peak Road	William Hurwick J Trust et al	Warmouth property. Foundations next to Potato Chip Church	HDR-20	2	0.269	4	SFR	vacant	8	0				1,164		
096-230-056	Commercial	Creeks End Court	Poulsen Investment Corp.	Olympic Estates	HDR-20	4	4.2	16	SFR	vacant	64	0				4,656		
096-230-052	Commercial	Creeks End Court	Sena at Squaw LLC	Sena	--	3.5	16.5	47	SFR	vacant	165	0				13,677		
													SFR	492	0	44,232		
													TOTAL:	1,816	195,256	214,495	74,197	44,232

FINAL

3.3 Capacity Evaluation Criteria

Section 7.05 of the District's Sanitary Sewer Service Code provides the design criteria for sizing of a mainline sewer. The code requirements are:

- Pipes 15 inches in diameter and under designed to flow at $\frac{1}{2}$ depth at maximum flows
- Pipes 18 inches in diameter and over designed to flow at $\frac{3}{4}$ depth at maximum flows

Maximum flows are defined as the peak hour flow during non-storm events (Peak Hour ADWF). In assessing this capacity a d/D ratio is used. The d/D ratio is the peak measured depth of flow divided by the pipe diameter. So, for pipes 15 inches and under, the d/D cannot exceed 0.5, or 50%, at peak hourly flows.

At PWWF, no surcharging is allowed in assessing sewer system capacity. In this case, the PWWF in any pipe segment cannot exceed the calculated full pipe capacity.

3.4 Model Results

Model simulations of the collection system were run for both Peak Hour ADWF and PWWF for the scenarios identified in Section 3.2. All of the pipe segments affected by the additional sewer flows are along the main interceptor (T-series manholes). Model results for each scenario are provided in Appendix B.

3.4.1 Scenario 1 - Existing System

At the existing level of development, at maximum occupancy, the model was run with a Peak Hour ADWF of 0.828 MGD, and a PWWF of 2.007 MGD. The existing system met the capacity criteria for both ADWF and PWWF with one exception. The existing manhole T18 has sagged, creating a very flat pipe between manholes T18 and T19. To remedy this deficiency does not require an increase in pipe size. Restoring the original invert elevations at manhole T18 will provide the necessary capacity under existing flow conditions.

3.4.2 Scenario 2 - Existing System + VSVSP at Buildout

With the addition of sewer flows from the VSVSP, including the 20 gpm contributed by the MAC, there are capacity deficiencies observed under both ADWF and PWWF conditions. Table 6 shows the pipe segments with a d/D ratio greater than 0.5 under Peak Hour ADWF conditions of 1.387 MGD. There are a total of 5 pipe segments that are affected by the additional flows, including the TTSA siphon line under Highway 89 and the Truckee River (T43 to TTSA). The total effected pipe length is approximately 1,255 linear feet. Under PWWF conditions of 3.248 MGD, there are 11 pipe segments where modeled sewer flows exceed the pipe full capacity as indicated in Table 7. This amounts to approximately 3,235 linear feet of pipe. Figures 2 and 3 show the locations of the pipe segments.

The necessary pipe size updated to remedy the deficiencies are noted in the tables.

FINAL

3.4.3 Scenario 3 - Existing System + VSVSP at Buildout + Cumulative Development

With the addition of sewer flows from the VSVSP and projected cumulative development, there are capacity deficiencies observed under both ADWF and PWWF conditions. Table 8 shows the pipe segments with a d/D ratio greater than 0.5 under Peak Hour ADWF conditions of 1.824 MGD. There are 13 pipe segments that are affected by the additional flows, including the TTSA siphon line under Highway 89 (T43 to TTSA). The total effected pipe length is approximately 3,455 linear feet. Under PWWF conditions of 4.305 MGD, there are 24 pipe segments where modeled sewer flows exceed the pipe full capacity as shown in Table 9. This amounts to approximately 6,760 linear feet of pipe. Figures 4 and 5 show the locations of the pipe segments.

The necessary pipe size updated to remedy the deficiencies are noted in the tables.

Table 6 – Existing + VSVSP Peak Hour ADWF Capacity Deficiencies

Start Manhole	End Manhole	Pipe Size (in.)	Full Pipe Capacity (MGD)	Peak Hour ADWF (MGD)	d/D, %	Required Pipe Size
T18	T19	15	0.263	0.9570	(N/A)	18
T43	TTSA	10	2.342	1.3874	56	12
T34A	T34	15	2.2859	1.2297	53	18
T32	T33	15	2.0455	1.0335	51	18
T20	T21	15	2.0233	1.0194	50	18

Table 7 – Existing + VSVSP PWWF Capacity Deficiencies

Start Manhole	End Manhole	Pipe Size (in.)	Full Pipe Capacity (MGD)	PWWF (MGD)	% Capacity	Required Pipe Size
T18	T19	15	0.263	2.2054	839	18
T43	TTSA	10	2.3422	3.248	141	12
T34A	T34	15	2.2859	2.8664	127	18
T32	T33	15	2.0455	2.391	117	18
T20	T21	15	2.0233	2.3567	117	18
T31	T32	15	2.1186	2.3905	113	18
T15	T16	15	1.9247	2.1524	112	18
T36	T37	15	2.639	2.8664	109	18
T23	T24	15	2.2201	2.3875	108	18
T25	T26	15	2.296	2.3875	104	18
T30	T31	15	2.381	2.3905	100	18

FINAL

Table 8 – Existing + VSVSP + Cumulative Projections Peak Hour ADWF Capacity Deficiencies

Start Manhole	End Manhole	Pipe Size (in.)	Full Pipe Capacity (MGD)	Peak Hour ADWF (MGD)	d/D, %	Required Pipe Size
T18	T19	15	0.263	1.0742	(N/A)	18
T43	TTSA	10	2.3422	1.8228	67	12
T34A	T34	15	2.2859	1.5227	60	18
T32	T33	15	2.0455	1.2087	55	18
T36	T37	15	2.639	1.5227	55	18
T31	T32	15	2.1186	1.2085	54	18
T20	T21	15	2.0233	1.1386	54	18
T15	T16	15	1.9247	1.0524	53	18
T23	T24	15	2.2201	1.1525	51	18
T37A	T38	12	3.1262	1.5941	51	18
T35	T36	15	2.9916	1.5227	51	18
T30	T31	15	2.381	1.2085	50	18
T25	T26	15	2.296	1.1525	50	18

Table 9 – Existing + VSVSP + Cumulative Projections PWWF Capacity Deficiencies

Start Manhole	End Manhole	Pipe Size (in.)	Full Pipe Capacity (MGD)	PWWF (MGD)	% Capacity	Required Pipe Size
T18	T19	15	0.263	2.4896	947	18
T43	TTSA	10	2.3422	4.3037	187	15
T34A	T34	15	2.2859	3.5765	158	18
T32	T33	15	2.0455	2.8157	138	18
T36	T37	15	2.639	3.5765	136	18
T31	T32	15	2.1186	2.8152	133	18
T20	T21	15	2.0233	2.6458	131	18
T15	T16	15	1.9247	2.4366	127	18
T23	T24	15	2.2201	2.6795	121	18
T37A	T38	12	3.1262	3.7496	120	18
T35	T36	15	2.9916	3.5765	120	18
T30	T31	15	2.381	2.8152	118	18
T25	T26	15	2.296	2.6795	117	18
T26A	T27	15	2.4409	2.6795	110	18
T13	T14	15	2.2971	2.4319	106	18
T26	T26A	15	2.5456	2.4313	105	18
T11	T12	15	2.3163	2.6795	105	18
T10	T11	15	2.3246	2.4074	104	18
GV148	T23	15	2.6029	4.3037	105	18
T41	T43	12	4.151	2.6795	103	18
T22	GV148	15	2.6151	2.6795	103	18
T12	T13	15	2.4139	2.4313	101	18
T21	T22	15	2.7024	2.3986	100	18

FINAL

4.0 SUMMARY

This sewer system capacity analysis was performed to assess sewer system capacity at both peak dry weather flow conditions (peak hour flow at maximum occupancy) and peak wet weather flow caused by a storm event. Peak flow conditions caused by the storm event were coincided with peak hour wastewater flows. The data used to establish these existing wastewater flows was based on an extreme rain on snow event on December 31, 2005 and the dry weather days preceding the storm. These parameters simulate an extreme storm occurring during a holiday period and peak occupancy times for ski season. Thus, the modeling effort produced a conservative, yet realistic, estimate of wastewater flow.

Modeling simulations were performed for three scenarios: existing system, existing system + VSVSP, and existing system + VSVSP + cumulative development. Under existing conditions only one deficiency was noted. This being the sagging manhole T18. If the invert elevations in this manhole were restored to previous conditions, then this pipe segment would meet flow capacity criteria.

With the addition of VSVSP and cumulative development, hydraulic deficiencies were seen in both Peak Hour ADWF and PWWF conditions. The specific pipe sections were all located along the District's main interceptor (T-series manholes) and the siphon line underneath Highway 89 and the Truckee River to the TTSA interceptor. Table 10 and Table 11 summarizes the linear feet of under-capacity sewer pipe for each scenario as well as the recommended increased pipe size.

Table 10 – Linear Feet of Under Capacity Pipe under Peak Hour ADWF Conditions

Scenario	Peak Hour DWF		
	10" to 12" (TTSA Siphon)	15" to 18"	Total
1: Existing System	No pipe upsizing required		0
2: Existing System + VSVSP at Buildout	315	940	1,255
3: Existing System + VSVSP at Buildout + Cumulative Development	315	2,920	3,235

Table 11 – Linear Feet of Under Capacity Pipe under PWWF Conditions

Scenario	PWWF			Total
	10" to 12" (TTSA Siphon)	10" to 15" (TTSA Siphon)	15" to 18"	
1: Existing System	No pipe upsizing required			0
2: Existing System + VSVSP at Buildout	315		3,140	3,455
3: Existing System + VSVSP at Buildout + Cumulative Development		315	6,445	6,760

FINAL

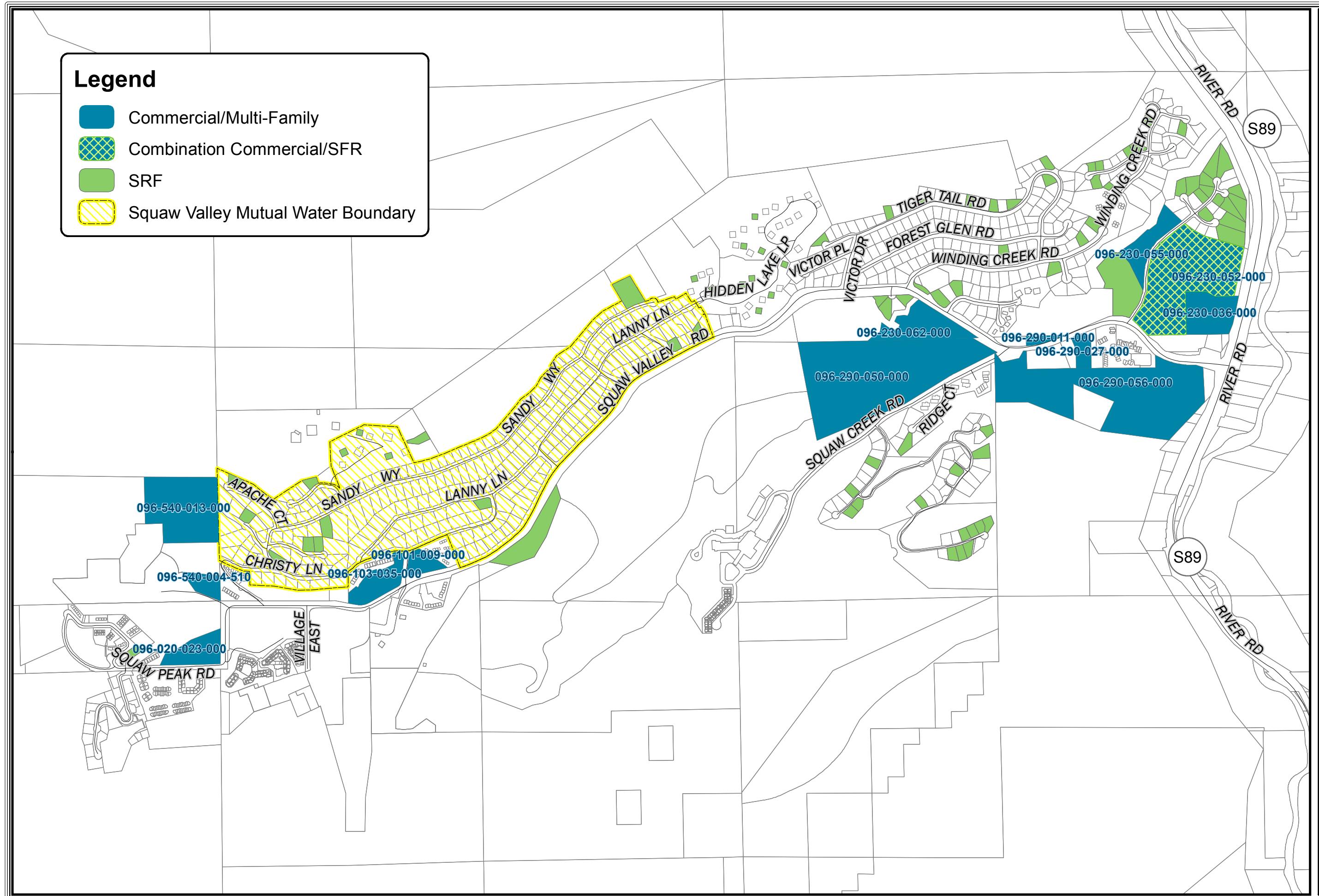
5.0 RECOMMENDATIONS

Sewer flows for the VSVSP project were provided by MacKay & Somps, most recently in their October 2014 Sewer Master Study. The estimated flows are based on specific land use sewer generation rates developed by Farr West and the District. But, sewer generation for swimming pools at both the MAC and the various developments are based on other criteria, including splash losses and specific filter backwash estimates. Of specific importance to sewer system capacity are the draining of pools/spas and the filter backwash system at the MAC. Filter backwash requirements at the MAC were estimated by the ADG to be 12,000 gpd. The system will be designed with a 12,000 gallon equalization tank and metered into the collection system at 20 gpm (pursuant to a telephone meeting with ADG and KSL). Flow rates in excess of 20 gpm can have a substantial impact to the capacity of the collection system.

It is recommended that the District include specific language in the development agreement with KSL that specifically limits the amount of discharge to the system from the MAC at 20 gpm. As the rapid draining of pools can also have a large impact on the collection system, it is also recommended that the development agreement include language requiring KSL to notify the District and receive advance approval before draining pools to the system. This will greatly reduce the risk of sanitary sewer overflows during peak flow events.

Figures

SVPSD - VSVSP Sewer Capacity Analysis
General Plan Buildout Estimates
Figure 1

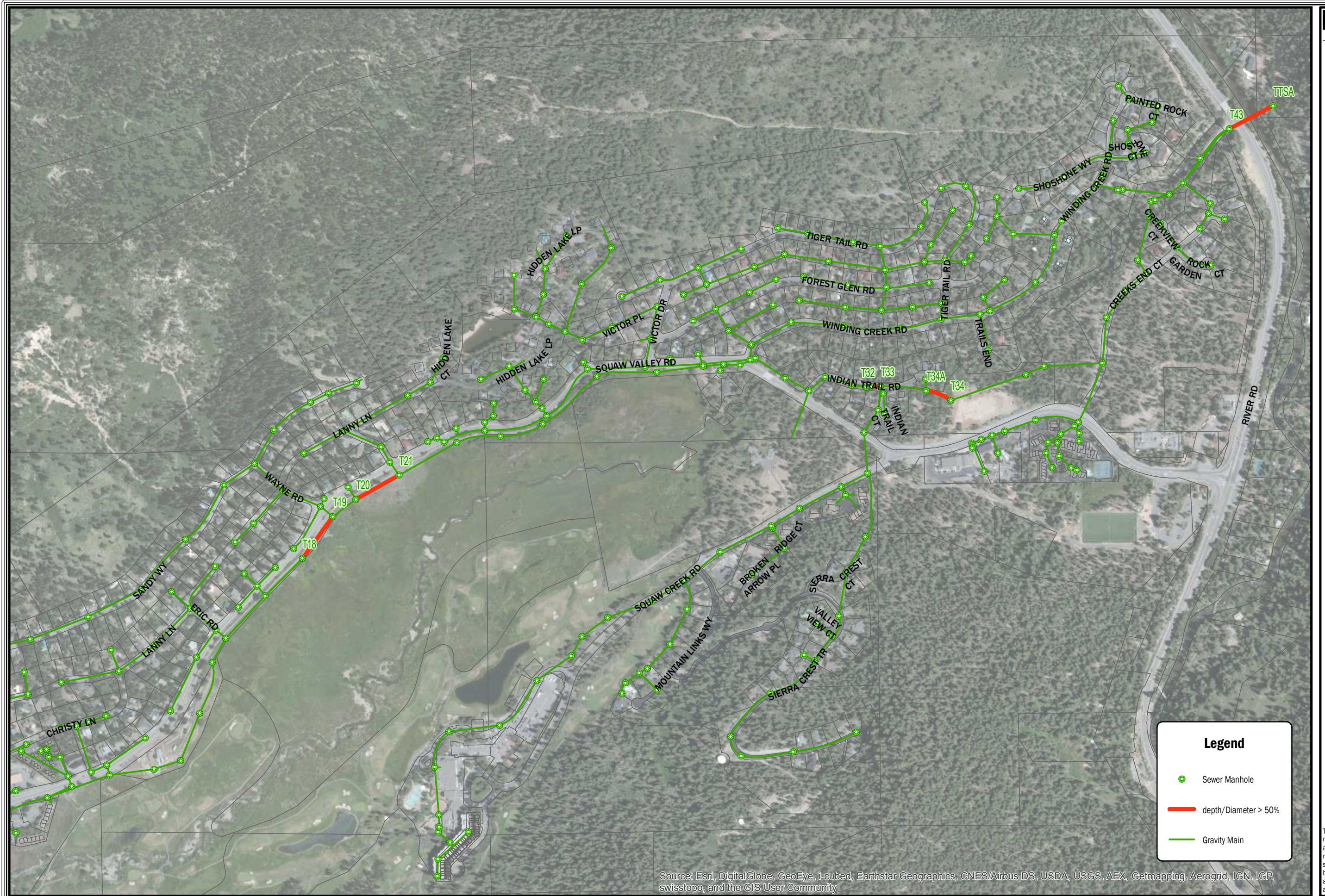


SPPSD - VSVP Sewer Capacity Analysis

Existing + VSVP - ADWF (Peak Hour)

Figure 2

Figure 2

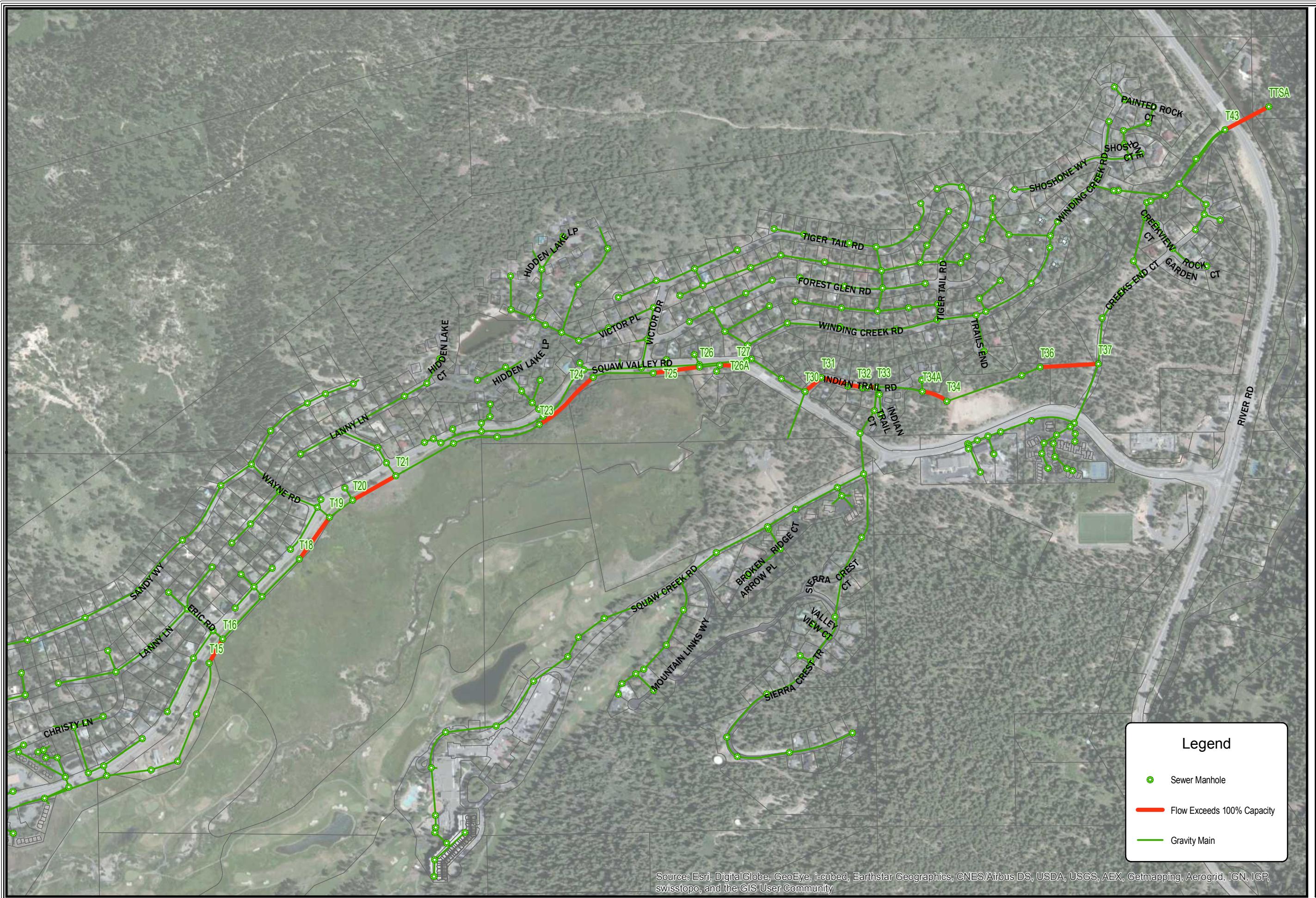


Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

The data contained herein does not represent survey delineation and should not be construed as a replacement for the authoritative source. No liability is assumed by Farr West Engineering as to the sufficiency or accuracy of the data.

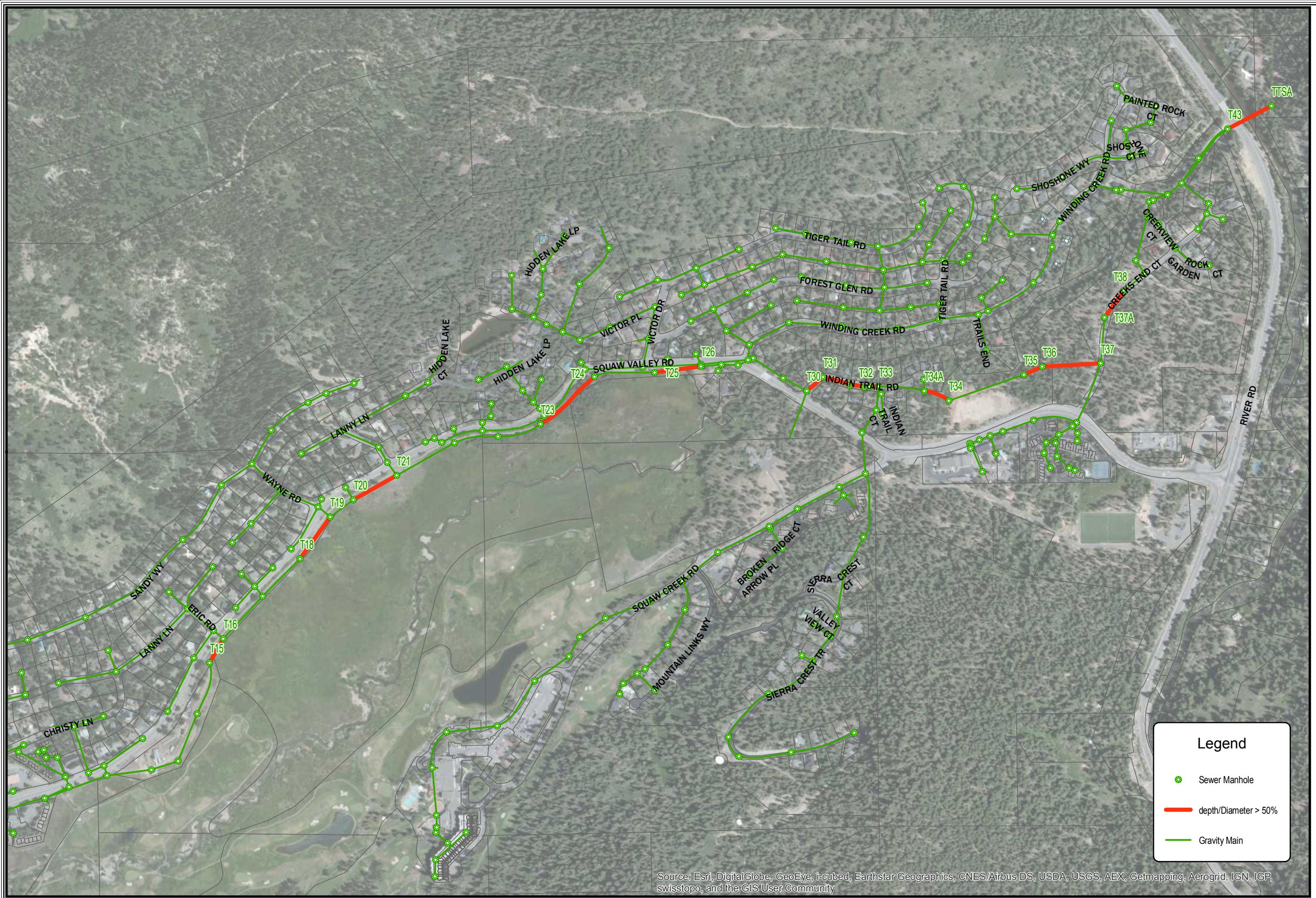
SVPSD - VSVSP Sewer Capacity Analysis Existing + VSVSP - PWWF

Figure 3



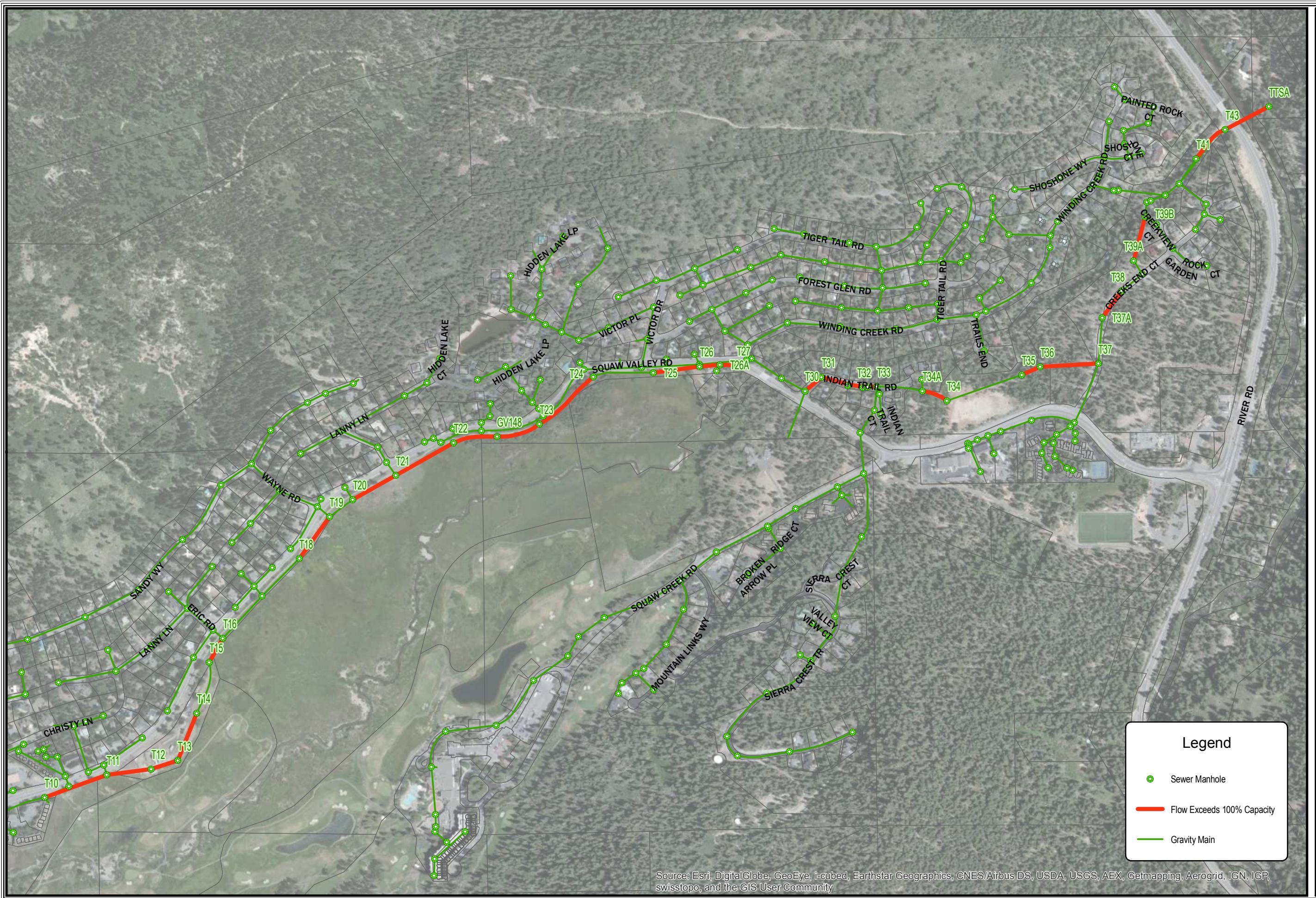
SVPSP - VSVSP Sewer Capacity Analysis Existing + VSVSP + GP Buildout - ADWF (Peak Hour)

Figure 4



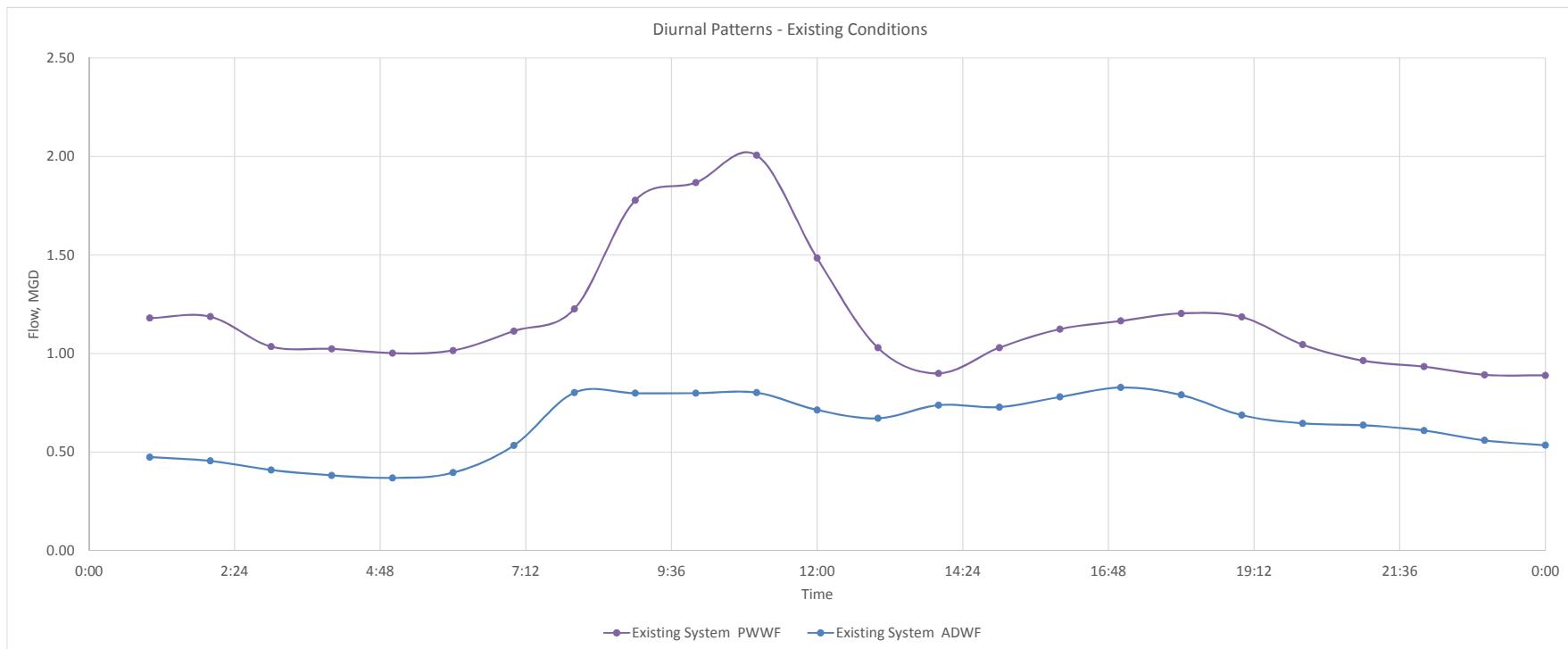
SVPSP - VSVSP Sewer Capacity Analysis Existing + VSVSP + GP Buildout - PWWF

Figure 5

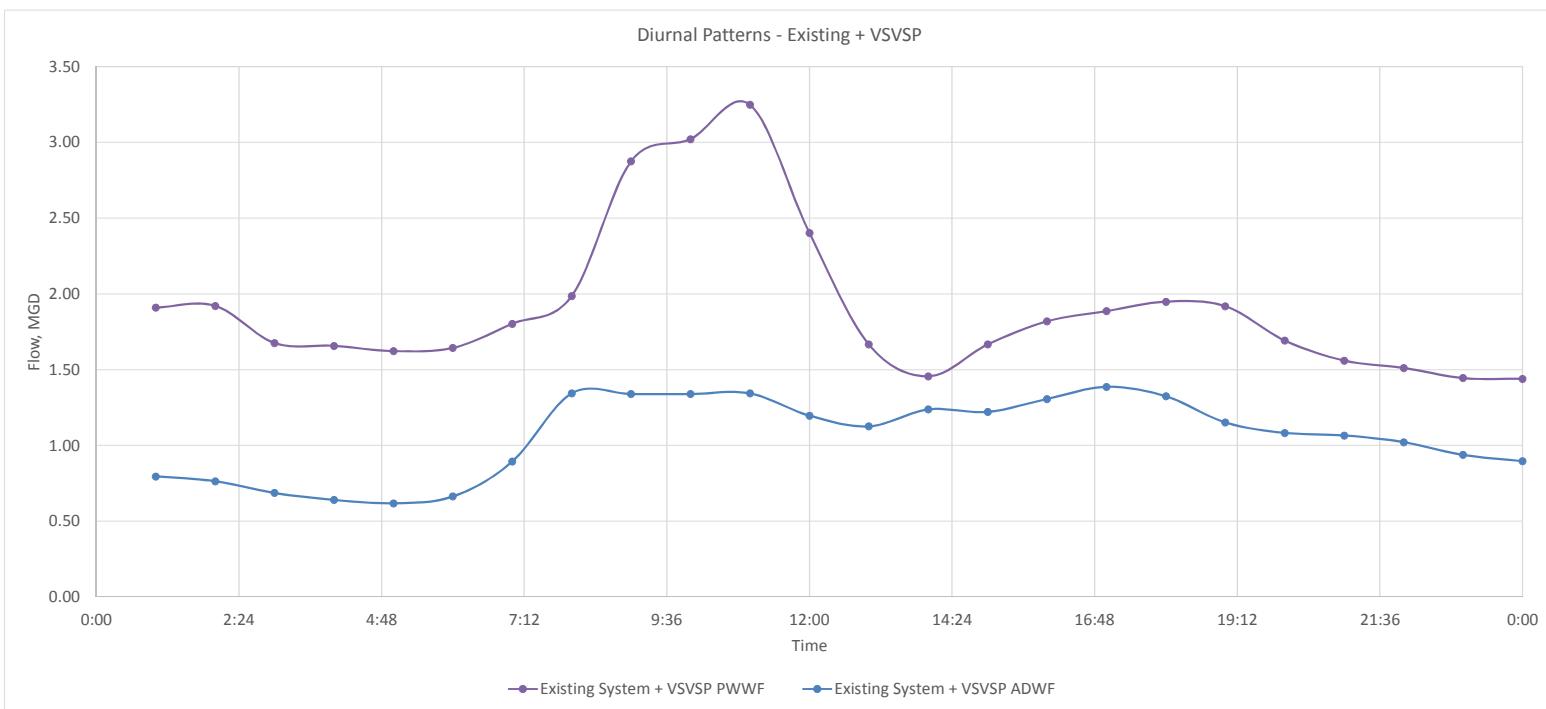


Appendix A

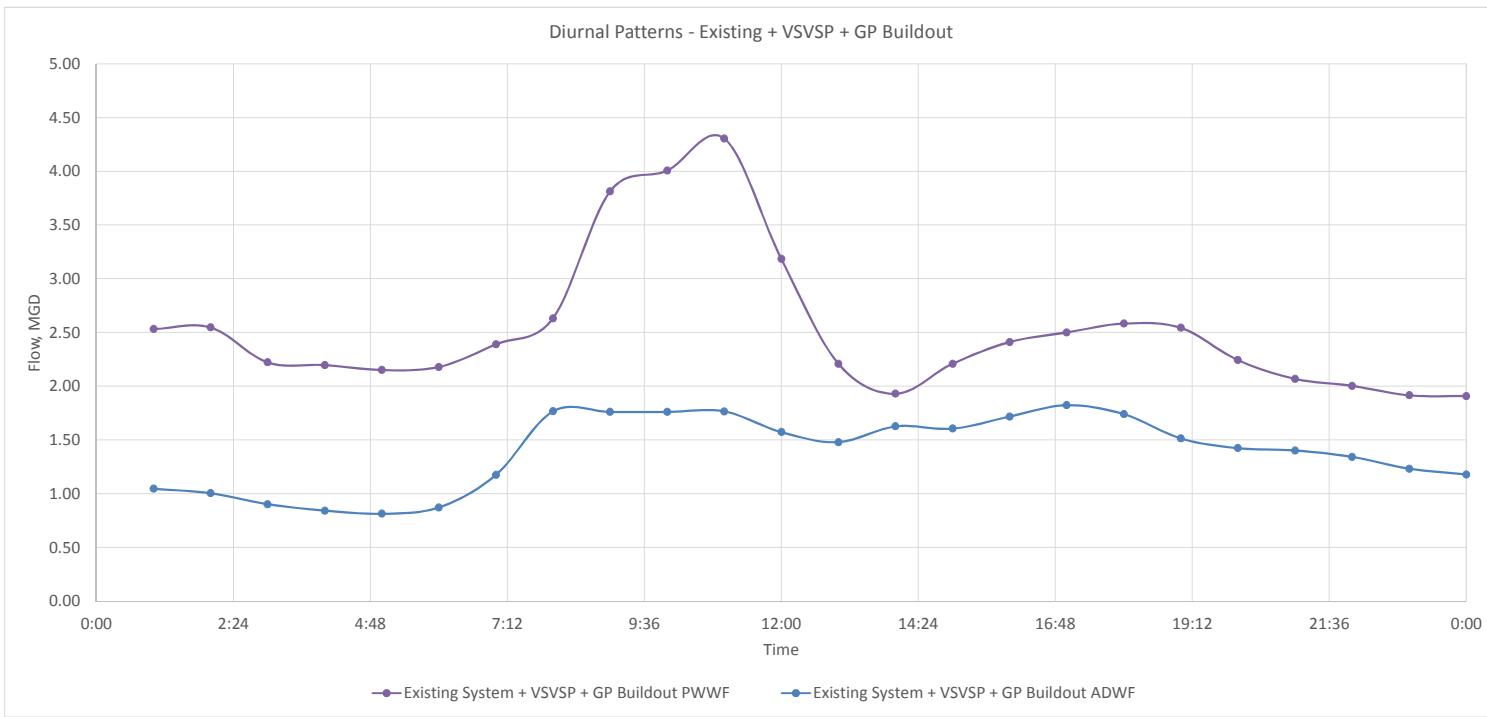
Scenario Diurnal Flows



Existing System		
Time	ADWF, MGD	PWWF, MGD
1:00:00 AM	0.4751	1.1801
2:00:00 AM	0.4561	1.1873
3:00:00 AM	0.4099	1.0358
4:00:00 AM	0.3828	1.0243
5:00:00 AM	0.3694	1.0029
6:00:00 AM	0.3961	1.0158
7:00:00 AM	0.5337	1.1143
8:00:00 AM	0.8022	1.2271
9:00:00 AM	0.7993	1.7770
10:00:00 AM	0.7994	1.8670
11:00:00 AM	0.8019	2.0070
12:00:00 PM	0.7143	1.4843
1:00:00 PM	0.6721	1.0299
2:00:00 PM	0.7387	0.8999
3:00:00 PM	0.7291	1.0299
4:00:00 PM	0.7800	1.1242
5:00:00 PM	0.8280	1.1658
6:00:00 PM	0.7903	1.2042
7:00:00 PM	0.6874	1.1856
8:00:00 PM	0.6465	1.0456
9:00:00 PM	0.6365	0.9642
10:00:00 PM	0.6098	0.9342
11:00:00 PM	0.5598	0.8928
12:00:00 AM	0.5351	0.8899



Existing System + VSVSP		
Time	ADWF, MGD	PWWF, MGD
1:00:00 AM	0.7962	1.9098
2:00:00 AM	0.7643	1.9214
3:00:00 AM	0.6869	1.6762
4:00:00 AM	0.6414	1.6577
5:00:00 AM	0.6190	1.6230
6:00:00 AM	0.6637	1.6439
7:00:00 AM	0.8943	1.8034
8:00:00 AM	1.3441	1.9859
9:00:00 AM	1.3394	2.8758
10:00:00 AM	1.3395	3.0215
11:00:00 AM	1.3437	3.2480
12:00:00 PM	1.1969	2.4021
1:00:00 PM	1.1261	1.6667
2:00:00 PM	1.2378	1.4563
3:00:00 PM	1.2217	1.6667
4:00:00 PM	1.3071	1.8193
5:00:00 PM	1.3874	1.8866
6:00:00 PM	1.3243	1.9489
7:00:00 PM	1.1519	1.9187
8:00:00 PM	1.0833	1.6922
9:00:00 PM	1.0665	1.5604
10:00:00 PM	1.0218	1.5118
11:00:00 PM	0.9381	1.4448
12:00:00 AM	0.8967	1.4401



Existing System + VSVSP + GP Buildout		
Time	ADWF, MGD	PWWF, MGD
1:00:00 AM	1.0465	2.5315
2:00:00 AM	1.0046	2.5470
3:00:00 AM	0.9028	2.2220
4:00:00 AM	0.8431	2.1974
5:00:00 AM	0.8137	2.1515
6:00:00 AM	0.8724	2.1791
7:00:00 AM	1.1755	2.3905
8:00:00 AM	1.7668	2.6324
9:00:00 AM	1.7605	3.8122
10:00:00 AM	1.7608	4.0052
11:00:00 AM	1.7662	4.3055
12:00:00 PM	1.5733	3.1841
1:00:00 PM	1.4803	2.2093
2:00:00 PM	1.6271	1.9304
3:00:00 PM	1.6059	2.2093
4:00:00 PM	1.7181	2.4116
5:00:00 PM	1.8237	2.5008
6:00:00 PM	1.7407	2.5834
7:00:00 PM	1.5141	2.5434
8:00:00 PM	1.4239	2.2431
9:00:00 PM	1.4019	2.0684
10:00:00 PM	1.3432	2.0041
11:00:00 PM	1.2331	1.9152
12:00:00 AM	1.1786	1.9090

Appendix B

Model Results

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
T18	6172.23	T19	6172.22	15	352.3	0.000	0.011	0.5	0.398	0.263	(N/A)
T43	6074.26	TTSA	6068.27	10	315.7	0.019	0.011	6	0.8284	2.304	41.4
T34A	6147.66	T34	6147.26	15	190.9	0.002	0.011	2.48	0.6707	2.2579	37.3
T36	6135.02	T37	6133.91	15	388.1	0.003	0.011	2.78	0.6707	2.639	34.4
R07	6177.61	R06	6177.33	10	223	0.001	0.009	1.7	0.1783	0.7248	33.8
T32	6152.41	T33	6152.3	15	64.4	0.002	0.011	2.1	0.4745	2.0455	32.8
T20	6171.56	T21	6171	15	333.1	0.002	0.011	2.06	0.4604	2.0233	32.5
T35	6135.54	T36	6135.04	15	136.3	0.004	0.011	3.04	0.6707	2.9916	32.2
T31	6153.03	T32	6152.44	15	319.8	0.002	0.011	2.15	0.4743	2.1186	32.2
T37A	6127.12	T38	6124.19	12	222.5	0.013	0.011	4.93	0.6835	3.1262	31.8
T23	6167.87	T24	6166.89	15	484.5	0.002	0.011	2.23	0.4731	2.2201	31.3
T25	6164.79	T26	6164.11	15	313.9	0.002	0.011	2.28	0.4731	2.296	30.8
T41	6084.93	T43	6074.46	12	286	0.037	0.014	6.31	0.8284	4.0909	30.5
T30	6153.45	T31	6153.11	15	146.3	0.002	0.011	2.34	0.4743	2.381	30.3
T15	6175.28	T16	6175	15	184.4	0.002	0.011	1.88	0.3762	1.9247	30
T26A	6163.71	T27	6163.36	15	143.1	0.002	0.011	2.38	0.4731	2.4409	29.8
T04A	6191.75	T05	6191.63	15	167.6	0.001	0.011	1.28	0.2537	1.3186	29.7
T26	6164.09	T26A	6163.72	15	138.9	0.003	0.011	2.45	0.4731	2.5456	29.2
GV148	6168.77	T23	6167.91	15	308.6	0.003	0.011	2.49	0.4731	2.6029	28.9
T22	6169.61	GV148	6168.77	15	298.6	0.003	0.011	2.5	0.4731	2.6151	28.8
T38	6124.14	T39	6123.05	15	180.9	0.006	0.011	3.65	0.6835	3.8288	28.6
T37	6133.82	T37A	6127.41	12	311.6	0.021	0.011	5.78	0.6835	3.9005	28.3
T21	6170.97	T22	6169.62	15	450.1	0.003	0.011	2.56	0.4731	2.7024	28.3
R10	6179.81	R09	6179.04	10	310.2	0.002	0.009	2.16	0.1755	1.0194	28.1
T39A	6118.72	T39B	6115.51	15	305.7	0.01	0.014	3.75	0.6835	3.9705	28.1
R12A	6181.92	R12	6181.39	10	216.9	0.002	0.009	2.14	0.1706	1.0108	27.8
R11	6180.44	R10	6179.81	10	252.7	0.002	0.009	2.15	0.1706	1.0206	27.7
W46	6201.41	W13	6201.1	10	333.6	0.001	0.024	0.49	0.0389	0.2337	27.6
T29	6154.13	T30	6153.52	15	181.2	0.003	0.011	2.67	0.4731	2.8643	27.5
T34	6147.18	T35	6135.64	12	516.5	0.022	0.011	5.92	0.6707	4.0656	27.5
R13	6182.3	R12A	6181.92	10	147.7	0.003	0.009	2.17	0.1706	1.0364	27.5
T13	6177.18	T14	6176.43	15	345.9	0.002	0.011	2.14	0.3762	2.2971	27.4
T11	6178.37	T12	6177.7	15	304.2	0.002	0.011	2.15	0.3759	2.3163	27.2
T19	6172.21	T20	6171.57	15	189	0.003	0.011	2.65	0.4604	2.8711	27.1
T10	6179.38	T11	6178.39	15	446.5	0.002	0.011	2.14	0.366	2.3246	26.8

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n		Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
T45	6114.8	T40	6102.8	6	294.9	0.041	0.011	4.95	0.1353	0.8644	26.8
T12	6177.65	T13	6177.2	15	187.8	0.002	0.011	2.21	0.3759	2.4139	26.7
R16	6186.3	R15	6185.3	10	344.7	0.003	0.009	2.27	0.1706	1.1012	26.6
R12	6181.39	R11	6180.44	10	323.8	0.003	0.009	2.28	0.1706	1.1075	26.5
T09	6180.37	T10	6179.41	15	398.7	0.002	0.011	2.19	0.3624	2.4201	26.1
T14	6176.36	T15	6175.37	15	362.3	0.003	0.011	2.32	0.3762	2.5802	25.8
R09	6179.04	R07	6177.61	10	388.1	0.004	0.009	2.49	0.1755	1.2417	25.4
T16	6174.97	T17	6173.71	15	393.5	0.003	0.011	2.49	0.3925	2.7937	25.3
W37	6203.23	W36	6202.56	10	276.8	0.002	0.014	1.29	0.0891	0.6467	25.1
T5A	6191.07	T06	6190.69	15	254.9	0.001	0.011	1.68	0.2576	1.9046	24.8
T24	6166.88	T25	6164.8	15	410.9	0.005	0.011	3.09	0.4731	3.51	24.8
R14	6183.41	R13	6182.3	10	285.9	0.004	0.009	2.52	0.1706	1.2742	24.7
W36A	6201.95	W15	6201.3	10	204.4	0.003	0.014	1.46	0.0983	0.7422	24.6
E34	6142	E33	6141.04	8	70.1	0.014	0.014	2.59	0.1099	0.8493	24.3
T17	6173.7	T18	6172.31	15	354.6	0.004	0.011	2.68	0.398	3.0873	24.2
W13	6201.1	W14	6200.8	10	182.7	0.002	0.024	0.61	0.0398	0.3105	24.2
T08	6181.1	T09	6180.38	15	290.2	0.002	0.011	2.13	0.3136	2.4584	24.1
E30A	6121.96	T44	6120.73	8	175.9	0.007	0.009	2.86	0.1201	0.943	24.1
T44	6120.73	T44A	6119.54	8	165.1	0.007	0.009	2.91	0.1201	0.958	23.9
W36	6202.56	W36A	6201.95	10	165.8	0.004	0.014	1.54	0.0983	0.7971	23.7
R15	6185.3	R14	6183.41	10	403.2	0.005	0.009	2.69	0.1706	1.4007	23.6
R03	6174.1	R02	6172.4	10	277.7	0.006	0.009	3.06	0.1936	1.5994	23.5
W38	6203.8	W37	6203.23	10	180.8	0.003	0.014	1.41	0.0871	0.7379	23.2
E33	6141.04	E33A	6134.26	8	364.4	0.019	0.014	2.93	0.1153	0.9897	23.1
T28	6160.21	T29	6154.44	12	242.7	0.024	0.011	5.47	0.4731	4.1932	22.7
R06	6177.33	R04	6175.4	10	317.7	0.006	0.009	2.99	0.1783	1.5934	22.6
T40A	6095.26	T41	6084.93	12	205.9	0.05	0.009	9.68	0.8284	7.4479	22.5
T33	6152.27	T34A	6147.67	15	308.3	0.015	0.011	5.01	0.6681	6.0297	22.5
R04	6175.4	R03	6174.1	10	198.7	0.007	0.009	3.08	0.1804	1.6531	22.3
W47	6202.9	W47A	6202.49	10	177.6	0.002	0.024	0.68	0.0389	0.3681	21.9
E33B	6126	E30	6124	8	79.8	0.025	0.014	3.26	0.1162	1.1466	21.5
T27	6163.26	T28	6160.23	12	91.8	0.033	0.011	6.14	0.4731	4.9385	20.9
E30	6124	E30A	6121.96	8	106.7	0.019	0.011	3.55	0.1201	1.2744	20.7
T40	6102.8	T40A	6096.15	15	131.1	0.051	0.014	6.91	0.8188	8.7344	20.7
W39	6204.6	W38A	6204.49	10	157.8	0.001	0.014	0.62	0.0322	0.3469	20.6
E33A	6134.26	E33B	6126	8	274.3	0.03	0.014	3.48	0.1153	1.2591	20.4
W38A	6204.49	W38	6203.8	10	111.2	0.006	0.014	1.77	0.0851	1.0367	19.4

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n		Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
R17	6187.4	R16	6186.3	12	268.6	0.004	0.009	2.51	0.1706	2.1268	19.2
W49	6207.3	W48	6205.54	8	236.5	0.007	0.024	0.97	0.029	0.3645	19
T44A	6119.54	T44B	6115.91	8	147.5	0.025	0.009	4.64	0.1353	1.7727	18.7
T05	6191.63	T5A	6191.07	15	120.5	0.005	0.011	2.49	0.2539	3.3565	18.6
E36	6152.75	E34	6142	8	266.8	0.04	0.014	3.75	0.1054	1.4551	18.2
T39	6122.96	T39A	6118.76	15	107.2	0.039	0.011	7.1	0.6835	9.7752	17.9
T44B	6115.91	T45	6114.8	8	33	0.034	0.009	5.18	0.1353	2.0689	17.3
W76	6200.78	W75	6199.86	6	166.5	0.006	0.009	1.72	0.0247	0.3899	17.1
E38	6158.84	E37	6157.08	8	379.4	0.005	0.014	1.22	0.031	0.4942	17
E56	6164.6	E60	6163.7	8	158.1	0.006	0.014	1.33	0.0326	0.5473	16.6
E40	6162.53	E39	6160.9	8	305.6	0.005	0.014	1.26	0.0296	0.5293	16.1
T07	6185.71	T08	6181.1	12	115.5	0.04	0.011	5.77	0.3021	5.4484	16
E39	6160.9	E38	6158.84	8	357.5	0.006	0.014	1.3	0.0296	0.5501	15.8
R02	6172.4	R01	6166.5	10	175.4	0.034	0.009	5.6	0.1936	3.7555	15.4
E59	6159.16	E58	6157.66	8	196.4	0.008	0.014	1.48	0.0326	0.6344	15.4
T04	6192.53	T04A	6191.75	15	189.5	0.004	0.011	2.05	0.1522	3.1613	14.9
T39B	6115.45	T39C	6109.7	15	102	0.056	0.009	9.28	0.6835	14.3178	14.9
T39C	6109.65	T40	6102.95	15	116.1	0.058	0.009	9.36	0.6835	14.4927	14.8
T06	6190.69	T07	6185.71	15	357.3	0.014	0.011	3.69	0.2576	5.8274	14.3
T02	6195.75	T03	6193.82	15	389.9	0.005	0.011	2.19	0.1522	3.4709	14.3
T03	6193.82	T04	6192.53	15	233	0.006	0.011	2.28	0.1522	3.6712	13.9
W74	6198.13	W77	6196.45	10	305.1	0.006	0.009	2.11	0.0615	1.518	13.7
W77	6196.45	T04A	6191.75	10	215	0.022	0.011	3.43	0.1001	2.4743	13.7
R01	6166.5	T33	6152.27	10	159.2	0.089	0.011	6.86	0.1936	5.0063	13.4
E43	6166.59	E42	6164.73	8	392.4	0.005	0.014	1.07	0.0191	0.4995	13.4
E37	6157.08	E36	6152.75	8	286.5	0.015	0.014	1.89	0.0332	0.8923	13.2
E42	6164.73	E41	6163.44	8	250.9	0.005	0.014	1.1	0.0191	0.5199	13.1
E41	6163.44	E40	6162.53	8	158.7	0.006	0.014	1.14	0.0191	0.5486	12.8
W48	6205.54	W47	6202.9	10	191.4	0.014	0.024	1.19	0.031	0.9017	12.7
W15	6201.3	W14	6200.8	10	16.7	0.029	0.011	3.79	0.0983	2.87	12.7
E08	6191.52	E09	6190.98	8	298.3	0.002	0.009	0.99	0.0164	0.4802	12.6
T46	6137.22	T37	6133.82	6	429.3	0.008	0.011	1.39	0.0128	0.3815	12.5
W75	6199.86	W74	6198.13	8	182.2	0.01	0.009	2.24	0.0361	1.0998	12.4
W47A	6202.49	W46	6201.41	10	42.8	0.025	0.024	1.58	0.0389	1.2156	12.2
E60	6163.7	E59	6159.16	8	210.7	0.022	0.014	2.13	0.0326	1.0637	12
W01	6196.4	W02	6191.76	8	89.7	0.052	0.014	3.23	0.0478	1.6466	11.7
W40A	6204.8	W39	6204.6	10	74.6	0.003	0.014	0.82	0.0174	0.679	11

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n		Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
W14	6200.8	T02	6195.75	10	41.8	0.12	0.011	6.87	0.1381	5.8028	10.6
W49B	6212.68	W49A	6209.67	4	197.8	0.015	0.024	0.59	0.0018	0.0821	10.2
E58	6157.66	E36	6152.75	8	106.6	0.046	0.014	2.77	0.0326	1.5535	10
W49A	6209.67	W49	6207.3	6	160.1	0.015	0.024	0.75	0.0049	0.2391	9.9
E09	6190.98	E10	6170.98	8	388.7	0.051	0.014	2.88	0.0326	1.6443	9.8
E10	6170.98	E56	6164.6	8	119.6	0.053	0.014	2.91	0.0326	1.6721	9.7
W73	6200.6	W74	6198.13	8	175.4	0.014	0.009	2.33	0.0254	1.3402	9.5
W42	6206.69	W40	6205.97	8	136	0.005	0.014	0.88	0.0089	0.5277	9
P03	6130.66	P13	6130.04	8	136.7	0.005	0.009	1.22	0.0114	0.7589	8.5
W43	6208.07	W42	6206.69	8	269	0.005	0.014	0.84	0.0078	0.5194	8.5
W08B	6195.85	W08A	6195.5	10	153.2	0.002	0.014	0.65	0.0093	0.6289	8.5
P04	6131.43	P03	6130.66	8	174.1	0.004	0.009	1.17	0.01	0.7504	8.1
W08A	6195.5	W08	6194.9	10	207.5	0.003	0.014	0.7	0.0093	0.7079	8.1
W11	6197.9	W10	6197.3	10	184.7	0.003	0.014	0.73	0.0093	0.7488	7.8
P07	6132.36	P06	6131.89	8	91.2	0.005	0.009	1.22	0.01	0.8107	7.8
P06	6131.89	P04	6131.43	8	88.9	0.005	0.009	1.22	0.01	0.811	7.8
P08	6133.31	P07	6132.36	8	172.5	0.006	0.009	1.25	0.01	0.8384	7.7
W09	6196.5	W08B	6195.85	10	179.3	0.004	0.014	0.76	0.0093	0.7923	7.6
W10	6197.3	W09	6196.5	10	210.8	0.004	0.014	0.77	0.0093	0.8096	7.5
A83	6170.48	E44	6168.57	8	426.6	0.004	0.014	0.71	0.0055	0.485	7.5
E44	6168.57	E43	6166.59	8	388.4	0.005	0.014	0.75	0.0055	0.518	7.3
W08	6194.9	W07	6193.75	10	233.1	0.005	0.014	0.85	0.0093	0.9237	7.1
W07	6193.75	W7A	6192.35	10	281.7	0.005	0.014	0.85	0.0093	0.9264	7
W40	6205.97	W40A	6204.8	10	65.4	0.018	0.014	1.61	0.0174	1.7641	7
W44	6209.56	W43	6208.07	8	300.4	0.005	0.014	0.71	0.0048	0.5111	6.9
W11A	6198.1	W11	6197.9	10	63.6	0.003	0.014	0.63	0.0062	0.735	6.5
W02	6191.76	T09	6180.37	8	36	0.316	0.009	8.24	0.0478	6.3452	6.2
W28R	6209.61	W70	6208.91	8	114.2	0.006	0.014	0.72	0.004	0.5683	6
W01B	6200.24	W01	6196.4	8	143.9	0.027	0.014	1.51	0.0083	1.1842	6
W19	6198.4	W11A	6198.1	10	47.7	0.006	0.014	0.81	0.0062	1.0395	5.5
A82	6172.54	A83	6170.48	8	438	0.005	0.014	0.57	0.0024	0.4973	5
E29	6148	E30	6124	4	279.8	0.086	0.009	2.34	0.0025	0.5201	5
W70	6208.91	W71	6208.46	8	61.8	0.007	0.009	1.04	0.004	0.9611	4.7
W05	6186.3	W04	6183.8	8	341	0.007	0.014	0.65	0.0022	0.6209	4.3
W06	6188.5	W05	6186.3	8	290.3	0.008	0.014	0.66	0.0022	0.6316	4.3
T01	6197.2	T02	6195.75	15	192.2	0.008	0.011	1.23	0.0141	4.2877	4.2
W12	6199.05	W19	6198.4	10	219.9	0.003	0.014	0.45	0.0021	0.7147	4

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
P13	6130.04	T44A	6119.54	8	68.8	0.152	0.009	4.3	0.0128	4.4006	4
W62	6204.25	W38	6203.8	8	147.8	0.003	0.009	0.6	0.0017	0.622	3.8
W7A	6192.35	T08	6181.1	8	42.9	0.262	0.014	3.46	0.0093	3.7093	3.7
W24R	6194.82	T5A	6191.07	12	203.9	0.018	0.024	0.67	0.0037	1.691	3.5
W71	6208.46	W73	6200.6	8	262.8	0.03	0.009	1.73	0.004	1.9502	3.3
E49	6176.69	E43	6166.59	8	199.5	0.051	0.014	1.45	0.0033	1.6338	3.3
W45	6215	W44	6209.56	8	310.8	0.017	0.014	0.74	0.0013	0.9591	2.8
W61A	6206.51	W62	6204.25	8	181.9	0.012	0.009	0.94	0.0015	1.2571	2.6
W61	6208.51	W61A	6206.51	8	137.3	0.015	0.009	1	0.0015	1.363	2.5
P12	6154.64	P03	6130.66	6	248	0.097	0.009	1.99	0.0014	1.6288	2.2
W04	6183.8	T08	6181.1	8	18.3	0.15	0.014	1.79	0.0022	2.8087	2.2
E27	6162.4	E29	6148	8	160.6	0.089	0.009	2.12	0.0025	3.3737	2.1
E35	6142.9	E34	6142	8	248.4	0.004	0.014	0.28	0.0003	0.4369	2
E07	6192.8	E08	6191.52	8	221.4	0.006	0.014	0.28	0.0002	0.5519	1.5
E32	6154.49	E33	6141.04	6	101.9	0.132	0.014	0.98	0.0003	1.2228	1.3
W17	6197.6	T01	6197.2	8	5.5	0.08	0.011	0	0	2.6106	(N/A)
R7A	6178.02	R07	6177.61	10	18.4	0.023	0.009	0	0	3.0869	(N/A)
W32	6204.9	W31A	6203.82	6	27.5	0.039	0.011	0	0	0.8417	(N/A)
I46	6161.17	T32	6152.41	6	35.3	0.25	0.011	0	0	2.1441	(N/A)
T50A	6138.02	T46	6137.22	6	37.4	0.022	0.011	0	0	0.6302	(N/A)
T57	6141.7	T56	6140.81	6	41.2	0.022	0.011	0	0	0.6314	(N/A)
W60	6208.83	W61	6208.51	6	47.5	0.007	0.009	0	0	0.4277	(N/A)
W50B	6211.27	W50A	6209.59	8	47.6	0.035	0.024	0	0	0.7914	(N/A)
A86	6207.06	W11	6197.9	6	51.4	0.18	0.009	0	0	2.2199	(N/A)
T59	6139.47	T58	6138.95	6	51.5	0.01	0.011	0	0	0.4286	(N/A)
H88	6179.4	A82	6172.54	6	51.5	0.135	0.014	0	0	1.235	(N/A)
I47	6161.28	T33	6152.27	6	48.7	0.184	0.011	0	0	1.8377	(N/A)
A88	6255.14	A87	6238.06	6	54	0.316	0.009	0	0	2.9459	(N/A)
A84	6171.79	A83	6170.48	6	56.5	0.023	0.014	0	0	0.5105	(N/A)
A80A	6176	A80	6173.9	6	57.9	0.036	0.014	0	0	0.6407	(N/A)
A72	6194.12	A71	6189.96	6	59.7	0.069	0.011	0	0	1.1285	(N/A)
T58	6138.95	T50A	6138.02	6	59.4	0.016	0.011	0	0	0.5381	(N/A)
E25	6185.67	E24	6183.36	6	60.8	0.038	0.014	0	0	0.6553	(N/A)
R21	6237	R20	6235.68	6	60.9	0.022	0.009	0	0	0.7705	(N/A)
H85	6221.25	A84	6171.79	6	61.5	0.811	0.014	0	0	3.0321	(N/A)
T54	6139.31	T50	6138.76	6	63.3	0.009	0.011	0	0	0.4004	(N/A)
A79	6179	A80A	6176	6	64.2	0.047	0.014	0	0	0.729	(N/A)

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
W27R	6211.38	W28R	6209.61	6	65.2	0.027	0.014	0	0	0.5557	(N/A)
A59	6187.89	T11	6178.37	6	70.8	0.134	0.011	0	0	1.5693	(N/A)
T52	6147.58	T51	6147.03	6	72.1	0.008	0.011	0	0	0.3746	(N/A)
H89	6195	H88	6179.4	6	73.3	0.214	0.014	0	0	1.5566	(N/A)
W31A	6203.82	W31	6203.49	6	74.8	0.004	0.011	0	0	0.2843	(N/A)
E42A	6172.38	E42	6164.73	6	76.7	0.099	0.014	0	0	1.0614	(N/A)
R24	6240.89	R23	6239.48	6	79.9	0.018	0.009	0	0	0.6954	(N/A)
I49	6151.1	T34A	6147.66	6	78.1	0.044	0.011	0	0	0.9	(N/A)
R31	6402.16	R30	6397.4	6	81.1	0.059	0.009	0	0	1.2698	(N/A)
W53	6284.2	W52	6267.5	6	87.7	0.19	0.009	0	0	2.2818	(N/A)
H90	6241	H89	6195	6	82	0.561	0.014	0	0	2.5221	(N/A)
W50R	6207.99	W49	6207.3	8	83	0.008	0.024	0	0	0.3867	(N/A)
A65	6188.5	T16	6174.97	6	95.2	0.142	0.011	0	0	1.6174	(N/A)
A56	6227.51	A55	6225.9	6	87.7	0.018	0.011	0	0	0.5797	(N/A)
A67	6187.47	T17	6173.7	6	90.3	0.153	0.011	0	0	1.6763	(N/A)
T55	6139.91	T54	6139.31	6	89.6	0.007	0.011	0	0	0.3499	(N/A)
W72	6212.72	W71	6208.46	6	90.7	0.047	0.009	0	0	1.1333	(N/A)
W50	6208.76	W50R	6207.99	8	91.6	0.008	0.024	0	0	0.3867	(N/A)
T48	6149.75	T47A	6148.6	6	92.5	0.012	0.011	0	0	0.4792	(N/A)
W31	6203.49	W30	6202.96	6	95.5	0.006	0.011	0	0	0.3201	(N/A)
A73	6189.48	T20	6171.56	6	97.4	0.185	0.014	0	0	1.4473	(N/A)
H101	6301.43	H100	6274.02	6	97.9	0.28	0.009	0	0	2.7702	(N/A)
W50A	6209.59	W50	6208.76	8	99.5	0.008	0.024	0	0	0.3867	(N/A)
I45	6162.25	I46	6161.17	6	101.6	0.011	0.011	0	0	0.441	(N/A)
T51	6147.03	T50	6138.76	6	103.3	0.08	0.011	0	0	1.2144	(N/A)
A71	6189.96	T19	6172.21	6	111.5	0.158	0.011	0	0	1.7061	(N/A)
T50	6138.76	T50A	6138.02	6	106.2	0.007	0.011	0	0	0.3581	(N/A)
W26	6216.5	W27R	6211.38	6	107.4	0.048	0.014	0	0	0.7366	(N/A)
H87	6258.4	H85	6221.25	6	108.1	0.344	0.009	0	0	3.0721	(N/A)
A74	6184.2	T21	6170.97	6	114.7	0.115	0.014	0	0	1.1421	(N/A)
T53	6148.29	T52	6147.58	6	108.2	0.007	0.011	0	0	0.3475	(N/A)
A25	6442.5	A26	6431.2	6	110.2	0.103	0.011	0	0	1.3736	(N/A)
W55	6346	W54	6325	6	122.6	0.171	0.009	0	0	2.1643	(N/A)
T56	6140.81	T55	6139.91	6	114.3	0.008	0.011	0	0	0.3808	(N/A)
A58	6189.07	A59	6187.89	6	114.8	0.01	0.011	0	0	0.4341	(N/A)
A28	6399.9	A27	6390.02	6	114.8	0.086	0.011	0	0	1.2562	(N/A)
R23	6239.48	R21	6237	6	115.7	0.021	0.009	0	0	0.7659	(N/A)

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n		Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
A75	6196.26	A74	6184.2	6	118.5	0.101	0.014	0	0	1.072	(N/A)
A68	6205.95	A67	6187.47	4	120.2	0.154	0.011	0	0	0.5704	(N/A)
H100	6274.02	H97	6253.93	6	122	0.165	0.014	0	0	1.3664	(N/A)
E12	6205	E11	6181.95	6	124.6	0.184	0.014	0	0	1.446	(N/A)
E03	6201.08	E06	6193.66	8	125.1	0.059	0.014	0	0	1.7668	(N/A)
A57	6230.5	A56	6227.51	6	125.6	0.024	0.011	0	0	0.6602	(N/A)
W38B	6206	W38A	6204.49	6	126.9	0.012	0.009	0	0	0.5712	(N/A)
H97	6253.93	E45	6200.14	6	127.5	0.42	0.014	0	0	2.1829	(N/A)
T48A	6150.78	T48	6149.75	6	127.8	0.008	0.011	0	0	0.3844	(N/A)
E28	6168.1	E27	6162.4	6	127.8	0.045	0.014	0	0	0.7106	(N/A)
E24	6183.36	E23	6182.44	6	134.9	0.007	0.014	0	0	0.278	(N/A)
R29	6382.72	R28	6377	6	135.9	0.042	0.009	0	0	1.0742	(N/A)
A37A	6289.49	A37	6276.25	6	137	0.097	0.011	0	0	1.3323	(N/A)
E23	6182.44	E11	6181.95	8	137	0.004	0.014	0	0	0.4337	(N/A)
I48	6165.85	I47	6161.28	6	137.2	0.033	0.011	0	0	0.7827	(N/A)
R28	6377	R27	6373.42	6	150.2	0.024	0.009	0	0	0.8092	(N/A)
W57	6222.4	W58	6221.2	6	141.4	0.009	0.009	0	0	0.4832	(N/A)
C3	6211.2	C4	6209.5	6	142.1	0.012	0.009	0	0	0.5731	(N/A)
W59	6216.33	W60	6208.83	8	143.9	0.052	0.009	0	0	2.5745	(N/A)
C1	6220	C2	6215.76	6	147.8	0.029	0.009	0	0	0.8866	(N/A)
C2	6215.76	C3	6211.2	6	148.8	0.031	0.009	0	0	0.9163	(N/A)
R34	6492.02	R33	6479.22	6	158.3	0.081	0.009	0	0	1.4909	(N/A)
A46	6283.8	A45	6240.52	4	153	0.283	0.011	0	0	0.7731	(N/A)
A29	6373.5	WY-A30	6367.64	6	148.4	0.04	0.011	0	0	0.8525	(N/A)
H105	6308.4	H101	6301.43	6	156.7	0.044	0.009	0	0	1.1037	(N/A)
W01C	6202.32	W01B	6200.24	8	158.8	0.013	0.014	0	0	0.8294	(N/A)
W25R	6219.26	W72	6212.72	6	159.7	0.041	0.009	0	0	1.059	(N/A)
H102	6312.81	H101	6301.43	6	160.3	0.071	0.014	0	0	0.898	(N/A)
H86	6233.9	H85	6221.25	6	161.3	0.079	0.009	0	0	1.4683	(N/A)
W34	6209.72	W33A	6207.9	6	161.7	0.011	0.011	0	0	0.4543	(N/A)
E17	6190.77	E10	6170.98	8	163.1	0.121	0.014	0	0	2.5269	(N/A)
R22	6257.85	R21	6237	6	165.1	0.126	0.009	0	0	1.862	(N/A)
E26	6192.8	E27	6162.4	6	165.7	0.183	0.014	0	0	1.441	(N/A)
A43	6238.36	A42	6209.99	6	170.1	0.167	0.011	0	0	1.7507	(N/A)
E51	6174	E63	6170.92	6	171.2	0.018	0.014	0	0	0.4519	(N/A)
A69	6191.4	A67	6187.47	6	172.6	0.023	0.011	0	0	0.6459	(N/A)
W58	6221.2	W59	6216.33	8	173	0.028	0.009	0	0	1.8927	(N/A)

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
E50	6176.54	E51	6174	6	173.6	0.015	0.014	0	0	0.4068	(N/A)
H103	6338.71	H102	6312.81	6	174.2	0.149	0.009	0	0	2.0209	(N/A)
H94	6266.2	A78	6252.82	6	175.4	0.076	0.011	0	0	1.185	(N/A)
M1	6193.3	T09	6180.37	6	177.7	0.073	0.011	0	0	1.1551	(N/A)
A40	6231.01	A39	6228.59	6	179.1	0.014	0.011	0	0	0.4983	(N/A)
E63	6170.92	E40	6162.53	6	181	0.046	0.014	0	0	0.725	(N/A)
E16	6196.92	E17	6190.77	6	183.3	0.034	0.014	0	0	0.6173	(N/A)
E31	6177.11	E32	6154.49	6	185.1	0.122	0.014	0	0	1.1775	(N/A)
W33A	6207.9	W32	6204.9	6	185.7	0.016	0.011	0	0	0.5443	(N/A)
H95	6287	H94	6266.2	6	188.4	0.111	0.011	0	0	1.4255	(N/A)
W30	6202.96	W17	6197.6	8	190.2	0.028	0.011	0	0	1.5502	(N/A)
H91	6261.21	H87	6258.4	6	194	0.014	0.009	0	0	0.6304	(N/A)
A66	6188.9	A67	6187.47	6	194.2	0.007	0.011	0	0	0.3679	(N/A)
R18	6203.31	R10	6179.81	6	204.3	0.115	0.009	0	0	1.7778	(N/A)
A37B	6300.03	A37A	6289.49	6	199.7	0.053	0.011	0	0	0.9838	(N/A)
E53	6183.02	E52	6179.55	6	199.8	0.017	0.014	0	0	0.4435	(N/A)
E14	6222.16	E15	6221.13	8	205.9	0.005	0.014	0	0	0.5128	(N/A)
R30	6397.4	R28	6377	6	207.4	0.099	0.009	0	0	1.6444	(N/A)
H92	6277.37	H91	6261.21	6	209.7	0.077	0.009	0	0	1.453	(N/A)
C4	6209.5	W01	6196.4	6	214.2	0.061	0.014	0	0	0.8331	(N/A)
A26	6431.2	A27	6390.02	6	216.2	0.191	0.011	0	0	1.8713	(N/A)
E47	6187.9	E49	6176.69	6	218.2	0.051	0.014	0	0	0.7636	(N/A)
E45	6200.14	E46	6195.29	6	219.6	0.022	0.014	0	0	0.5	(N/A)
T47A	6148.6	T47	6144.47	6	220	0.019	0.011	0	0	0.5872	(N/A)
R20	6235.68	R19	6221.55	6	224.3	0.063	0.009	0	0	1.3156	(N/A)
H106	6320.37	H105	6308.4	6	225.6	0.053	0.009	0	0	1.2055	(N/A)
A87	6238.06	A86	6207.06	6	225.8	0.137	0.009	0	0	1.94	(N/A)
A42	6209.99	A65	6188.5	6	227.6	0.094	0.011	0	0	1.3157	(N/A)
A63	6189.85	A65	6188.5	6	228.3	0.006	0.011	0	0	0.3298	(N/A)
W41	6242.85	W40	6205.97	6	236.1	0.156	0.014	0	0	1.3311	(N/A)
E61	6167.48	E60	6163.7	6	246.5	0.015	0.014	0	0	0.4166	(N/A)
A34	6270.5	A35	6260	6	249.2	0.042	0.011	0	0	0.8801	(N/A)
E52	6179.55	E51	6174	6	254.3	0.022	0.014	0	0	0.4978	(N/A)
E55	6174.75	E56	6164.6	6	258.7	0.039	0.014	0	0	0.6666	(N/A)
A36	6274.65	A35	6260	6	259.8	0.056	0.011	0	0	1.0173	(N/A)
R19	6221.55	R18	6203.31	6	262.7	0.069	0.009	0	0	1.3794	(N/A)
A35	6260	A38	6221.8	6	253.7	0.15	0.011	0	0	1.662	(N/A)

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
H104	6343.76	H103	6338.71	6	265.4	0.019	0.009	0	0	0.7231	(N/A)
E11	6181.95	E10	6170.98	8	270.8	0.04	0.009	0	0	2.2696	(N/A)
A76	6224.8	A75	6196.26	6	271.3	0.105	0.011	0	0	1.3908	(N/A)
E13	6223.4	E12	6205	6	272.2	0.068	0.014	0	0	0.8758	(N/A)
E02	6202.06	E03	6201.08	8	278.8	0.004	0.014	0	0	0.4298	(N/A)
R26	6315.62	R25	6228.2	6	276	0.317	0.009	0	0	2.9479	(N/A)
E01	6203.03	E02	6202.06	8	277.8	0.003	0.014	0	0	0.4284	(N/A)
A38	6221.8	A71	6189.96	6	284.8	0.112	0.011	0	0	1.4325	(N/A)
A80	6173.9	A82	6172.54	8	288	0.005	0.014	0	0	0.4983	(N/A)
S53	6501.6	S52	6477.5	6	290.8	0.083	0.011	0	0	1.2333	(N/A)
A17	6266.57	A18	6226.07	6	292.4	0.139	0.009	0	0	1.9508	(N/A)
T47	6144.47	T46	6137.22	6	299.6	0.024	0.011	0	0	0.6662	(N/A)
A39	6228.59	A38	6221.8	6	304.6	0.022	0.011	0	0	0.6394	(N/A)
A45	6240.52	A44	6226.5	6	295.5	0.047	0.011	0	0	0.9327	(N/A)
S51	6456.4	A26	6431.2	6	296.1	0.085	0.011	0	0	1.2505	(N/A)
R27	6373.42	R26	6315.62	6	297.5	0.195	0.009	0	0	2.3108	(N/A)
W54	6325	W53	6284.2	6	317.6	0.128	0.009	0	0	1.8762	(N/A)
S52	6477.5	S51	6456.4	6	307.3	0.069	0.011	0	0	1.1235	(N/A)
E54	6181.34	E55	6174.75	6	307.9	0.021	0.014	0	0	0.4925	(N/A)
A37	6276.25	A36	6274.65	6	312.5	0.005	0.011	0	0	0.3064	(N/A)
E15	6221.13	E16	6196.92	8	312.1	0.078	0.014	0	0	2.0201	(N/A)
A77	6235.7	A76	6224.8	6	312.6	0.035	0.011	0	0	0.7998	(N/A)
A24	6452.9	A25	6442.5	6	316.1	0.033	0.011	0	0	0.7775	(N/A)
E04	6212.9	E03	6201.08	8	313.9	0.038	0.014	0	0	1.407	(N/A)
E62	6173.52	E61	6167.48	6	315.2	0.019	0.014	0	0	0.4663	(N/A)
H99	6325	H98	6300.65	6	323.1	0.075	0.009	0	0	1.4382	(N/A)
A60	6197.3	A59	6187.89	6	318.4	0.03	0.011	0	0	0.7372	(N/A)
A14	6342	A15	6339.98	6	321.5	0.006	0.009	0	0	0.4149	(N/A)
A55	6225.9	A58	6189.07	6	325.8	0.113	0.011	0	0	1.4405	(N/A)
A18	6226.07	W19	6198.4	6	330.3	0.084	0.009	0	0	1.5168	(N/A)
A41	6228.1	A42	6209.99	6	342.3	0.053	0.011	0	0	0.9862	(N/A)
E46	6195.29	E47	6187.9	6	334.9	0.022	0.014	0	0	0.5001	(N/A)
A70	6192.16	A71	6189.96	6	336.1	0.007	0.011	0	0	0.3468	(N/A)
H98	6300.65	H97	6253.93	6	342.5	0.136	0.014	0	0	1.2428	(N/A)
E06	6193.66	E07	6192.8	8	343.1	0.003	0.014	0	0	0.3631	(N/A)
E63A	6176.1	E63	6170.92	6	344.2	0.015	0.014	0	0	0.4132	(N/A)
WY-A30	6367.64	A30	6354.41	6	350.8	0.038	0.011	0	0	0.8322	(N/A)

Scenario 1 - Existing Sewer System ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
A44	6226.5	A42	6209.99	6	349.7	0.047	0.011	0	0	0.9308	(N/A)
R35	6527.25	R34	6492.02	6	354.5	0.099	0.009	0	0	1.6501	(N/A)
A16	6296	A17	6266.57	6	362.2	0.081	0.009	0	0	1.4935	(N/A)
R32	6438.52	R30	6397.4	6	383	0.107	0.009	0	0	1.7163	(N/A)
A47	6270.09	A45	6240.52	6	393.7	0.075	0.011	0	0	1.1741	(N/A)
R33	6479.22	R32	6438.52	6	402.5	0.101	0.009	0	0	1.6646	(N/A)
A62	6200.59	A63	6189.85	6	401.4	0.027	0.011	0	0	0.7014	(N/A)
A31	6331.83	A32	6312.94	6	411.8	0.046	0.011	0	0	0.9176	(N/A)
A30	6354.41	A31	6331.83	6	414.9	0.054	0.011	0	0	0.9997	(N/A)
A15	6339.98	A17	6266.57	6	442.9	0.166	0.009	0	0	2.1323	(N/A)
R25	6228.2	R03	6174.1	6	442.4	0.122	0.009	0	0	1.8325	(N/A)
A27	6390.02	A29	6373.5	6	439.4	0.038	0.011	0	0	0.8314	(N/A)
R36	6532.02	R35	6527.25	6	450.7	0.011	0.009	0	0	0.5387	(N/A)
A32	6312.94	A33	6291.81	6	453.9	0.047	0.011	0	0	0.9245	(N/A)
A33	6291.81	A34	6270.5	6	459.4	0.046	0.011	0	0	0.9235	(N/A)
W56	6367.24	W55	6346	6	454.3	0.047	0.009	0	0	1.133	(N/A)
W52	6267.5	W40	6205.97	6	494.1	0.125	0.009	0	0	1.8486	(N/A)
A78	6252.82	A76	6224.8	6	490.9	0.057	0.011	0	0	1.0238	(N/A)

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
T18	6172.23	T19	6172.22	15	352.3	0	0.011	1.22	0.9644	0.263	367
T43	6074.26	TTSA	6068.27	10	315.7	0.019	0.011	7.36	2.007	2.304	87
T34A	6147.66	T34	6147.26	15	190.9	0.002	0.011	3.1	1.6254	2.2579	72
T36	6135.02	T37	6133.91	15	388.1	0.003	0.011	3.5	1.6254	2.639	62
R07	6177.61	R06	6177.33	10	223	0.001	0.009	2.15	0.4322	0.7248	60
T32	6152.41	T33	6152.3	15	64.4	0.002	0.011	2.65	1.15	2.0455	56
T20	6171.56	T21	6171	15	333.1	0.002	0.011	2.61	1.1157	2.0233	55
T35	6135.54	T36	6135.04	15	136.3	0.004	0.011	3.85	1.6254	2.9916	54
T31	6153.03	T32	6152.44	15	319.8	0.002	0.011	2.73	1.1495	2.1186	54
T37A	6127.12	T38	6124.19	12	222.5	0.013	0.011	6.25	1.6564	3.1262	53
T23	6167.87	T24	6166.89	15	484.5	0.002	0.011	2.82	1.1465	2.2201	52
T25	6164.79	T26	6164.11	15	313.9	0.002	0.011	2.89	1.1465	2.296	50
T41	6084.93	T43	6074.46	12	286	0.037	0.014	8.02	2.007	4.0909	49
T30	6153.45	T31	6153.11	15	146.3	0.002	0.011	2.98	1.1495	2.381	48
T15	6175.28	T16	6175	15	184.4	0.002	0.011	2.39	0.9114	1.9247	47
T26A	6163.71	T27	6163.36	15	143.1	0.002	0.011	3.03	1.1465	2.4409	47
T04A	6191.75	T05	6191.63	15	167.6	0.001	0.011	1.63	0.6148	1.3186	47
T26	6164.09	T26A	6163.72	15	138.9	0.003	0.011	3.13	1.1465	2.5456	45
GV148	6168.77	T23	6167.91	15	308.6	0.003	0.011	3.18	1.1465	2.6029	44
T22	6169.61	GV148	6168.77	15	298.6	0.003	0.011	3.19	1.1465	2.6151	44
T38	6124.14	T39	6123.05	15	180.9	0.006	0.011	4.65	1.6564	3.8288	43
T37	6133.82	T37A	6127.41	12	311.6	0.021	0.011	7.38	1.6564	3.9005	43
T21	6170.97	T22	6169.62	15	450.1	0.003	0.011	3.27	1.1465	2.7024	42
R10	6179.81	R09	6179.04	10	310.2	0.002	0.009	2.76	0.4254	1.0194	42
T39A	6118.72	T39B	6115.51	15	305.7	0.010	0.014	4.78	1.6564	3.9705	42
R12A	6181.92	R12	6181.39	10	216.9	0.002	0.009	2.73	0.4134	1.0108	41
R11	6180.44	R10	6179.81	10	252.7	0.002	0.009	2.75	0.4134	1.0206	41
W46	6201.41	W13	6201.1	10	333.6	0.001	0.024	0.63	0.0945	0.2337	40
T29	6154.13	T30	6153.52	15	181.2	0.003	0.011	3.41	1.1465	2.8643	40
T34	6147.18	T35	6135.64	12	516.5	0.022	0.011	7.56	1.6254	4.0656	40
R13	6182.3	R12A	6181.92	10	147.7	0.003	0.009	2.78	0.4134	1.0364	40
T13	6177.18	T14	6176.43	15	345.9	0.002	0.011	2.73	0.9114	2.2971	40
T11	6178.37	T12	6177.7	15	304.2	0.002	0.011	2.74	0.9108	2.3163	39
T19	6172.21	T20	6171.57	15	189	0.003	0.011	3.39	1.1157	2.8711	39
T10	6179.38	T11	6178.39	15	446.5	0.002	0.011	2.73	0.8869	2.3246	38
T45	6114.8	T40	6102.8	6	294.9	0.041	0.011	6.34	0.3273	0.8644	38

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
T12	6177.65	T13	6177.2	15	187.8	0.002	0.011	2.83	0.9108	2.4139	38
R16	6186.3	R15	6185.3	10	344.7	0.003	0.009	2.9	0.4134	1.1012	38
R12	6181.39	R11	6180.44	10	323.8	0.003	0.009	2.91	0.4134	1.1075	37
T09	6180.37	T10	6179.41	15	398.7	0.002	0.011	2.81	0.8782	2.4201	36
T14	6176.36	T15	6175.37	15	362.3	0.003	0.011	2.97	0.9114	2.5802	35
R09	6179.04	R07	6177.61	10	388.1	0.004	0.009	3.19	0.4254	1.2417	34
T16	6174.97	T17	6173.71	15	393.5	0.003	0.011	3.19	0.951	2.7937	34
W37	6203.23	W36	6202.56	10	276.8	0.002	0.014	1.65	0.2158	0.6467	33
T5A	6191.07	T06	6190.69	15	254.9	0.001	0.011	2.15	0.6242	1.9046	33
T24	6166.88	T25	6164.8	15	410.9	0.005	0.011	3.96	1.1465	3.51	33
R14	6183.41	R13	6182.3	10	285.9	0.004	0.009	3.23	0.4134	1.2742	32
W36A	6201.95	W15	6201.3	10	204.4	0.003	0.014	1.87	0.238	0.7422	32
E34	6142	E33	6141.04	8	70.1	0.014	0.014	3.33	0.2659	0.8493	31
T17	6173.7	T18	6172.31	15	354.6	0.004	0.011	3.44	0.9644	3.0873	31
W13	6201.1	W14	6200.8	10	182.7	0.002	0.024	0.78	0.0968	0.3105	31
T08	6181.1	T09	6180.38	15	290.2	0.002	0.011	2.73	0.7599	2.4584	31
E30A	6121.96	T44	6120.73	8	175.9	0.007	0.009	3.68	0.2904	0.943	31
T44	6120.73	T44A	6119.54	8	165.1	0.007	0.009	3.72	0.2904	0.958	30
W36	6202.56	W36A	6201.95	10	165.8	0.004	0.014	1.97	0.238	0.7971	30
R15	6185.3	R14	6183.41	10	403.2	0.005	0.009	3.46	0.4134	1.4007	30
R03	6174.1	R02	6172.4	10	277.7	0.006	0.009	3.94	0.4692	1.5994	29
W38	6203.8	W37	6203.23	10	180.8	0.003	0.014	1.8	0.211	0.7379	29
E33	6141.04	E33A	6134.26	8	364.4	0.019	0.014	3.76	0.2787	0.9897	28
T28	6160.21	T29	6154.44	12	242.7	0.024	0.011	7.04	1.1465	4.1932	27
R06	6177.33	R04	6175.4	10	317.7	0.006	0.009	3.84	0.4322	1.5934	27
T40A	6095.26	T41	6084.93	12	205.9	0.05	0.009	12.45	2.007	7.4479	27
T33	6152.27	T34A	6147.67	15	308.3	0.015	0.011	6.45	1.6192	6.0297	27
R04	6175.4	R03	6174.1	10	198.7	0.007	0.009	3.96	0.4373	1.6531	27
W47	6202.9	W47A	6202.49	10	177.6	0.002	0.024	0.87	0.0945	0.3681	26
E33B	6126	E30	6124	8	79.8	0.025	0.014	4.21	0.281	1.1466	25
T27	6163.26	T28	6160.23	12	91.8	0.033	0.011	7.92	1.1465	4.9385	23
E30	6124	E30A	6121.96	8	106.7	0.019	0.011	4.58	0.2904	1.2744	23
T40	6102.8	T40A	6096.15	15	131.1	0.051	0.014	8.91	1.9837	8.7344	23
W39	6204.6	W38A	6204.49	10	157.8	0.001	0.014	0.79	0.078	0.3469	23
E33A	6134.26	E33B	6126	8	274.3	0.03	0.014	4.48	0.2787	1.2591	22
W38A	6204.49	W38	6203.8	10	111.2	0.006	0.014	2.29	0.2063	1.0367	20
R17	6187.4	R16	6186.3	12	268.6	0.004	0.009	3.24	0.4134	2.1268	19

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
W49	6207.3	W48	6205.54	8	236.5	0.007	0.024	1.25	0.0704	0.3645	19
T44A	6119.54	T44B	6115.91	8	147.5	0.025	0.009	5.99	0.3273	1.7727	19
T05	6191.63	T5A	6191.07	15	120.5	0.005	0.011	3.22	0.6153	3.3565	18
E36	6152.75	E34	6142	8	266.8	0.04	0.014	4.85	0.2552	1.4551	18
T39	6122.96	T39A	6118.76	15	107.2	0.039	0.011	9.17	1.6564	9.7752	17
T44B	6115.91	T45	6114.8	8	33	0.034	0.009	6.7	0.3273	2.0689	16
W76	6200.78	W75	6199.86	6	166.5	0.006	0.009	2.22	0.0598	0.3899	15
E38	6158.84	E37	6157.08	8	379.4	0.005	0.014	1.58	0.075	0.4942	15
E56	6164.6	E60	6163.7	8	158.1	0.006	0.014	1.73	0.0791	0.5473	15
E40	6162.53	E39	6160.9	8	305.6	0.005	0.014	1.64	0.0717	0.5293	14
T07	6185.71	T08	6181.1	12	115.5	0.04	0.011	7.48	0.732	5.4484	13
E39	6160.9	E38	6158.84	8	357.5	0.006	0.014	1.68	0.0717	0.5501	13
R02	6172.4	R01	6166.5	10	175.4	0.034	0.009	7.26	0.4692	3.7555	13
E59	6159.16	E58	6157.66	8	196.4	0.008	0.014	1.92	0.0791	0.6344	13
T04	6192.53	T04A	6191.75	15	189.5	0.004	0.011	2.67	0.3691	3.1613	12
T39B	6115.45	T39C	6109.7	15	102	0.056	0.009	12.04	1.6564	14.3178	12
T39C	6109.65	T40	6102.95	15	116.1	0.058	0.009	12.15	1.6564	14.4927	11
T06	6190.69	T07	6185.71	15	357.3	0.014	0.011	4.79	0.6242	5.8274	11
T02	6195.75	T03	6193.82	15	389.9	0.005	0.011	2.85	0.3691	3.4709	11
T03	6193.82	T04	6192.53	15	233	0.006	0.011	2.97	0.3691	3.6712	10
W74	6198.13	W77	6196.45	10	305.1	0.006	0.009	2.74	0.1488	1.518	10
W77	6196.45	T04A	6191.75	10	215	0.022	0.011	4.46	0.2423	2.4743	10
R01	6166.5	T33	6152.27	10	159.2	0.089	0.011	8.91	0.4692	5.0063	9
E43	6166.59	E42	6164.73	8	392.4	0.005	0.014	1.38	0.0463	0.4995	9
E37	6157.08	E36	6152.75	8	286.5	0.015	0.014	2.45	0.0802	0.8923	9
E42	6164.73	E41	6163.44	8	250.9	0.005	0.014	1.42	0.0463	0.5199	9
E41	6163.44	E40	6162.53	8	158.7	0.006	0.014	1.48	0.0463	0.5486	8
W48	6205.54	W47	6202.9	10	191.4	0.014	0.024	1.55	0.0752	0.9017	8
W15	6201.3	W14	6200.8	10	16.7	0.029	0.011	4.93	0.238	2.87	8
E08	6191.52	E09	6190.98	8	298.3	0.002	0.009	1.29	0.0398	0.4802	8
T46	6137.22	T37	6133.82	6	429.3	0.008	0.011	1.82	0.031	0.3815	8
W75	6199.86	W74	6198.13	8	182.2	0.01	0.009	2.92	0.0873	1.0998	8
W47A	6202.49	W46	6201.41	10	42.8	0.025	0.024	2.05	0.0945	1.2156	8
E60	6163.7	E59	6159.16	8	210.7	0.022	0.014	2.76	0.0791	1.0637	7
W01	6196.4	W02	6191.76	8	89.7	0.052	0.014	4.21	0.1159	1.6466	7
W40A	6204.8	W39	6204.6	10	74.6	0.003	0.014	1.07	0.0422	0.679	6
W14	6200.8	T02	6195.75	10	41.8	0.12	0.011	8.95	0.3348	5.8028	6

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
W49B	6212.68	W49A	6209.67	4	197.8	0.015	0.024	0.77	0.0044	0.0821	5
E58	6157.66	E36	6152.75	8	106.6	0.046	0.014	3.61	0.0791	1.5535	5
W49A	6209.67	W49	6207.3	6	160.1	0.015	0.024	0.98	0.012	0.2391	5
E09	6190.98	E10	6170.98	8	388.7	0.051	0.014	3.75	0.0791	1.6443	5
E10	6170.98	E56	6164.6	8	119.6	0.053	0.014	3.8	0.0791	1.6721	5
W73	6200.6	W74	6198.13	8	175.4	0.014	0.009	3.01	0.0615	1.3402	5
W42	6206.69	W40	6205.97	8	136	0.005	0.014	1.14	0.0215	0.5277	4
P03	6130.66	P13	6130.04	8	136.7	0.005	0.009	1.6	0.0277	0.7589	4
W43	6208.07	W42	6206.69	8	269	0.005	0.014	1.09	0.0189	0.5194	4
W08B	6195.85	W08A	6195.5	10	153.2	0.002	0.014	0.84	0.0227	0.6289	4
P04	6131.43	P03	6130.66	8	174.1	0.004	0.009	1.53	0.0243	0.7504	3
W08A	6195.5	W08	6194.9	10	207.5	0.003	0.014	0.92	0.0227	0.7079	3
W11	6197.9	W10	6197.3	10	184.7	0.003	0.014	0.95	0.0227	0.7488	3
P07	6132.36	P06	6131.89	8	91.2	0.005	0.009	1.61	0.0243	0.8107	3
P06	6131.89	P04	6131.43	8	88.9	0.005	0.009	1.61	0.0243	0.811	3
P08	6133.31	P07	6132.36	8	172.5	0.006	0.009	1.64	0.0243	0.8384	3
W09	6196.5	W08B	6195.85	10	179.3	0.004	0.014	0.99	0.0227	0.7923	3
W10	6197.3	W09	6196.5	10	210.8	0.004	0.014	1.01	0.0227	0.8096	3
A83	6170.48	E44	6168.57	8	426.6	0.004	0.014	0.94	0.0134	0.485	3
E44	6168.57	E43	6166.59	8	388.4	0.005	0.014	0.98	0.0134	0.518	3
W08	6194.9	W07	6193.75	10	233.1	0.005	0.014	1.1	0.0227	0.9237	3
W07	6193.75	W7A	6192.35	10	281.7	0.005	0.014	1.11	0.0227	0.9264	3
W40	6205.97	W40A	6204.8	10	65.4	0.018	0.014	2.09	0.0422	1.7641	2
W44	6209.56	W43	6208.07	8	300.4	0.005	0.014	0.93	0.0116	0.5111	2
W11A	6198.1	W11	6197.9	10	63.6	0.003	0.014	0.83	0.0151	0.735	2
W02	6191.76	T09	6180.37	8	36	0.316	0.009	10.84	0.1159	6.3452	2
W01B	6200.24	W01	6196.4	8	143.9	0.027	0.014	1.98	0.0201	1.1842	2
W28R	6209.61	W70	6208.91	8	114.2	0.006	0.014	0.95	0.0096	0.5683	2
W19	6198.4	W11A	6198.1	10	47.7	0.006	0.014	1.06	0.0151	1.0395	2
E29	6148	E30	6124	4	279.8	0.086	0.009	3.14	0.0061	0.5201	1
A82	6172.54	A83	6170.48	8	438	0.005	0.014	0.74	0.0058	0.4973	1
W70	6208.91	W71	6208.46	8	61.8	0.007	0.009	1.36	0.0096	0.9611	1
W05	6186.3	W04	6183.8	8	341	0.007	0.014	0.83	0.0052	0.6209	1
W06	6188.5	W05	6186.3	8	290.3	0.008	0.014	0.84	0.0052	0.6316	1
T01	6197.2	T02	6195.75	15	192.2	0.008	0.011	1.63	0.0343	4.2877	1
W12	6199.05	W19	6198.4	10	219.9	0.003	0.014	0.58	0.0051	0.7147	1
P13	6130.04	T44A	6119.54	8	68.8	0.152	0.009	5.61	0.0311	4.4006	1

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
W62	6204.25	W38	6203.8	8	147.8	0.003	0.009	0.78	0.0041	0.622	1
W7A	6192.35	T08	6181.1	8	42.9	0.262	0.014	4.53	0.0227	3.7093	1
W24R	6194.82	T5A	6191.07	12	203.9	0.018	0.024	0.88	0.0089	1.691	1
W71	6208.46	W73	6200.6	8	262.8	0.03	0.009	2.24	0.0096	1.9502	1
E49	6176.69	E43	6166.59	8	199.5	0.051	0.014	1.87	0.008	1.6338	1
W45	6215	W44	6209.56	8	310.8	0.017	0.014	0.96	0.0031	0.9591	0
W61A	6206.51	W62	6204.25	8	181.9	0.012	0.009	1.22	0.0036	1.2571	0
W61	6208.51	W61A	6206.51	8	137.3	0.015	0.009	1.29	0.0036	1.363	0
P12	6154.64	P03	6130.66	6	248	0.097	0.009	2.59	0.0034	1.6288	0
W04	6183.8	T08	6181.1	8	18.3	0.15	0.014	2.35	0.0052	2.8087	0
E27	6162.4	E29	6148	8	160.6	0.089	0.009	2.81	0.0061	3.3737	0
E35	6142.9	E34	6142	8	248.4	0.004	0.014	0.34	0.0006	0.4369	0
E07	6192.8	E08	6191.52	8	221.4	0.006	0.014	0.38	0.0005	0.5519	0
E32	6154.49	E33	6141.04	6	101.9	0.132	0.014	1.25	0.0006	1.2228	0
W17	6197.6	T01	6197.2	8	5.5	0.08	0.011	0	0	2.6106	0
R7A	6178.02	R07	6177.61	10	18.4	0.023	0.009	0	0	3.0869	0
W32	6204.9	W31A	6203.82	6	27.5	0.039	0.011	0	0	0.8417	0
I46	6161.17	T32	6152.41	6	35.3	0.25	0.011	0	0	2.1441	0
T50A	6138.02	T46	6137.22	6	37.4	0.022	0.011	0	0	0.6302	0
T57	6141.7	T56	6140.81	6	41.2	0.022	0.011	0	0	0.6314	0
W60	6208.83	W61	6208.51	6	47.5	0.007	0.009	0	0	0.4277	0
W50B	6211.27	W50A	6209.59	8	47.6	0.035	0.024	0	0	0.7914	0
A86	6207.06	W11	6197.9	6	51.4	0.18	0.009	0	0	2.2199	0
T59	6139.47	T58	6138.95	6	51.5	0.01	0.011	0	0	0.4286	0
H88	6179.4	A82	6172.54	6	51.5	0.135	0.014	0	0	1.235	0
I47	6161.28	T33	6152.27	6	48.7	0.184	0.011	0	0	1.8377	0
A88	6255.14	A87	6238.06	6	54	0.316	0.009	0	0	2.9459	0
A84	6171.79	A83	6170.48	6	56.5	0.023	0.014	0	0	0.5105	0
A80A	6176	A80	6173.9	6	57.9	0.036	0.014	0	0	0.6407	0
A72	6194.12	A71	6189.96	6	59.7	0.069	0.011	0	0	1.1285	0
T58	6138.95	T50A	6138.02	6	59.4	0.016	0.011	0	0	0.5381	0
E25	6185.67	E24	6183.36	6	60.8	0.038	0.014	0	0	0.6553	0
R21	6237	R20	6235.68	6	60.9	0.022	0.009	0	0	0.7705	0
H85	6221.25	A84	6171.79	6	61.5	0.811	0.014	0	0	3.0321	0
T54	6139.31	T50	6138.76	6	63.3	0.009	0.011	0	0	0.4004	0
A79	6179	A80A	6176	6	64.2	0.047	0.014	0	0	0.729	0
W27R	6211.38	W28R	6209.61	6	65.2	0.027	0.014	0	0	0.5557	0

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
A59	6187.89	T11	6178.37	6	70.8	0.134	0.011	0	0	1.5693	0
T52	6147.58	T51	6147.03	6	72.1	0.008	0.011	0	0	0.3746	0
H89	6195	H88	6179.4	6	73.3	0.214	0.014	0	0	1.5566	0
W31A	6203.82	W31	6203.49	6	74.8	0.004	0.011	0	0	0.2843	0
E42A	6172.38	E42	6164.73	6	76.7	0.099	0.014	0	0	1.0614	0
R24	6240.89	R23	6239.48	6	79.9	0.018	0.009	0	0	0.6954	0
I49	6151.1	T34A	6147.66	6	78.1	0.044	0.011	0	0	0.9	0
R31	6402.16	R30	6397.4	6	81.1	0.059	0.009	0	0	1.2698	0
W53	6284.2	W52	6267.5	6	87.7	0.19	0.009	0	0	2.2818	0
H90	6241	H89	6195	6	82	0.561	0.014	0	0	2.5221	0
W50R	6207.99	W49	6207.3	8	83	0.008	0.024	0	0	0.3867	0
A65	6188.5	T16	6174.97	6	95.2	0.142	0.011	0	0	1.6174	0
A56	6227.51	A55	6225.9	6	87.7	0.018	0.011	0	0	0.5797	0
A67	6187.47	T17	6173.7	6	90.3	0.153	0.011	0	0	1.6763	0
T55	6139.91	T54	6139.31	6	89.6	0.007	0.011	0	0	0.3499	0
W72	6212.72	W71	6208.46	6	90.7	0.047	0.009	0	0	1.1333	0
W50	6208.76	W50R	6207.99	8	91.6	0.008	0.024	0	0	0.3867	0
T48	6149.75	T47A	6148.6	6	92.5	0.012	0.011	0	0	0.4792	0
W31	6203.49	W30	6202.96	6	95.5	0.006	0.011	0	0	0.3201	0
A73	6189.48	T20	6171.56	6	97.4	0.185	0.014	0	0	1.4473	0
H101	6301.43	H100	6274.02	6	97.9	0.28	0.009	0	0	2.7702	0
W50A	6209.59	W50	6208.76	8	99.5	0.008	0.024	0	0	0.3867	0
I45	6162.25	I46	6161.17	6	101.6	0.011	0.011	0	0	0.441	0
T51	6147.03	T50	6138.76	6	103.3	0.08	0.011	0	0	1.2144	0
A71	6189.96	T19	6172.21	6	111.5	0.158	0.011	0	0	1.7061	0
T50	6138.76	T50A	6138.02	6	106.2	0.007	0.011	0	0	0.3581	0
W26	6216.5	W27R	6211.38	6	107.4	0.048	0.014	0	0	0.7366	0
H87	6258.4	H85	6221.25	6	108.1	0.344	0.009	0	0	3.0721	0
A74	6184.2	T21	6170.97	6	114.7	0.115	0.014	0	0	1.1421	0
T53	6148.29	T52	6147.58	6	108.2	0.007	0.011	0	0	0.3475	0
A25	6442.5	A26	6431.2	6	110.2	0.103	0.011	0	0	1.3736	0
W55	6346	W54	6325	6	122.6	0.171	0.009	0	0	2.1643	0
T56	6140.81	T55	6139.91	6	114.3	0.008	0.011	0	0	0.3808	0
A58	6189.07	A59	6187.89	6	114.8	0.01	0.011	0	0	0.4341	0
A28	6399.9	A27	6390.02	6	114.8	0.086	0.011	0	0	1.2562	0
R23	6239.48	R21	6237	6	115.7	0.021	0.009	0	0	0.7659	0
A75	6196.26	A74	6184.2	6	118.5	0.101	0.014	0	0	1.072	0

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
A68	6205.95	A67	6187.47	4	120.2	0.154	0.011	0	0	0.5704	0
H100	6274.02	H97	6253.93	6	122	0.165	0.014	0	0	1.3664	0
E12	6205	E11	6181.95	6	124.6	0.184	0.014	0	0	1.446	0
E03	6201.08	E06	6193.66	8	125.1	0.059	0.014	0	0	1.7668	0
A57	6230.5	A56	6227.51	6	125.6	0.024	0.011	0	0	0.6602	0
W38B	6206	W38A	6204.49	6	126.9	0.012	0.009	0	0	0.5712	0
H97	6253.93	E45	6200.14	6	127.5	0.42	0.014	0	0	2.1829	0
T48A	6150.78	T48	6149.75	6	127.8	0.008	0.011	0	0	0.3844	0
E28	6168.1	E27	6162.4	6	127.8	0.045	0.014	0	0	0.7106	0
E24	6183.36	E23	6182.44	6	134.9	0.007	0.014	0	0	0.278	0
R29	6382.72	R28	6377	6	135.9	0.042	0.009	0	0	1.0742	0
A37A	6289.49	A37	6276.25	6	137	0.097	0.011	0	0	1.3323	0
E23	6182.44	E11	6181.95	8	137	0.004	0.014	0	0	0.4337	0
I48	6165.85	I47	6161.28	6	137.2	0.033	0.011	0	0	0.7827	0
R28	6377	R27	6373.42	6	150.2	0.024	0.009	0	0	0.8092	0
W57	6222.4	W58	6221.2	6	141.4	0.009	0.009	0	0	0.4832	0
C3	6211.2	C4	6209.5	6	142.1	0.012	0.009	0	0	0.5731	0
W59	6216.33	W60	6208.83	8	143.9	0.052	0.009	0	0	2.5745	0
C1	6220	C2	6215.76	6	147.8	0.029	0.009	0	0	0.8866	0
C2	6215.76	C3	6211.2	6	148.8	0.031	0.009	0	0	0.9163	0
R34	6492.02	R33	6479.22	6	158.3	0.081	0.009	0	0	1.4909	0
A46	6283.8	A45	6240.52	4	153	0.283	0.011	0	0	0.7731	0
A29	6373.5	WY-A30	6367.64	6	148.4	0.04	0.011	0	0	0.8525	0
H105	6308.4	H101	6301.43	6	156.7	0.044	0.009	0	0	1.1037	0
W01C	6202.32	W01B	6200.24	8	158.8	0.013	0.014	0	0	0.8294	0
W25R	6219.26	W72	6212.72	6	159.7	0.041	0.009	0	0	1.059	0
H102	6312.81	H101	6301.43	6	160.3	0.071	0.014	0	0	0.898	0
H86	6233.9	H85	6221.25	6	161.3	0.079	0.009	0	0	1.4683	0
W34	6209.72	W33A	6207.9	6	161.7	0.011	0.011	0	0	0.4543	0
E17	6190.77	E10	6170.98	8	163.1	0.121	0.014	0	0	2.5269	0
R22	6257.85	R21	6237	6	165.1	0.126	0.009	0	0	1.862	0
E26	6192.8	E27	6162.4	6	165.7	0.183	0.014	0	0	1.441	0
A43	6238.36	A42	6209.99	6	170.1	0.167	0.011	0	0	1.7507	0
E51	6174	E63	6170.92	6	171.2	0.018	0.014	0	0	0.4519	0
A69	6191.4	A67	6187.47	6	172.6	0.023	0.011	0	0	0.6459	0
W58	6221.2	W59	6216.33	8	173	0.028	0.009	0	0	1.8927	0
E50	6176.54	E51	6174	6	173.6	0.015	0.014	0	0	0.4068	0

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
H103	6338.71	H102	6312.81	6	174.2	0.149	0.009	0	0	2.0209	0
H94	6266.2	A78	6252.82	6	175.4	0.076	0.011	0	0	1.185	0
M1	6193.3	T09	6180.37	6	177.7	0.073	0.011	0	0	1.1551	0
A40	6231.01	A39	6228.59	6	179.1	0.014	0.011	0	0	0.4983	0
E63	6170.92	E40	6162.53	6	181	0.046	0.014	0	0	0.725	0
E16	6196.92	E17	6190.77	6	183.3	0.034	0.014	0	0	0.6173	0
E31	6177.11	E32	6154.49	6	185.1	0.122	0.014	0	0	1.1775	0
W33A	6207.9	W32	6204.9	6	185.7	0.016	0.011	0	0	0.5443	0
H95	6287	H94	6266.2	6	188.4	0.111	0.011	0	0	1.4255	0
W30	6202.96	W17	6197.6	8	190.2	0.028	0.011	0	0	1.5502	0
H91	6261.21	H87	6258.4	6	194	0.014	0.009	0	0	0.6304	0
A66	6188.9	A67	6187.47	6	194.2	0.007	0.011	0	0	0.3679	0
R18	6203.31	R10	6179.81	6	204.3	0.115	0.009	0	0	1.7778	0
A37B	6300.03	A37A	6289.49	6	199.7	0.053	0.011	0	0	0.9838	0
E53	6183.02	E52	6179.55	6	199.8	0.017	0.014	0	0	0.4435	0
E14	6222.16	E15	6221.13	8	205.9	0.005	0.014	0	0	0.5128	0
R30	6397.4	R28	6377	6	207.4	0.099	0.009	0	0	1.6444	0
H92	6277.37	H91	6261.21	6	209.7	0.077	0.009	0	0	1.453	0
C4	6209.5	W01	6196.4	6	214.2	0.061	0.014	0	0	0.8331	0
A26	6431.2	A27	6390.02	6	216.2	0.191	0.011	0	0	1.8713	0
E47	6187.9	E49	6176.69	6	218.2	0.051	0.014	0	0	0.7636	0
E45	6200.14	E46	6195.29	6	219.6	0.022	0.014	0	0	0.5	0
T47A	6148.6	T47	6144.47	6	220	0.019	0.011	0	0	0.5872	0
R20	6235.68	R19	6221.55	6	224.3	0.063	0.009	0	0	1.3156	0
H106	6320.37	H105	6308.4	6	225.6	0.053	0.009	0	0	1.2055	0
A87	6238.06	A86	6207.06	6	225.8	0.137	0.009	0	0	1.94	0
A42	6209.99	A65	6188.5	6	227.6	0.094	0.011	0	0	1.3157	0
A63	6189.85	A65	6188.5	6	228.3	0.006	0.011	0	0	0.3298	0
W41	6242.85	W40	6205.97	6	236.1	0.156	0.014	0	0	1.3311	0
E61	6167.48	E60	6163.7	6	246.5	0.015	0.014	0	0	0.4166	0
A34	6270.5	A35	6260	6	249.2	0.042	0.011	0	0	0.8801	0
E52	6179.55	E51	6174	6	254.3	0.022	0.014	0	0	0.4978	0
E55	6174.75	E56	6164.6	6	258.7	0.039	0.014	0	0	0.6666	0
A36	6274.65	A35	6260	6	259.8	0.056	0.011	0	0	1.0173	0
R19	6221.55	R18	6203.31	6	262.7	0.069	0.009	0	0	1.3794	0
A35	6260	A38	6221.8	6	253.7	0.15	0.011	0	0	1.662	0
H104	6343.76	H103	6338.71	6	265.4	0.019	0.009	0	0	0.7231	0

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
E11	6181.95	E10	6170.98	8	270.8	0.04	0.009	0	0	2.2696	0
A76	6224.8	A75	6196.26	6	271.3	0.105	0.011	0	0	1.3908	0
E13	6223.4	E12	6205	6	272.2	0.068	0.014	0	0	0.8758	0
E02	6202.06	E03	6201.08	8	278.8	0.004	0.014	0	0	0.4298	0
R26	6315.62	R25	6228.2	6	276	0.317	0.009	0	0	2.9479	0
E01	6203.03	E02	6202.06	8	277.8	0.003	0.014	0	0	0.4284	0
A38	6221.8	A71	6189.96	6	284.8	0.112	0.011	0	0	1.4325	0
A80	6173.9	A82	6172.54	8	288	0.005	0.014	0	0	0.4983	0
S53	6501.6	S52	6477.5	6	290.8	0.083	0.011	0	0	1.2333	0
A17	6266.57	A18	6226.07	6	292.4	0.139	0.009	0	0	1.9508	0
T47	6144.47	T46	6137.22	6	299.6	0.024	0.011	0	0	0.6662	0
A39	6228.59	A38	6221.8	6	304.6	0.022	0.011	0	0	0.6394	0
A45	6240.52	A44	6226.5	6	295.5	0.047	0.011	0	0	0.9327	0
S51	6456.4	A26	6431.2	6	296.1	0.085	0.011	0	0	1.2505	0
R27	6373.42	R26	6315.62	6	297.5	0.195	0.009	0	0	2.3108	0
W54	6325	W53	6284.2	6	317.6	0.128	0.009	0	0	1.8762	0
S52	6477.5	S51	6456.4	6	307.3	0.069	0.011	0	0	1.1235	0
E54	6181.34	E55	6174.75	6	307.9	0.021	0.014	0	0	0.4925	0
A37	6276.25	A36	6274.65	6	312.5	0.005	0.011	0	0	0.3064	0
E15	6221.13	E16	6196.92	8	312.1	0.078	0.014	0	0	2.0201	0
A77	6235.7	A76	6224.8	6	312.6	0.035	0.011	0	0	0.7998	0
A24	6452.9	A25	6442.5	6	316.1	0.033	0.011	0	0	0.7775	0
E04	6212.9	E03	6201.08	8	313.9	0.038	0.014	0	0	1.407	0
E62	6173.52	E61	6167.48	6	315.2	0.019	0.014	0	0	0.4663	0
H99	6325	H98	6300.65	6	323.1	0.075	0.009	0	0	1.4382	0
A60	6197.3	A59	6187.89	6	318.4	0.03	0.011	0	0	0.7372	0
A14	6342	A15	6339.98	6	321.5	0.006	0.009	0	0	0.4149	0
A55	6225.9	A58	6189.07	6	325.8	0.113	0.011	0	0	1.4405	0
A18	6226.07	W19	6198.4	6	330.3	0.084	0.009	0	0	1.5168	0
A41	6228.1	A42	6209.99	6	342.3	0.053	0.011	0	0	0.9862	0
E46	6195.29	E47	6187.9	6	334.9	0.022	0.014	0	0	0.5001	0
A70	6192.16	A71	6189.96	6	336.1	0.007	0.011	0	0	0.3468	0
H98	6300.65	H97	6253.93	6	342.5	0.136	0.014	0	0	1.2428	0
E06	6193.66	E07	6192.8	8	343.1	0.003	0.014	0	0	0.3631	0
E63A	6176.1	E63	6170.92	6	344.2	0.015	0.014	0	0	0.4132	0
WY-A30	6367.64	A30	6354.41	6	350.8	0.038	0.011	0	0	0.8322	0
A44	6226.5	A42	6209.99	6	349.7	0.047	0.011	0	0	0.9308	0

Scenario 1 - Existing Sewer System PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
R35	6527.25	R34	6492.02	6	354.5	0.099	0.009	0	0	1.6501	0
A16	6296	A17	6266.57	6	362.2	0.081	0.009	0	0	1.4935	0
R32	6438.52	R30	6397.4	6	383	0.107	0.009	0	0	1.7163	0
A47	6270.09	A45	6240.52	6	393.7	0.075	0.011	0	0	1.1741	0
R33	6479.22	R32	6438.52	6	402.5	0.101	0.009	0	0	1.6646	0
A62	6200.59	A63	6189.85	6	401.4	0.027	0.011	0	0	0.7014	0
A31	6331.83	A32	6312.94	6	411.8	0.046	0.011	0	0	0.9176	0
A30	6354.41	A31	6331.83	6	414.9	0.054	0.011	0	0	0.9997	0
A15	6339.98	A17	6266.57	6	442.9	0.166	0.009	0	0	2.1323	0
R25	6228.2	R03	6174.1	6	442.4	0.122	0.009	0	0	1.8325	0
A27	6390.02	A29	6373.5	6	439.4	0.038	0.011	0	0	0.8314	0
R36	6532.02	R35	6527.25	6	450.7	0.011	0.009	0	0	0.5387	0
A32	6312.94	A33	6291.81	6	453.9	0.047	0.011	0	0	0.9245	0
A33	6291.81	A34	6270.5	6	459.4	0.046	0.011	0	0	0.9235	0
W56	6367.24	W55	6346	6	454.3	0.047	0.009	0	0	1.133	0
W52	6267.5	W40	6205.97	6	494.1	0.125	0.009	0	0	1.8486	0
A78	6252.82	A76	6224.8	6	490.9	0.057	0.011	0	0	1.0238	0

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
T18	6172.23	T19	6172.22	15	352.3	0	0.011	1.22	0.9570	0.263	(N/A)
T43	6074.26	TTSA	6068.27	10	315.7	0.019	0.011	6.85	1.3874	2.304	56
T34A	6147.66	T34	6147.26	15	190.9	0.002	0.011	2.91	1.2297	2.2579	53
T32	6152.41	T33	6152.3	15	64.4	0.002	0.011	2.59	1.0335	2.0455	51
T20	6171.56	T21	6171	15	333.1	0.002	0.011	2.56	1.0194	2.0233	50
T31	6153.03	T32	6152.44	15	319.8	0.002	0.011	2.66	1.0333	2.1186	49
T15	6175.28	T16	6175	15	184.4	0.002	0.011	2.42	0.9352	1.9247	49
T36	6135.02	T37	6133.91	15	388.1	0.003	0.011	3.27	1.2297	2.639	48
T23	6167.87	T24	6166.89	15	484.5	0.002	0.011	2.75	1.0321	2.2201	48
T25	6164.79	T26	6164.11	15	313.9	0.002	0.011	2.82	1.0321	2.296	47
T30	6153.45	T31	6153.11	15	146.3	0.002	0.011	2.9	1.0333	2.381	46
T26A	6163.71	T27	6163.36	15	143.1	0.002	0.011	2.95	1.0321	2.4409	46
T35	6135.54	T36	6135.04	15	136.3	0.004	0.011	3.59	1.2297	2.9916	45
T13	6177.18	T14	6176.43	15	345.9	0.002	0.011	2.75	0.9352	2.2971	45
T26	6164.09	T26A	6163.72	15	138.9	0.003	0.011	3.05	1.0321	2.5456	45
T11	6178.37	T12	6177.7	15	304.2	0.002	0.011	2.77	0.9349	2.3163	44
T10	6179.38	T11	6178.39	15	446.5	0.002	0.011	2.77	0.9250	2.3246	44
T37A	6127.12	T38	6124.19	12	222.5	0.013	0.011	5.81	1.2425	3.1262	44
GV148	6168.77	T23	6167.91	15	308.6	0.003	0.011	3.1	1.0321	2.6029	44
T22	6169.61	GV148	6168.77	15	298.6	0.003	0.011	3.11	1.0321	2.6151	44
T12	6177.65	T13	6177.2	15	187.8	0.002	0.011	2.85	0.9349	2.4139	43
T21	6170.97	T22	6169.62	15	450.1	0.003	0.011	3.19	1.0321	2.7024	43
T09	6180.37	T10	6179.41	15	398.7	0.002	0.011	2.85	0.9214	2.4201	43
T14	6176.36	T15	6175.37	15	362.3	0.003	0.011	3	0.9352	2.5802	42
T29	6154.13	T30	6153.52	15	181.2	0.003	0.011	3.33	1.0321	2.8643	42
T08	6181.1	T09	6180.38	15	290.2	0.002	0.011	2.84	1.0194	2.4584	41
T19	6172.21	T20	6171.57	15	189	0.003	0.011	3.32	0.8726	2.8711	41
T16	6174.97	T17	6173.71	15	393.5	0.003	0.011	3.19	0.9515	2.7937	40
T41	6084.93	T43	6074.46	12	286	0.037	0.014	7.29	1.3874	4.0909	40
T38	6124.14	T39	6123.05	15	180.9	0.006	0.011	4.32	1.2425	3.8288	39
T37	6133.82	T37A	6127.41	12	311.6	0.021	0.011	6.83	1.2425	3.9005	39
T39A	6118.72	T39B	6115.51	15	305.7	0.01	0.014	4.43	1.2425	3.9705	39
T17	6173.7	T18	6172.31	15	354.6	0.004	0.011	3.44	0.9570	3.0873	38
T34	6147.18	T35	6135.64	12	516.5	0.022	0.011	7.03	1.2297	4.0656	38

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
T24	6166.88	T25	6164.8	15	410.9	0.005	0.011	3.86	1.0321	3.51	37
T28	6160.21	T29	6154.44	12	242.7	0.024	0.011	6.85	1.0321	4.1932	34
R07	6177.61	R06	6177.33	10	223	0.001	0.009	1.7	0.1783	0.7248	34
T27	6163.26	T28	6160.23	12	91.8	0.033	0.011	7.71	1.0321	4.9385	31
T33	6152.27	T34A	6147.67	15	308.3	0.015	0.011	5.98	1.2271	6.0297	31
T04A	6191.75	T05	6191.63	15	167.6	0.001	0.011	1.28	0.2537	1.3186	30
T40A	6095.26	T41	6084.93	12	205.9	0.05	0.009	11.24	1.3874	7.4479	29
R10	6179.81	R09	6179.04	10	310.2	0.002	0.009	2.16	0.1755	1.0194	28
R12A	6181.92	R12	6181.39	10	216.9	0.002	0.009	2.14	0.1706	1.0108	28
R11	6180.44	R10	6179.81	10	252.7	0.002	0.009	2.15	0.1706	1.0206	28
W46	6201.41	W13	6201.1	10	333.6	0.001	0.024	0.49	0.0389	0.2337	28
R13	6182.3	R12A	6181.92	10	147.7	0.003	0.009	2.17	0.1706	1.0364	28
T40	6102.8	T40A	6096.15	15	131.1	0.051	0.014	8.05	1.3778	8.7344	27
T45	6114.8	T40	6102.8	6	294.9	0.041	0.011	4.95	0.1353	0.8644	27
R16	6186.3	R15	6185.3	10	344.7	0.003	0.009	2.27	0.1706	1.1012	27
R12	6181.39	R11	6180.44	10	323.8	0.003	0.009	2.28	0.1706	1.1075	27
R09	6179.04	R07	6177.61	10	388.1	0.004	0.009	2.49	0.1755	1.2417	25
W37	6203.23	W36	6202.56	10	276.8	0.002	0.014	1.29	0.0891	0.6467	25
T5A	6191.07	T06	6190.69	15	254.9	0.001	0.011	1.68	0.2576	1.9046	25
R14	6183.41	R13	6182.3	10	285.9	0.004	0.009	2.52	0.1706	1.2742	25
W36A	6201.95	W15	6201.3	10	204.4	0.003	0.014	1.46	0.0983	0.7422	25
E34	6142	E33	6141.04	8	70.1	0.014	0.014	2.59	0.1099	0.8493	24
W13	6201.1	W14	6200.8	10	182.7	0.002	0.024	0.61	0.0398	0.3105	24
T39	6122.96	T39A	6118.76	15	107.2	0.039	0.011	8.47	0.1201	9.7752	24
E30A	6121.96	T44	6120.73	8	175.9	0.007	0.009	2.86	1.2425	0.943	24
T44	6120.73	T44A	6119.54	8	165.1	0.007	0.009	2.91	0.1201	0.958	24
W36	6202.56	W36A	6201.95	10	165.8	0.004	0.014	1.54	0.0983	0.7971	24
R15	6185.3	R14	6183.41	10	403.2	0.005	0.009	2.69	0.1706	1.4007	24
R03	6174.1	R02	6172.4	10	277.7	0.006	0.009	3.06	0.1936	1.5994	24
W38	6203.8	W37	6203.23	10	180.8	0.003	0.014	1.41	0.0871	0.7379	23
E33	6141.04	E33A	6134.26	8	364.4	0.019	0.014	2.93	0.1153	0.9897	23
R06	6177.33	R04	6175.4	10	317.7	0.006	0.009	2.99	0.1783	1.5934	23
R04	6175.4	R03	6174.1	10	198.7	0.007	0.009	3.08	0.1804	1.6531	22
W47	6202.9	W47A	6202.49	10	177.6	0.002	0.024	0.68	0.0389	0.3681	22
E33B	6126	E30	6124	8	79.8	0.025	0.014	3.26	0.1162	1.1466	22
E30	6124	E30A	6121.96	8	106.7	0.019	0.011	3.55	0.1201	1.2744	21

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
W39	6204.6	W38A	6204.49	10	157.8	0.001	0.014	0.62	0.0322	0.3469	21
E33A	6134.26	E33B	6126	8	274.3	0.03	0.014	3.48	0.1153	1.2591	20
T39B	6115.45	T39C	6109.7	15	102	0.056	0.009	11.09	1.2425	14.3178	20
T39C	6109.65	T40	6102.95	15	116.1	0.058	0.009	11.19	1.2425	14.4927	20
W38A	6204.49	W38	6203.8	10	111.2	0.006	0.014	1.77	0.0851	1.0367	19
R17	6187.4	R16	6186.3	12	268.6	0.004	0.009	2.51	0.1706	2.1268	19
W49	6207.3	W48	6205.54	8	236.5	0.007	0.024	0.97	0.0290	0.3645	19
T44A	6119.54	T44B	6115.91	8	147.5	0.025	0.009	4.64	0.1353	1.7727	19
T05	6191.63	T5A	6191.07	15	120.5	0.005	0.011	2.49	0.2539	3.3565	19
E36	6152.75	E34	6142	8	266.8	0.04	0.014	3.75	0.1054	1.4551	18
T44B	6115.91	T45	6114.8	8	33	0.034	0.009	5.18	0.1353	2.0689	17
W76	6200.78	W75	6199.86	6	166.5	0.006	0.009	1.72	0.0247	0.3899	17
E38	6158.84	E37	6157.08	8	379.4	0.005	0.014	1.22	0.0310	0.4942	17
E56	6164.6	E60	6163.7	8	158.1	0.006	0.014	1.33	0.0326	0.5473	17
E40	6162.53	E39	6160.9	8	305.6	0.005	0.014	1.26	0.0296	0.5293	16
T07	6185.71	T08	6181.1	12	115.5	0.04	0.011	5.77	0.3021	5.4484	16
E39	6160.9	E38	6158.84	8	357.5	0.006	0.014	1.3	0.0296	0.5501	16
R02	6172.4	R01	6166.5	10	175.4	0.034	0.009	5.6	0.1936	3.7555	15
E59	6159.16	E58	6157.66	8	196.4	0.008	0.014	1.48	0.0326	0.6344	15
T04	6192.53	T04A	6191.75	15	189.5	0.004	0.011	2.05	0.1522	3.1613	15
T06	6190.69	T07	6185.71	15	357.3	0.014	0.011	3.69	0.2576	5.8274	14
T02	6195.75	T03	6193.82	15	389.9	0.005	0.011	2.19	0.1522	3.4709	14
T03	6193.82	T04	6192.53	15	233	0.006	0.011	2.28	0.1522	3.6712	14
W74	6198.13	W77	6196.45	10	305.1	0.006	0.009	2.11	0.0615	1.518	14
W77	6196.45	T04A	6191.75	10	215	0.022	0.011	3.43	0.1001	2.4743	14
R01	6166.5	T33	6152.27	10	159.2	0.089	0.011	6.86	0.1936	5.0063	13
E43	6166.59	E42	6164.73	8	392.4	0.005	0.014	1.07	0.0191	0.4995	13
E37	6157.08	E36	6152.75	8	286.5	0.015	0.014	1.89	0.0332	0.8923	13
E42	6164.73	E41	6163.44	8	250.9	0.005	0.014	1.1	0.0191	0.5199	13
E41	6163.44	E40	6162.53	8	158.7	0.006	0.014	1.14	0.0191	0.5486	13
W48	6205.54	W47	6202.9	10	191.4	0.014	0.024	1.19	0.0310	0.9017	13
W15	6201.3	W14	6200.8	10	16.7	0.029	0.011	3.79	0.0983	2.87	13
E08	6191.52	E09	6190.98	8	298.3	0.002	0.009	0.99	0.0164	0.4802	13
T46	6137.22	T37	6133.82	6	429.3	0.008	0.011	1.39	0.0128	0.3815	13
W75	6199.86	W74	6198.13	8	182.2	0.01	0.009	2.24	0.0361	1.0998	12
W47A	6202.49	W46	6201.41	10	42.8	0.025	0.024	1.58	0.0389	1.2156	12

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
E60	6163.7	E59	6159.16	8	210.7	0.022	0.014	2.13	0.0326	1.0637	12
W01	6196.4	W02	6191.76	8	89.7	0.052	0.014	3.23	0.0478	1.6466	12
W40A	6204.8	W39	6204.6	10	74.6	0.003	0.014	0.82	0.0174	0.679	11
W14	6200.8	T02	6195.75	10	41.8	0.12	0.011	6.87	0.1381	5.8028	11
W49B	6212.68	W49A	6209.67	4	197.8	0.015	0.024	0.59	0.0018	0.0821	10
E58	6157.66	E36	6152.75	8	106.6	0.046	0.014	2.77	0.0326	1.5535	10
W49A	6209.67	W49	6207.3	6	160.1	0.015	0.024	0.75	0.0049	0.2391	10
E09	6190.98	E10	6170.98	8	388.7	0.051	0.014	2.88	0.0326	1.6443	10
E10	6170.98	E56	6164.6	8	119.6	0.053	0.014	2.91	0.0326	1.6721	10
W73	6200.6	W74	6198.13	8	175.4	0.014	0.009	2.33	0.0254	1.3402	10
W42	6206.69	W40	6205.97	8	136	0.005	0.014	0.88	0.0089	0.5277	9
P03	6130.66	P13	6130.04	8	136.7	0.005	0.009	1.22	0.0114	0.7589	9
W43	6208.07	W42	6206.69	8	269	0.005	0.014	0.84	0.0078	0.5194	9
W08B	6195.85	W08A	6195.5	10	153.2	0.002	0.014	0.65	0.0093	0.6289	9
P04	6131.43	P03	6130.66	8	174.1	0.004	0.009	1.17	0.0100	0.7504	8
W08A	6195.5	W08	6194.9	10	207.5	0.003	0.014	0.7	0.0093	0.7079	8
W11	6197.9	W10	6197.3	10	184.7	0.003	0.014	0.73	0.0093	0.7488	8
P07	6132.36	P06	6131.89	8	91.2	0.005	0.009	1.22	0.0100	0.8107	8
P06	6131.89	P04	6131.43	8	88.9	0.005	0.009	1.22	0.0100	0.811	8
P08	6133.31	P07	6132.36	8	172.5	0.006	0.009	1.25	0.0100	0.8384	8
W09	6196.5	W08B	6195.85	10	179.3	0.004	0.014	0.76	0.0093	0.7923	8
W10	6197.3	W09	6196.5	10	210.8	0.004	0.014	0.77	0.0093	0.8096	8
A83	6170.48	E44	6168.57	8	426.6	0.004	0.014	0.71	0.0055	0.485	8
E44	6168.57	E43	6166.59	8	388.4	0.005	0.014	0.75	0.0055	0.518	7
W08	6194.9	W07	6193.75	10	233.1	0.005	0.014	0.85	0.0093	0.9237	7
W07	6193.75	W7A	6192.35	10	281.7	0.005	0.014	0.85	0.0093	0.9264	7
W40	6205.97	W40A	6204.8	10	65.4	0.018	0.014	1.61	0.0174	1.7641	7
W44	6209.56	W43	6208.07	8	300.4	0.005	0.014	0.71	0.0048	0.5111	7
W11A	6198.1	W11	6197.9	10	63.6	0.003	0.014	0.63	0.0062	0.735	7
W02	6191.76	T09	6180.37	8	36	0.316	0.009	8.24	0.0478	6.3452	6
W28R	6209.61	W70	6208.91	8	114.2	0.006	0.014	0.72	0.0040	0.5683	6
W01B	6200.24	W01	6196.4	8	143.9	0.027	0.014	1.51	0.0083	1.1842	6
W19	6198.4	W11A	6198.1	10	47.7	0.006	0.014	0.81	0.0062	1.0395	6
A82	6172.54	A83	6170.48	8	438	0.005	0.014	0.57	0.0024	0.4973	5
E29	6148	E30	6124	4	279.8	0.086	0.009	2.34	0.0025	0.5201	5
W70	6208.91	W71	6208.46	8	61.8	0.007	0.009	1.04	0.0040	0.9611	5

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
W05	6186.3	W04	6183.8	8	341	0.007	0.014	0.65	0.0022	0.6209	4
W06	6188.5	W05	6186.3	8	290.3	0.008	0.014	0.66	0.0022	0.6316	4
T01	6197.2	T02	6195.75	15	192.2	0.008	0.011	1.23	0.0141	4.2877	4
W12	6199.05	W19	6198.4	10	219.9	0.003	0.014	0.45	0.0021	0.7147	4
P13	6130.04	T44A	6119.54	8	68.8	0.152	0.009	4.3	0.0128	4.4006	4
W62	6204.25	W38	6203.8	8	147.8	0.003	0.009	0.6	0.0017	0.622	4
W7A	6192.35	T08	6181.1	8	42.9	0.262	0.014	3.46	0.0093	3.7093	4
W24R	6194.82	T5A	6191.07	12	203.9	0.018	0.024	0.67	0.0037	1.691	4
W71	6208.46	W73	6200.6	8	262.8	0.03	0.009	1.73	0.0040	1.9502	3
E49	6176.69	E43	6166.59	8	199.5	0.051	0.014	1.45	0.0033	1.6338	3
W45	6215	W44	6209.56	8	310.8	0.017	0.014	0.74	0.0013	0.9591	3
W61A	6206.51	W62	6204.25	8	181.9	0.012	0.009	0.94	0.0015	1.2571	3
W61	6208.51	W61A	6206.51	8	137.3	0.015	0.009	1	0.0015	1.363	3
P12	6154.64	P03	6130.66	6	248	0.097	0.009	1.99	0.0022	1.6288	2
W04	6183.8	T08	6181.1	8	18.3	0.15	0.014	1.79	0.0014	2.8087	2
E27	6162.4	E29	6148	8	160.6	0.089	0.009	2.12	0.0025	3.3737	2
E35	6142.9	E34	6142	8	248.4	0.004	0.014	0.28	0.0003	0.4369	2
E07	6192.8	E08	6191.52	8	221.4	0.006	0.014	0.28	0.0002	0.5519	2
E32	6154.49	E33	6141.04	6	101.9	0.132	0.014	0.98	0.0003	1.2228	1
W17	6197.6	T01	6197.2	8	5.5	0.08	0.011	0	0.0000	2.6106	(N/A)
R7A	6178.02	R07	6177.61	10	18.4	0.023	0.009	0	0.0000	3.0869	(N/A)
W32	6204.9	W31A	6203.82	6	27.5	0.039	0.011	0	0.0000	0.8417	(N/A)
I46	6161.17	T32	6152.41	6	35.3	0.25	0.011	0	0.0000	2.1441	(N/A)
T50A	6138.02	T46	6137.22	6	37.4	0.022	0.011	0	0.0000	0.6302	(N/A)
T57	6141.7	T56	6140.81	6	41.2	0.022	0.011	0	0.0000	0.6314	(N/A)
W60	6208.83	W61	6208.51	6	47.5	0.007	0.009	0	0.0000	0.4277	(N/A)
W50B	6211.27	W50A	6209.59	8	47.6	0.035	0.024	0	0.0000	0.7914	(N/A)
A86	6207.06	W11	6197.9	6	51.4	0.18	0.009	0	0.0000	2.2199	(N/A)
T59	6139.47	T58	6138.95	6	51.5	0.01	0.011	0	0.0000	0.4286	(N/A)
H88	6179.4	A82	6172.54	6	51.5	0.135	0.014	0	0.0000	1.235	(N/A)
I47	6161.28	T33	6152.27	6	48.7	0.184	0.011	0	0.0000	1.8377	(N/A)
A88	6255.14	A87	6238.06	6	54	0.316	0.009	0	0.0000	2.9459	(N/A)
A84	6171.79	A83	6170.48	6	56.5	0.023	0.014	0	0.0000	0.5105	(N/A)
A80A	6176	A80	6173.9	6	57.9	0.036	0.014	0	0.0000	0.6407	(N/A)
A72	6194.12	A71	6189.96	6	59.7	0.069	0.011	0	0.0000	1.1285	(N/A)
T58	6138.95	T50A	6138.02	6	59.4	0.016	0.011	0	0.0000	0.5381	(N/A)

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
E25	6185.67	E24	6183.36	6	60.8	0.038	0.014	0	0.0000	0.6553	(N/A)
R21	6237	R20	6235.68	6	60.9	0.022	0.009	0	0.0000	0.7705	(N/A)
H85	6221.25	A84	6171.79	6	61.5	0.811	0.014	0	0.0000	3.0321	(N/A)
T54	6139.31	T50	6138.76	6	63.3	0.009	0.011	0	0.0000	0.4004	(N/A)
A79	6179	A80A	6176	6	64.2	0.047	0.014	0	0.0000	0.729	(N/A)
W27R	6211.38	W28R	6209.61	6	65.2	0.027	0.014	0	0.0000	0.5557	(N/A)
A59	6187.89	T11	6178.37	6	70.8	0.134	0.011	0	0.0000	1.5693	(N/A)
T52	6147.58	T51	6147.03	6	72.1	0.008	0.011	0	0.0000	0.3746	(N/A)
H89	6195	H88	6179.4	6	73.3	0.214	0.014	0	0.0000	1.5566	(N/A)
W31A	6203.82	W31	6203.49	6	74.8	0.004	0.011	0	0.0000	0.2843	(N/A)
E42A	6172.38	E42	6164.73	6	76.7	0.099	0.014	0	0.0000	1.0614	(N/A)
R24	6240.89	R23	6239.48	6	79.9	0.018	0.009	0	0.0000	0.6954	(N/A)
I49	6151.1	T34A	6147.66	6	78.1	0.044	0.011	0	0.0000	0.9	(N/A)
R31	6402.16	R30	6397.4	6	81.1	0.059	0.009	0	0.0000	1.2698	(N/A)
W53	6284.2	W52	6267.5	6	87.7	0.19	0.009	0	0.0000	2.2818	(N/A)
H90	6241	H89	6195	6	82	0.561	0.014	0	0.0000	2.5221	(N/A)
W50R	6207.99	W49	6207.3	8	83	0.008	0.024	0	0.0000	0.3867	(N/A)
A65	6188.5	T16	6174.97	6	95.2	0.142	0.011	0	0.0000	1.6174	(N/A)
A56	6227.51	A55	6225.9	6	87.7	0.018	0.011	0	0.0000	0.5797	(N/A)
A67	6187.47	T17	6173.7	6	90.3	0.153	0.011	0	0.0000	1.6763	(N/A)
T55	6139.91	T54	6139.31	6	89.6	0.007	0.011	0	0.0000	0.3499	(N/A)
W72	6212.72	W71	6208.46	6	90.7	0.047	0.009	0	0.0000	1.1333	(N/A)
W50	6208.76	W50R	6207.99	8	91.6	0.008	0.024	0	0.0000	0.3867	(N/A)
T48	6149.75	T47A	6148.6	6	92.5	0.012	0.011	0	0.0000	0.4792	(N/A)
W31	6203.49	W30	6202.96	6	95.5	0.006	0.011	0	0.0000	0.3201	(N/A)
A73	6189.48	T20	6171.56	6	97.4	0.185	0.014	0	0.0000	1.4473	(N/A)
H101	6301.43	H100	6274.02	6	97.9	0.28	0.009	0	0.0000	2.7702	(N/A)
W50A	6209.59	W50	6208.76	8	99.5	0.008	0.024	0	0.0000	0.3867	(N/A)
I45	6162.25	I46	6161.17	6	101.6	0.011	0.011	0	0.0000	0.441	(N/A)
T51	6147.03	T50	6138.76	6	103.3	0.08	0.011	0	0.0000	1.2144	(N/A)
A71	6189.96	T19	6172.21	6	111.5	0.158	0.011	0	0.0000	1.7061	(N/A)
T50	6138.76	T50A	6138.02	6	106.2	0.007	0.011	0	0.0000	0.3581	(N/A)
W26	6216.5	W27R	6211.38	6	107.4	0.048	0.014	0	0.0000	0.7366	(N/A)
H87	6258.4	H85	6221.25	6	108.1	0.344	0.009	0	0.0000	3.0721	(N/A)
A74	6184.2	T21	6170.97	6	114.7	0.115	0.014	0	0.0000	1.1421	(N/A)
T53	6148.29	T52	6147.58	6	108.2	0.007	0.011	0	0.0000	0.3475	(N/A)

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
A25	6442.5	A26	6431.2	6	110.2	0.103	0.011	0	0.0000	1.3736	(N/A)
W55	6346	W54	6325	6	122.6	0.171	0.009	0	0.0000	2.1643	(N/A)
T56	6140.81	T55	6139.91	6	114.3	0.008	0.011	0	0.0000	0.3808	(N/A)
A58	6189.07	A59	6187.89	6	114.8	0.01	0.011	0	0.0000	0.4341	(N/A)
A28	6399.9	A27	6390.02	6	114.8	0.086	0.011	0	0.0000	1.2562	(N/A)
R23	6239.48	R21	6237	6	115.7	0.021	0.009	0	0.0000	0.7659	(N/A)
A75	6196.26	A74	6184.2	6	118.5	0.101	0.014	0	0.0000	1.072	(N/A)
A68	6205.95	A67	6187.47	4	120.2	0.154	0.011	0	0.0000	0.5704	(N/A)
H100	6274.02	H97	6253.93	6	122	0.165	0.014	0	0.0000	1.3664	(N/A)
E12	6205	E11	6181.95	6	124.6	0.184	0.014	0	0.0000	1.446	(N/A)
E03	6201.08	E06	6193.66	8	125.1	0.059	0.014	0	0.0000	1.7668	(N/A)
A57	6230.5	A56	6227.51	6	125.6	0.024	0.011	0	0.0000	0.6602	(N/A)
W38B	6206	W38A	6204.49	6	126.9	0.012	0.009	0	0.0000	0.5712	(N/A)
H97	6253.93	E45	6200.14	6	127.5	0.42	0.014	0	0.0000	2.1829	(N/A)
T48A	6150.78	T48	6149.75	6	127.8	0.008	0.011	0	0.0000	0.3844	(N/A)
E28	6168.1	E27	6162.4	6	127.8	0.045	0.014	0	0.0000	0.7106	(N/A)
E24	6183.36	E23	6182.44	6	134.9	0.007	0.014	0	0.0000	0.278	(N/A)
R29	6382.72	R28	6377	6	135.9	0.042	0.009	0	0.0000	1.0742	(N/A)
A37A	6289.49	A37	6276.25	6	137	0.097	0.011	0	0.0000	1.3323	(N/A)
E23	6182.44	E11	6181.95	8	137	0.004	0.014	0	0.0000	0.4337	(N/A)
I48	6165.85	I47	6161.28	6	137.2	0.033	0.011	0	0.0000	0.7827	(N/A)
R28	6377	R27	6373.42	6	150.2	0.024	0.009	0	0.0000	0.8092	(N/A)
W57	6222.4	W58	6221.2	6	141.4	0.009	0.009	0	0.0000	0.4832	(N/A)
C3	6211.2	C4	6209.5	6	142.1	0.012	0.009	0	0.0000	0.5731	(N/A)
W59	6216.33	W60	6208.83	8	143.9	0.052	0.009	0	0.0000	2.5745	(N/A)
C1	6220	C2	6215.76	6	147.8	0.029	0.009	0	0.0000	0.8866	(N/A)
C2	6215.76	C3	6211.2	6	148.8	0.031	0.009	0	0.0000	0.9163	(N/A)
R34	6492.02	R33	6479.22	6	158.3	0.081	0.009	0	0.0000	1.4909	(N/A)
A46	6283.8	A45	6240.52	4	153	0.283	0.011	0	0.0000	0.7731	(N/A)
A29	6373.5	WY-A30	6367.64	6	148.4	0.04	0.011	0	0.0000	0.8525	(N/A)
H105	6308.4	H101	6301.43	6	156.7	0.044	0.009	0	0.0000	1.1037	(N/A)
W01C	6202.32	W01B	6200.24	8	158.8	0.013	0.014	0	0.0000	0.8294	(N/A)
W25R	6219.26	W72	6212.72	6	159.7	0.041	0.009	0	0.0000	1.059	(N/A)
H102	6312.81	H101	6301.43	6	160.3	0.071	0.014	0	0.0000	0.898	(N/A)
H86	6233.9	H85	6221.25	6	161.3	0.079	0.009	0	0.0000	1.4683	(N/A)
W34	6209.72	W33A	6207.9	6	161.7	0.011	0.011	0	0.0000	0.4543	(N/A)

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
E17	6190.77	E10	6170.98	8	163.1	0.121	0.014	0	0.0000	2.5269	(N/A)
R22	6257.85	R21	6237	6	165.1	0.126	0.009	0	0.0000	1.862	(N/A)
E26	6192.8	E27	6162.4	6	165.7	0.183	0.014	0	0.0000	1.441	(N/A)
A43	6238.36	A42	6209.99	6	170.1	0.167	0.011	0	0.0000	1.7507	(N/A)
E51	6174	E63	6170.92	6	171.2	0.018	0.014	0	0.0000	0.4519	(N/A)
A69	6191.4	A67	6187.47	6	172.6	0.023	0.011	0	0.0000	0.6459	(N/A)
W58	6221.2	W59	6216.33	8	173	0.028	0.009	0	0.0000	1.8927	(N/A)
E50	6176.54	E51	6174	6	173.6	0.015	0.014	0	0.0000	0.4068	(N/A)
H103	6338.71	H102	6312.81	6	174.2	0.149	0.009	0	0.0000	2.0209	(N/A)
H94	6266.2	A78	6252.82	6	175.4	0.076	0.011	0	0.0000	1.185	(N/A)
M1	6193.3	T09	6180.37	6	177.7	0.073	0.011	0	0.0000	1.1551	(N/A)
A40	6231.01	A39	6228.59	6	179.1	0.014	0.011	0	0.0000	0.4983	(N/A)
E63	6170.92	E40	6162.53	6	181	0.046	0.014	0	0.0000	0.725	(N/A)
E16	6196.92	E17	6190.77	6	183.3	0.034	0.014	0	0.0000	0.6173	(N/A)
E31	6177.11	E32	6154.49	6	185.1	0.122	0.014	0	0.0000	1.1775	(N/A)
W33A	6207.9	W32	6204.9	6	185.7	0.016	0.011	0	0.0000	0.5443	(N/A)
H95	6287	H94	6266.2	6	188.4	0.111	0.011	0	0.0000	1.4255	(N/A)
W30	6202.96	W17	6197.6	8	190.2	0.028	0.011	0	0.0000	1.5502	(N/A)
H91	6261.21	H87	6258.4	6	194	0.014	0.009	0	0.0000	0.6304	(N/A)
A66	6188.9	A67	6187.47	6	194.2	0.007	0.011	0	0.0000	0.3679	(N/A)
R18	6203.31	R10	6179.81	6	204.3	0.115	0.009	0	0.0000	1.7778	(N/A)
A37B	6300.03	A37A	6289.49	6	199.7	0.053	0.011	0	0.0000	0.9838	(N/A)
E53	6183.02	E52	6179.55	6	199.8	0.017	0.014	0	0.0000	0.4435	(N/A)
E14	6222.16	E15	6221.13	8	205.9	0.005	0.014	0	0.0000	0.5128	(N/A)
R30	6397.4	R28	6377	6	207.4	0.099	0.009	0	0.0000	1.6444	(N/A)
H92	6277.37	H91	6261.21	6	209.7	0.077	0.009	0	0.0000	1.453	(N/A)
C4	6209.5	W01	6196.4	6	214.2	0.061	0.014	0	0.0000	0.8331	(N/A)
A26	6431.2	A27	6390.02	6	216.2	0.191	0.011	0	0.0000	1.8713	(N/A)
E47	6187.9	E49	6176.69	6	218.2	0.051	0.014	0	0.0000	0.7636	(N/A)
E45	6200.14	E46	6195.29	6	219.6	0.022	0.014	0	0.0000	0.5	(N/A)
T47A	6148.6	T47	6144.47	6	220	0.019	0.011	0	0.0000	0.5872	(N/A)
R20	6235.68	R19	6221.55	6	224.3	0.063	0.009	0	0.0000	1.3156	(N/A)
H106	6320.37	H105	6308.4	6	225.6	0.053	0.009	0	0.0000	1.2055	(N/A)
A87	6238.06	A86	6207.06	6	225.8	0.137	0.009	0	0.0000	1.94	(N/A)
A42	6209.99	A65	6188.5	6	227.6	0.094	0.011	0	0.0000	1.3157	(N/A)
A63	6189.85	A65	6188.5	6	228.3	0.006	0.011	0	0.0000	0.3298	(N/A)

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
W41	6242.85	W40	6205.97	6	236.1	0.156	0.014	0	0.0000	1.3311	(N/A)
E61	6167.48	E60	6163.7	6	246.5	0.015	0.014	0	0.0000	0.4166	(N/A)
A34	6270.5	A35	6260	6	249.2	0.042	0.011	0	0.0000	0.8801	(N/A)
E52	6179.55	E51	6174	6	254.3	0.022	0.014	0	0.0000	0.4978	(N/A)
E55	6174.75	E56	6164.6	6	258.7	0.039	0.014	0	0.0000	0.6666	(N/A)
A36	6274.65	A35	6260	6	259.8	0.056	0.011	0	0.0000	1.0173	(N/A)
R19	6221.55	R18	6203.31	6	262.7	0.069	0.009	0	0.0000	1.3794	(N/A)
A35	6260	A38	6221.8	6	253.7	0.15	0.011	0	0.0000	1.662	(N/A)
H104	6343.76	H103	6338.71	6	265.4	0.019	0.009	0	0.0000	0.7231	(N/A)
E11	6181.95	E10	6170.98	8	270.8	0.04	0.009	0	0.0000	2.2696	(N/A)
A76	6224.8	A75	6196.26	6	271.3	0.105	0.011	0	0.0000	1.3908	(N/A)
E13	6223.4	E12	6205	6	272.2	0.068	0.014	0	0.0000	0.8758	(N/A)
E02	6202.06	E03	6201.08	8	278.8	0.004	0.014	0	0.0000	0.4298	(N/A)
R26	6315.62	R25	6228.2	6	276	0.317	0.009	0	0.0000	2.9479	(N/A)
E01	6203.03	E02	6202.06	8	277.8	0.003	0.014	0	0.0000	0.4284	(N/A)
A38	6221.8	A71	6189.96	6	284.8	0.112	0.011	0	0.0000	1.4325	(N/A)
A80	6173.9	A82	6172.54	8	288	0.005	0.014	0	0.0000	0.4983	(N/A)
S53	6501.6	S52	6477.5	6	290.8	0.083	0.011	0	0.0000	1.2333	(N/A)
A17	6266.57	A18	6226.07	6	292.4	0.139	0.009	0	0.0000	1.9508	(N/A)
T47	6144.47	T46	6137.22	6	299.6	0.024	0.011	0	0.0000	0.6662	(N/A)
A39	6228.59	A38	6221.8	6	304.6	0.022	0.011	0	0.0000	0.6394	(N/A)
A45	6240.52	A44	6226.5	6	295.5	0.047	0.011	0	0.0000	0.9327	(N/A)
S51	6456.4	A26	6431.2	6	296.1	0.085	0.011	0	0.0000	1.2505	(N/A)
R27	6373.42	R26	6315.62	6	297.5	0.195	0.009	0	0.0000	2.3108	(N/A)
W54	6325	W53	6284.2	6	317.6	0.128	0.009	0	0.0000	1.8762	(N/A)
S52	6477.5	S51	6456.4	6	307.3	0.069	0.011	0	0.0000	1.1235	(N/A)
E54	6181.34	E55	6174.75	6	307.9	0.021	0.014	0	0.0000	0.4925	(N/A)
A37	6276.25	A36	6274.65	6	312.5	0.005	0.011	0	0.0000	0.3064	(N/A)
E15	6221.13	E16	6196.92	8	312.1	0.078	0.014	0	0.0000	2.0201	(N/A)
A77	6235.7	A76	6224.8	6	312.6	0.035	0.011	0	0.0000	0.7998	(N/A)
A24	6452.9	A25	6442.5	6	316.1	0.033	0.011	0	0.0000	0.7775	(N/A)
E04	6212.9	E03	6201.08	8	313.9	0.038	0.014	0	0.0000	1.407	(N/A)
E62	6173.52	E61	6167.48	6	315.2	0.019	0.014	0	0.0000	0.4663	(N/A)
H99	6325	H98	6300.65	6	323.1	0.075	0.009	0	0.0000	1.4382	(N/A)
A60	6197.3	A59	6187.89	6	318.4	0.03	0.011	0	0.0000	0.7372	(N/A)
A14	6342	A15	6339.98	6	321.5	0.006	0.009	0	0.0000	0.4149	(N/A)

Scenario 2 - Existing Sewer System + VSVSP ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
A55	6225.9	A58	6189.07	6	325.8	0.113	0.011	0	0.0000	1.4405	(N/A)
A18	6226.07	W19	6198.4	6	330.3	0.084	0.009	0	0.0000	1.5168	(N/A)
A41	6228.1	A42	6209.99	6	342.3	0.053	0.011	0	0.0000	0.9862	(N/A)
E46	6195.29	E47	6187.9	6	334.9	0.022	0.014	0	0.0000	0.5001	(N/A)
A70	6192.16	A71	6189.96	6	336.1	0.007	0.011	0	0.0000	0.3468	(N/A)
H98	6300.65	H97	6253.93	6	342.5	0.136	0.014	0	0.0000	1.2428	(N/A)
E06	6193.66	E07	6192.8	8	343.1	0.003	0.014	0	0.0000	0.3631	(N/A)
E63A	6176.1	E63	6170.92	6	344.2	0.015	0.014	0	0.0000	0.4132	(N/A)
WY-A30	6367.64	A30	6354.41	6	350.8	0.038	0.011	0	0.0000	0.8322	(N/A)
A44	6226.5	A42	6209.99	6	349.7	0.047	0.011	0	0.0000	0.9308	(N/A)
R35	6527.25	R34	6492.02	6	354.5	0.099	0.009	0	0.0000	1.6501	(N/A)
A16	6296	A17	6266.57	6	362.2	0.081	0.009	0	0.0000	1.4935	(N/A)
R32	6438.52	R30	6397.4	6	383	0.107	0.009	0	0.0000	1.7163	(N/A)
A47	6270.09	A45	6240.52	6	393.7	0.075	0.011	0	0.0000	1.1741	(N/A)
R33	6479.22	R32	6438.52	6	402.5	0.101	0.009	0	0.0000	1.6646	(N/A)
A62	6200.59	A63	6189.85	6	401.4	0.027	0.011	0	0.0000	0.7014	(N/A)
A31	6331.83	A32	6312.94	6	411.8	0.046	0.011	0	0.0000	0.9176	(N/A)
A30	6354.41	A31	6331.83	6	414.9	0.054	0.011	0	0.0000	0.9997	(N/A)
A15	6339.98	A17	6266.57	6	442.9	0.166	0.009	0	0.0000	2.1323	(N/A)
R25	6228.2	R03	6174.1	6	442.4	0.122	0.009	0	0.0000	1.8325	(N/A)
A27	6390.02	A29	6373.5	6	439.4	0.038	0.011	0	0.0000	0.8314	(N/A)
R36	6532.02	R35	6527.25	6	450.7	0.011	0.009	0	0.0000	0.5387	(N/A)
A32	6312.94	A33	6291.81	6	453.9	0.047	0.011	0	0.0000	0.9245	(N/A)
A33	6291.81	A34	6270.5	6	459.4	0.046	0.011	0	0.0000	0.9235	(N/A)
W56	6367.24	W55	6346	6	454.3	0.047	0.009	0	0.0000	1.133	(N/A)
W52	6267.5	W40	6205.97	6	494.1	0.125	0.009	0	0.0000	1.8486	(N/A)
A78	6252.82	A76	6224.8	6	490.9	0.057	0.011	0	0.0000	1.0238	(N/A)

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
T18	6172.23	T19	6172.22	15	352.3	0	0.011	2.9	2.2054	0.263	839
T43	6074.26	TTSA	6068.27	10	315.7	0.019	0.011	9.47	3.248	2.304	141
T34A	6147.66	T34	6147.26	15	190.9	0.002	0.011	3.73	2.8664	2.2579	127
T32	6152.41	T33	6152.3	15	64.4	0.002	0.011	3.13	2.391	2.0455	117
T20	6171.56	T21	6171	15	333.1	0.002	0.011	3.09	2.3567	2.0233	117
T31	6153.03	T32	6152.44	15	319.8	0.002	0.011	3.13	2.3905	2.1186	113
T15	6175.28	T16	6175	15	184.4	0.002	0.011	2.83	2.1524	1.9247	112
T36	6135.02	T37	6133.91	15	388.1	0.003	0.011	3.73	2.8664	2.639	109
T23	6167.87	T24	6166.89	15	484.5	0.002	0.011	3.12	2.3875	2.2201	108
T25	6164.79	T26	6164.11	15	313.9	0.002	0.011	3.12	2.3875	2.296	104
T30	6153.45	T31	6153.11	15	146.3	0.002	0.011	3.41	2.3905	2.381	100
T26A	6163.71	T27	6163.36	15	143.1	0.002	0.011	3.51	2.3875	2.4409	98
T35	6135.54	T36	6135.04	15	136.3	0.004	0.011	4.3	2.8664	2.9916	96
T13	6177.18	T14	6176.43	15	345.9	0.002	0.011	3.3	2.1524	2.2971	94
T26	6164.09	T26A	6163.72	15	138.9	0.003	0.011	3.66	2.3875	2.5456	94
T11	6178.37	T12	6177.7	15	304.2	0.002	0.011	3.33	2.1518	2.3163	93
T37A	6127.12	T38	6124.19	12	222.5	0.013	0.011	7.01	2.1279	3.1262	92
T10	6179.38	T11	6178.39	15	446.5	0.002	0.011	3.34	2.8974	2.3246	93
GV148	6168.77	T23	6167.91	15	308.6	0.003	0.011	3.74	2.3875	2.6029	92
T22	6169.61	GV148	6168.77	15	298.6	0.003	0.011	3.75	2.3875	2.6151	91
T12	6177.65	T13	6177.2	15	187.8	0.002	0.011	3.46	2.1518	2.4139	89
T21	6170.97	T22	6169.62	15	450.1	0.003	0.011	3.87	2.3875	2.7024	88
T09	6180.37	T10	6179.41	15	398.7	0.002	0.011	3.46	2.1192	2.4201	88
T14	6176.36	T15	6175.37	15	362.3	0.003	0.011	3.66	2.1524	2.5802	83
T29	6154.13	T30	6153.52	15	181.2	0.003	0.011	4.06	2.3875	2.8643	83
T19	6172.21	T20	6171.57	15	189	0.003	0.011	4.07	2.3567	2.8711	82
T08	6181.1	T09	6180.38	15	290.2	0.002	0.011	3.48	2.0009	2.4584	81
T16	6174.97	T17	6173.71	15	393.5	0.003	0.011	3.93	2.192	2.7937	79
T41	6084.93	T43	6074.46	12	286	0.037	0.014	6.58	3.248	4.0909	79
T38	6124.14	T39	6123.05	15	180.9	0.006	0.011	5.34	2.8974	3.8288	76
T37	6133.82	T37A	6127.41	12	311.6	0.021	0.011	8.47	2.8974	3.9005	74
T39A	6118.72	T39B	6115.51	15	305.7	0.01	0.014	5.5	2.8974	3.9705	73
T17	6173.7	T18	6172.31	15	354.6	0.004	0.011	4.26	2.2054	3.0873	71
T34	6147.18	T35	6135.64	12	516.5	0.022	0.011	8.73	2.8664	4.0656	71

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
T24	6166.88	T25	6164.8	15	410.9	0.005	0.011	4.8	2.3875	3.51	68
R07	6177.61	R06	6177.33	10	223	0.001	0.009	2.15	2.3875	0.7248	57
T28	6160.21	T29	6154.44	12	242.7	0.024	0.011	8.6	0.4322	4.1932	60
T27	6163.26	T28	6160.23	12	91.8	0.033	0.011	9.74	2.3875	4.9385	48
T33	6152.27	T34A	6147.67	15	308.3	0.015	0.011	7.56	2.8602	6.0297	47
T04A	6191.75	T05	6191.63	15	167.6	0.001	0.011	1.63	0.6148	1.3186	47
T40A	6095.26	T41	6084.93	12	205.9	0.05	0.009	14.26	3.248	7.4479	44
R10	6179.81	R09	6179.04	10	310.2	0.002	0.009	2.76	0.4254	1.0194	42
R12A	6181.92	R12	6181.39	10	216.9	0.002	0.009	2.73	0.4134	1.0108	41
R11	6180.44	R10	6179.81	10	252.7	0.002	0.009	2.75	0.4134	1.0206	41
W46	6201.41	W13	6201.1	10	333.6	0.001	0.024	0.63	0.0945	0.2337	40
R13	6182.3	R12A	6181.92	10	147.7	0.003	0.009	2.78	0.4134	1.0364	40
T40	6102.8	T40A	6096.15	15	131.1	0.051	0.014	10.26	3.2247	8.7344	37
T45	6114.8	T40	6102.8	6	294.9	0.041	0.011	6.34	0.3273	0.8644	38
R16	6186.3	R15	6185.3	10	344.7	0.003	0.009	2.9	0.4134	1.1012	38
R12	6181.39	R11	6180.44	10	323.8	0.003	0.009	2.91	0.4134	1.1075	37
R09	6179.04	R07	6177.61	10	388.1	0.004	0.009	3.19	0.4254	1.2417	34
W37	6203.23	W36	6202.56	10	276.8	0.002	0.014	1.65	0.2158	0.6467	33
T5A	6191.07	T06	6190.69	15	254.9	0.001	0.011	2.15	0.6242	1.9046	33
R14	6183.41	R13	6182.3	10	285.9	0.004	0.009	3.23	0.4134	1.2742	32
W36A	6201.95	W15	6201.3	10	204.4	0.003	0.014	1.87	0.238	0.7422	32
E34	6142	E33	6141.04	8	70.1	0.014	0.014	3.33	0.2659	0.8493	31
W13	6201.1	W14	6200.8	10	182.7	0.002	0.024	0.78	0.0968	0.3105	31
E30A	6121.96	T44	6120.73	8	175.9	0.007	0.009	3.68	0.2904	0.943	31
T39	6122.96	T39A	6118.76	15	107.2	0.039	0.011	10.83	2.8974	9.7752	30
T44	6120.73	T44A	6119.54	8	165.1	0.007	0.009	3.72	0.2904	0.958	30
W36	6202.56	W36A	6201.95	10	165.8	0.004	0.014	1.97	0.238	0.7971	30
R15	6185.3	R14	6183.41	10	403.2	0.005	0.009	3.46	0.4134	1.4007	30
R03	6174.1	R02	6172.4	10	277.7	0.006	0.009	3.94	0.4692	1.5994	29
W38	6203.8	W37	6203.23	10	180.8	0.003	0.014	1.8	0.211	0.7379	29
E33	6141.04	E33A	6134.26	8	364.4	0.019	0.014	3.76	0.2787	0.9897	28
R06	6177.33	R04	6175.4	10	317.7	0.006	0.009	3.84	0.4322	1.5934	27
R04	6175.4	R03	6174.1	10	198.7	0.007	0.009	3.96	0.4373	1.6531	27
W47	6202.9	W47A	6202.49	10	177.6	0.002	0.024	0.87	0.0945	0.3681	26
E33B	6126	E30	6124	8	79.8	0.025	0.014	4.21	0.281	1.1466	25
E30	6124	E30A	6121.96	8	106.7	0.019	0.011	4.58	0.2904	1.2744	23

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
W39	6204.6	W38A	6204.49	10	157.8	0.001	0.014	0.79	0.078	0.3469	23
E33A	6134.26	E33B	6126	8	274.3	0.03	0.014	4.48	0.2787	1.2591	22
T39B	6115.45	T39C	6109.7	15	102	0.056	0.009	14.27	2.8974	14.3178	20
T39C	6109.65	T40	6102.95	15	116.1	0.058	0.009	14.39	2.8974	14.4927	20
W38A	6204.49	W38	6203.8	10	111.2	0.006	0.014	2.29	0.2063	1.0367	20
R17	6187.4	R16	6186.3	12	268.6	0.004	0.009	3.24	0.4134	2.1268	19
W49	6207.3	W48	6205.54	8	236.5	0.007	0.024	1.25	0.0704	0.3645	19
T44A	6119.54	T44B	6115.91	8	147.5	0.025	0.009	5.99	0.3273	1.7727	19
T05	6191.63	T5A	6191.07	15	120.5	0.005	0.011	3.22	0.6153	3.3565	18
E36	6152.75	E34	6142	8	266.8	0.04	0.014	4.85	0.2552	1.4551	18
T44B	6115.91	T45	6114.8	8	33	0.034	0.009	6.7	0.3273	2.0689	16
W76	6200.78	W75	6199.86	6	166.5	0.006	0.009	2.22	0.0598	0.3899	15
E38	6158.84	E37	6157.08	8	379.4	0.005	0.014	1.58	0.075	0.4942	15
E56	6164.6	E60	6163.7	8	158.1	0.006	0.014	1.73	0.0791	0.5473	15
E40	6162.53	E39	6160.9	8	305.6	0.005	0.014	1.64	0.0717	0.5293	14
T07	6185.71	T08	6181.1	12	115.5	0.04	0.011	7.48	0.732	5.4484	13
E39	6160.9	E38	6158.84	8	357.5	0.006	0.014	1.68	0.0717	0.5501	13
R02	6172.4	R01	6166.5	10	175.4	0.034	0.009	7.26	0.4692	3.7555	13
E59	6159.16	E58	6157.66	8	196.4	0.008	0.014	1.92	0.0791	0.6344	13
T04	6192.53	T04A	6191.75	15	189.5	0.004	0.011	2.67	0.3691	3.1613	12
T06	6190.69	T07	6185.71	15	357.3	0.014	0.011	4.79	0.6242	5.8274	11
T02	6195.75	T03	6193.82	15	389.9	0.005	0.011	2.85	0.3691	3.4709	11
T03	6193.82	T04	6192.53	15	233	0.006	0.011	2.97	0.3691	3.6712	10
W74	6198.13	W77	6196.45	10	305.1	0.006	0.009	2.74	0.1488	1.518	10
W77	6196.45	T04A	6191.75	10	215	0.022	0.011	4.46	0.2423	2.4743	10
R01	6166.5	T33	6152.27	10	159.2	0.089	0.011	8.91	0.4692	5.0063	9
E43	6166.59	E42	6164.73	8	392.4	0.005	0.014	1.38	0.0463	0.4995	9
E37	6157.08	E36	6152.75	8	286.5	0.015	0.014	2.45	0.0802	0.8923	9
E42	6164.73	E41	6163.44	8	250.9	0.005	0.014	1.42	0.0463	0.5199	9
E41	6163.44	E40	6162.53	8	158.7	0.006	0.014	1.48	0.0463	0.5486	8
W48	6205.54	W47	6202.9	10	191.4	0.014	0.024	1.55	0.0752	0.9017	8
W15	6201.3	W14	6200.8	10	16.7	0.029	0.011	4.93	0.238	2.87	8
E08	6191.52	E09	6190.98	8	298.3	0.002	0.009	1.29	0.0398	0.4802	8
T46	6137.22	T37	6133.82	6	429.3	0.008	0.011	1.82	0.031	0.3815	8
W75	6199.86	W74	6198.13	8	182.2	0.01	0.009	2.92	0.0873	1.0998	8
W47A	6202.49	W46	6201.41	10	42.8	0.025	0.024	2.05	0.0945	1.2156	8

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
E60	6163.7	E59	6159.16	8	210.7	0.022	0.014	2.76	0.0791	1.0637	7
W01	6196.4	W02	6191.76	8	89.7	0.052	0.014	4.21	0.1159	1.6466	7
W40A	6204.8	W39	6204.6	10	74.6	0.003	0.014	1.07	0.0422	0.679	6
W14	6200.8	T02	6195.75	10	41.8	0.12	0.011	8.95	0.3348	5.8028	6
W49B	6212.68	W49A	6209.67	4	197.8	0.015	0.024	0.77	0.0044	0.0821	5
E58	6157.66	E36	6152.75	8	106.6	0.046	0.014	3.61	0.0791	1.5535	5
W49A	6209.67	W49	6207.3	6	160.1	0.015	0.024	0.98	0.012	0.2391	5
E09	6190.98	E10	6170.98	8	388.7	0.051	0.014	3.75	0.0791	1.6443	5
E10	6170.98	E56	6164.6	8	119.6	0.053	0.014	3.8	0.0791	1.6721	5
W73	6200.6	W74	6198.13	8	175.4	0.014	0.009	3.01	0.0615	1.3402	5
W42	6206.69	W40	6205.97	8	136	0.005	0.014	1.14	0.0215	0.5277	4
P03	6130.66	P13	6130.04	8	136.7	0.005	0.009	1.6	0.0277	0.7589	4
W43	6208.07	W42	6206.69	8	269	0.005	0.014	1.09	0.0189	0.5194	4
W08B	6195.85	W08A	6195.5	10	153.2	0.002	0.014	0.84	0.0227	0.6289	4
P04	6131.43	P03	6130.66	8	174.1	0.004	0.009	1.53	0.0243	0.7504	3
W08A	6195.5	W08	6194.9	10	207.5	0.003	0.014	0.92	0.0227	0.7079	3
W11	6197.9	W10	6197.3	10	184.7	0.003	0.014	0.95	0.0227	0.7488	3
P07	6132.36	P06	6131.89	8	91.2	0.005	0.009	1.61	0.0243	0.8107	3
P06	6131.89	P04	6131.43	8	88.9	0.005	0.009	1.61	0.0243	0.811	3
P08	6133.31	P07	6132.36	8	172.5	0.006	0.009	1.64	0.0243	0.8384	3
W09	6196.5	W08B	6195.85	10	179.3	0.004	0.014	0.99	0.0227	0.7923	3
W10	6197.3	W09	6196.5	10	210.8	0.004	0.014	1.01	0.0227	0.8096	3
A83	6170.48	E44	6168.57	8	426.6	0.004	0.014	0.94	0.0134	0.485	3
E44	6168.57	E43	6166.59	8	388.4	0.005	0.014	0.98	0.0134	0.518	3
W08	6194.9	W07	6193.75	10	233.1	0.005	0.014	1.1	0.0227	0.9237	3
W07	6193.75	W7A	6192.35	10	281.7	0.005	0.014	1.11	0.0227	0.9264	3
W40	6205.97	W40A	6204.8	10	65.4	0.018	0.014	2.09	0.0422	1.7641	2
W44	6209.56	W43	6208.07	8	300.4	0.005	0.014	0.93	0.0116	0.5111	2
W11A	6198.1	W11	6197.9	10	63.6	0.003	0.014	0.83	0.0151	0.735	2
W02	6191.76	T09	6180.37	8	36	0.316	0.009	10.84	0.1159	6.3452	2
W01B	6200.24	W01	6196.4	8	143.9	0.027	0.014	1.98	0.0096	1.1842	2
W28R	6209.61	W70	6208.91	8	114.2	0.006	0.014	0.95	0.0201	0.5683	2
W19	6198.4	W11A	6198.1	10	47.7	0.006	0.014	1.06	0.0151	1.0395	2
E29	6148	E30	6124	4	279.8	0.086	0.009	3.14	0.0058	0.5201	1
A82	6172.54	A83	6170.48	8	438	0.005	0.014	0.74	0.0061	0.4973	1
W70	6208.91	W71	6208.46	8	61.8	0.007	0.009	1.36	0.0096	0.9611	1

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
W05	6186.3	W04	6183.8	8	341	0.007	0.014	0.83	0.0052	0.6209	1
W06	6188.5	W05	6186.3	8	290.3	0.008	0.014	0.84	0.0052	0.6316	1
T01	6197.2	T02	6195.75	15	192.2	0.008	0.011	1.63	0.0343	4.2877	1
W12	6199.05	W19	6198.4	10	219.9	0.003	0.014	0.58	0.0051	0.7147	1
P13	6130.04	T44A	6119.54	8	68.8	0.152	0.009	5.61	0.0311	4.4006	1
W62	6204.25	W38	6203.8	8	147.8	0.003	0.009	0.78	0.0041	0.622	1
W7A	6192.35	T08	6181.1	8	42.9	0.262	0.014	4.53	0.0227	3.7093	1
W24R	6194.82	T5A	6191.07	12	203.9	0.018	0.024	0.88	0.0089	1.691	1
W71	6208.46	W73	6200.6	8	262.8	0.03	0.009	2.24	0.0096	1.9502	1
E49	6176.69	E43	6166.59	8	199.5	0.051	0.014	1.87	0.008	1.6338	1
W45	6215	W44	6209.56	8	310.8	0.017	0.014	0.96	0.0031	0.9591	0
W61A	6206.51	W62	6204.25	8	181.9	0.012	0.009	1.22	0.0036	1.2571	0
W61	6208.51	W61A	6206.51	8	137.3	0.015	0.009	1.29	0.0036	1.363	0
P12	6154.64	P03	6130.66	6	248	0.097	0.009	2.59	0.0052	1.6288	0
W04	6183.8	T08	6181.1	8	18.3	0.15	0.014	2.35	0.0034	2.8087	0
E27	6162.4	E29	6148	8	160.6	0.089	0.009	2.81	0.0061	3.3737	0
E35	6142.9	E34	6142	8	248.4	0.004	0.014	0.34	0.0006	0.4369	0
E07	6192.8	E08	6191.52	8	221.4	0.006	0.014	0.38	0.0005	0.5519	0
E32	6154.49	E33	6141.04	6	101.9	0.132	0.014	1.25	0.0006	1.2228	0
W17	6197.6	T01	6197.2	8	5.5	0.08	0.011	0	0	2.6106	0
R7A	6178.02	R07	6177.61	10	18.4	0.023	0.009	0	0	3.0869	0
W32	6204.9	W31A	6203.82	6	27.5	0.039	0.011	0	0	0.8417	0
I46	6161.17	T32	6152.41	6	35.3	0.25	0.011	0	0	2.1441	0
T50A	6138.02	T46	6137.22	6	37.4	0.022	0.011	0	0	0.6302	0
T57	6141.7	T56	6140.81	6	41.2	0.022	0.011	0	0	0.6314	0
W60	6208.83	W61	6208.51	6	47.5	0.007	0.009	0	0	0.4277	0
W50B	6211.27	W50A	6209.59	8	47.6	0.035	0.024	0	0	0.7914	0
A86	6207.06	W11	6197.9	6	51.4	0.18	0.009	0	0	2.2199	0
T59	6139.47	T58	6138.95	6	51.5	0.01	0.011	0	0	0.4286	0
H88	6179.4	A82	6172.54	6	51.5	0.135	0.014	0	0	1.235	0
I47	6161.28	T33	6152.27	6	48.7	0.184	0.011	0	0	1.8377	0
A88	6255.14	A87	6238.06	6	54	0.316	0.009	0	0	2.9459	0
A84	6171.79	A83	6170.48	6	56.5	0.023	0.014	0	0	0.5105	0
A80A	6176	A80	6173.9	6	57.9	0.036	0.014	0	0	0.6407	0
A72	6194.12	A71	6189.96	6	59.7	0.069	0.011	0	0	1.1285	0
T58	6138.95	T50A	6138.02	6	59.4	0.016	0.011	0	0	0.5381	0

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
E25	6185.67	E24	6183.36	6	60.8	0.038	0.014	0	0	0.6553	0
R21	6237	R20	6235.68	6	60.9	0.022	0.009	0	0	0.7705	0
H85	6221.25	A84	6171.79	6	61.5	0.811	0.014	0	0	3.0321	0
T54	6139.31	T50	6138.76	6	63.3	0.009	0.011	0	0	0.4004	0
A79	6179	A80A	6176	6	64.2	0.047	0.014	0	0	0.729	0
W27R	6211.38	W28R	6209.61	6	65.2	0.027	0.014	0	0	0.5557	0
A59	6187.89	T11	6178.37	6	70.8	0.134	0.011	0	0	1.5693	0
T52	6147.58	T51	6147.03	6	72.1	0.008	0.011	0	0	0.3746	0
H89	6195	H88	6179.4	6	73.3	0.214	0.014	0	0	1.5566	0
W31A	6203.82	W31	6203.49	6	74.8	0.004	0.011	0	0	0.2843	0
E42A	6172.38	E42	6164.73	6	76.7	0.099	0.014	0	0	1.0614	0
R24	6240.89	R23	6239.48	6	79.9	0.018	0.009	0	0	0.6954	0
I49	6151.1	T34A	6147.66	6	78.1	0.044	0.011	0	0	0.9	0
R31	6402.16	R30	6397.4	6	81.1	0.059	0.009	0	0	1.2698	0
W53	6284.2	W52	6267.5	6	87.7	0.19	0.009	0	0	2.2818	0
H90	6241	H89	6195	6	82	0.561	0.014	0	0	2.5221	0
W50R	6207.99	W49	6207.3	8	83	0.008	0.024	0	0	0.3867	0
A65	6188.5	T16	6174.97	6	95.2	0.142	0.011	0	0	1.6174	0
A56	6227.51	A55	6225.9	6	87.7	0.018	0.011	0	0	0.5797	0
A67	6187.47	T17	6173.7	6	90.3	0.153	0.011	0	0	1.6763	0
T55	6139.91	T54	6139.31	6	89.6	0.007	0.011	0	0	0.3499	0
W72	6212.72	W71	6208.46	6	90.7	0.047	0.009	0	0	1.1333	0
W50	6208.76	W50R	6207.99	8	91.6	0.008	0.024	0	0	0.3867	0
T48	6149.75	T47A	6148.6	6	92.5	0.012	0.011	0	0	0.4792	0
W31	6203.49	W30	6202.96	6	95.5	0.006	0.011	0	0	0.3201	0
A73	6189.48	T20	6171.56	6	97.4	0.185	0.014	0	0	1.4473	0
H101	6301.43	H100	6274.02	6	97.9	0.28	0.009	0	0	2.7702	0
W50A	6209.59	W50	6208.76	8	99.5	0.008	0.024	0	0	0.3867	0
I45	6162.25	I46	6161.17	6	101.6	0.011	0.011	0	0	0.441	0
T51	6147.03	T50	6138.76	6	103.3	0.08	0.011	0	0	1.2144	0
A71	6189.96	T19	6172.21	6	111.5	0.158	0.011	0	0	1.7061	0
T50	6138.76	T50A	6138.02	6	106.2	0.007	0.011	0	0	0.3581	0
W26	6216.5	W27R	6211.38	6	107.4	0.048	0.014	0	0	0.7366	0
H87	6258.4	H85	6221.25	6	108.1	0.344	0.009	0	0	3.0721	0
A74	6184.2	T21	6170.97	6	114.7	0.115	0.014	0	0	1.1421	0
T53	6148.29	T52	6147.58	6	108.2	0.007	0.011	0	0	0.3475	0

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
A25	6442.5	A26	6431.2	6	110.2	0.103	0.011	0	0	1.3736	0
W55	6346	W54	6325	6	122.6	0.171	0.009	0	0	2.1643	0
T56	6140.81	T55	6139.91	6	114.3	0.008	0.011	0	0	0.3808	0
A58	6189.07	A59	6187.89	6	114.8	0.01	0.011	0	0	0.4341	0
A28	6399.9	A27	6390.02	6	114.8	0.086	0.011	0	0	1.2562	0
R23	6239.48	R21	6237	6	115.7	0.021	0.009	0	0	0.7659	0
A75	6196.26	A74	6184.2	6	118.5	0.101	0.014	0	0	1.072	0
A68	6205.95	A67	6187.47	4	120.2	0.154	0.011	0	0	0.5704	0
H100	6274.02	H97	6253.93	6	122	0.165	0.014	0	0	1.3664	0
E12	6205	E11	6181.95	6	124.6	0.184	0.014	0	0	1.446	0
E03	6201.08	E06	6193.66	8	125.1	0.059	0.014	0	0	1.7668	0
A57	6230.5	A56	6227.51	6	125.6	0.024	0.011	0	0	0.6602	0
W38B	6206	W38A	6204.49	6	126.9	0.012	0.009	0	0	0.5712	0
H97	6253.93	E45	6200.14	6	127.5	0.42	0.014	0	0	2.1829	0
T48A	6150.78	T48	6149.75	6	127.8	0.008	0.011	0	0	0.3844	0
E28	6168.1	E27	6162.4	6	127.8	0.045	0.014	0	0	0.7106	0
E24	6183.36	E23	6182.44	6	134.9	0.007	0.014	0	0	0.278	0
R29	6382.72	R28	6377	6	135.9	0.042	0.009	0	0	1.0742	0
A37A	6289.49	A37	6276.25	6	137	0.097	0.011	0	0	1.3323	0
E23	6182.44	E11	6181.95	8	137	0.004	0.014	0	0	0.4337	0
I48	6165.85	I47	6161.28	6	137.2	0.033	0.011	0	0	0.7827	0
R28	6377	R27	6373.42	6	150.2	0.024	0.009	0	0	0.8092	0
W57	6222.4	W58	6221.2	6	141.4	0.009	0.009	0	0	0.4832	0
C3	6211.2	C4	6209.5	6	142.1	0.012	0.009	0	0	0.5731	0
W59	6216.33	W60	6208.83	8	143.9	0.052	0.009	0	0	2.5745	0
C1	6220	C2	6215.76	6	147.8	0.029	0.009	0	0	0.8866	0
C2	6215.76	C3	6211.2	6	148.8	0.031	0.009	0	0	0.9163	0
R34	6492.02	R33	6479.22	6	158.3	0.081	0.009	0	0	1.4909	0
A46	6283.8	A45	6240.52	4	153	0.283	0.011	0	0	0.7731	0
A29	6373.5	WY-A30	6367.64	6	148.4	0.04	0.011	0	0	0.8525	0
H105	6308.4	H101	6301.43	6	156.7	0.044	0.009	0	0	1.1037	0
W01C	6202.32	W01B	6200.24	8	158.8	0.013	0.014	0	0	0.8294	0
W25R	6219.26	W72	6212.72	6	159.7	0.041	0.009	0	0	1.059	0
H102	6312.81	H101	6301.43	6	160.3	0.071	0.014	0	0	0.898	0
H86	6233.9	H85	6221.25	6	161.3	0.079	0.009	0	0	1.4683	0
W34	6209.72	W33A	6207.9	6	161.7	0.011	0.011	0	0	0.4543	0

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
E17	6190.77	E10	6170.98	8	163.1	0.121	0.014	0	0	2.5269	0
R22	6257.85	R21	6237	6	165.1	0.126	0.009	0	0	1.862	0
E26	6192.8	E27	6162.4	6	165.7	0.183	0.014	0	0	1.441	0
A43	6238.36	A42	6209.99	6	170.1	0.167	0.011	0	0	1.7507	0
E51	6174	E63	6170.92	6	171.2	0.018	0.014	0	0	0.4519	0
A69	6191.4	A67	6187.47	6	172.6	0.023	0.011	0	0	0.6459	0
W58	6221.2	W59	6216.33	8	173	0.028	0.009	0	0	1.8927	0
E50	6176.54	E51	6174	6	173.6	0.015	0.014	0	0	0.4068	0
H103	6338.71	H102	6312.81	6	174.2	0.149	0.009	0	0	2.0209	0
H94	6266.2	A78	6252.82	6	175.4	0.076	0.011	0	0	1.185	0
M1	6193.3	T09	6180.37	6	177.7	0.073	0.011	0	0	1.1551	0
A40	6231.01	A39	6228.59	6	179.1	0.014	0.011	0	0	0.4983	0
E63	6170.92	E40	6162.53	6	181	0.046	0.014	0	0	0.725	0
E16	6196.92	E17	6190.77	6	183.3	0.034	0.014	0	0	0.6173	0
E31	6177.11	E32	6154.49	6	185.1	0.122	0.014	0	0	1.1775	0
W33A	6207.9	W32	6204.9	6	185.7	0.016	0.011	0	0	0.5443	0
H95	6287	H94	6266.2	6	188.4	0.111	0.011	0	0	1.4255	0
W30	6202.96	W17	6197.6	8	190.2	0.028	0.011	0	0	1.5502	0
H91	6261.21	H87	6258.4	6	194	0.014	0.009	0	0	0.6304	0
A66	6188.9	A67	6187.47	6	194.2	0.007	0.011	0	0	0.3679	0
R18	6203.31	R10	6179.81	6	204.3	0.115	0.009	0	0	1.7778	0
A37B	6300.03	A37A	6289.49	6	199.7	0.053	0.011	0	0	0.9838	0
E53	6183.02	E52	6179.55	6	199.8	0.017	0.014	0	0	0.4435	0
E14	6222.16	E15	6221.13	8	205.9	0.005	0.014	0	0	0.5128	0
R30	6397.4	R28	6377	6	207.4	0.099	0.009	0	0	1.6444	0
H92	6277.37	H91	6261.21	6	209.7	0.077	0.009	0	0	1.453	0
C4	6209.5	W01	6196.4	6	214.2	0.061	0.014	0	0	0.8331	0
A26	6431.2	A27	6390.02	6	216.2	0.191	0.011	0	0	1.8713	0
E47	6187.9	E49	6176.69	6	218.2	0.051	0.014	0	0	0.7636	0
E45	6200.14	E46	6195.29	6	219.6	0.022	0.014	0	0	0.5	0
T47A	6148.6	T47	6144.47	6	220	0.019	0.011	0	0	0.5872	0
R20	6235.68	R19	6221.55	6	224.3	0.063	0.009	0	0	1.3156	0
H106	6320.37	H105	6308.4	6	225.6	0.053	0.009	0	0	1.2055	0
A87	6238.06	A86	6207.06	6	225.8	0.137	0.009	0	0	1.94	0
A42	6209.99	A65	6188.5	6	227.6	0.094	0.011	0	0	1.3157	0
A63	6189.85	A65	6188.5	6	228.3	0.006	0.011	0	0	0.3298	0

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
W41	6242.85	W40	6205.97	6	236.1	0.156	0.014	0	0	1.3311	0
E61	6167.48	E60	6163.7	6	246.5	0.015	0.014	0	0	0.4166	0
A34	6270.5	A35	6260	6	249.2	0.042	0.011	0	0	0.8801	0
E52	6179.55	E51	6174	6	254.3	0.022	0.014	0	0	0.4978	0
E55	6174.75	E56	6164.6	6	258.7	0.039	0.014	0	0	0.6666	0
A36	6274.65	A35	6260	6	259.8	0.056	0.011	0	0	1.0173	0
R19	6221.55	R18	6203.31	6	262.7	0.069	0.009	0	0	1.3794	0
A35	6260	A38	6221.8	6	253.7	0.15	0.011	0	0	1.662	0
H104	6343.76	H103	6338.71	6	265.4	0.019	0.009	0	0	0.7231	0
E11	6181.95	E10	6170.98	8	270.8	0.04	0.009	0	0	2.2696	0
A76	6224.8	A75	6196.26	6	271.3	0.105	0.011	0	0	1.3908	0
E13	6223.4	E12	6205	6	272.2	0.068	0.014	0	0	0.8758	0
E02	6202.06	E03	6201.08	8	278.8	0.004	0.014	0	0	0.4298	0
R26	6315.62	R25	6228.2	6	276	0.317	0.009	0	0	2.9479	0
E01	6203.03	E02	6202.06	8	277.8	0.003	0.014	0	0	0.4284	0
A38	6221.8	A71	6189.96	6	284.8	0.112	0.011	0	0	1.4325	0
A80	6173.9	A82	6172.54	8	288	0.005	0.014	0	0	0.4983	0
S53	6501.6	S52	6477.5	6	290.8	0.083	0.011	0	0	1.2333	0
A17	6266.57	A18	6226.07	6	292.4	0.139	0.009	0	0	1.9508	0
T47	6144.47	T46	6137.22	6	299.6	0.024	0.011	0	0	0.6662	0
A39	6228.59	A38	6221.8	6	304.6	0.022	0.011	0	0	0.6394	0
A45	6240.52	A44	6226.5	6	295.5	0.047	0.011	0	0	0.9327	0
S51	6456.4	A26	6431.2	6	296.1	0.085	0.011	0	0	1.2505	0
R27	6373.42	R26	6315.62	6	297.5	0.195	0.009	0	0	2.3108	0
W54	6325	W53	6284.2	6	317.6	0.128	0.009	0	0	1.8762	0
S52	6477.5	S51	6456.4	6	307.3	0.069	0.011	0	0	1.1235	0
E54	6181.34	E55	6174.75	6	307.9	0.021	0.014	0	0	0.4925	0
A37	6276.25	A36	6274.65	6	312.5	0.005	0.011	0	0	0.3064	0
E15	6221.13	E16	6196.92	8	312.1	0.078	0.014	0	0	2.0201	0
A77	6235.7	A76	6224.8	6	312.6	0.035	0.011	0	0	0.7998	0
A24	6452.9	A25	6442.5	6	316.1	0.033	0.011	0	0	0.7775	0
E04	6212.9	E03	6201.08	8	313.9	0.038	0.014	0	0	1.407	0
E62	6173.52	E61	6167.48	6	315.2	0.019	0.014	0	0	0.4663	0
H99	6325	H98	6300.65	6	323.1	0.075	0.009	0	0	1.4382	0
A60	6197.3	A59	6187.89	6	318.4	0.03	0.011	0	0	0.7372	0
A14	6342	A15	6339.98	6	321.5	0.006	0.009	0	0	0.4149	0

Scenario 2 - Existing Sewer System + VSVSP PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
A55	6225.9	A58	6189.07	6	325.8	0.113	0.011	0	0	1.4405	0
A18	6226.07	W19	6198.4	6	330.3	0.084	0.009	0	0	1.5168	0
A41	6228.1	A42	6209.99	6	342.3	0.053	0.011	0	0	0.9862	0
E46	6195.29	E47	6187.9	6	334.9	0.022	0.014	0	0	0.5001	0
A70	6192.16	A71	6189.96	6	336.1	0.007	0.011	0	0	0.3468	0
H98	6300.65	H97	6253.93	6	342.5	0.136	0.014	0	0	1.2428	0
E06	6193.66	E07	6192.8	8	343.1	0.003	0.014	0	0	0.3631	0
E63A	6176.1	E63	6170.92	6	344.2	0.015	0.014	0	0	0.4132	0
WY-A30	6367.64	A30	6354.41	6	350.8	0.038	0.011	0	0	0.8322	0
A44	6226.5	A42	6209.99	6	349.7	0.047	0.011	0	0	0.9308	0
R35	6527.25	R34	6492.02	6	354.5	0.099	0.009	0	0	1.6501	0
A16	6296	A17	6266.57	6	362.2	0.081	0.009	0	0	1.4935	0
R32	6438.52	R30	6397.4	6	383	0.107	0.009	0	0	1.7163	0
A47	6270.09	A45	6240.52	6	393.7	0.075	0.011	0	0	1.1741	0
R33	6479.22	R32	6438.52	6	402.5	0.101	0.009	0	0	1.6646	0
A62	6200.59	A63	6189.85	6	401.4	0.027	0.011	0	0	0.7014	0
A31	6331.83	A32	6312.94	6	411.8	0.046	0.011	0	0	0.9176	0
A30	6354.41	A31	6331.83	6	414.9	0.054	0.011	0	0	0.9997	0
A15	6339.98	A17	6266.57	6	442.9	0.166	0.009	0	0	2.1323	0
R25	6228.2	R03	6174.1	6	442.4	0.122	0.009	0	0	1.8325	0
A27	6390.02	A29	6373.5	6	439.4	0.038	0.011	0	0	0.8314	0
R36	6532.02	R35	6527.25	6	450.7	0.011	0.009	0	0	0.5387	0
A32	6312.94	A33	6291.81	6	453.9	0.047	0.011	0	0	0.9245	0
A33	6291.81	A34	6270.5	6	459.4	0.046	0.011	0	0	0.9235	0
W56	6367.24	W55	6346	6	454.3	0.047	0.009	0	0	1.133	0
W52	6267.5	W40	6205.97	6	494.1	0.125	0.009	0	0	1.8486	0
A78	6252.82	A76	6224.8	6	490.9	0.057	0.011	0	0	1.0238	0

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
T18	6172.23	T19	6172.22	15	352.3	0	0.011	1.36	1.0742	0.263	(N/A)
T43	6074.26	TTSA	6068.27	10	315.7	0.019	0.011	7.26	1.8228	2.304	67
T34A	6147.66	T34	6147.26	15	190.9	0.002	0.011	3.06	1.5227	2.2579	60
T32	6152.41	T33	6152.3	15	64.4	0.002	0.011	2.69	1.2087	2.0455	55
T36	6135.02	T37	6133.91	15	388.1	0.003	0.011	3.45	1.5227	2.639	55
T31	6153.03	T32	6152.44	15	319.8	0.002	0.011	2.76	1.2085	2.1186	54
T20	6171.56	T21	6171	15	333.1	0.002	0.011	2.63	1.1386	2.0233	54
T15	6175.28	T16	6175	15	184.4	0.002	0.011	2.49	1.0524	1.9247	53
T23	6167.87	T24	6166.89	15	484.5	0.002	0.011	2.83	1.1525	2.2201	51
T37A	6127.12	T38	6124.19	12	222.5	0.013	0.011	6.2	1.5941	3.1262	51
T35	6135.54	T36	6135.04	15	136.3	0.004	0.011	3.79	1.5227	2.9916	51
T30	6153.45	T31	6153.11	15	146.3	0.002	0.011	3.02	1.2085	2.381	50
T25	6164.79	T26	6164.11	15	313.9	0.002	0.011	2.9	1.1525	2.296	50
T26A	6163.71	T27	6163.36	15	143.1	0.002	0.011	3.04	1.1525	2.4409	48
T13	6177.18	T14	6176.43	15	345.9	0.002	0.011	2.84	1.0505	2.2971	48
T11	6178.37	T12	6177.7	15	304.2	0.002	0.011	2.85	1.0502	2.3163	47
T26	6164.09	T26A	6163.72	15	138.9	0.003	0.011	3.14	1.1525	2.5456	47
T10	6179.38	T11	6178.39	15	446.5	0.002	0.011	2.86	1.0403	2.3246	47
T41	6084.93	T43	6074.46	12	286	0.037	0.014	7.83	1.8228	4.0909	47
GV148	6168.77	T23	6167.91	15	308.6	0.003	0.011	3.19	1.1525	2.6029	47
T22	6169.61	GV148	6168.77	15	298.6	0.003	0.011	3.2	1.1525	2.6151	47
T12	6177.65	T13	6177.2	15	187.8	0.002	0.011	2.94	1.0502	2.4139	46
T09	6180.37	T10	6179.41	15	398.7	0.002	0.011	2.94	1.0367	2.4201	46
T21	6170.97	T22	6169.62	15	450.1	0.003	0.011	3.28	1.1525	2.7024	46
T39A	6118.72	T39B	6115.51	15	305.7	0.01	0.014	4.79	1.6596	3.9705	45
T38	6124.14	T39	6123.05	15	180.9	0.006	0.011	4.61	1.5941	3.8288	45
T37	6133.82	T37A	6127.41	12	311.6	0.021	0.011	7.3	1.5941	3.9005	45
T14	6176.36	T15	6175.37	15	362.3	0.003	0.011	3.09	1.0505	2.5802	44
T29	6154.13	T30	6153.52	15	181.2	0.003	0.011	3.42	0.2924	2.8643	44
R07	6177.61	R06	6177.33	10	223	0.001	0.009	1.95	1.1537	0.7248	44
T19	6172.21	T20	6171.57	15	189	0.003	0.011	3.42	1.1386	2.8711	44
T16	6174.97	T17	6173.71	15	393.5	0.003	0.011	3.3	1.0687	2.7937	43
T08	6181.1	T09	6180.38	15	290.2	0.002	0.011	2.89	0.9326	2.4584	43
T34	6147.18	T35	6135.64	12	516.5	0.022	0.011	7.44	1.5227	4.0656	42

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
T17	6173.7	T18	6172.31	15	354.6	0.004	0.011	3.55	1.0742	3.0873	41
T24	6166.88	T25	6164.8	15	410.9	0.005	0.011	3.97	1.1525	3.51	39
W46	6201.41	W13	6201.1	10	333.6	0.001	0.024	0.57	0.0674	0.2337	37
R10	6179.81	R09	6179.04	10	310.2	0.002	0.009	2.49	0.2892	1.0194	37
R12A	6181.92	R12	6181.39	10	216.9	0.002	0.009	2.46	0.2826	1.0108	36
T28	6160.21	T29	6154.44	12	242.7	0.024	0.011	7.06	0.2826	4.1932	36
R11	6180.44	R10	6179.81	10	252.7	0.002	0.009	2.47	1.1537	1.0206	36
R13	6182.3	R12A	6181.92	10	147.7	0.003	0.009	2.5	0.2826	1.0364	36
R16	6186.3	R15	6185.3	10	344.7	0.003	0.009	2.61	0.2826	1.1012	35
R12	6181.39	R11	6180.44	10	323.8	0.003	0.009	2.63	0.2826	1.1075	35
T33	6152.27	T34A	6147.67	15	308.3	0.015	0.011	6.34	1.5201	6.0297	34
T40A	6095.26	T41	6084.93	12	205.9	0.05	0.009	12.13	1.8228	7.4479	34
T04A	6191.75	T05	6191.63	15	167.6	0.001	0.011	1.36	0.3137	1.3186	33
T27	6163.26	T28	6160.23	12	91.8	0.033	0.011	7.95	1.1537	4.9385	33
R09	6179.04	R07	6177.61	10	388.1	0.004	0.009	2.87	0.2892	1.2417	33
R14	6183.41	R13	6182.3	10	285.9	0.004	0.009	2.9	0.2826	1.2742	32
W13	6201.1	W14	6200.8	10	182.7	0.002	0.024	0.71	0.0683	0.3105	32
T40	6102.8	T40A	6096.15	15	131.1	0.051	0.014	8.7	1.8132	8.7344	31
R15	6185.3	R14	6183.41	10	403.2	0.005	0.009	3.11	0.2826	1.4007	31
R03	6174.1	R02	6172.4	10	277.7	0.006	0.009	3.52	0.3114	1.5994	30
T46	6137.22	T37	6133.82	6	429.3	0.008	0.011	2.3	0.0714	0.3815	29
R06	6177.33	R04	6175.4	10	317.7	0.006	0.009	3.44	0.2924	1.5934	29
R04	6175.4	R03	6174.1	10	198.7	0.007	0.009	3.55	0.2945	1.6531	29
T45	6114.8	T40	6102.8	6	294.9	0.041	0.011	5.09	0.1482	0.8644	28
T39	6122.96	T39A	6118.76	15	107.2	0.039	0.011	9.2	1.6596	9.7752	28
T5A	6191.07	T06	6190.69	15	254.9	0.001	0.011	1.78	0.3176	1.9046	28
W37	6203.23	W36	6202.56	10	276.8	0.002	0.014	1.29	0.0908	0.6467	25
E34	6142	E33	6141.04	8	70.1	0.014	0.014	2.63	0.1152	0.8493	25
W36A	6201.95	W15	6201.3	10	204.4	0.003	0.014	1.47	0.1	0.7422	25
E30A	6121.96	T44	6120.73	8	175.9	0.007	0.009	2.9	0.1254	0.943	25
R17	6187.4	R16	6186.3	12	268.6	0.004	0.009	2.91	0.2826	2.1268	25
T44	6120.73	T44A	6119.54	8	165.1	0.007	0.009	2.93	0.1254	0.958	24
W36	6202.56	W36A	6201.95	10	165.8	0.004	0.014	1.54	0.1	0.7971	24
E33	6141.04	E33A	6134.26	8	364.4	0.019	0.014	2.97	0.1206	0.9897	24
W38	6203.8	W37	6203.23	10	180.8	0.003	0.014	1.41	0.0888	0.7379	24
T39B	6115.45	T39C	6109.7	15	102	0.056	0.009	12.07	1.6596	14.3178	23

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
T39C	6109.65	T40	6102.95	15	116.1	0.058	0.009	12.17	1.6596	14.4927	23
E33B	6126	E30	6124	8	79.8	0.025	0.014	3.31	0.1215	1.1466	22
W47	6202.9	W47A	6202.49	10	177.6	0.002	0.024	0.68	0.039	0.3681	22
E30	6124	E30A	6121.96	8	106.7	0.019	0.011	3.59	0.1254	1.2744	21
W39	6204.6	W38A	6204.49	10	157.8	0.001	0.014	0.62	0.0338	0.3469	21
E33A	6134.26	E33B	6126	8	274.3	0.03	0.014	3.52	0.1206	1.2591	21
T05	6191.63	T5A	6191.07	15	120.5	0.005	0.011	2.65	0.3139	3.3565	21
W38A	6204.49	W38	6203.8	10	111.2	0.006	0.014	1.79	0.0868	1.0367	20
T44A	6119.54	T44B	6115.91	8	147.5	0.025	0.009	4.77	0.1482	1.7727	20
R02	6172.4	R01	6166.5	10	175.4	0.034	0.009	6.45	0.3114	3.7555	20
W49	6207.3	W48	6205.54	8	236.5	0.007	0.024	0.97	0.029	0.3645	19
E36	6152.75	E34	6142	8	266.8	0.04	0.014	3.81	0.1107	1.4551	19
T44B	6115.91	T45	6114.8	8	33	0.034	0.009	5.32	0.1482	2.0689	18
E38	6158.84	E37	6157.08	8	379.4	0.005	0.014	1.26	0.0347	0.4942	18
T04	6192.53	T04A	6191.75	15	189.5	0.004	0.011	2.27	0.2122	3.1613	18
T07	6185.71	T08	6181.1	12	115.5	0.04	0.011	6.09	0.3621	5.4484	18
W76	6200.78	W75	6199.86	6	166.5	0.006	0.009	1.72	0.0247	0.3899	17
E40	6162.53	E39	6160.9	8	305.6	0.005	0.014	1.31	0.0333	0.5293	17
W01	6196.4	W02	6191.76	8	89.7	0.052	0.014	4.07	0.1031	1.6466	17
E56	6164.6	E60	6163.7	8	158.1	0.006	0.014	1.35	0.0342	0.5473	17
R01	6166.5	T33	6152.27	10	159.2	0.089	0.011	7.9	0.3114	5.0063	17
T02	6195.75	T03	6193.82	15	389.9	0.005	0.011	2.42	0.2122	3.4709	17
E39	6160.9	E38	6158.84	8	357.5	0.006	0.014	1.35	0.0333	0.5501	17
T03	6193.82	T04	6192.53	15	233	0.006	0.011	2.52	0.2122	3.6712	16
T06	6190.69	T07	6185.71	15	357.3	0.014	0.011	3.93	0.3176	5.8274	16
E59	6159.16	E58	6157.66	8	196.4	0.008	0.014	1.5	0.0342	0.6344	16
E43	6166.59	E42	6164.73	8	392.4	0.005	0.014	1.12	0.0228	0.4995	15
E42	6164.73	E41	6163.44	8	250.9	0.005	0.014	1.16	0.0228	0.5199	14
E41	6163.44	E40	6162.53	8	158.7	0.006	0.014	1.2	0.0228	0.5486	14
E37	6157.08	E36	6152.75	8	286.5	0.015	0.014	1.94	0.0369	0.8923	14
W74	6198.13	W77	6196.45	10	305.1	0.006	0.009	2.11	0.0615	1.518	14
W77	6196.45	T04A	6191.75	10	215	0.022	0.011	3.43	0.1001	2.4743	14
E08	6191.52	E09	6190.98	8	298.3	0.002	0.009	1.02	0.018	0.4802	13
W15	6201.3	W14	6200.8	10	16.7	0.029	0.011	3.81	0.1	2.87	13
W48	6205.54	W47	6202.9	10	191.4	0.014	0.024	1.19	0.031	0.9017	13
W75	6199.86	W74	6198.13	8	182.2	0.01	0.009	2.24	0.0361	1.0998	12

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
E60	6163.7	E59	6159.16	8	210.7	0.022	0.014	2.16	0.0342	1.0637	12
W47A	6202.49	W46	6201.41	10	42.8	0.025	0.024	1.58	0.039	1.2156	12
W14	6200.8	T02	6195.75	10	41.8	0.12	0.011	7.28	0.1683	5.8028	12
W40A	6204.8	W39	6204.6	10	74.6	0.003	0.014	0.84	0.019	0.679	12
E58	6157.66	E36	6152.75	8	106.6	0.046	0.014	2.81	0.0342	1.5535	10
W49B	6212.68	W49A	6209.67	4	197.8	0.015	0.024	0.59	0.0018	0.0821	10
E09	6190.98	E10	6170.98	8	388.7	0.051	0.014	2.92	0.0342	1.6443	10
W49A	6209.67	W49	6207.3	6	160.1	0.015	0.024	0.75	0.0049	0.2391	10
E10	6170.98	E56	6164.6	8	119.6	0.053	0.014	2.95	0.0342	1.6721	10
W73	6200.6	W74	6198.13	8	175.4	0.014	0.009	2.33	0.0254	1.3402	10
W42	6206.69	W40	6205.97	8	136	0.005	0.014	0.88	0.0089	0.5277	9
W02	6191.76	T09	6180.37	8	36	0.316	0.009	10.47	0.1031	6.3452	9
P03	6130.66	P13	6130.04	8	136.7	0.005	0.009	1.22	0.0114	0.7589	9
W43	6208.07	W42	6206.69	8	269	0.005	0.014	0.84	0.0078	0.5194	9
W08B	6195.85	W08A	6195.5	10	153.2	0.002	0.014	0.65	0.0093	0.6289	9
P04	6131.43	P03	6130.66	8	174.1	0.004	0.009	1.17	0.01	0.7504	8
W08A	6195.5	W08	6194.9	10	207.5	0.003	0.014	0.7	0.0093	0.7079	8
W11	6197.9	W10	6197.3	10	184.7	0.003	0.014	0.73	0.0093	0.7488	8
P07	6132.36	P06	6131.89	8	91.2	0.005	0.009	1.22	0.01	0.8107	8
P06	6131.89	P04	6131.43	8	88.9	0.005	0.009	1.22	0.01	0.811	8
P08	6133.31	P07	6132.36	8	172.5	0.006	0.009	1.25	0.01	0.8384	8
W09	6196.5	W08B	6195.85	10	179.3	0.004	0.014	0.76	0.0093	0.7923	8
W10	6197.3	W09	6196.5	10	210.8	0.004	0.014	0.77	0.0093	0.8096	8
W17	6197.6	T01	6197.2	8	5.5	0.08	0.011	3.85	0.0298	2.6106	8
A83	6170.48	E44	6168.57	8	426.6	0.004	0.014	0.71	0.0055	0.485	8
W40	6205.97	W40A	6204.8	10	65.4	0.018	0.014	1.63	0.019	1.7641	7
E44	6168.57	E43	6166.59	8	388.4	0.005	0.014	0.75	0.0055	0.518	7
T01	6197.2	T02	6195.75	15	192.2	0.008	0.011	1.75	0.0439	4.2877	7
W08	6194.9	W07	6193.75	10	233.1	0.005	0.014	0.85	0.0093	0.9237	7
W07	6193.75	W7A	6192.35	10	281.7	0.005	0.014	0.85	0.0093	0.9264	7
W44	6209.56	W43	6208.07	8	300.4	0.005	0.014	0.71	0.0048	0.5111	7
W11A	6198.1	W11	6197.9	10	63.6	0.003	0.014	0.63	0.0062	0.735	7
W28R	6209.61	W70	6208.91	8	114.2	0.006	0.014	0.72	0.004	0.5683	6
W01B	6200.24	W01	6196.4	8	143.9	0.027	0.014	1.51	0.0083	1.1842	6
W19	6198.4	W11A	6198.1	10	47.7	0.006	0.014	0.81	0.0062	1.0395	6
A82	6172.54	A83	6170.48	8	438	0.005	0.014	0.57	0.0024	0.4973	5

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
E29	6148	E30	6124	4	279.8	0.086	0.009	2.34	0.0025	0.5201	5
E06	6193.66	E07	6192.8	8	343.1	0.003	0.014	0.41	0.0016	0.3631	5
W70	6208.91	W71	6208.46	8	61.8	0.007	0.009	1.04	0.004	0.9611	5
W05	6186.3	W04	6183.8	8	341	0.007	0.014	0.65	0.0022	0.6209	4
W06	6188.5	W05	6186.3	8	290.3	0.008	0.014	0.66	0.0022	0.6316	4
E07	6192.8	E08	6191.52	8	221.4	0.006	0.014	0.57	0.0018	0.5519	4
W12	6199.05	W19	6198.4	10	219.9	0.003	0.014	0.45	0.0021	0.7147	4
P13	6130.04	T44A	6119.54	8	68.8	0.152	0.009	4.3	0.0128	4.4006	4
W62	6204.25	W38	6203.8	8	147.8	0.003	0.009	0.6	0.0017	0.622	4
W7A	6192.35	T08	6181.1	8	42.9	0.262	0.014	3.46	0.0093	3.7093	4
W24R	6194.82	T5A	6191.07	12	203.9	0.018	0.024	0.67	0.0037	1.691	4
W71	6208.46	W73	6200.6	8	262.8	0.03	0.009	1.73	0.004	1.9502	3
E49	6176.69	E43	6166.59	8	199.5	0.051	0.014	1.45	0.0033	1.6338	3
W45	6215	W44	6209.56	8	310.8	0.017	0.014	0.74	0.0013	0.9591	3
W61A	6206.51	W62	6204.25	8	181.9	0.012	0.009	0.94	0.0015	1.2571	3
W61	6208.51	W61A	6206.51	8	137.3	0.015	0.009	1	0.0015	1.363	3
P12	6154.64	P03	6130.66	6	248	0.097	0.009	1.99	0.0022	1.6288	2
W04	6183.8	T08	6181.1	8	18.3	0.15	0.014	1.79	0.0014	2.8087	2
E27	6162.4	E29	6148	8	160.6	0.089	0.009	2.12	0.0025	3.3737	2
E35	6142.9	E34	6142	8	248.4	0.004	0.014	0.28	0.0003	0.4369	2
E32	6154.49	E33	6141.04	6	101.9	0.132	0.014	0.98	0.0003	1.2228	1
R7A	6178.02	R07	6177.61	10	18.4	0.023	0.009	0	0	3.0869	(N/A)
W32	6204.9	W31A	6203.82	6	27.5	0.039	0.011	0	0	0.8417	(N/A)
I46	6161.17	T32	6152.41	6	35.3	0.25	0.011	0	0	2.1441	(N/A)
T50A	6138.02	T46	6137.22	6	37.4	0.022	0.011	0	0	0.6302	(N/A)
T57	6141.7	T56	6140.81	6	41.2	0.022	0.011	0	0	0.6314	(N/A)
W60	6208.83	W61	6208.51	6	47.5	0.007	0.009	0	0	0.4277	(N/A)
W50B	6211.27	W50A	6209.59	8	47.6	0.035	0.024	0	0	0.7914	(N/A)
A86	6207.06	W11	6197.9	6	51.4	0.18	0.009	0	0	2.2199	(N/A)
T59	6139.47	T58	6138.95	6	51.5	0.01	0.011	0	0	0.4286	(N/A)
H88	6179.4	A82	6172.54	6	51.5	0.135	0.014	0	0	1.235	(N/A)
I47	6161.28	T33	6152.27	6	48.7	0.184	0.011	0	0	1.8377	(N/A)
A88	6255.14	A87	6238.06	6	54	0.316	0.009	0	0	2.9459	(N/A)
A84	6171.79	A83	6170.48	6	56.5	0.023	0.014	0	0	0.5105	(N/A)
A80A	6176	A80	6173.9	6	57.9	0.036	0.014	0	0	0.6407	(N/A)
A72	6194.12	A71	6189.96	6	59.7	0.069	0.011	0	0	1.1285	(N/A)

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
T58	6138.95	T50A	6138.02	6	59.4	0.016	0.011	0	0	0.5381	(N/A)
E25	6185.67	E24	6183.36	6	60.8	0.038	0.014	0	0	0.6553	(N/A)
R21	6237	R20	6235.68	6	60.9	0.022	0.009	0	0	0.7705	(N/A)
H85	6221.25	A84	6171.79	6	61.5	0.811	0.014	0	0	3.0321	(N/A)
T54	6139.31	T50	6138.76	6	63.3	0.009	0.011	0	0	0.4004	(N/A)
A79	6179	A80A	6176	6	64.2	0.047	0.014	0	0	0.729	(N/A)
W27R	6211.38	W28R	6209.61	6	65.2	0.027	0.014	0	0	0.5557	(N/A)
A59	6187.89	T11	6178.37	6	70.8	0.134	0.011	0	0	1.5693	(N/A)
T52	6147.58	T51	6147.03	6	72.1	0.008	0.011	0	0	0.3746	(N/A)
H89	6195	H88	6179.4	6	73.3	0.214	0.014	0	0	1.5566	(N/A)
W31A	6203.82	W31	6203.49	6	74.8	0.004	0.011	0	0	0.2843	(N/A)
E42A	6172.38	E42	6164.73	6	76.7	0.099	0.014	0	0	1.0614	(N/A)
R24	6240.89	R23	6239.48	6	79.9	0.018	0.009	0	0	0.6954	(N/A)
I49	6151.1	T34A	6147.66	6	78.1	0.044	0.011	0	0	0.9	(N/A)
R31	6402.16	R30	6397.4	6	81.1	0.059	0.009	0	0	1.2698	(N/A)
W53	6284.2	W52	6267.5	6	87.7	0.19	0.009	0	0	2.2818	(N/A)
H90	6241	H89	6195	6	82	0.561	0.014	0	0	2.5221	(N/A)
W50R	6207.99	W49	6207.3	8	83	0.008	0.024	0	0	0.3867	(N/A)
A65	6188.5	T16	6174.97	6	95.2	0.142	0.011	0	0	1.6174	(N/A)
A56	6227.51	A55	6225.9	6	87.7	0.018	0.011	0	0	0.5797	(N/A)
A67	6187.47	T17	6173.7	6	90.3	0.153	0.011	0	0	1.6763	(N/A)
T55	6139.91	T54	6139.31	6	89.6	0.007	0.011	0	0	0.3499	(N/A)
W72	6212.72	W71	6208.46	6	90.7	0.047	0.009	0	0	1.1333	(N/A)
W50	6208.76	W50R	6207.99	8	91.6	0.008	0.024	0	0	0.3867	(N/A)
T48	6149.75	T47A	6148.6	6	92.5	0.012	0.011	0	0	0.4792	(N/A)
W31	6203.49	W30	6202.96	6	95.5	0.006	0.011	0	0	0.3201	(N/A)
A73	6189.48	T20	6171.56	6	97.4	0.185	0.014	0	0	1.4473	(N/A)
H101	6301.43	H100	6274.02	6	97.9	0.28	0.009	0	0	2.7702	(N/A)
W50A	6209.59	W50	6208.76	8	99.5	0.008	0.024	0	0	0.3867	(N/A)
I45	6162.25	I46	6161.17	6	101.6	0.011	0.011	0	0	0.441	(N/A)
T51	6147.03	T50	6138.76	6	103.3	0.08	0.011	0	0	1.2144	(N/A)
A71	6189.96	T19	6172.21	6	111.5	0.158	0.011	0	0	1.7061	(N/A)
T50	6138.76	T50A	6138.02	6	106.2	0.007	0.011	0	0	0.3581	(N/A)
W26	6216.5	W27R	6211.38	6	107.4	0.048	0.014	0	0	0.7366	(N/A)
H87	6258.4	H85	6221.25	6	108.1	0.344	0.009	0	0	3.0721	(N/A)
A74	6184.2	T21	6170.97	6	114.7	0.115	0.014	0	0	1.1421	(N/A)

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
T53	6148.29	T52	6147.58	6	108.2	0.007	0.011	0	0	0.3475	(N/A)
A25	6442.5	A26	6431.2	6	110.2	0.103	0.011	0	0	1.3736	(N/A)
W55	6346	W54	6325	6	122.6	0.171	0.009	0	0	2.1643	(N/A)
T56	6140.81	T55	6139.91	6	114.3	0.008	0.011	0	0	0.3808	(N/A)
A58	6189.07	A59	6187.89	6	114.8	0.01	0.011	0	0	0.4341	(N/A)
A28	6399.9	A27	6390.02	6	114.8	0.086	0.011	0	0	1.2562	(N/A)
R23	6239.48	R21	6237	6	115.7	0.021	0.009	0	0	0.7659	(N/A)
A75	6196.26	A74	6184.2	6	118.5	0.101	0.014	0	0	1.072	(N/A)
A68	6205.95	A67	6187.47	4	120.2	0.154	0.011	0	0	0.5704	(N/A)
H100	6274.02	H97	6253.93	6	122	0.165	0.014	0	0	1.3664	(N/A)
E12	6205	E11	6181.95	6	124.6	0.184	0.014	0	0	1.446	(N/A)
E03	6201.08	E06	6193.66	8	125.1	0.059	0.014	0	0	1.7668	(N/A)
A57	6230.5	A56	6227.51	6	125.6	0.024	0.011	0	0	0.6602	(N/A)
W38B	6206	W38A	6204.49	6	126.9	0.012	0.009	0	0	0.5712	(N/A)
H97	6253.93	E45	6200.14	6	127.5	0.42	0.014	0	0	2.1829	(N/A)
T48A	6150.78	T48	6149.75	6	127.8	0.008	0.011	0	0	0.3844	(N/A)
E28	6168.1	E27	6162.4	6	127.8	0.045	0.014	0	0	0.7106	(N/A)
E24	6183.36	E23	6182.44	6	134.9	0.007	0.014	0	0	0.278	(N/A)
R29	6382.72	R28	6377	6	135.9	0.042	0.009	0	0	1.0742	(N/A)
A37A	6289.49	A37	6276.25	6	137	0.097	0.011	0	0	1.3323	(N/A)
E23	6182.44	E11	6181.95	8	137	0.004	0.014	0	0	0.4337	(N/A)
I48	6165.85	I47	6161.28	6	137.2	0.033	0.011	0	0	0.7827	(N/A)
R28	6377	R27	6373.42	6	150.2	0.024	0.009	0	0	0.8092	(N/A)
W57	6222.4	W58	6221.2	6	141.4	0.009	0.009	0	0	0.4832	(N/A)
C3	6211.2	C4	6209.5	6	142.1	0.012	0.009	0	0	0.5731	(N/A)
W59	6216.33	W60	6208.83	8	143.9	0.052	0.009	0	0	2.5745	(N/A)
C1	6220	C2	6215.76	6	147.8	0.029	0.009	0	0	0.8866	(N/A)
C2	6215.76	C3	6211.2	6	148.8	0.031	0.009	0	0	0.9163	(N/A)
R34	6492.02	R33	6479.22	6	158.3	0.081	0.009	0	0	1.4909	(N/A)
A46	6283.8	A45	6240.52	4	153	0.283	0.011	0	0	0.7731	(N/A)
A29	6373.5	WY-A30	6367.64	6	148.4	0.04	0.011	0	0	0.8525	(N/A)
H105	6308.4	H101	6301.43	6	156.7	0.044	0.009	0	0	1.1037	(N/A)
W01C	6202.32	W01B	6200.24	8	158.8	0.013	0.014	0	0	0.8294	(N/A)
W25R	6219.26	W72	6212.72	6	159.7	0.041	0.009	0	0	1.059	(N/A)
H102	6312.81	H101	6301.43	6	160.3	0.071	0.014	0	0	0.898	(N/A)
H86	6233.9	H85	6221.25	6	161.3	0.079	0.009	0	0	1.4683	(N/A)

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
W34	6209.72	W33A	6207.9	6	161.7	0.011	0.011	0	0	0.4543	(N/A)
E17	6190.77	E10	6170.98	8	163.1	0.121	0.014	0	0	2.5269	(N/A)
R22	6257.85	R21	6237	6	165.1	0.126	0.009	0	0	1.862	(N/A)
E26	6192.8	E27	6162.4	6	165.7	0.183	0.014	0	0	1.441	(N/A)
A43	6238.36	A42	6209.99	6	170.1	0.167	0.011	0	0	1.7507	(N/A)
E51	6174	E63	6170.92	6	171.2	0.018	0.014	0	0	0.4519	(N/A)
A69	6191.4	A67	6187.47	6	172.6	0.023	0.011	0	0	0.6459	(N/A)
W58	6221.2	W59	6216.33	8	173	0.028	0.009	0	0	1.8927	(N/A)
E50	6176.54	E51	6174	6	173.6	0.015	0.014	0	0	0.4068	(N/A)
H103	6338.71	H102	6312.81	6	174.2	0.149	0.009	0	0	2.0209	(N/A)
H94	6266.2	A78	6252.82	6	175.4	0.076	0.011	0	0	1.185	(N/A)
M1	6193.3	T09	6180.37	6	177.7	0.073	0.011	0	0	1.1551	(N/A)
A40	6231.01	A39	6228.59	6	179.1	0.014	0.011	0	0	0.4983	(N/A)
E63	6170.92	E40	6162.53	6	181	0.046	0.014	0	0	0.725	(N/A)
E16	6196.92	E17	6190.77	6	183.3	0.034	0.014	0	0	0.6173	(N/A)
E31	6177.11	E32	6154.49	6	185.1	0.122	0.014	0	0	1.1775	(N/A)
W33A	6207.9	W32	6204.9	6	185.7	0.016	0.011	0	0	0.5443	(N/A)
H95	6287	H94	6266.2	6	188.4	0.111	0.011	0	0	1.4255	(N/A)
W30	6202.96	W17	6197.6	8	190.2	0.028	0.011	0	0	1.5502	(N/A)
H91	6261.21	H87	6258.4	6	194	0.014	0.009	0	0	0.6304	(N/A)
A66	6188.9	A67	6187.47	6	194.2	0.007	0.011	0	0	0.3679	(N/A)
R18	6203.31	R10	6179.81	6	204.3	0.115	0.009	0	0	1.7778	(N/A)
A37B	6300.03	A37A	6289.49	6	199.7	0.053	0.011	0	0	0.9838	(N/A)
E53	6183.02	E52	6179.55	6	199.8	0.017	0.014	0	0	0.4435	(N/A)
E14	6222.16	E15	6221.13	8	205.9	0.005	0.014	0	0	0.5128	(N/A)
R30	6397.4	R28	6377	6	207.4	0.099	0.009	0	0	1.6444	(N/A)
H92	6277.37	H91	6261.21	6	209.7	0.077	0.009	0	0	1.453	(N/A)
C4	6209.5	W01	6196.4	6	214.2	0.061	0.014	0	0	0.8331	(N/A)
A26	6431.2	A27	6390.02	6	216.2	0.191	0.011	0	0	1.8713	(N/A)
E47	6187.9	E49	6176.69	6	218.2	0.051	0.014	0	0	0.7636	(N/A)
E45	6200.14	E46	6195.29	6	219.6	0.022	0.014	0	0	0.5	(N/A)
T47A	6148.6	T47	6144.47	6	220	0.019	0.011	0	0	0.5872	(N/A)
R20	6235.68	R19	6221.55	6	224.3	0.063	0.009	0	0	1.3156	(N/A)
H106	6320.37	H105	6308.4	6	225.6	0.053	0.009	0	0	1.2055	(N/A)
A87	6238.06	A86	6207.06	6	225.8	0.137	0.009	0	0	1.94	(N/A)
A42	6209.99	A65	6188.5	6	227.6	0.094	0.011	0	0	1.3157	(N/A)

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
A63	6189.85	A65	6188.5	6	228.3	0.006	0.011	0	0	0.3298	(N/A)
W41	6242.85	W40	6205.97	6	236.1	0.156	0.014	0	0	1.3311	(N/A)
E61	6167.48	E60	6163.7	6	246.5	0.015	0.014	0	0	0.4166	(N/A)
A34	6270.5	A35	6260	6	249.2	0.042	0.011	0	0	0.8801	(N/A)
E52	6179.55	E51	6174	6	254.3	0.022	0.014	0	0	0.4978	(N/A)
E55	6174.75	E56	6164.6	6	258.7	0.039	0.014	0	0	0.6666	(N/A)
A36	6274.65	A35	6260	6	259.8	0.056	0.011	0	0	1.0173	(N/A)
R19	6221.55	R18	6203.31	6	262.7	0.069	0.009	0	0	1.3794	(N/A)
A35	6260	A38	6221.8	6	253.7	0.15	0.011	0	0	1.662	(N/A)
H104	6343.76	H103	6338.71	6	265.4	0.019	0.009	0	0	0.7231	(N/A)
E11	6181.95	E10	6170.98	8	270.8	0.04	0.009	0	0	2.2696	(N/A)
A76	6224.8	A75	6196.26	6	271.3	0.105	0.011	0	0	1.3908	(N/A)
E13	6223.4	E12	6205	6	272.2	0.068	0.014	0	0	0.8758	(N/A)
E02	6202.06	E03	6201.08	8	278.8	0.004	0.014	0	0	0.4298	(N/A)
R26	6315.62	R25	6228.2	6	276	0.317	0.009	0	0	2.9479	(N/A)
E01	6203.03	E02	6202.06	8	277.8	0.003	0.014	0	0	0.4284	(N/A)
A38	6221.8	A71	6189.96	6	284.8	0.112	0.011	0	0	1.4325	(N/A)
A80	6173.9	A82	6172.54	8	288	0.005	0.014	0	0	0.4983	(N/A)
S53	6501.6	S52	6477.5	6	290.8	0.083	0.011	0	0	1.2333	(N/A)
A17	6266.57	A18	6226.07	6	292.4	0.139	0.009	0	0	1.9508	(N/A)
T47	6144.47	T46	6137.22	6	299.6	0.024	0.011	0	0	0.6662	(N/A)
A39	6228.59	A38	6221.8	6	304.6	0.022	0.011	0	0	0.6394	(N/A)
A45	6240.52	A44	6226.5	6	295.5	0.047	0.011	0	0	0.9327	(N/A)
S51	6456.4	A26	6431.2	6	296.1	0.085	0.011	0	0	1.2505	(N/A)
R27	6373.42	R26	6315.62	6	297.5	0.195	0.009	0	0	2.3108	(N/A)
W54	6325	W53	6284.2	6	317.6	0.128	0.009	0	0	1.8762	(N/A)
S52	6477.5	S51	6456.4	6	307.3	0.069	0.011	0	0	1.1235	(N/A)
E54	6181.34	E55	6174.75	6	307.9	0.021	0.014	0	0	0.4925	(N/A)
A37	6276.25	A36	6274.65	6	312.5	0.005	0.011	0	0	0.3064	(N/A)
E15	6221.13	E16	6196.92	8	312.1	0.078	0.014	0	0	2.0201	(N/A)
A77	6235.7	A76	6224.8	6	312.6	0.035	0.011	0	0	0.7998	(N/A)
A24	6452.9	A25	6442.5	6	316.1	0.033	0.011	0	0	0.7775	(N/A)
E04	6212.9	E03	6201.08	8	313.9	0.038	0.014	0	0	1.407	(N/A)
E62	6173.52	E61	6167.48	6	315.2	0.019	0.014	0	0	0.4663	(N/A)
H99	6325	H98	6300.65	6	323.1	0.075	0.009	0	0	1.4382	(N/A)
A60	6197.3	A59	6187.89	6	318.4	0.03	0.011	0	0	0.7372	(N/A)

Scenario 3 - Existing Sewer System + VSVSP+ GP Buildout ADWF (Peak Hour)

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Depth (Normal) / Rise (%)
A14	6342	A15	6339.98	6	321.5	0.006	0.009	0	0	0.4149	(N/A)
A55	6225.9	A58	6189.07	6	325.8	0.113	0.011	0	0	1.4405	(N/A)
A18	6226.07	W19	6198.4	6	330.3	0.084	0.009	0	0	1.5168	(N/A)
A41	6228.1	A42	6209.99	6	342.3	0.053	0.011	0	0	0.9862	(N/A)
E46	6195.29	E47	6187.9	6	334.9	0.022	0.014	0	0	0.5001	(N/A)
A70	6192.16	A71	6189.96	6	336.1	0.007	0.011	0	0	0.3468	(N/A)
H98	6300.65	H97	6253.93	6	342.5	0.136	0.014	0	0	1.2428	(N/A)
E63A	6176.1	E63	6170.92	6	344.2	0.015	0.014	0	0	0.4132	(N/A)
WY-A30	6367.64	A30	6354.41	6	350.8	0.038	0.011	0	0	0.8322	(N/A)
A44	6226.5	A42	6209.99	6	349.7	0.047	0.011	0	0	0.9308	(N/A)
R35	6527.25	R34	6492.02	6	354.5	0.099	0.009	0	0	1.6501	(N/A)
A16	6296	A17	6266.57	6	362.2	0.081	0.009	0	0	1.4935	(N/A)
R32	6438.52	R30	6397.4	6	383	0.107	0.009	0	0	1.7163	(N/A)
A47	6270.09	A45	6240.52	6	393.7	0.075	0.011	0	0	1.1741	(N/A)
R33	6479.22	R32	6438.52	6	402.5	0.101	0.009	0	0	1.6646	(N/A)
A62	6200.59	A63	6189.85	6	401.4	0.027	0.011	0	0	0.7014	(N/A)
A31	6331.83	A32	6312.94	6	411.8	0.046	0.011	0	0	0.9176	(N/A)
A30	6354.41	A31	6331.83	6	414.9	0.054	0.011	0	0	0.9997	(N/A)
A15	6339.98	A17	6266.57	6	442.9	0.166	0.009	0	0	2.1323	(N/A)
R25	6228.2	R03	6174.1	6	442.4	0.122	0.009	0	0	1.8325	(N/A)
A27	6390.02	A29	6373.5	6	439.4	0.038	0.011	0	0	0.8314	(N/A)
R36	6532.02	R35	6527.25	6	450.7	0.011	0.009	0	0	0.5387	(N/A)
A32	6312.94	A33	6291.81	6	453.9	0.047	0.011	0	0	0.9245	(N/A)
A33	6291.81	A34	6270.5	6	459.4	0.046	0.011	0	0	0.9235	(N/A)
W56	6367.24	W55	6346	6	454.3	0.047	0.009	0	0	1.133	(N/A)
W52	6267.5	W40	6205.97	6	494.1	0.125	0.009	0	0	1.8486	(N/A)
A78	6252.82	A76	6224.8	6	490.9	0.057	0.011	0	0	1.0238	(N/A)

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
T18	6172.23	T19	6172.22	15	352.3	0	0.011	3.25	2.4896	0.263	947
T43	6074.26	TTSA	6068.27	10	315.7	0.019	0.011	12.47	4.3037	2.304	187
T34A	6147.66	T34	6147.26	15	190.9	0.002	0.011	4.63	3.5765	2.2579	158
T32	6152.41	T33	6152.3	15	64.4	0.002	0.011	3.67	2.8157	2.0455	138
T36	6135.02	T37	6133.91	15	388.1	0.003	0.011	4.63	3.5765	2.639	136
T31	6153.03	T32	6152.44	15	319.8	0.002	0.011	3.67	2.8152	2.1186	133
T20	6171.56	T21	6171	15	333.1	0.002	0.011	3.45	2.6458	2.0233	131
T15	6175.28	T16	6175	15	184.4	0.002	0.011	3.19	2.4366	1.9247	127
T23	6167.87	T24	6166.89	15	484.5	0.002	0.011	3.49	2.6795	2.2201	121
T37A	6127.12	T38	6124.19	12	222.5	0.013	0.011	7.57	3.7496	3.1262	120
T35	6135.54	T36	6135.04	15	136.3	0.004	0.011	4.63	3.5765	2.9916	120
T30	6153.45	T31	6153.11	15	146.3	0.002	0.011	3.67	2.8152	2.381	118
T25	6164.79	T26	6164.11	15	313.9	0.002	0.011	3.49	2.6795	2.296	117
T26A	6163.71	T27	6163.36	15	143.1	0.002	0.011	3.49	2.6795	2.4409	110
T13	6177.18	T14	6176.43	15	345.9	0.002	0.011	3.18	2.4319	2.2971	106
T11	6178.37	T12	6177.7	15	304.2	0.002	0.011	3.18	2.4313	2.3163	105
T26	6164.09	T26A	6163.72	15	138.9	0.003	0.011	3.49	2.6795	2.5456	105
T10	6179.38	T11	6178.39	15	446.5	0.002	0.011	3.15	2.4074	2.3246	104
T41	6084.93	T43	6074.46	12	286	0.037	0.014	8.66	4.3037	4.0909	105
GV148	6168.77	T23	6167.91	15	308.6	0.003	0.011	3.49	2.6795	2.6029	103
T22	6169.61	GV148	6168.77	15	298.6	0.003	0.011	3.49	2.6795	2.6151	103
T12	6177.65	T13	6177.2	15	187.8	0.002	0.011	3.18	2.4313	2.4139	101
T09	6180.37	T10	6179.41	15	398.7	0.002	0.011	3.14	2.3986	2.4201	100
T21	6170.97	T22	6169.62	15	450.1	0.003	0.011	3.49	2.6795	2.7024	100
T39A	6118.72	T39B	6115.51	15	305.7	0.01	0.014	5.71	3.9083	3.9705	98
T38	6124.14	T39	6123.05	15	180.9	0.006	0.011	5.5	3.7496	3.8288	98
T37	6133.82	T37A	6127.41	12	311.6	0.021	0.011	7.57	3.7496	3.9005	96
T14	6176.36	T15	6175.37	15	362.3	0.003	0.011	3.18	2.4319	2.5802	94
R07	6177.61	R06	6177.33	10	223	0.001	0.009	2.34	0.7085	0.7248	98
T29	6154.13	T30	6153.52	15	181.2	0.003	0.011	3.5	2.6824	2.8643	94
T19	6172.21	T20	6171.57	15	189	0.003	0.011	3.45	2.6458	2.8711	92
T16	6174.97	T17	6173.71	15	393.5	0.003	0.011	3.24	2.4762	2.7937	89
T08	6181.1	T09	6180.38	15	290.2	0.002	0.011	2.82	2.1464	2.4584	87
T34	6147.18	T35	6135.64	12	516.5	0.022	0.011	9.07	3.5765	4.0656	88

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
T17	6173.7	T18	6172.31	15	354.6	0.004	0.011	3.25	2.4896	3.0873	81
T24	6166.88	T25	6164.8	15	410.9	0.005	0.011	4.91	2.6795	3.51	76
W46	6201.41	W13	6201.1	10	333.6	0.001	0.024	0.72	0.1634	0.2337	70
R10	6179.81	R09	6179.04	10	310.2	0.002	0.009	3.12	0.7009	1.0194	69
R12A	6181.92	R12	6181.39	10	216.9	0.002	0.009	3.08	0.685	1.0108	68
R11	6180.44	R10	6179.81	10	252.7	0.002	0.009	3.1	0.685	1.0206	67
T28	6160.21	T29	6154.44	12	242.7	0.024	0.011	8.83	2.6824	4.1932	64
R13	6182.3	R12A	6181.92	10	147.7	0.003	0.009	3.14	0.685	1.0364	66
R16	6186.3	R15	6185.3	10	344.7	0.003	0.009	3.29	0.685	1.1012	62
R12	6181.39	R11	6180.44	10	323.8	0.003	0.009	3.31	0.685	1.1075	62
T33	6152.27	T34A	6147.67	15	308.3	0.015	0.011	7.97	3.5703	6.0297	59
T40A	6095.26	T41	6084.93	12	205.9	0.05	0.009	15.28	4.3037	7.4479	58
T04A	6191.75	T05	6191.63	15	167.6	0.001	0.011	1.72	0.7602	1.3186	58
R09	6179.04	R07	6177.61	10	388.1	0.004	0.009	3.63	2.6824	1.2417	54
T27	6163.26	T28	6160.23	12	91.8	0.033	0.011	10.01	0.7009	4.9385	56
R14	6183.41	R13	6182.3	10	285.9	0.004	0.009	3.68	0.685	1.2742	54
W13	6201.1	W14	6200.8	10	182.7	0.002	0.024	0.9	0.1657	0.3105	53
T40	6102.8	T40A	6096.15	15	131.1	0.051	0.014	11.02	4.2804	8.7344	49
R15	6185.3	R14	6183.41	10	403.2	0.005	0.009	3.95	0.685	1.4007	49
R03	6174.1	R02	6172.4	10	277.7	0.006	0.009	4.47	0.7546	1.5994	47
T46	6137.22	T37	6133.82	6	429.3	0.008	0.011	2.93	0.1731	0.3815	45
R06	6177.33	R04	6175.4	10	317.7	0.006	0.009	4.39	0.7085	1.5934	45
R04	6175.4	R03	6174.1	10	198.7	0.007	0.009	4.52	0.7136	1.6531	43
T45	6114.8	T40	6102.8	6	294.9	0.041	0.011	6.5	0.3591	0.8644	42
T39	6122.96	T39A	6118.76	15	107.2	0.039	0.011	11.7	3.9083	9.7752	40
T5A	6191.07	T06	6190.69	15	254.9	0.001	0.011	2.27	0.7696	1.9046	40
W37	6203.23	W36	6202.56	10	276.8	0.002	0.014	1.66	0.2197	0.6467	34
E34	6142	E33	6141.04	8	70.1	0.014	0.014	3.37	0.2792	0.8493	33
W36A	6201.95	W15	6201.3	10	204.4	0.003	0.014	1.88	0.2419	0.7422	33
E30A	6121.96	T44	6120.73	8	175.9	0.007	0.009	3.73	0.3038	0.943	32
R17	6187.4	R16	6186.3	12	268.6	0.004	0.009	3.73	0.685	2.1268	32
T44	6120.73	T44A	6119.54	8	165.1	0.007	0.009	3.77	0.3038	0.958	32
W36	6202.56	W36A	6201.95	10	165.8	0.004	0.014	1.98	0.2419	0.7971	30
E33	6141.04	E33A	6134.26	8	364.4	0.019	0.014	3.82	0.2921	0.9897	30
W38	6203.8	W37	6203.23	10	180.8	0.003	0.014	1.82	0.2149	0.7379	29

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
T39B	6115.45	T39C	6109.7	15	102	0.056	0.009	15.47	3.9083	14.3178	27
T39C	6109.65	T40	6102.95	15	116.1	0.058	0.009	15.61	3.9083	14.4927	27
E33B	6126	E30	6124	8	79.8	0.025	0.014	4.25	0.2944	1.1466	26
W47	6202.9	W47A	6202.49	10	177.6	0.002	0.024	0.87	0.0945	0.3681	26
E30	6124	E30A	6121.96	8	106.7	0.019	0.011	4.64	0.3038	1.2744	24
W39	6204.6	W38A	6204.49	10	157.8	0.001	0.014	0.81	0.0818	0.3469	24
E33A	6134.26	E33B	6126	8	274.3	0.03	0.014	4.55	0.2921	1.2591	23
T05	6191.63	T5A	6191.07	15	120.5	0.005	0.011	3.42	0.7607	3.3565	23
W38A	6204.49	W38	6203.8	10	111.2	0.006	0.014	2.31	0.2102	1.0367	20
T44A	6119.54	T44B	6115.91	8	147.5	0.025	0.009	6.16	0.3591	1.7727	20
R02	6172.4	R01	6166.5	10	175.4	0.034	0.009	8.33	0.7546	3.7555	20
W49	6207.3	W48	6205.54	8	236.5	0.007	0.024	1.25	0.0704	0.3645	19
E36	6152.75	E34	6142	8	266.8	0.04	0.014	4.91	0.2684	1.4551	18
T44B	6115.91	T45	6114.8	8	33	0.034	0.009	6.87	0.3591	2.0689	17
E38	6158.84	E37	6157.08	8	379.4	0.005	0.014	1.64	0.0843	0.4942	17
T04	6192.53	T04A	6191.75	15	189.5	0.004	0.011	2.93	0.5142	3.1613	16
T07	6185.71	T08	6181.1	12	115.5	0.04	0.011	7.88	0.8775	5.4484	16
W76	6200.78	W75	6199.86	6	166.5	0.006	0.009	2.22	0.0598	0.3899	15
E40	6162.53	E39	6160.9	8	305.6	0.005	0.014	1.7	0.081	0.5293	15
W01	6196.4	W02	6191.76	8	89.7	0.052	0.014	5.27	0.2498	1.6466	15
E56	6164.6	E60	6163.7	8	158.1	0.006	0.014	1.75	0.0829	0.5473	15
R01	6166.5	T33	6152.27	10	159.2	0.089	0.011	10.23	0.7546	5.0063	15
T02	6195.75	T03	6193.82	15	389.9	0.005	0.011	3.14	0.5142	3.4709	15
E39	6160.9	E38	6158.84	8	357.5	0.006	0.014	1.74	0.081	0.5501	15
T03	6193.82	T04	6192.53	15	233	0.006	0.011	3.26	0.5142	3.6712	14
T06	6190.69	T07	6185.71	15	357.3	0.014	0.011	5.09	0.7696	5.8274	13
E59	6159.16	E58	6157.66	8	196.4	0.008	0.014	1.94	0.0829	0.6344	13
E43	6166.59	E42	6164.73	8	392.4	0.005	0.014	1.46	0.0555	0.4995	11
E42	6164.73	E41	6163.44	8	250.9	0.005	0.014	1.5	0.0555	0.5199	11
E41	6163.44	E40	6162.53	8	158.7	0.006	0.014	1.56	0.0555	0.5486	10
E37	6157.08	E36	6152.75	8	286.5	0.015	0.014	2.53	0.0895	0.8923	10
W74	6198.13	W77	6196.45	10	305.1	0.006	0.009	2.74	0.149	1.518	10
W77	6196.45	T04A	6191.75	10	215	0.022	0.011	4.46	0.2426	2.4743	10
E08	6191.52	E09	6190.98	8	298.3	0.002	0.009	1.32	0.0436	0.4802	9
W15	6201.3	W14	6200.8	10	16.7	0.029	0.011	4.95	0.2419	2.87	8

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
W48	6205.54	W47	6202.9	10	191.4	0.014	0.024	1.55	0.0752	0.9017	8
W75	6199.86	W74	6198.13	8	182.2	0.01	0.009	2.92	0.0874	1.0998	8
E60	6163.7	E59	6159.16	8	210.7	0.022	0.014	2.8	0.0829	1.0637	8
W47A	6202.49	W46	6201.41	10	42.8	0.025	0.024	2.05	0.0945	1.2156	8
W14	6200.8	T02	6195.75	10	41.8	0.12	0.011	9.49	0.4076	5.8028	7
W40A	6204.8	W39	6204.6	10	74.6	0.003	0.014	1.1	0.046	0.679	7
W49B	6212.68	W49A	6209.67	4	197.8	0.015	0.024	0.77	0.0829	0.0821	5
E58	6157.66	E36	6152.75	8	106.6	0.046	0.014	3.66	0.0044	1.5535	5
E09	6190.98	E10	6170.98	8	388.7	0.051	0.014	3.81	0.0829	1.6443	5
W49A	6209.67	W49	6207.3	6	160.1	0.015	0.024	0.98	0.012	0.2391	5
E10	6170.98	E56	6164.6	8	119.6	0.053	0.014	3.85	0.0829	1.6721	5
W73	6200.6	W74	6198.13	8	175.4	0.014	0.009	3.02	0.0616	1.3402	5
W42	6206.69	W40	6205.97	8	136	0.005	0.014	1.15	0.0216	0.5277	4
W02	6191.76	T09	6180.37	8	36	0.316	0.009	13.65	0.2498	6.3452	4
W43	6208.07	W42	6206.69	8	269	0.005	0.014	1.09	0.0277	0.5194	4
P03	6130.66	P13	6130.04	8	136.7	0.005	0.009	1.6	0.019	0.7589	4
W08B	6195.85	W08A	6195.5	10	153.2	0.002	0.014	0.84	0.0227	0.6289	4
P04	6131.43	P03	6130.66	8	174.1	0.004	0.009	1.53	0.0243	0.7504	3
W08A	6195.5	W08	6194.9	10	207.5	0.003	0.014	0.92	0.0227	0.7079	3
W11	6197.9	W10	6197.3	10	184.7	0.003	0.014	0.95	0.0227	0.7488	3
P07	6132.36	P06	6131.89	8	91.2	0.005	0.009	1.61	0.0243	0.8107	3
P06	6131.89	P04	6131.43	8	88.9	0.005	0.009	1.61	0.0243	0.811	3
P08	6133.31	P07	6132.36	8	172.5	0.006	0.009	1.64	0.0243	0.8384	3
W09	6196.5	W08B	6195.85	10	179.3	0.004	0.014	0.99	0.0227	0.7923	3
W10	6197.3	W09	6196.5	10	210.8	0.004	0.014	1.01	0.0227	0.8096	3
W17	6197.6	T01	6197.2	8	5.5	0.08	0.011	5.05	0.0723	2.6106	3
A83	6170.48	E44	6168.57	8	426.6	0.004	0.014	0.94	0.0134	0.485	3
W40	6205.97	W40A	6204.8	10	65.4	0.018	0.014	2.15	0.046	1.7641	3
E44	6168.57	E43	6166.59	8	388.4	0.005	0.014	0.98	0.0134	0.518	3
T01	6197.2	T02	6195.75	15	192.2	0.008	0.011	2.28	0.1066	4.2877	3
W08	6194.9	W07	6193.75	10	233.1	0.005	0.014	1.1	0.0227	0.9237	3
W07	6193.75	W7A	6192.35	10	281.7	0.005	0.014	1.11	0.0227	0.9264	3
W44	6209.56	W43	6208.07	8	300.4	0.005	0.014	0.93	0.0116	0.5111	2
W11A	6198.1	W11	6197.9	10	63.6	0.003	0.014	0.83	0.0151	0.735	2
W01B	6200.24	W01	6196.4	8	143.9	0.027	0.014	1.98	0.0096	1.1842	2

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
W28R	6209.61	W70	6208.91	8	114.2	0.006	0.014	0.95	0.0201	0.5683	2
W19	6198.4	W11A	6198.1	10	47.7	0.006	0.014	1.06	0.0151	1.0395	2
E29	6148	E30	6124	4	279.8	0.086	0.009	3.14	0.0058	0.5201	1
A82	6172.54	A83	6170.48	8	438	0.005	0.014	0.74	0.0061	0.4973	1
E06	6193.66	E07	6192.8	8	343.1	0.003	0.014	0.52	0.0038	0.3631	1
W70	6208.91	W71	6208.46	8	61.8	0.007	0.009	1.36	0.0096	0.9611	1
W05	6186.3	W04	6183.8	8	341	0.007	0.014	0.83	0.0052	0.6209	1
W06	6188.5	W05	6186.3	8	290.3	0.008	0.014	0.84	0.0052	0.6316	1
E07	6192.8	E08	6191.52	8	221.4	0.006	0.014	0.72	0.0043	0.5519	1
W12	6199.05	W19	6198.4	10	219.9	0.003	0.014	0.58	0.0051	0.7147	1
P13	6130.04	T44A	6119.54	8	68.8	0.152	0.009	5.61	0.0311	4.4006	1
W62	6204.25	W38	6203.8	8	147.8	0.003	0.009	0.78	0.0041	0.622	1
W7A	6192.35	T08	6181.1	8	42.9	0.262	0.014	4.53	0.0227	3.7093	1
W24R	6194.82	T5A	6191.07	12	203.9	0.018	0.024	0.88	0.0089	1.691	1
E49	6176.69	E43	6166.59	8	199.5	0.051	0.014	1.88	0.0096	1.6338	1
W71	6208.46	W73	6200.6	8	262.8	0.03	0.009	2.24	0.0081	1.9502	1
W45	6215	W44	6209.56	8	310.8	0.017	0.014	0.96	0.0031	0.9591	0
W61A	6206.51	W62	6204.25	8	181.9	0.012	0.009	1.22	0.0036	1.2571	0
W61	6208.51	W61A	6206.51	8	137.3	0.015	0.009	1.29	0.0036	1.363	0
P12	6154.64	P03	6130.66	6	248	0.097	0.009	2.59	0.0052	1.6288	0
W04	6183.8	T08	6181.1	8	18.3	0.15	0.014	2.35	0.0034	2.8087	0
E27	6162.4	E29	6148	8	160.6	0.089	0.009	2.81	0.0061	3.3737	0
E35	6142.9	E34	6142	8	248.4	0.004	0.014	0.34	0.0006	0.4369	0
E32	6154.49	E33	6141.04	6	101.9	0.132	0.014	1.25	0.0006	1.2228	0
R7A	6178.02	R07	6177.61	10	18.4	0.023	0.009	0	0	3.0869	0
W32	6204.9	W31A	6203.82	6	27.5	0.039	0.011	0	0	0.8417	0
I46	6161.17	T32	6152.41	6	35.3	0.25	0.011	0	0	2.1441	0
T50A	6138.02	T46	6137.22	6	37.4	0.022	0.011	0	0	0.6302	0
T57	6141.7	T56	6140.81	6	41.2	0.022	0.011	0	0	0.6314	0
W60	6208.83	W61	6208.51	6	47.5	0.007	0.009	0	0	0.4277	0
W50B	6211.27	W50A	6209.59	8	47.6	0.035	0.024	0	0	0.7914	0
A86	6207.06	W11	6197.9	6	51.4	0.18	0.009	0	0	2.2199	0
T59	6139.47	T58	6138.95	6	51.5	0.01	0.011	0	0	0.4286	0
H88	6179.4	A82	6172.54	6	51.5	0.135	0.014	0	0	1.235	0
I47	6161.28	T33	6152.27	6	48.7	0.184	0.011	0	0	1.8377	0

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
A88	6255.14	A87	6238.06	6	54	0.316	0.009	0	0	2.9459	0
A84	6171.79	A83	6170.48	6	56.5	0.023	0.014	0	0	0.5105	0
A80A	6176	A80	6173.9	6	57.9	0.036	0.014	0	0	0.6407	0
A72	6194.12	A71	6189.96	6	59.7	0.069	0.011	0	0	1.1285	0
T58	6138.95	T50A	6138.02	6	59.4	0.016	0.011	0	0	0.5381	0
E25	6185.67	E24	6183.36	6	60.8	0.038	0.014	0	0	0.6553	0
R21	6237	R20	6235.68	6	60.9	0.022	0.009	0	0	0.7705	0
H85	6221.25	A84	6171.79	6	61.5	0.811	0.014	0	0	3.0321	0
T54	6139.31	T50	6138.76	6	63.3	0.009	0.011	0	0	0.4004	0
A79	6179	A80A	6176	6	64.2	0.047	0.014	0	0	0.729	0
W27R	6211.38	W28R	6209.61	6	65.2	0.027	0.014	0	0	0.5557	0
A59	6187.89	T11	6178.37	6	70.8	0.134	0.011	0	0	1.5693	0
T52	6147.58	T51	6147.03	6	72.1	0.008	0.011	0	0	0.3746	0
H89	6195	H88	6179.4	6	73.3	0.214	0.014	0	0	1.5566	0
W31A	6203.82	W31	6203.49	6	74.8	0.004	0.011	0	0	0.2843	0
E42A	6172.38	E42	6164.73	6	76.7	0.099	0.014	0	0	1.0614	0
R24	6240.89	R23	6239.48	6	79.9	0.018	0.009	0	0	0.6954	0
I49	6151.1	T34A	6147.66	6	78.1	0.044	0.011	0	0	0.9	0
R31	6402.16	R30	6397.4	6	81.1	0.059	0.009	0	0	1.2698	0
W53	6284.2	W52	6267.5	6	87.7	0.19	0.009	0	0	2.2818	0
H90	6241	H89	6195	6	82	0.561	0.014	0	0	2.5221	0
W50R	6207.99	W49	6207.3	8	83	0.008	0.024	0	0	0.3867	0
A65	6188.5	T16	6174.97	6	95.2	0.142	0.011	0	0	1.6174	0
A56	6227.51	A55	6225.9	6	87.7	0.018	0.011	0	0	0.5797	0
A67	6187.47	T17	6173.7	6	90.3	0.153	0.011	0	0	1.6763	0
T55	6139.91	T54	6139.31	6	89.6	0.007	0.011	0	0	0.3499	0
W72	6212.72	W71	6208.46	6	90.7	0.047	0.009	0	0	1.1333	0
W50	6208.76	W50R	6207.99	8	91.6	0.008	0.024	0	0	0.3867	0
T48	6149.75	T47A	6148.6	6	92.5	0.012	0.011	0	0	0.4792	0
W31	6203.49	W30	6202.96	6	95.5	0.006	0.011	0	0	0.3201	0
A73	6189.48	T20	6171.56	6	97.4	0.185	0.014	0	0	1.4473	0
H101	6301.43	H100	6274.02	6	97.9	0.28	0.009	0	0	2.7702	0
W50A	6209.59	W50	6208.76	8	99.5	0.008	0.024	0	0	0.3867	0
I45	6162.25	I46	6161.17	6	101.6	0.011	0.011	0	0	0.441	0
T51	6147.03	T50	6138.76	6	103.3	0.08	0.011	0	0	1.2144	0

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
A71	6189.96	T19	6172.21	6	111.5	0.158	0.011	0	0	1.7061	0
T50	6138.76	T50A	6138.02	6	106.2	0.007	0.011	0	0	0.3581	0
W26	6216.5	W27R	6211.38	6	107.4	0.048	0.014	0	0	0.7366	0
H87	6258.4	H85	6221.25	6	108.1	0.344	0.009	0	0	3.0721	0
A74	6184.2	T21	6170.97	6	114.7	0.115	0.014	0	0	1.1421	0
T53	6148.29	T52	6147.58	6	108.2	0.007	0.011	0	0	0.3475	0
A25	6442.5	A26	6431.2	6	110.2	0.103	0.011	0	0	1.3736	0
W55	6346	W54	6325	6	122.6	0.171	0.009	0	0	2.1643	0
T56	6140.81	T55	6139.91	6	114.3	0.008	0.011	0	0	0.3808	0
A58	6189.07	A59	6187.89	6	114.8	0.01	0.011	0	0	0.4341	0
A28	6399.9	A27	6390.02	6	114.8	0.086	0.011	0	0	1.2562	0
R23	6239.48	R21	6237	6	115.7	0.021	0.009	0	0	0.7659	0
A75	6196.26	A74	6184.2	6	118.5	0.101	0.014	0	0	1.072	0
A68	6205.95	A67	6187.47	4	120.2	0.154	0.011	0	0	0.5704	0
H100	6274.02	H97	6253.93	6	122	0.165	0.014	0	0	1.3664	0
E12	6205	E11	6181.95	6	124.6	0.184	0.014	0	0	1.446	0
E03	6201.08	E06	6193.66	8	125.1	0.059	0.014	0	0	1.7668	0
A57	6230.5	A56	6227.51	6	125.6	0.024	0.011	0	0	0.6602	0
W38B	6206	W38A	6204.49	6	126.9	0.012	0.009	0	0	0.5712	0
H97	6253.93	E45	6200.14	6	127.5	0.42	0.014	0	0	2.1829	0
T48A	6150.78	T48	6149.75	6	127.8	0.008	0.011	0	0	0.3844	0
E28	6168.1	E27	6162.4	6	127.8	0.045	0.014	0	0	0.7106	0
E24	6183.36	E23	6182.44	6	134.9	0.007	0.014	0	0	0.278	0
R29	6382.72	R28	6377	6	135.9	0.042	0.009	0	0	1.0742	0
A37A	6289.49	A37	6276.25	6	137	0.097	0.011	0	0	1.3323	0
E23	6182.44	E11	6181.95	8	137	0.004	0.014	0	0	0.4337	0
I48	6165.85	I47	6161.28	6	137.2	0.033	0.011	0	0	0.7827	0
R28	6377	R27	6373.42	6	150.2	0.024	0.009	0	0	0.8092	0
W57	6222.4	W58	6221.2	6	141.4	0.009	0.009	0	0	0.4832	0
C3	6211.2	C4	6209.5	6	142.1	0.012	0.009	0	0	0.5731	0
W59	6216.33	W60	6208.83	8	143.9	0.052	0.009	0	0	2.5745	0
C1	6220	C2	6215.76	6	147.8	0.029	0.009	0	0	0.8866	0
C2	6215.76	C3	6211.2	6	148.8	0.031	0.009	0	0	0.9163	0
R34	6492.02	R33	6479.22	6	158.3	0.081	0.009	0	0	1.4909	0
A46	6283.8	A45	6240.52	4	153	0.283	0.011	0	0	0.7731	0

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
A29	6373.5	WY-A30	6367.64	6	148.4	0.04	0.011	0	0	0.8525	0
H105	6308.4	H101	6301.43	6	156.7	0.044	0.009	0	0	1.1037	0
W01C	6202.32	W01B	6200.24	8	158.8	0.013	0.014	0	0	0.8294	0
W25R	6219.26	W72	6212.72	6	159.7	0.041	0.009	0	0	1.059	0
H102	6312.81	H101	6301.43	6	160.3	0.071	0.014	0	0	0.898	0
H86	6233.9	H85	6221.25	6	161.3	0.079	0.009	0	0	1.4683	0
W34	6209.72	W33A	6207.9	6	161.7	0.011	0.011	0	0	0.4543	0
E17	6190.77	E10	6170.98	8	163.1	0.121	0.014	0	0	2.5269	0
R22	6257.85	R21	6237	6	165.1	0.126	0.009	0	0	1.862	0
E26	6192.8	E27	6162.4	6	165.7	0.183	0.014	0	0	1.441	0
A43	6238.36	A42	6209.99	6	170.1	0.167	0.011	0	0	1.7507	0
E51	6174	E63	6170.92	6	171.2	0.018	0.014	0	0	0.4519	0
A69	6191.4	A67	6187.47	6	172.6	0.023	0.011	0	0	0.6459	0
W58	6221.2	W59	6216.33	8	173	0.028	0.009	0	0	1.8927	0
E50	6176.54	E51	6174	6	173.6	0.015	0.014	0	0	0.4068	0
H103	6338.71	H102	6312.81	6	174.2	0.149	0.009	0	0	2.0209	0
H94	6266.2	A78	6252.82	6	175.4	0.076	0.011	0	0	1.185	0
M1	6193.3	T09	6180.37	6	177.7	0.073	0.011	0	0	1.1551	0
A40	6231.01	A39	6228.59	6	179.1	0.014	0.011	0	0	0.4983	0
E63	6170.92	E40	6162.53	6	181	0.046	0.014	0	0	0.725	0
E16	6196.92	E17	6190.77	6	183.3	0.034	0.014	0	0	0.6173	0
E31	6177.11	E32	6154.49	6	185.1	0.122	0.014	0	0	1.1775	0
W33A	6207.9	W32	6204.9	6	185.7	0.016	0.011	0	0	0.5443	0
H95	6287	H94	6266.2	6	188.4	0.111	0.011	0	0	1.4255	0
W30	6202.96	W17	6197.6	8	190.2	0.028	0.011	0	0	1.5502	0
H91	6261.21	H87	6258.4	6	194	0.014	0.009	0	0	0.6304	0
A66	6188.9	A67	6187.47	6	194.2	0.007	0.011	0	0	0.3679	0
R18	6203.31	R10	6179.81	6	204.3	0.115	0.009	0	0	1.7778	0
A37B	6300.03	A37A	6289.49	6	199.7	0.053	0.011	0	0	0.9838	0
E53	6183.02	E52	6179.55	6	199.8	0.017	0.014	0	0	0.4435	0
E14	6222.16	E15	6221.13	8	205.9	0.005	0.014	0	0	0.5128	0
R30	6397.4	R28	6377	6	207.4	0.099	0.009	0	0	1.6444	0
H92	6277.37	H91	6261.21	6	209.7	0.077	0.009	0	0	1.453	0
C4	6209.5	W01	6196.4	6	214.2	0.061	0.014	0	0	0.8331	0
A26	6431.2	A27	6390.02	6	216.2	0.191	0.011	0	0	1.8713	0

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
E47	6187.9	E49	6176.69	6	218.2	0.051	0.014	0	0	0.7636	0
E45	6200.14	E46	6195.29	6	219.6	0.022	0.014	0	0	0.5	0
T47A	6148.6	T47	6144.47	6	220	0.019	0.011	0	0	0.5872	0
R20	6235.68	R19	6221.55	6	224.3	0.063	0.009	0	0	1.3156	0
H106	6320.37	H105	6308.4	6	225.6	0.053	0.009	0	0	1.2055	0
A87	6238.06	A86	6207.06	6	225.8	0.137	0.009	0	0	1.94	0
A42	6209.99	A65	6188.5	6	227.6	0.094	0.011	0	0	1.3157	0
A63	6189.85	A65	6188.5	6	228.3	0.006	0.011	0	0	0.3298	0
W41	6242.85	W40	6205.97	6	236.1	0.156	0.014	0	0	1.3311	0
E61	6167.48	E60	6163.7	6	246.5	0.015	0.014	0	0	0.4166	0
A34	6270.5	A35	6260	6	249.2	0.042	0.011	0	0	0.8801	0
E52	6179.55	E51	6174	6	254.3	0.022	0.014	0	0	0.4978	0
E55	6174.75	E56	6164.6	6	258.7	0.039	0.014	0	0	0.6666	0
A36	6274.65	A35	6260	6	259.8	0.056	0.011	0	0	1.0173	0
R19	6221.55	R18	6203.31	6	262.7	0.069	0.009	0	0	1.3794	0
A35	6260	A38	6221.8	6	253.7	0.15	0.011	0	0	1.662	0
H104	6343.76	H103	6338.71	6	265.4	0.019	0.009	0	0	0.7231	0
E11	6181.95	E10	6170.98	8	270.8	0.04	0.009	0	0	2.2696	0
A76	6224.8	A75	6196.26	6	271.3	0.105	0.011	0	0	1.3908	0
E13	6223.4	E12	6205	6	272.2	0.068	0.014	0	0	0.8758	0
E02	6202.06	E03	6201.08	8	278.8	0.004	0.014	0	0	0.4298	0
R26	6315.62	R25	6228.2	6	276	0.317	0.009	0	0	2.9479	0
E01	6203.03	E02	6202.06	8	277.8	0.003	0.014	0	0	0.4284	0
A38	6221.8	A71	6189.96	6	284.8	0.112	0.011	0	0	1.4325	0
A80	6173.9	A82	6172.54	8	288	0.005	0.014	0	0	0.4983	0
S53	6501.6	S52	6477.5	6	290.8	0.083	0.011	0	0	1.2333	0
A17	6266.57	A18	6226.07	6	292.4	0.139	0.009	0	0	1.9508	0
T47	6144.47	T46	6137.22	6	299.6	0.024	0.011	0	0	0.6662	0
A39	6228.59	A38	6221.8	6	304.6	0.022	0.011	0	0	0.6394	0
A45	6240.52	A44	6226.5	6	295.5	0.047	0.011	0	0	0.9327	0
S51	6456.4	A26	6431.2	6	296.1	0.085	0.011	0	0	1.2505	0
R27	6373.42	R26	6315.62	6	297.5	0.195	0.009	0	0	2.3108	0
W54	6325	W53	6284.2	6	317.6	0.128	0.009	0	0	1.8762	0
S52	6477.5	S51	6456.4	6	307.3	0.069	0.011	0	0	1.1235	0
E54	6181.34	E55	6174.75	6	307.9	0.021	0.014	0	0	0.4925	0

Scenario 3 - Existing Sewer System + VSVSP + GP Buildout PWWF

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Diameter (in)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Velocity (ft/s)	Flow (Maximum) (MGD)	Capacity (Full Flow) (MGD)	Flow / Capacity (Design) (%)
A37	6276.25	A36	6274.65	6	312.5	0.005	0.011	0	0	0.3064	0
E15	6221.13	E16	6196.92	8	312.1	0.078	0.014	0	0	2.0201	0
A77	6235.7	A76	6224.8	6	312.6	0.035	0.011	0	0	0.7998	0
A24	6452.9	A25	6442.5	6	316.1	0.033	0.011	0	0	0.7775	0
E04	6212.9	E03	6201.08	8	313.9	0.038	0.014	0	0	1.407	0
E62	6173.52	E61	6167.48	6	315.2	0.019	0.014	0	0	0.4663	0
H99	6325	H98	6300.65	6	323.1	0.075	0.009	0	0	1.4382	0
A60	6197.3	A59	6187.89	6	318.4	0.03	0.011	0	0	0.7372	0
A14	6342	A15	6339.98	6	321.5	0.006	0.009	0	0	0.4149	0
A55	6225.9	A58	6189.07	6	325.8	0.113	0.011	0	0	1.4405	0
A18	6226.07	W19	6198.4	6	330.3	0.084	0.009	0	0	1.5168	0
A41	6228.1	A42	6209.99	6	342.3	0.053	0.011	0	0	0.9862	0
E46	6195.29	E47	6187.9	6	334.9	0.022	0.014	0	0	0.5001	0
A70	6192.16	A71	6189.96	6	336.1	0.007	0.011	0	0	0.3468	0
H98	6300.65	H97	6253.93	6	342.5	0.136	0.014	0	0	1.2428	0
E63A	6176.1	E63	6170.92	6	344.2	0.015	0.014	0	0	0.4132	0
WY-A30	6367.64	A30	6354.41	6	350.8	0.038	0.011	0	0	0.8322	0
A44	6226.5	A42	6209.99	6	349.7	0.047	0.011	0	0	0.9308	0
R35	6527.25	R34	6492.02	6	354.5	0.099	0.009	0	0	1.6501	0
A16	6296	A17	6266.57	6	362.2	0.081	0.009	0	0	1.4935	0
R32	6438.52	R30	6397.4	6	383	0.107	0.009	0	0	1.7163	0
A47	6270.09	A45	6240.52	6	393.7	0.075	0.011	0	0	1.1741	0
R33	6479.22	R32	6438.52	6	402.5	0.101	0.009	0	0	1.6646	0
A62	6200.59	A63	6189.85	6	401.4	0.027	0.011	0	0	0.7014	0
A31	6331.83	A32	6312.94	6	411.8	0.046	0.011	0	0	0.9176	0
A30	6354.41	A31	6331.83	6	414.9	0.054	0.011	0	0	0.9997	0
A15	6339.98	A17	6266.57	6	442.9	0.166	0.009	0	0	2.1323	0
R25	6228.2	R03	6174.1	6	442.4	0.122	0.009	0	0	1.8325	0
A27	6390.02	A29	6373.5	6	439.4	0.038	0.011	0	0	0.8314	0
R36	6532.02	R35	6527.25	6	450.7	0.011	0.009	0	0	0.5387	0
A32	6312.94	A33	6291.81	6	453.9	0.047	0.011	0	0	0.9245	0
A33	6291.81	A34	6270.5	6	459.4	0.046	0.011	0	0	0.9235	0
W56	6367.24	W55	6346	6	454.3	0.047	0.009	0	0	1.133	0
W52	6267.5	W40	6205.97	6	494.1	0.125	0.009	0	0	1.8486	0
A78	6252.82	A76	6224.8	6	490.9	0.057	0.011	0	0	1.0238	0