CITY OF VICTORVILLE

Sewer Master Plan

Final Report

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LIST OF ABBREVIATIONS

ac	Acre
CIP	Capital Improvement Program
CIPP	Cured-in-place Pipe
DU	Dwelling Unit
DWF	Dry Weather Flow
EDU	Equivalent Dwelling Unit
ESRI	Environmental Systems Research Institute
FAR	Floor Area Ratio
GIS	Geographic Information System
gpd	Gallons per Day
gpm	Gallons per Minute
GP	General Plan
IWWTP	City of Victorville's Industrial Wastewater Treatment Plant
mgd	Million Gallons per Day
PDWF	Peak Dry Weather Flow
ROW	Right of Way
SCAG	Southern California Association of Governments
SCLA	Southern California Logistics Airport
tsf	Thousand Square Foot
VCP	Vitrified Clay Pipe
VVWRA	Victor Valley Wastewater Reclamation Authority

CHAPTER 1 INTRODUCTION AND STUDY AREA

This introductory chapter provides background information on the study vicinity, scope of the Master Plan, existing sewer collection system, existing land use, and population.

1.1 Background and Scope

Victorville (the City) is a city in the Victor Valley and is a part of the Inland Empire region in southwestern San Bernardino County. The City is bordered by Apple Valley on the east, Hesperia on the south, and Adelanto on the west. Figure 1-1 shows the vicinity map of the City.

The City's previous sewer master plan was completed in 2008 by Earth Tech Inc. Since then, significant land development and capital improvement projects have been completed, and the City has nearly doubled its population in the past fifteen years from approximately 64,000 in 2000 to 121,000 in 2015. Because of these changes in infrastructure and population, the data and recommendations from this earlier report were not used or referenced for this project.

Per discussions with the City, for the purpose of the Master Plan, the study area boundary is coincident with the current Victorville city limits. The scope of the Master Plan includes evaluating all the City sewers that are within the city limits under both existing and projected Year 2040 flow conditions and determining their hydraulic capacities, structural conditions and needed capital improvements. The evaluations of the Victor Valley Wastewater Reclamation Authority (VVWRA) trunk sewers were not within the scope of this project and were not included in the hydraulic model. The boundaries of the hydraulic models were set at the "outfalls", where wastewater flows leave the City collection system and enter into the VVWRA interceptor system and City's industrial wastewater treatment plant (IWWTP).

1.2 Existing Sanitary Sewer Collection System

Figure 1-2 shows the City's existing sanitary sewer collection system. The City through its Public Works Department provides sewer service to residents and businesses within the city limits. The City owns, operates, and maintains a sanitary sewer collection system including approximately 411 miles of sewers.

About 80% of the City wastewater flows are conveyed to a 21-to-36-inch VVWRA interceptor sewer at six permanent metering stations along Mojave River on the east side of the City before being discharged to the VVWRA regional wastewater treatment plant. The remaining 20% of the City wastewater flows are discharged to the City-owned IWWTP.

Table 1-1 shows the sewer diameters and the associated lengths of the City's sewer collection system. As shown in Table 1-1, the majority of the City sewers are 8-inch pipes, making up about 75% of the City sewers, followed by 12-inch and 10-inch sewers each representing about 5.2% and 5.1% of the system respectively. The remaining diameters account for 15% of the system with the largest pipe size of 27 inches.

The Stoddard Wells Road Lift Station is the only major pumping facility maintained by the City. The lift station is currently equipped with two identical 75-Hp pumps which both have a rated pumping flow of 1,030 gpm at 185 feet of head. There are six other small lift stations within the SCLA area.

Figure 1-1 Vicinity Map

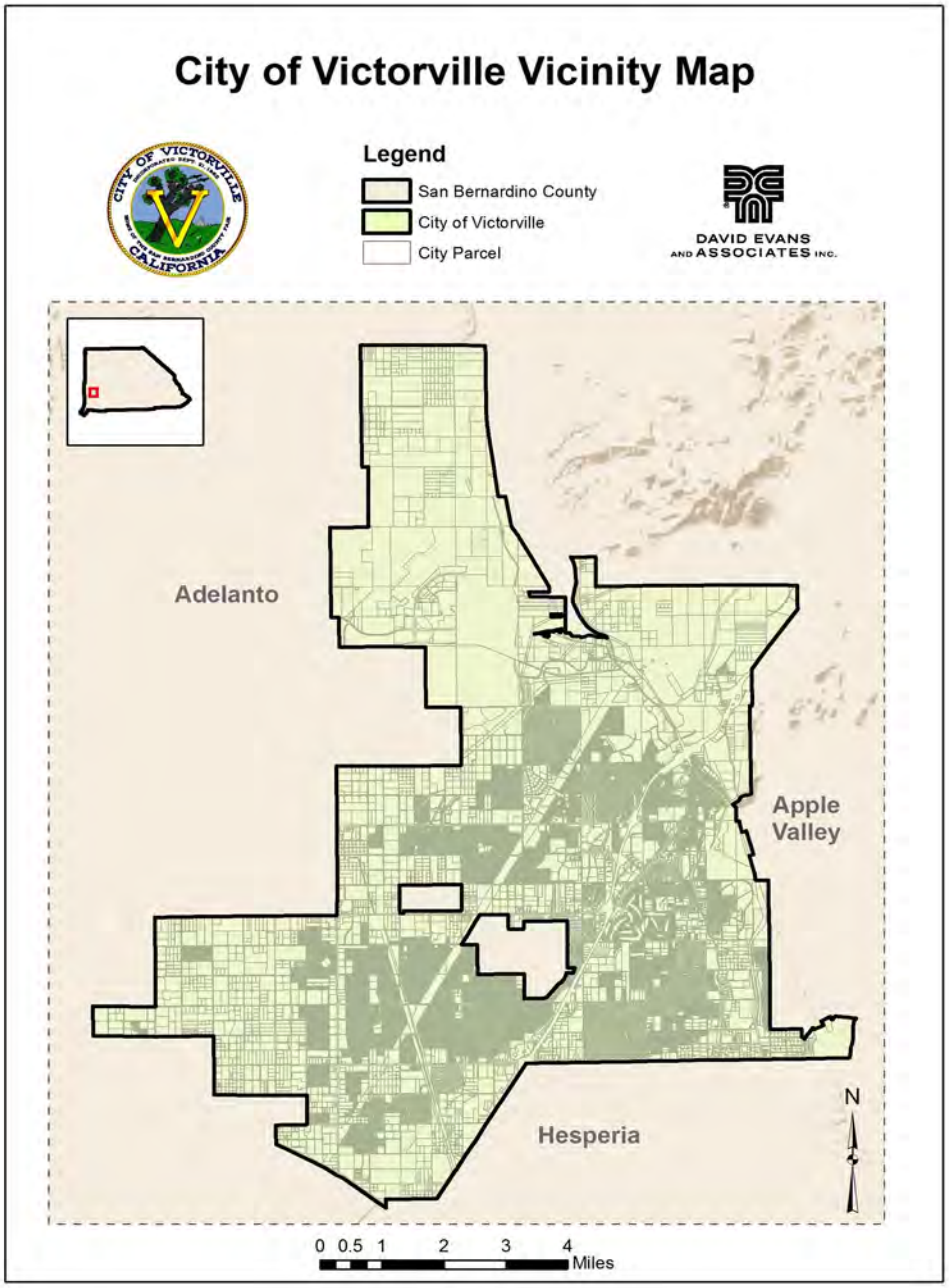


Figure 1-2 Existing Victorville Sewer System

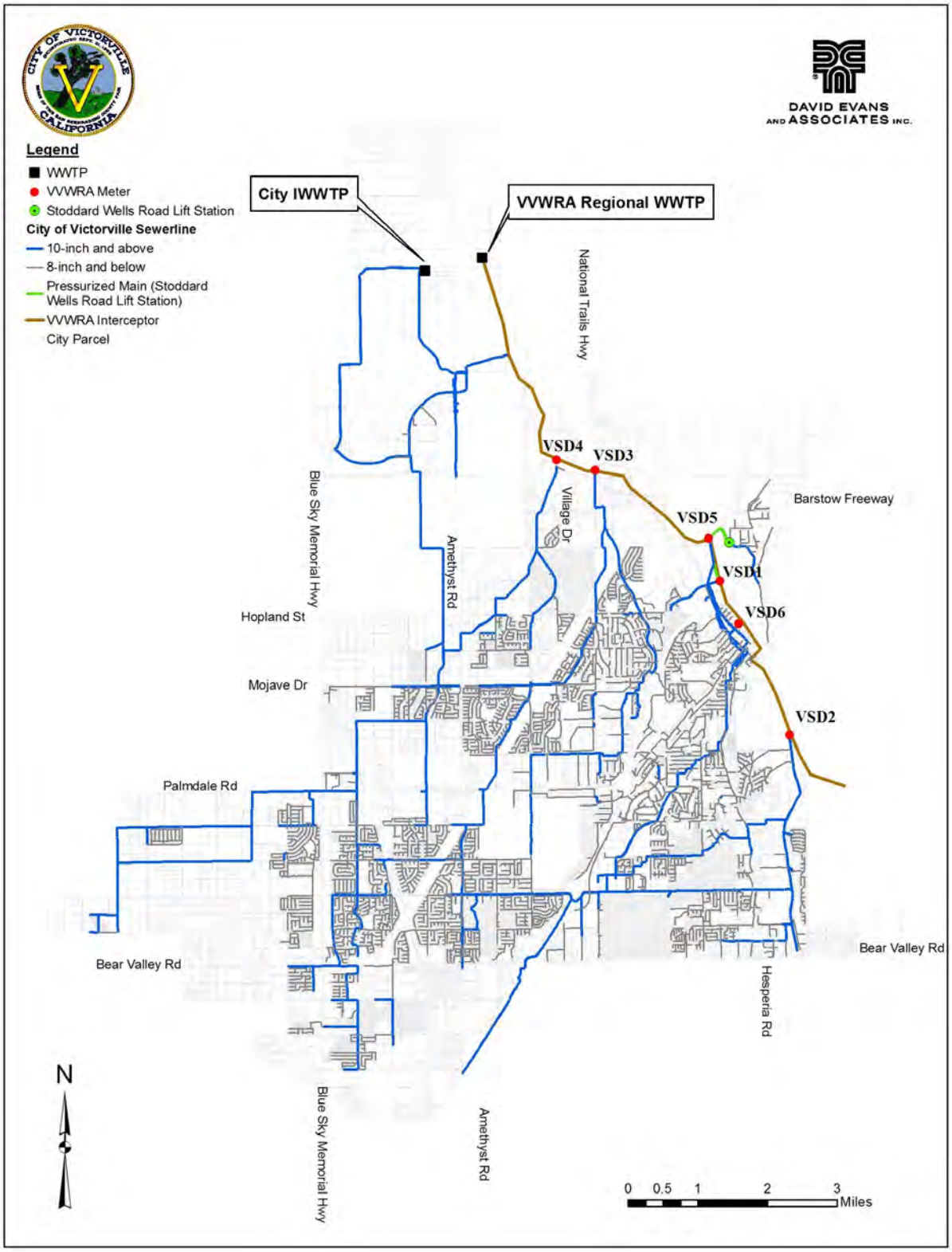


Table 1-1 Sewer Diameters and Lengths

Sewer Diameter (inch)	No. of Segments	Length (feet)	Length (mile)	% by Length
6	135	8,001	1.5	0.4%
8	7,512	1,628,307	308.4	75.0%
10	449	110,724	21.0	5.1%
12	460	112,531	21.3	5.2%
14	12	2,477	0.5	0.1%
15	358	90,696	17.2	4.2%
18	313	83,895	15.9	3.9%
21	145	48,368	9.2	2.2%
24	55	17,135	3.2	0.8%
27	202	68,623	13.0	3.2%
Total	**9,644**	**2,170,793**	**411.1**	**100.0%**

1.3 Existing Land Use

The existing land uses utilized in the preparation of this Master Plan are primarily based on the City's latest General Plan land use map that was adopted in 2008 and provided by the City in GIS format. Table 1-2 provides a summary of the existing City land use categories. The presented net acreages exclude streets and roads. Figure 1-3 presents the existing land use distribution throughout the City.

As shown in Table 1-2, the vacant or undeveloped parcels account for about 56% of the total area. Among the existing developed parcels, residential land uses together represent about 16% of the total area or 36% of the existing developed area with the majority zoned as Low Density Residential. The remaining land uses include 11.1% open space, 10.7% specific plan, 3.4% commercial, 1.5% institutional, 0.8% heavy industrial, 0.3% light industrial, and 0.2% office. According to the General Plan, Specific Plan land use is primarily for residential development with some commercial lots.

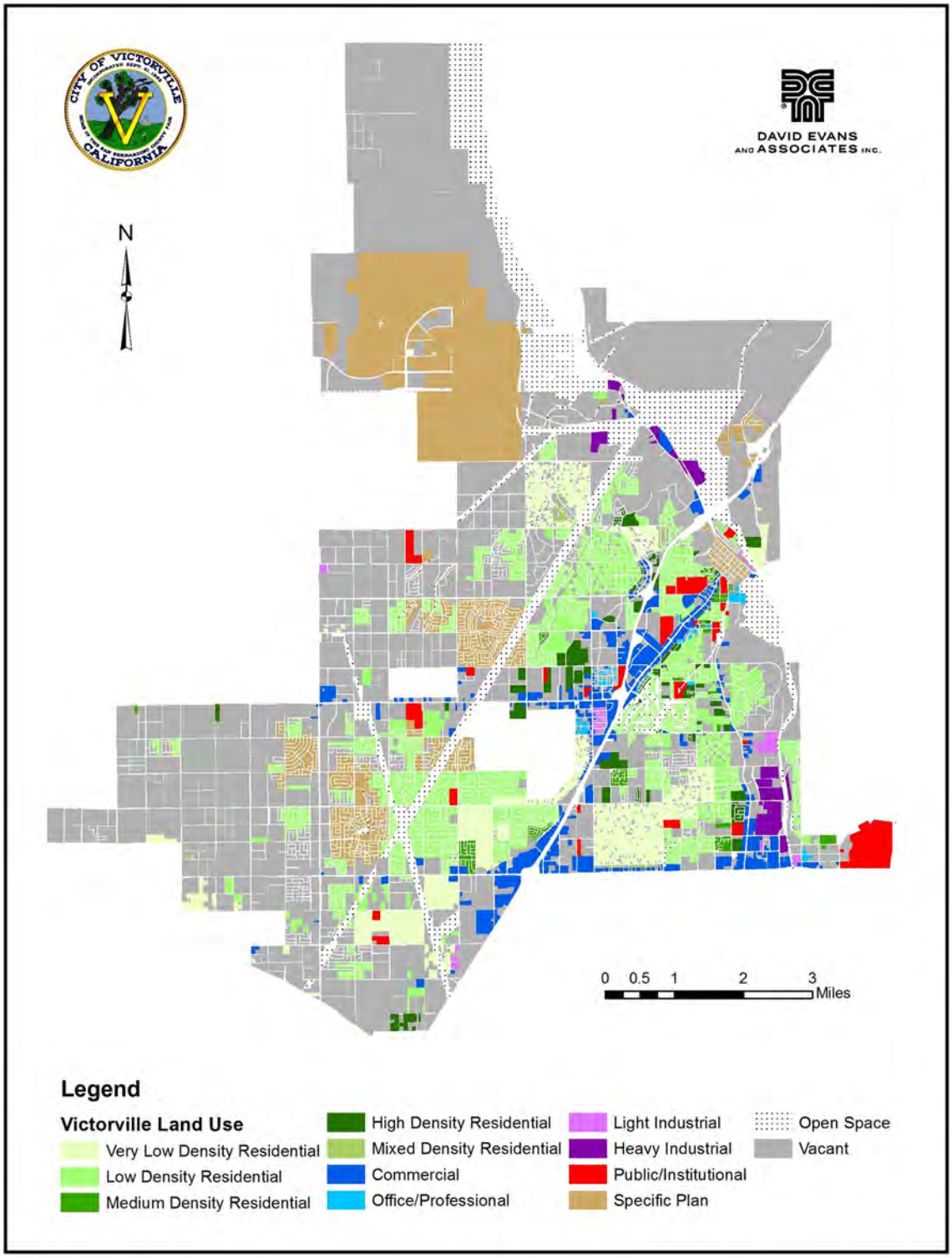
Table 1-2 Existing City Land Use Table

Land Use Category	Number of Parcels	Acreage	% of Total Acreage
Very Low Density Residential	3,525	1,929.8	4.3%
Low Density Residential	17,681	4,328.7	9.7%
Medium Density Residential	1,229	215.3	0.5%
High Density Residential	846	591.9	1.3%
Mixed Density Residential	118	51.2	0.1%
Commercial	973	1,522.3	3.4%
Office	118	92.2	0.2%
Light Industrial	175	128.2	0.3%
Heavy Industrial	29	340.2	0.8%
Public Institutional	67	679.7	1.5%
Specific Plan	7,265	4,802.5	10.7%
Open Space	671	4,961.5	11.1%
Vacant	9,066	25,200.1	56.2%
Total	**41,763**	**44,843.6**	**100.0%**

Notes:

1. The Open Space category includes any easements, flood control channels, electrical substations, etc.
2. Vacant parcels are usually not shown in the General Plan which presents the “buildout” condition. The vacant parcels were identified for the existing conditions based on the City’s GIS database information supplemented by a detailed review of the aerial photo published by ESRI, which was taken in May 2014 for the Victorville area.

Figure 1-3 Existing City Land Use Map



1.4 Population

Historical population and housing was obtained from the California Department of Finance data. As shown in Table 1-3 and on Figure 1-4, the City's population increased from 50,469 in 1990 to 64,029 in 2000, which was an average annual increase of 2.41%. The population increased by 6.11% annually between 2000 and 2010. The City's population was 121,168 as of January 2015.

Housing grew at an annual rate of 4.25% between 1990 and 2000, but grew at a slightly higher rate of 5.00% between 2000 and 2010. There were 37,549 dwelling units in the City as of January 2015. The number of vacant dwelling units increased from 1,605 in 2000 (7.13% vacancy) to 4,182 (11.18% vacancy) in 2015. The number of people per occupied dwelling unit (population density) has remained essentially the same since 1990 at 3.6.

Projected population and housing for the City through 2035 in 5-year increments was obtained from the Southern California Association of Governments (SCAG) Regional Transportation Plan that was adopted in 2012.

As shown in Table 1-3 and on Figure 1-4, the City's population is projected to increase to 190,100 by the year 2035, which is an average annual increase of 2.3% and a total increase of 56.9% relative to January 2015. Housing is projected to increase by 70.6% (relative to 2015) to 64,062 dwelling units in 2035. Assuming that vacancy will remain at 11.18%, the City's population density would decrease to approximately at 3.3 people per occupied dwelling unit by the year 2035.

Table 1-3 Historical and Projected City Population and Housing (1990 - 2035)

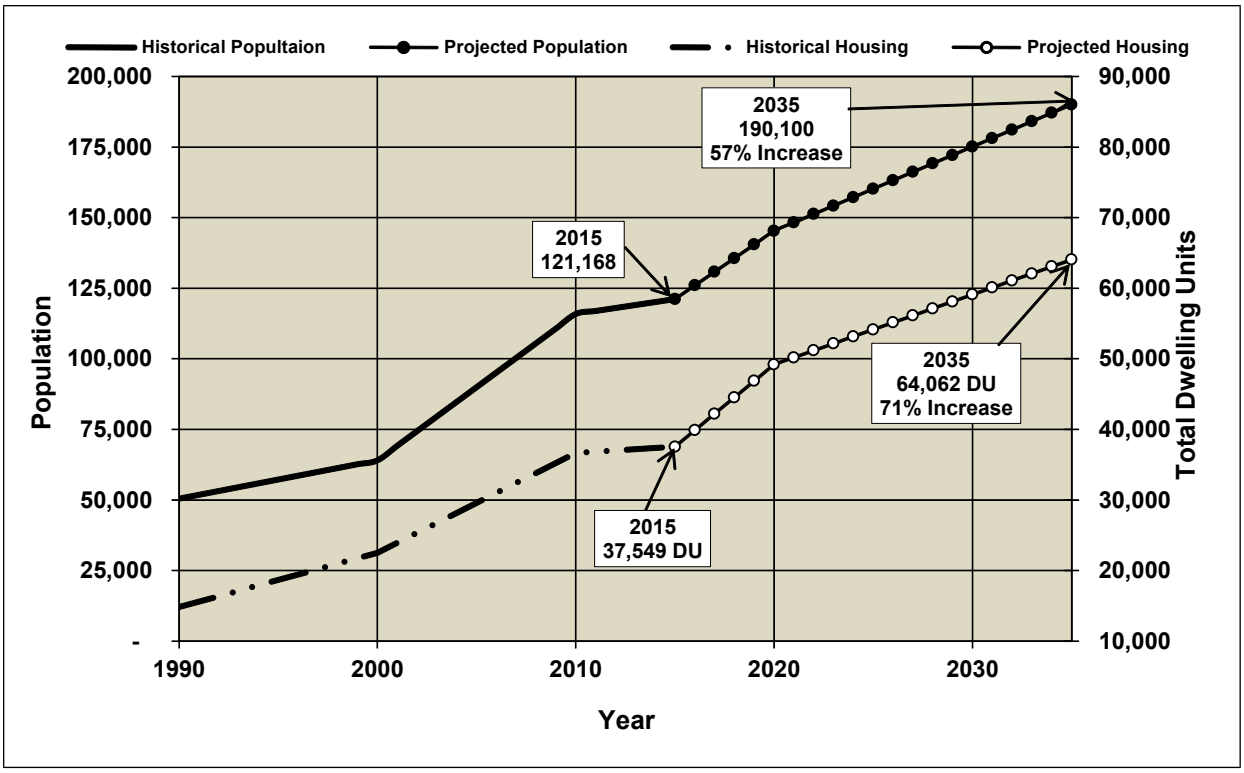
	Historical City Population and Housing				Projected City Population and Housing			
	1990	2000	2010	2015	2020	2025	2030	2035
Population[(a)]	50,469	64,029	115,903	121,168	145,300	160,233	175,166	190,100
Annual % Increase	-	2.41%	6.11%	1.12%	3.07%	1.98%	1.80%	1.65%
Total Dwelling Units	14,833	22,498	36,655	37,549	49,200	54,154	59,108	64,062
Annual % Increase	-	4.25%	5.00%	0.60%	4.61%	1.94%	1.77%	1.62%
Vacant Dwelling Units	901	1,605	4,097	4,182	5,501	6,054	6,608	7,162
% Vacant[(b)]	6.07%	7.13%	11.18%	11.18%	11.18%	11.18%	11.18%	11.18%
Population per Occupied Dwelling Unit	3.62	3.06	3.56	3.63	3.32	3.33	3.34	3.34

Notes:

a) Non-household populations such as nursing homes, school dormitories, state and federal prisons, and military barracks are included in the total population.

b) Vacant dwelling unit percentages for 2020 - 2035 were assumed equal to the 2015 vacancy percentage of 11.18%.

Figure 1-4 Historical and Projected Population and Housing



CHAPTER 2 EXISTING AND FUTURE WASTEWATER FLOWS

This chapter describes the development of existing wastewater flow estimates for the City's sanitary sewer collection system. Temporary flow and rainfall monitoring was conducted by SFE Global for the Master Plan for a three-week period between mid-January and early-February of 2015. The flow monitoring data along with other developed flow parameters provide the basis for the hydraulic model development and the subsequent capacity analysis.

2.1 Flow Estimating Methodology

Wastewater flows entering the City's sanitary sewer collection system was estimated for dry weather conditions based on the following processes:

1. Analyze measured flow data and determine representative diurnal curves for each site and the corresponding average daily flow rates for unit flow factors development and hydraulic model calibration purposes;

2. Identify vacant parcels and parcels on septic systems in GIS;

3. Develop and calibrate wastewater unit flow factors for dry weather flow conditions based on General Plan land uses, flow monitoring data and tributary areas;

4. Use the calibrated unit flow factors and other pertinent demographic and employment growth data to project potential 2040 wastewater flows

2.2 Flow Monitoring Program and Data

Temporary sewer flow and rainfall monitoring were conducted at five strategically selected locations to measure wastewater flows in the City for a three-week period from January 8, 2015 through February 1, 2015. Figure 2-1 shows the flow meter locations as well as the tributary areas monitored by each flow meter (meter basin). Table 2-1 summarizes the flow meters and tributary areas characteristics. Appendix A includes the flow monitoring report prepared by SFE Global which details site locations, flow meters used and flow data for the entire monitoring period.

Two rainfall events were captured during the flow monitoring period, one rainfall event totaling 0.65 inches on January 26 and another event totaling 1.3 inches on January 31. By observing the measured hydrographs, the rainfall has little to no effect on the measured wastewater flows. Without any significant wet weather flow data available, only dry weather flow conditions were evaluated in the hydraulic model (Chapters 3). Wet weather flow conditions are accounted for by designing sewers to carry peak dry weather flows at maximum sewer flow depth over diameter (d/D) ratios. The remainder of the pipe flow area is reserved to carry wet weather flows in addition to peak dry weather flows.

Figure 2-1 Temporary Flow Meter Locations

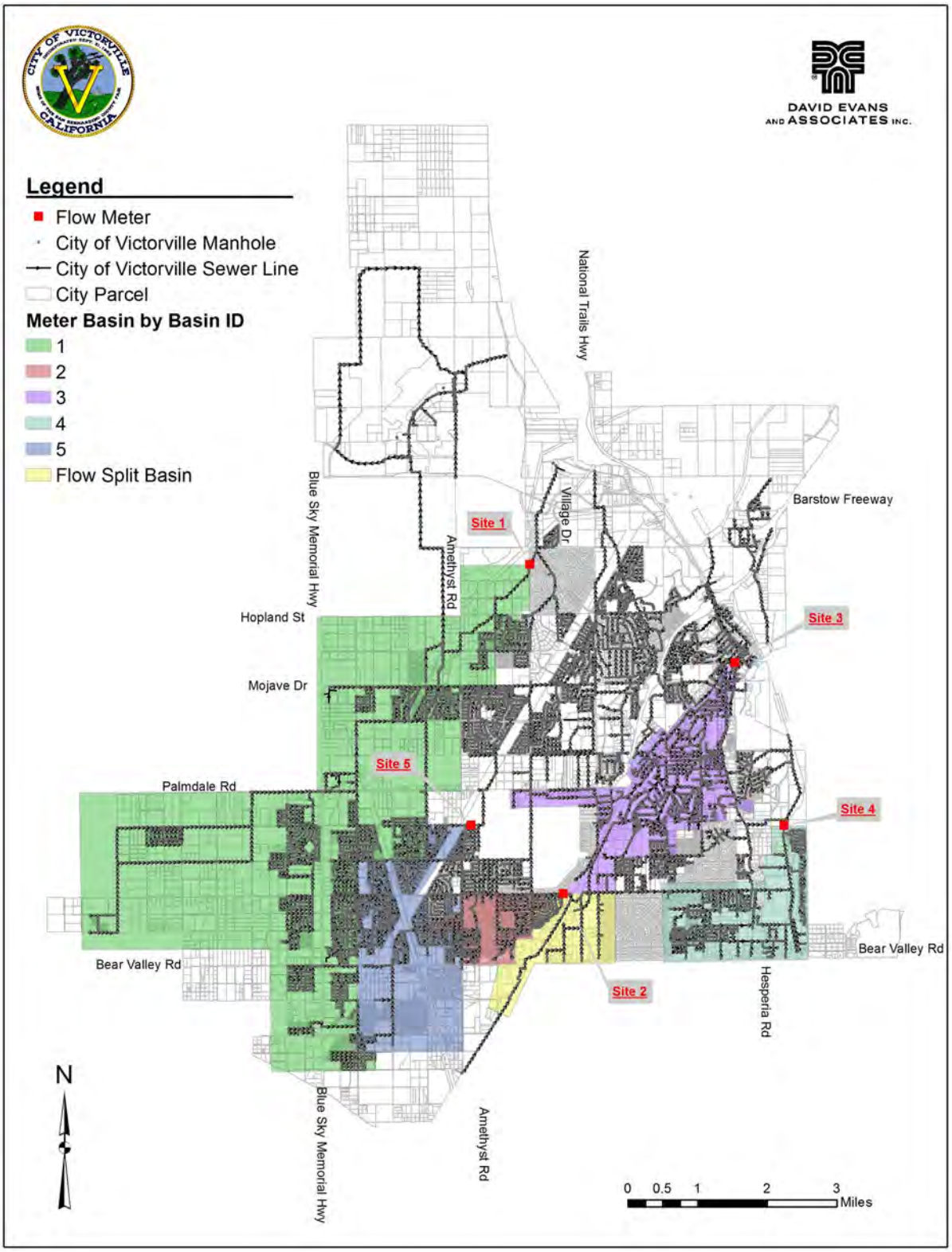


Table 2 - 1
Flow Meter and Tributary Area Characteristics

Metering Site No.	Manhole GIS ID	Flow Meter Location	Pipe Size (inches)	Predominant Land Use	Net Tributary Area (acres)
1	SWRMH-003598	Upstream	27	Residential	12,028
2	SWRMH-005948	Upstream	15	Residential	696
3	SWRMH-004922	Upstream	21	Residential Commercial	2,306
4	SWRMH-004264	Upstream	15	Commercial Residential Industrial	1,799
5	SWRMH-005716	Upstream	15	Residential	2,562

It is more difficult to accurately estimate and model weekend flows for individual commercial, institutional and some industrial parcels and users because it is usually not known what businesses, offices and workplaces are open and which ones are closed or operating with lower wastewater generation. Conversely, on normal weekdays, all land uses are expected to generate wastewater at more quantifiable flow rates. Therefore, only weekday flow conditions were analyzed in the hydraulic model. In addition, it is now common for people to have every Friday or every other Friday off and Friday flows are sometimes not typical of the rest of weekday flows occurring from Monday through Thursday. Accordingly, Friday flows are excluded in the weekday flow calculations.

Representative Diurnal Curves
A representative diurnal curve was developed for each monitoring site based on the recorded weekday flows. The representative diurnal curves were used to calibrate the flows in the hydraulic model. The following guidelines were followed in the development of these representative diurnal curves:

1. The overall shape of the measured flows is captured;
2. The general timing and magnitude of the peak(s) are preserved;
3. The volume of the flow is within 5% of the recorded average daily flow.

The representative diurnal curves for the five metering sites were hand drawn following the above guidelines. Although weekend flows were not directly analyzed in the hydraulic model, they were examined independently for each site such that the weekend peaks would not exceed peaks of the representative diurnal curves and, as a result, weekend flow conditions were indirectly analyzed in the hydraulic model.

Meter Basin No. 1

Flow data for Meter Basin No. 1 is shown in Figures 2-2 for weekdays and 2-3 for weekends. Meter Basin No. 1 is located in the western area of the City. The basin has 12,028 acres of drainage area and has exclusive residential users only.

As shown in Figure 2-2, except on the Monday, January 19, 2016, flows consistently peaked at 8:00 am in the mornings with a higher peak at 9 pm in the evenings, which is an indication of typical residential flows. As shown in Figure 2-3, the weekend flow pattern is distinctively different from the weekday flow pattern with a higher and lagged morning peak. On Super Bowl Sunday, the measured flows are noticeably lower possibly due to the fact that some residents maybe were dining out or travelling to watch the game.

Figure 2-2 Metering and Representative Diurnal Curves for Site 1 (Weekday)

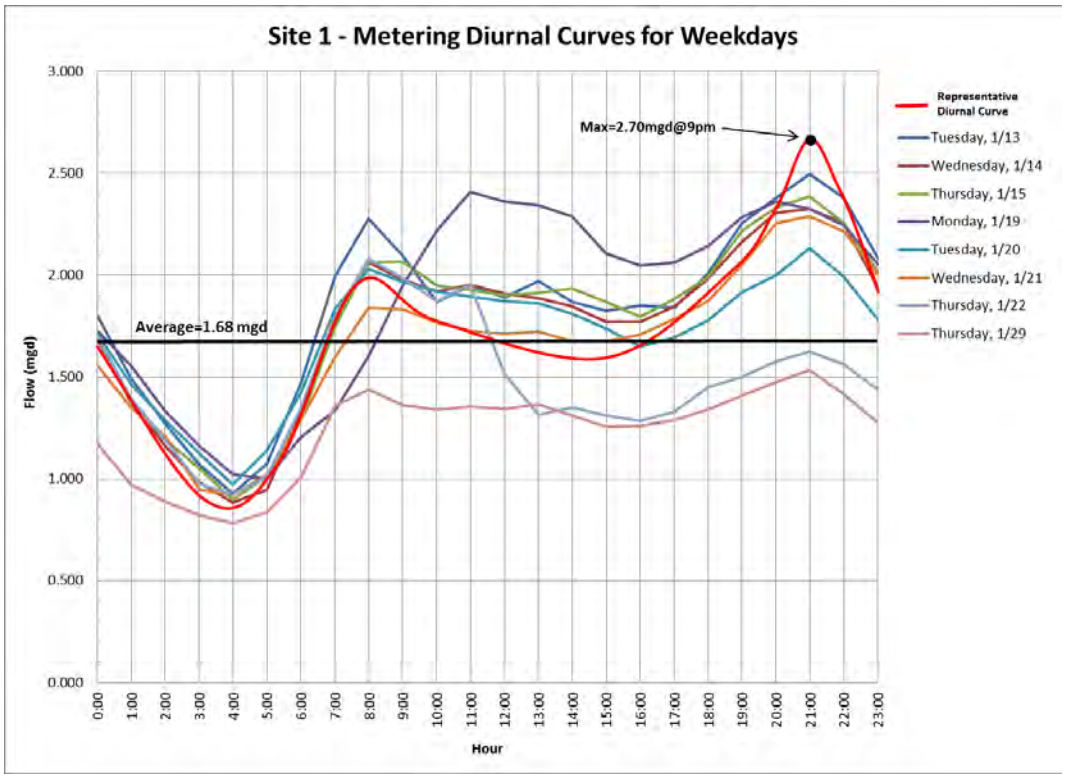
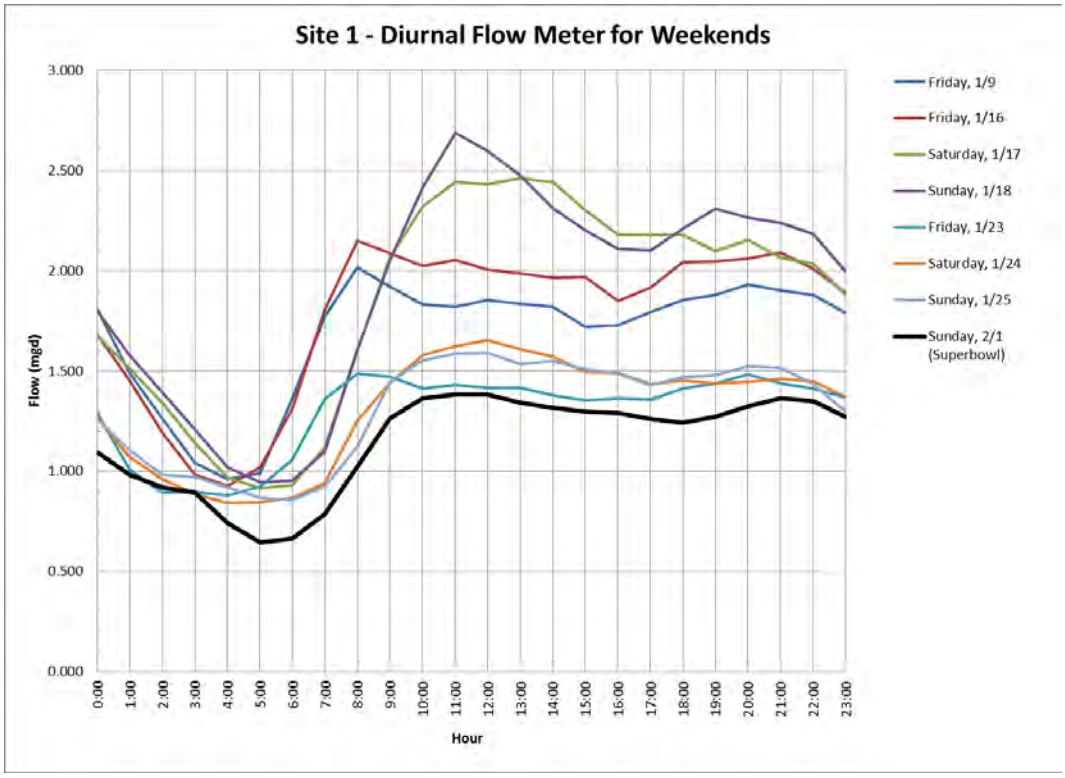


Figure 2-3 Metering Diurnal Curves for Site 1 (Weekend)



Meter Basin No. 2

Flow data for Meter Basin No. 2 are shown in Figures 2-4 for weekdays and 2-5 for weekends. Meter Basin No. 2 is located in the central southern area of the City. The basin totals 696 acres of drainage area with the majority zoned as low density residential.

As shown in Figure 2-4, similar to Site 1, the diurnal curves present a typical residential pattern with both a morning peak and an evening peak. As shown in Figure 2-5, unlike the weekday curves, the weekend flow curves peak around middays instead of evenings. No dramatic change in flows was observed on Super Bowl Sunday.

Figure 2-4 Metering and Representative Diurnal Curves for Site 2 (Weekday)

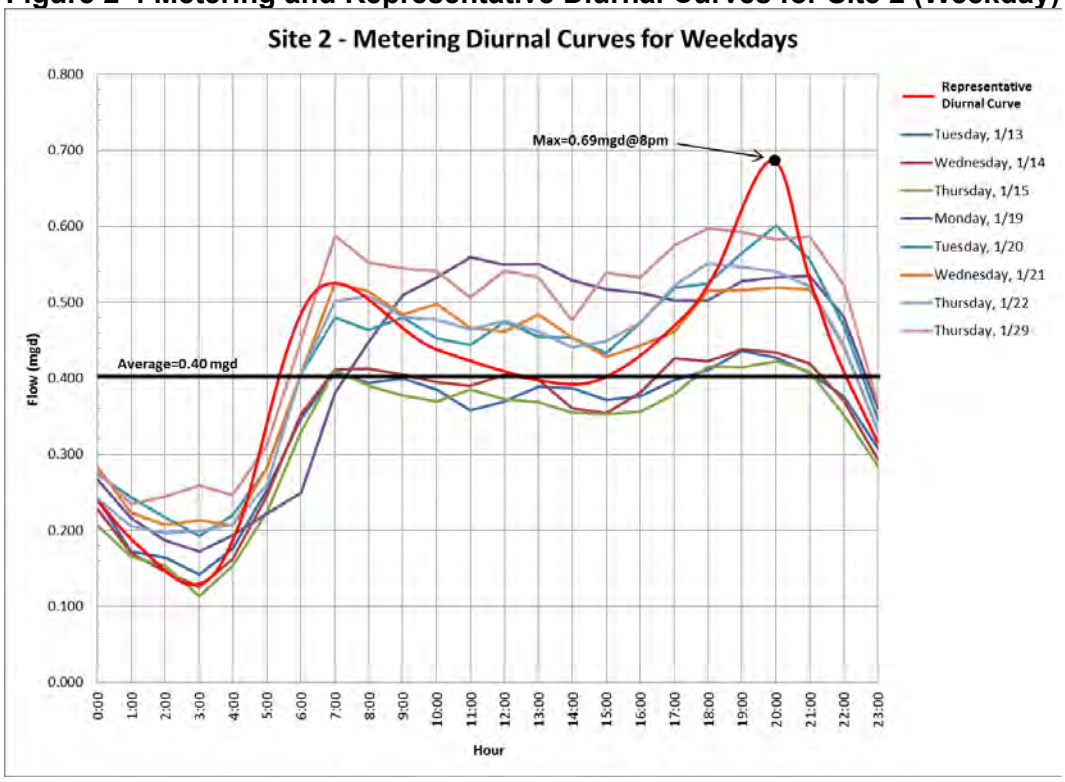
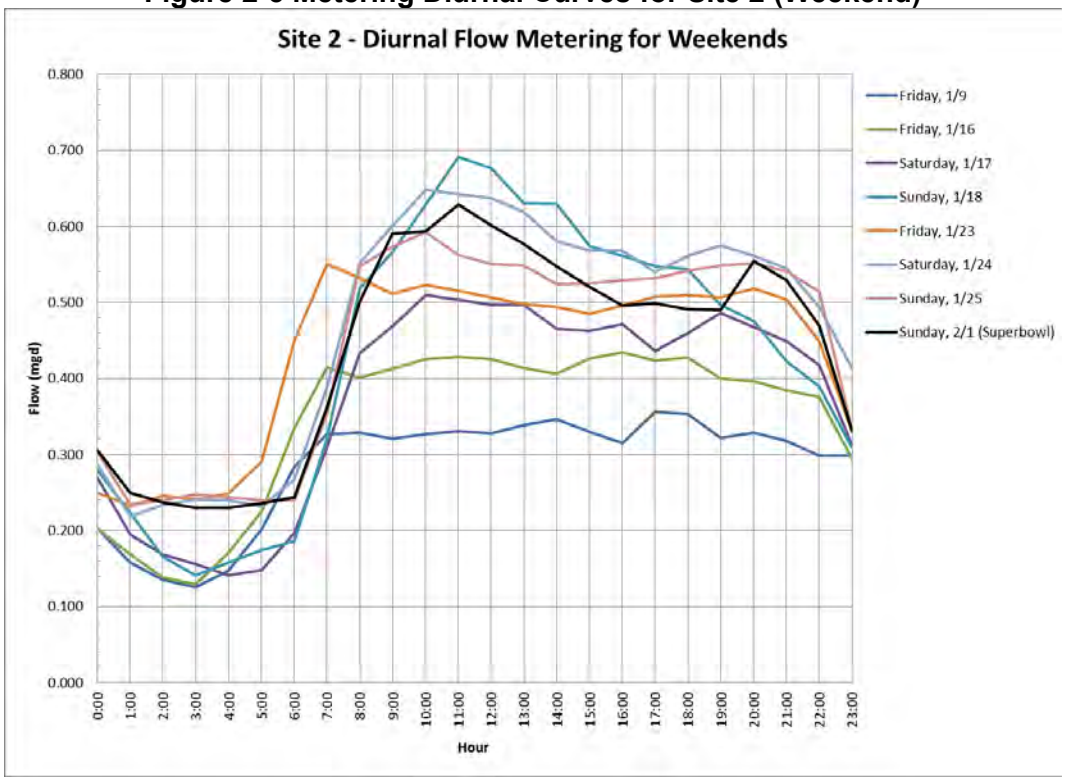


Figure 2-5 Metering Diurnal Curves for Site 2 (Weekend)



Meter Basin No. 3

Flow data for Meter Basin No. 3 is shown in Figures 2-6 and 2-7. Meter Basin No. 3 is located in the central east of the City and totals 2,306 acres. The basin is comprised of some residential parcels and some commercial and industrial lots.

As shown in Figure 2-6, Compared with a typical residential flow pattern, the representative diurnal curve has relatively high and constant flows in the afternoon which is an indication of flow contribution from other non-residential uses. As shown in Figure 2-7, the weekend flows are somewhat similar to the weekday flows in terms of overall pattern. No dramatic increase in flows was observed on Super Bowl Sunday.

Figure 2-6 Metering and Representative Diurnal Curves for Site 3 (Weekday)

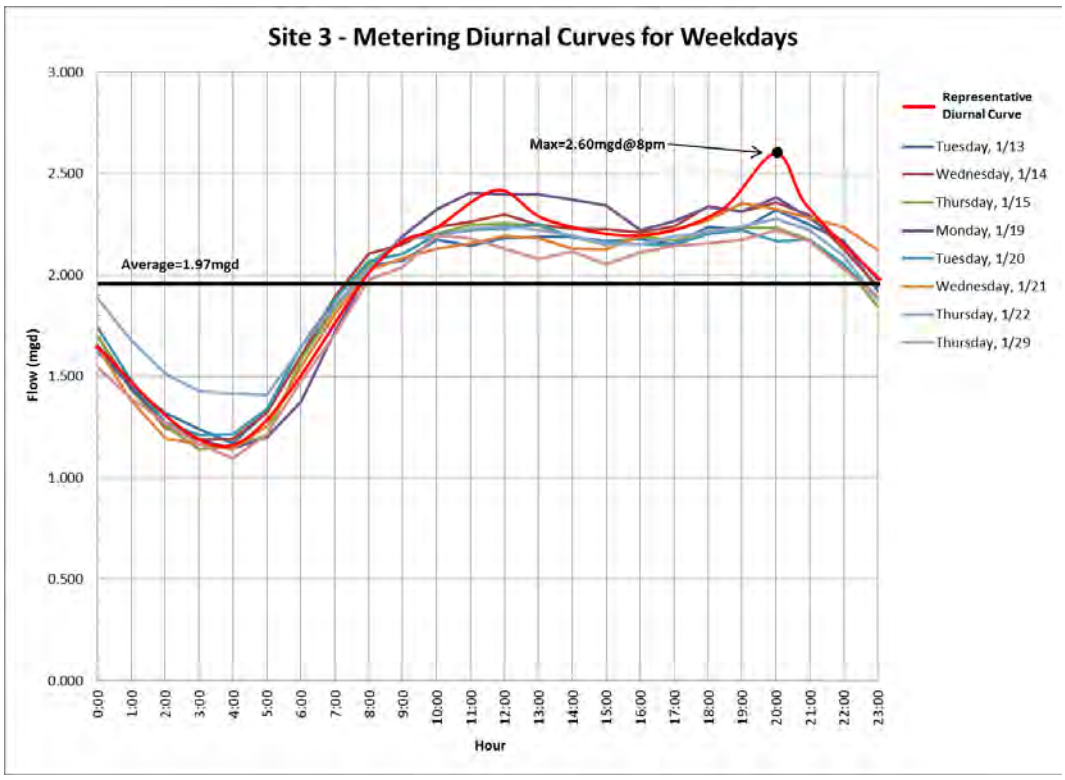
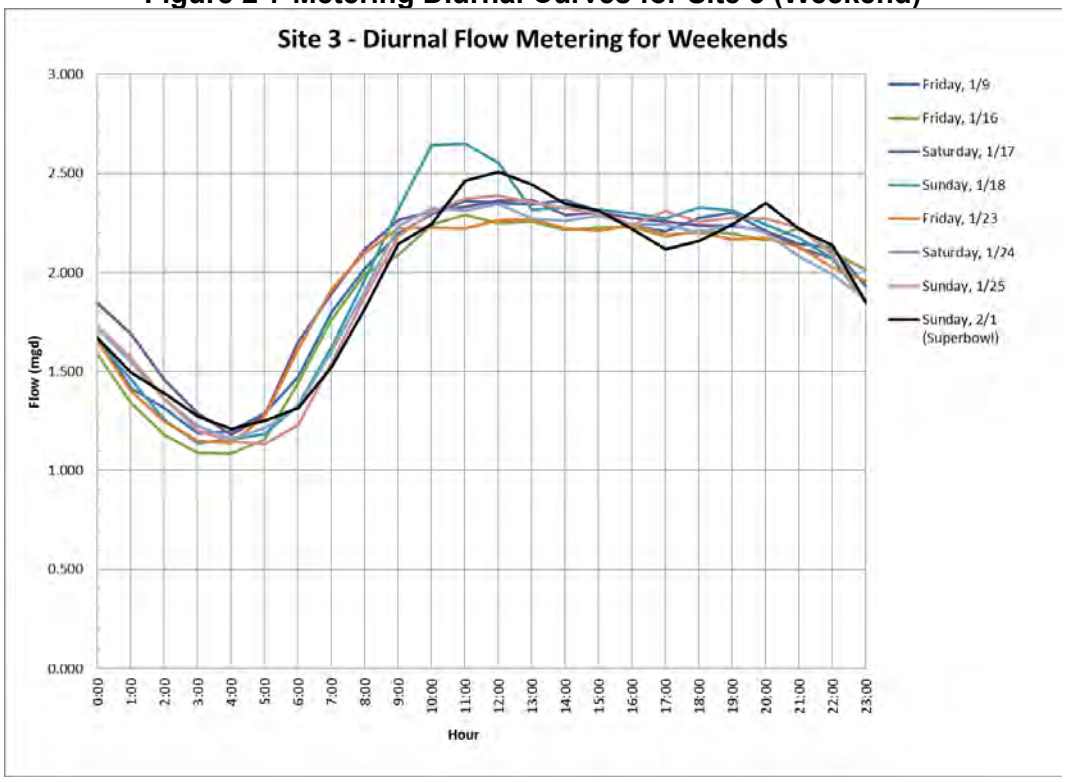


Figure 2-7 Metering Diurnal Curves for Site 3 (Weekend)



Meter Basin No. 4

Flow data for Meter Basin No. 4 is shown in Figures 2-8 and 2-9. Meter Basin No. 4 is located in the southeast corner of the City and totals about 1,799 acres. The basin has a mixture of residential, commercial, and industrial users. Similar to Basins No. 3, the representative diurnal curve shows relatively constant flows in the afternoon as a result of flow contribution from non-residential users. As shown in Figure 2-9, the weekend flow patterns are somewhat similar to the weekday flow patterns. No dramatic change in flows was observed on Super Bowl Sunday.

Figure 2-8 Metering and Representative Diurnal Curves for Site 4 (Weekday)

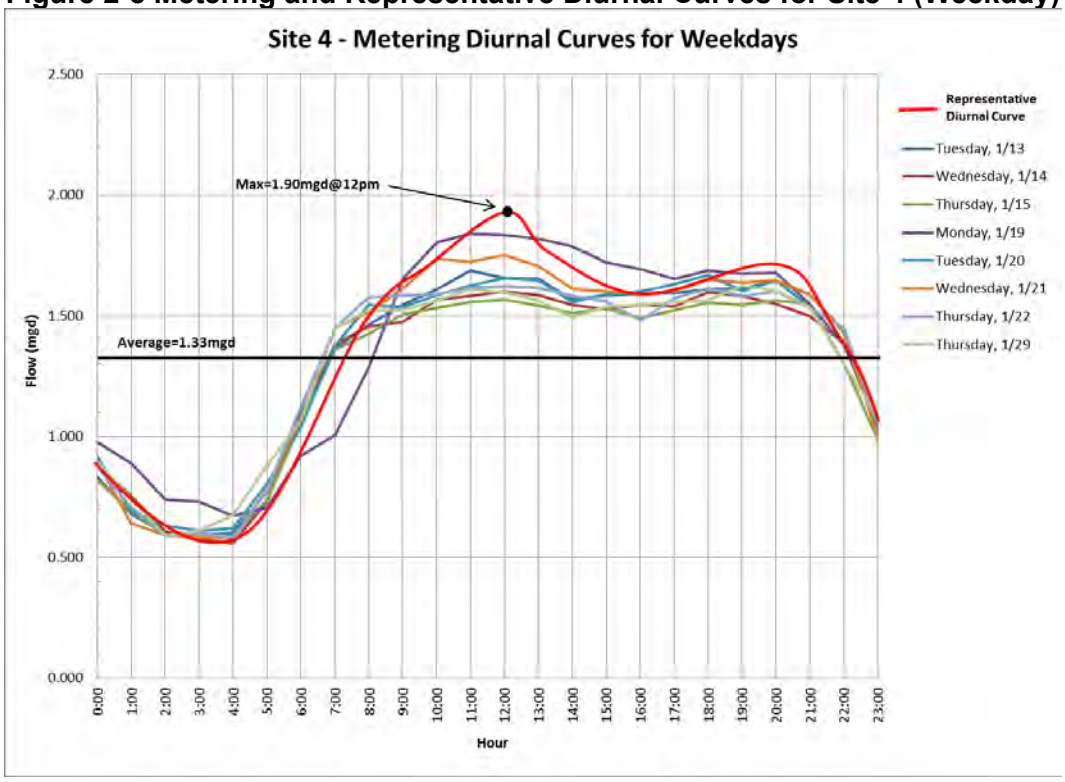
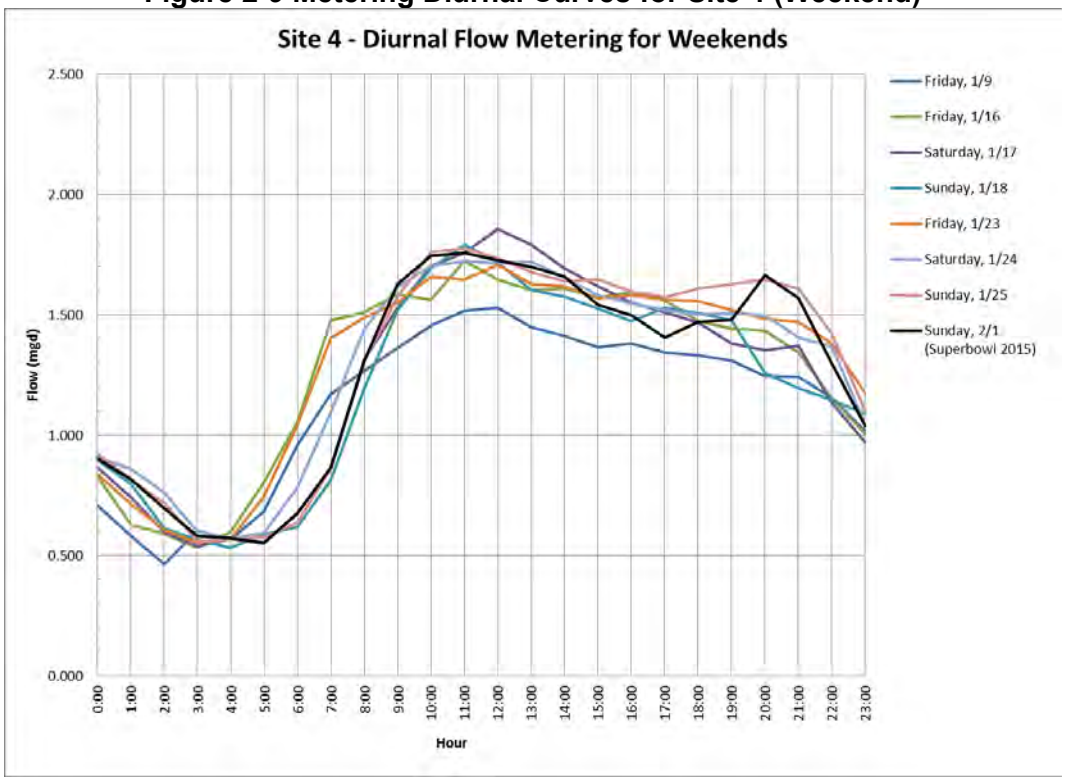


Figure 2-9 Metering Diurnal Curves for Site 4 (Weekend)



Meter Basin No. 5

Flow data for Meter Basin No. 5 is shown in Figures 2-10 and 2-11. The basin is located in the central south of the City and totals about 2,562 acres of drainage area. Similar to Basin Nos. 1 and 2, the basin is comprised of primarily residential land.

Similar to Sites 1 and 2, the representative diurnal curve has a higher evening peak than its morning peak. As shown in Figure 2-11, the weekend flow pattern is distinctively different from the weekday flow pattern with a higher and lagged morning peak. A slight increase in flows was observed on Super Bowl Sunday.

Figure 2-10 Metering and Representative Diurnal Curves for Site 5 (Weekday)

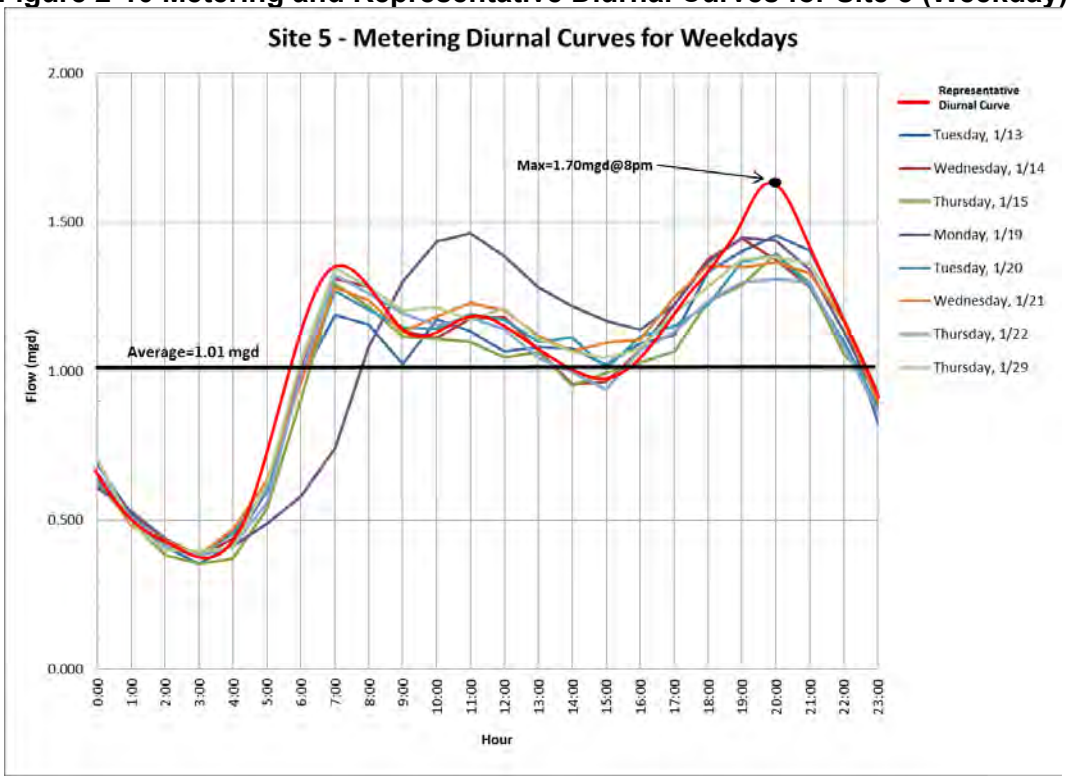
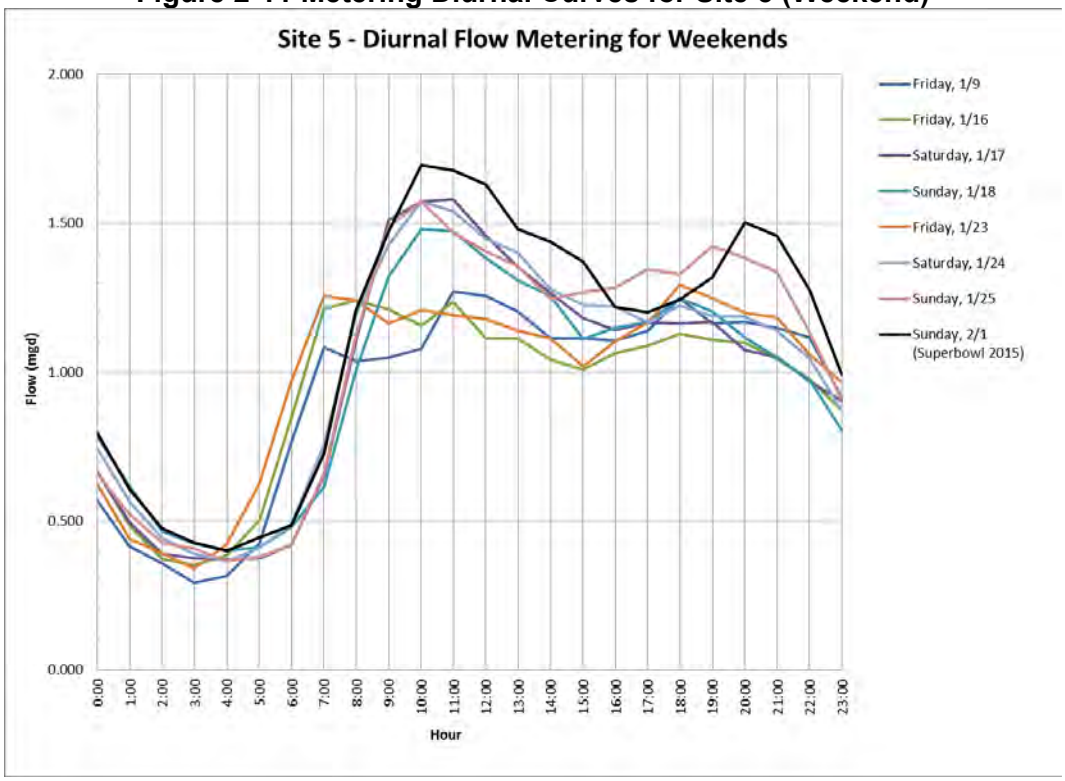


Figure 2-11 Metering Diurnal Curves for Site 5 (Weekend)



Metering Flow Summary

Table 3-2 shows the summary of the weekday dry weather flows that were measured during the flow monitoring period between January 8 and February 1 of 2015. The net average daily flow values presented in Table 3-2 will be used as the target flows for unit flow factor calibration in Section 2.3.

Table 2-2
Weekday Dry Weather Metering Flow Summary

Site No.	Measured Average Daily Flow (mgd)	Peak Hourly Flow (mgd)	Peaking Factor (Peak Hourly Flow/ Average Daily Flow	Timing of Peak Hourly Flow	Net Average Daily Flow (mgd)[1]
1	1.68	2.70	1.61	9pm	1.68
2	0.40	0.69	1.73	8pm	0.40
3	1.97	2.60	1.32	8pm	1.50
4	1.33	1.90	1.43	12pm	1.17
5	1.01	1.70	1.68	8pm	1.01

2.3 Unit Flow Factors Calibration

The objective of this task is to develop and calibrate wastewater flow generation factors for the existing dry weather flow conditions for each unit of a given land use category on a basin-by-basin basis while matching with the net average daily flows that were measured in the field. For the purpose of this master plan, these factors are referred to as unit flow factors and are in the unit of gallons per day per acre (gpd/ac). Note that the acreages in the analysis are net acreages excluding street ROW.

The entire process was mostly performed using GIS software and involves several sources of data provided by the City including parcels, general plan land uses, meter basins, vacant lot locations, and septic system parcel locations. During the process, these vacant lots and septic parcels that typically do not contribute to wastewater flow in sewers were identified and excluded from the analysis. The vacant lots are shown on Figure 1-3 in Chapter 1. Figure 2-12 shows the identified parcels that are served by septic systems for onsite wastewater treatment. Note that Figure 2-12 includes some parcels that were identified and assumed to be septic based on the long distance (> 500 feet) from the existing sewers. Although the threshold sewer-parcel distance is somewhat arbitrary, it is deemed a conservative assumption for wastewater estimation purpose.

Table 2-3 shows the analysis results including land uses and associated calibrated wastewater flow factors as well as the variance of calculated average flow from metered average flow for all meter basins. Overall, the calibration was satisfactory and the overall variance in flow compared with the field measured data is only 2%.

Figure 2-12 Septic System Parcels

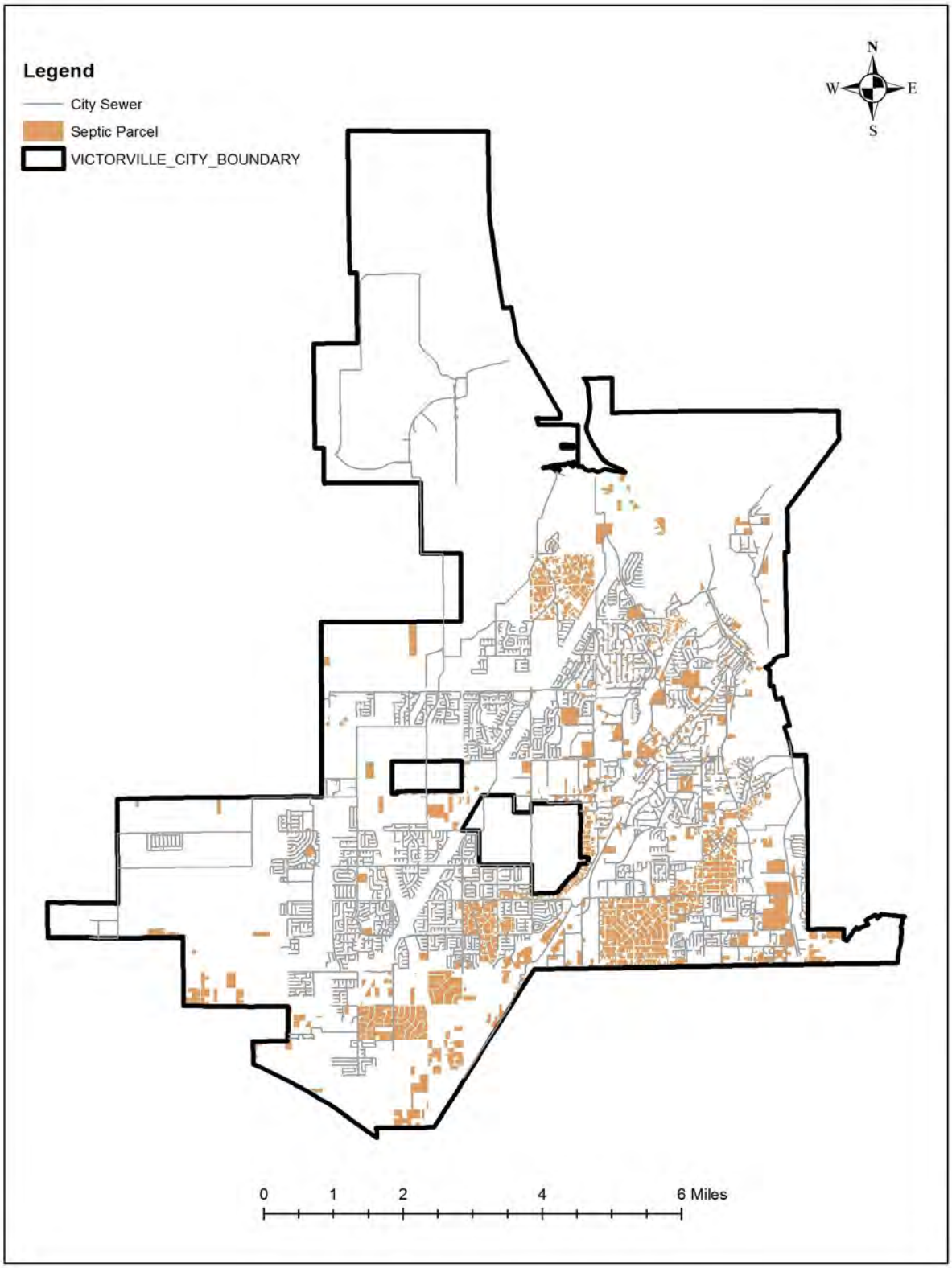


Table 2-3 Unit Flow Factors Calibration by Meter Basin

Meter Basin No.	Land Use Category	Acres	Unit Flow Factor (gpd/ac)	Notes	Wastewater Flow (gpd)	Variance from Field
1	Commercial	52.8	2,000		105,685	
	HighDensityResidential	9.8	2,400		23,418	
	LowDensityResidential	673.6	1,300		875,640	
	MediumDensityResidential	16.7	1,800		29,986	
	OpenSpace	202.0	0		0	
	PublicInstitutional	53.6	600		32,176	
	SpecificPlan	494.5	1,600		791,179	
	Vacant	8,209.7	0		0	
	VeryLowDensityResidential	4.9	600		2,940	
Total		9,717.5			1,861,024	11%
Field					1,680,000	
2	Commercial	8.4	2,000		16,776	
	LowDensityResidential	213.7	1,300		277,772	
	MediumDensityResidential	46.4	1,800		83,554	
	OpenSpace	2.0	0		0	
	Vacant	17.9	0		0	
	VeryLowDensityResidential	31.0	600		18,604	
Total		319.4			396,706	-1%
Field					400,000	
3	Commercial	205.7	2,000		411,428	
	HighDensityResidential	156.7	2,400		376,031	
	LightIndustrial	22.3	800		17,812	
	LowDensityResidential	432.8	1,300		562,627	
	MediumDensityResidential	32.9	1,800		59,257	
	OfficeProfessional	17.0	800		13,631	
	OpenSpace	186.2	0		0	
	PublicInstitutional	20.8	600		12,485	
	SpecificPlan	0.2	1,600		261	
	Vacant	477.4	0		0	
	VeryLowDensityResidential	3.2	600		1,920	
Total		1,555.2			1,455,453	-3%
Field					1,500,000	
4	Commercial	143.7	2,000		287,490	
	HeavyIndustrial	20.5	1,600		32,746	
	HighDensityResidential	44.1	2,400		105,920	
	LightIndustrial	40.8	800		32,643	
	LowDensityResidential	284.1	1,300		369,293	
	MediumDensityResidential	16.5	1,800		29,612	
	OpenSpace	66.1	0		0	
	PublicInstitutional	23.8	600		14,252	
	Vacant	400.1	0		0	
	VeryLowDensityResidential	15.4	600		9,251	
Total		1,055.0			881,207	-25%
Field					1,170,000	
5	Commercial	18.7	2,000		37,349	
	LowDensityResidential	403.1	1,300		524,032	
	OpenSpace	361.4	0		0	
	SpecificPlan	264.6	1,600		423,371	
	Vacant	550.6	0		0	
	VeryLowDensityResidential	3.8	600		2,261	
Total		1,602.1			987,014	4%
Field					945,700	
Grand Total		14,249.2			5,581,404	**-2%**
Total Field					5,695,700	

Table 2-4 shows the final calibrated per-acre unit flow factors for the various land use categories and the resultant per-dwelling-unit and per-thousand-square-foot unit factors for residential and non-residential land uses respectively. According to Table 1-3 in Chapter 1, the average household size is 3.63 persons in 2015. In addition, as shown in Table 1-2, Low Density Residential accounts for over 75% of City's residential uses. Based on the calibrated unit flow factor for low density residential (260 gpd/du) and the average household size of 3.63 persons, the estimated average per capital wastewater flow is about 72 gpd/capita.

Table 2-4 Calibrated Unit Flow Factors

Land Use Category	Descriptions	gpd/ac	Average FAR per GIS	gpd/tsf	Median Housing Density per GP (DU/ac)	gpd/DU
Very Low Density Residential	single-family detached homes	600	n/a	n/a	2	300
Low Density Residential	single-family detached homes	1,300	n/a	n/a	5	260
Mix Density Residential	single family detached or multi-family attached for infill development,	1,600	n/a	n/a	8	200
Medium Density Residential	attached townhomes	1,800	n/a	n/a	10	180
High Density Residential	apartments	2,400	n/a	n/a	16	150
Mixed Use	multi-family and commercial	6,000	n/a	n/a	40	150
Commercial	retail commercial, service commercial, etc.	2,000	0.40	115	n/a	n/a
Office Professional	offices	800	0.40	46	n/a	n/a
Light Industrial	warehouses and wholesale activities	800	0.40	46	n/a	n/a
Heavy Industrial	manufacturing activities	1,600	0.40	92	n/a	n/a
Specific Plan	primarily residential development with some non-residential development	1,600	n/a	n/a	varies	n/a
Institutional	schools, city and county buildings	600	n/a	n/a	n/a	n/a
Open Space	easements, parks, golf courses, , etc.	0	n/a	n/a	n/a	n/a

Existing System Flow Summary

Table 2-5 shows the monthly flows that were recorded at the outfalls in 2015, including six VVWRA metering stations and the City's IWWTP. As shown in the table, the average total system flow is **8.15 mgd**.

Table 2-5 System Flow Summary in 2015

Month	VSD1 (mgd)	VSD2 (mgd)	VSD3 (mgd)	VSD4 (mgd)	VSD5 (mgd)	VSD6 (mgd)	IWWTP (mgd)	Total System Flow (mgd)
January-15	0.64	1.25	2.96	1.77	0.04	0.83	0.60	8.08
February-15	0.64	1.67	2.93	1.29	0.05	0.82	1.17	8.58
March-15	0.67	1.57	2.91	0.83	0.05	0.82	1.52	8.36
April-15	0.66	1.40	2.91	0.87	0.05	0.81	1.49	8.18
May-15	0.66	1.43	2.87	0.91	0.05	0.79	1.52	8.22
June-15	0.64	1.45	2.89	0.92	0.05	0.77	1.52	8.24
July-15	0.63	1.48	2.81	anomaly	0.05	0.79	1.46	anomaly
August-15	0.64	1.49	2.85	0.75	0.05	0.78	1.49	8.05
September-15	0.64	1.50	anomaly	0.77	0.05	0.77	1.47	anomaly
October-15	0.64	1.35	anomaly	0.77	0.04	0.76	1.45	anomaly
November-15	0.65	1.38	2.72	0.83	0.05	0.73	1.46	7.82
December-15	0.67	1.36	2.63	0.82	0.05	0.75	1.50	7.78
2015 Average	0.65	1.44	2.85	0.96	0.05	0.78	1.39	**8.15**

2.4 2040 Wastewater Flow Projection

Per discussions with the City staff, it was determined that Year 2040 should be the planning horizon for the Master Plan. As mentioned in Chapter 1, the City is currently largely undeveloped and most of these vacant lots are projected by the City to be developed by Year 2040. In addition, the City is considering providing sewer service to all of the parcels that are with septic tanks and are within 200 feet of existing sewers by Year 2040. Therefore, the primary goal in this section is to quantify the additional probable wastewater flows by Year 2040 from these two sources.

According to the General Plan, the City is divided into ten planning areas due to their distinctive land use characteristics and growth rates:

- Baldy Mesa

- Central City
- East Bear Valley
- Golden Triangle
- North Mojave
- Spring Valley Lake
- Southern California Logistics Airport (SCLA)
- West Bear Valley
- West City
- Northern Expansion

Figure 2-13 shows the map of the ten planning areas that was provided by the City. Among these planning areas, the Northern Expansion planning area is outside the study area boundary of the Master Plan (current city limits) and therefore was excluded in the flow projection. The 2040 wastewater flows were analyzed independently for each remaining planning area.

Vacant Parcel Development

Initially, City's Planning Department provided their estimated development percentages in each planning area. These development percentages were adjusted to match the developed acreages shown in the Demographic and the Economic Growth Forecast Memorandum prepared by Stanley R. Hoffman Associates in 2014 for the Regional Drainage Facilities Development Impact Fee Study. Table 2-6 summarizes the final net parcel acreages that are projected to be developed by 2040 in the eight planning areas. These developed acreages were converted to wastewater flow rates using the following unit flow factors:

- Residential: 1,400 gpd/acre
- Commercial: 1,800 gpd/acre
- Industrial: 800 gpd/acre

These are area-weighted average unit factors that were estimated by the land use distribution of all the remaining vacant parcels and the calibrated unit flow factors based on the 2015 flow monitoring data. Table 2-7 shows the projected 2040 additional flows broken down by planning areas and land uses.

Figure 2-13 Planning Areas

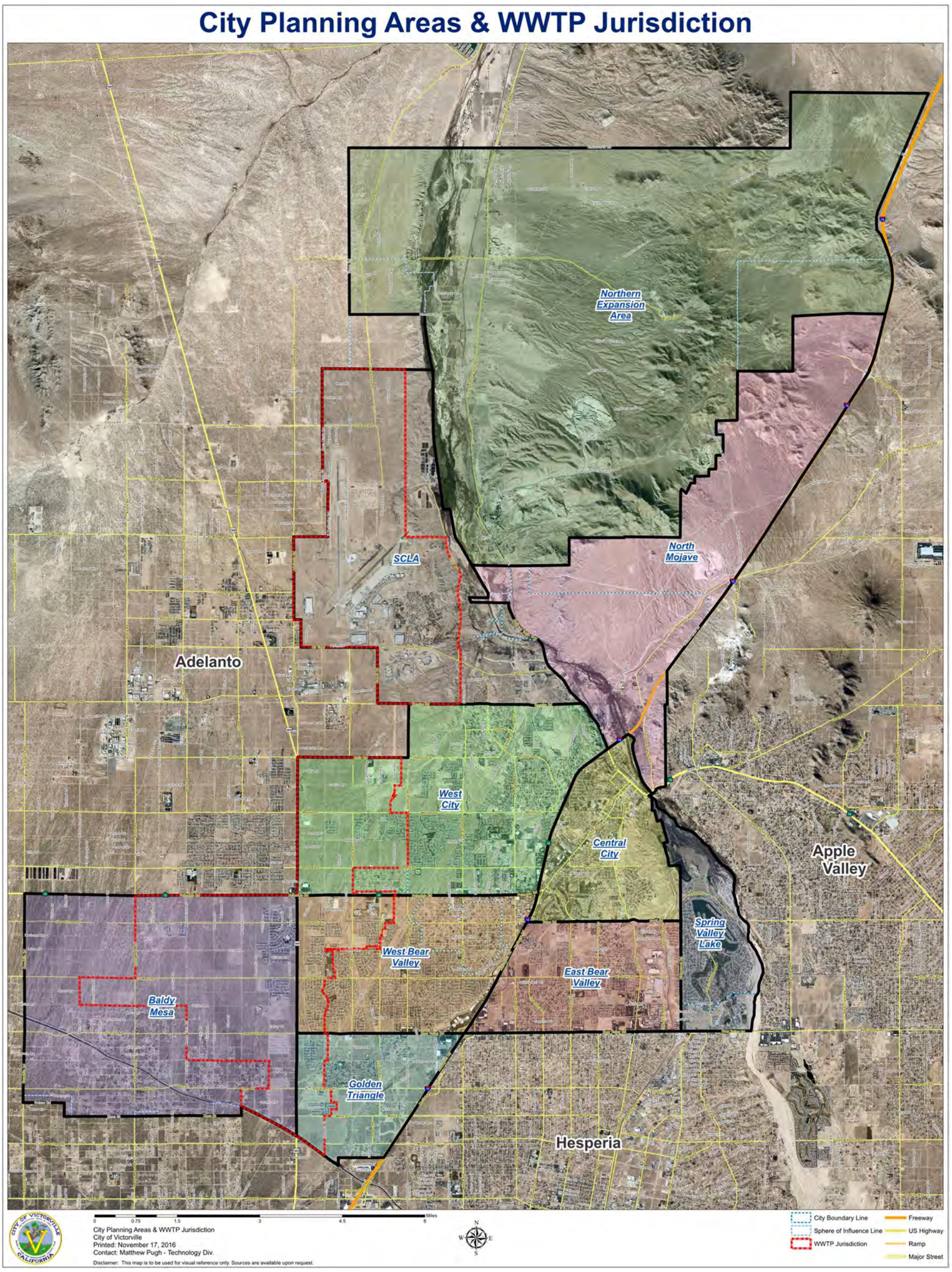


Table 2-6 Projected 2040 Developed Acreages by Planning Areas (excluding SCLA)

	Estimated % Development by Planning Department			Adjusted % Development to Match Hoffman Study			Projected 2040 Developed Parcel Area (acre)[4]				
Planning Area	Residential	Commercial[3]	Industrial	Residential	Commercial	Industrial	Residential	Commercial	Industrial	Total	Overall % Development
Baldy Mesa[1]	70%	45%	-	62%	45%	-	2,697	400	0	3,097	59%
Central City	85%	95%	100%	76%	95%	79%	1,531	734	44	2,309	81%
East Bear Valley	85%	70%	90%	76%	70%	71%	1,586	699	344	2,629	73%
Golden Triangle	70%	70%	75%	62%	70%	59%	1,174	541	13	1,728	64%
North Mojave[1]	20%	20%	30%	18%	20%	24%	361	105	127	593	19%
Spring Valley Lake[1]	100%	100%	100%	89%	100%	79%	58	371	0	430	98%
West Bear Valley	95%	75%	95%	85%	75%	75%	2,239	683	38	2,960	82%
West City	90%	80%	40%	80%	80%	32%	4,453	885	237	5,574	75%
Calculated Subtotal	-	-	-	-	-	-	14,099	4,419	803	19,321	67%
Target Developed Acreage in 2040[2]	-	-	-	-	-	-	14,046	4,482	801	19,328	
Variance (%)	-	-	-	-	-	-	0%	-1%	0%	0%	

Growth Adjustment % Applied to Residential =	89%
Growth Adjustment % Applied to Commercial =	100%
Growth Adjustment % Applied to Industrial =	79%
Estimated 2016 Commercial Employment Number[5]	30,188
2040 Commercial Employment Number	55,907
Employment Growth % from 2012 to 2040	1.9

Notes:

1. Within City Limits Only
2. The 2040 numbers were linearly interpolated based on the 2035 and 2045 numbers listed on Tables 2-3 and 3-7 of the "Demographic and Economic Growth Forecasts Memorandum", dated March 4, 2014, prepared by Stanley R. Hoffman Associates. "Retail", "Office" and "Other" employment categories in the SRHA Report, were all grouped into "Commercial" land use
3. Including "Office" and "Institutional" land uses
4. Excluding roads and open space
5. Assuming 10% employment growth applied to 2012 employment numbers on Table 3-3 of Hoffman Study Report

Table 2-7 Projected 2040 Additional Flows by Planning Areas (excluding SCLA)

	Existing Vacant Parcel to be Developed between 2016 and 2040 (acre)				Estimated Additional Wastewater Flow from Developing Vacant Parcels (mgd)			
Planning Area	Residential	Commercial	Industrial	Total	Residential	Commercial	Industrial	Total
Baldy Mesa	2,223	390	0	2,613	3.11	0.70	0.00	3.81
Central City	482	153	38	673	0.68	0.28	0.03	0.98
East Bear Valley	170	213	61	444	0.24	0.38	0.05	0.67
Golden Triangle	502	339	3	844	0.70	0.61	0.00	1.32
North Mojave	249	42	45	336	0.35	0.07	0.04	0.46
Spring Valley Lake	23	84	0	108	0.03	0.15	0.00	0.18
West Bear Valley	5	322	11	338	0.01	0.58	0.01	0.60
West City	2,194	517	228	2,938	3.07	0.93	0.18	4.18
Total	**5,849**	**2,059**	**386**	**8,295**	**8.19**	**3.71**	**0.31**	**12.20**

As in the Hoffman Study, the future flow for SCLA planning area was analyzed separately from the remainder of the City in the Master Plan because of its faster growth rate particularly for industrial land uses. Because of the mismatch between the developed acreages in the Hoffman study and the estimates by the Planning Department, the wastewater flow for the SCLA planning area was projected using employment numbers in lieu of developed parcel acreages. The 2040 employment numbers for SCLA planning area was linearly interpolated based on the 2035 and 2040 numbers in the Hoffman Study. The following per-employee flow unit factors were extracted from the "Sewage Facilities Plan Update, Year 2005 Amendment" published by VVWRA according to the 2008 Sewer Master Plan:

- Commercial (Retail/Non-retail): 35 gpd/employee
- Industrial: 75/employee

Table 2-8 shows the additional wastewater flows for the SCLA planning area that were projected to add to the collection system by 2040 using the employment numbers from the Hoffman Study and the aforementioned per-employee unit factors

Table 2-8 Projected 2040 Additional Wastewater Flows for SCLA

Employment Category	2016 Employment Number[1]	2040 Employment Number	Additional Employment from 2016 to 2040	Wastewater Unit Flow Factor (gpd/employee)	Additional Wastewater Flow (mgd)
Commercial	259	636	378	35	0.01
Industrial	1,179	10,689	9,509	75	0.71
Total	1,438	11,325	9,887	-	**0.73**

Notes:
1. Assuming 10% employment increase compared with 2012 numbers in Hoffman Study Report

Septic to Sewer Conversion

According to the City, if funding allows, a plan is to provide additional sewer service to all the parcels that are still with septic systems and are within close proximity of existing sewers by Year 2040. 200 feet was determined to be the maximum distance, within which the septic system parcels will be connected to existing sewers. These candidate parcels were identified using GIS spatial tools. Table 2-9 shows the projected wastewater flows using the corresponding parcel net acreages and the calibrated unit flow factors in Table 2-4.

Table 2-9 Additional Wastewater Flows from Septic to Sewer Conversion

Planning Area	Septic Parcels within 200 ft of Existing Sewers (acre)	Additional Wastewater Flow (mgd)
Baldy Mesa	17	0.03
Central City	389	0.57
East Bear Valley	546	0.82
Golden Triangle	100	0.10
North Mojave	42	0.07
SCLA	39	0.06
Spring Valley Lake	0	0.00
West Bear Valley	317	0.42
West City	308	0.50
Total	**1,757**	**2.56**

2040 Flow Scenarios and Summary

Because of the uncertainty of City's funding availability, two 2040 flow scenarios were analyzed:

Scenario 1: Including flows from planned septic to sewer conversion
In this scenario, it was assumed that the collection system would receive and convey additional wastewater flows from the identified candidate septic system parcels by 2040.

Scenario 2: Not including flows from planned septic to sewer conversion
In this scenario, it was assumed that no future septic to sewer conversion projects and corresponding wastewater flows would contribute to the collection system by 2040.

Table 2-10 summarizes the additional and projected 2040 flows in both scenarios.

In Scenario 1, it was determined that a total of additional **15.49 mgd** will be added to the collection system by 2040 from both developing vacant parcels and converting the identified candidate septic systems to sanitary sewers. With the existing 2015 flow of 8.15 mgd, the projected total wastewater flow in 2040 will be about **23.64 mgd** in this scenario.

In Scenario 2, without converting the identified candidate septic systems, the total additional flow is reduced to **12.93 mgd.** With the existing 2015 flow of 8.15 mgd, the projected total wastewater flow in 2040 will be about **21.08 mgd** in this scenario.

Table 2-10 2040 Flow Scenarios and Summary

Source and Summary of Flow	**Scenario 1**: Including septic to sewer conversion (mgd)	**Scenario 2**: Not including septic to sewer conversion (mgd)
Vacant Parcel Development (excluding SCLA)	12.20	12.20
+ Vacant Parcel Development (SCLA Only)	0.73	0.73
+ Septic to Sewer Conversion	2.56	0
= Total Added Flow	**15.49**	**12.93**
+ 2015 Existing Flow	8.15	8.15
= Total 2040 Flow	**23.64**	**21.08**

CHAPTER 3 HYDRAULIC MODEL AND CAPACITY ANALYSIS

3.1 Model Development

Model Software

InfoSewer (Version 7.6, Service Pack 1, Update 7) software as manufactured by Innovyze was used to develop the hydraulic model of City's sewer collection system in order to evaluate hydraulic conditions, identify hydraulic deficiencies and recommend system improvements. The computation engine of InfoSewer is capable of performing simulations in both steady state and extended period modes and generating backwater hydraulic profiles. For this project, extended period simulation and backwater analysis were performed using InfoSewer to better mimic hydraulic conditions in the field.

Data

The City has provided various sources that were either used as direct data input for the hydraulic model or as reference information for the Master Plan. Table 3-1 shows these data sources.

Table 3-1 Data Sources

Format	Item
GIS Format (File Geodatabase, .gdb)	Gravity Main layer
	Force Main layer
	Service Lateral layer
	Manhole layer
	Cleanout layer
	Lift Station layer
	Parcel layer
	General Plan Landuse layer
	City Boundary layer
	IWWTP Service Area Boundary layer
	Planning Areas Boundary layer
	Street Centerline layer
	5-ft Elevation Contour layer
PDF File	2008 General Plan Report
	2014 Demographic and Economic Growth Forecasts Study Report by Stanley R. Hoffman
	Various as-built plans
Excel File	2015 Water Consumption Records including Septic Parcel Numbers

The hydraulic model was built within the InfoSewer platform using the data provided by the City. This section discusses the various details in the hydraulic model development processes starting from sewer network development to wastewater flow distribution.

Sewer Network Development
The geometry and physical data of the existing sewer system was originally provided in GIS format, including sewer main layer, manhole layer, cleanout layer and lift station layer. A geometric network was developed in GIS based on these layers.

A geometric network was used to verify the connectivity of links (sewer mains) and nodes (manholes and cleanouts). Connectivity issues were identified in the geometric network and the issues were communicated to the City. As a result, sewer geometry was adjusted where necessary to resolve the identified connectivity issues.

The connected sewer network was then imported directly from the geometric network into the InfoSewer platform. The developed InfoSewer model includes all City gravity sewers ranging from 6-inch to 27-inch pipes but excludes all service laterals. The existing Stoddard Wells Road Lift Station and the associated force mains are also included in the model.

Pipe Friction Factors
Friction occurs when a liquid flows over a pipe surface. The friction resists and retards the flow and causes the flow depth to increase. The magnitude of the resistance depends on the pipe material, the types of pipe joints, and the age of the pipe. Pipes generally become rougher with age. Bell and spigot joints associated with vitrified clay pipe (VCP) have more friction than joints that are more seamless such as a plastic slip liner.

Friction for sewer pipe is typically measured using Manning's "n" coefficients. Friction increases with higher n values. VCP is less smooth and also degrades more over time. The bell and spigot joints of VCP also contribute to a higher friction coefficient. New VCP (including the joints) has a n value of approximately 0.011 and the n value increases to 0.013 after 20 years. The VCP pipes with plastic liners associated with trenchless pipe rehabilitation methods such as cured-in-place pipes (CIPP) may have lower n values.

However, the actual pipe material might not be completely relevant in determining actual pipe friction. Some research studies have shown that a slime layer eventually builds up on any municipal sanitary sewer pipe surface and that slime layer essentially becomes the pipe surface. These studies have indicated that the average Manning's n value for any sewer pipe material with a slime layer is 0.013. Based on the GIS, a large percentage of the City sewers are over 50 years old. To be conservative, a universal Manning's n value of 0.015 was used to account for other minor losses and to hydraulically evaluate all sewers in this Master Plan.

Average Flow Distribution
After the unit flow factors were developed and calibrated as discussed in Chapter 2, each parcel was assigned a unit flow factor based on its land use category and the resultant average wastewater flow was then calculated by multiplying the surface area and the corresponding unit flow factor. All the identified septic parcels were excluded from the existing flow distribution process.

The parcels were converted from a polygon layer to point layer. Subsequently, each parcel point was linked to the closest pipe and the wastewater flow was transferred to the closest pipe's

upstream manhole in the hydraulic model. In order to improve the accuracy of flow distribution, several long service laterals were added to the network.

The additional 2040 flows from vacant and septic parcels were distributed to the modeled manholes using similar methodology as the existing flow distribution.

Diurnal Curves Assignment
For modeling the diurnal variation in flow, the land uses were grouped into two "diurnal curve" categories including one for all residential uses and another for all non-residential uses based on their common wastewater generation nature. Table 3-2 summarizes the diurnal curves and the associated groups of land use categories.

Table 3-2 Diurnal Curves and Land Uses

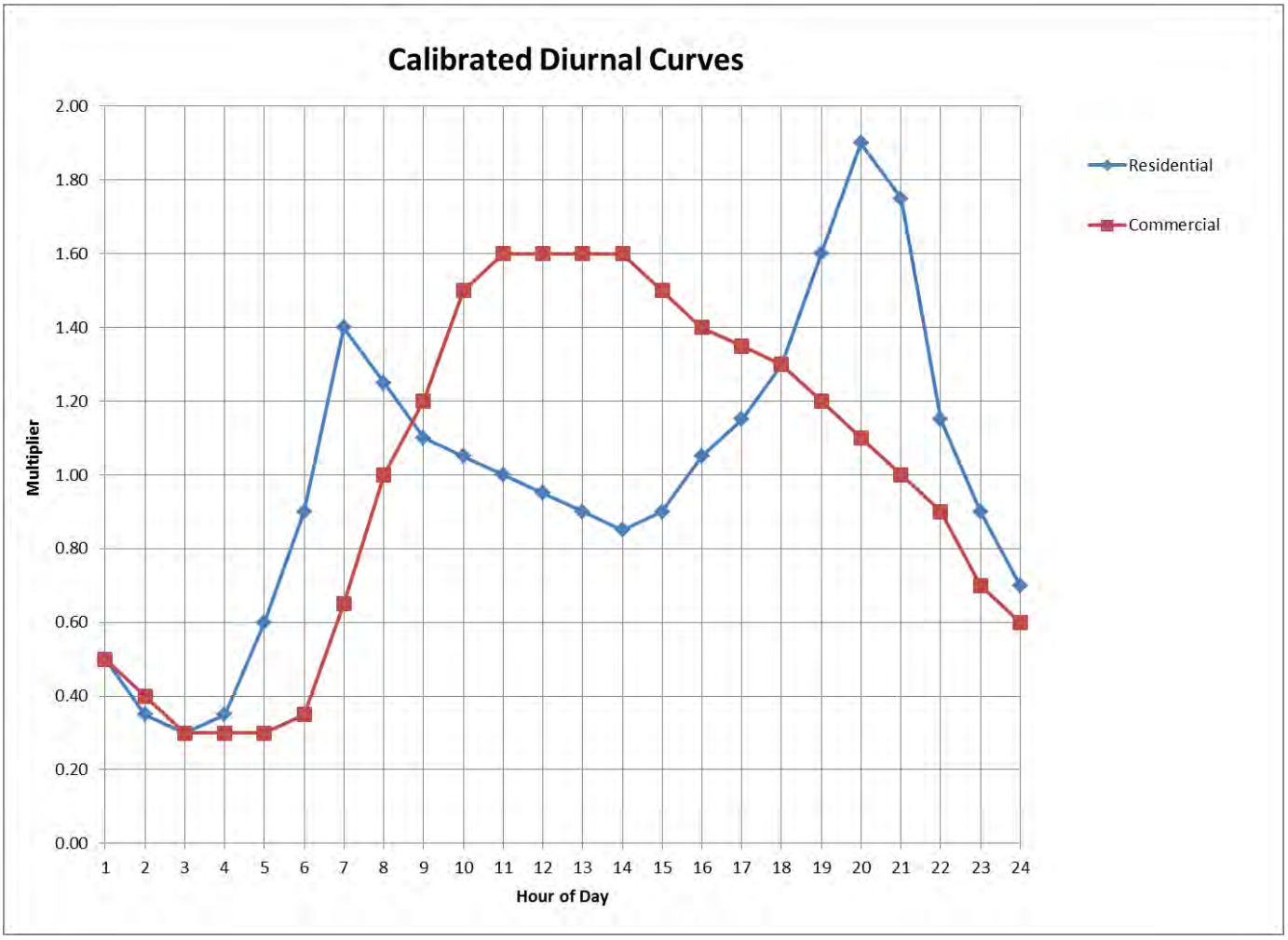
Diurnal Curve Category	Land Use Category
Residential	Very Low Density Residential Low Density Residential Mixed Density Residential Medium Density Residential High Density Residential Specific Plan Mixed Use
Non-Residential	Commercial Office Institutional Light Industrial Heavy Industrial

Boundary Conditions
All the outfalls in the model were modeled as free outfalls, assuming no backwater effects from the downstream VVWRA trunk sewers.

3.2 Model Calibration

After the hydraulic model was built in InfoSewer, model calibration was performed to ensure the hydraulic model is producing similar hydrographs at the five temporary metering sites. Figure 3-1 shows the diurnal curves that were calibrated and used in the InfoSewer model.

Figure 3-1 Calibrated Diurnal Curves



The residential curve is primarily extracted from the measured flow data at meter site No. 2 with an adjusted and higher peaking factor of 1.9 at about 8 pm to account for flow attenuation effect that was embedded in the measured flow data. The commercial curve was initially developed from the metering data for other projects and was adjusted during the model calibration to better match the observed flow hydrographs.

Table 3-3 summarizes the calibration results. Figures 3-2 through 3-6 show the comparison of the model results and the field measurement for each site graphically.

Overall, the calibrated model was able to predict average flow and peak flow at the five outfalls within 10% and peak d/D ratios within 0.1. The possible causes for the variances of the model results include uncertainty about invert elevations in the original GIS, instrument errors associated with the metering equipment and the underlying assumptions in the model software.

Table 3-3 Calibration Summary

Site No.	GIS Manhole ID	MH Address	Sensor Location	Pipe Size (in)	Metering Data			Model Results			Variance		
					Avg Flow (mgd)	Peak Flow (mgd)	Peak d/D	Avg Flow (mgd)	Peak Flow (mgd)	Peak d/D	Avg Flow (%)	Peak Flow (%)	Peak d/D
1	SWRMH-003598	El Evado Road	Upstream	27	1.68	2.7	0.23	1.66	2.79	0.25	-1.2%	3.3%	0.02
2	SWRMH-006135	14915 La Mesa Rodad	Upstream	15	0.4	0.69	0.20	0.39	0.71	0.3	-2.5%	3.2%	0.1
3	SWRMH-004922	8th Street between Forest Street and A Avenue	Upstream	18	1.97	2.6	0.45	1.81	2.85	0.46	-8.1%	9.6%	0.01
4	SWRMH-004264	17481 Coad Road	Upstream	15	1.33	1.9	0.46	1.33	1.96	0.45	0.0%	3.2%	-0.01
5	SWRMH-005716	13821 Das Palmas	Upstream	15	1.01	1.7	0.60	1.03	1.83	0.62	2.0%	7.6%	0.02

Figure 3-2 Model Calibration Results (Site 1)

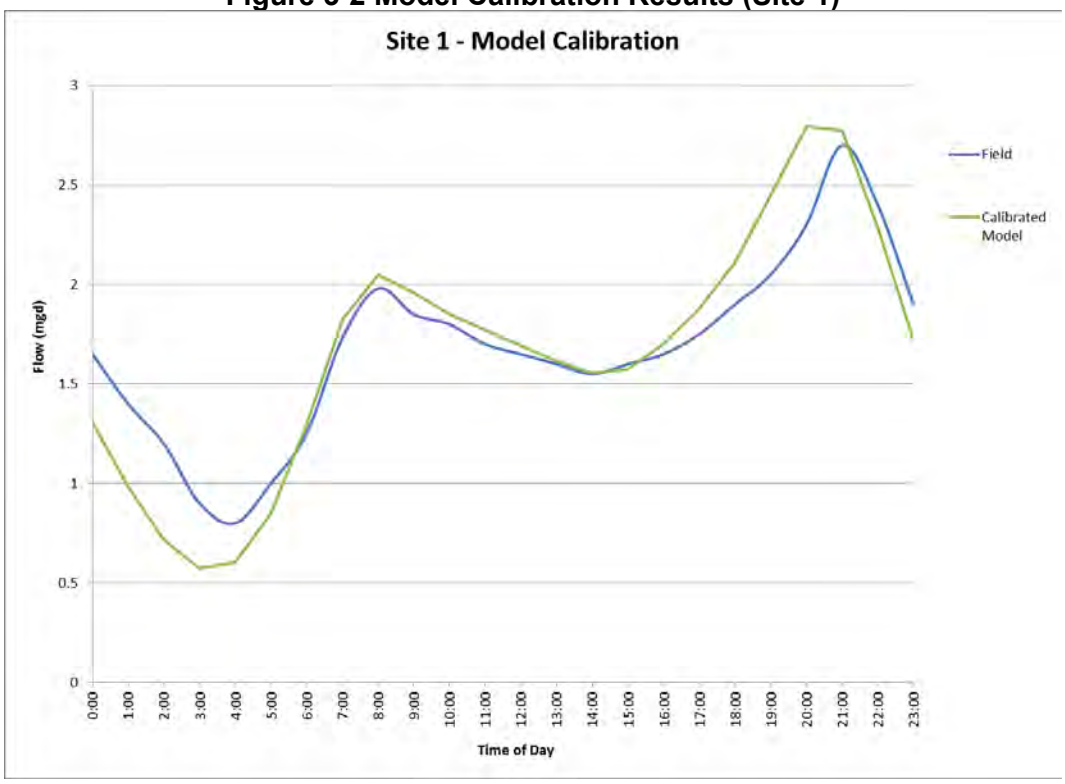


Figure 3-3 Model Calibration Results (Site 2)

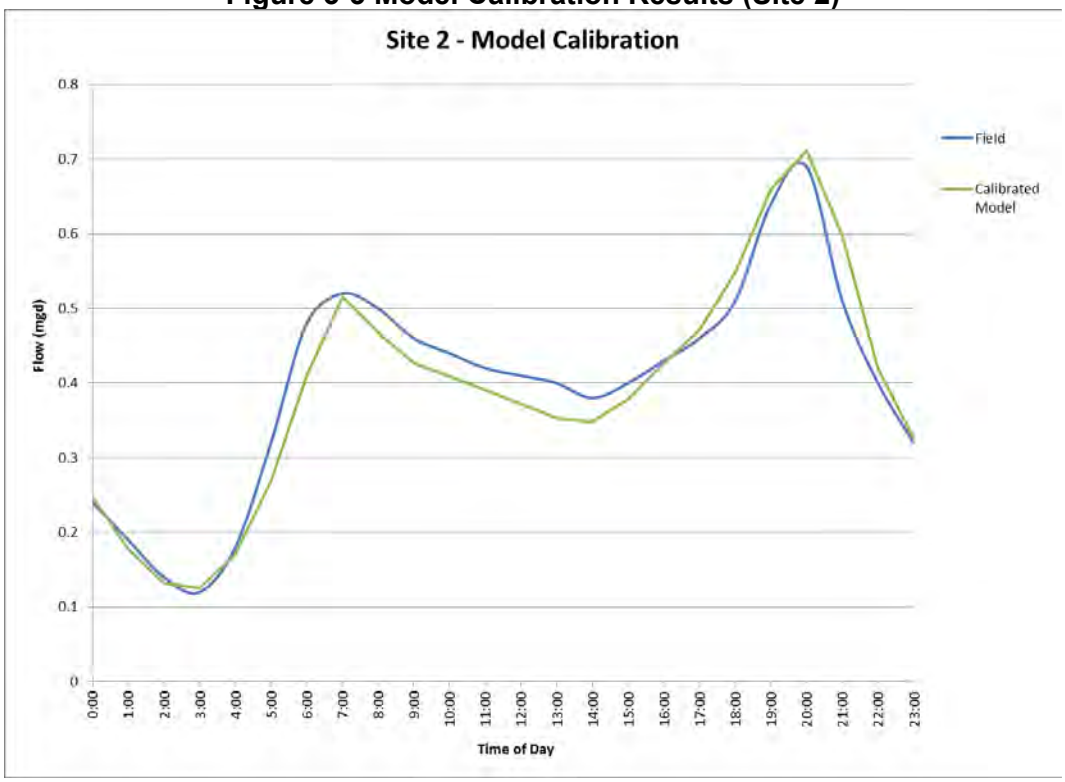


Figure 3-4 Model Calibration Results (Site 3)

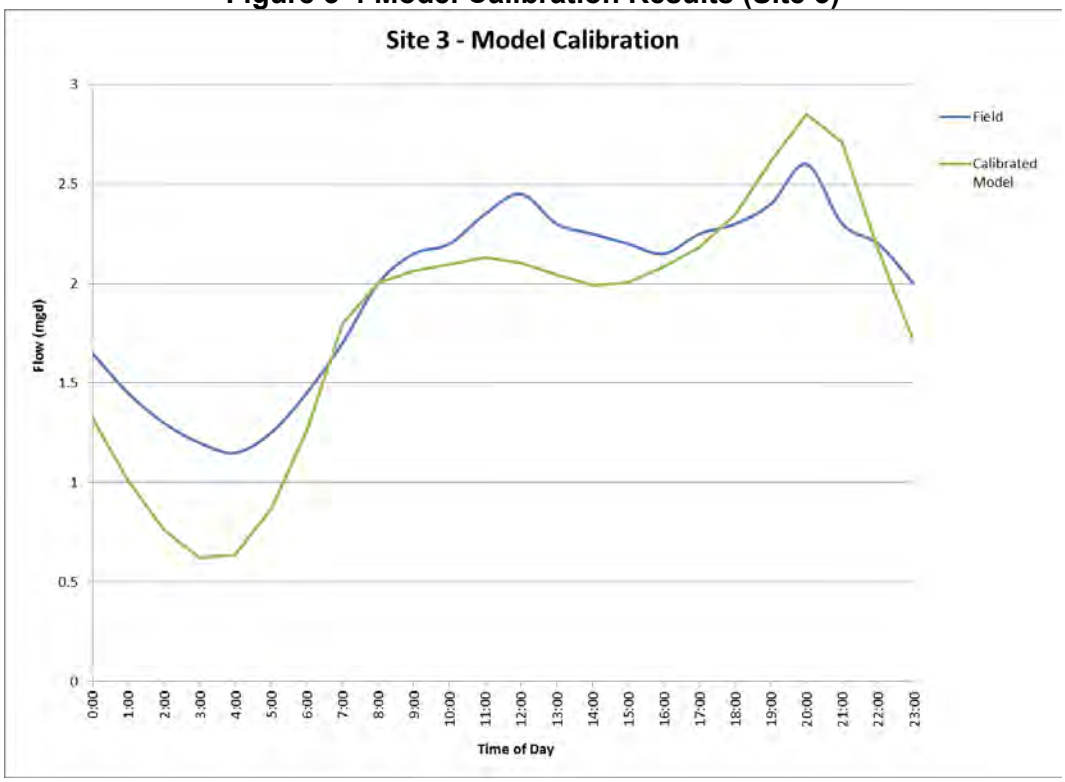


Figure 3-5 Model Calibration Results (Site 4)

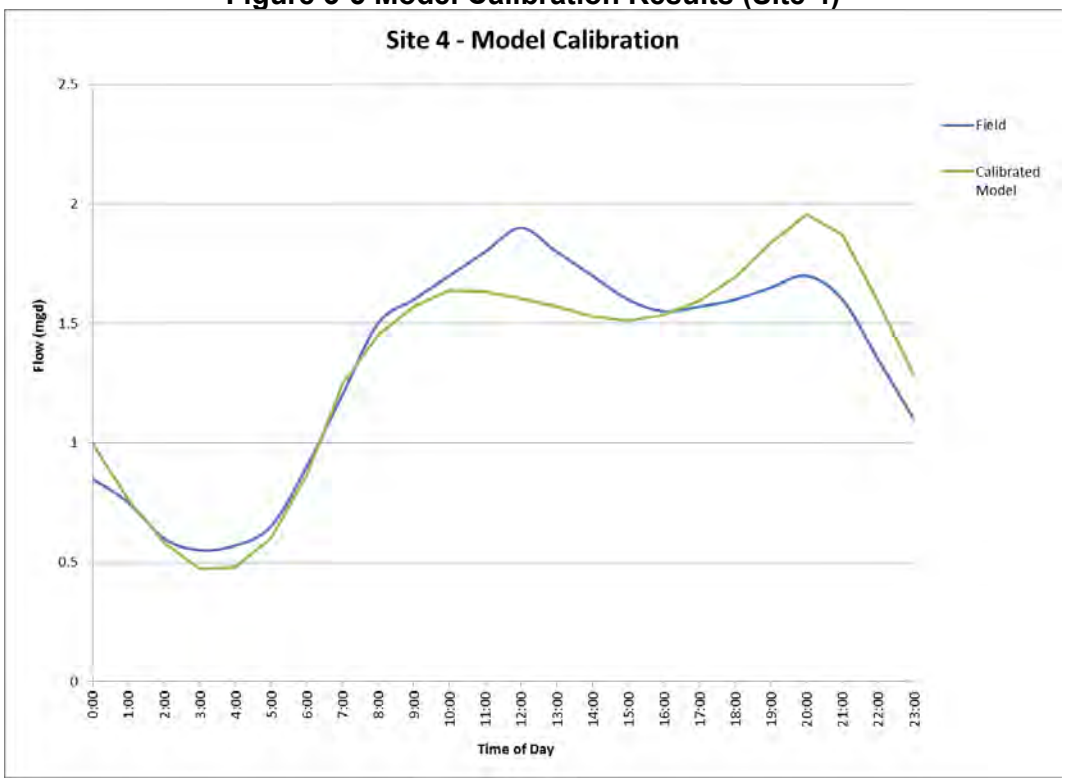
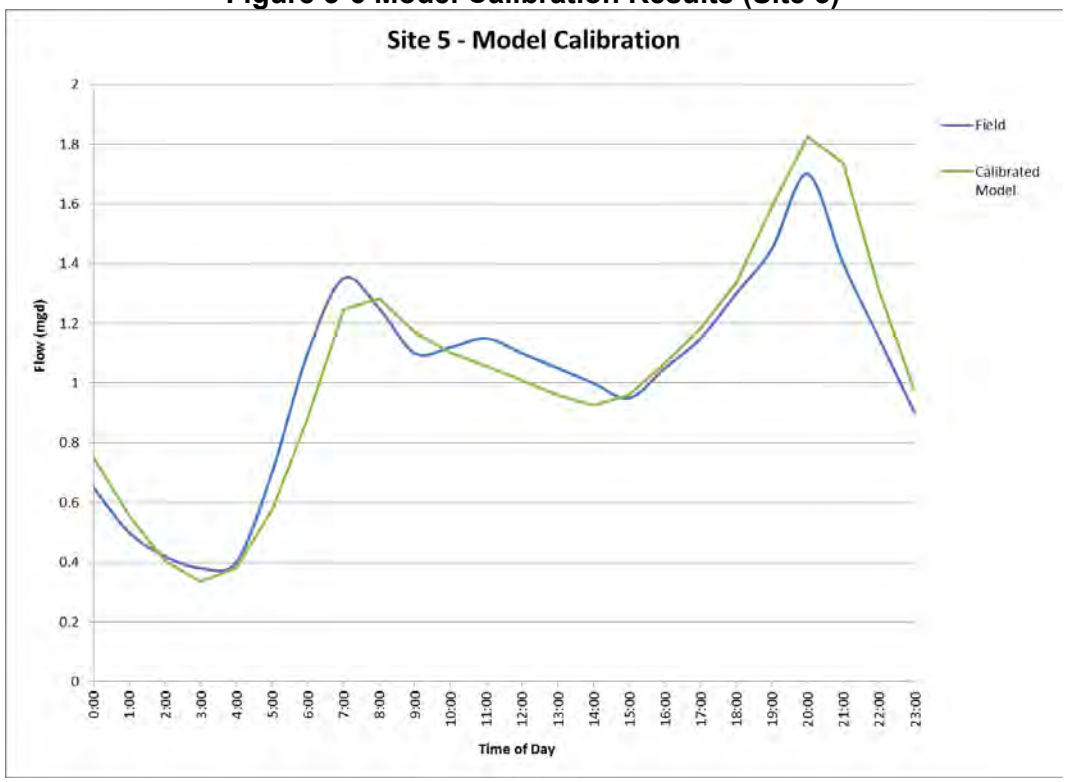


Figure 3-6 Model Calibration Results (Site 5)



3.3 Capacity Criteria

Criteria were established to determine adequacy of existing sewers and to size new sewers in terms of their hydraulic capacity while minimizing the likelihood of a sewer overflow. The hydraulic capacity criteria were developed based on maximum depth to diameter (d/D) ratios under dry weather flow (DWF) conditions in the calibrated hydraulic model.

For identifying deficiency of existing sewers, the maximum allowable d/D ratio to convey peak dry weather flow (PDWF) was set to 0.75 for all sizes of sewers. The deficiency criteria of triggering the need for a project often differ from the criteria for sizing new sewers, which are typically more conservative.

For sizing new proposed sewers, a maximum allowable d/D ratio of 0.5 was applied to 12-inch and smaller sizes and a d/D ratio of 0.65 was used for 15-inch and larger sizes. They are consistent with the typical sewer sizing criteria published by agencies in the region. A lower d/D threshold is typically applied to smaller pipes because they are more likely to experience greater variations in PDWF and blockages due to debris, etc. The remaining capacity of the proposed sewers is reserved for potential infiltration and inflow during rain events.

Table 3-4 summarizes the criteria that were used for evaluating capacity of the sewers in this Master Plan. Although the existing sewers with a d/D ratio between 0.5 and 0.75 were not identified as deficient and recommended for upsizing, future continuing monitoring of these sewers is recommended.

Table 3-4 Sewer Capacity Criteria

Purpose	Pipe Size	Maximum Allowable d/D
Identifying Deficiency of Existing Sewer under PDWF	Any size	0.75
Sizing of Proposed Sewers under PDWF	12-inch and smaller[1]	Between 0.5 and 0.65
	15-inch and larger[2]	Between 0.65 and 0.75

Notes:

1. At a d/D of 0.5, the remaining capacity of circular pipes is 50%. In some areas where the slope of existing sewers is relatively flat, the threshold was relaxed to allow d/D up to 0.65 in lieu of recommending a larger size for the entire project.
2. At a d/D of 0.65, the remaining capacity of circular pipes is about 25%. In some areas where the slope of existing sewers is relatively flat, the threshold was relaxed to allow d/D up to 0.75 in lieu of recommending a larger size for the entire project.

3.4 Analysis Results – Existing Conditions

In order to determine the adequacies of the existing City sewers for conveying the PDWF, simulations were performed to identify locations of hydraulic capacity deficiencies in the system. The model results of the capacity analysis, expressed as maximum d/D ratios for the existing DWF conditions, are shown in Figure 3-7. The purple (d/D > 0.75) and red (d/D >= 1.0 or surcharge) pipes shown in Figure 3-7 are the identified deficient line segments based on the aforementioned capacity criteria.

As shown in Figure 3-7, the majority of the modeled pipes are less than 75% full under the DWF conditions, but two alignments of deficiency are particularly noted. One alignment includes the northeasterly 8-to-12-inch segments approximately bounded by the Green Tree Golf Course in the south and the Hesperia Road in the north. Another alignment includes the existing 10-inch segments along Nisqualli Road just west of the railroad.

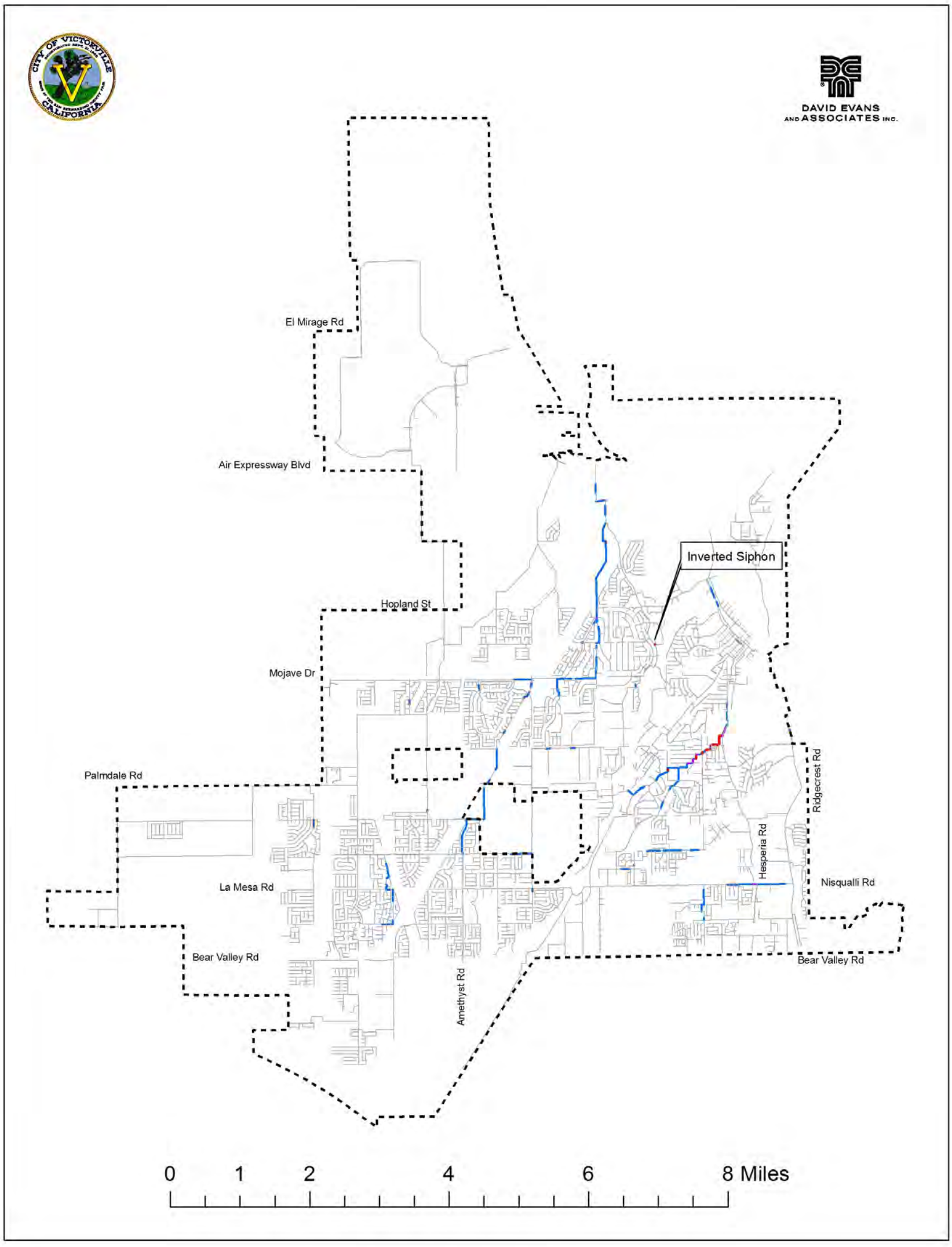
As presented in Figure 3-7, some reaches were predicted by the model to be under surcharge conditions (d/D >= 1.0) under peak flow conditions and the capacity of the existing sewers is not sufficient to convey the PDWF. It should be noted that the model-predicted maximum water surface elevations are still below the rim elevations of the adjacent manholes with varied degrees of freeboard. It is recommended that the City would consider proactively implementing capacity improvements for these deficient segments.

Appendix C shows the d/D ratios of all the pipes in the hydraulic model under existing flow conditions.

Field Verification of Capacity Deficiencies
In order to verify the capacity deficiencies identified by the hydraulic model, the City Staff inspected and recorded the instantaneous flow depths and the corresponding d/D ratios at the manholes of the northeasterly 8-to-12-inch segments between the La Paz Drive and the Hesperia Road at around 3pm on November 2, 2016. Appendix B shows the instantaneous observed d/D ratios at these locations as well as the flow hydrograph and diurnal flow depth curve recorded during the same period at the downstream VSD-6 meter. According to the recorded diurnal flow depth curve at the VSD-6 meter, at the time of instantaneous d/D measurement around 3pm, the flow depth has reached about 90% of the peak at about 9pm. As a result, it is believed that the actual peak d/D ratios in the field are somewhat lower than what the model predicted, indicating the loaded flows and calculated d/D ratios in the hydraulic model at least for this reach may be conservative. Regardless, it is evident that these segments require upsizing to relieve the existing capacity constraints.

Stoddard Wells Road Lift Station
Because the North Mojave planning area (within City Limits) is largely undeveloped, the model-predicted PDWF in the 15-inch inlet pipe into the Stoddard wells Road Lift Station is only 0.08 mgd or 56 gpm. Therefore, the lift station firm capacity of 1,030 gpm or 1.48 mgd, is deemed adequate to handle even existing peak wet weather flow. The velocity within the 8-inch force main, based on the firm capacity, is calculated to be about 6.5 feet per second and is also deemed appropriate.

Figure 3-7 Maximum d/D Ratios under Existing DWF Conditions



Legend

Max d/D (Existing)

- 0-0.5
- 0.5-0.75
- 0.75-0.99
- >=1 (surcharge)
- VICTORVILLE_CITY_BOUNDARY

3.5 Analysis Results – Year 2040 Conditions

The projected additional 2040 wastewater flows as discussed in Chapter 2 were distributed to the existing sewer network using similar methodology as the existing flow distribution. However, it is worth mentioning that because the City does not know which exact vacant parcels will be developed by Year 2040, based on the discussions with the City, those vacant residential parcels associated with any tentative tract map application submitted by developers for subdivision (either approved or denied) are more likely to be developed by then and were therefore given higher priority in the flow distribution process. Figure 3-8 shows the distributed wastewater point flows to the calibrated existing condition model from both projected vacant parcel development and septic to sewer conversion.

Figure 3-9 and 3-10 show the model-predicted maximum d/D ratios under the two probable 2040 flow scenarios. As expected, because of the significant amount of additional flows, quite a few more segments were predicted to be hydraulically deficient with a maximum d/D over 0.75 in both figures. Comparing the two figures, it was noted that the maximum d/D for some of the deficient segments drops to below 0.75 in Figure 3-10 from above 0.75 in Figure 3-9 especially in the central part and east part of the City due to the exclusion of flows from septic parcel conversion in Scenario 2. However, the overall difference between the two figures in terms of maximum d/D is marginal.

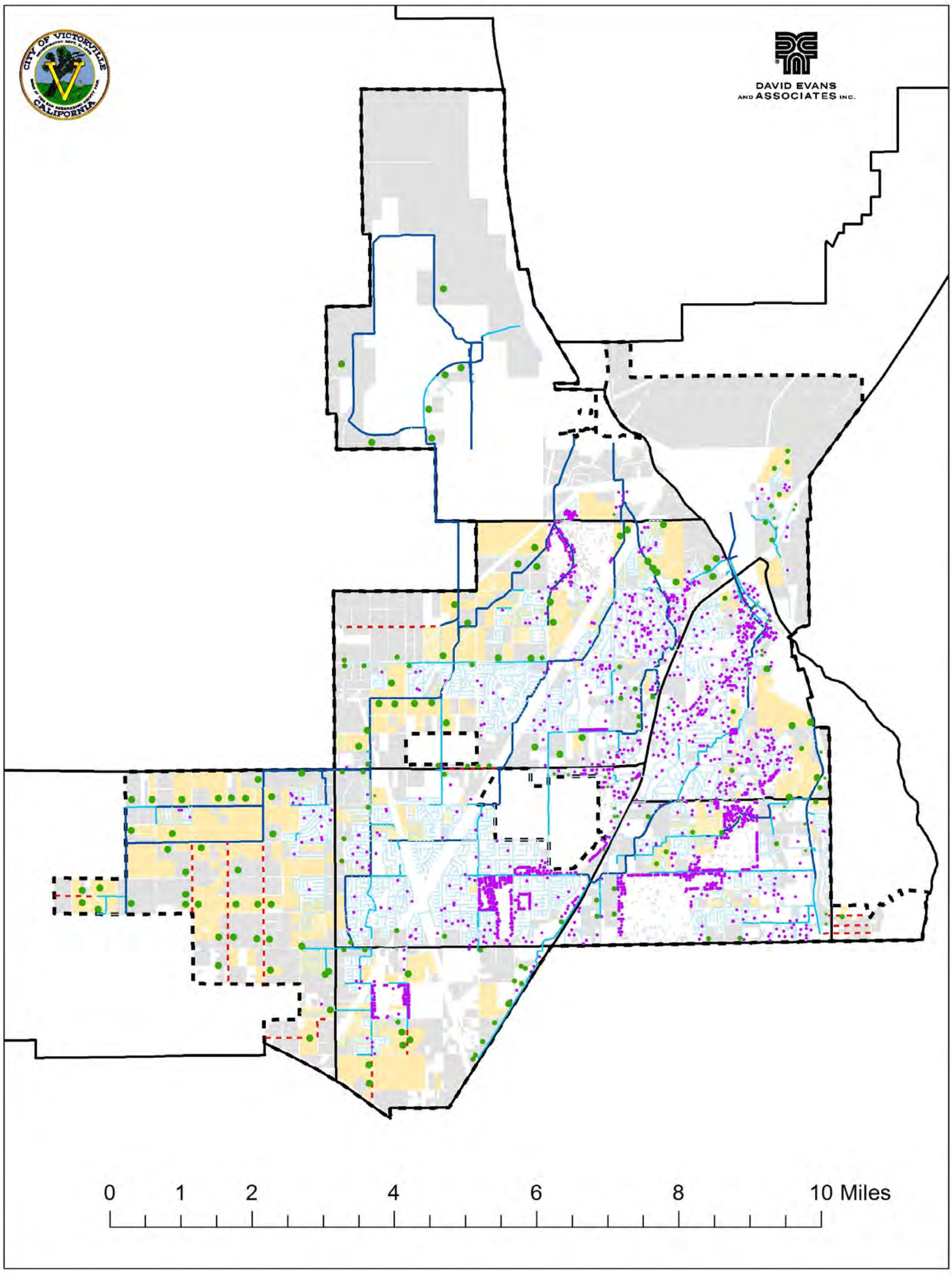
Stoddard Wells Road Lift Station
Under the 2040 flow conditions, the model predicted a PDWF of about 0.94 mgd and 0.83 mgd respectively for Scenario 1 and Scenario 2 in the 15-inch inlet pipe into the Stoddard wells Road Lift Station, which correspond to 64% and 56% of the lift station's firm capacity at 1.48 mgd. Because the existing tributary gravity sewers are not very long in length and are consisted of primarily 8-inch PVC pipes, inflow and infiltration which typically enter through surface areas of sewers are not expected to be significant especially in the dry climate of the region. Therefore, it was determined that the existing lift station has sufficient pumping capacity to handle the probable 2040 peak wet weather flow.

Predicted 2040 Wastewater Flow to IWWTP
Table 3-5 summarizes the predicted dry weather flows by the hydraulic model for the two 2040 flow scenarios. As can be seen in the table, the predicted flows in both scenarios are very similar, mainly because most of the candidate septic parcels for conversion to sewers are outside the IWWTP service area.

Table 3-5 Predicted 2040 Flows to IWWTP

	Scenario 1: Including septic to sewer conversion (mgd)	Scenario 2: Not including septic to sewer conversion (mgd)
Average Dray Weather Flow (mgd)	8.0	7.9
Peak Dry Weather Flow (mgd)	11.1	10.9

Figure 3-8 Additional 2040 Flow Distribution



Legend

Vacant Parcel Point Flow

gpd

- 10,000
- Between 10,000 and 100,000
- 100,000

Septic Parcel Point Flow

- Projected Extension Sewer

Modeled Existing City Sewer

- 8-inch and below
- 10-inch or 12-inch
- 15-inch and above

Existing Vacant Parcel

- Residential Parcel with Subdivision
- Other Vacant Parcels
- VICTORVILLE_CITY_BOUNDARY
- COV_PLANNING_AREAS

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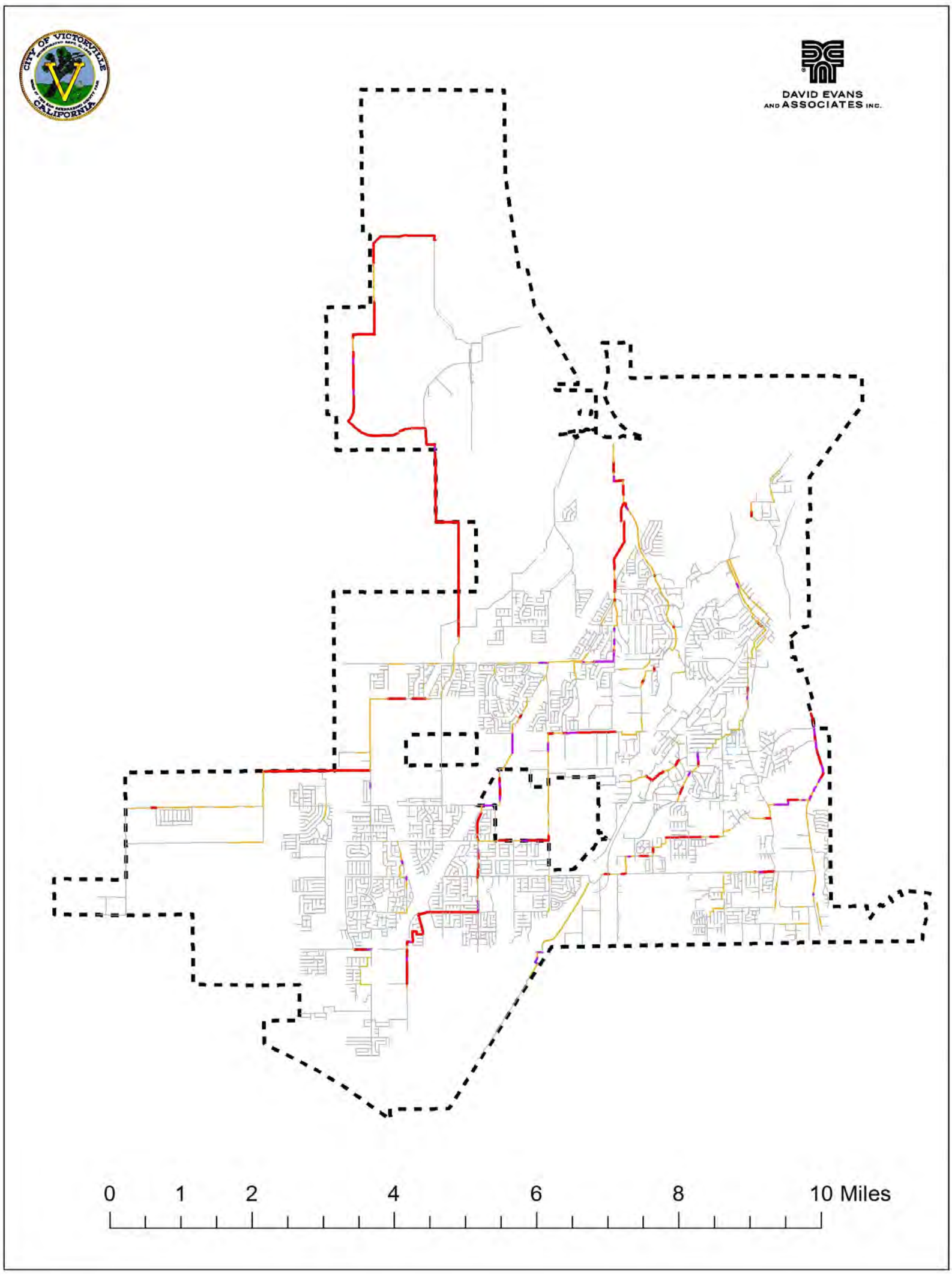
**Figure 3-9 Maximum d/D Ratios under 2040 DWF Conditions - Scenario 1
(Including Septic to Sewer Conversion)**

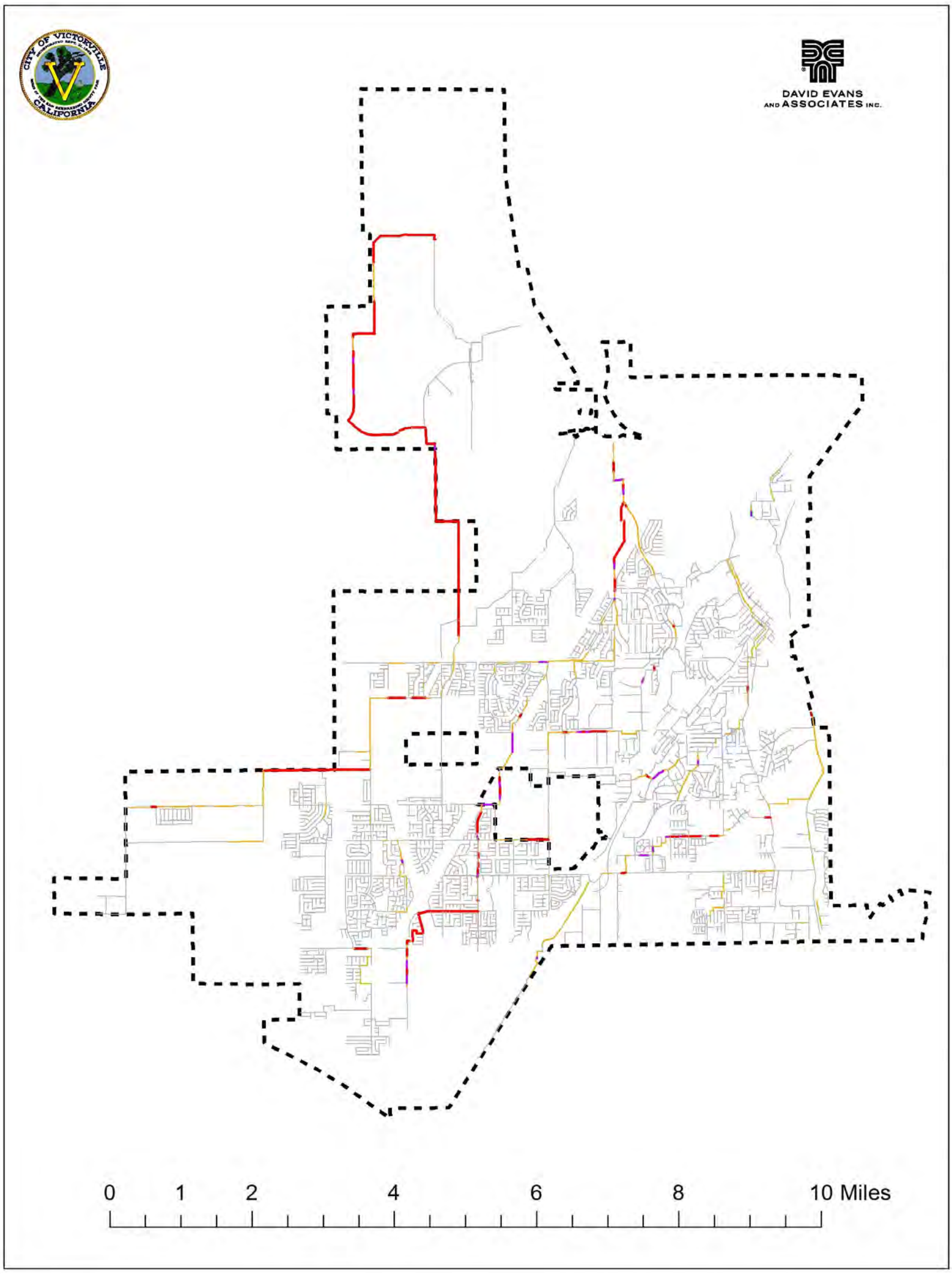


Legend

Max d/D (2040)

- 0-0.5
- 0.5-0.75
- 0.75-0.99
- >=1 (surcharge)
- VICTORVILLE_CITY_BOUNDARY

**Figure 3-10 Maximum d/D Ratios under 2040 DWF Conditions - Scenario 2
(Excluding Septic to Sewer Conversion)**



Legend

Max d/D (2040)

- 0-0.5
- 0.5-0.75
- 0.75-0.99
- >=1 (surcharge)
- VICTORVILLE_CITY_BOUNDARY

4.0 Overview

Aged and defective sanitary sewers should be replaced periodically as part of an on-going investigation and rehabilitation program to both ensure structural integrity of infrastructure components and to help prevent wet-weather inflow and infiltration (I/I) into the collection system through system defects such as cracked and broken pipe. This chapter discusses various strategies and methods to rehabilitate sanitary sewers and develops planning-level unit costs that will be used in this Master Plan to develop project costs in the recommended Capital Improvement Program.

4.1 Sanitary Sewer Rehabilitation Methods

Sewers need rehabilitation if they are in a deteriorated condition and/or they need additional hydraulic capacity. In the past, the most common construction approach to rehabilitating a sewer for either reason was sewer replacement via open cut excavation. However, over the past 30 years, sewer rehabilitation via trenchless technology has become more practical and less expensive than traditional open cut excavation if the sewer is only in a deteriorated condition, i.e. does not need increased hydraulic capacity. There are also several trenchless methods now available that are also more practical and in some cases less expensive when the sewer also needs increased hydraulic capacity.

With trenchless technology, the surface and ground depth in the vicinity of a sewer to be rehabilitated is significantly less disturbed compared with open cut excavation. Sewer rehabilitation via trenchless technology avoids most conflicts with adjacent and crossing utilities and pipelines, and also avoids most surface disruptions to traffic, property, and the surrounding environment in general. Most trenchless technologies utilize the existing sewer as a host pipe and utilize existing manholes to conduct the rehabilitation. In some cases, pits must be excavated to accommodate a trenchless technology.

These trenchless technologies are less expensive than sewer replacement via open cut excavation. However, in utilizing the existing sewer as a host pipe, the sewer diameter is decreased, not increased. The new sewer lining might offer slightly better capacity resulting from less pipe friction, but because a slime layer eventually builds up on any sewer pipe surface, this increased capacity might not be significant.

4.1.1 Sewer Rehabilitation via Pipe Replacement

In order to increase hydraulic capacity significantly, the sewer can be replaced with a new larger sewer either by open cut excavation and/or bore and jack construction, or a new sewer can be constructed parallel to the existing sewer by either of these same two construction methods. Open cut excavation causes disruptions to the surface environment. As an alternative, bore and jack construction can be employed where two pits are excavated (a bore pit and a receiving pit), a steel casing is bored and jacked between the two pits, and the sewer is grouted inside the casing. The only excavation occurs at the bore pit and the receiving pit.

However, bore and jack construction is significantly more expensive than open cut excavation. For example, as average planning estimates, it might cost approximately $200/linear foot (lf) to construct a 12-inch sewer by open cut excavation (including traffic control and pavement replacement, but not including project mobilization, flow bypassing, and lateral reconnection)

and approximately $1,000/lf to construct the same 12-inch sewer by bore and jack construction. Because of the high cost, open cut excavation is typically employed. However, bore and jack construction is used to go below major road intersections where traffic cannot be disrupted, and below major surface obstructions such as railroad tracks, freeways, etc.

Directional drilling and microtunneling can also provide for trenchless construction of a new sewer. However, both methods are more expensive than bore and jack construction, and their benefits such as directional change are not needed to construct a sewer below a road or intersection in most cases.

In order to increase hydraulic capacity, the existing sewer can be replaced with a larger sewer, or a new sewer can be constructed in parallel with the existing sewer, which remains in service. If the existing sewer is also in a deteriorated condition and requires rehabilitation anyway, then it will be recommended in the Master Plan that the existing sewer be replaced with a new sewer. If the existing sewer is in good condition with very few defects and is relatively young, then it will be recommended in the Master Plan that the existing sewer be kept in service and a new parallel sewer be constructed in order to increase hydraulic capacity.

City sewers are constructed of VCP, PVC, and ACP pipe materials, which are all considered sturdy sewer pipe materials. However, any sewer constructed prior to 1950 will be recommended for replacement regardless of condition if the sewer requires additional hydraulic capacity.

Flow bypassing at an upstream manhole is required when replacing an existing sewer. Also, existing laterals must be serviced by a temporary pipeline while the new sewer is set in the trench and bedded. The existing laterals are connected as soon as a new sewer segment is bedded. An advantage to constructing a parallel sewer (relief sewer) is that the existing sewer is kept in service while the relief sewer is being constructed. Less flow bypassing is required. Additionally, sewer laterals on the side of the existing sewer away from the parallel sewer can remain connected to the existing sewer, or if they are to be connected to the new sewer, the connections can be made after the new sewer has been constructed.

Pipe Bursting

Another trenchless alternative for constructing a larger sewer is pipe bursting. Pipe bursting can be less expensive and faster than open cut construction. Pipe bursting is accomplished by pulling a bursting device through the existing pipe. This device by virtue of its size or its radial expansion ability shatters the old pipe and forces the fragments into the surrounding soil. The new pipe is attached to the bursting device and is thus pulled into place as the device advances. An advantage of pipe bursting compared with other trenchless pipe rehabilitation is that the existing pipe can be upgraded with a completely new pipe of equal diameter or greater, thus maintaining or increasing the capacity of the line being rehabilitated. Also, the pipe is a complete structural replacement that functions independently of the original line. Flow bypassing is required with pipe bursting because the existing pipe is being replaced.

Installations are either continuous or sectional. In continuous installations, pipe materials such as high-density polyethylene (HDPE), PVC, and steel are connected or fused to form continuous strings of pipe. These strings are then installed over a length longer than the length of one individual pipe segment. In sectional installations, individual pipe sections are installed

one section at a time. Continuous installation is preferred over sectional replacement, as it minimizes the stoppage of the product line during the burst, and requires less equipment to perform the installation.

A continuous installation is divided into lengths of pipe segments that the bursting equipment being used can burst based on the geometry and layout of the existing pipe being replaced. The length that can be burst is highly dependent on the type of pipe being burst, degree of upsize, soil conditions, and geometry of the original installation. Access pits are excavated on each end of the pipe to be replaced. The pipe-bursting machine that pulls the bursting head is located in the machine pit. The new or product pipe and bursting head are inserted into the existing or host pipe at the insertion pit, which is located at the other end of the pipe.

Machine pits are typically 12-feet long by 6 to 8-feet wide, but can vary in size depending on the size and type of the pipe bursting equipment used. The insertion pit has a flat section and a sloped section that runs from the bottom of the pit to the ground surface. The length of the flat section is typically 12 times the outside diameter of the replacement pipe and the length of the sloped section is typically 2.5 times the depth.

Sections of the product pipe are fused or connected for a continuous installation. The end of the product string is attached to the bursting head, which is attached to the drive rod string, which is attached to the bursting machine in the machine pit. The bursting machine then pulls the drive string. As the bursting head advances, the host pipe is burst and the product line is simultaneously installed. Other bursting methods employ a pneumatic bursting head that “hammers” the pipe forward rather than being pulled. The static bursting system or pneumatic pipe bursting system employed must be capable of delivering the required bursting forces necessary to fragment the existing pipe, push the broken pieces into the ground, and simultaneously install the new HDPE replacement pipe.

The bursting force and equipment capacity of the pipe bursting equipment is a function of the replacement section, which is the length of pipe to be bursted and replaced between the machine pit and the installation pit. Longer replacement sections require larger-capacity equipment. The length of the replacement section is also a function of the geometry of the existing pipe to be replaced. Pipe bursting can accommodate only gradual horizontal curves. A replacement section must be terminated at a tight bend.

The depth of cover is important in pipe bursting especially when the existing pipe lies below an asphalt road because the bursting head can cause an upheaval (surface hump) of the asphalt surface if there is insufficient cover. The potential for upheaval is also a function of soil density. Less dense (softer) soils can absorb more of the uplifted soil and pipe fragments and this decreases the upheaval potential. The potential for upheaval is greater for ground covers less than 4 feet. This is typically not an issue with sanitary sewers as they are usually installed deeper than 4 feet.

Minor surface upheaval can be rectified by rolling down the hump with an adequately-sized road roller on a relatively hot day. Where the potential for upheaval exists, the Contractor can drill a relief bore hole above the host pipe to absorb the soil displacement caused by the bursting head, but this adds construction cost.

The sections of the HDPE pipe are fused together and the entire length of replacement pipe for a given replacement section is strung out directly behind the installation pit, i.e. a 300 lf replacement section would have 300 feet of pipe strung out behind the installation pit. Traffic control would be required for the installation pit and the pipe layout area behind the pit as well as at the machine pit. One lane of traffic or a bike lane would need to be closed down in these work areas.

Pipe installed within a steel casing via bore and jacked construction cannot be replaced through pipe bursting because the steel casing does not allow sufficient space for pipe fragmentation. Concrete encasement may also preclude pipe bursting for that specific pipe segment depending on the thickness of the encasement. Utilities that are too close to the bursting "sphere of influence" would need to be relocated prior to bursting. Also, sewer laterals would have to be removed within the sphere of influence, and then reconstructed and connected to the new sewer.

For straight runs, pipe bursting can be implemented as a continuous installation through existing manholes. The manholes would then need to be rehabilitated and sealed after the bursting is complete. Pipe bursting can be more cost effective than open cut excavation, if you have long sections of straight sewers that can accommodate long continuous installations. Often times pipe bursting can be faster than open cut construction because there is significantly less excavation and pavement replacement. Pipe bursting could conceivably be 20 to 25% faster than open cut construction depending on actual conditions.

However, if the sewer segments are in residential areas with many lateral connections, then the length of installation must be shortened, which adds construction time and cost. The shortened installation length and the cost to dig up and reconstruct laterals in the area of influence typically make open-cut excavation more cost effective in residential areas with many sewer laterals.

Earth Tool Company and Miller Pipeline Corp. are two of the manufacturers of pipe bursting equipment on the market. Earth Tool Company manufacturers Hammerhead™ moles and various pipe-bursting products that are marketed through Vermeer dealerships located throughout the United States and internationally. Miller Pipeline Corp. manufactures the XPANDIT pipe bursting system.

4.1.2 Sewer Rehabilitation via Trenchless Technology using Existing Pipe as Host

Cured-in-Place lining, segmental sliplining, spiral wound sliplining, and tight-fit lining are trenchless technologies that utilize the existing pipe as a host pipe in the pipe rehabilitation process. The liner of each of these systems can provide complete structural support, i.e. assume all dead, live, and construction loads as well as any surcharge pressures, independent of any structural support remaining in the host pipe. All of these technologies are typically less expensive than sewer replacement via open-cut excavation and via pipe bursting. However, the pipe flow area is reduced to some degree by a reduction in pipe diameter with each of these technologies.

With each of these trenchless technologies, the surface and ground depth in the vicinity of a sewer to be rehabilitated is significantly less disturbed compared with open cut excavation. These technologies avoids most conflicts with adjacent and crossing utilities and pipelines, and also avoids most surface disruptions to traffic, property, and the surrounding environment in

general. Some of these trenchless technologies utilize existing manholes to conduct the rehabilitation. In some cases, pits must be excavated to accommodate liner insertion into the host pipe. These technologies are described as follows:

Cured-in-Place Pipe Lining

In the Cured-in-place pipe (CIPP) lining process, a liner composed of a fabric reconstruction tube impregnated with a thermosetting resin is inserted into the pipe to be repaired through an existing manhole, an excavated pit, or another entry point. The tube is either winched or inverted into place with water pressure. Injected steam or hot water cures the resin and shapes the tube into the form of the existing pipe. Application of heat hardens the resin after a few hours, forming a jointless inner pipe surface. The rehabilitation liner serves to repair the deteriorated structure of the existing pipe.

The lining process requires no excavation if existing manholes are available as insertion pits. The process can accommodate pipe bends up to 90 degrees. The pipe requires careful cleaning and video inspection prior to installation. Flow bypassing is required with CIPP because the existing pipe is rehabilitated.

Service laterals remain connected to the host pipe during the rehabilitation process, but the laterals are out of service until openings can be cut through the CIPP lining at the connection points. A camera with a cutting device is run through the lined pipe to reopen the laterals remotely. Dimples occur in the CIPP lining prior to curing that indicate the lateral connection points. With some other trenchless technologies such as sliplining with a rigid lining material, dimples do not occur, and the lateral locations must be surveyed as part of the pre-work video inspection in order to map out the lateral locations. This makes lateral connection more efficient for CIPP relative to these other trenchless methods.

Several companies have developed CIPP systems and these systems vary in material type, coating type and method of construction. Most of the fabrics are made of woven or non-woven (needle punched) polyester. Other materials such as fiberglass are sometimes incorporated into the fabric as reinforcement. Tubes are typically layered with at least one fabric layer and another layer which is impermeable to the flow of the liquid resin.

The resin is typically unsaturated polyester. Vinyl ester and epoxy resins are sometimes used for better corrosion resistance or for unusual thermal conditions. The composition of the resin material can be varied to meet specific design conditions. Fabric tubes are manufactured to be the same size or slightly smaller than the inner diameter of the existing pipe to be rehabilitated. The saturated fabric stretches to conform to the inner surface of the pipe. Some mechanical bonding of the resin to the inner pipe surface does occur. The structural performance of the liner depends on the thickness of the liner as well as upon the condition of the existing pipe to a certain extent.

Insituform Technologies Inc., Nu Flow Technologies, Inc., Inliner Technologies, are some of the CIPP manufacturers on the market. As an example, Insituform installations have been accomplished in pipe sizes up to 108 inches. Insitupipe is a gravity CIPP lining system manufactured by Insituform that is designed to accommodate specific pipe conditions and structural requirements. The thickness of the Insitupipe varies from 0.12 to 1.59 inches as

required by each project. The physical characteristics of the finished Insitupipe are largely a function of the resin system used.

Resin systems used in the Insituform process are unsaturated polyesters, vinyl esters, and epoxies. The resin is specifically designed on a project-by-project basis and the type selected is dependent on pipe function and condition among other factors.

Traditional Segmental Sliplining

In the traditional segmental sliplining process, a polyethylene or PVC liner of a slightly smaller diameter is inserted into an existing pipeline and the annulus between the two pipes is grouted to form one unified pipe. Sliplining can be used if the host pipe does not have excessive joint settlements, severe misalignments, or large deformations. The host pipe should be relatively straight between the insertion pit and the receiving manhole. The new pipe can form a continuous watertight pipe within the existing pipe after installation.

In segmental sliplining, individual sections of pipe (typically 15-feet in length) are pushed into the host pipe at insertion pits that are strategically located at points along the host pipeline alignment. The liner pipe is inserted fully rounded into the host pipe, with new segments added on and pushed through as needed. Pushes approaching 3,000 feet of pipe have been reported. The pipe liner segments are typically joined with tongue and groove joints. Lap joints are used with some liners. After the new pipe is positioned in place, the annular space is grouted.

It is necessary for the host pipe to be reasonably straight and reasonably round, as slip liners are not pliable inserts. Some adaptation to bends in the pipe is possible through the use of short segments. Also, the liner can be deflected up to 2 degrees at each joint. However, sliplining is more practical for straight pipe segments.

An insertion pit must be excavated large enough to accommodate the pipe segment being inserted. An insertion pit on the order of 20 feet long by 8 feet wide by the depth of the host pipe is required to insert 15-foot pipe segments. The need for excavated insertion pits is a disadvantage compared with other technologies that are able to utilize existing manholes for liner insertion, i.e. spiral wound sliplining, cured-in-place liners, and fold and form liners.

The annulus space between the host pipe and the liner pipe represents a loss of hydraulic capacity for the pipe. As a potential offset to this lost hydraulic capacity, the newer and smoother sewer lining would offer less friction than the existing sewer pipe surface, but because a slime layer eventually builds up on any sewer pipe surface, increased capacity due to a smoother pipe surface might not be significant. However, sliplining an existing VCP sewer would eliminate headloss associated with the VCP pipe joints as the slipline would have nearly seamless joints.

An advantage for sliplining relative to CIPP, is that sliplining can take place with flow in the existing pipe, whereas CIPP requires damming of an upstream manhole and/or flow bypassing to ensure that the existing pipe is free of all flow. For sliplining to occur with flow in the pipe, the maximum low depth in the existing pipe should not exceed approximately 30% of the pipe diameter.

Service laterals remain connected to the host pipe during the rehabilitation process, but the laterals are out of service until openings can be cut through the sliplining at the connection points. A camera with a cutting device is run through the lined pipe to reopen the laterals remotely. The lateral locations must be surveyed as part of the pre-work video inspection in order to map out the lateral locations.

Lamson Vylon Pipe (PVC), Hobas (RMP), and Polypipe (PE) are some of the slipline manufacturers on the market. For example, Lamson Vylon Pipe manufactures a PVC slipliner pipe with an I-beam profile wall and gasketed joints rated for 11 psi. The pipe is available in diameters ranging from 21 to 48 inches. The standard pipe length is 15 feet. Lamson Vylon Pipe also manufactures a PVC slipliner pipe called "The Insider." The pipe is available in diameters ranging from 12 to 18 inches. The joint is a flush joint system with elastomeric seals. The pipe is very similar to SDR 35 pipe. The pipe is not pressure rated and it is suitable only for gravity-flow.

Spiral-Wound Sliplining

In spiral-wound sliplining a winding machine helically winds a PVC strip into a tube which is simultaneously propelled directly into the existing host pipe. The spiral wound PVC pipe liner is composed of an extruded PVC profile strip with dual male and female locking elements on opposite sides of the strip. The profile strips have a ribbed design and range in width from 3.35 to 4.96 inches, which translates to a large number of joints. The profile strip, which is stored on a spool, is fed into an existing manhole via a winding machine. The winding machine forms the profile strip into a spiral pipe of a specified fixed diameter by sealing the male and female locking elements.

There is an expandable pipe liner version in which the pipe liner is expanded radially until the liner contacts the host pipe. This version is primarily applicable to sewers less than 24 inches in diameter. In the second version, the pipe liner remains a fixed diameter less than the inside diameter of the host pipe and grout is injected to fill the annulus between the two pipes. This second version, which can incorporate a steel reinforcing strip, is primarily applicable to sewers greater than 24 inches in diameter.

In the expandable version, after the liner is fully expanded, sealant is applied to the ends of the pipe. As discussed below, service connections are re-established similar to segmental sliplining. However, the ribbed profile of the spiral wound pipe liner creates small voids around the circumference of the connection that must be sealed.

In the fixed-diameter version, a secondary lock for the sliplined machine spiral wound PVC pipe liner remains intact in order to hold the pipe liner at a fixed diameter. The profile strips have a higher stiffness than the strips used for the expansion version. The maximum outside diameter of the fixed-diameter liner is limited to 2 inches less than the inside diameter of the existing pipe to ensure proper placement of grout.

An advantage of spiral-wound sliplining relative to segmental sliplining is that the liner can be inserted at existing manholes. The tube or liner is made in one continuous length from manhole to manhole. Unlike segmental sliplining, spiral-wound sliplining can accommodate pipe bends and more severe pipe deformations due to the flexible nature of the winding process.

Service laterals remain connected to the host pipe during the rehabilitation process, but the laterals are plugged and out of service until openings can be cut through the lining at the connection points. A camera with a cutting device is run through the lined pipe to reopen the laterals remotely. The lateral locations must be surveyed as part of the pre-work video inspection in order to map out the lateral locations.

Like segmental sliplining, spiral-wound sliplining can take place with flow in the existing pipe. For sliplining to occur with flow in the pipe, the maximum low depth in the existing pipe should not exceed approximately 30% of the pipe diameter.

Danby of North America, Inc (Twin Lock) and PipeTec, Inc. (Rib-Loc) are two of the spiral-wound sliplining companies.

Tight-Fit Lining

A roll-down, die-reduction, or a folded-pipe lining process are similar trenchless technologies that are all included under a "tight-fit" classification by AWWA. In the tight-fit technologies, HDPE of a diameter either slightly greater or approximately the same diameter as the host pipe is reduced in diameter or deformed by mechanical means so that it can then be pulled through the host pipe. The HDPE pipe then expands naturally or is expanded to nearly its original diameter to fit tightly within the inside diameter of the host pipe. In contrast to segmental sliplining and fixed-diameter spiral-wound sliplining, these processes minimize the loss of inside diameter and eliminate the need for grouting as no annular space is left between the HDPE and the host pipe.

The equipment to perform the "roll-down" method consists of winching equipment used to pull the HDPE through the existing pipe and a roll-down box (a series of mechanical rollers) that physically rolls the outside diameter of the HDPE down to provide clearance to the inside diameter of the host pipe. Once rolled down, the HDPE is maintained under tension to prevent expansion as it is winched through the host pipe. When the entire run is installed, tension is released and the HDPE gradually returns to its original outside diameter and is a close fit to the host pipe.

The HDPE pipe is typically oversized by approximately 10% relative to the inside diameter of the host pipe because the original diameter is sometimes not achieved in the subsequent expansion, i.e. the HDPE sometimes expands to a diameter that is slightly less than its original diameter.

Factory produced lengths of HDPE are delivered to the jobsite, where they are fusion welded together to produce the full length of pipe for a specific installation or "pull." An entrance pit is excavated at the beginning of the rehabilitation area. A pit width of at least 5' is required. The length is generally 4 times the depth to invert, and may taper to grade away from the pipe. The length is to allow the stiff HDPE pipe to transition from surface elevation to centerline of pipe.

A receiving pit is excavated at the termination point. This pit length is typically in the 10 to 15 foot range. The winching equipment is set up at the receiving end and the roll down box is located at the entrance pit. The winch line is run through the pipe to connect the HDPE pipe to the winching equipment. The HDPE pipe is pulled through the roll down box and into the host pipe by the winch, with the line under continuous tension to maintain size and clearance with the

host pipe. Once the line is installed, tension is released and the HDPE pipe gradually resumes its original outside diameter, which is in close fit with the host pipe.

The length of an installation pull is dependent on the geometry of the host pipe. The HDPE pipe can usually be pulled through horizontal curves on the order of 5 to 7 degrees. However, depending on where the curve occurs in the pull, the condition and material of the host pipe, and other factors, larger curves up to 22 degrees have been achieved in some installations. A run must be terminated and a pit located at bends that cannot be pulled. Also there is a maximum length of straight pipe that can be pulled. Pulls up to 1,500 lf have been accomplished. Project cost and construction time increase as the number of pits required on a project increases.

A “die-reduction” lining method is very similar to roll-down with the exception that the HDPE pipe is pulled through a static reduction die instead of mechanical rollers. United Pipeline Services, which is a wholly owned subsidiary of Insituform Technologies, Inc., is one of the companies that perform roll-down pipe rehabilitation (Tite Liner). Swagelining is a patented die-reduction lining method. ARB, Inc. Constructors is a company that performs pipe rehabilitation using Swagelining.

The fold-and-formed lining process is similar in concept to the other tight-fit lining systems. In the fold-and-formed pipe (FFP) lining process, a folded thermoplastic relining product is inserted into the pipe to be repaired through an existing manhole or another entry point. The thermoplastic material, typically extruded PVC or high density polyethylene pipe (HDPE), is folded into a U-shape to produce a smaller net-cross-sectional area so it can be more easily inserted into the existing pipeline.

After the plastic-liner pipe is inserted, hot water or steam is applied to expand the liner pipe into a snug fit with the host pipe (rounding). The liner is then gradually cooled while held in place by internal pressure. As it cools, the liner pipe interlocks with the irregularities of the host pipe. Although tight, mechanical bonding between the liner and the host pipe does not occur.

Subcoil as developed by Subterra is a folded-liner pipe in which the HDPE pipe is factory folded and held in a heart shape by restraints. The folded liner pipe is then inserted into the existing host pipe. Once inserted, the folded-pipe liner is pressurized to snap the restraints allowing it to revert back to its original circular shape. The expanded HDPE pipe then forms a tight fit with the host pipe. Doty Brothers is a company that performs pipe rehabilitation using the Subterra folded liner pipe. Kinsel Industries, which is a wholly owned subsidiary of Insituform Technologies, Inc., also installs a folded-pipe liner called Close Fit.

All of these tight-fit lining systems are similar to segmental sliplining in that 1) it is necessary for the host pipe to reasonably straight and reasonably round, as the liners are not pliable inserts, 2) an insertion pit must be excavated large enough to accommodate the pipe segment being inserted, 3) lining can take place with flow in the existing pipe, and 4) service laterals remain connected to the host pipe during the rehabilitation process, but the laterals are out of service until openings can be cut through the lining via a camera with a cutting device.

These processes are typically a little more expensive than traditional segmental sliplining. However, there is less loss in hydraulic capacity as a result of a reduction in pipe diameter.

Suitability of Trenchless Technologies

Some agencies, i.e., Los Angeles County Sanitation Districts (LACSD), typically rehabilitates sewers greater than 48-inches in diameter by sliplining with segmented plastic pipe and then grouting the annulus between the pipes because 1) these large sewers carries large flows and flow bypassing is not practical in most cases, and 2) a loss in diameter is not as significant with these larger pipes. LACSD typically rehabilitates sewers between 27 and 42 inches in diameter by CIPP or sliplining. The advantage to using CIPP is that it has minimal impact on capacity. Traditional segmental sliplining begins to negatively impact sewer capacity in these pipe sizes.

For sewers 24 inches and smaller, LACSD typically utilize CIPP, the expansion-version spiral-wound sliplining, and any of the tight-fit lining systems.

There have been reported troubles with wrinkles and folds using CIPP on larger diameter sewers, but no such troubles using CIPP on smaller diameter sewers. Tight-fit lining systems can typically be installed more quickly than CIPP and has better quality control in terms of material properties than CIPP liner. However, CIPP can be less expensive than a tight-fit technology and offers advantages such as more efficient re-establishment of service laterals. Traditional segmental sliplining can be less expensive than the CIPP or tight-fit lining technologies on a given project. However, segmental sliplining results in a greater loss in pipe diameter.

Given the specific conditions of a given sewer rehabilitation project, several of these trenchless technologies could be effective and price competitive on the same project. Some technologies might be excluded on a specific project, if a reduction in pipe diameter cannot be tolerated, if flow bypassing is not practical, or because of specific deformations of the existing sewer among other factors to consider in the design process.

4.1.3 Other Types of Sewer Repairs

Often times a sewer segment will be in overall good condition with the exception of severe defects that occur at a specific location or several locations along the segment. These point defects include broken pipe, severe cracking, or other damage that occurs within a limited length of pipe, i.e. approximately 5 linear feet or less. If there are a limited number of these spot defects, then it is more economical to excavate and repair these specific locations rather than to replace the entire sewer segment. If there are four or more such locations in a 300 or 400 lf sewer segment, then it becomes more practical to replace the segment.

Because CIPP forms against the existing pipe wall, most point defects need to be repaired prior to lining the sewer. Most point repairs also need to be made in front of spiral wound sliplining. If the damage is not overly severe, then sometimes these repairs do not need to be made in front of segmental sliplining and possibly some types of tight-fit lining systems. However, if a sewer is collapsed at a point, then this repair will need to be made prior to any lining method.

Unauthorized sewer lateral connections (also referred to as break-in taps) are often discovered when a sewer is videotaped. As opposed to factory taps, unauthorized taps are often crudely hammered into the sewer. Wet-weather infiltration can enter the sewer via the unsealed and often cracked periphery of the connection. Sometimes these unauthorized connections were made to collect storm water from house roof drains and other area drains. In these cases, they become a major source of wet-weather inflow. Wet-weather inflow and infiltration can overflow and surcharge a sewer and can lead to sewer overflows.

The connection could also prove to be some type of chemical or hazardous waste drain. In rehabilitating these unauthorized connections, the lateral pipe should to be smoke tested to see what it is connected to. If it is found to be connected to storm drain or some other inappropriate drain, then the lateral should be disconnected and the sewer should be plugged and repaired at the point of connection. The owner of the inappropriate drain should then be required to reroute the discharge to an appropriate receiving connection. If connected to a sanitary sewer, the connection can be reconnected, sealed and repaired as required to block infiltration into the sewer.

4.2 Sewer Replacement & Rehabilitation Unit Costs

Planning level unit construction cost estimates for sewer replacement and rehabilitation are shown in Table 4-1. These unit costs will be used to develop planning level project cost estimates to develop Capital Improvement Program costs for this Master Plan. These unit costs do not include project mobilization, which will need to be added to project cost estimates. Project mobilization is estimated at 5 to 10% of the total project construction cost depending on the size and complexity of the project. All sewer rehabilitation and replacement unit costs shown in Table 4-1 include re-establishment of service laterals. Costs for all rehabilitation methods include heavy sewer cleaning and pre and post rehabilitation sewer videotaping.

Design-level cost estimates will need to be developed to refine project costs based on project conditions determined during the design phase of each project. For example, soil conditions determined in the design phase might preclude pipe bursting as a possible sewer replacement

Table 4-1 Construction Unit Cost for Sewer Replacement and Rehabilitation[a]

Replacement or Rehabilitation Method	Unit Costs per Sewer Diameter (in)				
	8"	10"	12"	15"	18"
CIPP[b]	$55/lf	$62/lf	$68/lf	$105/lf	$140/lf
CIPP (bypass)	$3	$4	$5	$10	$15
Segmental Slipline[b][c][d]	$70/lf	$78/lf	$85/lf	$110/lf	$145/lf
Expansion Spiral Wound Slipline[b][c]	$75/lf	$83/lf	$90/lf	$115/lf	$150/lf
Tight-Fit Lining[b][c][d]	$75/lf	$83/lf	$90/lf	$115/lf	$150/lf
Rehab Break-in Tap	$7,000/ea	$7,000/ea	$7,000/ea	$7,000/ea	$7,000/ea
Sewer Point Repair	$7,000/ea	$7,000/ea	$7,500/ea	$8,000/ea	$8,000/ea
Pipe Bursting[b][d]	$165/lf	$180/lf	$215/lf	$250/lf	$300/lf
Open-Cut Sewer Replacement[b]	$180/lf	$210/lf	$240/lf	$270/lf	$300/lf
Open-Cut Parallel Sewer[b]	$158/lf	$170/lf	$205/lf	$240/lf	$295/lf
Bypass for Pipe Bursting or Open-Cut Replace	$3/lf	$4/lf	$5/lf	$10/lf	$15/lf
Open-Cut Pavement Replacement	$13/lf	$14/lf	$15/lf	$16/lf	$17/lf
Open-Cut Traffic Control	$3/lf	$4/lf	$5/lf	$5/lf	$5/lf
Bore and Jack[e]	$800/lf	$900/lf	$1,000/lf	$1,200/lf	$1,500/lf

a) Not including project mobilization, which is estimated at 5 to 10% of total project construction cost
b) Including re-establishment of service laterals
c) Estimated that flow bypassing will not be necessary as construction work will be done during low flow periods with flow in the pipe
d) Includes installation pit excavation, pavement replacement and traffic control
e) Includes installation and receiving pit excavation, pavement replacement and traffic control

alternative. Flow conditions might make CIPP less attractive as a rehabilitation method if extensive flow bypassing is required, etc.

For planning purposes, it is estimated that CIPP is slightly less expensive than the other trenchless technologies for rehabilitating 8-inch, 10-inch and 12-inch sewers especially if flow bypassing can be limited by low flows or possibly eliminated if damming an upstream manhole during installation and curing is possible. It is also estimated that segmental sliplining is slightly less expensive than expansion spiral-wound sliplining or tight-fit sliplining. The slightly higher cost could be warranted if a reduction in pipe diameter cannot be tolerated.

It is estimated that segmental sliplining and even spiral-wound sliplining or tight-fit sliplining can become more cost effective relative to CIPP for sewer diameters greater than 12 inches if extensive flow bypassing is required. Expansion spiral-wound sliplining and tight-fit lining are estimated to be more expensive than segmental sliplining at all diameters. However, these two methods or CIPP might be required if the reduction in diameter resulting from segmental sliplining cannot be tolerated.

Construction conditions as determined in the design phase might preclude a rehabilitation method from inclusion in the contract bid. However, it would be appropriate to include as many of these rehabilitation methods in a competitive bid as warranted if there are no fatal flaws with the rehabilitation method specific to the project. In a competitive bid environment, any of the viable rehabilitation methods could conceivably end up having a lower cost.

The costs to excavate and make point repairs for breaks, severe misalignment, severe cracking, or other damage that occurs within a limited length of pipe, i.e. approximately 5 linear feet or less, are also shown in Table 4-1. If there are four or more such locations in a 300 or 400 lf sewer segment, then it typically becomes more cost effective to replace the segment. Point repairs will need to be made prior to conducting lining rehabilitation depending on the severity of the defect and the type of rehabilitation method used.

The costs to smoke test an unauthorized lateral connection (break-in tap) and then repair and seal the sewer at the point of connection are shown in Table 4-1. It is assumed that the cost to reroute an unauthorized lateral connection to an appropriate receiving location will be burdened by the owner of the unauthorized lateral connection.

For planning purposes, it is estimated that pipe bursting has the same unit cost as sewer replacement by open-cut excavation. However, the unit costs for pipe bursting includes installation pit excavation, pavement replacement, and traffic control, whereas pavement replacement and traffic control are additional costs for sewer replacement by open-cut excavation as shown in Table 4-1. Flow bypassing is an additional cost for both sewer replacement by open cut excavation and pipe bursting in Table 4-1.

The cost to construct a parallel sewer is estimated to be less expensive than the cost to construct a replacement sewer of the same size. In constructing a parallel sewer, the need to perform bypass pumping is greatly reduced and in some cases might be eliminated altogether. Additionally, sewer laterals on the side of the existing sewer away from the parallel sewer can remain connected to the existing sewer, or if they are to be connected to the new sewer, the connections can be made after the new sewer has been constructed. Sewer laterals on the side of the existing sewer where the parallel sewer is being constructed will typically need to be connected to the new sewer at the end of each work day.

The estimated cost to employ bore and jack construction to go below major road intersections and major surface obstructions such as railroad tracks, freeways, etc., are also shown in Table 4-1

5.0 Overview

As part of the Master Plan, approximately 35,000 linear feet (6.6 miles) of City sewers were videotaped using closed circuit television (CCTV), which is approximately 1.6% of the City's total collection system (412 miles). The sewer CCTV inspections were conducted in order to identify defects, rate defects, and then incorporate recommended improvements into the Capital Improvement Program.

As part of the Sewer Master Plan, the sewer inspection reports were reviewed; sewers with significant structural defects were prioritized for rehabilitation or replacement; and the recommended projects were included in the Capital Improvement Program, which is discussed in Chapter 6.

Sewer structural defects include cracked pipe, broken pipe, offset joints, and unauthorized service connections (break-in taps). Sewer operation and maintenance (O&M) defects including heavy roots and grease deposits can lead to sewer blockages that can then lead to overflows. Sewer defects can undermine the integrity of the sewer system infrastructure; can allow wastewater to exfiltrate into the soil and groundwater; and can allow excessive rainwater in the form of inflow and infiltration to enter the sewer leading to potential overflow conditions.

5.1 Sewer CCTV Inspections

The Pipeline Assessment and Certification (PACP) assessment and rating system developed by the National Association of Sewer Service Companies (NASSCO) was used to assess and categorize sewer defects. NASSCO is a non-profit trade association consisting of contractors, manufacturers/ suppliers and professionals (engineers, cities, etc.) involved with many sewer technologies. The PACP Condition Rating System provides condition ratings for sewer structural defects, and operation and maintenance defects. Grades are assigned for each category based on the grading criteria shown in Table 5-1.

Table 5-1 Sewer Defect Grade Descriptions

Defects Grade	Description
5 – Severe	Severe defects requiring immediate attention
4 – Heavy	Defects that will become Grade 5 in the near future
3 – Moderate	Defects that will continue to deteriorate
2 – Fair	Defects that have not begun to deteriorate
1 – Light	Minor defects

The Pipe Defects Rating is the addition of all grade defect occurrences multiplied by their respective grade levels for a given pipe segment (a pipe segment is the length of sewer pipe between two manholes). For example, a pipe with four Grade 5 occurrences, three Grade 3

occurrences, and three Grade 1 defects with no other defects found would have a Pipe Defects Rating of 32. The Pipe Defects Rating Index is the Pipe Defects Rating divided by the total number of defect occurrences. In the example above, the Pipe Defects Rating Index would be 3.2 (32 divided by 10). The Pipe Defects Quick Rating is the number of occurrences of the two highest grades. In the above example, the Pipe Defects Quick Rating would be 5(4) 3(3).

The PACP continuous defect feature is used to denote where long portions of a sewer pipe are affected by the same defect, without the user having to repetitively enter point defects. The equivalent number of uninterrupted and joint repeating continuous defects is converted to equivalent point defects by dividing the length of the continuous defect by 5. For example, a 250-foot-long continuous defect, Grade 3, would equate to 50 equivalent Grade 3 point defects.

The sewers were rated separately for structural defects and O&M defects. Both were sorted by highest Pipe Defects Rating. The ratings for all sewers videotaped as part of the Master Plan are shown in the Appendix.

5.2 Sewer Structural Defects

The vast majority of sewers in the City are constructed of VCP, (60 percent) and approximately 10 percent of City sewers were constructed prior to 1966 and have been in service for over 50 years. Primarily due to age, a number of sewers were found to have significant structural defects that need to be rectified either by rehabilitation or replacement as soon as possible. In terms of a structural defect, a category 5 defect can be a broken pipe where the soil is visible through the hole in the pipe, or it can be collapsed pipe, or it can be a severe offset joint where the flow way in the pipe is reduced by over 50%. Any category 5 defect is recommended for repair or replacement within a five-year schedule as a high priority project.

A category 4 defect is a severe fracture or breaking of the pipe that could become a category 5 defect in the near future, or it can be a severe offset joint. An 8-inch or larger sewer segment with a single or multiple category 4 defects was recommended for rehabilitation or replacement, especially if they were occurring in conjunction with multiple category 3 and 2 defects.

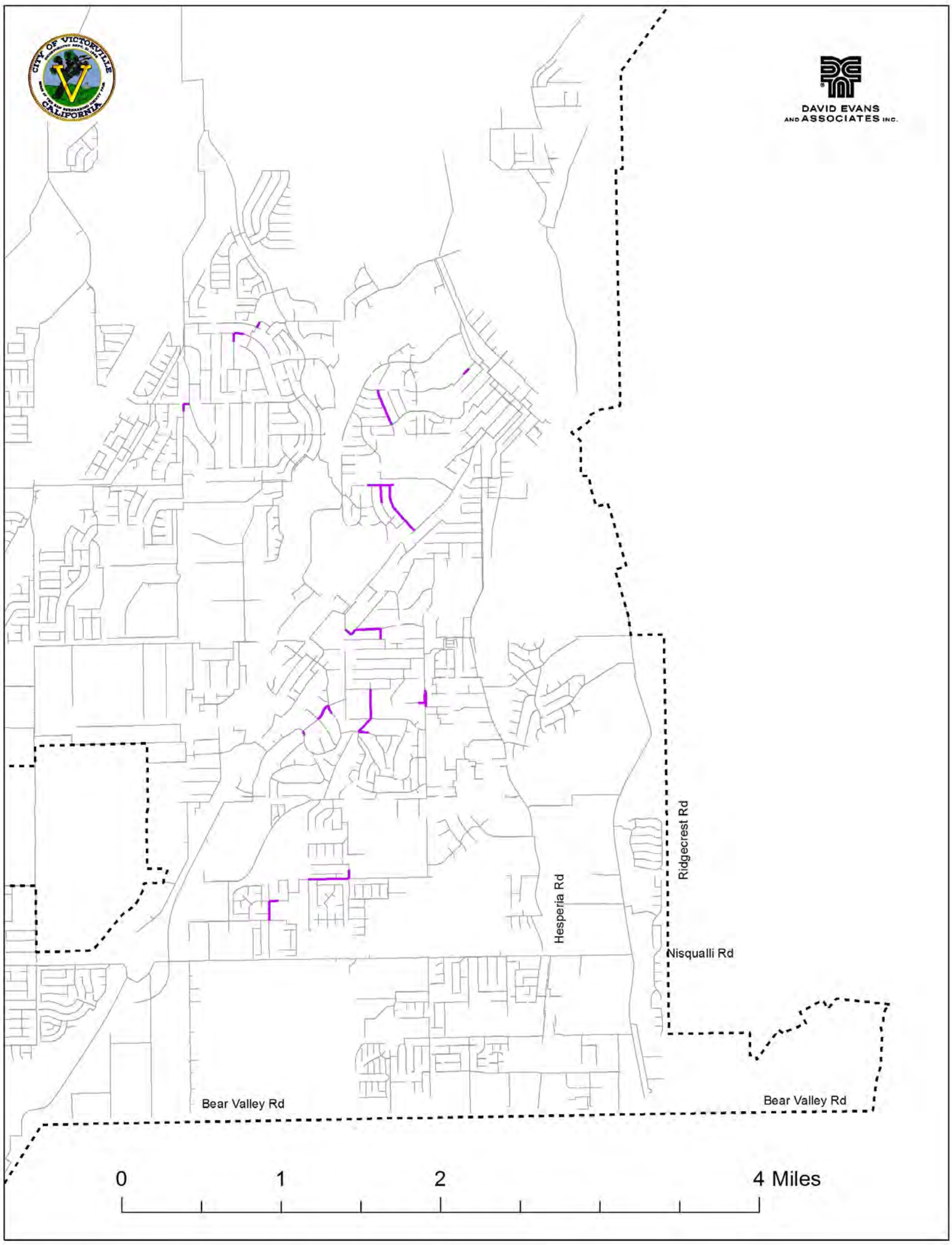
A category 3 defect is multiple cracking at a location in the pipe. Multiple cracking can continue to spread, i.e. deteriorate, over time. A pipe segment with many and/or recurring category 3 defects is recommended for rehabilitation. A category 2 defect is a single deep crack where the sides of the crack have separated. A type 1 defect is a single hairline crack that has not separated. Type 2 and Type 1 most likely, will not require attention for 10 years or more.

Sewer segments recommended for rehabilitation or replacement are listed in Table 5-2. The graphical representation of the recommended structural improvement CIP is shown in Figure 5-1. The defects to be repaired are associated with the videotaped sewer segments only totaling 35,000 linear feet (6.6 miles), which is the total length of sewer segments videotaped and not the length of sewer defects themselves.

Table 5-2 Recommended Sewer Rehabilitation for Structural Defects

STREET NAMEP	START MH	FINISH MH	PIPE DIA (in)	LENGTH	PIPE MATERIAL	Pipe Defects Quick Rating	No. 5s	No. 4s	No. 3s	No. 2s	No. 1s	O&M Defects	O & M Quick Rating	RECOMMENDED REHABILITATION	UNITS	UNIT COST	QUANTITY	CONSTRUCTION COST	CAPITAL COST
CENTER ST.	AA39136	AA39101	8	265	CP	2100				1		3	4131	Line Entire Segment	LF	55	265	$ 14,553	$ 21,800
SHOOTING STAR DR.	U48151	U48152	8	253	PVC	3100			1			0	0000	Line Entire Segment	LF	55	253	$ 13,921	$ 20,900
BURWOOD RD	X35150	X35139	8	289	VCP	3100			1			0	0000	Line Entire Segment	LF	55	289	$ 15,879	$ 23,800
N CULVER RD	X35150	X35164	8	325	VCP	3100			1			1	3100	Line Entire Segment	LF	55	325	$ 17,853	$ 26,800
TAWNEY RIDGE LN.	X36161	X36160	8	197	VCP	2200				2		3	2300	Line Entire Segment	LF	55	197	$ 10,824	$ 16,200
AMARGOSA RD.	X37152	X36161	8	265	VCP	2111				1	1	5	2500	Line Entire Segment	LF	55	265	$ 14,586	$ 21,900
BURNING TREE DR.	Y42101	Y42122	8	147	VCP	2100				1		1	2100	Line Entire Segment	LF	55	147	$ 8,058	$ 12,100
BURNING TREE DR.	Y42110	Y41137	8	254	AC	2100				1		1	3100	Line Entire Segment	LF	55	254	$ 13,987	$ 21,000
WIMBLETON DR.	Y42147	Y41137	8	579	AC	3100			1			0	0000	Line Entire Segment	LF	55	579	$ 31,818	$ 47,700
OTTAWA ST.	Y44102	Y44127	12	335	PVC	3123			1	3		2	4121	Line Entire Segment	LF	68	335	$ 22,746	$ 34,100
OTTAWA ST.	Y44127	Y44132	12	330	VCP	3221			2	1		1	2100	Line Entire Segment	LF	68	330	$ 22,440	$ 33,700
OTTAWA ST.	Y44132	Z44118	12	262	PVC	3221			2	1		54	422I	Line Entire Segment	LF	68	262	$ 17,823	$ 26,700
9TH AVE.	Y45140	Y45160	12	307	PVC	3222			2	2		6	4125	Line Entire Segment	LF	68	307	$ 20,903	$ 31,400
NINTH	Y45142	Y45140	12	96	VCP	Optimized								Line Entire Segment	LF	68	96	$ 6,518	$ 9,800
9TH AVE.	Y45146	Y45142	12	229	PVC	3300			3			2	4200	Line Entire Segment	LF	68	229	$ 15,586	$ 23,400
CHOCTAW ST	Y45160	Y45125	12	309	PVC	2200				2		0	0000	Line Entire Segment	LF	68	309	$ 21,012	$ 31,500
LA PAZ DR.	Z40113	Z40134	8	264	VCP	1100					1	1	4100	Line Entire Segment	LF	55	264	$ 14,515	$ 21,800
MESA	Z40134	Z40135	8	216	VCP	Optimized								Line Entire Segment	LF	55	216	$ 11,877	$ 17,800
CABRILLO DR.	Z40135	Z40143	8	278	VCP	3111			1		1	0	0000	Line Entire Segment	LF	55	278	$ 15,279	$ 22,900
CABRILLO DR.	Z40142	Z40144	8	269	VCP	Optimized								Line Entire Segment	LF	55	269	$ 14,785	$ 22,200
CABRILLO DR.	Z40143	Z40142	8	277	VCP	2100				1		3	4122	Line Entire Segment	LF	55	277	$ 15,224	$ 22,800
CABRILLO DR.	Z40144	Z40132	8	359	VCP	2111				1	1	2	4121	Line Entire Segment	LF	55	359	$ 19,756	$ 29,600
ARROWHEAD DR.	Z41101	Z41102	12	351	AC	3100			1			3	2112	Line Entire Segment	LF	68	351	$ 23,834	$ 35,800
ARROWHEAD DR.	Z41102	Z41141	12	284	AC	3100			1			2	3121	Line Entire Segment	LF	68	284	$ 19,326	$ 29,000
RODEO DR	Z41104	Z41160	8	325	VCP	Optimized								Line Entire Segment	LF	55	325	$ 17,900	$ 26,900
LARIAT RD	Z41105	Z41104	8	234	VCP	2100				1		0	0000	Line Entire Segment	LF	55	234	$ 12,843	$ 19,300
LARIAT RD	Z41123	Z41125	8	203	VCP	2100				1		1	2100	Line Entire Segment	LF	55	203	$ 11,176	$ 16,800
LARIAT RD	Z41124	Z41123	8	356	VCP	1200					2	0	0000	Line Entire Segment	LF	55	356	$ 19,569	$ 29,400
RODEO DR	Z41160	Z41125	8	80	VCP	Optimized								Line Entire Segment	LF	55	80	$ 4,417	$ 6,600
RODEO DR	Z42132	Z41104	8	352	CP	3212			2		2	1	1100	Line Entire Segment	LF	55	352	$ 19,338	$ 29,000
CAMELBACK DR.	Z42146	Z42156	8	337	VCP	2200				2		0	0000	Line Entire Segment	LF	55	337	$ 18,541	$ 27,800
CAMELBACK DR.	Z42156	Z42161	10	589	CP	3100			1			1	3100	Line Entire Segment	LF	62	589	$ 36,487	$ 54,700
PEBBLE BEACH DR.	Z42161	Z41101	12	349	AC	3100			1			5	3122	Line Entire Segment	LF	68	349	$ 23,712	$ 35,600
Subtotal				**9,562**													**9,562**	**$ 567,000**	**$ 851,000**
AVALON AVE.	AA36118	AA36152	8	279	CP	5143	1	3				6	3313	Replace Line	LF	180	279	$ 50,148	$ 75,200
ALLEY (AVALON AVE.)	AA36152	AA36151	8	65	CP	5132	1			2		1	0000	Replace Line	LF	180	65	$ 11,736	$ 17,600
MOJAVE DR.	AA39102	AA39102A	8	96	VCP	4100		1				1	4100	Replace Line	LF	180	96	$ 17,280	$ 25,900
MOJAVE DR.	AA39102A	AA39101	8	219	CP	5131	1		1			1	3100	Replace Line	LF	180	219	$ 39,492	$ 59,200
N CULVER RD	Y35114	Y35151	8	202	VCP	4100		1				1	2100	Replace Line	LF	180	202	$ 36,378	$ 54,600
VILLAGE DR.	Y35146	Y35149	10	200	VCP	4100		1				28	312D	Replace Line	LF	210	200	$ 41,958	$ 62,900
LA VERIDA DR.	Z36126	Z36132	8	326	VCP	5133	1		3			3	3300	Replace Line	LF	180	326	$ 58,698	$ 88,000
LA VERIDA DR.	Z36132	Z37120	8	331	VCP	5100	1					10	4131	Replace Line	LF	180	331	$ 59,580	$ 89,400
LA VERIDA DR.	Z36140	Z36126	8	276	VCP	5143	1	3				3	3300	Replace Line	LF	180	276	$ 49,662	$ 74,500
LA VERIDA DR.	Z37120	Z37110	8	320	VCP	413B		1	15			0	0000	Replace Line	LF	180	320	$ 57,636	$ 86,500
TATUM RD.	Z38101	Z39117	8	269	CP	5A3J	10		55			1	3100	Replace Line	LF	180	269	$ 48,402	$ 72,600
DEL NORTE DR.	Z38101	Z38103	8	140	CP	Optimized								Replace Line	LF	180	140	$ 25,200	$ 37,800
DEL NORTE DR.	Z38102	Z38103	8	299	VCP	5141	1	1				1	0000	Replace Line	LF	180	299	$ 53,766	$ 80,600
TATUM RD.	Z38103	Z38141	8	303	CP	5134	1		4			2	3121	Replace Line	LF	180	303	$ 54,468	$ 81,700
DEL NORTE DR.	Z38103	Z38111	8	150	CP	Optimized								Replace Line	LF	180	150	$ 27,000	$ 40,500
DEL NORTE DR.	Z38111	Z38102	8	299	VCP	5141	1	1				1	0000	Replace Line	LF	180	299	$ 53,874	$ 80,800
DEL REY DR.	Z38139	Z38140	8	304	VCP	3100			1			1	2100	Replace Line	LF	180	304	$ 54,774	$ 82,200
DEL REY DR.	Z38140	Z38102	8	300	CP	Optimized								Replace Line	LF	180	300	$ 54,085	$ 81,100
TATUM RD.	Z38141	Z38142	8	226	CP	5238	2		8			0	0000	Replace Line	LF	180	226	$ 40,626	$ 60,900
TATUM RD	Z38142	Z38165	8	339	CP	3224			2	4		25	2D00	Replace Line	LF	180	339	$ 61,020	$ 91,500
TATUM RD.	Z38164	Z38166	8	302	CP	5121	1				1	0	0000	Replace Line	LF	180	302	$ 54,414	$ 81,600
TATUM RD.	Z38165	Z38164	8	305	CP	5532	5		2			2	2200	Replace Line	LF	180	305	$ 54,864	$ 82,300
TATUM RD.	Z38166	Z38101	8	180	CP	543E	4		30			0	0000	Replace Line	LF	180	180	$ 32,400	$ 48,600
OTTAWA ST.	Z44117	Z44116	12	21	PVC	Optimized								Replace Line	LF	240	21	$ 4,999	$ 7,500
OTTAWA ST.	Z44118	Z44117	12	404	PVC	Optimized								Replace Line	LF	240	404	$ 96,853	$ 145,300
ARROWHEAD DR.	Z44124	Z44116	8	299	PVC	3121			1	1		7	2700	Replace Line	LF	180	299	$ 53,730	$ 80,600
Subtotal				**6,453**													**6,453**	**$ 1,193,000**	**$ 1,789,000**
Grand Total				**16,015**													**16,015**	**$ 1,760,000**	**$ 2,640,000**

Figure 5-1 Recommended Sewer Rehabilitation for Structural Defects



Legend

- Structural Rehabilitation CIP_Optimized
- Other City Sewer
- VICTORVILLE_CITY_BOUNDARY

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It is more economical to rehabilitate a sewer by installing a liner such as a cured-in-place pipe (CIPP) liner or a polyethylene or PVC slip-liner than to replace the sewer segment with a new sewer segment, as the lining can be installed via trenchless technology and costs from $55 to $90/linear foot (lf) for 8 to 12-inch pipe compared with $185 to $235/lf for the same diameter range including the costs to excavate, trench, replace pavement, and implement traffic control.

A sewer segment (with an average length of 300 lf) could have one or two Category 5 defects or severe Category 4 defects with the remaining sewer segment having only insignificant defects. Considering the age of the sewer, in some cases, it might be cost effective to implement excavated spot repairs (where only the small length of defective sewer is replaced). However, spot repairs are relatively expensive at approximately $7,000 to $8,000 each, and it is usually only cost effective to implement one, and in some cases, two spot repairs on a segment rather than to line the sewer if the point defects can be lined. If the pipe is not collapsed or severely deformed, and a liner can still be implemented with structural integrity and without impeding on the pipe flow area, it is usually better to just line the entire segment, especially if the segment has other defects and is aged.

If a pipe has significant number of Category 3, 4 and 5 defects, and is of significant age, it is better to replace the sewer even if the sewer can still be lined considering the remaining useful life of the sewer segment.

All of the Category 4 and 5 sewer defects were closely evaluated and it was determined that all of these lines should be replaced. Additionally, line segments with Category 1, 2, and 3 were also evaluated both from a structural and from an O&M defects perspective. If these lines were determined to have a combination (structural and O&M) that made them a candidate for replacement, they were identified as such. However, if the combination of structural and O&M defects were not as severe, they were recommended for relining. Finally, if a line segment was deemed as being in good condition, it was not recommended for any rehabilitation.

Once these initial recommendations were finalized and the results were plotted on the collection system map, we then analyzed the recommendations for additional optimization. Optimization includes recommending a segment that is in-between two segments that are targeted for rehabilitation, for the same type of rehabilitation. This is done for two reasons; first this will lower the overall cost of construction by reducing the contractor's mobilization efforts by providing them with several continuous segments versus several small and isolated segments. Second, not replacing a pipe that is in between two targeted segments, however defect free, does not save any money in the long run. The optimized pipe is usually as old as its surrounding pipes and eventually needs to be replaced, so it is better to replace it with its adjoining pipes at the same time.

A total of 6,453 lf (1.2 miles) of sewer segments had significant defects that warrant replacement of the sewer. Relining is recommended for the remaining 9,562 lf (1.8 miles) of videotaped sewer segments warranting rehabilitation. The total capital cost for both replacement and relining options is estimated at **$2,640,000.**

5.3 Sewer System Operation and Maintenance Defects

O&M defects include roots and fats oil and grease deposits (FOG). Roots occur at pipe joints and at lateral connections. As part of the sewer CCTV conducted for the project, sewers were

cleaned in front of the sewer videotaping. However, sewers with different magnitudes of root growth and FOG were still evident. Sewers with high, moderate, or light root growth or FOG are shown in the CCTV reports. “High” is primarily Category 4 and 5 defects; “Moderate” is primarily Category 3 defects or a high number of Category 2 defects; and “Light” is primarily Category 2 defect

CHAPTER 6 CAPITAL IMPROVEMENT PROGRAM

6.1 Projects Overview

A Capital Improvement Program (CIP) is a planning tool which normally includes a description of the proposed improvement projects, an estimate of project costs and a year-by-year schedule of expected project funding. Figure 6-1 shows an overview of the final recommended capital improvement project locations to mitigate both hydraulic and structural deficiencies of the City sewers under the existing conditions.

The calibrated hydraulic model was used to determine optimized sizing of the proposed improvements and to proactively address the identified potential capacity problems. The proposed line segments were sized according to the capacity criteria presented in Chapter 3 to convey peak dry weather flows while providing reserve capacity for potential inflow and infiltration during wet weather flow conditions.

A total of three capacity improvement projects comprised of 44 sewer segments consisting of 11,320 linear feet (2.1 miles) of replacement sewers are recommended for upsizing the existing sewers along the same alignments to alleviate the identified capacity deficiencies. Although these projects were triggered by the existing flow conditions, they were sized for the ultimate 2040 flow conditions. Note that some segments in a project may not have a capacity deficiency, possibly due to a steeper slope; however, it is not a good engineering practice to upsize a segment while leaving its downstream segment the same size. Therefore all sewer segments in a given project are recommended to be replaced with the same and a larger size.

Approximately 35,000 linear feet (6.6 miles) of City sewers were videotaped using closed circuit television (CCTV), which is approximately 1.6% of the total length of the City's collection system (412 miles). Among the sewers that were condition surveyed by CCTV, a total of 6,453 lf (1.2 miles) of sewer segments had significant defects that warrant replacement of the sewers. Lining rehabilitation is recommended for the remaining 9,562 lf (1.8 miles) of videotaped sewer segments.

Figure 6-2 and Table 6-1 show the segments with a model-predicted peak d/D exceeding 0.5 but below the threshold value of 0.75 under existing peak dry weather flow conditions. Although no capital improvement projects are recommended to address this range of d/D, it is recommended that the City would field verify the actual flow depths at these locations and consider proactive mitigation measures, especially if any sign of surcharge or higher d/D is observed in the field or if there is any future development that is directly tributary to these segments.

Figure 6-3 and 6-4 shows the recommended capacity improvement project locations for the two probable 2040 flow scenarios:

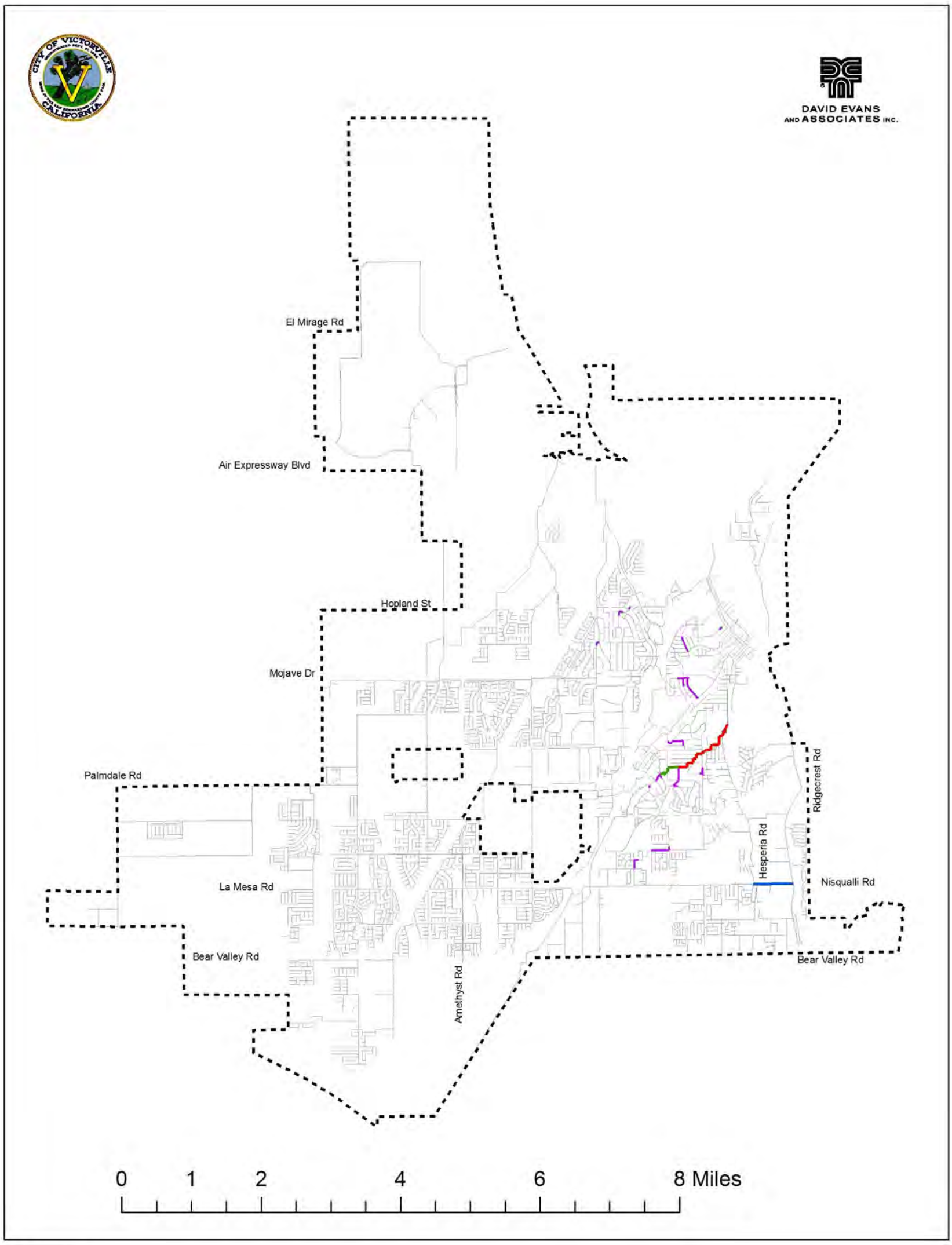
Scenario 1: Including flows from planned septic to sewer conversion
In this scenario, it was assumed that the collection system would receive and convey additional wastewater flows from the identified candidate septic system parcels by 2040.

Scenario 2: Not including flows from planned septic to sewer conversion
In this scenario, it was assumed that no future septic to sewer conversion projects and corresponding wastewater flows would contribute to the collection system by 2040.

In the analysis, per discussions with the City, it was assumed that City's IWWTP will continue to serve the same service area in 2040. Because of this reason, the current 27-inch interceptor sewer would require upsizing or alternatively paralleled with another relief sewer (Project C34) to provide additional needed capacity. Another potential solution would be diverting the overflow back to VVWRA conveyance and treatment systems.

It is recommended that the City take advantage of concurrent construction opportunities such as street paving projects or adjacent infrastructure work to implement the proposed pipeline projects.

Figure 6-1 Recommended Capital Improvement Project Locations (Existing Conditions)



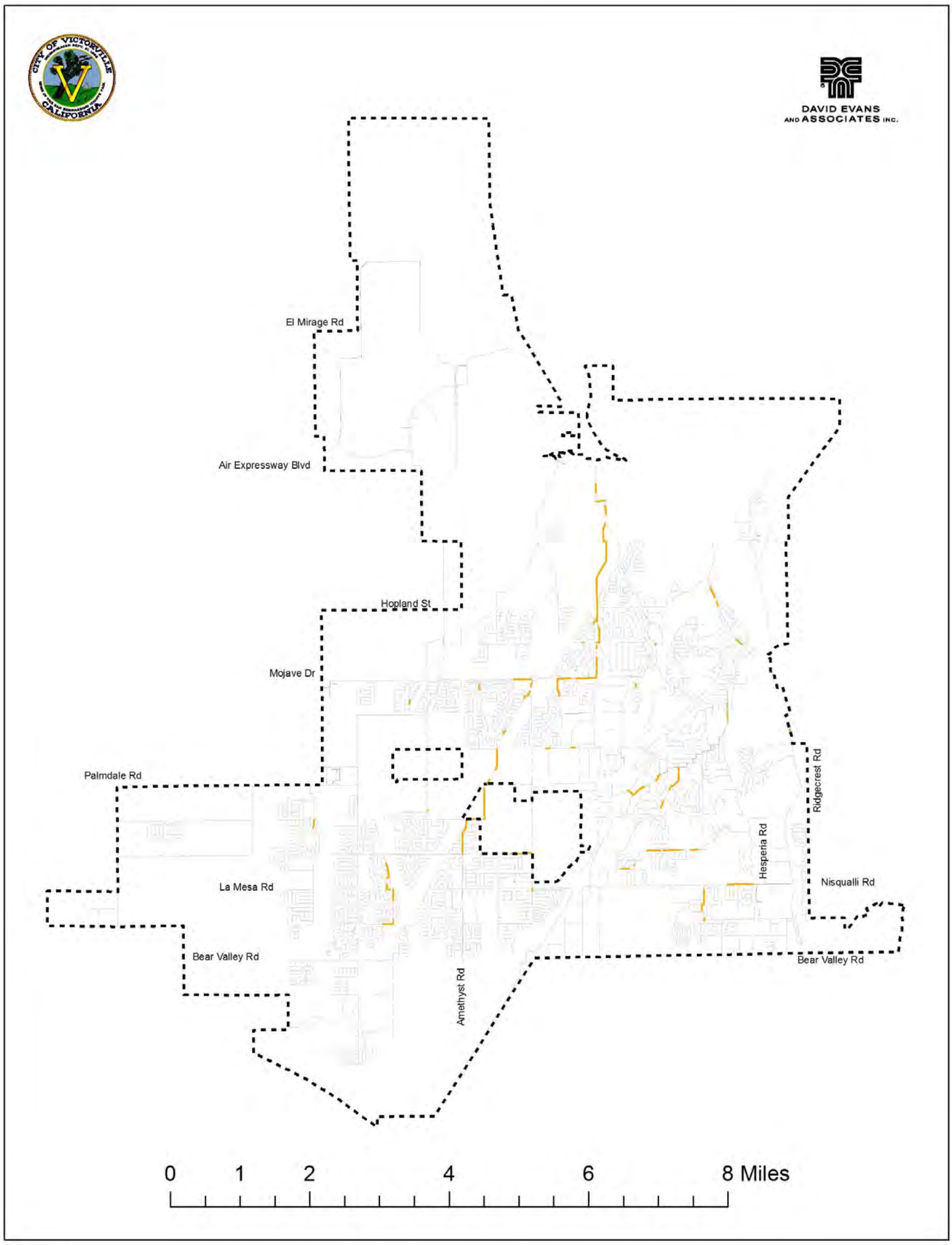
Legend

Recommended Capacity Improvement CIP (Existing Condition)

- C1
- C2
- C3
- Structural Rehabilitation CIP_Optimized
- Other City Sewer
- VICTORVILLE_CITY_BOUNDARY

N W E S

Figure 6-2 High d/D Sewer Segments to Monitor



Legend

Max d/D (Existing)

Between 0.5 and 0.75

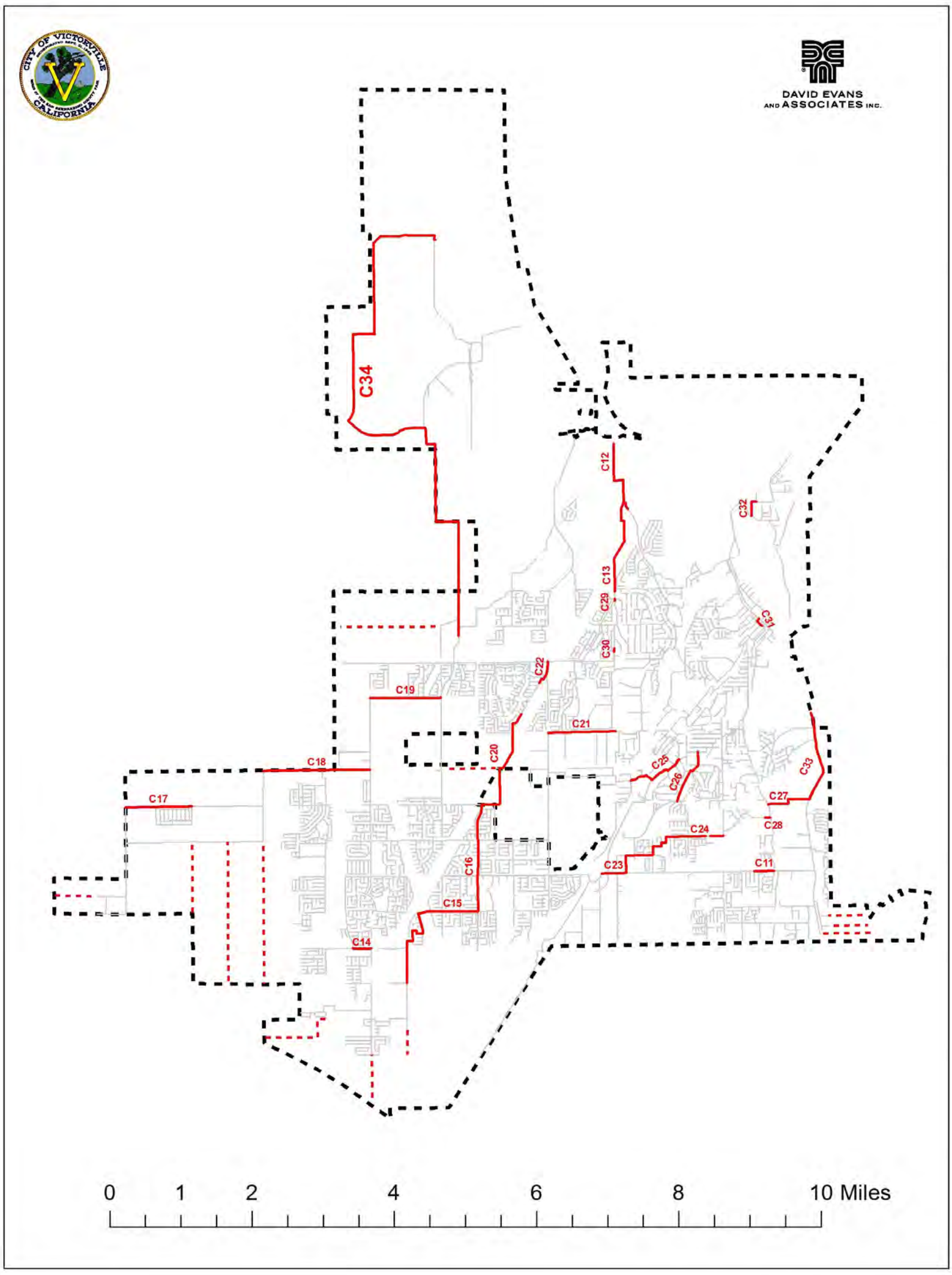
Other City Sewer

VICTORVILLE_CITY_BOUNDARY

Table 6-1 List of High d/D Sewer Segment IDs

No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Max dD	No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Max dD
1	SWRGM-000334	SWRMH-007707	SWRMH-007706	U38172	U38173	0.57	94	SWRGM-008076	SWRMH-003032	SWRMH-003031	X31102	X31103	0.53
2	SWRGM-000530	SWRMH-007976	SWRMH-007195	R47102	S47158	0.55	95	SWRGM-008077	SWRMH-003031	SWRMH-003030	X31103	X31104	0.53
3	SWRGM-000808	SWRMH-007790	SWRMH-007788	S46143	S46145	0.63	96	SWRGM-008106	SWRMH-003014	SWRMH-003026	X32113	X32101	0.62
4	SWRGM-000830	SWRMH-004086	SWRMH-005774	AA39136	AA39115	0.71	97	SWRGM-008108	SWRMH-003025	SWRMH-003024	X32102	X32103	0.63
5	SWRGM-000860	SWRMH-007788	SWRMH-007791	S46145	S46142	0.66	98	SWRGM-008124	SWRMH-003417	SWRMH-003416	V39138	V39139	0.53
6	SWRGM-001003	SWRMH-006403	SWRMH-006399	V44101	V44105	0.66	99	SWRGM-008133	SWRMH-003473	SWRMH-000698	V38135	V38306	0.51
7	SWRGM-001098	SWRMH-004617	SWRMH-004616	Y42127	Y42128	0.65	100	SWRGM-008272	SWRMH-003024	SWRMH-003023	X32103	X32104	0.61
8	SWRGM-001122	SWRMH-006400	SWRMH-006403	V44104	V44101	0.54	101	SWRGM-008357	SWRMH-003008	SWRMH-003007	X33103	X33104	0.53
9	SWRGM-001211	SWRMH-007708	SWRMH-007707	U38171	U38172	0.63	102	SWRGM-008371	SWRMH-004190	SWRMH-004191	V38116	V38115	0.52
10	SWRGM-001219	SWRMH-007338	SWRMH-001818	S45159	R45126	0.60	103	SWRGM-008372	SWRMH-004187	SWRMH-004190	V38119	V38116	0.53
11	SWRGM-001799	SWRMH-007195	SWRMH-007781	S47158	S47160	0.56	104	SWRGM-008373	SWRMH-003461	SWRMH-004199	V38147	V38106	0.57
12	SWRGM-001800	SWRMH-007781	SWRMH-007196	S47160	S47157	0.50	105	SWRGM-008374	SWRMH-003472	SWRMH-003461	V38136	V38147	0.52
13	SWRGM-001970	SWRMH-007336	SWRMH-007696	S45161	S45103	0.70	106	SWRGM-008375	SWRMH-003471	SWRMH-003470	V38137	V38138	0.53
14	SWRGM-001971	SWRMH-007696	SWRMH-007697	S45103	S45102	0.64	107	SWRGM-008377	SWRMH-003470	SWRMH-003472	V38138	V38136	0.53
15	SWRGM-001972	SWRMH-007697	SWRMH-007338	S45102	S45159	0.60	108	SWRGM-008396	SWRMH-004192	SWRMH-004193	V38114	V38113	0.52
16	SWRGM-001973	SWRMH-007694	SWRMH-007336	S45105	S45161	0.61	109	SWRGM-008397	SWRMH-004191	SWRMH-004192	V38115	V38114	0.52
17	SWRGM-002218	SWRMH-006016	SWRMH-004020	W38103	W38169	0.56	110	SWRGM-008409	SWRMH-000655	SWRMH-000656	T44127	T44126	0.71
18	SWRGM-002393	SWRMH-004278	SWRMH-005520	W38153	W38113	0.65	111	SWRGM-008410	SWRMH-000660	SWRMH-000655	T44122	T44127	0.57
19	SWRGM-002934	SWRMH-004618	SWRMH-006944	Y42126	Y42107	0.59	112	SWRGM-008411	SWRMH-000656	SWRMH-000657	T44126	T44125	0.71
20	SWRGM-003018	SWRMH-006402	SWRMH-006401	V44102	V44103	0.51	113	SWRGM-008414	SWRMH-000405	SWRMH-000660	T44121	T44122	0.61
21	SWRGM-003153	SWRMH-004949	SWRMH-004948	X36144	X36145	0.61	114	SWRGM-008482	SWRMH-003026	SWRMH-003025	X32101	X32102	0.60
22	SWRGM-003154	SWRMH-004798	SWRMH-004799	X36160	X36159	0.52	115	SWRGM-008500	SWRMH-002984	SWRMH-002985	X34108	X34107	0.62
23	SWRGM-003166	SWRMH-001204	SWRMH-001027	Z47114	Z46127	0.54	116	SWRGM-008501	SWRMH-002983	SWRMH-002984	X34109	X34108	0.61
24	SWRGM-003597	SWRMH-001027	SWRMH-001030	Z46127	Z46124	0.55	117	SWRGM-008599	SWRMH-003029	SWRMH-003033	X31105	X31101	0.53
25	SWRGM-003637	SWRMH-003282	SWRMH-003281	V46125	V46126	0.63	118	SWRGM-008610	SWRMH-000657	SWRMH-000658	T44125	T44124	0.70
26	SWRGM-003646	SWRMH-001154	SWRMH-009237	SP619MH4	SP619MH2	0.51	119	SWRGM-008611	SWRMH-000659	SWRMH-008375	T44123	T44129	0.70
27	SWRGM-003665	SWRMH-006944	SWRMH-006943	Y42107	Y42108	0.60	120	SWRGM-008612	SWRMH-000658	SWRMH-000659	T44124	T44123	0.71
28	SWRGM-003668	SWRMH-004616	SWRMH-006945	Y42128	Y42106	0.56	121	SWRGM-008640	SWRMH-005777	SWRMH-005776	AA39112	AA39113	0.59
29	SWRGM-003727	SWRMH-004522	SWRMH-004521	X37143	X37144	0.67	122	SWRGM-008641	SWRMH-005778	SWRMH-005777	AA39111	AA39112	0.51
30	SWRGM-003963	SWRMH-006570	SWRMH-007976	R47205	R47102	0.55	123	SWRGM-008725	SWRMH-003001	SWRMH-003011	X33110	X33101	0.70
31	SWRGM-004064	SWRMH-006399	SWRMH-006398	V44105	V44106	0.58	124	SWRGM-008726	SWRMH-003007	SWRMH-003014	X33104	X32113	0.61
32	SWRGM-004208	SWRMH-004801	SWRMH-004951	X36157	X36142	0.55	125	SWRGM-008729	SWRMH-005718	SWRMH-005716	U43106	U43108	0.62
33	SWRGM-004209	SWRMH-004799	SWRMH-004801	X36159	X36157	0.51	126	SWRGM-008740	SWRMH-003003	SWRMH-003002	X33108	X33109	0.70
34	SWRGM-004397	SWRMH-001236	SWRMH-001234	AA46161	AA46163	0.58	127	SWRGM-008741	SWRMH-003011	SWRMH-003003	X33101	X33108	0.70
35	SWRGM-004399	SWRMH-001235	SWRMH-001233	AA46162	AA46164	0.58	128	SWRGM-008754	SWRMH-005716	SWRMH-005717	U43108	U43107	0.62
36	SWRGM-004400	SWRMH-001234	SWRMH-001235	AA46163	AA46162	0.58	129	SWRGM-008761	SWRMH-005189	SWRMH-005190	AC40109	AC40108	0.60
37	SWRGM-004691	SWRMH-006398	SWRMH-006397	V44106	V44107	0.58	130	SWRGM-008776	SWRMH-008375	SWRMH-006186	T44129	U43105	0.71
38	SWRGM-004764	SWRMH-004019	SWRMH-004018	W38170	W38171	0.57	131	SWRGM-008777	SWRMH-006186	SWRMH-004077	U43105	U43120	0.57
39	SWRGM-004765	SWRMH-004018	SWRMH-004017	W38171	W38172	0.57	132	SWRGM-008831	SWRMH-005714	SWRMH-006189	U43110	U43102	0.55
40	SWRGM-004789	SWRMH-005521	SWRMH-004279	W38112	W38152	0.58	133	SWRGM-008852	SWRMH-006298	SWRMH-006297	Y45144	Y45145	0.52
41	SWRGM-004790	SWRMH-004279	SWRMH-004278	W38152	W38153	0.61	134	SWRGM-008887	SWRMH-004975	SWRMH-004974	Z42155	Z42156	0.50
42	SWRGM-004844	SWRMH-004124	SWRMH-004522	X38143	X37143	0.66	135	SWRGM-008910	SWRMH-008378	SWRMH-005157	Z41102	Z41141	0.57
43	SWRGM-004845	SWRMH-006045	SWRMH-004124	X38103	X38143	0.68	136	SWRGM-008941	SWRMH-006267	SWRMH-006115	AA36125	AA36155	0.60
44	SWRGM-004846	SWRMH-004125	SWRMH-004126	X38142	X38141	0.67	137	SWRGM-008957	SWRMH-005979	SWRMH-006267	AA36161	AA36125	0.65
45	SWRGM-004847	SWRMH-004126	SWRMH-006045	X38141	X38103	0.66	138	SWRGM-008970	SWRMH-008490	SWRMH-008534	AA35101	AA34104	0.51
46	SWRGM-004872	SWRMH-003990	SWRMH-004397	Y42147	Y41137	0.57	139	SWRGM-008976	SWRMH-005769	SWRMH-005770	U42102	U42101	0.50
47	SWRGM-004897	SWRMH-004020	SWRMH-004019	W38169	W38170	0.56	140	SWRGM-008977	SWRMH-005720	SWRMH-005769	U42103	U42102	0.63
48	SWRGM-004941	SWRMH-006176	SWRMH-003952	X37104	X37155	0.50	141	SWRGM-008980	SWRMH-006680	SWRMH-006298	X45129	Y45144	0.53
49	SWRGM-005149	SWRMH-006943	SWRMH-006934	Y42108	Y42104	0.60	142	SWRGM-008997	SWRMH-004349	SWRMH-006322	Y44129	Y44102	0.52
50	SWRGM-005257	SWRMH-004145	SWRMH-004125	W38159	X38142	0.66	143	SWRGM-009015	SWRMH-006326	SWRMH-006327	U41105	U41104	0.51
51	SWRGM-005387	SWRMH-001172	SWRMH-001236	AA46166	AA46161	0.58	144	SWRGM-009016	SWRMH-006327	SWRMH-006328	U41104	U41103	0.58
52	SWRGM-005519	SWRMH-003957	SWRMH-003955	X37150	X37152	0.63	145	SWRGM-009017	SWRMH-006328	SWRMH-006330	U41103	U41101	0.59
53	SWRGM-005581	SWRMH-003966	SWRMH-004145	W38174	W38159	0.64	146	SWRGM-009018	SWRMH-006330	SWRMH-006329	U41101	U41102	0.58
54	SWRGM-005583	SWRMH-005520	SWRMH-005519	W38113	W38114	0.60	147	SWRGM-009019	SWRMH-006329	SWRMH-009078	SDMH006329	SP656MH7	0.60
55	SWRGM-006154	SWRMH-005518	SWRMH-003966	W38115	W38174	0.65	148	SWRGM-009029	SWRMH-004393	SWRMH-004346	Y44127	Y44132	0.53
56	SWRGM-006155	SWRMH-003967	SWRMH-005518	W38173	W38115	0.72	149	SWRGM-009039	SWRMH-004227	SWRMH-005331	Y43150	Y42111	0.54
57	SWRGM-006293	SWRMH-006015	SWRMH-006016	W38104	W38103	0.56	150	SWRGM-009053	SWRMH-006187	SWRMH-005719	U43104	U42104	0.63
58	SWRGM-006329	SWRMH-005522	SWRMH-005521	W38111	W38112	0.57	151	SWRGM-009054	SWRMH-006188	SWRMH-006187	U43103	U43104	0.64
59	SWRGM-006330	SWRMH-004277	SWRMH-005522	W38154	W38111	0.57	152	SWRGM-009055	SWRMH-006189	SWRMH-006188	U43102	U43103	0.61
60	SWRGM-006514	SWRMH-004951	SWRMH-004950	X36142	X36143	0.52	153	SWRGM-009118	SWRMH-004847	SWRMH-008459	Z42161	Z41101	0.58
61	SWRGM-006773	SWRMH-004017	SWRMH-004144	W38172	W38160	0.57	154	SWRGM-009119	SWRMH-008459	SWRMH-008378	Z41101	Z41102	0.57
62	SWRGM-006774	SWRMH-004144	SWRMH-004277	W38160	W38154	0.54	155	SWRGM-009123	SWRMH-005719	SWRMH-005720	U42104	U42103	0.61
63	SWRGM-006780	SWRMH-004948	SWRMH-004947	X36145	X36146	0.51	156	SWRGM-009151	SWRMH-004077	SWRMH-004076	U43120	U43121	0.57
64	SWRGM-007044	SWRMH-006401	SWRMH-006400	V44103	V44104	0.56	157	SWRGM-009152	SWRMH-005458	SWRMH-005456	U42106	U42108	0.53
65	SWRGM-007100	SWRMH-004688	SWRMH-004798	X36161	X36160	0.63	158	SWRGM-009153	SWRMH-005456	SWRMH-005457	U42108	U42107	0.54
66	SWRGM-007161	SWRMH-001030	SWRMH-001172	Z46124	AA46166	0.53	159	SWRGM-009212	SWRMH-001278	SWRMH-001247	AA46119	AA46150	0.57
67	SWRGM-007257	SWRMH-003952	SWRMH-003954	X37155	X37153	0.63	160	SWRGM-009213	SWRMH-001239	SWRMH-001277	AA46158	AA46120	0.61
68	SWRGM-007563	SWRMH-000317	SWRMH-000316	X31108	X30114	0.54	161	SWRGM-009214	SWRMH-001247	SWRMH-001239	AA46150	AA46158	0.57
69	SWRGM-007604	SWRMH-008968	SWRMH-006164	SP569MH05	SDMH006164	0.57	162	SWRGM-009215	SWRMH-001281	SWRMH-001278	AA46116	AA46119	0.55
70	SWRGM-007605	SWRMH-006165	SWRMH-008968	SDMH006165	SP569MH05	0.61	163	SWRGM-009216	SWRNJ-000756	SWRMH-001281	AA46107	AA46116	0.54
71	SWRGM-007638	SWRMH-002178	SWRMH-007330	R46141	S46107	0.58	164	SWRGM-009234	SWRMH-008485	SWRMH-008490	AA35106	AA35101	0.53
72	SWRGM-007639	SWRMH-007330	SWRMH-001774	S46107	R46186	0.58	165	SWRGM-009236	SWRMH-007701	SWRMH-008484	AA35131	AA35107	0.53
73	SWRGM-007667	SWRMH-002899	SWRMH-002896	X35156	X35159	0.52	166	SWRGM-009239	SWRMH-006322	SWRMH-004393	Y44102	Y44127	0.53
74	SWRGM-007670	SWRMH-002921	SWRMH-002893	X35134	X35162	0.70	167	SWRGM-009244	SWRMH-005728	SWRMH-002478	Z44105	Z44127	0.54
75	SWRGM-007671	SWRMH-002894	SWRMH-002895	X35161	X35160	0.68	168	SWRGM-009307	SWRMH-001085	SWRMH-009038	SDMH001085	SP576MH03	0.67
76	SWRGM-007672	SWRMH-002895	SWRMH-002921	X35160	X35134	0.68	169	SWRGM-009308	SWRMH-001084	SWRMH-001085	AB46132	AB46131	0.68
77	SWRGM-007673	SWRMH-002893	SWRMH-002892	X35162	X35163	0.54	170	SWRGM-009322	SWRMH-003946	SWRMH-003949	W40152	W40149	0.54
78	SWRGM-007674	SWRMH-002896	SWRMH-002894	X35159	X35161	0.70	171	SWRGM-009323	SWRMH-006166	SWRMH-003946	W40101	W40152	0.54
79	SWRGM-007676	SWRMH-002902	SWRMH-002908	X35153	X35147	0.50	172	SWRGM-009339	SWRMH-003021	SWRMH-003029	X32106	X31105	0.53
80	SWRGM-007681	SWRMH-002892	SWRMH-002983	X35163	X34109	0.54	173	SWRGM-009355	SWRMH-004974	SWRMH-004847	Z42156	Z42161	0.52
81	SWRGM-007682	SWRMH-002987	SWRMH-002988	X34105	X34104	0.66	174	SWRGM-009373	SWRMH-004076	SWRMH-005718	U43121	U43106	0.56
82	SWRGM-007683	SWRMH-002986	SWRMH-002987	X34106	X34105	0.66	175	SWRGM-009374	SWRMH-004610	SWRMH-004609	Z44112	Z44113	0.51
83	SWRGM-007684	SWRMH-002985	SWRMH-002986	X34107	X34106	0.66	176	SWRGM-009376	SWRMH-004608	SWRMH-004610	Z44114	Z44112	0.53
84	SWRGM-007809	SWRMH-003416	SWRMH-003471	V39139	V38137	0.52	177	SWRGM-009377	SWRMH-004568	SWRMH-004569	Z44118	Z44117	0.56
85	SWRGM-007815	SWRMH-003002	SWRMH-003008	X33109	X33103	0.69	178	SWRGM-009378	SWRMH-004569	SWRMH-004570	Z44117	Z44116	0.55
86	SWRGM-007817	SWRMH-002988	SWRMH-003001	X34104	X33110	0.65	179	SWRGM-009379	SWRMH-004570	SWRMH-005727	Z44116	Z44106	0.58
87	SWRGM-007855	SWRMH-006300	SWRMH-006302	Y45142	Y45140	0.59	180	SWRGM-009380	SWRMH-005727	SWRMH-005728	Z44106	Z44105	0.51
88	SWRGM-007870	SWRMH-001502	SWRMH-001501	U40184	U40185	0.65	181	SWRGM-009405	SWRMH-002485	SWRMH-002560	W36113	W36106	0.53
89	SWRGM-007963	SWRMH-008560	SWRMH-005537	Y38104	Y38123	0.72	182	SWRGM-009406	SWRMH-002560	SWRMH-001121	W36106	W36126	0.51
90	SWRGM-007964	SWRMH-004682	SWRMH-006644	X36167	X36103	0.51	183	SWRGM-009408	SWRMH-005715	SWRMH-005714	U43109	U43110	0.57
91	SWRGM-007979	SWRMH-007073	SWRMH-007072	T43129	T43130	0.51	184	SWRGM-009409	SWRMH-001277	SWRMH-001084	AA46120	AB46132	0.69
92	SWRGM-007995	SWRMH-004976	SWRMH-004975	Z42154	Z42155	0.51	185	SWRGM-009429	SWRMH-005775	SWRMH-004086	AA39114	AA39136	0.73
93	SWRGM-008038	SWRMH-007329	SWRMH-000609	S46108	S46149	0.51	186	SWRGM-009459	SWRMH-009243	SWRMH-009244	SP634MH3	SP634MH04	0.62
							187	SWRGM-009968	SWRMH-008683	SWRMH-000406	SP730MH102	SDMH000406	0.56

Figure 6-3 Recommended Capacity Improvement Project Locations (2040 Conditions - Scenario 1)

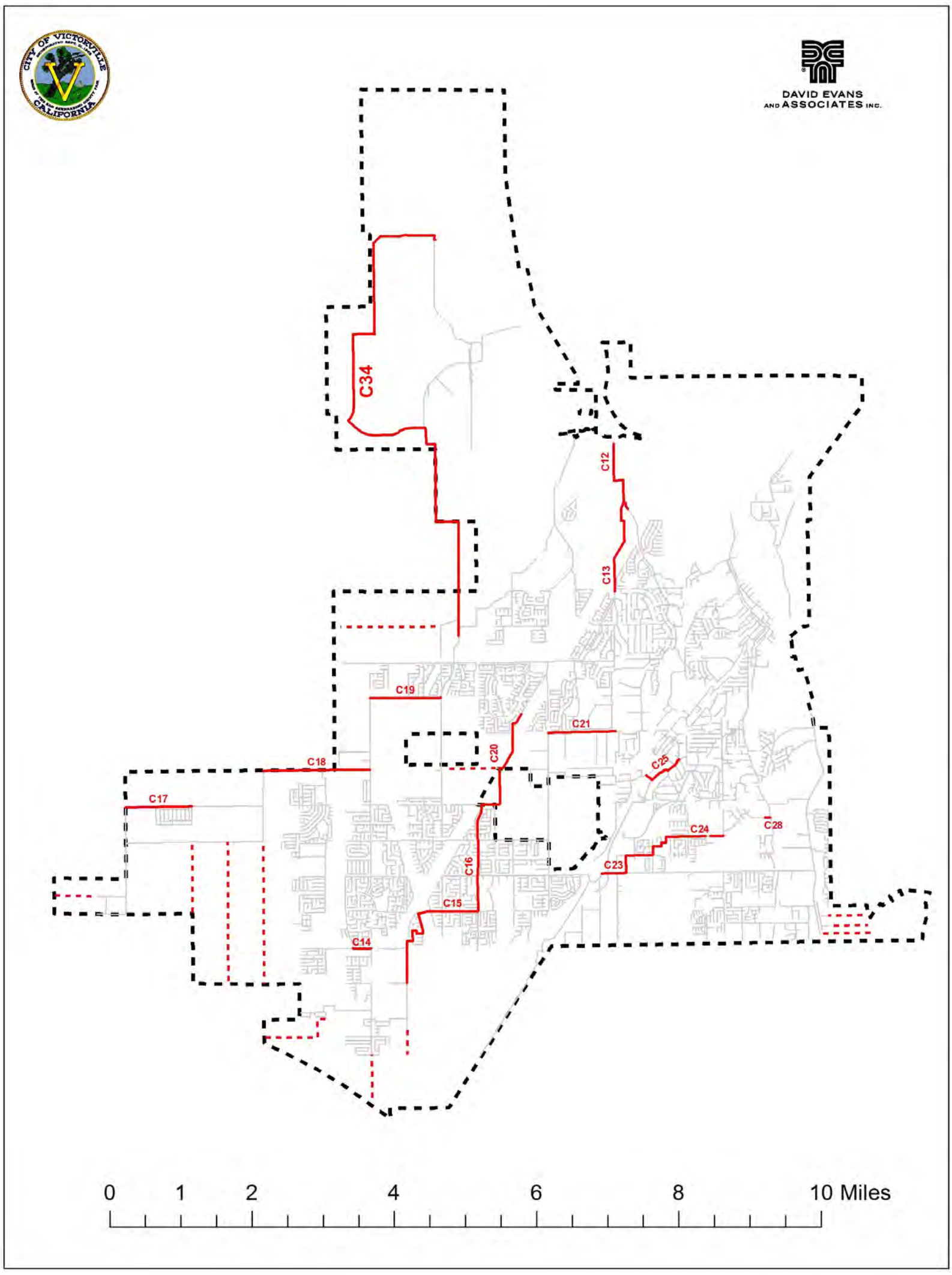


Legend

- Recommended Capacity Improvement CIP (2040)
- Projected Extension Sewer
- Other City Sewer
- VICTORVILLE_CITY_BOUNDARY

N
W E
S

Figure 6-4 Recommended Capacity Improvement Project Locations (2040 Conditions - Scenario 2)



Legend

- Recommended Capacity Improvement CIP (2040)
- Projected Extension Sewer
- Other City Sewer
- VICTORVILLE_CITY_BOUNDARY

N
W E
S

6.2 Capital Cost Estimates

For the purpose of this project, it was assumed that all the hydraulically deficient sewers would be replaced with larger sizes of VCP sewers along the same alignment, except for Project C34, where the feasibility of a parallel pipe option has been evaluated and confirmed by the City. The costs for open-cut sewer replacement are generally more conservative than adding new parallel sewers and thus would give the City more flexibility financially for implementing each project. The feasibility of installing parallel sewers in lieu of replacing and upsizing existing sewers should be evaluated in design phase considering potential conflict with other existing underground utilities and separation distance requirements.

The final material for replacement sewers should be evaluated during design. However, the construction cost of VCP sewers is generally conservative and suitable for budgetary purpose, especially comparing with PVC which is another popular material specified by agencies for gravity sewers application.

Table 6-2 presents the construction unit cost that was used in the cost estimates. Note the presented construction unit cost in Table 6-2 already includes the cost for traffic control, pavement replacement, mobilization, demobilization, flow bypassing, and lateral reconnection and were developed based on the consultant's recent construction experience in southern California projects. The presented cost is all based on today's dollars (2016).

Table 6-2 Estimated Construction Unit Cost

Item	Estimated Construction Unit Cost
8-inch Sewer Open Cut Replacement	$180/LF
10-inch Sewer Open Cut Replacement	$210/LF
12-inch Sewer Open Cut Replacement	$240/LF
15-inch Sewer Open Cut Replacement	$270/LF
18-inch Sewer Open Cut Replacement	$300/LF
21-inch Sewer Open Cut Replacement	$340/LF
24-inch Sewer Open Cut Replacement	$370/LF
27-inch Sewer Open Cut Replacement	$400/LF
30-inch Sewer Open Cut Replacement	$430/LF
33-inch Sewer Open Cut Replacement	$460/LF

Item	Estimated Construction Unit Cost
36-inch Sewer Open Cut Replacement	$490/LF
Existing Manhole Rechanneling and Rehabilitation[1]	$5,000/EA
New 48" Precast Manhole	$8,000/EA
8-inch Sewer CIPP Relining	$55/LF
12-inch Sewer CIPP Relining	$68/LF

Notes:

1. It was assumed existing manholes will be rehabilitated and rechanneled in place of constructing new manholes to accommodate the open-cut replacement sewers.

Table 6-3 shows the capital cost factor breakdown utilized in the planning-level cost estimates. As a result, the capital cost was calculated as 150% of the total construction cost for each project.

Table 6-3 Capital Cost Factors

Cost Item	Cost Factor (% of Construction Cost)
Construction Contingency	30%
Design	10%
Administration & Construction Management	10%
Total	**50%**

Tables 6-4 and 6-5 show the cost estimates for the recommended hydraulic capacity improvement projects and the structural improvement projects respectively to address the identified existing conditions deficiencies. The planning-level total capital cost to improve capacity and structural deficiencies under existing conditions is estimated at **$7,850,000**, of which $5,210,000 is used for upsizing existing sewers to address capacity deficiencies and $2,640,000 is allocated for rehabilitating or repairing the structurally deficient sewers.

Tables 6-6 and 6-7 show the cost estimates for the recommended hydraulic capacity improvement projects in the two probable 2040 flow scenarios respectively.

In Scenario 1, including the flows from the planned septic to sewer conversion projects, the total capital cost of the hydraulic capacity improvement projects to accommodate future 2040 flow conditions is estimated at **$99,431,000**, of which $22,519,000 is to construct new extension sewers to provide sewer service to the existing vacant parcels that are projected to be developed before 2040 and $76,912,000 is for upsizing existing sewers to convey the projected 2040 flows in this scenario.

In Scenario 2, excluding the flows from the planned septic to sewer conversion projects, the total capital cost of the hydraulic capacity improvement projects to accommodate future 2040 flow conditions is estimated at **$88,957,000**, of which $22,519,000 is to construct new extension sewers to provide sewer service to the existing vacant parcels that are projected to be developed before 2040 and $66,438,000 is for upsizing existing sewers to convey the projected 2040 flows in this scenario.

Table 6-4 Capital Cost Estimates for Capacity Improvement Projects (Existing Conditions)

Project No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Existing Pipe Size (inch)	Proposed Pipe Size (inch)	Pipe Length (ft)	Slope	Existing Maximum d/D	Proposed Maximum d/D	Pipe Unit Cost ($/LF)	Pipe Replacement Construction Cost ($)	Number of Manholes	Manhole Unit Cost ($/EA)	Manhole Cost ($)	Total Construction Cost ($)	Total Capital Cost ($)
C1	SWRGM-008732	SWRMH-001189	SWRMH-001190	AC46125	AC46124	10	15	295	0.023	0.50	0.28	270	79,650	1	5,000	5,000	84,650	126,975
	SWRGM-008737	SWRMH-001099	SWRMH-001092	AB46117	AB46124	10	15	206	0.01	0.66	0.34	270	55,640	1	5,000	5,000	60,640	90,960
	SWRGM-008869	SWRMH-001093	SWRMH-001099	AB46123	AB46117	10	15	99	0.01	0.65	0.35	270	26,710	1	5,000	5,000	31,710	47,565
	SWRGM-009011	SWRMH-001190	SWRMH-001187	AC46124	AC46127	10	15	300	0.05	0.40	0.23	270	81,000	1	5,000	5,000	86,000	129,000
	SWRGM-009296	SWRMH-001087	SWRMH-001095	AB46129	AB46121	10	15	98	0.004	0.81	0.40	270	26,350	1	5,000	5,000	31,350	47,026
	SWRGM-009304	SWRMH-001095	SWRMH-001096	AB46121	AB46120	10	15	305	0.016	0.56	0.31	270	82,301	1	5,000	5,000	87,301	130,951
	SWRGM-009305	SWRMH-001094	SWRMH-001093	AB46122	AB46123	10	15	307	0.016	0.56	0.31	270	82,890	1	5,000	5,000	87,890	131,835
	SWRGM-009306	SWRMH-001096	SWRMH-001094	AB46120	AB46122	10	15	305	0.016	0.56	0.31	270	82,264	1	5,000	5,000	87,264	130,896
	SWRGM-009410	SWRMH-009038	SWRMH-001087	SP576MH03	SDMH001087	10	15	224	0.004	0.76	0.39	270	60,369	1	5,000	5,000	65,369	98,054
	SWRGM-009411	SWRMH-001091	SWRMH-001090	AB46125	AB46126	10	15	300	0.01	0.65	0.35	270	81,000	1	5,000	5,000	86,000	129,000
	SWRGM-009412	SWRMH-001092	SWRMH-001091	AB46124	AB46125	10	15	288	0.01	0.65	0.34	270	77,760	1	5,000	5,000	82,760	124,140
	SWRGM-009413	SWRMH-001090	SWRMH-001189	AB46126	AC46125	10	15	296	0.01	0.65	0.35	270	79,902	1	5,000	5,000	84,902	127,354
C2	SWRGM-003402	SWRMH-004670	SWRMH-005813	Z41148	Z41113	8	15	315	0.006	1.00	0.42	270	85,050	1	5,000	5,000	90,050	135,075
	SWRGM-004970	SWRMH-005813	SWRMH-005814	Z41113	Z41112	8	15	270	0.01	0.72	0.37	270	72,995	1	5,000	5,000	77,995	116,993
	SWRGM-004971	SWRMH-005814	SWRMH-005815	Z41112	Z41111	8	15	275	0.014	0.65	0.35	270	74,250	1	5,000	5,000	79,250	118,875
	SWRGM-005114	SWRMH-005815	SWRMH-005157	Z41111	Z41141	8	15	280	0.022	0.56	0.31	270	75,509	1	5,000	5,000	80,509	120,764
	SWRGM-006855	SWRMH-004397	SWRMH-004667	Y41137	Z41148	8	15	608	0.015	0.61	0.33	270	164,273	1	5,000	5,000	169,273	253,910
C3	SWRGM-008036	SWRMH-000568	SWRMH-001167	AA41166	AA40136	12	18	308	0.015	0.68	0.36	300	92,397	1	5,000	5,000	97,397	146,096
	SWRGM-008040	SWRMH-004015	SWRMH-000568	AA41160	AA41166	12	18	234	0.006	1.00	0.45	300	70,305	1	5,000	5,000	75,305	112,958
	SWRGM-008542	SWRMH-002619	SWRMH-002505	AA40101	AA40119	12	18	34	0.016	0.67	0.35	300	10,251	1	5,000	5,000	15,251	22,877
	SWRGM-008543	SWRMH-001167	SWRMH-002619	AA40136	AA40101	12	18	78	0.008	1.00	0.42	300	23,295	1	5,000	5,000	28,295	42,443
	SWRGM-008804	SWRMH-002606	SWRMH-002607	AA40108	AA40107	12	18	245	0.007	1.00	0.45	300	73,526	1	5,000	5,000	78,526	117,790
	SWRGM-008805	SWRMH-002505	SWRMH-002504	AA40119	AA40120	12	18	216	0.008	1.00	0.43	300	64,851	1	5,000	5,000	69,851	104,777
	SWRGM-008881	SWRMH-002609	SWRMH-002610	AA40105	AA40104	12	18	301	0.018	0.65	0.34	300	90,172	1	5,000	5,000	95,172	142,758
	SWRGM-008882	SWRMH-002608	SWRMH-002609	AA40106	AA40105	12	18	350	0.011	0.79	0.39	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008993	SWRMH-005160	SWRMH-004650	Z41138	AA41140	12	18	209	0.007	1.00	0.43	300	62,698	1	5,000	5,000	67,698	101,546
	SWRGM-008994	SWRMH-005106	SWRMH-000305	AA41101	AA41160	12	18	139	0.006	1.00	0.46	300	41,554	1	5,000	5,000	46,554	69,831
	SWRGM-008995	SWRMH-000305	SWRMH-004015	AA41101	AA41160	12	18	113	0.006	1.00	0.45	300	33,852	1	5,000	5,000	38,852	58,278
	SWRGM-008996	SWRMH-005157	SWRMH-005158	Z41141	Z41140	12	18	328	0.009	0.69	0.36	300	98,409	1	5,000	5,000	103,409	155,114
	SWRGM-009036	SWRMH-002611	SWRMH-002606	AA40103	AA40108	12	18	330	0.007	1.00	0.45	300	99,000	1	5,000	5,000	104,000	156,000
	SWRGM-009037	SWRMH-002504	SWRMH-002612	AA40120	AA40102	12	18	325	0.007	1.00	0.45	300	97,638	1	5,000	5,000	102,638	153,957
	SWRGM-009103	SWRMH-005159	SWRMH-005166	Z41139	Z41132	12	18	325	0.007	0.75	0.38	300	97,500	1	5,000	5,000	102,500	153,750
	SWRGM-009104	SWRMH-004650	SWRMH-005106	AA41140	AA41101	12	18	77	0.026	0.56	0.31	300	22,959	1	5,000	5,000	27,959	41,939
	SWRGM-009115	SWRMH-002607	SWRMH-002608	AA40107	AA40106	12	18	335	0.011	0.78	0.39	300	100,373	1	5,000	5,000	105,373	158,060
	SWRGM-009137	SWRMH-002612	SWRMH-002611	AA40102	AA40103	12	18	320	0.007	1.00	0.44	300	96,144	1	5,000	5,000	101,144	151,716
	SWRGM-009160	SWRMH-005158	SWRMH-005159	Z41140	Z41139	12	18	332	0.014	0.58	0.32	300	99,711	1	5,000	5,000	104,711	157,067
	SWRGM-009237	SWRMH-005818	SWRMH-004636	Z41108	Z41153	12	18	237	0.007	0.75	0.38	300	70,994	1	5,000	5,000	75,994	113,990
	SWRGM-009364	SWRMH-005816	SWRMH-005817	Z41110	Z41109	12	18	232	0.016	0.56	0.31	300	69,631	1	5,000	5,000	74,631	111,947
	SWRGM-009365	SWRMH-005166	SWRMH-005816	Z41132	Z41110	12	18	224	0.007	0.77	0.39	300	67,053	1	5,000	5,000	72,053	108,080
	SWRGM-009366	SWRMH-004636	SWRMH-004717	Z41153	Z41146	12	18	341	0.005	1.00	0.43	300	102,278	1	5,000	5,000	107,278	160,916
	SWRGM-009367	SWRMH-004717	SWRMH-004718	Z41146	Z41145	12	18	230	0.006	0.82	0.40	300	69,038	1	5,000	5,000	74,038	111,057
	SWRGM-009368	SWRMH-004718	SWRMH-005823	Z41145	Z41103	12	18	218	0.013	0.61	0.33	300	65,361	1	5,000	5,000	70,361	105,542
	SWRGM-009396	SWRMH-005823	SWRMH-005160	Z41103	Z41138	12	18	149	0.007	1.00	0.42	300	44,833	1	5,000	5,000	49,833	74,750
	SWRGM-009397	SWRMH-005817	SWRMH-005818	Z41109	Z41108	12	18	321	0.007	0.76	0.39	300	96,293	1	5,000	5,000	101,293	151,939
Grand Total	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**11,320**				n/a	**3,253,031**	**44**	n/a	**220,000**	**3,473,000**	**5,210,000**

Table 6-5 Capital Cost Estimates for Structural Improvement Projects

STREET NAMEP	START MH	FINISH MH	PIPE DIA (in)	LENGTH	PIPE MATERIAL	Pipe Defects Quick Rating	No. 5s	No. 4s	No. 3s	No. 2s	No. 1s	O&M Defects	O & M Quick Rating	RECOMMENDED REHABILITATION	UNITS	UNIT COST	QUANTITY	CONSTRUCTION COST	CAPITAL COST
CENTER ST.	AA39136	AA39101	8	265	CP	2100				1		3	4131	Line Entire Segment	LF	55	265	$ 14,553	$ 21,800
SHOOTING STAR DR.	U48151	U48152	8	253	PVC	3100			1			0	0000	Line Entire Segment	LF	55	253	$ 13,921	$ 20,900
BURWOOD RD	X35150	X35139	8	289	VCP	3100			1			0	0000	Line Entire Segment	LF	55	289	$ 15,879	$ 23,800
N CULVER RD	X35150	X35164	8	325	VCP	3100			1			1	3100	Line Entire Segment	LF	55	325	$ 17,853	$ 26,800
TAWNEY RIDGE LN.	X36161	X36160	8	197	VCP	2200				2		3	2300	Line Entire Segment	LF	55	197	$ 10,824	$ 16,200
AMARGOSA RD.	X37152	X36161	8	265	VCP	2111				1	1	5	2500	Line Entire Segment	LF	55	265	$ 14,586	$ 21,900
BURNING TREE DR.	Y42101	Y42122	8	147	VCP	2100				1		1	2100	Line Entire Segment	LF	55	147	$ 8,058	$ 12,100
BURNING TREE DR.	Y42110	Y41137	8	254	AC	2100				1		1	3100	Line Entire Segment	LF	55	254	$ 13,987	$ 21,000
WIMBLETON DR.	Y42147	Y41137	8	579	AC	3100			1			0	0000	Line Entire Segment	LF	55	579	$ 31,818	$ 47,700
OTTAWA ST.	Y44102	Y44127	12	335	PVC	3123			1	3		2	4121	Line Entire Segment	LF	68	335	$ 22,746	$ 34,100
OTTAWA ST.	Y44127	Y44132	12	330	VCP	3221			2	1		1	2100	Line Entire Segment	LF	68	330	$ 22,440	$ 33,700
OTTAWA ST.	Y44132	Z44118	12	262	PVC	3221			2	1		54	422I	Line Entire Segment	LF	68	262	$ 17,823	$ 26,700
9TH AVE.	Y45140	Y45160	12	307	PVC	3222			2	2		6	4125	Line Entire Segment	LF	68	307	$ 20,903	$ 31,400
NINTH	Y45142	Y45140	12	96	VCP	Optimized								Line Entire Segment	LF	68	96	$ 6,518	$ 9,800
9TH AVE.	Y45146	Y45142	12	229	PVC	3300			3			2	4200	Line Entire Segment	LF	68	229	$ 15,586	$ 23,400
CHOCTAW ST	Y45160	Y45125	12	309	PVC	2200				2		0	0000	Line Entire Segment	LF	68	309	$ 21,012	$ 31,500
LA PAZ DR.	Z40113	Z40134	8	264	VCP	1100					1	1	4100	Line Entire Segment	LF	55	264	$ 14,515	$ 21,800
MESA	Z40134	Z40135	8	216	VCP	Optimized								Line Entire Segment	LF	55	216	$ 11,877	$ 17,800
CABRILLO DR.	Z40135	Z40143	8	278	VCP	3111			1		1	0	0000	Line Entire Segment	LF	55	278	$ 15,279	$ 22,900
CABRILLO DR.	Z40142	Z40144	8	269	VCP	Optimized								Line Entire Segment	LF	55	269	$ 14,785	$ 22,200
CABRILLO DR.	Z40143	Z40142	8	277	VCP	2100				1		3	4122	Line Entire Segment	LF	55	277	$ 15,224	$ 22,800
CABRILLO DR.	Z40144	Z40132	8	359	VCP	2111				1	1	2	4121	Line Entire Segment	LF	55	359	$ 19,756	$ 29,600
ARROWHEAD DR.	Z41101	Z41102	12	351	AC	3100			1			3	2112	Line Entire Segment	LF	68	351	$ 23,834	$ 35,800
ARROWHEAD DR.	Z41102	Z41141	12	284	AC	3100			1			2	3121	Line Entire Segment	LF	68	284	$ 19,326	$ 29,000
RODEO DR	Z41104	Z41160	8	325	VCP	Optimized								Line Entire Segment	LF	55	325	$ 17,900	$ 26,900
LARIAT RD	Z41105	Z41104	8	234	VCP	2100				1		0	0000	Line Entire Segment	LF	55	234	$ 12,843	$ 19,300
LARIAT RD	Z41123	Z41125	8	203	VCP	2100				1		1	2100	Line Entire Segment	LF	55	203	$ 11,176	$ 16,800
LARIAT RD	Z41124	Z41123	8	356	VCP	1200					2	0	0000	Line Entire Segment	LF	55	356	$ 19,569	$ 29,400
RODEO DR	Z41160	Z41125	8	80	VCP	Optimized								Line Entire Segment	LF	55	80	$ 4,417	$ 6,600
RODEO DR	Z42132	Z41104	8	352	CP	3212			2		2	1	1100	Line Entire Segment	LF	55	352	$ 19,338	$ 29,000
CAMELBACK DR.	Z42146	Z42156	8	337	VCP	2200				2		0	0000	Line Entire Segment	LF	55	337	$ 18,541	$ 27,800
CAMELBACK DR.	Z42156	Z42161	10	589	CP	3100			1			1	3100	Line Entire Segment	LF	62	589	$ 36,487	$ 54,700
PEBBLE BEACH DR.	Z42161	Z41101	12	349	AC	3100			1			5	3122	Line Entire Segment	LF	68	349	$ 23,712	$ 35,600
Subtotal				**9,562**													**9,562**	**$ 567,000**	**$ 851,000**
AVALON AVE.	AA36118	AA36152	8	279	CP	5143	1	3				6	3313	Replace Line	LF	180	279	$ 50,148	$ 75,200
ALLEY (AVALON AVE.)	AA36152	AA36151	8	65	CP	5132	1			2		1	0000	Replace Line	LF	180	65	$ 11,736	$ 17,600
MOJAVE DR.	AA39102	AA39102A	8	96	VCP	4100		1				1	4100	Replace Line	LF	180	96	$ 17,280	$ 25,900
MOJAVE DR.	AA39102A	AA39101	8	219	CP	5131	1		1			1	3100	Replace Line	LF	180	219	$ 39,492	$ 59,200
N CULVER RD	Y35114	Y35151	8	202	VCP	4100		1				1	2100	Replace Line	LF	180	202	$ 36,378	$ 54,600
VILLAGE DR.	Y35146	Y35149	10	200	VCP	4100		1				28	312D	Replace Line	LF	210	200	$ 41,958	$ 62,900
LA VERIDA DR.	Z36126	Z36132	8	326	VCP	5133	1		3			3	3300	Replace Line	LF	180	326	$ 58,698	$ 88,000
LA VERIDA DR.	Z36132	Z37120	8	331	VCP	5100	1					10	4131	Replace Line	LF	180	331	$ 59,580	$ 89,400
LA VERIDA DR.	Z36140	Z36126	8	276	VCP	5143	1	3				3	3300	Replace Line	LF	180	276	$ 49,662	$ 74,500
LA VERIDA DR.	Z37120	Z37110	8	320	VCP	413B		1	15			0	0000	Replace Line	LF	180	320	$ 57,636	$ 86,500
TATUM RD.	Z38101	Z39117	8	269	CP	5A3J	10		55			1	3100	Replace Line	LF	180	269	$ 48,402	$ 72,600
DEL NORTE DR.	Z38101	Z38103	8	140	CP	Optimized								Replace Line	LF	180	140	$ 25,200	$ 37,800
DEL NORTE DR.	Z38102	Z38103	8	299	VCP	5141	1	1				1	0000	Replace Line	LF	180	299	$ 53,766	$ 80,600
TATUM RD.	Z38103	Z38141	8	303	CP	5134	1		4			2	3121	Replace Line	LF	180	303	$ 54,468	$ 81,700
DEL NORTE DR.	Z38103	Z38111	8	150	CP	Optimized								Replace Line	LF	180	150	$ 27,000	$ 40,500
DEL NORTE DR.	Z38111	Z38102	8	299	VCP	5141	1	1				1	0000	Replace Line	LF	180	299	$ 53,874	$ 80,800
DEL REY DR.	Z38139	Z38140	8	304	VCP	3100			1			1	2100	Replace Line	LF	180	304	$ 54,774	$ 82,200
DEL REY DR.	Z38140	Z38102	8	300	CP	Optimized								Replace Line	LF	180	300	$ 54,085	$ 81,100
TATUM RD.	Z38141	Z38142	8	226	CP	5238	2		8			0	0000	Replace Line	LF	180	226	$ 40,626	$ 60,900
TATUM RD	Z38142	Z38165	8	339	CP	3224			2	4		25	2D00	Replace Line	LF	180	339	$ 61,020	$ 91,500
TATUM RD.	Z38164	Z38166	8	302	CP	5121	1				1	0	0000	Replace Line	LF	180	302	$ 54,414	$ 81,600
TATUM RD.	Z38165	Z38164	8	305	CP	5532	5		2			2	2200	Replace Line	LF	180	305	$ 54,864	$ 82,300
TATUM RD.	Z38166	Z38101	8	180	CP	543E	4		30			0	0000	Replace Line	LF	180	180	$ 32,400	$ 48,600
OTTAWA ST.	Z44117	Z44116	12	21	PVC	Optimized								Replace Line	LF	240	21	$ 4,999	$ 7,500
OTTAWA ST.	Z44118	Z44117	12	404	PVC	Optimized								Replace Line	LF	240	404	$ 96,853	$ 145,300
ARROWHEAD DR.	Z44124	Z44116	8	299	PVC	3121			1	1		7	2700	Replace Line	LF	180	299	$ 53,730	$ 80,600
Subtotal				**6,453**													**6,453**	**$ 1,193,000**	**$ 1,789,000**
Grand Total				**16,015**													**16,015**	**$ 1,760,000**	**$ 2,640,000**

Table 6-6 Capital Cost Estimates for Capacity Improvement Projects (2040 Conditions – Scenario 1)

Project No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Existing Pipe Size (inch)	Proposed Pipe Size (inch)	Pipe Length (ft)	Slope	2040 Maximum d/D	Proposed Maximum d/D	Pipe Unit Cost ($/LF)	Pipe Replacement Construction Cost ($)	Number of Manholes	Manhole Unit Cost ($/EA)	Manhole Cost ($)	Total Construction Cost ($)	Total Capital Cost ($)
C11	SWRGM-009212	SWRMH-001278	SWRMH-001247	AA46119	AA46150	10	15	116	0.002	1.00	0.44	270	31,320	1	5,000	5,000	36,320	54,480
	SWRGM-009213	SWRMH-001239	SWRMH-001277	AA46158	AA46120	10	15	321	0.004	0.77	0.39	270	86,670	1	5,000	5,000	91,670	137,505
	SWRGM-009214	SWRMH-001247	SWRMH-001239	AA46150	AA46158	10	15	202	0.004	0.67	0.35	270	54,540	1	5,000	5,000	59,540	89,310
	SWRGM-009307	SWRMH-001085	SWRMH-009038	SDMH001085	SP576MH03	10	15	126	0.004	1.00	0.41	270	34,020	1	5,000	5,000	39,020	58,530
	SWRGM-009308	SWRMH-001084	SWRMH-001085	AB46132	AB46131	10	15	350	0.004	1.00	0.42	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-009409	SWRMH-001277	SWRMH-001084	AA46120	AB46132	10	15	350	0.004	1.00	0.42	270	94,500	1	5,000	5,000	99,500	149,250
C12	SWRGM-007560	SWRMH-000315	SWRMH-003041	X31108	X30104	18	27	62	0.02	1.00	0.41	400	24,800	1	5,000	5,000	29,800	44,700
	SWRGM-007561	SWRMH-003027	SWRMH-000318	X31107	X31109	18	27	17	0.029	0.70	0.37	400	6,800	1	5,000	5,000	11,800	17,700
	SWRGM-007562	SWRMH-000316	SWRMH-000315	X30114	X30113	18	27	8	0.024	0.77	0.39	400	3,200	1	5,000	5,000	8,200	12,300
	SWRGM-007563	SWRMH-000317	SWRMH-000316	X31108	X30114	18	27	660	0.015	1.00	0.44	400	264,000	1	5,000	5,000	269,000	403,500
	SWRGM-007564	SWRMH-000318	SWRMH-000317	X31109	X30108	18	27	7	0.029	0.70	0.37	400	2,800	1	5,000	5,000	7,800	11,700
	SWRGM-007778	SWRMH-003043	SWRMH-003036	X30102	X30109	21	27	329	0.027	0.55	0.38	400	131,600	1	5,000	5,000	136,600	204,900
	SWRGM-007926	SWRMH-003042	SWRMH-003043	X30103	X30102	21	27	350	0.025	0.56	0.39	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007927	SWRMH-003041	SWRMH-003040	X30104	X30105	18	27	350	0.028	0.72	0.38	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008004	SWRMH-003040	SWRMH-003042	X30105	X30103	18	27	350	0.066	0.53	0.30	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008076	SWRMH-003032	SWRMH-003031	X31102	X31103	21	27	358	0.007	1.00	0.55	400	143,200	1	5,000	5,000	148,200	222,300
	SWRGM-008077	SWRMH-003031	SWRMH-003030	X31103	X31104	21	27	350	0.007	1.00	0.55	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008078	SWRMH-003028	SWRMH-003027	X31106	X31107	18	27	300	0.03	0.70	0.37	400	120,000	1	5,000	5,000	125,000	187,500
	SWRGM-008079	SWRMH-003030	SWRMH-003028	X31104	X31106	18	27	338	0.021	0.81	0.41	400	135,200	1	5,000	5,000	140,200	210,300
	SWRGM-008109	SWRMH-003023	SWRMH-003022	X32104	X32105	21	27	307	0.013	0.69	0.46	400	122,800	1	5,000	5,000	127,800	191,700
	SWRGM-008110	SWRMH-003022	SWRMH-003021	X32105	X32106	21	27	350	0.014	0.68	0.46	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008599	SWRMH-003029	SWRMH-003033	X31105	X31101	21	27	350	0.007	1.00	0.56	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008652	SWRMH-003033	SWRMH-003032	X31101	X31102	21	27	368	0.012	0.73	0.48	400	147,200	1	5,000	5,000	152,200	228,300
	SWRGM-009339	SWRMH-003021	SWRMH-003029	X32106	X31105	21	27	350	0.007	1.00	0.55	400	140,000	1	5,000	5,000	145,000	217,500
C13	SWRGM-007670	SWRMH-002921	SWRMH-002893	X35134	X35162	15	21	60	0.011	1.00	0.53	340	20,400	1	5,000	5,000	25,400	38,100
	SWRGM-007671	SWRMH-002894	SWRMH-002895	X35161	X35160	15	21	328	0.012	1.00	0.52	340	111,520	1	5,000	5,000	116,520	174,780
	SWRGM-007672	SWRMH-002895	SWRMH-002921	X35160	X35134	15	21	300	0.012	1.00	0.51	340	102,000	1	5,000	5,000	107,000	160,500
	SWRGM-007673	SWRMH-002893	SWRMH-002892	X35162	X35163	15	21	360	0.023	0.71	0.42	340	122,400	1	5,000	5,000	127,400	191,100
	SWRGM-007674	SWRMH-002896	SWRMH-002894	X35159	X35161	15	21	282	0.011	1.00	0.52	340	95,880	1	5,000	5,000	100,880	151,320
	SWRGM-007681	SWRMH-002892	SWRMH-002983	X35163	X34109	15	21	360	0.023	0.71	0.42	340	122,400	1	5,000	5,000	127,400	191,100
	SWRGM-007682	SWRMH-002987	SWRMH-002988	X34105	X34104	15	21	375	0.013	1.00	0.50	340	127,500	1	5,000	5,000	132,500	198,750
	SWRGM-007683	SWRMH-002986	SWRMH-002987	X34106	X34105	15	21	375	0.013	1.00	0.50	340	127,500	1	5,000	5,000	132,500	198,750
	SWRGM-007684	SWRMH-002985	SWRMH-002986	X34107	X34106	15	21	367	0.013	1.00	0.50	340	124,780	1	5,000	5,000	129,780	194,670
	SWRGM-007815	SWRMH-003002	SWRMH-003008	X33109	X33103	15	21	378	0.011	1.00	0.53	340	128,520	1	5,000	5,000	133,520	200,280
	SWRGM-007817	SWRMH-002988	SWRMH-003001	X34104	X33110	15	21	372	0.013	1.00	0.50	340	126,480	1	5,000	5,000	131,480	197,220
	SWRGM-008106	SWRMH-003014	SWRMH-003026	X32113	X32101	15	21	300	0.016	1.00	0.48	340	102,000	1	5,000	5,000	107,000	160,500
	SWRGM-008108	SWRMH-003025	SWRMH-003024	X32102	X32103	15	21	150	0.015	1.00	0.49	340	51,000	1	5,000	5,000	56,000	84,000
	SWRGM-008272	SWRMH-003024	SWRMH-003023	X32103	X32104	15	21	328	0.016	1.00	0.48	340	111,520	1	5,000	5,000	116,520	174,780
	SWRGM-008273	SWRMH-003020	SWRMH-003023	X32107	X32104	18	21	150	0.003	1.00	0.60	340	51,000	1	5,000	5,000	56,000	84,000
	SWRGM-008274	SWRMH-003019	SWRMH-003020	X32108	X32107	18	21	180	0.003	1.00	0.60	340	61,200	1	5,000	5,000	66,200	99,300
	SWRGM-008275	SWRMH-003018	SWRMH-003019	X32109	X32108	18	21	140	0.002	1.00	0.72	340	47,600	1	5,000	5,000	52,600	78,900
	SWRGM-008276	SWRMH-003017	SWRMH-003018	X32110	X32109	18	21	150	0.004	0.75	0.57	340	51,000	1	5,000	5,000	56,000	84,000
	SWRGM-008357	SWRMH-003008	SWRMH-003007	X33103	X33104	15	21	208	0.026	0.71	0.42	340	70,720	1	5,000	5,000	75,720	113,580
	SWRGM-008482	SWRMH-003026	SWRMH-003025	X32101	X32102	15	21	300	0.017	1.00	0.47	340	102,000	1	5,000	5,000	107,000	160,500
	SWRGM-008500	SWRMH-002984	SWRMH-002985	X34108	X34107	15	21	378	0.015	1.00	0.47	340	128,520	1	5,000	5,000	133,520	200,280
	SWRGM-008501	SWRMH-002983	SWRMH-002984	X34109	X34108	15	21	348	0.017	1.00	0.46	340	118,320	1	5,000	5,000	123,320	184,980
	SWRGM-008725	SWRMH-003001	SWRMH-003011	X33110	X33101	15	21	383	0.011	1.00	0.52	340	130,220	1	5,000	5,000	135,220	202,830
	SWRGM-008726	SWRMH-003007	SWRMH-003014	X33104	X32113	15	21	306	0.016	1.00	0.48	340	104,040	1	5,000	5,000	109,040	163,560
	SWRGM-008740	SWRMH-003003	SWRMH-003002	X33108	X33109	15	21	380	0.011	1.00	0.54	340	129,200	1	5,000	5,000	134,200	201,300
	SWRGM-008741	SWRMH-003011	SWRMH-003003	X33101	X33108	15	21	380	0.011	1.00	0.53	340	129,200	1	5,000	5,000	134,200	201,300
C14	SWRGM-007747	SWRMH-002093	SWRMH-002094	R48149	R48148	12	15	320	0.002	1.00	0.55	270	86,400	1	5,000	5,000	91,400	137,100
	SWRGM-007748	SWRMH-002094	SWRMH-001708	R48148	Q48116	12	15	320	0.002	1.00	0.55	270	86,400	1	5,000	5,000	91,400	137,100
	SWRGM-007833	SWRMH-002136	SWRMH-002093	R48106	R48149	12	15	290	0.003	0.75	0.50	270	78,300	1	5,000	5,000	83,300	124,950
	SWRGM-008338	SWRMH-001708	SWRMH-001700	Q48116	Q48124	12	15	320	0.002	1.00	0.55	270	86,400	1	5,000	5,000	91,400	137,100
	SWRGM-008381	SWRMH-001700	SWRMH-009027	SDMH001700	SP574MH09	12	15	100	0.004	0.69	0.47	270	27,000	1	5,000	5,000	32,000	48,000
C15	SWRGM-009951	SWRMH-008681	SWRMH-008682	SP730MH153	SP730MH101	10	12	20	0.011	1.00	0.58	240	4,800	1	5,000	5,000	9,800	14,700
	SWRGM-000516	SWRMH-002345	SWRMH-002346	S50110	S50109	8	12	382	0.01	1.00	0.41	240	91,680	1	5,000	5,000	96,680	145,020
	SWRGM-000519	SWRMH-002346	SWRMH-008284	S50109	S49101	8	12	270	0.01	1.00	0.41	240	64,800	1	5,000	5,000	69,800	104,700
	SWRGM-000520	SWRMH-008283	SWRMH-007177	S49102	S48138	8	12	300	0.012	1.00	0.44	240	72,000	1	5,000	5,000	77,000	115,500
	SWRGM-000521	SWRMH-008282	SWRMH-008283	S49103	S49102	8	12	320	0.011	1.00	0.46	240	76,800	1	5,000	5,000	81,800	122,700
	SWRGM-000431	SWRMH-007450	SWRMH-007454	T47133	T47129	8	12	350	0.01	1.00	0.56	240	84,000	1	5,000	5,000	89,000	133,500
	SWRGM-000459	SWRMH-008297	SWRMH-007464	S48109	S48125	8	12	275	0.008	1.00	0.52	240	66,000	1	5,000	5,000	71,000	106,500
	SWRGM-000464	SWRMH-007184	SWRMH-008297	S48131	S48109	8	12	235	0.007	1.00	0.54	240	56,400	1	5,000	5,000	61,400	92,100
	SWRGM-000466	SWRMH-007174	SWRMH-007173	S48141	S48142	8	12	213	0.007	1.00	0.52	240	51,120	1	5,000	5,000	56,120	84,180
	SWRGM-000467	SWRMH-007173	SWRMH-008298	S48142	S48108	8	12	215	0.02	0.79	0.39	240	51,600	1	5,000	5,000	56,600	84,900
	SWRGM-000527	SWRMH-007361	SWRMH-007360	S47119	S47120	8	12	202	0.01	1.00	0.50	240	48,480	1	5,000	5,000	53,480	80,220
	SWRGM-000528	SWRMH-007362	SWRMH-007361	S47118	S47119	8	12	207	0.013	1.00	0.47	240	49,680	1	5,000	5,000	54,680	82,020
	SWRGM-001051	SWRMH-007395	SWRMH-008305	S48130	S48101	8	12	213	0.006	1.00	0.56	240	51,120	1	5,000	5,000	56,120	84,180
	SWRGM-001052	SWRMH-008305	SWRMH-007184	S48101	S48131	8	12	235	0.006	1.00	0.56	240	56,400	1	5,000	5,000	61,400	92,100
	SWRGM-000778	SWRMH-007448	SWRMH-007450	T47135	T47133	8	12	72	0.007	1.00	0.62	240	17,280	1	5,000	5,000	22,280	33,420
	SWRGM-000919	SWRMH-008300	SWRMH-008301	S48106	S48105	8	12	256	0.009	1.00	0.49	240	61,440	1	5,000	5,000	66,440	99,660
	SWRGM-000920	SWRMH-008298	SWRMH-008299	S48108	S48107	8	12	256	0.008	1.00	0.51	240	61,440	1	5,000	5,000	66,440	99,660
	SWRGM-001863	SWRMH-007225	SWRMH-007318	S47129	T47186	8	12	350	0.012	1.00	0.48	240	84,000	1	5,000	5,000	89,000	133,500
	SWRGM-001467	SWRMH-008301	SWRMH-007395	S48105	S48130	8	12	285	0.008	1.00	0.50	240	68,400	1	5,000	5,000	73,400	110,100
	SWRGM-001470	SWRMH-008299	SWRMH-008300	S48107	S48106	8	12	256	0.007	1.00	0.54	240	61,440	1	5,000	5,000	66,440	99,660
	SWRGM-001591	SWRMH-007364	SWRMH-007363	S47116	S47117	8	12	249	0.005	1.00	0.62	240	59,760	1	5,000	5,000	64,760	97,140
	SWRGM-001592	SWRMH-007363	SWRMH-007362	S47117	S47118	8	12	229	0.013	1.00	0.47	240	54,960	1	5,000	5,000	59,960	89,940
	SWRGM-001594	SWRMH-008279	SWRMH-008280	S49106	S49105	8	12	330	0.017	1.00	0.40	240	79,200	1	5,000	5,000	84,200	126,300
	SWRGM-001595	SWRMH-008284	SWRMH-008279	S49101	S49106	8	12	330	0.014	1.00	0.42	240	79,200	1	5,000	5,000	84,200	126,300
	SWRGM-001597	SWRMH-008285	SWRMH-007780	S48121	S47161	8	12	270	0.005	1.00	0.61	240	64,800	1	5,000	5,000	69,800	104,700
	SWRGM-001797	SWRMH-007360	SWRMH-007353	S47120	S47127	8	12	296	0.012	1.00	0.47	240	71,040	1	5,000	5,000	76,040	114,060
	SWRGM-001831	SWRMH-007316	SWRMH-007315	T47188	T47189	8	12	188	0.006	1.00	0.64	240	45,120	1	5,000	5,000	50,120	75,180
	SWRGM-001832	SWRMH-007317	SWRMH-007316	T47187	T47188	8	12	265	0.006	1.00	0.62	240	63,600	1	5,000	5,000	68,600	102,900
	SWRGM-001833	SWRMH-007318	SWRMH-007317	T47186	T47187	8	12	266	0.008	1.00	0.57	240	63,840	1	5,000	5,000	68,840	103,260
	SWRGM-001894	SWRMH-007365	SWRMH-007364	S47115	S47116	8	12	205	0.005	1.00	0.62	240	49,200	1	5,000	5,000	54,200	81,300
	SWRGM-001938	SWRMH-008281	SWRMH-008282	S49104	S49103	8	12	330	0.02	0.77	0.39	240	79,200	1	5,000	5,000	84,200	126,300
	SWRGM-001990	SWRMH-007780	SWRMH-007365	S47161	S47115	8	12	205	0.005	1.00	0.62	240	49,200	1	5,000	5,000	54,200	81,300
	SWRGM-002296	SWRMH-007353	SWRMH-007352	S47127	S47128	8	12	242	0.013	1.00	0.47	240	58,080	1	5,000	5,000	63,080	94,620
	SWRGM-002702	SWRMH-007352	SWRMH-007225	S47128	S47129	8	12	288	0.013	1.00	0.47	240	69,120	1	5,000	5,000	74,120	111,180
	SWRGM-002898	SWRMH-008280	SWRMH-008281	S49105	S49104	8	12	330	0.016	1.00	0.41	240	79,200	1	5,000	5,000	84,200	126,300
	SWRGM-003685	SWRMH-007175	SWRMH-007174	S48140	S48141	8	12	270	0.005	1.00	0.59	240	64,800	1	5,000	5,000	69,800	104,700
	SWRGM-003687	SWRMH-007177	SWRMH-007175	S48138	S48140	8	12	256	0.022	0.75	0.38	240	61,440	1	5,000	5,000	66,440	99,660
	SWRGM-003691	SWRMH-007464	SWRMH-008285	S48125	S48121	8	12	326	0.005	1.00	0.61	240	78,240	1	5,000	5,000	83,240	124,860
	SWRGM-004010	SWRMH-007451	SWRMH-007448	T47132	T47135	8	12	278	0.007	1.00	0.61	240	66,720	1	5,000	5,000	71,720	107,580
	SWRGM-004011	SWRMH-007449	SWRMH-007451	T47134	T47132	8	12	265	0.007	1.00	0.63	240	63,600	1	5,000	5,000	68,600	102,900
	SWRGM-007105	SWRMH-008391	SWRMH-007449	T47101	T47134	8	12	350	0.013	1.00	0.51	240	84,000	1	5,000	5,000	89,000	133,500
	SWRGM-007106	SWRMH-007315	SWRMH-008391	T47189	T47101	8	12	257	0.017	1.00	0.46	240	61,680	1	5,000	5,000	66,680	100,020
	SWRGM-010047	SWRMH-007454	SWRMH-008681	SDMH007454	SP730MH153	8	12	350	0.02	1.00	0.45	240	84,000	1	5,000	5,000	89,000	133,500
C16	SWRGM-007573	SWRMH-000379	SWRMH-000394	T46189	T46188	12	15	40	0.011	0.58	0.41	270	10,800	1	5,000	5,000	15,800	23,700
	SWRGM-007574	SWRMH-000406	SWRMH-000405	T44186	T44185	12	15	113	0.015	0.51	0.43	270	30,510	1	5,000	5,000	35,510	53,265
	SWRGM-007575	SWRMH-000403	SWRMH-000404	T45152	T45151	12	15	360	0.017	0.56	0.40	270	97,200	1	5,000	5,000	102,200	153,300
	SWRGM-007576	SWRMH-000402	SWRMH-000403	T45153	T45152	12	15	350	0.007	0.76	0.51	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-007577	SWRMH-000401	SWRMH-000402	T45154	T45153	12	15	349	0.004	1.00	0.61	270	94,230	1	5,000	5,000	99,230	148,845
	SWRGM-007578	SWRMH-000400	SWRMH-000401	T45155	T45154	12	15	351	0.015	0.58	0.41	270	94,770	1	5,000	5,000	99,770	149,655
	SWRGM-007579	SWRMH-000399	SWRMH-000400	T45156	T45155	12	15	351	0.004	1.00	0.61	270	94,770	1	5,000	5,000	99,770	149,655
	SWRGM-007580	SWRMH-000398	SWRMH-000399	T46184	T45156	12	15	161	0.01	0.65	0.45	270	43,470	1	5,000	5,000	48,470	72,705
	SWRGM-007581	SWRMH-000397	SWRMH-000398	T46185	T46184	12	15	350	0.004	1.00	0.61	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-007582	SWRMH-000395	SWRMH-000396	T46187	T46186	12	15	279	0.015	0.53	0.38	270	75,330	1	5,000	5,000	80,330	120,495
	SWRGM-007583	SWRMH-000394	SWRMH-000395	T46188	T46187	12	15	279	0.012	0.57	0.40	270	75,330	1	5,000	5,000	80,330	120,495
	SWRGM-007584	SWRMH-000393	SWRMH-000379	T46190	T46189	12	15	229	0.012	0.57	0.41	270	61,830	1	5,000	5,000	66,830	100,245
	SWRGM-007585	SWRMH-000392	SWRMH-000393	T46191	T46190	12	15	345	0.012	0.56	0.40	270	93,150	1	5,000	5,000	98,150	147,225
	SWRGM-007586	SWRMH-000391	SWRMH-000392	T47192	T46191	12	15	349	0.011	0.59	0.42	270	94,230	1	5,000	5,000	99,230	148,845
	SWRGM-007587	SWRMH-000382	SWRMH-000391	T47193	T47192	12	15	201	0.01	0.60	0.43	270	54,270	1	5,000	5,000	59,270	88,905
	SWRGM-007588	SWRMH-000390	SWRMH-000382	T47194	T47193	12	15	46	0.003	1.00	0.58	270	12,420	1	5,000	5,000	17,420	26,130
	SWRGM-007589	SWRMH-000389	SWRMH-000390	T47195	T47194	12	15	255	0.005	0.80	0.53	270	68,850	1	5,000	5,000	73,850	110,775
	SWRGM-007590	SWRMH-000388	SWRMH-000389	T47196	T47195	12	15	257	0.005	0.79	0.52	270	69,390	1	5,000	5,000	74,390	111,585
	SWRGM-008409	SWRMH-000655	SWRMH-000656	T44127	T44126	12	15	350	0.01	1.00	0.69	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-008410	SWRMH-000660	SWRMH-000655	T44122	T44127	12	15	197	0.018	0.75	0.56	270	53,190	1	5,000	5,000	58,190	87,285
	SWRGM-008411	SWRMH-000656	SWRMH-000657	T44126	T44125	12	15	350	0.01	1.00	0.69	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-008414	SWRMH-000405	SWRMH-000660	T44121	T44122	12	15	136	0.015	1.00	0.59	270	36,720	1	5,000	5,000	41,720	62,580
	SWRGM-008610	SWRMH-000657	SWRMH-000658	T44125	T44124	12	15	194	0.01	1.00	0.68	270	52,380	1	5,000	5,000	57,380	86,070
	SWRGM-008611	SWRMH-000659	SWRMH-008375	T44123	T44129	12	15	204	0.01	1.00	0.68	270	55,080	1	5,000	5,000	60,080	90,120
	SWRGM-008612	SWRMH-000658	SWRMH-000659	T44124	T44123	12	15	350	0.01	1.00	0.69	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-008776	SWRMH-008375	SWRMH-006186	T44129	U43105	12	15	200	0.01	1.00	0.69	270	54,000	1	5,000	5,000	59,000	88,500
	SWRGM-008777	SWRMH-006186	SWRMH-004077	U43105	U43120	12	15	239	0.02	0.74	0.55	270	64,530	1	5,000	5,000	69,530	104,295
	SWRGM-009151	SWRMH-004077	SWRMH-004076	U43120	U43121	12	15	270	0.02	0.74	0.55	270	72,900	1	5,000	5,000	77,900	116,850
	SWRGM-009373	SWRMH-004076	SWRMH-005718	U43121	U43106	12	15	84	0.02	0.73	0.55	270	22,680	1	5,000	5,000	27,680	41,520
	SWRGM-009580	SWRMH-008682	SWRMH-000388	SP730MH101	SDMH000388	12	15	247	0.005	0.77	0.51	270	66,690	1	5,000	5,000	71,690	107,535
	SWRGM-010269	SWRMH-000404	SWRMH-008683	SDMH000404	SP730MH102	12	15	271	0.008	0.70	0.48	270	73,170	1	5,000	5,000	78,170	117,255
	SWRGM-009968	SWRMH-008683	SWRMH-000406	SP730MH102	SDMH000406	12	15	69	0.004	1.00	0.65	270	18,630	1	5,000	5,000	23,630	35,445
	SWRGM-009948	SWRMH-000396	SWRMH-008684	SDMH000396	SP730MH01	12	15	141	0.003	1.00	0.64	270	38,070	1	5,000	5,000	43,070	64,605
	SWRGM-009905	SWRMH-008684	SWRMH-000397	SP730MH01	SDMH000397	12	15	89	0.005	1.00	0.56	270	24,030	1	5,000	5,000	29,030	43,545
	SWRGM-007659	SWRMH-002801	SWRMH-002794	M43104	M43111	15	18	137	0.006	0.52	0.39	300	41,100	1	5,000	5,000	46,100	69,150
	SWRGM-007660	SWRMH-002798	SWRMH-002799	M43107	M43106	15	18	333	0.002	0.68	0.50	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-007661	SWRMH-002797	SWRMH-002798	M43108	M43107	15	18	333	0.002	0.63	0.46	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-007662	SWRMH-002784	SWRMH-002797	M43121	M43108	15	18	106	0.002	0.63	0.47	300	31,800	1	5,000	5,000	36,800	55,200
	SWRGM-007663	SWRMH-002796	SWRMH-002795	M43109	M43110	15	18	333	0.002	0.56	0.42	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-007664	SWRMH-002802	SWRMH-002784	M43103	M43121	15	18	222	0.002	0.60	0.45	300	66,600	1	5,000	5,000	71,600	107,400

Project No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Existing Pipe Size (inch)	Proposed Pipe Size (inch)	Pipe Length (ft)	Slope	2040 Maximum d/D	Proposed Maximum d/D	Pipe Unit Cost ($/LF)	Pipe Replacement Construction Cost ($)	Number of Manholes	Manhole Unit Cost ($/EA)	Manhole Cost ($)	Total Construction Cost ($)	Total Capital Cost ($)
	SWRGM-007666	SWRMH-002799	SWRMH-002801	M43106	M43104	15	18	333	0.002	0.68	0.50	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-007713	SWRMH-002794	SWRMH-002800	M43111	M43105	15	18	197	0.006	0.51	0.39	300	59,100	1	5,000	5,000	64,100	96,150
C17	SWRGM-007714	SWRMH-002795	SWRMH-002802	M43110	M43103	15	18	333	0.011	0.37	0.28	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-008176	SWRMH-003501	SWRMH-002796	L43108	M43109	15	18	331	0.002	0.56	0.42	300	99,300	1	5,000	5,000	104,300	156,450
	SWRGM-008678	SWRMH-003505	SWRMH-003506	L43104	L43103	12	18	322	0.003	0.69	0.36	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008679	SWRMH-003508	SWRMH-003501	L43101	L43108	12	18	344	0.002	1.00	0.42	300	103,200	1	5,000	5,000	108,200	162,300
	SWRGM-008680	SWRMH-003507	SWRMH-003508	L43102	L43101	12	18	322	0.009	0.48	0.27	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008681	SWRMH-003506	SWRMH-003507	L43103	L43102	12	18	322	0.003	0.69	0.36	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008682	SWRMH-003504	SWRMH-003505	L43105	L43104	12	18	322	0.003	0.69	0.36	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008683	SWRMH-003503	SWRMH-003504	L43106	L43105	12	18	322	0.003	0.69	0.36	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008684	SWRMH-003502	SWRMH-003503	L43107	L43106	12	18	298	0.012	0.40	0.23	300	89,400	1	5,000	5,000	94,400	141,600
	SWRGM-008551	SWRMH-002690	SWRMH-002689	P42105	P42106	18	24	353	0.003	1.00	0.63	370	130,610	1	5,000	5,000	135,610	203,415
	SWRGM-008552	SWRMH-002688	SWRMH-002687	P42107	P42108	18	24	359	0.003	1.00	0.64	370	132,830	1	5,000	5,000	137,830	206,745
	SWRGM-007688	SWRMH-002686	SWRMH-002685	P42109	P42110	18	24	343	0.003	1.00	0.65	370	126,910	1	5,000	5,000	131,910	197,865
	SWRGM-007941	SWRMH-001434	SWRMH-001435	Q42111	Q42110	18	24	302	0.003	1.00	0.74	370	111,740	1	5,000	5,000	116,740	175,110
	SWRGM-007942	SWRMH-001429	SWRMH-001434	Q42116	Q42111	18	24	17	0.004	1.00	0.66	370	6,290	1	5,000	5,000	11,290	16,935
	SWRGM-007949	SWRMH-002689	SWRMH-002688	P42106	P42107	18	24	335	0.004	1.00	0.62	370	123,950	1	5,000	5,000	128,950	193,425
	SWRGM-008091	SWRMH-001436	SWRMH-001437	Q42109	Q42108	18	24	229	0.007	1.00	0.54	370	84,730	1	5,000	5,000	89,730	134,595
	SWRGM-008092	SWRMH-001443	SWRMH-001444	Q42102	Q42101	18	24	323	0.007	1.00	0.56	370	119,510	1	5,000	5,000	124,510	186,765
	SWRGM-008093	SWRMH-001442	SWRMH-001443	Q42103	Q42102	18	24	243	0.006	1.00	0.59	370	89,910	1	5,000	5,000	94,910	142,365
	SWRGM-008094	SWRMH-001441	SWRMH-001442	Q42104	Q42103	18	24	278	0.006	1.00	0.57	370	102,860	1	5,000	5,000	107,860	161,790
	SWRGM-008095	SWRMH-001440	SWRMH-001441	Q42105	Q42104	18	24	310	0.004	1.00	0.65	370	114,700	1	5,000	5,000	119,700	179,550
	SWRGM-008096	SWRMH-001439	SWRMH-001440	Q42106	Q42105	18	24	310	0.003	1.00	0.67	370	114,700	1	5,000	5,000	119,700	179,550
	SWRGM-008097	SWRMH-001438	SWRMH-001439	Q42107	Q42106	18	24	205	0.003	1.00	0.67	370	75,850	1	5,000	5,000	80,850	121,275
C18	SWRGM-008098	SWRMH-001435	SWRMH-001436	Q42110	Q42109	18	24	283	0.003	1.00	0.72	370	104,710	1	5,000	5,000	109,710	164,565
	SWRGM-008303	SWRMH-001437	SWRMH-001438	Q42108	Q42107	18	24	116	0.003	1.00	0.57	370	42,920	1	5,000	5,000	47,920	71,880
	SWRGM-008304	SWRMH-002684	SWRMH-001429	P42111	Q42116	18	24	317	0.005	1.00	0.58	370	117,290	1	5,000	5,000	122,290	183,435
	SWRGM-008549	SWRMH-002692	SWRMH-002691	P42103	P42104	18	24	338	0.003	1.00	0.64	370	125,060	1	5,000	5,000	130,060	195,090
	SWRGM-008550	SWRMH-002691	SWRMH-002690	P42104	P42105	18	24	344	0.003	1.00	0.62	370	127,280	1	5,000	5,000	132,280	198,420
	SWRGM-008584	SWRMH-002687	SWRMH-002686	P42108	P42109	18	24	361	0.004	1.00	0.62	370	133,570	1	5,000	5,000	138,570	207,855
	SWRGM-008585	SWRMH-002685	SWRMH-002684	P42110	P42111	18	24	349	0.003	1.00	0.65	370	129,130	1	5,000	5,000	134,130	201,195
	SWRGM-008688	SWRMH-001448	SWRMH-002692	O42110	P42103	18	24	317	0.003	1.00	0.62	370	117,290	1	5,000	5,000	122,290	183,435
	SWRGM-008690	SWRMH-001449	SWRMH-001448	O42109	O42110	18	24	317	0.003	1.00	0.62	370	117,290	1	5,000	5,000	122,290	183,435
	SWRGM-008691	SWRMH-001450	SWRMH-001449	O42108	O42109	18	24	317	0.003	1.00	0.62	370	117,290	1	5,000	5,000	122,290	183,435
	SWRGM-008692	SWRMH-002303	SWRMH-001450	O42107	O42108	18	24	318	0.003	1.00	0.69	370	117,660	1	5,000	5,000	122,660	183,990
	SWRGM-008699	SWRMH-001444	SWRMH-001620	Q42101	R42118	18	24	284	0.006	1.00	0.57	370	105,080	1	5,000	5,000	110,080	165,120
	SWRGM-008700	SWRMH-001620	SWRMH-001619	R42118	R42119	18	24	355	0.006	1.00	0.57	370	131,350	1	5,000	5,000	136,350	204,525
	SWRGM-008701	SWRMH-001619	SWRMH-001618	R42119	R42120	18	24	306	0.007	1.00	0.57	370	113,220	1	5,000	5,000	118,220	177,330
	SWRGM-007791	SWRMH-002569	SWRMH-002570	R39104	R39103	24	27	280	0.007	0.70	0.56	400	112,000	1	5,000	5,000	117,000	175,500
	SWRGM-007792	SWRMH-002570	SWRMH-002571	R39103	R39102	24	27	350	0.007	0.69	0.56	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007793	SWRMH-002571	SWRMH-002572	R39102	R39101	24	27	350	0.007	0.70	0.57	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007794	SWRMH-002572	SWRMH-001626	R39101	R39119	24	27	350	0.007	0.70	0.57	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007795	SWRMH-001626	SWRMH-001627	R39119	R39118	24	27	350	0.003	1.00	0.72	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007796	SWRMH-001627	SWRMH-001628	R39118	R39117	24	27	350	0.003	1.00	0.73	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007798	SWRMH-001628	SWRMH-006609	R39117	S39101	24	27	350	0.003	1.00	0.73	400	140,000	1	5,000	5,000	145,000	217,500
C19	SWRGM-008193	SWRMH-006601	SWRNJ-000204	S39109	T39471	24	27	364	0.021	0.50	0.42	400	145,600	1	5,000	5,000	150,600	225,900
	SWRGM-008194	SWRMH-006602	SWRMH-006601	S39108	S39109	24	27	400	0.026	0.47	0.40	400	160,000	1	5,000	5,000	165,000	247,500
	SWRGM-008195	SWRMH-006604	SWRMH-006603	S39106	S39107	24	27	186	0.003	1.00	0.71	400	74,400	1	5,000	5,000	79,400	119,100
	SWRGM-008196	SWRMH-006607	SWRMH-006606	S39103	S39104	24	27	246	0.003	1.00	0.75	400	98,400	1	5,000	5,000	103,400	155,100
	SWRGM-008253	SWRMH-006609	SWRMH-006608	S39101	S39102	24	27	281	0.003	1.00	0.75	400	112,400	1	5,000	5,000	117,400	176,100
	SWRGM-008742	SWRMH-006608	SWRMH-006607	S39102	S39103	24	27	449	0.021	0.49	0.41	400	179,600	1	5,000	5,000	184,600	276,900
	SWRGM-008748	SWRMH-006606	SWRMH-006605	S39104	S39105	24	27	265	0.003	1.00	0.74	400	106,000	1	5,000	5,000	111,000	166,500
	SWRGM-008749	SWRMH-006605	SWRMH-006604	S39105	S39106	24	27	336	0.004	1.00	0.72	400	134,400	1	5,000	5,000	139,400	209,100
	SWRGM-008750	SWRMH-006603	SWRMH-006602	S39107	S39108	24	27	350	0.009	0.64	0.52	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007771	SWRMH-009078	SWRMH-001508	SP656MH7	SDMH001508	15	18	352	0.023	0.51	0.42	300	105,600	1	5,000	5,000	110,600	165,900
	SWRGM-007772	SWRMH-001507	SWRMH-001506	U40179	U40180	15	18	29	0.014	0.60	0.49	300	8,700	1	5,000	5,000	13,700	20,550
	SWRGM-007869	SWRMH-001506	SWRMH-001505	U40180	U40181	15	18	141	0.018	0.55	0.45	300	42,300	1	5,000	5,000	47,300	70,950
	SWRGM-007870	SWRMH-001502	SWRMH-001501	U40184	U40185	15	18	280	0.005	1.00	0.68	300	84,000	1	5,000	5,000	89,000	133,500
	SWRGM-007871	SWRMH-001504	SWRMH-001503	U40182	U40183	15	18	203	0.024	0.50	0.42	300	60,900	1	5,000	5,000	65,900	98,850
	SWRGM-007872	SWRMH-001503	SWRMH-001502	U40183	U40184	15	18	219	0.014	0.59	0.48	300	65,700	1	5,000	5,000	70,700	106,050
	SWRGM-007873	SWRMH-001508	SWRMH-001507	U40178	U40179	15	18	330	0.012	0.62	0.50	300	99,000	1	5,000	5,000	104,000	156,000
	SWRGM-008976	SWRMH-005769	SWRMH-005770	U42102	U42101	15	18	350	0.011	0.62	0.51	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008977	SWRMH-005720	SWRMH-005769	U42103	U42102	15	18	350	0.005	1.00	0.64	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008365	SWRMH-001505	SWRMH-001504	U40181	U40182	15	18	142	0.025	0.50	0.41	300	42,600	1	5,000	5,000	47,600	71,400
	SWRGM-008729	SWRMH-005718	SWRMH-005716	U43106	U43108	15	18	350	0.005	0.82	0.63	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008730	SWRMH-006190	SWRMH-005715	U43101	U43109	15	18	340	0.027	0.47	0.39	300	102,000	1	5,000	5,000	107,000	160,500
	SWRGM-008753	SWRMH-005717	SWRMH-006190	U43107	U43101	15	18	207	0.028	0.45	0.38	300	62,100	1	5,000	5,000	67,100	100,650
	SWRGM-008754	SWRMH-005716	SWRMH-005717	U43108	U43107	15	18	350	0.005	0.82	0.63	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008831	SWRMH-005714	SWRMH-006189	U43110	U43102	15	18	332	0.008	0.69	0.55	300	99,600	1	5,000	5,000	104,600	156,900
C20	SWRGM-008897	SWRMH-005457	SWRMH-006324	U42107	U41107	15	18	350	0.014	0.59	0.48	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008939	SWRMH-006325	SWRMH-006326	U41106	U41105	15	18	200	0.019	0.54	0.45	300	60,000	1	5,000	5,000	65,000	97,500
	SWRGM-009015	SWRMH-006326	SWRMH-006327	U41105	U41104	15	18	190	0.01	0.66	0.53	300	57,000	1	5,000	5,000	62,000	93,000
	SWRGM-009016	SWRMH-006327	SWRMH-006328	U41104	U41103	15	18	350	0.007	0.77	0.60	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009017	SWRMH-006328	SWRMH-006330	U41103	U41101	15	18	350	0.007	0.79	0.61	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009018	SWRMH-006330	SWRMH-006329	U41101	U41102	15	18	350	0.007	0.77	0.60	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009019	SWRMH-006329	SWRMH-009078	SDMH006329	SP656MH7	15	18	334	0.006	0.82	0.62	300	100,200	1	5,000	5,000	105,200	157,800
	SWRGM-009053	SWRMH-006187	SWRMH-005719	U43104	U42104	15	18	310	0.005	1.00	0.64	300	93,000	1	5,000	5,000	98,000	147,000
	SWRGM-009054	SWRMH-006188	SWRMH-006187	U43103	U43104	15	18	350	0.005	1.00	0.64	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009055	SWRMH-006189	SWRMH-006188	U43102	U43103	15	18	292	0.006	0.79	0.62	300	87,600	1	5,000	5,000	92,600	138,900
	SWRGM-009123	SWRMH-005719	SWRMH-005720	U42104	U42103	15	18	316	0.006	0.80	0.62	300	94,800	1	5,000	5,000	99,800	149,700
	SWRGM-009152	SWRMH-005458	SWRMH-005456	U42106	U42108	15	18	261	0.009	0.68	0.55	300	78,300	1	5,000	5,000	83,300	124,950
	SWRGM-009153	SWRMH-005456	SWRMH-005457	U42108	U42107	15	18	338	0.008	0.71	0.57	300	101,400	1	5,000	5,000	106,400	159,600
	SWRGM-009154	SWRMH-005459	SWRMH-005458	U42105	U42106	15	18	101	0.011	0.61	0.50	300	30,300	1	5,000	5,000	35,300	52,950
	SWRGM-009240	SWRMH-006324	SWRMH-006325	U41107	U41106	15	18	350	0.019	0.54	0.44	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009359	SWRMH-005770	SWRMH-005459	U42101	U42105	15	18	238	0.043	0.41	0.35	300	71,400	1	5,000	5,000	76,400	114,600
	SWRGM-009408	SWRMH-005715	SWRMH-005714	U43109	U43110	15	18	69	0.007	0.72	0.57	300	20,700	1	5,000	5,000	25,700	38,550
	SWRGM-007604	SWRMH-008968	SWRMH-006164	SP569MH05	SDMH006164	8	15	187	0.008	1.00	0.35	270	50,490	1	5,000	5,000	55,490	83,235
	SWRGM-007605	SWRMH-006165	SWRMH-008968	SDMH006165	SP569MH05	8	15	163	0.006	1.00	0.32	270	44,010	1	5,000	5,000	49,010	73,515
	SWRGM-008120	SWRMH-003343	SWRMH-006165	V40137	W40102	10	15	350	0.007	0.71	0.30	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-008121	SWRMH-003345	SWRMH-003344	V40135	V40136	10	15	377	0.005	1.00	0.33	270	101,790	1	5,000	5,000	106,790	160,185
	SWRGM-008122	SWRMH-003344	SWRMH-003343	V40136	V40137	10	15	350	0.007	0.71	0.30	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-009127	SWRMH-003948	SWRMH-006162	W40150	W40105	10	15	350	0.005	1.00	0.43	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-009128	SWRMH-003947	SWRMH-003948	W40151	W40150	10	15	350	0.005	1.00	0.39	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-009129	SWRMH-006163	SWRMH-003947	W40104	W40151	10	15	350	0.007	0.81	0.35	270	94,500	1	5,000	5,000	99,500	149,250
C21	SWRGM-009130	SWRMH-006164	SWRMH-006163	W40103	W40104	10	15	350	0.008	0.79	0.35	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-009030	SWRMH-004502	SWRMH-005765	x40115	x40108	12	15	310	0.004	1.00	0.51	270	83,700	1	5,000	5,000	88,700	133,050
	SWRGM-009031	SWRMH-005765	SWRMH-004503	x40108	x40114	12	15	347	0.004	1.00	0.51	270	93,690	1	5,000	5,000	98,690	148,035
	SWRGM-009052	SWRMH-003951	SWRMH-004502	W40147	x40115	10	15	360	0.006	1.00	0.43	270	97,200	1	5,000	5,000	102,200	153,300
	SWRGM-009102	SWRMH-003949	SWRMH-003950	W40149	W40148	10	15	306	0.005	1.00	0.43	270	82,620	1	5,000	5,000	87,620	131,430
	SWRGM-009322	SWRMH-003946	SWRMH-003949	W40152	W40149	10	15	117	0.003	1.00	0.51	270	31,590	1	5,000	5,000	36,590	54,885
	SWRGM-009323	SWRMH-006166	SWRMH-003946	W40101	W40152	10	15	185	0.003	1.00	0.51	270	49,950	1	5,000	5,000	54,950	82,425
	SWRGM-009369	SWRMH-003950	SWRMH-003951	W40148	W40147	10	15	385	0.006	1.00	0.44	270	103,950	1	5,000	5,000	108,950	163,425
	SWRGM-009385	SWRMH-006162	SWRMH-006166	W40105	W40101	10	15	165	0.007	1.00	0.39	270	44,550	1	5,000	5,000	49,550	74,325
	SWRGM-007699	SWRMH-003440	SWRMH-003417	V39115	V39138	18	21	157	0.007	0.56	0.48	340	53,380	1	5,000	5,000	58,380	87,570
	SWRGM-007809	SWRMH-003416	SWRMH-003471	V39139	V38137	18	21	53	0.004	0.67	0.56	340	18,020	1	5,000	5,000	23,020	34,530
	SWRGM-007916	SWRNJ-000366	SWRMH-004193	V38304	V38113	18	21	129	0.022	0.41	0.36	340	43,860	1	5,000	5,000	48,860	73,290
	SWRGM-008124	SWRMH-003417	SWRMH-003416	V39138	V39139	18	21	70	0.004	0.69	0.57	340	23,800	1	5,000	5,000	28,800	43,200
	SWRGM-008132	SWRMH-000698	SWRNJ-000366	V38112	V38304	18	21	133	0.02	0.42	0.36	340	45,220	1	5,000	5,000	50,220	75,330
C22	SWRGM-008133	SWRMH-003473	SWRMH-000698	V38135	V38306	18	21	268	0.005	0.64	0.54	340	91,120	1	5,000	5,000	96,120	144,180
	SWRGM-008373	SWRMH-003461	SWRMH-004199	V38147	V38106	18	21	168	0.003	0.75	0.62	340	57,120	1	5,000	5,000	62,120	93,180
	SWRGM-008374	SWRMH-003472	SWRMH-003461	V38136	V38147	18	21	37	0.004	0.67	0.56	340	12,580	1	5,000	5,000	17,580	26,370
	SWRGM-008375	SWRMH-003471	SWRMH-003470	V38137	V38138	18	21	183	0.004	0.68	0.57	340	62,220	1	5,000	5,000	67,220	100,830
	SWRGM-008376	SWRMH-004199	SWRMH-003473	V38106	V38135	18	21	372	0.014	0.47	0.40	340	126,480	1	5,000	5,000	131,480	197,220
	SWRGM-008377	SWRMH-003470	SWRMH-003472	V38138	V38136	18	21	230	0.004	0.67	0.57	340	78,200	1	5,000	5,000	83,200	124,800
	SWRGM-008477	SWRMH-004193	SWRMH-004194	V38113	V38111	18	21	70	0.013	0.56	0.46	340	23,800	1	5,000	5,000	28,800	43,200
	SWRGM-008818	SWRMH-009149	SWRMH-006611	W46164	X46113	15	24	209	0.005	0.71	0.34	370	77,330	1	5,000	5,000	82,330	123,495
	SWRGM-008834	SWRMH-006681	SWRMH-006029	X45128	X45145	15	24	172	0.008	0.64	0.31	370	63,640	1	5,000	5,000	68,640	102,960
	SWRGM-008853	SWRMH-006320	SWRMH-006679	X45120	X45130	15	24	350	0.017	0.51	0.26	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-008917	SWRMH-006319	SWRMH-006681	X45121	X45128	15	24	259	0.008	0.64	0.31	370	95,830	1	5,000	5,000	100,830	151,245
	SWRGM-008918	SWRMH-006318	SWRMH-006319	X45122	X45121	15	24	147	0.007	0.67	0.32	370	54,390	1	5,000	5,000	59,390	89,085
	SWRGM-008919	SWRMH-006317	SWRMH-006318	X45123	X45122	15	24	143	0.007	0.68	0.32	370	52,910	1	5,000	5,000	57,910	86,865
	SWRGM-008920	SWRMH-006315	SWRMH-006316	X45125	X45124	15	24	151	0.007	0.65	0.32	370	55,870	1	5,000	5,000	60,870	91,305
C23	SWRGM-008922	SWRMH-006029	SWRMH-006320	X45145	X45120	15	24	144	0.005	0.75	0.35	370	53,280	1	5,000	5,000	58,280	87,420
	SWRGM-008923	SWRMH-006316	SWRMH-006317	X45124	X45123	15	24	147	0.007	0.67	0.32	370	54,390	1	5,000	5,000	59,390	89,085
	SWRGM-008924	SWRMH-006672	SWRMH-006315	X46107	X45125	15	24	154	0.007	0.66	0.32	370	56,980	1	5,000	5,000	61,980	92,970
	SWRGM-009217	SWRMH-006613	SWRMH-009086	SDMH006613	SP653MH1	15	24	318	0.011	0.54	0.27	370	117,660	1	5,000	5,000	122,660	183,990
	SWRGM-009218	SWRMH-006612	SWRMH-006613	X46112	X46111	15	24	305	0.008	0.58	0.29	370	112,850	1	5,000	5,000	117,850	176,775
	SWRGM-009219	SWRMH-006611	SWRMH-006612	X46113	X46112	15	24	305	0.003	1.00	0.37	370	112,850	1	5,000	5,000	117,850	176,775
	SWRGM-009220	SWRMH-009088	SWRMH-006672	SP653MH03	SDMH006672	15	24	296	0.009	0.60	0.30	370	109,520	1	5,000	5,000	114,520	171,780
	SWRGM-010249	SWRMH-009086	SWRMH-009087	SP653MH1	SP653MH02	15	24	333	0.031	0.41	0.22	370	123,210	1	5,000	5,000	128,210	192,315
	SWRGM-009791	SWRMH-009087	SWRMH-009088	SP653MH02	SP653MH03	15	24	325	0.001	1.00	0.53	370	120,250	1	5,000	5,000	125,250	187,875
	SWRGM-007855	SWRMH-006300	SWRMH-006302	Y45142	Y45140	12	15	96	0.003	1.00	0.70	270	25,920	1	5,000	5,000	30,920	46,380
	SWRGM-008980	SWRMH-006680	SWRMH-006298	X45129	Y45144	12	15	348	0.004	1.00	0.61	270	93,960	1	5,000	5,000	98,960	148,440
	SWRGM-008981	SWRMH-006463	SWRMH-006461	Y45124	Y45126	12	15	274	0.01	0.69	0.49	270	73,980	1	5,000	5,000	78,980	118,470
	SWRGM-008984	SWRMH-004348	SWRMH-004349	Y44130	Y44129	12	15	220	0.01	0.68	0.49	270	59,400	1	5,000	5,000	64,400	96,600
	SWRGM-008997	SWRMH-004349	SWRMH-006322	Y44129	Y44102	12	15	318	0.005	1.00	0.61	270	85,860	1	5,000	5,000	90,860	136,290
	SWRGM-008598	SWRMH-006296	SWRMH-006300	Y45146	Y45142	12	15	219	0.01	0.69	0.49	270	59,130	1	5,000	5,000	64,130	96,195
	SWRGM-008786	SWRMH-006462	SWRMH-006463	Y45125	Y45124	12	15	315	0.014	0.60	0.44	270	85,050	1	5,000	5,000	90,050	135,075

Project No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Existing Pipe Size (inch)	Proposed Pipe Size (inch)	Pipe Length (ft)	Slope	2040 Maximum d/D	Proposed Maximum d/D	Pipe Unit Cost ($/LF)	Pipe Replacement Construction Cost ($)	Number of Manholes	Manhole Unit Cost ($/EA)	Manhole Cost ($)	Total Construction Cost ($)	Total Capital Cost ($)
C24	SWRGM-008852	SWRMH-006298	SWRMH-006297	Y45144	Y45145	12	15	311	0.005	1.00	0.59	270	83,970	1	5,000	5,000	88,970	133,455
	SWRGM-008895	SWRMH-006679	SWRMH-006680	X45130	X45129	12	15	349	0.031	0.46	0.34	270	94,230	1	5,000	5,000	99,230	148,845
	SWRGM-008896	SWRMH-006299	SWRMH-000327	Y45143	Y45146	12	15	266	0.018	0.54	0.40	270	71,820	1	5,000	5,000	76,820	115,230
	SWRGM-008929	SWRMH-006461	SWRMH-006464	Y45126	Y45123	12	15	354	0.01	0.68	0.49	270	95,580	1	5,000	5,000	100,580	150,870
	SWRGM-009014	SWRMH-006464	SWRMH-004348	Y45123	Y44130	12	15	202	0.011	0.67	0.48	270	54,540	1	5,000	5,000	59,540	89,310
	SWRGM-009028	SWRMH-004346	SWRMH-004568	Y44132	Z44118	12	15	259	0.006	1.00	0.60	270	69,930	1	5,000	5,000	74,930	112,395
	SWRGM-009029	SWRMH-004393	SWRMH-004346	Y44127	Y44132	12	15	330	0.005	1.00	0.65	270	89,100	1	5,000	5,000	94,100	141,150
	SWRGM-009057	SWRMH-006302	SWRMH-006282	Y45140	Y45160	12	15	326	0.005	1.00	0.58	270	88,020	1	5,000	5,000	93,020	139,530
	SWRGM-009141	SWRMH-006282	SWRMH-006462	Y45160	Y45125	12	15	314	0.014	0.61	0.44	270	84,780	1	5,000	5,000	89,780	134,670
	SWRGM-009239	SWRMH-006322	SWRMH-004393	Y44102	Y44127	12	15	336	0.005	1.00	0.65	270	90,720	1	5,000	5,000	95,720	143,580
	SWRGM-009244	SWRMH-005728	SWRMH-002478	Z44105	Z44127	12	15	331	0.005	1.00	0.67	270	89,370	1	5,000	5,000	94,370	141,555
	SWRGM-009245	SWRMH-002478	SWRMH-005729	Z44127	Z44104	12	15	339	0.027	0.54	0.40	270	91,530	1	5,000	5,000	96,530	144,795
	SWRGM-009374	SWRMH-004610	SWRMH-004609	Z44112	Z44113	12	15	288	0.006	1.00	0.64	270	77,760	1	5,000	5,000	82,760	124,140
	SWRGM-009375	SWRMH-004609	SWRMH-002557	Z44113	AA44107	12	15	330	0.018	0.62	0.45	270	89,100	1	5,000	5,000	94,100	141,150
	SWRGM-009376	SWRMH-004608	SWRMH-004610	Z44114	Z44112	12	15	341	0.005	1.00	0.65	270	92,070	1	5,000	5,000	97,070	145,605
	SWRGM-009377	SWRMH-004568	SWRMH-004569	Z44118	Z44117	12	15	404	0.004	1.00	0.68	270	109,080	1	5,000	5,000	114,080	171,120
	SWRGM-009378	SWRMH-004569	SWRMH-004570	Z44117	Z44116	12	15	21	0.004	1.00	0.67	270	5,670	1	5,000	5,000	10,670	16,005
	SWRGM-009379	SWRMH-004570	SWRMH-005727	Z44116	Z44106	12	15	304	0.004	1.00	0.72	270	82,080	1	5,000	5,000	87,080	130,620
	SWRGM-009380	SWRMH-005727	SWRMH-005728	Z44106	Z44105	12	15	322	0.006	1.00	0.63	270	86,940	1	5,000	5,000	91,940	137,910
	SWRGM-009394	SWRMH-006297	SWRMH-006299	Y45145	Y45143	12	15	49	0.027	0.47	0.35	270	13,230	1	5,000	5,000	18,230	27,345
	SWRGM-010048	SWRMH-000327	SWRMH-006296	Y45143	Y45146	12	15	26	0.028	0.47	0.35	270	7,020	1	5,000	5,000	12,020	18,030
C25	SWRGM-008965	SWRMH-005186	SWRMH-005187	X42128	X42127	10	12	74	0.006	0.56	0.42	240	17,760	1	5,000	5,000	22,760	34,140
	SWRGM-001098	SWRMH-004617	SWRMH-004616	Y42127	Y42128	8	12	328	0.004	1.00	0.51	240	78,720	1	5,000	5,000	83,720	125,580
	SWRGM-002933	SWRMH-006945	SWRMH-004618	Y42106	Y42126	8	12	161	0.026	0.59	0.32	240	38,640	1	5,000	5,000	43,640	65,460
	SWRGM-002934	SWRMH-004618	SWRMH-006944	Y42126	Y42107	8	12	239	0.006	1.00	0.47	240	57,360	1	5,000	5,000	62,360	93,540
	SWRGM-002936	SWRMH-005321	SWRMH-005320	Y42121	Y42122	8	12	191	0.036	0.54	0.30	240	45,840	1	5,000	5,000	50,840	76,260
	SWRGM-002937	SWRMH-006934	SWRMH-005321	Y42104	Y42121	8	12	211	0.021	0.64	0.34	240	50,640	1	5,000	5,000	55,640	83,460
	SWRGM-003665	SWRMH-006944	SWRMH-006943	Y42107	Y42108	8	12	306	0.006	1.00	0.47	240	73,440	1	5,000	5,000	78,440	117,660
	SWRGM-003668	SWRMH-004616	SWRMH-006945	Y42128	Y42106	8	12	206	0.006	1.00	0.44	240	49,440	1	5,000	5,000	54,440	81,660
	SWRGM-004872	SWRMH-003990	SWRMH-004397	Y42147	Y41137	8	12	576	0.009	1.00	0.44	240	138,240	1	5,000	5,000	143,240	214,860
	SWRGM-004873	SWRMH-005320	SWRMH-003990	Y42122	Y42147	8	12	644	0.015	0.74	0.38	240	154,560	1	5,000	5,000	159,560	239,340
	SWRGM-005149	SWRMH-006943	SWRMH-006934	Y42108	Y42104	8	12	350	0.006	1.00	0.47	240	84,000	1	5,000	5,000	89,000	133,500
	SWRGM-005386	SWRMH-005333	SWRMH-004617	Y42109	Y42127	8	12	149	0.015	0.65	0.34	240	35,760	1	5,000	5,000	40,760	61,140
	SWRGM-007335	SWRMH-005185	SWRMH-005186	X42129	X42128	8	12	187	0.01	0.73	0.38	240	44,880	1	5,000	5,000	49,880	74,820
	SWRGM-007393	SWRMH-006956	SWRMH-005185	X42113	X42129	8	12	259	0.01	0.73	0.38	240	62,160	1	5,000	5,000	67,160	100,740
	SWRGM-007394	SWRMH-005344	SWRMH-006956	X42118	X42113	8	12	341	0.022	0.54	0.30	240	81,840	1	5,000	5,000	86,840	130,260
	SWRGM-007395	SWRMH-005187	SWRMH-005333	X42127	Y42109	8	12	249	0.011	0.73	0.38	240	59,760	1	5,000	5,000	64,760	97,140
C26	SWRGM-007859	SWRMH-005992	SWRMH-005991	Z42104	Z42105	10	15	340	0.014	0.72	0.36	270	91,800	1	5,000	5,000	96,800	145,200
	SWRGM-007860	SWRMH-005991	SWRMH-004976	Z42105	Z42154	10	15	300	0.014	0.72	0.36	270	81,000	1	5,000	5,000	86,000	129,000
	SWRGM-007995	SWRMH-004976	SWRMH-004975	Z42154	Z42155	10	15	300	0.012	0.75	0.37	270	81,000	1	5,000	5,000	86,000	129,000
	SWRGM-008784	SWRMH-004905	SWRMH-004227	Y43141	Y43150	10	15	629	0.014	0.72	0.35	270	169,830	1	5,000	5,000	174,830	262,245
	SWRGM-008887	SWRMH-004975	SWRMH-004974	Z42155	Z42156	10	15	152	0.014	0.74	0.36	270	41,040	1	5,000	5,000	46,040	69,060
	SWRGM-008888	SWRMH-005331	SWRMH-005992	Y42111	Z42104	10	15	351	0.016	0.68	0.34	270	94,770	1	5,000	5,000	99,770	149,655
	SWRGM-008910	SWRMH-008378	SWRMH-005157	Z41102	Z41141	12	15	278	0.006	0.81	0.51	270	75,060	1	5,000	5,000	80,060	120,090
	SWRGM-009039	SWRMH-004227	SWRMH-005331	Y43150	Y42111	10	15	563	0.01	1.00	0.39	270	152,010	1	5,000	5,000	157,010	235,515
	SWRGM-009118	SWRMH-004847	SWRMH-008459	Z42161	Z41101	12	15	365	0.005	1.00	0.52	270	98,550	1	5,000	5,000	103,550	155,325
	SWRGM-009119	SWRMH-008459	SWRMH-008378	Z41101	Z41102	12	15	346	0.005	0.82	0.51	270	93,420	1	5,000	5,000	98,420	147,630
	SWRGM-009355	SWRMH-004974	SWRMH-004847	Z42156	Z42161	10	15	588	0.017	0.72	0.36	270	158,760	1	5,000	5,000	163,760	245,640
C27	SWRGM-008846	SWRMH-005241	SWRMH-004424	AB43104	AB43109	12	15	335	0.013	0.80	0.54	270	90,450	1	5,000	5,000	95,450	143,175
	SWRGM-008847	SWRMH-004426	SWRMH-004425	AB43107	AB43108	12	15	354	0.012	0.81	0.54	270	95,580	1	5,000	5,000	100,580	150,870
	SWRGM-008848	SWRMH-005354	SWRMH-004426	AB43102	AB43107	12	15	350	0.013	0.78	0.53	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-008849	SWRMH-005242	SWRMH-004256	AB43103	AC43123	12	15	293	0.017	0.75	0.52	270	79,110	1	5,000	5,000	84,110	126,165
	SWRGM-008851	SWRMH-004256	SWRMH-004261	AC43123	AC43121	12	15	280	0.029	0.62	0.44	270	75,600	1	5,000	5,000	80,600	120,900
	SWRGM-008962	SWRMH-004926	SWRNJ-000823	AB43106	AB43102	12	15	80	0.018	0.69	0.49	270	21,600	1	5,000	5,000	26,600	39,900
	SWRGM-009106	SWRMH-004425	SWRMH-005241	AB43108	AB43104	12	15	339	0.013	0.80	0.54	270	91,530	1	5,000	5,000	96,530	144,795
	SWRGM-009107	SWRMH-005355	SWRMH-005354	AB43101	AB43102	12	15	358	0.038	0.54	0.39	270	96,660	1	5,000	5,000	101,660	152,490
	SWRGM-009111	SWRNJ-000823	SWRMH-005355	AB43102	AB43101	12	15	20	0.028	0.59	0.43	270	5,400	1	5,000	5,000	10,400	15,600
	SWRGM-009381	SWRMH-004421	SWRMH-005242	AB43112	AB43103	12	15	280	0.017	0.74	0.51	270	75,600	1	5,000	5,000	80,600	120,900
	SWRGM-009382	SWRMH-004422	SWRMH-004421	AB43111	AB43112	12	15	280	0.013	1.00	0.56	270	75,600	1	5,000	5,000	80,600	120,900
	SWRGM-009383	SWRMH-004423	SWRMH-004422	AB43110	AB43111	12	15	220	0.012	1.00	0.57	270	59,400	1	5,000	5,000	64,400	96,600
	SWRGM-009384	SWRMH-004424	SWRMH-004423	AB43109	AB43110	12	15	218	0.012	1.00	0.57	270	58,860	1	5,000	5,000	63,860	95,790
C28	SWRGM-009204	SWRMH-003868	SWRMH-003869	AB44114	AB44113	15	21	368	0.002	1.00	0.50	340	125,120	1	5,000	5,000	130,120	195,180
C29	SWRGM-006185	SWRMH-004947	SWRMH-002902	X36146	X35153	8	12	135	0.004	1.00	0.44	240	32,400	1	5,000	5,000	37,400	56,100
C30	SWRGM-003727	SWRMH-004522	SWRMH-004521	X37143	X37144	8	10	220	0.004	1.00	0.53	210	46,200	1	5,000	5,000	51,200	76,800
	SWRGM-003775	SWRMH-004521	SWRMH-006176	X37144	X37104	8	10	19	0.053	0.35	0.26	210	3,990	1	5,000	5,000	8,990	13,485
C31	SWRGM-008941	SWRMH-006267	SWRMH-006115	AA36125	AA36155	12	15	358	0.006	1.00	0.54	270	96,660	1	5,000	5,000	101,660	152,490
	SWRGM-008957	SWRMH-005979	SWRMH-006267	AA36161	AA36125	12	15	177	0.005	1.00	0.58	270	47,790	1	5,000	5,000	52,790	79,185
	SWRGM-009095	SWRMH-006115	SWRMH-006799	AA36155	AA36104	12	15	259	0.023	0.52	0.37	270	69,930	1	5,000	5,000	74,930	112,395
C32	SWRGM-001268	SWRMH-008474	SWRMH-008277	AA32102	AA32125	8	12	391	0.005	1.00	0.42	240	93,840	1	5,000	5,000	98,840	148,260
	SWRGM-003966	SWRMH-007856	SWRMH-008474	AA32112	AA32102	8	12	351	0.012	0.60	0.33	240	84,240	1	5,000	5,000	89,240	133,860
	SWRGM-005696	SWRMH-008473	SWRMH-008475	AA32103	AA32101	8	12	234	0.026	0.48	0.27	240	56,160	1	5,000	5,000	61,160	91,740
	SWRGM-005697	SWRMH-008471	SWRMH-008473	AA32105	AA32103	8	12	147	0.027	0.47	0.27	240	35,280	1	5,000	5,000	40,280	60,420
	SWRGM-005698	SWRMH-008475	SWRMH-007856	AA32101	AA32112	8	12	316	0.016	0.55	0.30	240	75,840	1	5,000	5,000	80,840	121,260
C33	SWRGM-008554	SWRMH-006156	SWRMH-005353	AC40105	AC40107	15	24	100	0.027	0.76	0.36	370	37,000	1	5,000	5,000	42,000	63,000
	SWRGM-008555	SWRMH-005353	SWRMH-006157	AC40107	AC40104	15	24	250	0.028	0.78	0.36	370	92,500	1	5,000	5,000	97,500	146,250
	SWRGM-008556	SWRMH-006157	SWRMH-006158	AC40104	AC40103	21	24	350	0.008	0.64	0.51	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-008634	SWRMH-003977	SWRMH-003976	AC42104	AC42105	18	24	434	0.015	0.62	0.40	370	160,580	1	5,000	5,000	165,580	248,370
	SWRGM-008635	SWRMH-004629	SWRMH-004628	AC42101	AC42102	21	24	372	0.004	0.78	0.61	370	137,640	1	5,000	5,000	142,640	213,960
	SWRGM-008636	SWRMH-004361	SWRMH-004360	AC41109	AC41110	18	24	300	0.008	1.00	0.49	370	111,000	1	5,000	5,000	116,000	174,000
	SWRGM-008755	SWRMH-007895	SWRMH-004361	AC41104	AC41109	18	24	169	0.007	1.00	0.52	370	62,530	1	5,000	5,000	67,530	101,295
	SWRGM-008759	SWRMH-004257	SWRMH-005039	AC43122	AC43108	18	24	356	0.009	0.76	0.47	370	131,720	1	5,000	5,000	136,720	205,080
	SWRGM-008760	SWRMH-006158	SWRMH-005189	AC40103	AC40109	21	24	351	0.004	1.00	0.65	370	129,870	1	5,000	5,000	134,870	202,305
	SWRGM-008761	SWRMH-005189	SWRMH-005190	AC40109	AC40108	15	24	208	0.009	1.00	0.49	370	76,960	1	5,000	5,000	81,960	122,940
	SWRGM-008763	SWRMH-004360	SWRMH-006156	AC41110	AC40105	15	24	350	0.023	0.81	0.37	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-008885	SWRMH-004628	SWRMH-004627	AC42102	AC42103	21	24	374	0.004	0.81	0.62	370	138,380	1	5,000	5,000	143,380	215,070
	SWRGM-008886	SWRMH-003976	SWRMH-003975	AC42105	AC42106	21	24	350	0.004	0.80	0.62	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-008915	SWRMH-003975	SWRMH-004629	AC42106	AC42101	21	24	350	0.004	1.00	0.63	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-008966	SWRMH-005039	SWRMH-005040	AC43108	AC43107	18	24	350	0.013	0.66	0.42	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-009073	SWRMH-004245	SWRMH-004246	AC41114	AC41113	18	24	310	0.01	0.76	0.47	370	114,700	1	5,000	5,000	119,700	179,550
	SWRGM-009074	SWRMH-004244	SWRMH-004245	AC41115	AC41114	21	24	350	0.003	1.00	0.64	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-009075	SWRMH-004243	SWRMH-004244	AC41116	AC41115	21	24	350	0.003	1.00	0.64	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-009112	SWRMH-005040	SWRMH-003977	AC43107	AC42104	18	24	350	0.009	0.76	0.47	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-009121	SWRMH-005351	SWRMH-007895	AC41105	AC41104	18	24	131	0.009	0.80	0.48	370	48,470	1	5,000	5,000	53,470	80,205
	SWRGM-009122	SWRMH-004627	SWRMH-004243	AC42103	AC41116	21	24	369	0.003	1.00	0.64	370	136,530	1	5,000	5,000	141,530	212,295
	SWRGM-009290	SWRMH-005350	SWRMH-005351	AC41106	AC41105	18	24	253	0.009	0.81	0.48	370	93,610	1	5,000	5,000	98,610	147,915
	SWRGM-009291	SWRMH-004246	SWRMH-005350	AC41113	AC41106	18	24	51	0.009	0.77	0.47	370	18,870	1	5,000	5,000	23,870	35,805
	SWRGM-009403	SWRMH-004261	SWRMH-004257	AC43121	AC43122	18	24	23	0.024	0.54	0.35	370	8,510	1	5,000	5,000	13,510	20,265
	SWRGM-010159	SWRMH-008624	SWRMH-008623	SP705MH2	SP705MH1	27	27	588	0.004	0.81	0.50	400	235,200	1	5,000	5,000	240,200	360,300
	SWRGM-010200	SWRMH-008625	SWRMH-008624	SP705MH3	SP705MH2	27	27	500	0.004	1.00	0.51	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010130	SWRMH-008626	SWRMH-008625	SP705MH4	SP705MH3	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009902	SWRMH-008627	SWRMH-008626	SP705MH5	SP705MH4	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009985	SWRMH-008628	SWRMH-008627	SP705MH6	SP705MH5	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009493	SWRMH-008629	SWRMH-008628	SP705MH7	SP705MH6	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009885	SWRMH-008630	SWRMH-008629	SP705MH8	SP705MH7	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009759	SWRMH-008631	SWRMH-008630	SP705MH9	SP705MH8	27	27	309	0.002	1.00	0.61	400	123,600	1	5,000	5,000	128,600	192,900
	SWRGM-009518	SWRMH-008632	SWRMH-008631	SP705MH10	SP705MH9	27	27	314	0.002	1.00	0.61	400	125,600	1	5,000	5,000	130,600	195,900
	SWRGM-009808	SWRMH-008633	SWRMH-008632	SP705MH11	SP705MH10	27	27	560	0.002	1.00	0.61	400	224,000	1	5,000	5,000	229,000	343,500
	SWRGM-010105	SWRMH-008634	SWRMH-008633	SP705MH12	SP705MH11	27	27	504	0.002	1.00	0.61	400	201,600	1	5,000	5,000	206,600	309,900
	SWRGM-009767	SWRMH-008639	SWRMH-008634	SP705MH13	SP705MH12	27	27	504	0.002	1.00	0.61	400	201,600	1	5,000	5,000	206,600	309,900
	SWRGM-009510	SWRMH-009289	SWRMH-008645	SP711MH24	SP705MH23	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009942	SWRMH-008645	SWRMH-008644	SP705MH23	SP705MH22	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009571	SWRMH-008644	SWRMH-008643	SP705MH22	SP705MH21	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-010051	SWRMH-008643	SWRMH-008642	SP705MH21	SP705MH20	27	27	397	0.002	1.00	0.61	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-009725	SWRMH-008642	SWRMH-008641	SP705MH20	SP705MH19	27	27	397	0.002	1.00	0.61	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-010263	SWRMH-008641	SWRMH-008640	SP705MH19	SP705MH18	27	27	397	0.002	1.00	0.61	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-009914	SWRMH-008640	SWRMH-008635	SP705MH18	SP705MH17	27	27	311	0.002	1.00	0.61	400	124,400	1	5,000	5,000	129,400	194,100
	SWRGM-010252	SWRMH-008635	SWRMH-008636	SP705MH17	SP705MH16	27	27	311	0.002	1.00	0.61	400	124,400	1	5,000	5,000	129,400	194,100
	SWRGM-010086	SWRMH-008636	SWRMH-008637	SP705MH16	SP705MH15	27	27	351	0.002	1.00	0.61	400	140,400	1	5,000	5,000	145,400	218,100
	SWRGM-009798	SWRMH-008637	SWRMH-008638	SP705MH15	SP705MH14	27	27	351	0.002	1.00	0.61	400	140,400	1	5,000	5,000	145,400	218,100
	SWRGM-009568	SWRMH-008638	SWRMH-008639	SP705MH14	SP705MH13	27	27	351	0.002	1.00	0.61	400	140,400	1	5,000	5,000	145,400	218,100
	SWRGM-009744	SWRMH-008687	SWRMH-008686	SP715MH50	SP715MH49	27	27	397	0.003	1.00	0.53	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-009481	SWRMH-008688	SWRMH-008687	SP715MH51	SP715MH50	27	27	397	0.002	1.00	0.59	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-009681	SWRMH-008689	SWRMH-008688	SP715MH52	SP715MH51	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009702	SWRMH-008690	SWRMH-008689	SP715MH53	SP715MH52	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009895	SWRMH-008691	SWRMH-008690	SP715MH54	SP715MH53	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009689	SWRMH-008692	SWRMH-008691	SP715MH55	SP715MH54	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009834	SWRMH-008693	SWRMH-008692	SP715MH56	SP715MH55	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010102	SWRMH-008694	SWRMH-008693	SP715MH57	SP715MH56	27	27	423	0.003	1.00	0.56	400	169,200	1	5,000	5,000	174,200	261,300
	SWRGM-010141	SWRMH-008695	SWRMH-008694	SP715MH58	SP715MH57	27	27	381	0.003	1.00	0.54	400	152,400	1	5,000	5,000	157,400	236,100
	SWRGM-010231	SWRMH-008696	SWRMH-008695	SP715MH59	SP715MH58	27	27	163	0.005	0.72	0.46	400	65,200	1	5,000	5,000	70,200	105,300
	SWRGM-009473	SWRMH-008697	SWRMH-008696	SP715MH60	SP715MH59	27	27	401	0.003	1.00	0.55	400	160,400	1	5,000	5,000	165,400	248,100
	SWRGM-009448	SWRMH-008698	SWRMH-008697	SP715MH61	SP715MH60	27	27	497	0.002	1.00	0.65	400	198,800	1	5,000	5,000	203,800	305,700
	SWRGM-009961	SWRMH-008699	SWRMH-008698	SP715MH62	SP715MH61	27	27	519	0.002	1.00	0.65	400	207,600	1	5,000	5,000	212,600	318,900
	SWRGM-009656	SWRMH-008700	SWRMH-008699	SP715MH63	SP715MH62	27	27	433	0.002	1.00	0.60	400	173,200	1	5,000	5,000	178,200	267,300
	SWRGM-009450	SWRMH-008701	SWRMH-008700	SP715MH64	SP715MH63	27	27	809	0.001	1.00	0.73	400	323,600	1	5,000	5,000	328,600	492,900
	SWRGM-009635	SWRMH-008702	SWRMH-008701	SP715MH65	SP715MH64	27	27	430	0.002	1.00	0.59	400	172,000	1	5,000	5,000	177,000	265,500
	SWRGM-009576	SWRMH-008703	SWRMH-008702	SP715MH66	SP715MH65	27	27	82	0.002	1.00	0.59	400	32,800	1	5,000	5,000	37,800	56,700
	SWRGM-009707	SWRMH-008704	S

Project No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Existing Pipe Size (inch)	Proposed Pipe Size (inch)	Pipe Length (ft)	Slope	2040 Maximum d/D	Proposed Maximum d/D	Pipe Unit Cost ($/LF)	Pipe Replacement Construction Cost ($)	Number of Manholes	Manhole Unit Cost ($/EA)	Manhole Cost ($)	Total Construction Cost ($)	Total Capital Cost ($)
C34 (Parallel Pipe Option)	SWRGM-009919	SWRMH-008623	SWRMH-008704	SP705MH1	SP715MH67	27	27	306	0.004	1.00	0.51	400	122,400	1	5,000	5,000	127,400	191,100
	SWRGM-010201	SWRMH-008727	SWRNJ-000196	SP712MH1		27	27	73	0.003	1.00	0.57	400	29,200	1	5,000	5,000	34,200	51,300
	SWRGM-010165	SWRMH-008729	SWRMH-008727	SP712MH2	SP712MH1	27	27	314	0.001	1.00	0.69	400	125,600	1	5,000	5,000	130,600	195,900
	SWRGM-010113	SWRMH-008731	SWRMH-008729	SP712MH3	SP712MH2	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010183	SWRMH-008733	SWRMH-008731	SP712MH4	SP712MH3	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009952	SWRMH-008735	SWRMH-008733	SP712MH5	SP712MH4	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010266	SWRMH-008737	SWRMH-008735	SP712MH6	SP712MH5	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009524	SWRMH-008739	SWRMH-008737	SP712MH7	SP712MH6	27	27	250	0.001	1.00	0.69	400	100,000	1	5,000	5,000	105,000	157,500
	SWRGM-010132	SWRMH-008741	SWRMH-008739	SP712MH8	SP712MH7	27	27	350	0.001	1.00	0.68	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-010078	SWRMH-008743	SWRMH-008741	SP712MH9	SP712MH8	27	27	261	0.001	1.00	0.69	400	104,400	1	5,000	5,000	109,400	164,100
	SWRGM-010063	SWRMH-008745	SWRMH-008743	SP712MH10	SP712MH9	27	27	580	0.001	1.00	0.68	400	232,000	1	5,000	5,000	237,000	355,500
	SWRGM-009592	SWRMH-008747	SWRMH-008745	SP712MH11	SP712MH10	27	27	600	0.002	1.00	0.68	400	240,000	1	5,000	5,000	245,000	367,500
	SWRGM-009793	SWRMH-008749	SWRMH-008747	SP712MH12	SP712MH11	27	27	358	0.001	1.00	0.68	400	143,200	1	5,000	5,000	148,200	222,300
	SWRGM-009552	SWRMH-008751	SWRMH-008749	SP712MH13	SP712MH12	27	27	358	0.001	1.00	0.68	400	143,200	1	5,000	5,000	148,200	222,300
	SWRGM-009999	SWRMH-008753	SWRMH-008751	SP712MH14	SP712MH13	27	27	499	0.002	1.00	0.68	400	199,600	1	5,000	5,000	204,600	306,900
	SWRGM-009654	SWRMH-008755	SWRMH-008753	SP712MH15	SP712MH14	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009723	SWRMH-008757	SWRMH-008755	SP712MH16	SP712MH15	27	27	500	0.002	1.00	0.60	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010094	SWRMH-008759	SWRMH-008757	SP712MH17	SP712MH16	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010122	SWRMH-008761	SWRMH-008759	SP712MH18	SP712MH17	27	27	388	0.007	0.64	0.42	400	155,200	1	5,000	5,000	160,200	240,300
	SWRGM-009924	SWRMH-008763	SWRMH-008761	SP712MH19	SP712MH18	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009627	SWRMH-008765	SWRMH-008763	SP712MH20	SP712MH19	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009526	SWRMH-008767	SWRMH-008765	SP712MH21	SP712MH20	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009866	SWRMH-008769	SWRMH-008767	SP712MH22	SP712MH21	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009998	SWRMH-008771	SWRMH-008769	SP712MH23	SP712MH22	27	27	500	0.002	1.00	0.62	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010174	SWRMH-008773	SWRMH-008771	SP712MH24	SP712MH23	27	27	470	0.002	1.00	0.62	400	188,000	1	5,000	5,000	193,000	289,500
	SWRGM-009663	SWRMH-008776	SWRMH-008773	SP712MH25	SP712MH24	27	27	500	0.002	1.00	0.62	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009512	SWRMH-008778	SWRMH-008776	SP712MH26	SP712MH25	27	27	500	0.002	1.00	0.62	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009612	SWRMH-008780	SWRMH-008778	SP712MH27	SP712MH26	27	27	381	0.002	1.00	0.62	400	152,400	1	5,000	5,000	157,400	236,100
	SWRGM-009890	SWRMH-008781	SWRMH-008780	SP712MH28	SP712MH27	27	27	499	0.002	1.00	0.62	400	199,600	1	5,000	5,000	204,600	306,900
	SWRGM-010163	SWRMH-008783	SWRMH-008781	SP712MH29	SP712MH28	27	27	500	0.002	1.00	0.62	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010155	SWRMH-008785	SWRMH-008783	SP712MH30	SP712MH29	27	27	300	0.002	1.00	0.62	400	120,000	1	5,000	5,000	125,000	187,500
	SWRGM-009520	SWRMH-008788	SWRMH-008785	SP712MH31	SP712MH30	27	27	300	0.002	1.00	0.62	400	120,000	1	5,000	5,000	125,000	187,500
	SWRGM-010258	SWRMH-008790	SWRMH-008788	SP712MH32	SP712MH31	27	27	275	0.002	1.00	0.62	400	110,000	1	5,000	5,000	115,000	172,500
	SWRGM-009469	SWRMH-008792	SWRMH-008790	SP712MH33	SP712MH32	27	27	500	0.005	0.71	0.46	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009572	SWRMH-008794	SWRMH-008792	SP712MH34	SP712MH33	27	27	500	0.005	0.70	0.45	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009597	SWRMH-008796	SWRMH-008794	SP712MH35	SP712MH34	27	27	500	0.003	1.00	0.52	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009932	SWRMH-008798	SWRMH-008796	SP712MH36	SP712MH35	27	27	476	0.004	0.76	0.48	400	190,400	1	5,000	5,000	195,400	293,100
	SWRGM-009453	SWRMH-008800	SWRMH-008798	SP712MH37	SP712MH36	27	27	500	0.003	1.00	0.52	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009454	SWRMH-008802	SWRMH-008800	SP712MH38	SP712MH37	27	27	500	0.003	1.00	0.52	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009946	SWRMH-008804	SWRMH-008802	SP712MH39	SP712MH38	27	27	440	0.003	1.00	0.52	400	176,000	1	5,000	5,000	181,000	271,500
	SWRGM-009743	SWRMH-008806	SWRMH-008804	SP712MH40	SP712MH39	27	27	439	0.003	1.00	0.52	400	175,600	1	5,000	5,000	180,600	270,900
	SWRGM-009760	SWRMH-008808	SWRMH-008806	SP712MH41	SP712MH40	27	27	401	0.004	0.81	0.50	400	160,400	1	5,000	5,000	165,400	248,100
	SWRGM-009554	SWRMH-008810	SWRMH-008808	SP712MH42	SP712MH41	27	27	512	0.003	1.00	0.54	400	204,800	1	5,000	5,000	209,800	314,700
	SWRGM-010277	SWRMH-008811	SWRMH-008810	SP712MH43	SP712MH42	27	27	446	0.004	1.00	0.52	400	178,400	1	5,000	5,000	183,400	275,100
	SWRGM-010226	SWRMH-008813	SWRMH-008811	SP712MH44	SP712MH43	27	27	287	0.003	1.00	0.52	400	114,800	1	5,000	5,000	119,800	179,700
	SWRGM-009688	SWRMH-008815	SWRMH-008813	SP712MH45	SP712MH44	27	27	250	0.003	1.00	0.52	400	100,000	1	5,000	5,000	105,000	157,500
	SWRGM-009971	SWRMH-008817	SWRMH-008815	SP712MH46	SP712MH45	27	27	250	0.003	1.00	0.52	400	100,000	1	5,000	5,000	105,000	157,500
	SWRGM-009801	SWRMH-008686	SWRMH-008817	SP715MH49	SP712MH46	27	27	250	0.003	1.00	0.52	400	100,000	1	5,000	5,000	105,000	157,500
	SWRGM-010256	SWRMH-000296	SWRMH-009303	SDMH000296	SP711MH38	27	27	314	0.003	1.00	0.52	400	125,600	1	5,000	5,000	130,600	195,900
	SWRGM-010023	SWRMH-009303	SWRMH-009302	SP711MH38	SP711MH37	27	27	375	0.002	1.00	0.60	400	150,000	1	5,000	5,000	155,000	232,500
	SWRGM-010285	SWRMH-009302	SWRMH-009301	SP711MH37	SP711MH36	27	27	241	0.002	1.00	0.61	400	96,400	1	5,000	5,000	101,400	152,100
	SWRGM-010232	SWRMH-009301	SWRMH-009300	SP711MH36	SP711MH35	27	27	236	0.002	1.00	0.61	400	94,400	1	5,000	5,000	99,400	149,100
	SWRGM-009503	SWRMH-009300	SWRMH-009299	SP711MH35	SP711MH34	27	27	405	0.002	1.00	0.61	400	162,000	1	5,000	5,000	167,000	250,500
	SWRGM-009847	SWRMH-009299	SWRMH-009298	SP711MH34	SP711MH33	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009684	SWRMH-009298	SWRMH-009297	SP711MH33	SP711MH32	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009680	SWRMH-009297	SWRMH-009296	SP711MH32	SP711MH31	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009867	SWRMH-009296	SWRMH-009295	SP711MH31	SP711MH30	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009982	SWRMH-009295	SWRMH-009294	SP711MH30	SP711MH29	27	27	496	0.002	1.00	0.61	400	198,400	1	5,000	5,000	203,400	305,100
	SWRGM-009850	SWRMH-009294	SWRMH-009293	SP711MH29	SP711MH28	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009668	SWRMH-009293	SWRMH-009292	SP711MH28	SP711MH27	27	27	320	0.002	1.00	0.61	400	128,000	1	5,000	5,000	133,000	199,500
	SWRGM-009647	SWRMH-009292	SWRMH-009291	SP711MH27	SP711MH26	27	27	442	0.002	1.00	0.61	400	176,800	1	5,000	5,000	181,800	272,700
	SWRGM-010125	SWRMH-009291	SWRMH-009290	SP711MH26	SP711MH25	27	27	442	0.002	1.00	0.61	400	176,800	1	5,000	5,000	181,800	272,700
	SWRGM-009813	SWRMH-009290	SWRMH-009289	SP711MH25	SP711MH24	27	27	442	0.002	1.00	0.61	400	176,800	1	5,000	5,000	181,800	272,700
New Extension Sewer	n/a	n/a	n/a	n/a	n/a	n/a	8	26,542	0.01	n/a	0.50	180	4,777,560	106	8,000	848,000	5,625,560	8,438,340
	n/a	n/a	n/a	n/a	n/a	n/a	10	3,547	0.01	n/a	0.50	210	744,870	14	8,000	112,000	856,870	1,285,305
	n/a	n/a	n/a	n/a	n/a	n/a	12	31,377	0.01	n/a	0.50	240	7,530,480	125	8,000	1,000,000	8,530,480	12,795,720
Grand Total	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**207,377**	n/a	n/a	n/a	n/a	**61,942,540**	722	n/a	**4,345,000**	**66,288,000**	**99,431,000**

Table 6-7 Capital Cost Estimates for Capacity Improvement Projects (2040 Conditions – Scenario 2)

Project No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Existing Pipe Size (inch)	Proposed Pipe Size (inch)	Pipe Length (ft)	Slope	2040 Maximum d/D	Proposed Maximum d/D	Pipe Unit Cost ($/LF)	Pipe Replacement Construction Cost ($)	Number of Manholes	Manhole Unit Cost ($/EA)	Manhole Cost ($)	Total Construction Cost ($)	Total Capital Cost ($)
C12	SWRGM-007560	SWRMH-000315	SWRMH-003041	X31108	X30104	18	27	62	0.02	1.00	0.41	400	24,800	1	5,000	5,000	29,800	44,700
	SWRGM-007561	SWRMH-003027	SWRMH-000318	X31107	X31109	18	27	17	0.029	0.70	0.37	400	6,800	1	5,000	5,000	11,800	17,700
	SWRGM-007562	SWRMH-000316	SWRMH-000315	X30114	X30113	18	27	8	0.024	0.77	0.39	400	3,200	1	5,000	5,000	8,200	12,300
	SWRGM-007563	SWRMH-000317	SWRMH-000316	X31108	X30114	18	27	660	0.015	1.00	0.44	400	264,000	1	5,000	5,000	269,000	403,500
	SWRGM-007564	SWRMH-000318	SWRMH-000317	X31109	X30108	18	27	7	0.029	0.70	0.37	400	2,800	1	5,000	5,000	7,800	11,700
	SWRGM-007778	SWRMH-003043	SWRMH-003036	X30102	X30109	21	27	329	0.027	0.55	0.38	400	131,600	1	5,000	5,000	136,600	204,900
	SWRGM-007926	SWRMH-003042	SWRMH-003043	X30103	X30102	21	27	350	0.025	0.56	0.39	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007927	SWRMH-003041	SWRMH-003040	X30104	X30105	18	27	350	0.028	0.72	0.38	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008004	SWRMH-003040	SWRMH-003042	X30105	X30103	18	27	350	0.066	0.53	0.30	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008076	SWRMH-003032	SWRMH-003031	X31102	X31103	21	27	358	0.007	1.00	0.55	400	143,200	1	5,000	5,000	148,200	222,300
	SWRGM-008077	SWRMH-003031	SWRMH-003030	X31103	X31104	21	27	350	0.007	1.00	0.55	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008078	SWRMH-003028	SWRMH-003027	X31106	X31107	18	27	300	0.03	0.70	0.37	400	120,000	1	5,000	5,000	125,000	187,500
	SWRGM-008079	SWRMH-003030	SWRMH-003028	X31104	X31106	18	27	338	0.021	0.81	0.41	400	135,200	1	5,000	5,000	140,200	210,300
	SWRGM-008109	SWRMH-003023	SWRMH-003022	X32104	X32105	21	27	307	0.013	0.69	0.46	400	122,800	1	5,000	5,000	127,800	191,700
	SWRGM-008110	SWRMH-003022	SWRMH-003021	X32105	X32106	21	27	350	0.014	0.68	0.46	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008599	SWRMH-003029	SWRMH-003033	X31105	X31101	21	27	350	0.007	1.00	0.56	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-008652	SWRMH-003033	SWRMH-003032	X31101	X31102	21	27	368	0.012	0.73	0.48	400	147,200	1	5,000	5,000	152,200	228,300
	SWRGM-009339	SWRMH-003021	SWRMH-003029	X32106	X31105	21	27	350	0.007	1.00	0.55	400	140,000	1	5,000	5,000	145,000	217,500
C13	SWRGM-007670	SWRMH-002921	SWRMH-002893	X35134	X35162	15	21	60	0.011	1.00	0.53	340	20,400	1	5,000	5,000	25,400	38,100
	SWRGM-007671	SWRMH-002894	SWRMH-002895	X35161	X35160	15	21	328	0.012	1.00	0.52	340	111,520	1	5,000	5,000	116,520	174,780
	SWRGM-007672	SWRMH-002895	SWRMH-002921	X35160	X35134	15	21	300	0.012	1.00	0.51	340	102,000	1	5,000	5,000	107,000	160,500
	SWRGM-007673	SWRMH-002893	SWRMH-002892	X35162	X35163	15	21	360	0.023	0.71	0.42	340	122,400	1	5,000	5,000	127,400	191,100
	SWRGM-007674	SWRMH-002896	SWRMH-002894	X35159	X35161	15	21	282	0.011	1.00	0.52	340	95,880	1	5,000	5,000	100,880	151,320
	SWRGM-007681	SWRMH-002892	SWRMH-002983	X35163	X34109	15	21	360	0.023	0.71	0.42	340	122,400	1	5,000	5,000	127,400	191,100
	SWRGM-007682	SWRMH-002987	SWRMH-002988	X34105	X34104	15	21	375	0.013	1.00	0.50	340	127,500	1	5,000	5,000	132,500	198,750
	SWRGM-007683	SWRMH-002986	SWRMH-002987	X34106	X34105	15	21	375	0.013	1.00	0.50	340	127,500	1	5,000	5,000	132,500	198,750
	SWRGM-007684	SWRMH-002985	SWRMH-002986	X34107	X34106	15	21	367	0.013	1.00	0.50	340	124,780	1	5,000	5,000	129,780	194,670
	SWRGM-007815	SWRMH-003002	SWRMH-003008	X33109	X33103	15	21	378	0.011	1.00	0.53	340	128,520	1	5,000	5,000	133,520	200,280
	SWRGM-007817	SWRMH-002988	SWRMH-003001	X34104	X33110	15	21	372	0.013	1.00	0.50	340	126,480	1	5,000	5,000	131,480	197,220
	SWRGM-008106	SWRMH-003014	SWRMH-003026	X32113	X32101	15	21	300	0.016	1.00	0.48	340	102,000	1	5,000	5,000	107,000	160,500
	SWRGM-008108	SWRMH-003025	SWRMH-003024	X32102	X32103	15	21	150	0.015	1.00	0.49	340	51,000	1	5,000	5,000	56,000	84,000
	SWRGM-008272	SWRMH-003024	SWRMH-003023	X32103	X32104	15	21	328	0.016	1.00	0.48	340	111,520	1	5,000	5,000	116,520	174,780
	SWRGM-008273	SWRMH-003020	SWRMH-003023	X32107	X32104	18	21	150	0.003	1.00	0.60	340	51,000	1	5,000	5,000	56,000	84,000
	SWRGM-008274	SWRMH-003019	SWRMH-003020	X32108	X32107	18	21	180	0.003	1.00	0.60	340	61,200	1	5,000	5,000	66,200	99,300
	SWRGM-008275	SWRMH-003018	SWRMH-003019	X32109	X32108	18	21	140	0.002	1.00	0.72	340	47,600	1	5,000	5,000	52,600	78,900
	SWRGM-008276	SWRMH-003017	SWRMH-003018	X32110	X32109	18	21	150	0.004	0.75	0.57	340	51,000	1	5,000	5,000	56,000	84,000
	SWRGM-008357	SWRMH-003008	SWRMH-003007	X33103	X33104	15	21	208	0.026	0.71	0.42	340	70,720	1	5,000	5,000	75,720	113,580
	SWRGM-008482	SWRMH-003026	SWRMH-003025	X32101	X32102	15	21	300	0.017	1.00	0.47	340	102,000	1	5,000	5,000	107,000	160,500
	SWRGM-008500	SWRMH-002984	SWRMH-002985	X34108	X34107	15	21	378	0.015	1.00	0.47	340	128,520	1	5,000	5,000	133,520	200,280
	SWRGM-008501	SWRMH-002983	SWRMH-002984	X34109	X34108	15	21	348	0.017	1.00	0.46	340	118,320	1	5,000	5,000	123,320	184,980
	SWRGM-008725	SWRMH-003001	SWRMH-003011	X33110	X33101	15	21	383	0.011	1.00	0.52	340	130,220	1	5,000	5,000	135,220	202,830
	SWRGM-008726	SWRMH-003007	SWRMH-003014	X33104	X32113	15	21	306	0.016	1.00	0.48	340	104,040	1	5,000	5,000	109,040	163,560
	SWRGM-008740	SWRMH-003003	SWRMH-003002	X33108	X33109	15	21	380	0.011	1.00	0.54	340	129,200	1	5,000	5,000	134,200	201,300
	SWRGM-008741	SWRMH-003011	SWRMH-003003	X33101	X33108	15	21	380	0.011	1.00	0.53	340	129,200	1	5,000	5,000	134,200	201,300
C14	SWRGM-007747	SWRMH-002093	SWRMH-002094	R48149	R48148	12	15	320	0.002	1.00	0.55	270	86,400	1	5,000	5,000	91,400	137,100
	SWRGM-007748	SWRMH-002094	SWRMH-001708	R48148	Q48116	12	15	320	0.002	1.00	0.55	270	86,400	1	5,000	5,000	91,400	137,100
	SWRGM-007833	SWRMH-002136	SWRMH-002093	R48106	R48149	12	15	290	0.003	0.75	0.50	270	78,300	1	5,000	5,000	83,300	124,950
	SWRGM-008338	SWRMH-001708	SWRMH-001700	Q48116	Q48124	12	15	320	0.002	1.00	0.55	270	86,400	1	5,000	5,000	91,400	137,100
	SWRGM-008381	SWRMH-001700	SWRMH-009027	SDMH001700	SP574MH09	12	15	100	0.004	0.69	0.47	270	27,000	1	5,000	5,000	32,000	48,000
C15	SWRGM-009951	SWRMH-008681	SWRMH-008682	SP730MH153	SP730MH101	10	12	20	0.011	1.00	0.58	240	4,800	1	5,000	5,000	9,800	14,700
	SWRGM-000516	SWRMH-002345	SWRMH-002346	S50110	S50109	8	12	382	0.01	1.00	0.41	240	91,680	1	5,000	5,000	96,680	145,020
	SWRGM-000519	SWRMH-002346	SWRMH-008284	S50109	S49101	8	12	270	0.01	1.00	0.41	240	64,800	1	5,000	5,000	69,800	104,700
	SWRGM-000520	SWRMH-008283	SWRMH-007177	S49102	S48138	8	12	300	0.012	1.00	0.44	240	72,000	1	5,000	5,000	77,000	115,500
	SWRGM-000521	SWRMH-008282	SWRMH-008283	S49103	S49102	8	12	320	0.011	1.00	0.46	240	76,800	1	5,000	5,000	81,800	122,700
	SWRGM-000431	SWRMH-007450	SWRMH-007454	T47133	T47129	8	12	350	0.01	1.00	0.56	240	84,000	1	5,000	5,000	89,000	133,500
	SWRGM-000459	SWRMH-008297	SWRMH-007464	S48109	S48125	8	12	275	0.008	1.00	0.52	240	66,000	1	5,000	5,000	71,000	106,500
	SWRGM-000464	SWRMH-007184	SWRMH-008297	S48131	S48109	8	12	235	0.007	1.00	0.54	240	56,400	1	5,000	5,000	61,400	92,100
	SWRGM-000466	SWRMH-007174	SWRMH-007173	S48141	S48142	8	12	213	0.007	1.00	0.52	240	51,120	1	5,000	5,000	56,120	84,180
	SWRGM-000467	SWRMH-007173	SWRMH-008298	S48142	S48108	8	12	215	0.02	0.79	0.39	240	51,600	1	5,000	5,000	56,600	84,900
	SWRGM-000527	SWRMH-007361	SWRMH-007360	S47119	S47120	8	12	202	0.01	1.00	0.50	240	48,480	1	5,000	5,000	53,480	80,220
	SWRGM-000528	SWRMH-007362	SWRMH-007361	S47118	S47119	8	12	207	0.013	1.00	0.47	240	49,680	1	5,000	5,000	54,680	82,020
	SWRGM-001051	SWRMH-007395	SWRMH-008305	S48130	S48101	8	12	213	0.006	1.00	0.56	240	51,120	1	5,000	5,000	56,120	84,180
	SWRGM-001052	SWRMH-008305	SWRMH-007184	S48101	S48131	8	12	235	0.006	1.00	0.56	240	56,400	1	5,000	5,000	61,400	92,100
	SWRGM-000778	SWRMH-007448	SWRMH-007450	T47135	T47133	8	12	72	0.007	1.00	0.62	240	17,280	1	5,000	5,000	22,280	33,420
	SWRGM-000919	SWRMH-008300	SWRMH-008301	S48106	S48105	8	12	256	0.009	1.00	0.49	240	61,440	1	5,000	5,000	66,440	99,660
	SWRGM-000920	SWRMH-008298	SWRMH-008299	S48108	S48107	8	12	256	0.008	1.00	0.51	240	61,440	1	5,000	5,000	66,440	99,660
	SWRGM-001863	SWRMH-007225	SWRMH-007318	S47129	T47186	8	12	350	0.012	1.00	0.48	240	84,000	1	5,000	5,000	89,000	133,500
	SWRGM-001467	SWRMH-008301	SWRMH-007395	S48105	S48130	8	12	285	0.008	1.00	0.50	240	68,400	1	5,000	5,000	73,400	110,100
	SWRGM-001470	SWRMH-008299	SWRMH-008300	S48107	S48106	8	12	256	0.007	1.00	0.54	240	61,440	1	5,000	5,000	66,440	99,660
	SWRGM-001591	SWRMH-007364	SWRMH-007363	S47116	S47117	8	12	249	0.005	1.00	0.62	240	59,760	1	5,000	5,000	64,760	97,140
	SWRGM-001592	SWRMH-007363	SWRMH-007362	S47117	S47118	8	12	229	0.013	1.00	0.47	240	54,960	1	5,000	5,000	59,960	89,940
	SWRGM-001594	SWRMH-008279	SWRMH-008280	S49106	S49105	8	12	330	0.017	1.00	0.40	240	79,200	1	5,000	5,000	84,200	126,300
	SWRGM-001595	SWRMH-008284	SWRMH-008279	S49101	S49106	8	12	330	0.014	1.00	0.42	240	79,200	1	5,000	5,000	84,200	126,300
	SWRGM-001597	SWRMH-008285	SWRMH-007780	S48121	S47161	8	12	270	0.005	1.00	0.61	240	64,800	1	5,000	5,000	69,800	104,700
	SWRGM-001797	SWRMH-007360	SWRMH-007353	S47120	S47127	8	12	296	0.012	1.00	0.47	240	71,040	1	5,000	5,000	76,040	114,060
	SWRGM-001831	SWRMH-007316	SWRMH-007315	T47188	T47189	8	12	188	0.006	1.00	0.64	240	45,120	1	5,000	5,000	50,120	75,180
	SWRGM-001832	SWRMH-007317	SWRMH-007316	T47187	T47188	8	12	265	0.006	1.00	0.62	240	63,600	1	5,000	5,000	68,600	102,900
	SWRGM-001833	SWRMH-007318	SWRMH-007317	T47186	T47187	8	12	266	0.008	1.00	0.57	240	63,840	1	5,000	5,000	68,840	103,260
	SWRGM-001894	SWRMH-007365	SWRMH-007364	S47115	S47116	8	12	205	0.005	1.00	0.62	240	49,200	1	5,000	5,000	54,200	81,300
	SWRGM-001938	SWRMH-008281	SWRMH-008282	S49104	S49103	8	12	330	0.02	0.77	0.39	240	79,200	1	5,000	5,000	84,200	126,300
	SWRGM-001990	SWRMH-007780	SWRMH-007365	S47161	S47115	8	12	205	0.005	1.00	0.62	240	49,200	1	5,000	5,000	54,200	81,300
	SWRGM-002296	SWRMH-007353	SWRMH-007352	S47127	S47128	8	12	242	0.013	1.00	0.47	240	58,080	1	5,000	5,000	63,080	94,620
	SWRGM-002702	SWRMH-007352	SWRMH-007225	S47128	S47129	8	12	288	0.013	1.00	0.47	240	69,120	1	5,000	5,000	74,120	111,180
	SWRGM-002898	SWRMH-008280	SWRMH-008281	S49105	S49104	8	12	330	0.016	1.00	0.41	240	79,200	1	5,000	5,000	84,200	126,300
	SWRGM-003685	SWRMH-007175	SWRMH-007174	S48140	S48141	8	12	270	0.005	1.00	0.59	240	64,800	1	5,000	5,000	69,800	104,700
	SWRGM-003687	SWRMH-007177	SWRMH-007175	S48138	S48140	8	12	256	0.022	0.75	0.38	240	61,440	1	5,000	5,000	66,440	99,660
	SWRGM-003691	SWRMH-007464	SWRMH-008285	S48125	S48121	8	12	326	0.005	1.00	0.61	240	78,240	1	5,000	5,000	83,240	124,860
	SWRGM-004010	SWRMH-007451	SWRMH-007448	T47132	T47135	8	12	278	0.007	1.00	0.61	240	66,720	1	5,000	5,000	71,720	107,580
	SWRGM-004011	SWRMH-007449	SWRMH-007451	T47134	T47132	8	12	265	0.007	1.00	0.63	240	63,600	1	5,000	5,000	68,600	102,900
	SWRGM-007105	SWRMH-008391	SWRMH-007449	T47101	T47134	8	12	350	0.013	1.00	0.51	240	84,000	1	5,000	5,000	89,000	133,500
	SWRGM-007106	SWRMH-007315	SWRMH-008391	T47189	T47101	8	12	257	0.017	1.00	0.46	240	61,680	1	5,000	5,000	66,680	100,020
	SWRGM-010047	SWRMH-007454	SWRMH-008681	SDMH007454	SP730MH153	8	12	350	0.02	1.00	0.45	240	84,000	1	5,000	5,000	89,000	133,500
C16	SWRGM-007573	SWRMH-000379	SWRMH-000394	T46189	T46188	12	15	40	0.011	0.58	0.41	270	10,800	1	5,000	5,000	15,800	23,700
	SWRGM-007574	SWRMH-000406	SWRMH-000405	T44186	T44185	12	15	113	0.015	0.51	0.43	270	30,510	1	5,000	5,000	35,510	53,265
	SWRGM-007575	SWRMH-000403	SWRMH-000404	T45152	T45151	12	15	360	0.017	0.56	0.40	270	97,200	1	5,000	5,000	102,200	153,300
	SWRGM-007576	SWRMH-000402	SWRMH-000403	T45153	T45152	12	15	350	0.007	0.76	0.51	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-007577	SWRMH-000401	SWRMH-000402	T45154	T45153	12	15	349	0.004	1.00	0.61	270	94,230	1	5,000	5,000	99,230	148,845
	SWRGM-007578	SWRMH-000400	SWRMH-000401	T45155	T45154	12	15	351	0.015	0.58	0.41	270	94,770	1	5,000	5,000	99,770	149,655
	SWRGM-007579	SWRMH-000399	SWRMH-000400	T45156	T45155	12	15	351	0.004	1.00	0.61	270	94,770	1	5,000	5,000	99,770	149,655
	SWRGM-007580	SWRMH-000398	SWRMH-000399	T46184	T45156	12	15	161	0.01	0.65	0.45	270	43,470	1	5,000	5,000	48,470	72,705
	SWRGM-007581	SWRMH-000397	SWRMH-000398	T46185	T46184	12	15	350	0.004	1.00	0.61	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-007582	SWRMH-000395	SWRMH-000396	T46187	T46186	12	15	279	0.015	0.53	0.38	270	75,330	1	5,000	5,000	80,330	120,495
	SWRGM-007583	SWRMH-000394	SWRMH-000395	T46188	T46187	12	15	279	0.012	0.57	0.40	270	75,330	1	5,000	5,000	80,330	120,495
	SWRGM-007584	SWRMH-000393	SWRMH-000379	T46190	T46189	12	15	229	0.012	0.57	0.41	270	61,830	1	5,000	5,000	66,830	100,245
	SWRGM-007585	SWRMH-000392	SWRMH-000393	T46191	T46190	12	15	345	0.012	0.56	0.40	270	93,150	1	5,000	5,000	98,150	147,225
	SWRGM-007586	SWRMH-000391	SWRMH-000392	T47192	T46191	12	15	349	0.011	0.59	0.42	270	94,230	1	5,000	5,000	99,230	148,845
	SWRGM-007587	SWRMH-000382	SWRMH-000391	T47193	T47192	12	15	201	0.01	0.60	0.43	270	54,270	1	5,000	5,000	59,270	88,905
	SWRGM-007588	SWRMH-000390	SWRMH-000382	T47194	T47193	12	15	46	0.003	1.00	0.58	270	12,420	1	5,000	5,000	17,420	26,130
	SWRGM-007589	SWRMH-000389	SWRMH-000390	T47195	T47194	12	15	255	0.005	0.80	0.53	270	68,850	1	5,000	5,000	73,850	110,775
	SWRGM-007590	SWRMH-000388	SWRMH-000389	T47196	T47195	12	15	257	0.005	0.79	0.52	270	69,390	1	5,000	5,000	74,390	111,585
	SWRGM-008409	SWRMH-000655	SWRMH-000656	T44127	T44126	12	15	350	0.01	1.00	0.69	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-008410	SWRMH-000660	SWRMH-000655	T44122	T44127	12	15	197	0.018	0.75	0.56	270	53,190	1	5,000	5,000	58,190	87,285
	SWRGM-008411	SWRMH-000656	SWRMH-000657	T44126	T44125	12	15	350	0.01	1.00	0.69	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-008414	SWRMH-000405	SWRMH-000660	T44121	T44122	12	15	136	0.015	1.00	0.59	270	36,720	1	5,000	5,000	41,720	62,580
	SWRGM-008610	SWRMH-000657	SWRMH-000658	T44125	T44124	12	15	194	0.01	1.00	0.68	270	52,380	1	5,000	5,000	57,380	86,070
	SWRGM-008611	SWRMH-000659	SWRMH-008375	T44123	T44129	12	15	204	0.01	1.00	0.68	270	55,080	1	5,000	5,000	60,080	90,120
	SWRGM-008612	SWRMH-000658	SWRMH-000659	T44124	T44123	12	15	350	0.01	1.00	0.69	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-008776	SWRMH-008375	SWRMH-006186	T44129	U43105	12	15	200	0.01	1.00	0.69	270	54,000	1	5,000	5,000	59,000	88,500
	SWRGM-008777	SWRMH-006186	SWRMH-004077	U43105	U43120	12	15	239	0.02	0.74	0.55	270	64,530	1	5,000	5,000	69,530	104,295
	SWRGM-009151	SWRMH-004077	SWRMH-004076	U43120	U43121	12	15	270	0.02	0.74	0.55	270	72,900	1	5,000	5,000	77,900	116,850
	SWRGM-009373	SWRMH-004076	SWRMH-005718	U43121	U43106	12	15	84	0.02	0.73	0.55	270	22,680	1	5,000	5,000	27,680	41,520
	SWRGM-009580	SWRMH-008682	SWRMH-000388	SP730MH101	SDMH000388	12	15	247	0.005	0.77	0.51	270	66,690	1	5,000	5,000	71,690	107,535
	SWRGM-010269	SWRMH-000404	SWRMH-008683	SDMH000404	SP730MH102	12	15	271	0.008	0.70	0.48	270	73,170	1	5,000	5,000	78,170	117,255
	SWRGM-009968	SWRMH-008683	SWRMH-000406	SP730MH102	SDMH000406	12	15	69	0.004	1.00	0.65	270	18,630	1	5,000	5,000	23,630	35,445
	SWRGM-009948	SWRMH-000396	SWRMH-008684	SDMH000396	SP730MH01	12	15	141	0.003	1.00	0.64	270	38,070	1	5,000	5,000	43,070	64,605
	SWRGM-009905	SWRMH-008684	SWRMH-000397	SP730MH01	SDMH000397	12	15	89	0.005	1.00	0.56	270	24,030	1	5,000	5,000	29,030	43,545
C17	SWRGM-007659	SWRMH-002801	SWRMH-002794	M43104	M43111	15	18	137	0.006	0.52	0.39	300	41,100	1	5,000	5,000	46,100	69,150
	SWRGM-007660	SWRMH-002798	SWRMH-002799	M43107	M43106	15	18	333	0.002	0.68	0.50	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-007661	SWRMH-002797	SWRMH-002798	M43108	M43107	15	18	333	0.002	0.63	0.46	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-007662	SWRMH-002784	SWRMH-002797	M43121	M43108	15	18	106	0.002	0.63	0.47	300	31,800	1	5,000	5,000	36,800	55,200
	SWRGM-007663	SWRMH-002796	SWRMH-002795	M43109	M43110	15	18	333	0.002	0.56	0.42	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-007664	SWRMH-002802	SWRMH-002784	M43103	M43121	15	18	222	0.002	0.60	0.45	300	66,600	1	5,000	5,000	71,600	107,400
	SWRGM-007666	SWRMH-002799	SWRMH-002801	M43106	M43104	15	18	333	0.002	0.68	0.50	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-007713	SWRMH-002794	SWRMH-002800	M43111	M43105	15	18	197	0.006	0.51	0.39	300	59,100	1	5,000	5,000	64,100	96,150
	SWRGM-007714	SWRMH-002795	SWRMH-002802	M43110	M43103	15	18	333	0.011	0.37	0.28	300	99,900	1	5,000	5,000	104,900	157,350
	SWRGM-008176	SWRMH-003501	SWRMH-002796	L43108	M43109	15	18	331	0.002	0.56	0.42	300	99,300	1	5,000	5,000	104,300	156,450
	SWRGM-008678	SWRMH-003505	SWRMH-003506	L43104	L43103	12	18	322	0.003	0.69	0.36	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008679	SWRMH-003508	SWRMH-003501	L43101	L43108	12	18	344	0.002	1.00	0.42	300	103,200	1	5,000	5,000	108,200	162,300

Project No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Existing Pipe Size (inch)	Proposed Pipe Size (inch)	Pipe Length (ft)	Slope	2040 Maximum d/D	Proposed Maximum d/D	Pipe Unit Cost ($/LF)	Pipe Replacement Construction Cost ($)	Number of Manholes	Manhole Unit Cost ($/EA)	Manhole Cost ($)	Total Construction Cost ($)	Total Capital Cost ($)
	SWRGM-008680	SWRMH-003507	SWRMH-003508	L43102	L43101	12	18	322	0.009	0.48	0.27	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008681	SWRMH-003506	SWRMH-003507	L43103	L43102	12	18	322	0.003	0.69	0.36	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008682	SWRMH-003504	SWRMH-003505	L43105	L43104	12	18	322	0.003	0.69	0.36	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008683	SWRMH-003503	SWRMH-003504	L43106	L43105	12	18	322	0.003	0.69	0.36	300	96,600	1	5,000	5,000	101,600	152,400
	SWRGM-008684	SWRMH-003502	SWRMH-003503	L43107	L43106	12	18	298	0.012	0.40	0.23	300	89,400	1	5,000	5,000	94,400	141,600
	SWRGM-008551	SWRMH-002690	SWRMH-002689	P42105	P42106	18	24	353	0.003	1.00	0.63	370	130,610	1	5,000	5,000	135,610	203,415
	SWRGM-008552	SWRMH-002688	SWRMH-002687	P42107	P42108	18	24	359	0.003	1.00	0.64	370	132,830	1	5,000	5,000	137,830	206,745
	SWRGM-007688	SWRMH-002686	SWRMH-002685	P42109	P42110	18	24	343	0.003	1.00	0.65	370	126,910	1	5,000	5,000	131,910	197,865
	SWRGM-007941	SWRMH-001434	SWRMH-001435	Q42111	Q42110	18	24	302	0.003	1.00	0.74	370	111,740	1	5,000	5,000	116,740	175,110
	SWRGM-007942	SWRMH-001429	SWRMH-001434	Q42116	Q42111	18	24	17	0.004	1.00	0.66	370	6,290	1	5,000	5,000	11,290	16,935
	SWRGM-007949	SWRMH-002689	SWRMH-002688	P42106	P42107	18	24	335	0.004	1.00	0.62	370	123,950	1	5,000	5,000	128,950	193,425
	SWRGM-008091	SWRMH-001436	SWRMH-001437	Q42109	Q42108	18	24	229	0.007	1.00	0.54	370	84,730	1	5,000	5,000	89,730	134,595
	SWRGM-008092	SWRMH-001443	SWRMH-001444	Q42102	Q42101	18	24	323	0.007	1.00	0.56	370	119,510	1	5,000	5,000	124,510	186,765
	SWRGM-008093	SWRMH-001442	SWRMH-001443	Q42103	Q42102	18	24	243	0.006	1.00	0.59	370	89,910	1	5,000	5,000	94,910	142,365
	SWRGM-008094	SWRMH-001441	SWRMH-001442	Q42104	Q42103	18	24	278	0.006	1.00	0.57	370	102,860	1	5,000	5,000	107,860	161,790
	SWRGM-008095	SWRMH-001440	SWRMH-001441	Q42105	Q42104	18	24	310	0.004	1.00	0.65	370	114,700	1	5,000	5,000	119,700	179,550
	SWRGM-008096	SWRMH-001439	SWRMH-001440	Q42106	Q42105	18	24	310	0.003	1.00	0.67	370	114,700	1	5,000	5,000	119,700	179,550
	SWRGM-008097	SWRMH-001438	SWRMH-001439	Q42107	Q42106	18	24	205	0.003	1.00	0.67	370	75,850	1	5,000	5,000	80,850	121,275
C18	SWRGM-008098	SWRMH-001435	SWRMH-001436	Q42110	Q42109	18	24	283	0.003	1.00	0.72	370	104,710	1	5,000	5,000	109,710	164,565
	SWRGM-008303	SWRMH-001437	SWRMH-001438	Q42108	Q42107	18	24	116	0.003	1.00	0.57	370	42,920	1	5,000	5,000	47,920	71,880
	SWRGM-008304	SWRMH-002684	SWRMH-001429	P42111	Q42116	18	24	317	0.005	1.00	0.58	370	117,290	1	5,000	5,000	122,290	183,435
	SWRGM-008549	SWRMH-002692	SWRMH-002691	P42103	P42104	18	24	338	0.003	1.00	0.64	370	125,060	1	5,000	5,000	130,060	195,090
	SWRGM-008550	SWRMH-002691	SWRMH-002690	P42104	P42105	18	24	344	0.003	1.00	0.62	370	127,280	1	5,000	5,000	132,280	198,420
	SWRGM-008584	SWRMH-002687	SWRMH-002686	P42108	P42109	18	24	361	0.004	1.00	0.62	370	133,570	1	5,000	5,000	138,570	207,855
	SWRGM-008585	SWRMH-002685	SWRMH-002684	P42110	P42111	18	24	349	0.003	1.00	0.65	370	129,130	1	5,000	5,000	134,130	201,195
	SWRGM-008688	SWRMH-001448	SWRMH-002692	O42110	P42103	18	24	317	0.003	1.00	0.62	370	117,290	1	5,000	5,000	122,290	183,435
	SWRGM-008690	SWRMH-001449	SWRMH-001448	O42109	O42110	18	24	317	0.003	1.00	0.62	370	117,290	1	5,000	5,000	122,290	183,435
	SWRGM-008691	SWRMH-001450	SWRMH-001449	O42108	O42109	18	24	317	0.003	1.00	0.62	370	117,290	1	5,000	5,000	122,290	183,435
	SWRGM-008692	SWRMH-002303	SWRMH-001450	O42107	O42108	18	24	318	0.003	1.00	0.69	370	117,660	1	5,000	5,000	122,660	183,990
	SWRGM-008699	SWRMH-001444	SWRMH-001620	Q42101	R42118	18	24	284	0.006	1.00	0.57	370	105,080	1	5,000	5,000	110,080	165,120
	SWRGM-008700	SWRMH-001620	SWRMH-001619	R42118	R42119	18	24	355	0.006	1.00	0.57	370	131,350	1	5,000	5,000	136,350	204,525
	SWRGM-008701	SWRMH-001619	SWRMH-001618	R42119	R42120	18	24	306	0.007	1.00	0.57	370	113,220	1	5,000	5,000	118,220	177,330
	SWRGM-007791	SWRMH-002569	SWRMH-002570	R39104	R39103	24	27	280	0.007	0.70	0.56	400	112,000	1	5,000	5,000	117,000	175,500
	SWRGM-007792	SWRMH-002570	SWRMH-002571	R39103	R39102	24	27	350	0.007	0.69	0.56	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007793	SWRMH-002571	SWRMH-002572	R39102	R39101	24	27	350	0.007	0.70	0.57	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007794	SWRMH-002572	SWRMH-001626	R39101	R39119	24	27	350	0.007	0.70	0.57	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007795	SWRMH-001626	SWRMH-001627	R39119	R39118	24	27	350	0.003	1.00	0.72	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007796	SWRMH-001627	SWRMH-001628	R39118	R39117	24	27	350	0.003	1.00	0.73	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007798	SWRMH-001628	SWRMH-006609	R39117	S39101	24	27	350	0.003	1.00	0.73	400	140,000	1	5,000	5,000	145,000	217,500
C19	SWRGM-008193	SWRMH-006601	SWRNJ-000204	S39109	T39471	24	27	364	0.021	0.50	0.42	400	145,600	1	5,000	5,000	150,600	225,900
	SWRGM-008194	SWRMH-006602	SWRMH-006601	S39108	S39109	24	27	400	0.026	0.47	0.40	400	160,000	1	5,000	5,000	165,000	247,500
	SWRGM-008195	SWRMH-006604	SWRMH-006603	S39106	S39107	24	27	186	0.003	1.00	0.71	400	74,400	1	5,000	5,000	79,400	119,100
	SWRGM-008196	SWRMH-006607	SWRMH-006606	S39103	S39104	24	27	246	0.003	1.00	0.75	400	98,400	1	5,000	5,000	103,400	155,100
	SWRGM-008253	SWRMH-006609	SWRMH-006608	S39101	S39102	24	27	281	0.003	1.00	0.75	400	112,400	1	5,000	5,000	117,400	176,100
	SWRGM-008742	SWRMH-006608	SWRMH-006607	S39102	S39103	24	27	449	0.021	0.49	0.41	400	179,600	1	5,000	5,000	184,600	276,900
	SWRGM-008748	SWRMH-006606	SWRMH-006605	S39104	S39105	24	27	265	0.003	1.00	0.74	400	106,000	1	5,000	5,000	111,000	166,500
	SWRGM-008749	SWRMH-006605	SWRMH-006604	S39105	S39106	24	27	336	0.004	1.00	0.72	400	134,400	1	5,000	5,000	139,400	209,100
	SWRGM-008750	SWRMH-006603	SWRMH-006602	S39107	S39108	24	27	350	0.009	0.64	0.52	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-007771	SWRMH-009078	SWRMH-001508	SP656MH7	SDMH001508	15	18	352	0.023	0.51	0.42	300	105,600	1	5,000	5,000	110,600	165,900
	SWRGM-007772	SWRMH-001507	SWRMH-001506	U40179	U40180	15	18	29	0.014	0.60	0.49	300	8,700	1	5,000	5,000	13,700	20,550
	SWRGM-007869	SWRMH-001506	SWRMH-001505	U40180	U40181	15	18	141	0.018	0.55	0.45	300	42,300	1	5,000	5,000	47,300	70,950
	SWRGM-007870	SWRMH-001502	SWRMH-001501	U40184	U40185	15	18	280	0.005	1.00	0.68	300	84,000	1	5,000	5,000	89,000	133,500
	SWRGM-007871	SWRMH-001504	SWRMH-001503	U40182	U40183	15	18	203	0.024	0.50	0.42	300	60,900	1	5,000	5,000	65,900	98,850
	SWRGM-007872	SWRMH-001503	SWRMH-001502	U40183	U40184	15	18	219	0.014	0.59	0.48	300	65,700	1	5,000	5,000	70,700	106,050
	SWRGM-007873	SWRMH-001508	SWRMH-001507	U40178	U40179	15	18	330	0.012	0.62	0.50	300	99,000	1	5,000	5,000	104,000	156,000
	SWRGM-008976	SWRMH-005769	SWRMH-005770	U42102	U42101	15	18	350	0.011	0.62	0.51	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008977	SWRMH-005720	SWRMH-005769	U42103	U42102	15	18	350	0.005	1.00	0.64	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008365	SWRMH-001505	SWRMH-001504	U40181	U40182	15	18	142	0.025	0.50	0.41	300	42,600	1	5,000	5,000	47,600	71,400
	SWRGM-008729	SWRMH-005718	SWRMH-005716	U43106	U43108	15	18	350	0.005	0.82	0.63	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008730	SWRMH-006190	SWRMH-005715	U43101	U43109	15	18	340	0.027	0.47	0.39	300	102,000	1	5,000	5,000	107,000	160,500
	SWRGM-008753	SWRMH-005717	SWRMH-006190	U43107	U43101	15	18	207	0.028	0.45	0.38	300	62,100	1	5,000	5,000	67,100	100,650
	SWRGM-008754	SWRMH-005716	SWRMH-005717	U43108	U43107	15	18	350	0.005	0.82	0.63	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008831	SWRMH-005714	SWRMH-006189	U43110	U43102	15	18	332	0.008	0.69	0.55	300	99,600	1	5,000	5,000	104,600	156,900
C20	SWRGM-008897	SWRMH-005457	SWRMH-006324	U42107	U41107	15	18	350	0.014	0.59	0.48	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-008939	SWRMH-006325	SWRMH-006326	U41106	U41105	15	18	200	0.019	0.54	0.45	300	60,000	1	5,000	5,000	65,000	97,500
	SWRGM-009015	SWRMH-006326	SWRMH-006327	U41105	U41104	15	18	190	0.01	0.66	0.53	300	57,000	1	5,000	5,000	62,000	93,000
	SWRGM-009016	SWRMH-006327	SWRMH-006328	U41104	U41103	15	18	350	0.007	0.77	0.60	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009017	SWRMH-006328	SWRMH-006330	U41103	U41101	15	18	350	0.007	0.79	0.61	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009018	SWRMH-006330	SWRMH-006329	U41101	U41102	15	18	350	0.007	0.77	0.60	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009019	SWRMH-006329	SWRMH-009078	SDMH006329	SP656MH7	15	18	334	0.006	0.82	0.62	300	100,200	1	5,000	5,000	105,200	157,800
	SWRGM-009053	SWRMH-006187	SWRMH-005719	U43104	U42104	15	18	310	0.005	1.00	0.64	300	93,000	1	5,000	5,000	98,000	147,000
	SWRGM-009054	SWRMH-006188	SWRMH-006187	U43103	U43104	15	18	350	0.005	1.00	0.64	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009055	SWRMH-006189	SWRMH-006188	U43102	U43103	15	18	292	0.006	0.79	0.62	300	87,600	1	5,000	5,000	92,600	138,900
	SWRGM-009123	SWRMH-005719	SWRMH-005720	U42104	U42103	15	18	316	0.006	0.80	0.62	300	94,800	1	5,000	5,000	99,800	149,700
	SWRGM-009152	SWRMH-005458	SWRMH-005456	U42106	U42108	15	18	261	0.009	0.68	0.55	300	78,300	1	5,000	5,000	83,300	124,950
	SWRGM-009153	SWRMH-005456	SWRMH-005457	U42108	U42107	15	18	338	0.008	0.71	0.57	300	101,400	1	5,000	5,000	106,400	159,600
	SWRGM-009154	SWRMH-005459	SWRMH-005458	U42105	U42106	15	18	101	0.011	0.61	0.50	300	30,300	1	5,000	5,000	35,300	52,950
	SWRGM-009240	SWRMH-006324	SWRMH-006325	U41107	U41106	15	18	350	0.019	0.54	0.44	300	105,000	1	5,000	5,000	110,000	165,000
	SWRGM-009359	SWRMH-005770	SWRMH-005459	U42101	U42105	15	18	238	0.043	0.41	0.35	300	71,400	1	5,000	5,000	76,400	114,600
	SWRGM-009408	SWRMH-005715	SWRMH-005714	U43109	U43110	15	18	69	0.007	0.72	0.57	300	20,700	1	5,000	5,000	25,700	38,550
	SWRGM-007604	SWRMH-008968	SWRMH-006164	SP569MH05	SDMH006164	8	15	187	0.008	1.00	0.35	270	50,490	1	5,000	5,000	55,490	83,235
	SWRGM-007605	SWRMH-006165	SWRMH-008968	SDMH006165	SP569MH05	8	15	163	0.006	1.00	0.32	270	44,010	1	5,000	5,000	49,010	73,515
	SWRGM-008120	SWRMH-003343	SWRMH-006165	V40137	W40102	10	15	350	0.007	0.71	0.30	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-008121	SWRMH-003345	SWRMH-003344	V40135	V40136	10	15	377	0.005	1.00	0.33	270	101,790	1	5,000	5,000	106,790	160,185
	SWRGM-008122	SWRMH-003344	SWRMH-003343	V40136	V40137	10	15	350	0.007	0.71	0.30	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-009127	SWRMH-003948	SWRMH-006162	W40150	W40105	10	15	350	0.005	1.00	0.43	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-009128	SWRMH-003947	SWRMH-003948	W40151	W40150	10	15	350	0.005	1.00	0.39	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-009129	SWRMH-006163	SWRMH-003947	W40104	W40151	10	15	350	0.007	0.81	0.35	270	94,500	1	5,000	5,000	99,500	149,250
C21	SWRGM-009130	SWRMH-006164	SWRMH-006163	W40103	W40104	10	15	350	0.008	0.79	0.35	270	94,500	1	5,000	5,000	99,500	149,250
	SWRGM-009030	SWRMH-004502	SWRMH-005765	x40115	x40108	12	15	310	0.004	1.00	0.51	270	83,700	1	5,000	5,000	88,700	133,050
	SWRGM-009031	SWRMH-005765	SWRMH-004503	x40108	x40114	12	15	347	0.004	1.00	0.51	270	93,690	1	5,000	5,000	98,690	148,035
	SWRGM-009052	SWRMH-003951	SWRMH-004502	W40147	x40115	10	15	360	0.006	1.00	0.43	270	97,200	1	5,000	5,000	102,200	153,300
	SWRGM-009102	SWRMH-003949	SWRMH-003950	W40149	W40148	10	15	306	0.005	1.00	0.43	270	82,620	1	5,000	5,000	87,620	131,430
	SWRGM-009322	SWRMH-003946	SWRMH-003949	W40152	W40149	10	15	117	0.003	1.00	0.51	270	31,590	1	5,000	5,000	36,590	54,885
	SWRGM-009323	SWRMH-006166	SWRMH-003946	W40101	W40152	10	15	185	0.003	1.00	0.51	270	49,950	1	5,000	5,000	54,950	82,425
	SWRGM-009369	SWRMH-003950	SWRMH-003951	W40148	W40147	10	15	385	0.006	1.00	0.44	270	103,950	1	5,000	5,000	108,950	163,425
	SWRGM-009385	SWRMH-006162	SWRMH-006166	W40105	W40101	10	15	165	0.007	1.00	0.39	270	44,550	1	5,000	5,000	49,550	74,325
	SWRGM-008818	SWRMH-009149	SWRMH-006611	W46164	X46113	15	24	209	0.005	0.71	0.34	370	77,330	1	5,000	5,000	82,330	123,495
	SWRGM-008834	SWRMH-006681	SWRMH-006029	X45128	X45145	15	24	172	0.008	0.64	0.31	370	63,640	1	5,000	5,000	68,640	102,960
	SWRGM-008853	SWRMH-006320	SWRMH-006679	X45120	X45130	15	24	350	0.017	0.51	0.26	370	129,500	1	5,000	5,000	134,500	201,750
	SWRGM-008917	SWRMH-006319	SWRMH-006681	X45121	X45128	15	24	259	0.008	0.64	0.31	370	95,830	1	5,000	5,000	100,830	151,245
	SWRGM-008918	SWRMH-006318	SWRMH-006319	X45122	X45121	15	24	147	0.007	0.67	0.32	370	54,390	1	5,000	5,000	59,390	89,085
	SWRGM-008919	SWRMH-006317	SWRMH-006318	X45123	X45122	15	24	143	0.007	0.68	0.32	370	52,910	1	5,000	5,000	57,910	86,865
	SWRGM-008920	SWRMH-006315	SWRMH-006316	X45125	X45124	15	24	151	0.007	0.65	0.32	370	55,870	1	5,000	5,000	60,870	91,305
C23	SWRGM-008922	SWRMH-006029	SWRMH-006320	X45145	X45120	15	24	144	0.005	0.75	0.35	370	53,280	1	5,000	5,000	58,280	87,420
	SWRGM-008923	SWRMH-006316	SWRMH-006317	X45124	X45123	15	24	147	0.007	0.67	0.32	370	54,390	1	5,000	5,000	59,390	89,085
	SWRGM-008924	SWRMH-006672	SWRMH-006315	X46107	X45125	15	24	154	0.007	0.66	0.32	370	56,980	1	5,000	5,000	61,980	92,970
	SWRGM-009217	SWRMH-006613	SWRMH-009086	SDMH006613	SP653MH1	15	24	318	0.011	0.54	0.27	370	117,660	1	5,000	5,000	122,660	183,990
	SWRGM-009218	SWRMH-006612	SWRMH-006613	X46112	X46111	15	24	305	0.008	0.58	0.29	370	112,850	1	5,000	5,000	117,850	176,775
	SWRGM-009219	SWRMH-006611	SWRMH-006612	X46113	X46112	15	24	305	0.003	1.00	0.37	370	112,850	1	5,000	5,000	117,850	176,775
	SWRGM-009220	SWRMH-009088	SWRMH-006672	SP653MH03	SDMH006672	15	24	296	0.009	0.60	0.30	370	109,520	1	5,000	5,000	114,520	171,780
	SWRGM-010249	SWRMH-009086	SWRMH-009087	SP653MH1	SP653MH02	15	24	333	0.031	0.41	0.22	370	123,210	1	5,000	5,000	128,210	192,315
	SWRGM-009791	SWRMH-009087	SWRMH-009088	SP653MH02	SP653MH03	15	24	325	0.001	1.00	0.53	370	120,250	1	5,000	5,000	125,250	187,875
	SWRGM-007855	SWRMH-006300	SWRMH-006302	Y45142	Y45140	12	15	96	0.003	1.00	0.70	270	25,920	1	5,000	5,000	30,920	46,380
	SWRGM-008980	SWRMH-006680	SWRMH-006298	X45129	Y45144	12	15	348	0.004	1.00	0.61	270	93,960	1	5,000	5,000	98,960	148,440
	SWRGM-008981	SWRMH-006463	SWRMH-006461	Y45124	Y45126	12	15	274	0.01	0.69	0.49	270	73,980	1	5,000	5,000	78,980	118,470
	SWRGM-008984	SWRMH-004348	SWRMH-004349	Y44130	Y44129	12	15	220	0.01	0.68	0.49	270	59,400	1	5,000	5,000	64,400	96,600
	SWRGM-008997	SWRMH-004349	SWRMH-006322	Y44129	Y44102	12	15	318	0.005	1.00	0.61	270	85,860	1	5,000	5,000	90,860	136,290
	SWRGM-008598	SWRMH-006296	SWRMH-006300	Y45146	Y45142	12	15	219	0.01	0.69	0.49	270	59,130	1	5,000	5,000	64,130	96,195
	SWRGM-008786	SWRMH-006462	SWRMH-006463	Y45125	Y45124	12	15	315	0.014	0.60	0.44	270	85,050	1	5,000	5,000	90,050	135,075
	SWRGM-008852	SWRMH-006298	SWRMH-006297	Y45144	Y45145	12	15	311	0.005	1.00	0.59	270	83,970	1	5,000	5,000	88,970	133,455
	SWRGM-008895	SWRMH-006679	SWRMH-006680	X45130	X45129	12	15	349	0.031	0.46	0.34	270	94,230	1	5,000	5,000	99,230	148,845
	SWRGM-008896	SWRMH-006299	SWRMH-000327	Y45143	Y45146	12	15	266	0.018	0.54	0.40	270	71,820	1	5,000	5,000	76,820	115,230
	SWRGM-008929	SWRMH-006461	SWRMH-006464	Y45126	Y45123	12	15	354	0.01	0.68	0.49	270	95,580	1	5,000	5,000	100,580	150,870
	SWRGM-009014	SWRMH-006464	SWRMH-004348	Y45123	Y44130	12	15	202	0.011	0.67	0.48	270	54,540	1	5,000	5,000	59,540	89,310
	SWRGM-009028	SWRMH-004346	SWRMH-004568	Y44132	Z44118	12	15	259	0.006	1.00	0.60	270	69,930	1	5,000	5,000	74,930	112,395
C24	SWRGM-009029	SWRMH-004393	SWRMH-004346	Y44127	Y44132	12	15	330	0.005	1.00	0.65	270	89,100	1	5,000	5,000	94,100	141,150
	SWRGM-009057	SWRMH-006302	SWRMH-006282	Y45140	Y45160	12	15	326	0.005	1.00	0.58	270	88,020	1	5,000	5,000	93,020	139,530
	SWRGM-009141	SWRMH-006282	SWRMH-006462	Y45160	Y45125	12	15	314	0.014	0.61	0.44	270	84,780	1	5,000	5,000	89,780	134,670
	SWRGM-009239	SWRMH-006322	SWRMH-004393	Y44102	Y44127	12	15	336	0.005	1.00	0.65	270	90,720	1	5,000	5,000	95,720	143,580
	SWRGM-009244	SWRMH-005728	SWRMH-002478	Z44105	Z44127	12	15	331	0.005	1.00	0.67	270	89,370	1	5,000	5,000	94,370	141,555
	SWRGM-009245	SWRMH-002478	SWRMH-005729	Z44127	Z44104	12	15	339	0.027	0.54	0.40	270	91,530	1	5,000	5,000	96,530	144,795
	SWRGM-009374	SWRMH-004610	SWRMH-004609	Z44112	Z44113	12	15	288	0.006	1.00	0.64	270	77,760	1	5,000	5,000	82,760	124,140
	SWRGM-009375	SWRMH-004609	SWRMH-002557	Z44113	AA44107	12	15	330	0.018	0.62	0.45	270	89,100	1	5,000	5,000	94,100	141,150
	SWRGM-009376	SWRMH-004608	SWRMH-004610	Z44114	Z44112	12	15	341	0.005	1.00	0.65	270	92,070	1	5,000	5,000	97,070	145,605
	SWRGM-009377	SWRMH-004568	SWRMH-004569	Z44118	Z44117	12	15	404	0.004	1.00	0.68	270	109,080	1	5,000	5,000	114,080	171,120
	SWRGM-009378	SWRMH-004569	SWRMH-004570	Z44117	Z44116	12	15	21	0.004	1.00	0.67	270	5,670	1	5,000	5,000	10,670	16,005
	SWRGM-009379	SWRMH-004570	SWRMH-005727	Z44116	Z44106	12	15	304	0.004	1.00	0.72	270	82,080	1	5,000	5,000	87,080	130,620

Project No.	Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Existing Pipe Size (inch)	Proposed Pipe Size (inch)	Pipe Length (ft)	Slope	2040 Maximum d/D	Proposed Maximum d/D	Pipe Unit Cost ($/LF)	Pipe Replacement Construction Cost ($)	Number of Manholes	Manhole Unit Cost ($/EA)	Manhole Cost ($)	Total Construction Cost ($)	Total Capital Cost ($)
	SWRGM-009380	SWRMH-005727	SWRMH-005728	Z44106	Z44105	12	15	322	0.006	1.00	0.63	270	86,940	1	5,000	5,000	91,940	137,910
	SWRGM-009394	SWRMH-006297	SWRMH-006299	Y45145	Y45143	12	15	49	0.027	0.47	0.35	270	13,230	1	5,000	5,000	18,230	27,345
	SWRGM-010048	SWRMH-000327	SWRMH-006296	Y45143	Y45146	12	15	26	0.028	0.47	0.35	270	7,020	1	5,000	5,000	12,020	18,030
C25	SWRGM-001098	SWRMH-004617	SWRMH-004616	Y42127	Y42128	8	12	328	0.004	1.00	0.51	240	78,720	1	5,000	5,000	83,720	125,580
	SWRGM-002933	SWRMH-006945	SWRMH-004618	Y42106	Y42126	8	12	161	0.026	0.59	0.32	240	38,640	1	5,000	5,000	43,640	65,460
	SWRGM-002934	SWRMH-004618	SWRMH-006944	Y42126	Y42107	8	12	239	0.006	1.00	0.47	240	57,360	1	5,000	5,000	62,360	93,540
	SWRGM-002936	SWRMH-005321	SWRMH-005320	Y42121	Y42122	8	12	191	0.036	0.54	0.30	240	45,840	1	5,000	5,000	50,840	76,260
	SWRGM-002937	SWRMH-006934	SWRMH-005321	Y42104	Y42121	8	12	211	0.021	0.64	0.34	240	50,640	1	5,000	5,000	55,640	83,460
	SWRGM-003665	SWRMH-006944	SWRMH-006943	Y42107	Y42108	8	12	306	0.006	1.00	0.47	240	73,440	1	5,000	5,000	78,440	117,660
	SWRGM-003668	SWRMH-004616	SWRMH-006945	Y42128	Y42106	8	12	206	0.006	1.00	0.44	240	49,440	1	5,000	5,000	54,440	81,660
	SWRGM-004872	SWRMH-003990	SWRMH-004397	Y42147	Y41137	8	12	576	0.009	1.00	0.44	240	138,240	1	5,000	5,000	143,240	214,860
	SWRGM-004873	SWRMH-005320	SWRMH-003990	Y42122	Y42147	8	12	644	0.015	0.74	0.38	240	154,560	1	5,000	5,000	159,560	239,340
	SWRGM-005149	SWRMH-006943	SWRMH-006934	Y42108	Y42104	8	12	350	0.006	1.00	0.47	240	84,000	1	5,000	5,000	89,000	133,500
C28	SWRGM-009204	SWRMH-003868	SWRMH-003869	AB44114	AB44113	15	21	368	0.002	1.00	0.50	340	125,120	1	5,000	5,000	130,120	195,180
C34 (Parallel Pipe Option)	SWRGM-010159	SWRMH-008624	SWRMH-008623	SP705MH2	SP705MH1	27	27	588	0.004	0.81	0.50	400	235,200	1	5,000	5,000	240,200	360,300
	SWRGM-010200	SWRMH-008625	SWRMH-008624	SP705MH3	SP705MH2	27	27	500	0.004	1.00	0.51	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010130	SWRMH-008626	SWRMH-008625	SP705MH4	SP705MH3	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009902	SWRMH-008627	SWRMH-008626	SP705MH5	SP705MH4	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009985	SWRMH-008628	SWRMH-008627	SP705MH6	SP705MH5	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009493	SWRMH-008629	SWRMH-008628	SP705MH7	SP705MH6	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009885	SWRMH-008630	SWRMH-008629	SP705MH8	SP705MH7	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009759	SWRMH-008631	SWRMH-008630	SP705MH9	SP705MH8	27	27	309	0.002	1.00	0.61	400	123,600	1	5,000	5,000	128,600	192,900
	SWRGM-009518	SWRMH-008632	SWRMH-008631	SP705MH10	SP705MH9	27	27	314	0.002	1.00	0.61	400	125,600	1	5,000	5,000	130,600	195,900
	SWRGM-009808	SWRMH-008633	SWRMH-008632	SP705MH11	SP705MH10	27	27	560	0.002	1.00	0.61	400	224,000	1	5,000	5,000	229,000	343,500
	SWRGM-010105	SWRMH-008634	SWRMH-008633	SP705MH12	SP705MH11	27	27	504	0.002	1.00	0.61	400	201,600	1	5,000	5,000	206,600	309,900
	SWRGM-009767	SWRMH-008639	SWRMH-008634	SP705MH13	SP705MH12	27	27	504	0.002	1.00	0.61	400	201,600	1	5,000	5,000	206,600	309,900
	SWRGM-009510	SWRMH-009289	SWRMH-008645	SP711MH24	SP705MH23	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009942	SWRMH-008645	SWRMH-008644	SP705MH23	SP705MH22	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009571	SWRMH-008644	SWRMH-008643	SP705MH22	SP705MH21	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-010051	SWRMH-008643	SWRMH-008642	SP705MH21	SP705MH20	27	27	397	0.002	1.00	0.61	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-009725	SWRMH-008642	SWRMH-008641	SP705MH20	SP705MH19	27	27	397	0.002	1.00	0.61	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-010263	SWRMH-008641	SWRMH-008640	SP705MH19	SP705MH18	27	27	397	0.002	1.00	0.61	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-009914	SWRMH-008640	SWRMH-008635	SP705MH18	SP705MH17	27	27	311	0.002	1.00	0.61	400	124,400	1	5,000	5,000	129,400	194,100
	SWRGM-010252	SWRMH-008635	SWRMH-008636	SP705MH17	SP705MH16	27	27	311	0.002	1.00	0.61	400	124,400	1	5,000	5,000	129,400	194,100
	SWRGM-010086	SWRMH-008636	SWRMH-008637	SP705MH16	SP705MH15	27	27	351	0.002	1.00	0.61	400	140,400	1	5,000	5,000	145,400	218,100
	SWRGM-009798	SWRMH-008637	SWRMH-008638	SP705MH15	SP705MH14	27	27	351	0.002	1.00	0.61	400	140,400	1	5,000	5,000	145,400	218,100
	SWRGM-009568	SWRMH-008638	SWRMH-008639	SP705MH14	SP705MH13	27	27	351	0.002	1.00	0.61	400	140,400	1	5,000	5,000	145,400	218,100
	SWRGM-009744	SWRMH-008687	SWRMH-008686	SP715MH50	SP715MH49	27	27	397	0.003	1.00	0.53	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-009481	SWRMH-008688	SWRMH-008687	SP715MH51	SP715MH50	27	27	397	0.002	1.00	0.59	400	158,800	1	5,000	5,000	163,800	245,700
	SWRGM-009681	SWRMH-008689	SWRMH-008688	SP715MH52	SP715MH51	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009702	SWRMH-008690	SWRMH-008689	SP715MH53	SP715MH52	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009895	SWRMH-008691	SWRMH-008690	SP715MH54	SP715MH53	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009689	SWRMH-008692	SWRMH-008691	SP715MH55	SP715MH54	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009834	SWRMH-008693	SWRMH-008692	SP715MH56	SP715MH55	27	27	500	0.002	1.00	0.59	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010102	SWRMH-008694	SWRMH-008693	SP715MH57	SP715MH56	27	27	423	0.003	1.00	0.56	400	169,200	1	5,000	5,000	174,200	261,300
	SWRGM-010141	SWRMH-008695	SWRMH-008694	SP715MH58	SP715MH57	27	27	381	0.003	1.00	0.54	400	152,400	1	5,000	5,000	157,400	236,100
	SWRGM-010231	SWRMH-008696	SWRMH-008695	SP715MH59	SP715MH58	27	27	163	0.005	0.72	0.46	400	65,200	1	5,000	5,000	70,200	105,300
	SWRGM-009473	SWRMH-008697	SWRMH-008696	SP715MH60	SP715MH59	27	27	401	0.003	1.00	0.55	400	160,400	1	5,000	5,000	165,400	248,100
	SWRGM-009448	SWRMH-008698	SWRMH-008697	SP715MH61	SP715MH60	27	27	497	0.002	1.00	0.65	400	198,800	1	5,000	5,000	203,800	305,700
	SWRGM-009961	SWRMH-008699	SWRMH-008698	SP715MH62	SP715MH61	27	27	519	0.002	1.00	0.65	400	207,600	1	5,000	5,000	212,600	318,900
	SWRGM-009656	SWRMH-008700	SWRMH-008699	SP715MH63	SP715MH62	27	27	433	0.002	1.00	0.60	400	173,200	1	5,000	5,000	178,200	267,300
	SWRGM-009450	SWRMH-008701	SWRMH-008700	SP715MH64	SP715MH63	27	27	809	0.001	1.00	0.73	400	323,600	1	5,000	5,000	328,600	492,900
	SWRGM-009635	SWRMH-008702	SWRMH-008701	SP715MH65	SP715MH64	27	27	430	0.002	1.00	0.59	400	172,000	1	5,000	5,000	177,000	265,500
	SWRGM-009576	SWRMH-008703	SWRMH-008702	SP715MH66	SP715MH65	27	27	82	0.002	1.00	0.59	400	32,800	1	5,000	5,000	37,800	56,700
	SWRGM-009707	SWRMH-008704	SWRMH-008703	SP715MH67	SP715MH66	27	27	284	0.003	1.00	0.54	400	113,600	1	5,000	5,000	118,600	177,900
	SWRGM-009919	SWRMH-008623	SWRMH-008704	SP705MH1	SP715MH67	27	27	306	0.004	1.00	0.51	400	122,400	1	5,000	5,000	127,400	191,100
	SWRGM-010201	SWRMH-008727	SWRNJ-000196	SP712MH1		27	27	73	0.003	1.00	0.57	400	29,200	1	5,000	5,000	34,200	51,300
	SWRGM-010165	SWRMH-008729	SWRMH-008727	SP712MH2	SP712MH1	27	27	314	0.001	1.00	0.69	400	125,600	1	5,000	5,000	130,600	195,900
	SWRGM-010113	SWRMH-008731	SWRMH-008729	SP712MH3	SP712MH2	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010183	SWRMH-008733	SWRMH-008731	SP712MH4	SP712MH3	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009952	SWRMH-008735	SWRMH-008733	SP712MH5	SP712MH4	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010266	SWRMH-008737	SWRMH-008735	SP712MH6	SP712MH5	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009524	SWRMH-008739	SWRMH-008737	SP712MH7	SP712MH6	27	27	250	0.001	1.00	0.69	400	100,000	1	5,000	5,000	105,000	157,500
	SWRGM-010132	SWRMH-008741	SWRMH-008739	SP712MH8	SP712MH7	27	27	350	0.001	1.00	0.68	400	140,000	1	5,000	5,000	145,000	217,500
	SWRGM-010078	SWRMH-008743	SWRMH-008741	SP712MH9	SP712MH8	27	27	261	0.001	1.00	0.69	400	104,400	1	5,000	5,000	109,400	164,100
	SWRGM-010063	SWRMH-008745	SWRMH-008743	SP712MH10	SP712MH9	27	27	580	0.001	1.00	0.68	400	232,000	1	5,000	5,000	237,000	355,500
	SWRGM-009592	SWRMH-008747	SWRMH-008745	SP712MH11	SP712MH10	27	27	600	0.002	1.00	0.68	400	240,000	1	5,000	5,000	245,000	367,500
	SWRGM-009793	SWRMH-008749	SWRMH-008747	SP712MH12	SP712MH11	27	27	358	0.001	1.00	0.68	400	143,200	1	5,000	5,000	148,200	222,300
	SWRGM-009552	SWRMH-008751	SWRMH-008749	SP712MH13	SP712MH12	27	27	358	0.001	1.00	0.68	400	143,200	1	5,000	5,000	148,200	222,300
	SWRGM-009999	SWRMH-008753	SWRMH-008751	SP712MH14	SP712MH13	27	27	499	0.002	1.00	0.68	400	199,600	1	5,000	5,000	204,600	306,900
	SWRGM-009654	SWRMH-008755	SWRMH-008753	SP712MH15	SP712MH14	27	27	500	0.001	1.00	0.68	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009723	SWRMH-008757	SWRMH-008755	SP712MH16	SP712MH15	27	27	500	0.002	1.00	0.60	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010094	SWRMH-008759	SWRMH-008757	SP712MH17	SP712MH16	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010122	SWRMH-008761	SWRMH-008759	SP712MH18	SP712MH17	27	27	388	0.007	0.64	0.42	400	155,200	1	5,000	5,000	160,200	240,300
	SWRGM-009924	SWRMH-008763	SWRMH-008761	SP712MH19	SP712MH18	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009627	SWRMH-008765	SWRMH-008763	SP712MH20	SP712MH19	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009526	SWRMH-008767	SWRMH-008765	SP712MH21	SP712MH20	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009866	SWRMH-008769	SWRMH-008767	SP712MH22	SP712MH21	27	27	500	0.007	0.64	0.42	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009998	SWRMH-008771	SWRMH-008769	SP712MH23	SP712MH22	27	27	500	0.002	1.00	0.62	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010174	SWRMH-008773	SWRMH-008771	SP712MH24	SP712MH23	27	27	470	0.002	1.00	0.62	400	188,000	1	5,000	5,000	193,000	289,500
	SWRGM-009663	SWRMH-008776	SWRMH-008773	SP712MH25	SP712MH24	27	27	500	0.002	1.00	0.62	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009512	SWRMH-008778	SWRMH-008776	SP712MH26	SP712MH25	27	27	500	0.002	1.00	0.62	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009612	SWRMH-008780	SWRMH-008778	SP712MH27	SP712MH26	27	27	381	0.002	1.00	0.62	400	152,400	1	5,000	5,000	157,400	236,100
	SWRGM-009890	SWRMH-008781	SWRMH-008780	SP712MH28	SP712MH27	27	27	499	0.002	1.00	0.62	400	199,600	1	5,000	5,000	204,600	306,900
	SWRGM-010163	SWRMH-008783	SWRMH-008781	SP712MH29	SP712MH28	27	27	500	0.002	1.00	0.62	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-010155	SWRMH-008785	SWRMH-008783	SP712MH30	SP712MH29	27	27	300	0.002	1.00	0.62	400	120,000	1	5,000	5,000	125,000	187,500
	SWRGM-009520	SWRMH-008788	SWRMH-008785	SP712MH31	SP712MH30	27	27	300	0.002	1.00	0.62	400	120,000	1	5,000	5,000	125,000	187,500
	SWRGM-010258	SWRMH-008790	SWRMH-008788	SP712MH32	SP712MH31	27	27	275	0.002	1.00	0.62	400	110,000	1	5,000	5,000	115,000	172,500
	SWRGM-009469	SWRMH-008792	SWRMH-008790	SP712MH33	SP712MH32	27	27	500	0.005	0.71	0.46	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009572	SWRMH-008794	SWRMH-008792	SP712MH34	SP712MH33	27	27	500	0.005	0.70	0.45	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009597	SWRMH-008796	SWRMH-008794	SP712MH35	SP712MH34	27	27	500	0.003	1.00	0.52	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009932	SWRMH-008798	SWRMH-008796	SP712MH36	SP712MH35	27	27	476	0.004	0.76	0.48	400	190,400	1	5,000	5,000	195,400	293,100
	SWRGM-009453	SWRMH-008800	SWRMH-008798	SP712MH37	SP712MH36	27	27	500	0.003	1.00	0.52	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009454	SWRMH-008802	SWRMH-008800	SP712MH38	SP712MH37	27	27	500	0.003	1.00	0.52	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009946	SWRMH-008804	SWRMH-008802	SP712MH39	SP712MH38	27	27	440	0.003	1.00	0.52	400	176,000	1	5,000	5,000	181,000	271,500
	SWRGM-009743	SWRMH-008806	SWRMH-008804	SP712MH40	SP712MH39	27	27	439	0.003	1.00	0.52	400	175,600	1	5,000	5,000	180,600	270,900
	SWRGM-009760	SWRMH-008808	SWRMH-008806	SP712MH41	SP712MH40	27	27	401	0.004	0.81	0.50	400	160,400	1	5,000	5,000	165,400	248,100
	SWRGM-009554	SWRMH-008810	SWRMH-008808	SP712MH42	SP712MH41	27	27	512	0.003	1.00	0.54	400	204,800	1	5,000	5,000	209,800	314,700
	SWRGM-010277	SWRMH-008811	SWRMH-008810	SP712MH43	SP712MH42	27	27	446	0.004	1.00	0.52	400	178,400	1	5,000	5,000	183,400	275,100
	SWRGM-010226	SWRMH-008813	SWRMH-008811	SP712MH44	SP712MH43	27	27	287	0.003	1.00	0.52	400	114,800	1	5,000	5,000	119,800	179,700
	SWRGM-009688	SWRMH-008815	SWRMH-008813	SP712MH45	SP712MH44	27	27	250	0.003	1.00	0.52	400	100,000	1	5,000	5,000	105,000	157,500
	SWRGM-009971	SWRMH-008817	SWRMH-008815	SP712MH46	SP712MH45	27	27	250	0.003	1.00	0.52	400	100,000	1	5,000	5,000	105,000	157,500
	SWRGM-009801	SWRMH-008686	SWRMH-008817	SP715MH49	SP712MH46	27	27	250	0.003	1.00	0.52	400	100,000	1	5,000	5,000	105,000	157,500
	SWRGM-010256	SWRMH-000296	SWRMH-009303	SDMH000296	SP711MH38	27	27	314	0.003	1.00	0.52	400	125,600	1	5,000	5,000	130,600	195,900
	SWRGM-010023	SWRMH-009303	SWRMH-009302	SP711MH38	SP711MH37	27	27	375	0.002	1.00	0.60	400	150,000	1	5,000	5,000	155,000	232,500
	SWRGM-010285	SWRMH-009302	SWRMH-009301	SP711MH37	SP711MH36	27	27	241	0.002	1.00	0.61	400	96,400	1	5,000	5,000	101,400	152,100
	SWRGM-010232	SWRMH-009301	SWRMH-009300	SP711MH36	SP711MH35	27	27	236	0.002	1.00	0.61	400	94,400	1	5,000	5,000	99,400	149,100
	SWRGM-009503	SWRMH-009300	SWRMH-009299	SP711MH35	SP711MH34	27	27	405	0.002	1.00	0.61	400	162,000	1	5,000	5,000	167,000	250,500
	SWRGM-009847	SWRMH-009299	SWRMH-009298	SP711MH34	SP711MH33	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009684	SWRMH-009298	SWRMH-009297	SP711MH33	SP711MH32	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009680	SWRMH-009297	SWRMH-009296	SP711MH32	SP711MH31	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009867	SWRMH-009296	SWRMH-009295	SP711MH31	SP711MH30	27	27	438	0.002	1.00	0.61	400	175,200	1	5,000	5,000	180,200	270,300
	SWRGM-009982	SWRMH-009295	SWRMH-009294	SP711MH30	SP711MH29	27	27	496	0.002	1.00	0.61	400	198,400	1	5,000	5,000	203,400	305,100
	SWRGM-009850	SWRMH-009294	SWRMH-009293	SP711MH29	SP711MH28	27	27	500	0.002	1.00	0.61	400	200,000	1	5,000	5,000	205,000	307,500
	SWRGM-009668	SWRMH-009293	SWRMH-009292	SP711MH28	SP711MH27	27	27	320	0.002	1.00	0.61	400	128,000	1	5,000	5,000	133,000	199,500
	SWRGM-009647	SWRMH-009292	SWRMH-009291	SP711MH27	SP711MH26	27	27	442	0.002	1.00	0.61	400	176,800	1	5,000	5,000	181,800	272,700
	SWRGM-010125	SWRMH-009291	SWRMH-009290	SP711MH26	SP711MH25	27	27	442	0.002	1.00	0.61	400	176,800	1	5,000	5,000	181,800	272,700
	SWRGM-009813	SWRMH-009290	SWRMH-009289	SP711MH25	SP711MH24	27	27	442	0.002	1.00	0.61	400	176,800	1	5,000	5,000	181,800	272,700
New Extension Sewer	n/a	n/a	n/a	n/a	n/a	n/a	8	26,542	0.01	n/a	0.50	180	4,777,560	106	8,000	848,000	5,625,560	8,438,340
	n/a	n/a	n/a	n/a	n/a	n/a	10	3,547	0.01	n/a	0.50	210	744,870	14	8,000	112,000	856,870	1,285,305
	n/a	n/a	n/a	n/a	n/a	n/a	12	31,377	0.01	n/a	0.50	240	7,530,480	125	8,000	1,000,000	8,530,480	12,795,720
Grand Total	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**185,706**	n/a	n/a	n/a	n/a	**55,374,700**	639	n/a	**3,930,000**	**59,305,000**	**88,957,000**

Appendix A

FLOW MONITORING REPORT

Final Report for

City of Victorville
California, USA
U14-141

2015 Sanitary Sewer Flow Monitoring

5 Flow Sites

Prepared and submitted by:

SFE Global Inc.

1104 Development Way

Sacramento, California 95831

Toll Free: 1-866-332-9876

February 17, 2015

Mr. Yazdan Emrani
Hall and Foreman Inc
17782 17th Street
Tustin, CA
92780

FINAL REPORT: VICTORVILLE, CA U14-141
Sanitary Sewer Flow Monitoring
January 2015
(5 Flow Sites)

Dear Mr. Emrani,

Please find enclosed SFE's Final Report for the above mentioned project. If you have any questions, comments or concerns, please do not hesitate to contact us at your earliest convenience.

Thank you for having SFE conduct this work on your behalf. We are appreciative of the opportunity to work with you and your team on this project. We look forward to working together again in the near future.

Sincerely,
SFE Global
SFE File #U14-141

Paul Loving
Operations Manager
(604) 992-6792
Paul.loving@sfeglobal.com
www.sfeonline.com

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2. FLOW MONITORING STATIONS 4
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4. DATA 5

APPENDIX 1 – MAINTENANCE SHEETS, DATA SUMMARIES AND GRAPHS

APPENDIX 2 – SITE BOOKS

1. Introduction

This report provides details of the sanitary sewer flow monitoring project conducted in the City of The Victorville, CA. SFE Global was retained by Hall and Foreman Inc, under the direction of Mr. Yazdan Emrani. Mr. Paul Loving represented SFE Global as Project Manager during this project.

As requested, SFE installed (5) sanitary sewer flow monitors to collect data for a two (2) week period. The stations were installed by January 8, 2015 and removed February 2, 2015. The monitoring stations are as follows:

Site #	Location	Meter Utilized
U14-141-01	El Evado Road	ISCO 2150 AV Flow Meter
U14-141-02	14915 La Mesa Road	ISCO 2150 AV Flow Meter
U14-141-03	8th Street between Forest Street and A Ave	ISCO 2150 AV Flow Meter
U14-141-04	17481 Coad Road	ISCO 2150 AV Flow Meter
U14-141-05	13821 Das Palmas	ISCO 2150 AV Flow Meter

2. Flow Monitoring Stations

Prior to installing flow monitoring stations, SFE performed detailed site assessments of each potential site to determine the appropriate monitoring method. Factors such as pipe size, channel condition, site location, site access, and flow hydraulics were all considered and documented while performing site assessments. The best of the 2 selected sites per area number were chosen in order to retrieve the best data.

The meters were calibrated and set to log data at 5 minute intervals as per spec and standard SFE procedure. To ensure proper operation of the stations, a regular maintenance schedule is normally adhered to for the duration of the project but since the duration of this project was only 2 weeks long, there were no intermediate visits. During install and removal manual readings were done using a preset benchmark and this was compared to the meter readings simultaneously. All sites have shown to be well within limitations.

3. QA/QC and Safety Statement

SFE confirms that all flow monitoring stations were installed according to SFE's QA/QC methodology and protocol, and standard industry practice. All flow monitoring equipment has been removed from the site locations.

SFE has a comprehensive Company Safety Manual and can be reviewed upon request.

Confined space entry procedures and general site/traffic safety was adhered to during site installation and site maintenance. SFE utilizes an approved rescue system, a 2800 CFM air induction device and four-gas air quality monitors. All of our staff members are thoroughly trained and certified in confined space entry procedures. Certificates are available upon request.

A thorough traffic control plan was established and used by SFE Global crews where required.

4. Data

Data collected during this project has been inspected for any anomalies and compared to field readings. All data submitted is in RAW format and has not been altered.

Appendices

Appendix #1 Maintenance Sheets, Data Summaries and Graphs

Report End
February 2015

SFE Global
File #U14-141

Appendix 1

Data Summaries and Graphs

Appendix 2

Site Books

CLIENT FLOW MONITORING #: 1
NAME:

SFE PROJECT #: U14-141
SFE SITE #: 1

FIELD MAINTENANCE RECORD

LEGEND

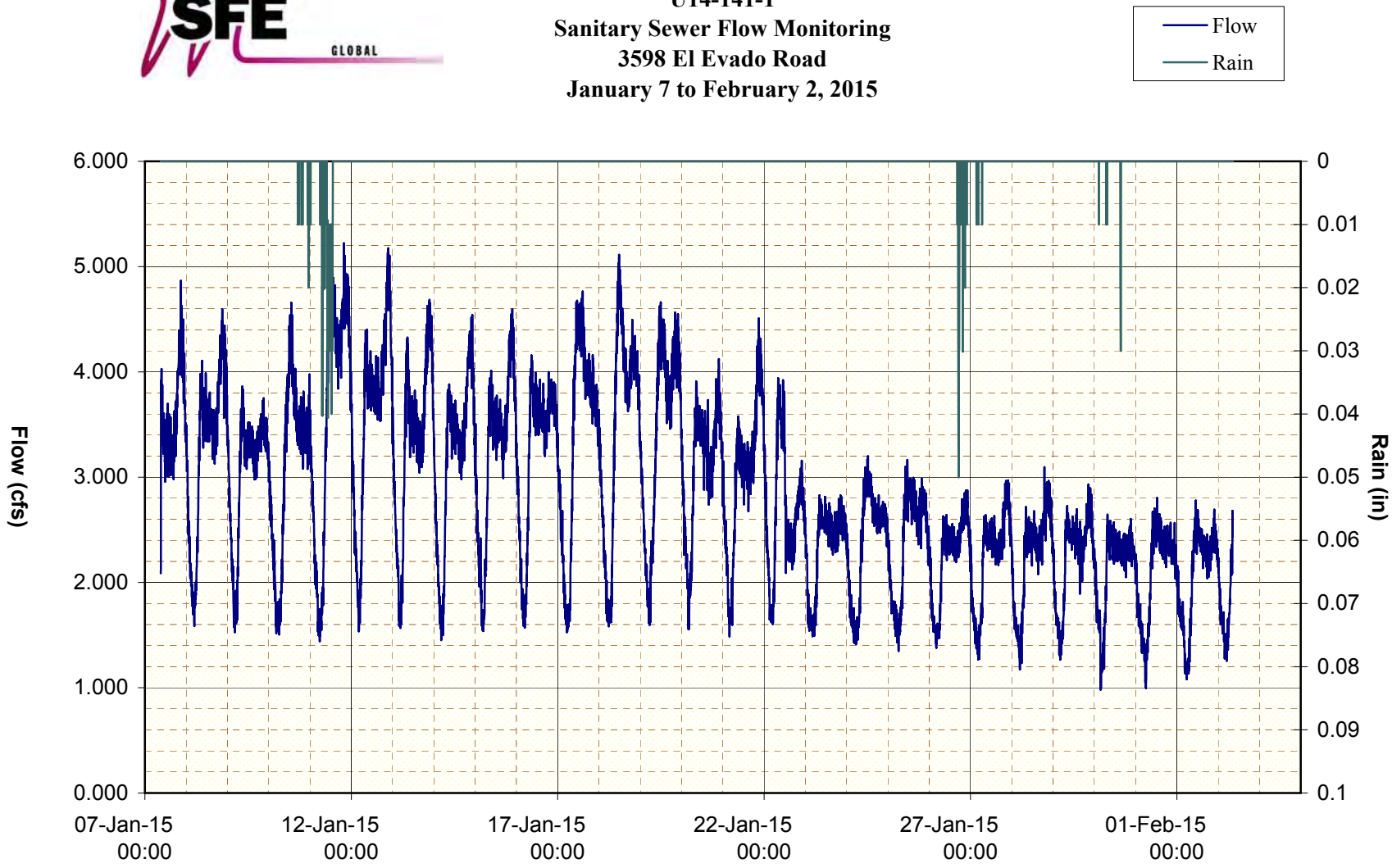
DL - DOWNLOAD PC - PROGRAM COMPLETE
CB - CHG BATTERY PM - PROG. METER
V - VERIFY VIS - VISUAL
LA - LEVEL ADJUST VP - VELOCITY PROFILE

SITE#:	1	**CONSTANT**	185
LOCATION			
STUDY:	**Sanitary** / Storm		
WEIR	**AV** (CIRCLE)	METER #	204M01524

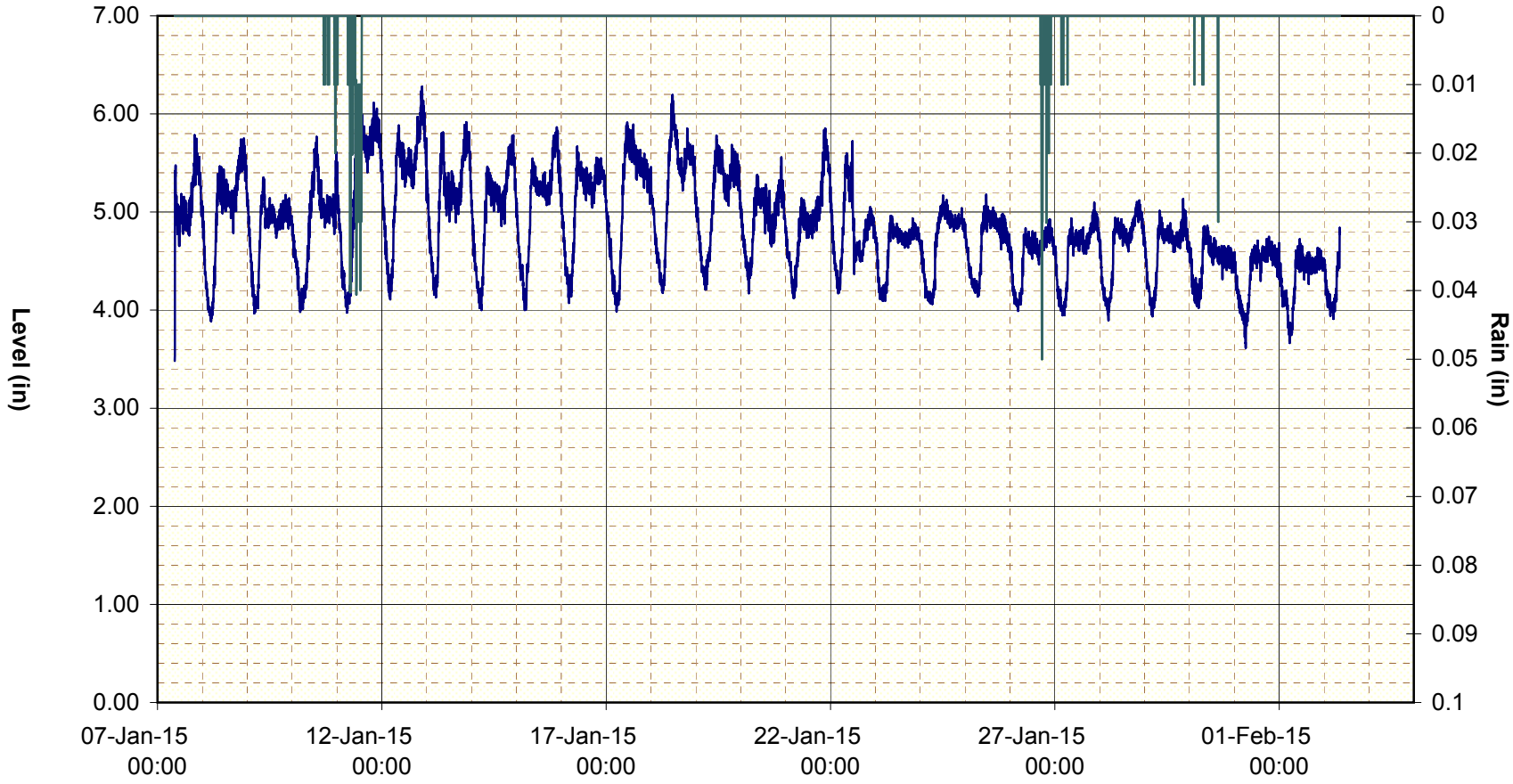
DATE	TIME	METER TIME	METER DEPTH	FIELD MEAS	METER VEL	FIELD VEL-VIS	FLOW	BATT OLD	BATT NEW	SILT	MTR RUN	MTC BY	COMMENTS
M/D/YY	HH:MM	HH:MM	in.	in.	fps	fps	gpm	V	V	in.	Y/N	(INIT.)	
1/7/2015	7:44	7:43	5.1	5	5.7	*	3.53	N/A	12.3	0	Y	AM	New Install
1/8/2015	10:28	10:28	5.38	5.25	5.5	*	3.8	12.2	N/A	0	Y	AM	
2/2/2015	8:27	8:27	4.863	4.75	4.743	*	2.6	11.7	N/A	0	Y	BF	Uninstall Complete

NOTES:

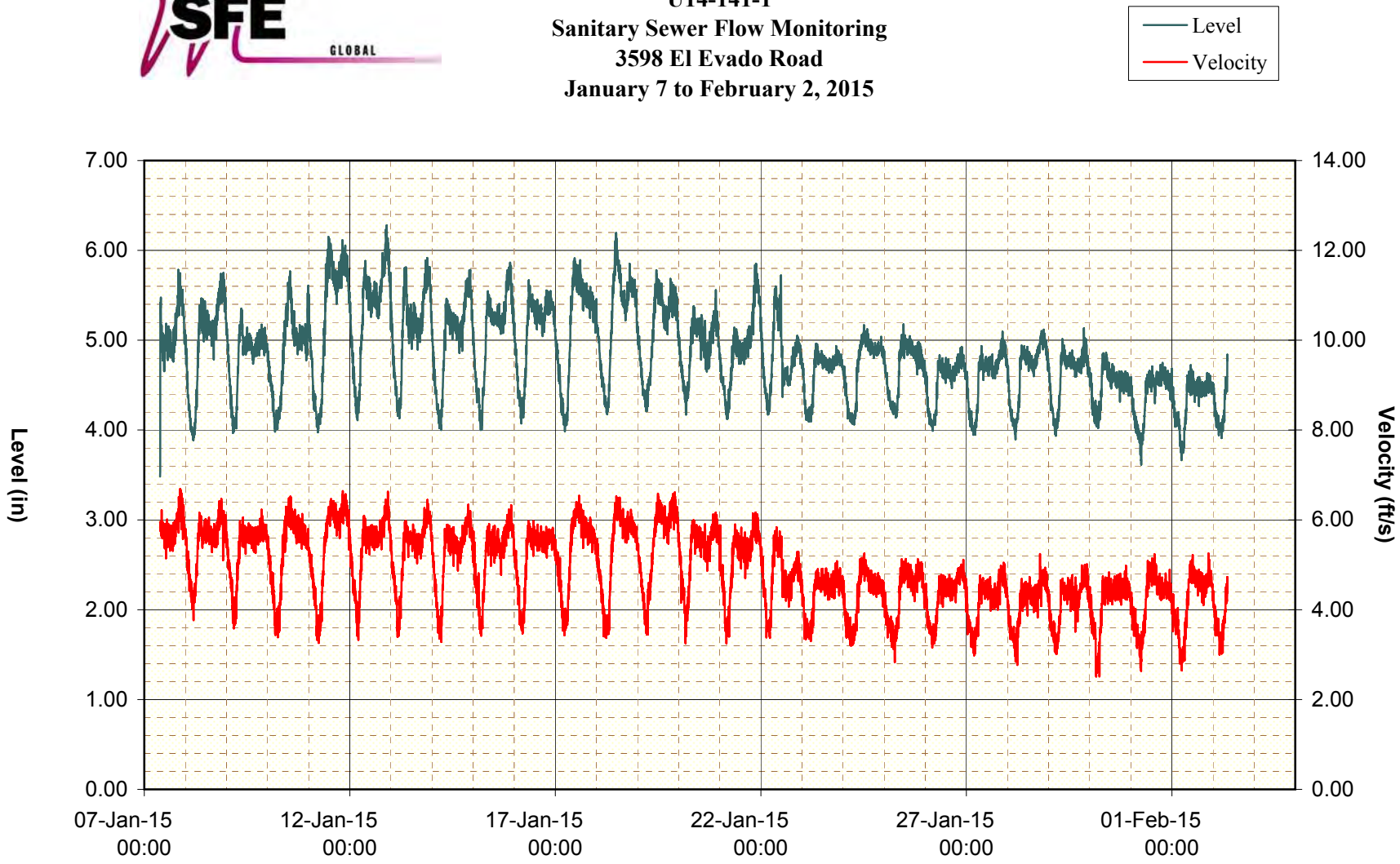
U14-141 Victorville CA
U14-141-1
Sanitary Sewer Flow Monitoring
3598 El Evado Road
January 7 to February 2, 2015



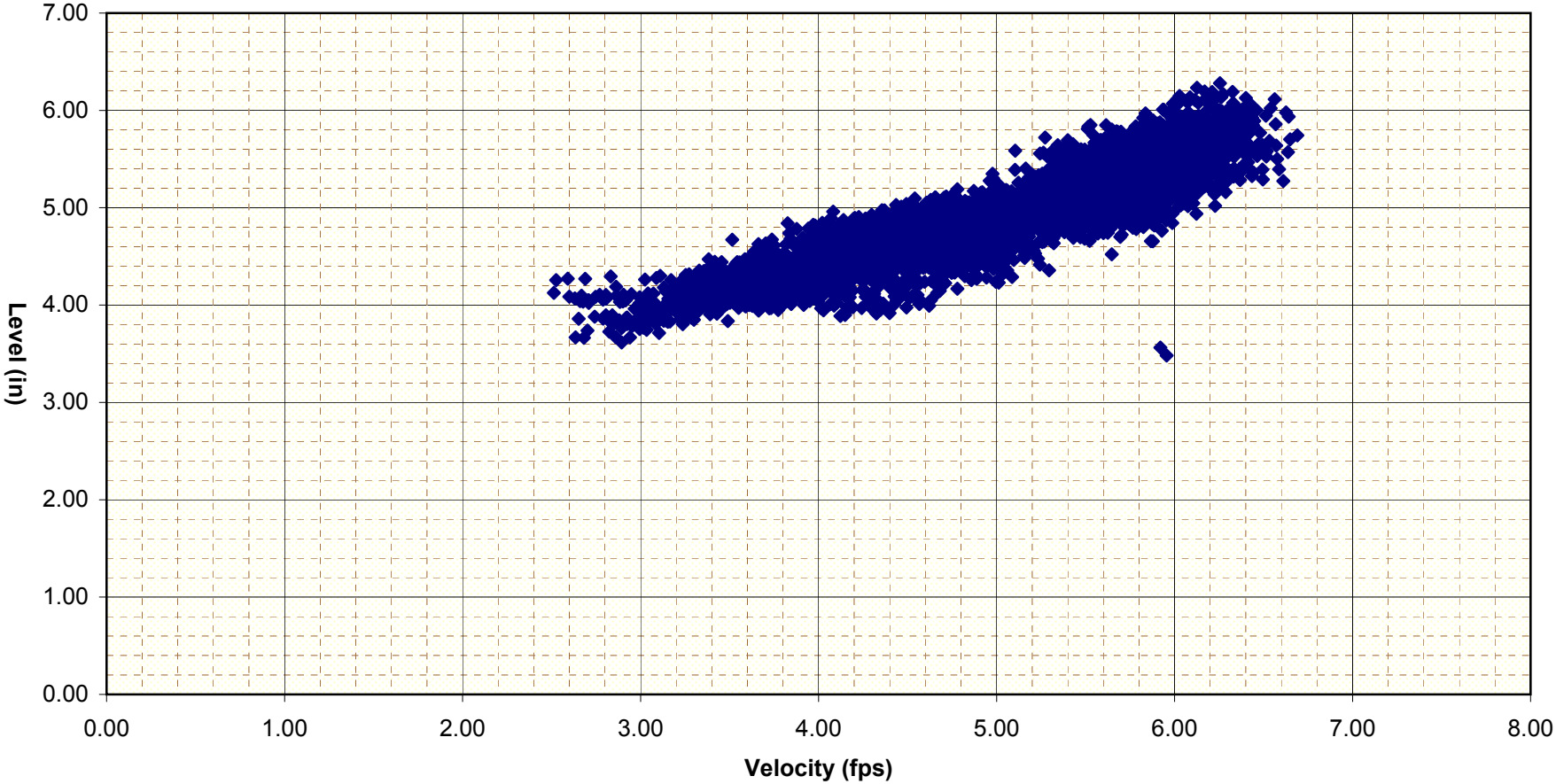
U14-141 Victorville CA
U14-141-1
Sanitary Sewer Flow Monitoring
3598 El Evado Road
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-1
Sanitary Sewer Flow Monitoring
3598 El Evado Road
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-1
Sanitary Sewer Flow Monitoring
3598 El Evado Road
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-1
Sanitary Sewer Flow Monitoring
3598 El Evado Road
January 7 to February 2, 2015

Date	Avg Flow (cfs)	Min Flow (cfs)	Max Flow (cfs)	Total Flow (mgd)
07-Jan-15	3.599	2.086	4.864	2.326
08-Jan-15	3.280	1.589	4.592	2.120
09-Jan-15	3.042	1.533	3.861	1.966
10-Jan-15	3.082	1.508	4.655	1.992
11-Jan-15	3.596	1.443	5.221	2.324
12-Jan-15	3.581	1.536	5.173	2.315
13-Jan-15	3.340	1.570	4.685	2.158
14-Jan-15	3.182	1.457	4.540	2.057
15-Jan-15	3.234	1.538	4.595	2.090
16-Jan-15	3.217	1.573	4.157	2.079
17-Jan-15	3.363	1.530	4.762	2.174
18-Jan-15	3.465	1.585	5.110	2.239
19-Jan-15	3.415	1.596	4.652	2.207
20-Jan-15	3.099	1.558	4.121	2.003
21-Jan-15	3.026	1.489	4.506	1.955
22-Jan-15	2.682	1.606	3.938	1.733
23-Jan-15	2.336	1.489	2.828	1.510
24-Jan-15	2.375	1.420	3.196	1.535
25-Jan-15	2.373	1.349	3.164	1.533
26-Jan-15	2.237	1.380	2.874	1.446
27-Jan-15	2.243	1.267	2.969	1.449
28-Jan-15	2.253	1.173	3.095	1.456
29-Jan-15	2.235	1.268	2.931	1.445
30-Jan-15	2.127	0.982	2.644	1.375
31-Jan-15	2.087	0.996	2.801	1.349
01-Feb-15	2.072	1.080	2.776	1.339
02-Feb-15	1.736	1.255	2.676	1.122

Total Flow (mg)	Min Flow (cfs)	Max Flow (cfs)
49.297	0.982	5.221

CLIENT FLOW MONITORING #: 2
NAME:

SFE PROJECT #: U14-141
SFE SITE #: 2

FIELD MAINTENANCE RECORD

LEGEND

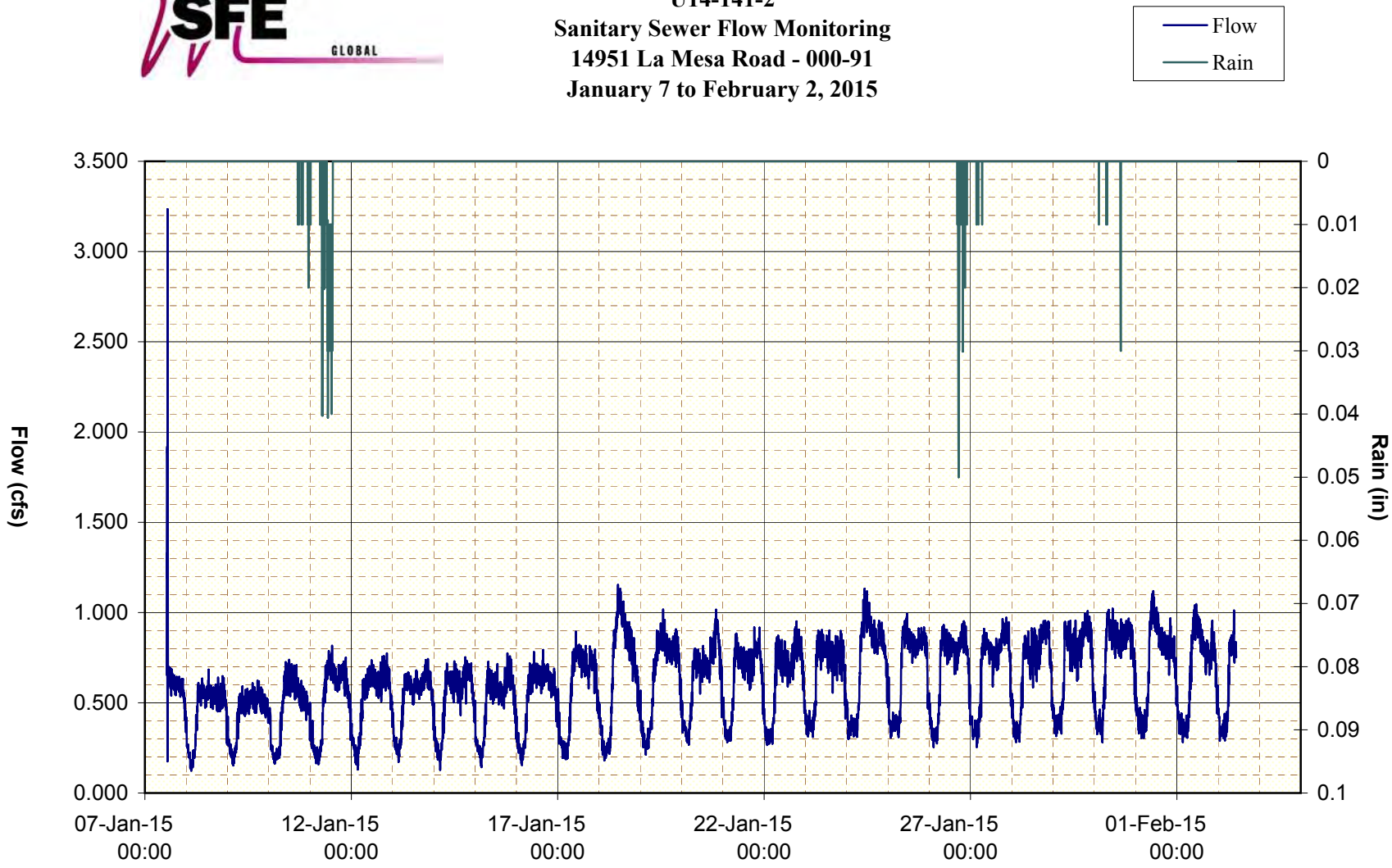
DL - DOWNLOAD PC - PROGRAM COMPLETE
CB - CHG BATTERY PM - PROG. METER
V - VERIFY VIS - VISUAL
LA - LEVEL ADJUST VP - VELOCITY PROFILE

SITE#:	2	**CONSTANT**	126.75
LOCATION	14915 La Mesa		
STUDY:	**Sanitary** / Storm		
WEIR	**AV** (CIRCLE)	METER #	207F00783

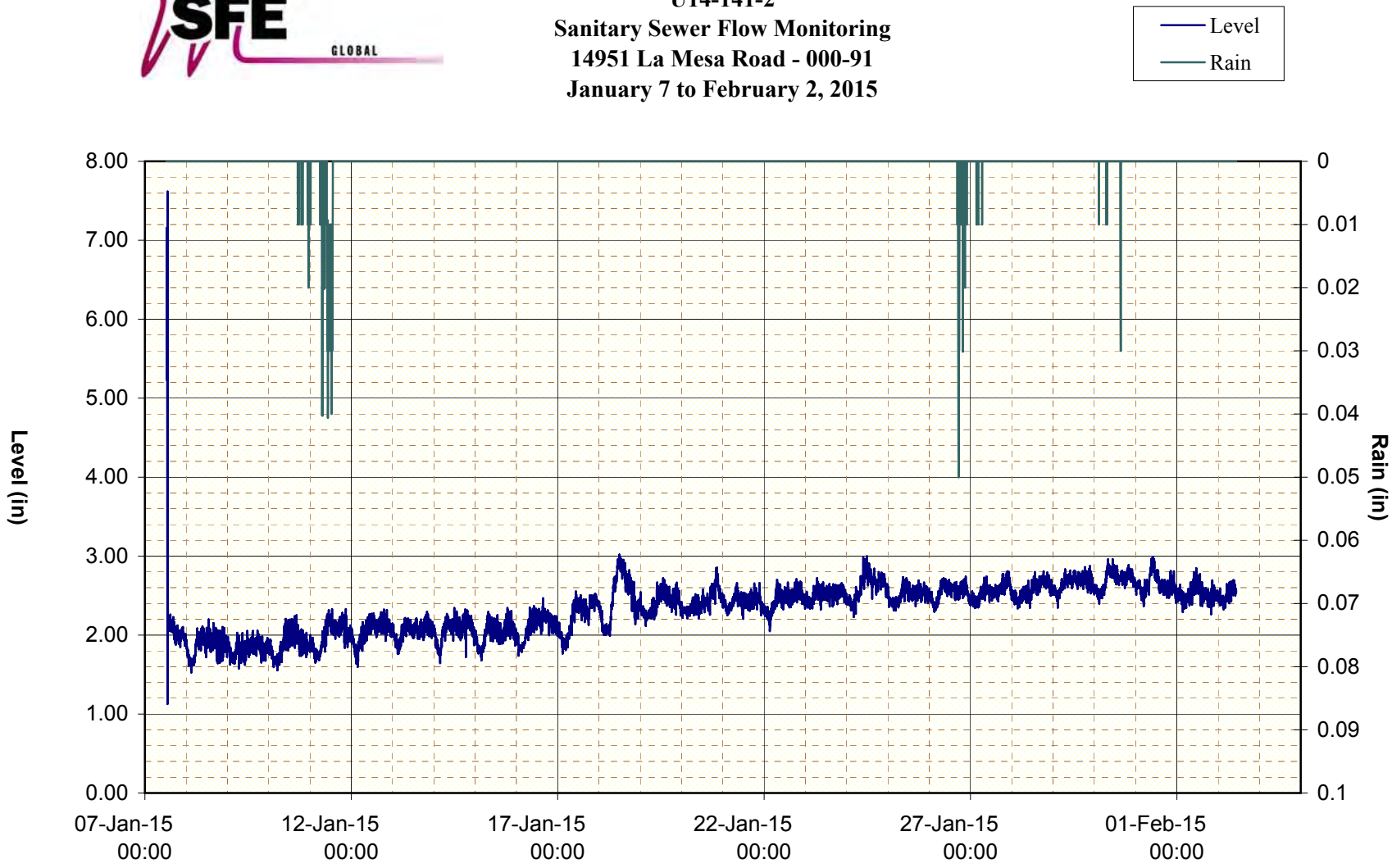
DATE	TIME	METER TIME	METER DEPTH	FIELD MEAS	METER VEL	FIELD VEL-VIS	FLOW	BATT OLD	BATT NEW	SILT	MTR RUN	MTC BY	COMMENTS
M/D/YY	HH:MM	HH:MM	in.	in.	fps	fps	gpm	V	V	in.	Y/N	(INIT.)	
1/7/2015	13:40	13:40	2.247	2.25	5.24	*	0.21	N/A	12.4	0	Y	AM	New Install
1/8/2015	11:42	11:42	1.92	2	5.75	*	0.17	12.4	N/A	0	Y	AM	
2/2/2015	8:27	8:27	2.567	2.5	5.711	*	0.28	11.8	N/A	0	Y	BF	Uinstall Complete

NOTES:

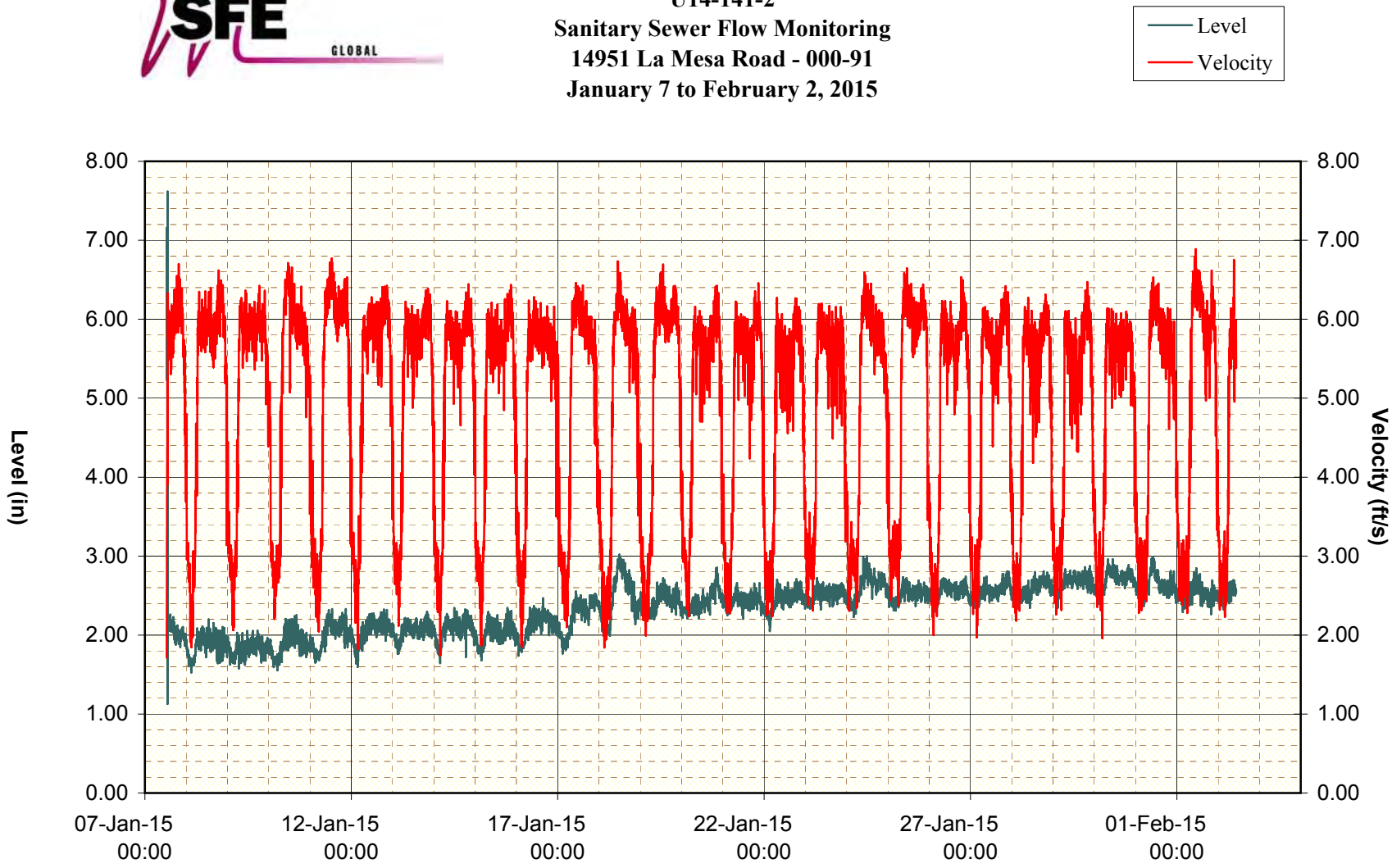
U14-141 Victorville CA
U14-141-2
Sanitary Sewer Flow Monitoring
14951 La Mesa Road - 000-91
January 7 to February 2, 2015



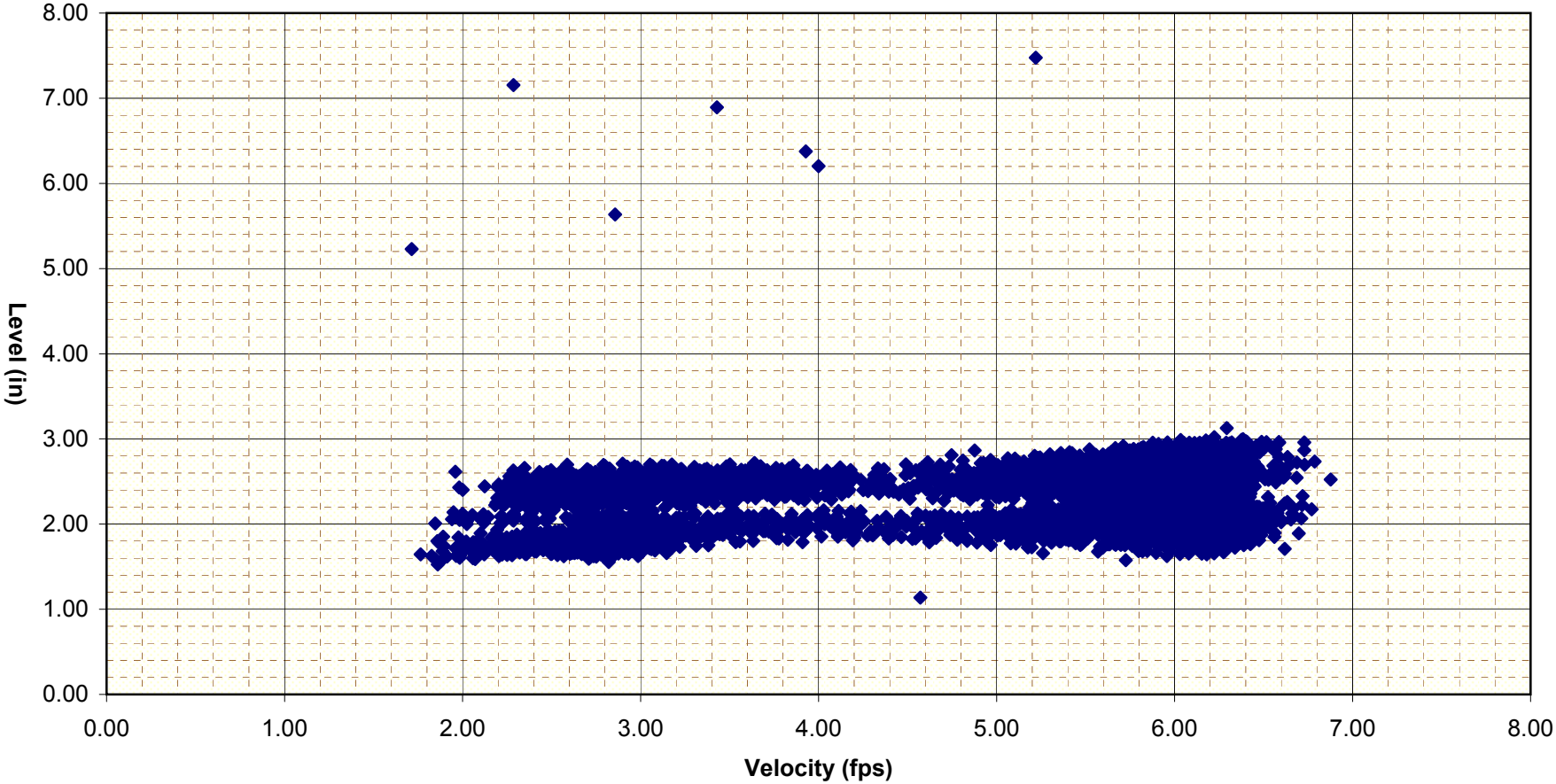
U14-141 Victorville CA
U14-141-2
Sanitary Sewer Flow Monitoring
14951 La Mesa Road - 000-91
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-2
Sanitary Sewer Flow Monitoring
14951 La Mesa Road - 000-91
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-2
Sanitary Sewer Flow Monitoring
14951 La Mesa Road - 000-91
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-2
Sanitary Sewer Flow Monitoring
14951 La Mesa Road - 000-91
January 7 to February 2, 2015

Date	Avg Flow (cfs)	Min Flow (cfs)	Max Flow (cfs)	Total Flow (mgd)
07-Jan-15	0.648	0.194	3.189	0.419
08-Jan-15	0.457	0.122	0.683	0.296
09-Jan-15	0.440	0.153	0.624	0.284
10-Jan-15	0.472	0.162	0.738	0.305
11-Jan-15	0.513	0.159	0.815	0.332
12-Jan-15	0.523	0.131	0.774	0.338
13-Jan-15	0.522	0.172	0.740	0.337
14-Jan-15	0.525	0.129	0.752	0.340
15-Jan-15	0.500	0.143	0.773	0.323
16-Jan-15	0.532	0.155	0.793	0.344
17-Jan-15	0.575	0.187	0.893	0.372
18-Jan-15	0.665	0.181	1.153	0.430
19-Jan-15	0.647	0.212	1.016	0.418
20-Jan-15	0.646	0.269	1.016	0.418
21-Jan-15	0.637	0.281	0.918	0.412
22-Jan-15	0.638	0.267	0.945	0.413
23-Jan-15	0.670	0.311	0.903	0.433
24-Jan-15	0.723	0.299	1.127	0.467
25-Jan-15	0.684	0.309	0.993	0.442
26-Jan-15	0.687	0.254	0.951	0.444
27-Jan-15	0.693	0.256	0.969	0.448
28-Jan-15	0.692	0.284	0.953	0.447
29-Jan-15	0.722	0.315	1.006	0.467
30-Jan-15	0.745	0.281	1.021	0.482
31-Jan-15	0.715	0.305	1.118	0.462
01-Feb-15	0.678	0.282	1.047	0.438
02-Feb-15	0.554	0.291	1.009	0.358

Total Flow (mg)	Min Flow (cfs)	Max Flow (cfs)
10.668	0.122	3.189

CLIENT FLOW MONITORING #: 3
NAME:

SFE PROJECT #: U14-141
SFE SITE #: 3

FIELD MAINTENANCE RECORD

LEGEND

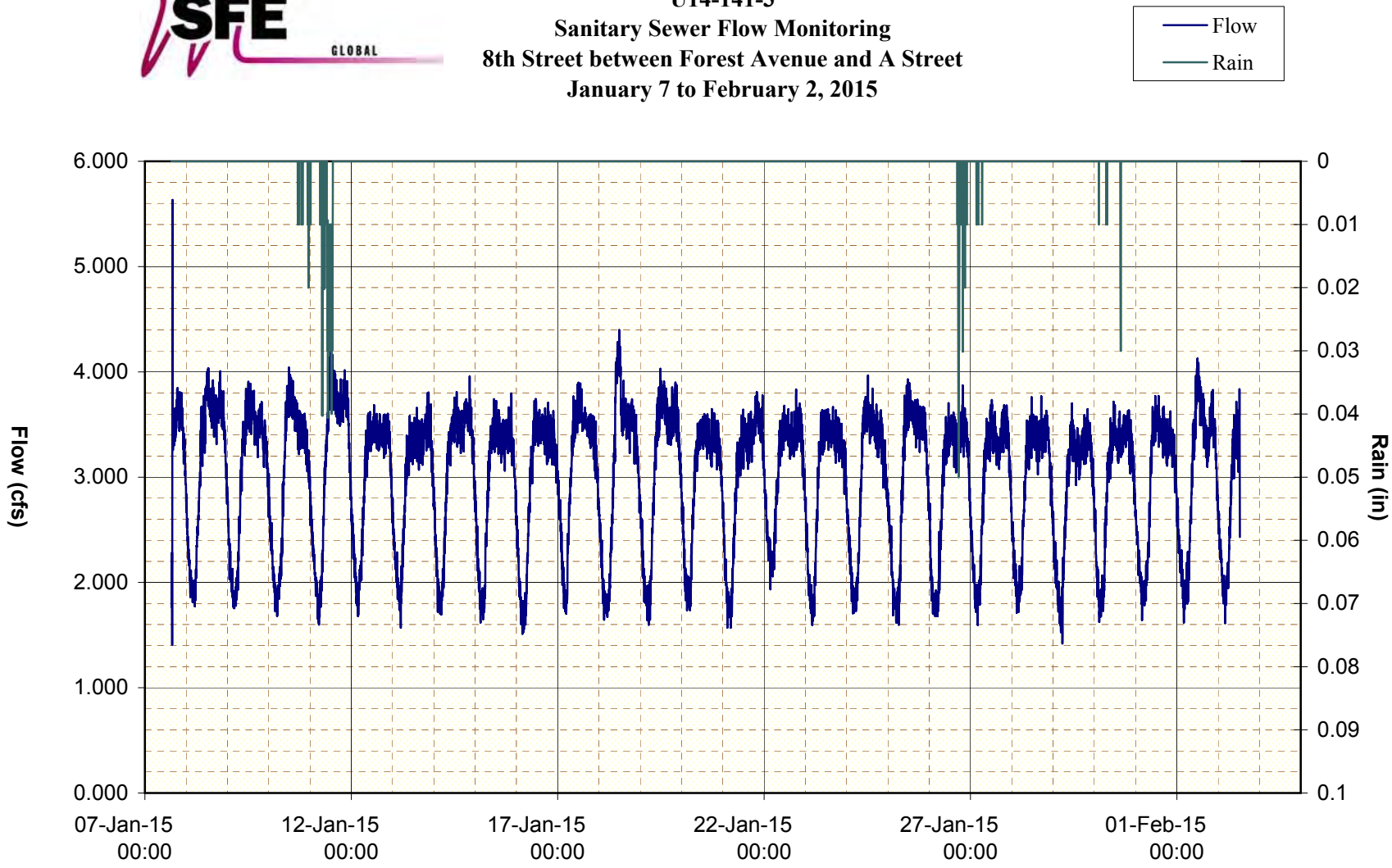
DL - DOWNLOAD PC - PROGRAM COMPLETE
CB - CHG BATTERY PM - PROG. METER
V - VERIFY VIS - VISUAL
LA - LEVEL ADJUST VP - VELOCITY PROFILE

SITE#:	3	**CONSTANT**	104
LOCATION	8th St. Btwn Forrest & A St.		
STUDY:	**Sanitary** / Storm		
WEIR	**AV** (CIRCLE)	METER #	

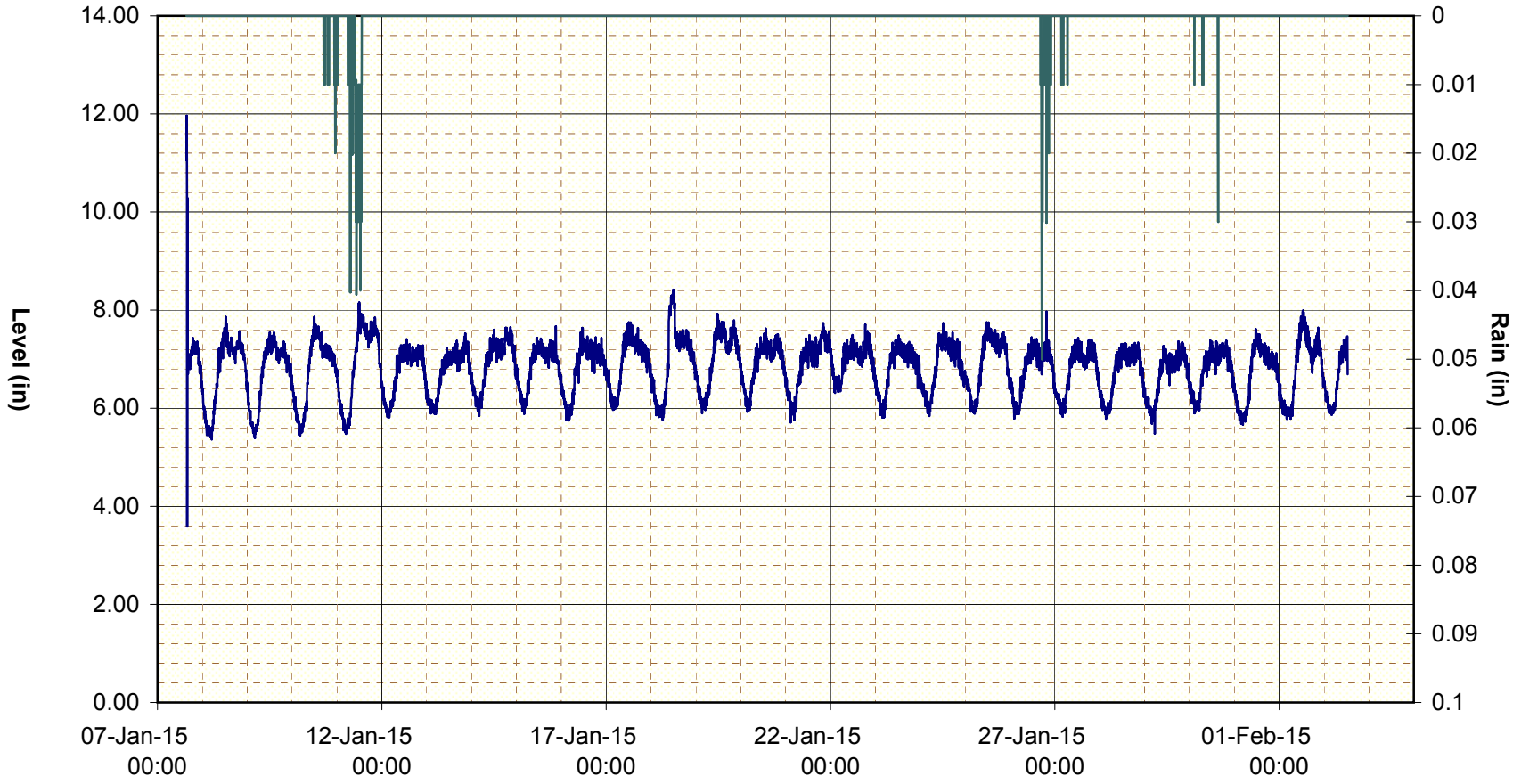
DATE	TIME	METER TIME	METER DEPTH	FIELD MEAS	METER VEL	FIELD VEL-VIS	FLOW	BATT OLD	BATT NEW	SILT	MTR RUN	MTC BY	COMMENTS
M/D/YY	HH:MM	HH:MM	in.	in.	fps	fps	gpm	V	V	in.	Y/N	(INIT.)	
1/7/2015	16:04	16:05	6.8	7	6.13	*	3.01	N/A	12.4	0	Y	AM	New Install
1/8/2015	12:00	12:01	7.38	7.5	6.11	*	3.925	12	N/A	0	Y	AM	
2/2/2015	12:22	12:22	7.498	7.5	5.794	*	3.422	11.6	N/A	0	Y	BF	Unisntall Complete

NOTES:

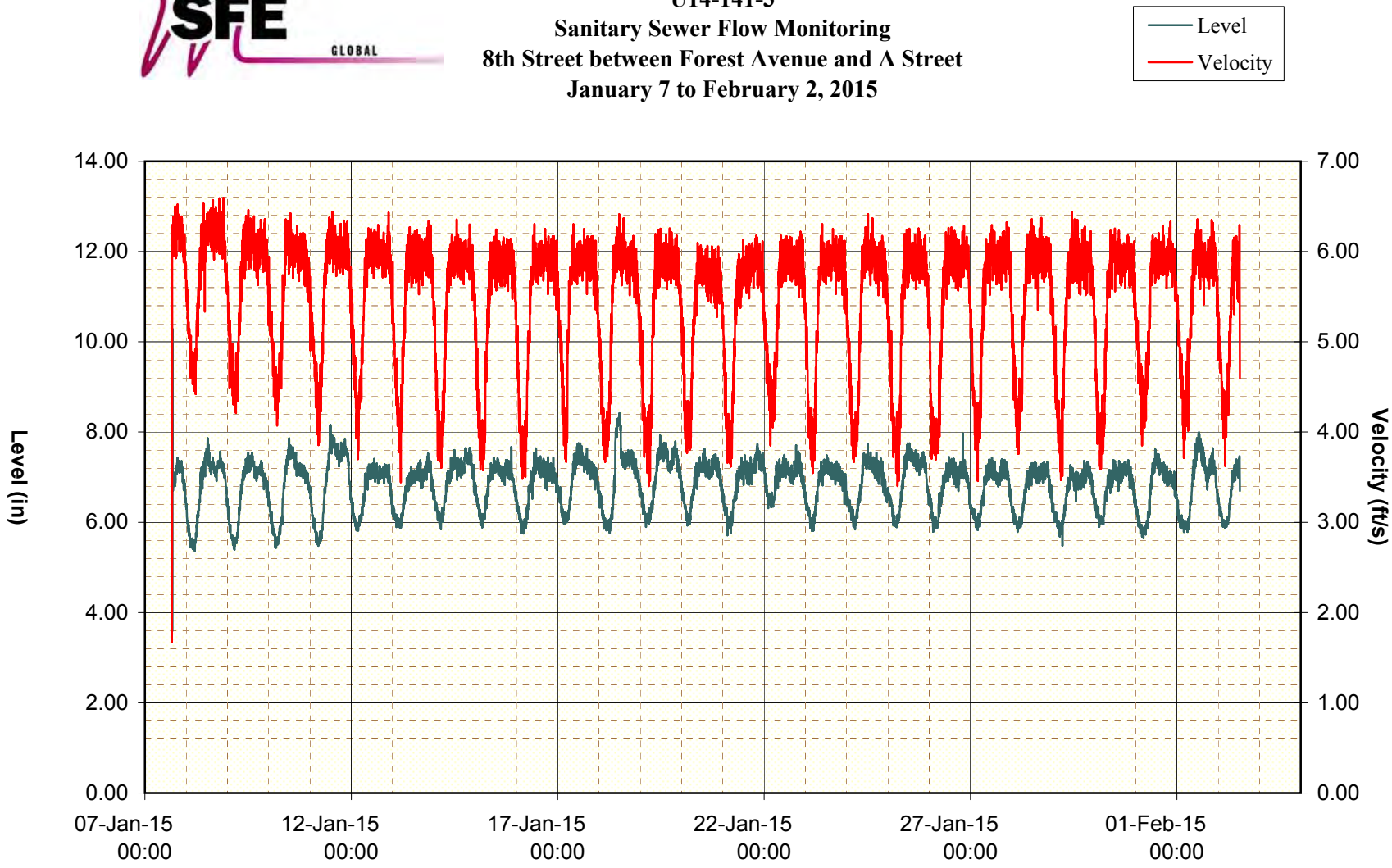
U14-141 Victorville CA
U14-141-3
Sanitary Sewer Flow Monitoring
8th Street between Forest Avenue and A Street
January 7 to February 2, 2015



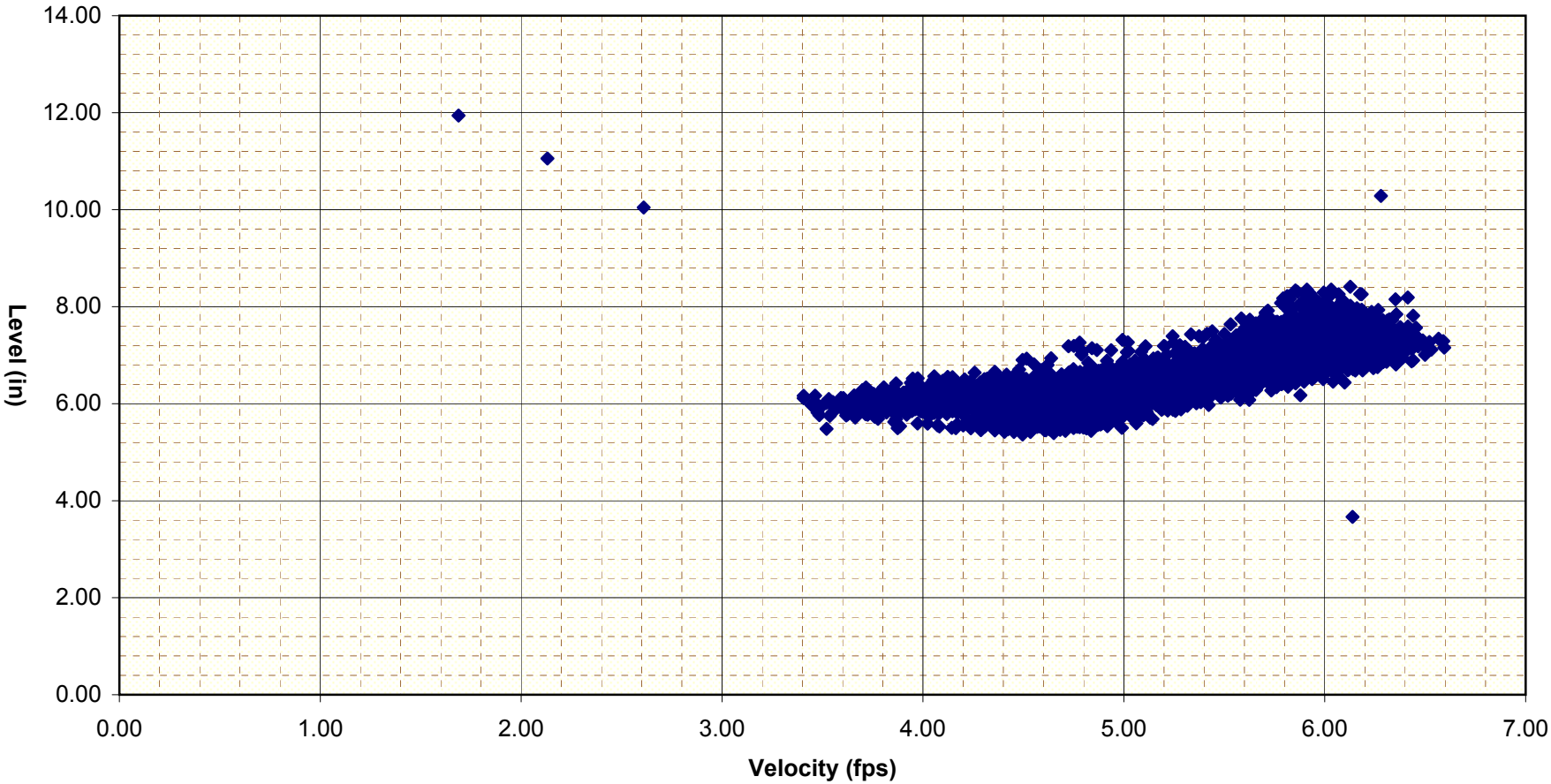
U14-141 Victorville CA
U14-141-3
Sanitary Sewer Flow Monitoring
8th Street between Forest Avenue and A Street
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-3
Sanitary Sewer Flow Monitoring
8th Street between Forest Avenue and A Street
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-3
Sanitary Sewer Flow Monitoring
8th Street between Forest Avenue and A Street
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-3
Sanitary Sewer Flow Monitoring
8th Street between Forest Avenue and A Street
January 7 to February 2, 2015

Date	Avg Flow (cfs)	Min Flow (cfs)	Max Flow (cfs)	Total Flow (mgd)
07-Jan-15	3.441	1.427	5.632	2.224
08-Jan-15	3.127	1.773	4.034	2.021
09-Jan-15	3.031	1.755	3.900	1.959
10-Jan-15	3.022	1.682	4.035	1.953
11-Jan-15	3.126	1.599	4.329	2.020
12-Jan-15	2.997	1.679	3.685	1.937
13-Jan-15	2.977	1.570	3.804	1.924
14-Jan-15	3.041	1.695	3.956	1.965
15-Jan-15	2.962	1.622	3.787	1.914
16-Jan-15	2.935	1.514	3.734	1.897
17-Jan-15	3.087	1.703	3.898	1.995
18-Jan-15	3.058	1.645	4.396	1.976
19-Jan-15	3.056	1.600	4.027	1.975
20-Jan-15	2.980	1.736	3.632	1.926
21-Jan-15	2.976	1.569	3.808	1.924
22-Jan-15	3.065	1.938	3.821	1.981
23-Jan-15	2.979	1.594	3.663	1.925
24-Jan-15	2.975	1.708	3.966	1.923
25-Jan-15	3.000	1.599	3.918	1.939
26-Jan-15	2.928	1.681	3.871	1.893
27-Jan-15	2.961	1.595	3.728	1.914
28-Jan-15	2.940	1.712	3.764	1.900
29-Jan-15	2.873	1.429	3.699	1.856
30-Jan-15	2.937	1.627	3.717	1.898
31-Jan-15	2.936	1.647	3.771	1.898
01-Feb-15	3.011	1.621	4.126	1.946
02-Feb-15	2.648	1.613	3.835	1.712

Total Flow (mg)	Min Flow (cfs)	Max Flow (cfs)
52.392	1.427	5.632

CLIENT FLOW MONITORING #: 4
NAME:

SFE PROJECT #: U14-141
SFE SITE #: 4

FIELD MAINTENANCE RECORD

LEGEND

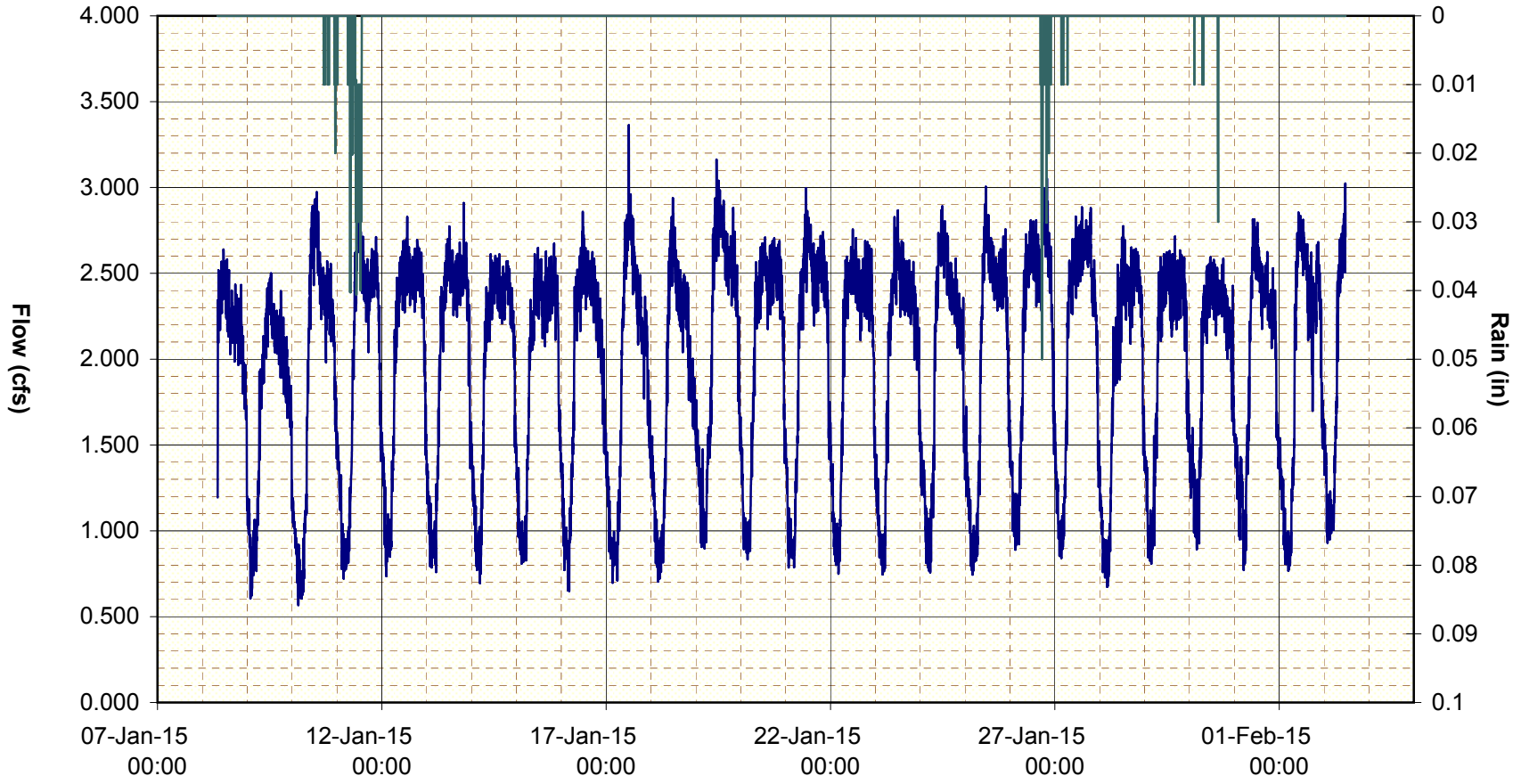
DL - DOWNLOAD PC - PROGRAM COMPLETE
CB - CHG BATTERY PM - PROG. METER
V - VERIFY VIS - VISUAL
LA - LEVEL ADJUST VP - VELOCITY PROFILE

SITE#:	4	**CONSTANT**	146.75
LOCATION	17481 Coad Rd.		
STUDY:	**Sanitary** / Storm		
WEIR	**AV** (CIRCLE)	METER #	210B00127

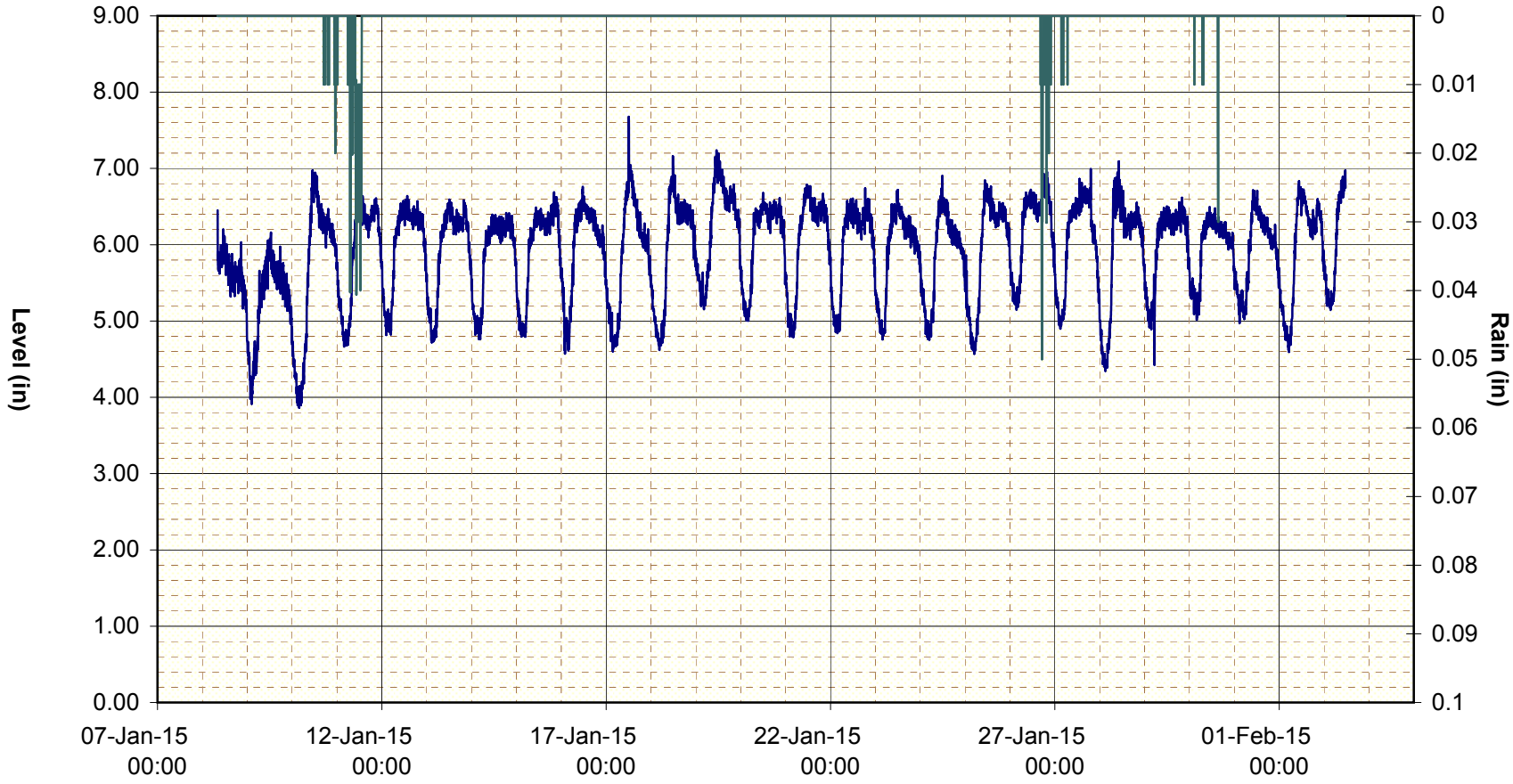
DATE	TIME	METER TIME	METER DEPTH	FIELD MEAS	METER VEL	FIELD VEL-VIS	FLOW	BATT OLD	BATT NEW	SILT	MTR RUN	MTC BY	COMMENTS
M/D/YY	HH:MM	HH:MM	in.	in.	fps	fps	gpm	V	V	in.	Y/N	(INIT.)	
1/8/2015	8:25	8:25	5.6	5.5	5.11	*	2.25	N/A	12	0	Y	AM	New Install
2/2/2015	11:34	11:34	6.653	6.5	4.828	*	2.573	12	N/A	0	Y	BF	Uninstall Complete

NOTES:

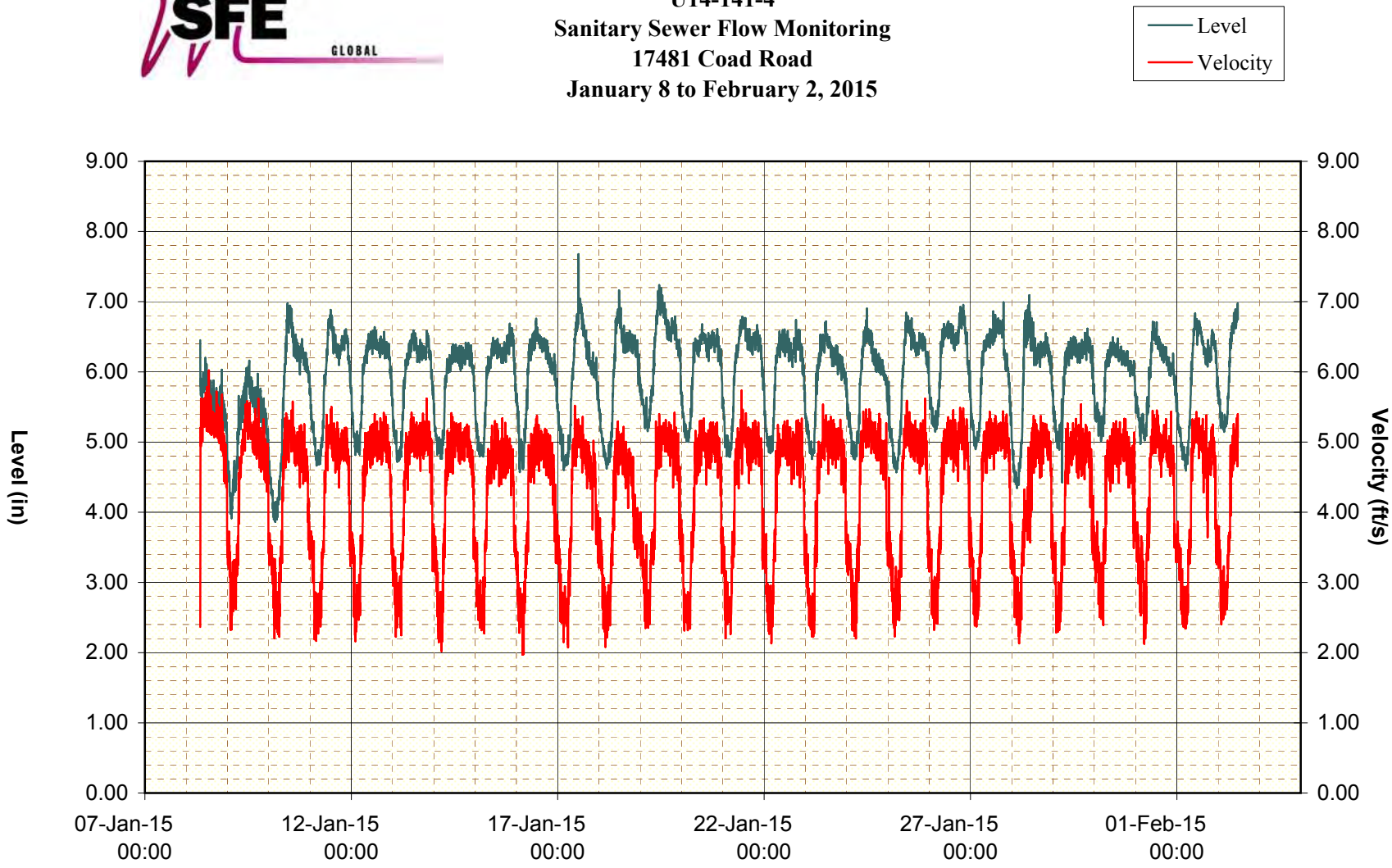
U14-141 Victorville CA
U14-141-4
Sanitary Sewer Flow Monitoring
17481 Coad Road
January 8 to February 2, 2015



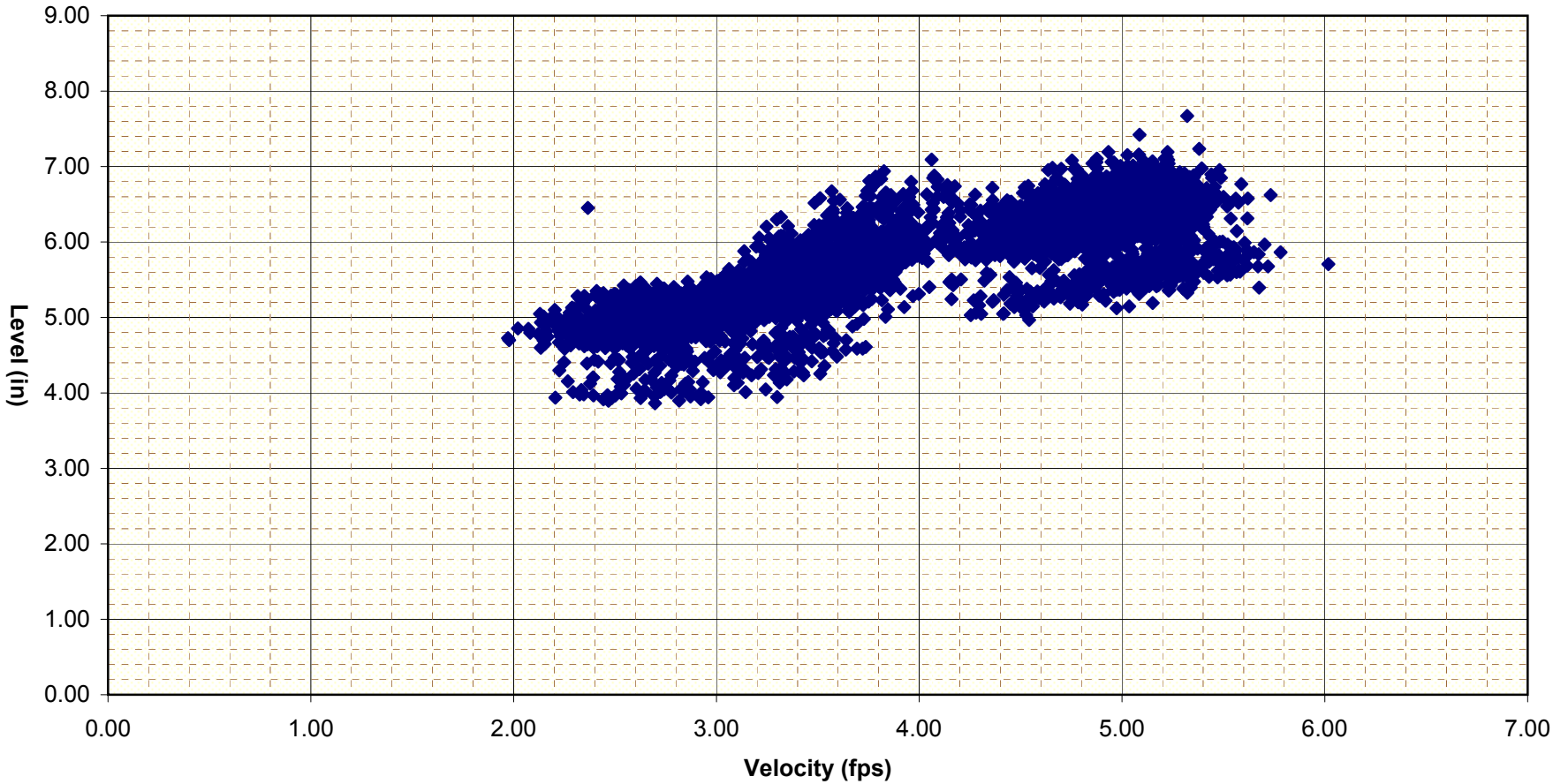
U14-141 Victorville CA
U14-141-4
Sanitary Sewer Flow Monitoring
17481 Coad Road
January 8 to February 2, 2015



U14-141 Victorville CA
U14-141-4
Sanitary Sewer Flow Monitoring
17481 Coad Road
January 8 to February 2, 2015



U14-141 Victorville CA
U14-141-4
Sanitary Sewer Flow Monitoring
17481 Coad Road
January 8 to February 2, 2015



U14-141 Victorville CA
U14-141-4
Sanitary Sewer Flow Monitoring
17481 Coad Road
January 8 to February 2, 2015

Date	Avg Flow (cfs)	Min Flow (cfs)	Max Flow (cfs)	Total Flow (mgd)
08-Jan-15	2.197	1.179	2.634	1.420
09-Jan-15	1.748	0.606	2.498	1.130
10-Jan-15	1.873	0.567	2.973	1.210
11-Jan-15	1.942	0.722	2.941	1.255
12-Jan-15	2.033	0.736	2.826	1.314
13-Jan-15	2.024	0.765	2.910	1.308
14-Jan-15	1.975	0.695	2.610	1.277
15-Jan-15	1.942	0.814	2.672	1.255
16-Jan-15	1.956	0.650	2.857	1.264
17-Jan-15	1.896	0.698	3.360	1.225
18-Jan-15	1.852	0.704	2.939	1.197
19-Jan-15	2.113	0.899	3.153	1.366
20-Jan-15	2.036	0.834	2.708	1.316
21-Jan-15	2.063	0.786	2.995	1.333
22-Jan-15	2.020	0.751	2.755	1.305
23-Jan-15	2.004	0.746	2.860	1.295
24-Jan-15	1.981	0.757	2.887	1.280
25-Jan-15	1.997	0.745	3.004	1.290
26-Jan-15	2.156	0.890	3.051	1.393
27-Jan-15	2.104	0.841	2.884	1.360
28-Jan-15	1.926	0.677	2.769	1.245
29-Jan-15	2.007	0.808	2.714	1.297
30-Jan-15	2.003	0.893	2.594	1.294
31-Jan-15	1.973	0.772	2.812	1.275
01-Feb-15	1.944	0.767	2.854	1.257
02-Feb-15	1.770	0.930	3.016	1.144

Total Flow (mg)	Min Flow (cfs)	Max Flow (cfs)
33.305	0.567	3.360

CLIENT FLOW MONITORING #: 5
NAME:

SFE PROJECT #: U14-141
SFE SITE #: 5

FIELD MAINTENANCE RECORD

LEGEND

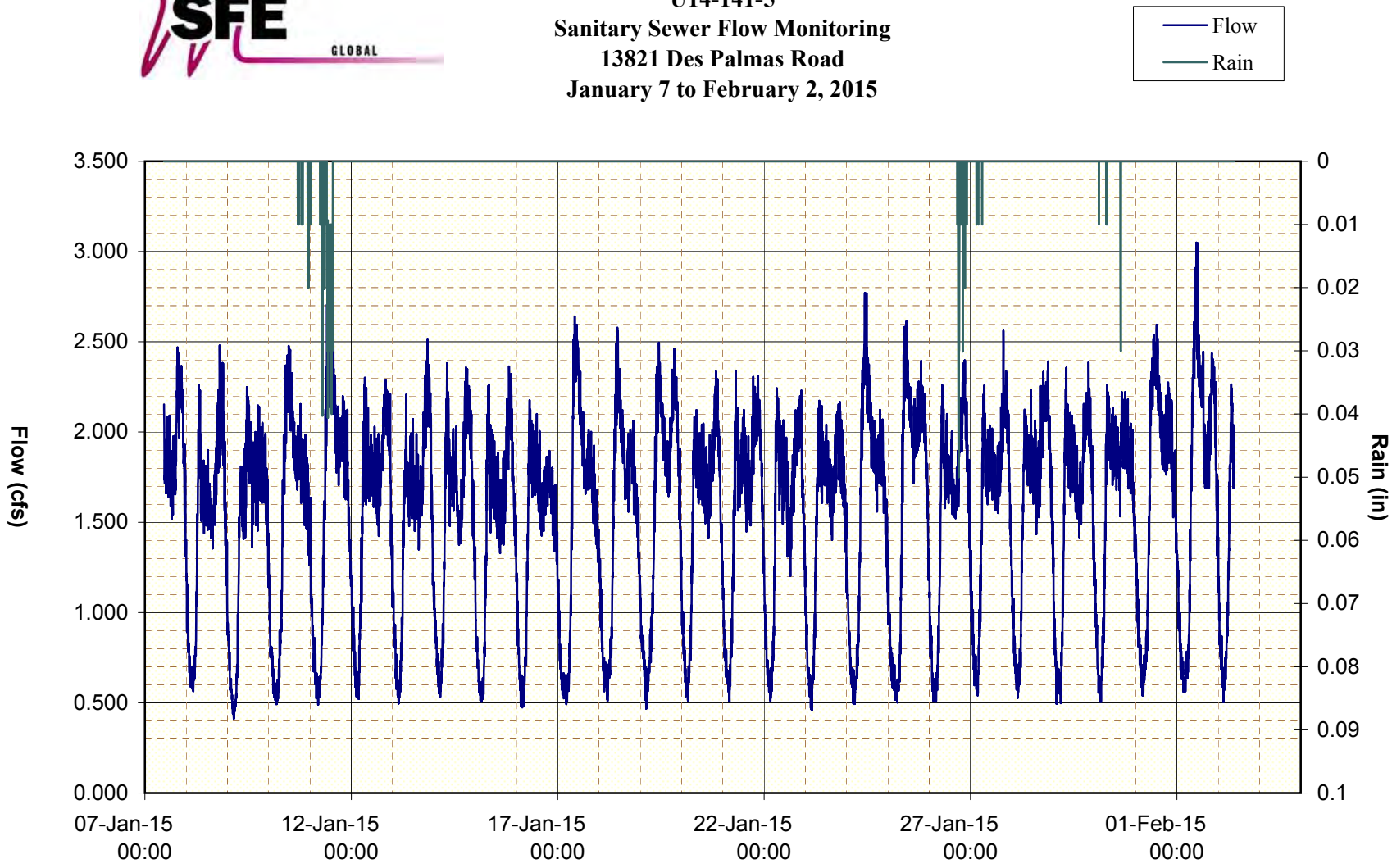
DL - DOWNLOAD PC - PROGRAM COMPLETE
CB - CHG BATTERY PM - PROG. METER
V - VERIFY VIS - VISUAL
LA - LEVEL ADJUST VP - VELOCITY PROFILE

SITE#:	5	**CONSTANT**	154.25
LOCATION	13833 Das Palmas Victorville		
STUDY:	**Sanitary** / Storm		
WEIR	**AV** (CIRCLE)	METER #	207H01745

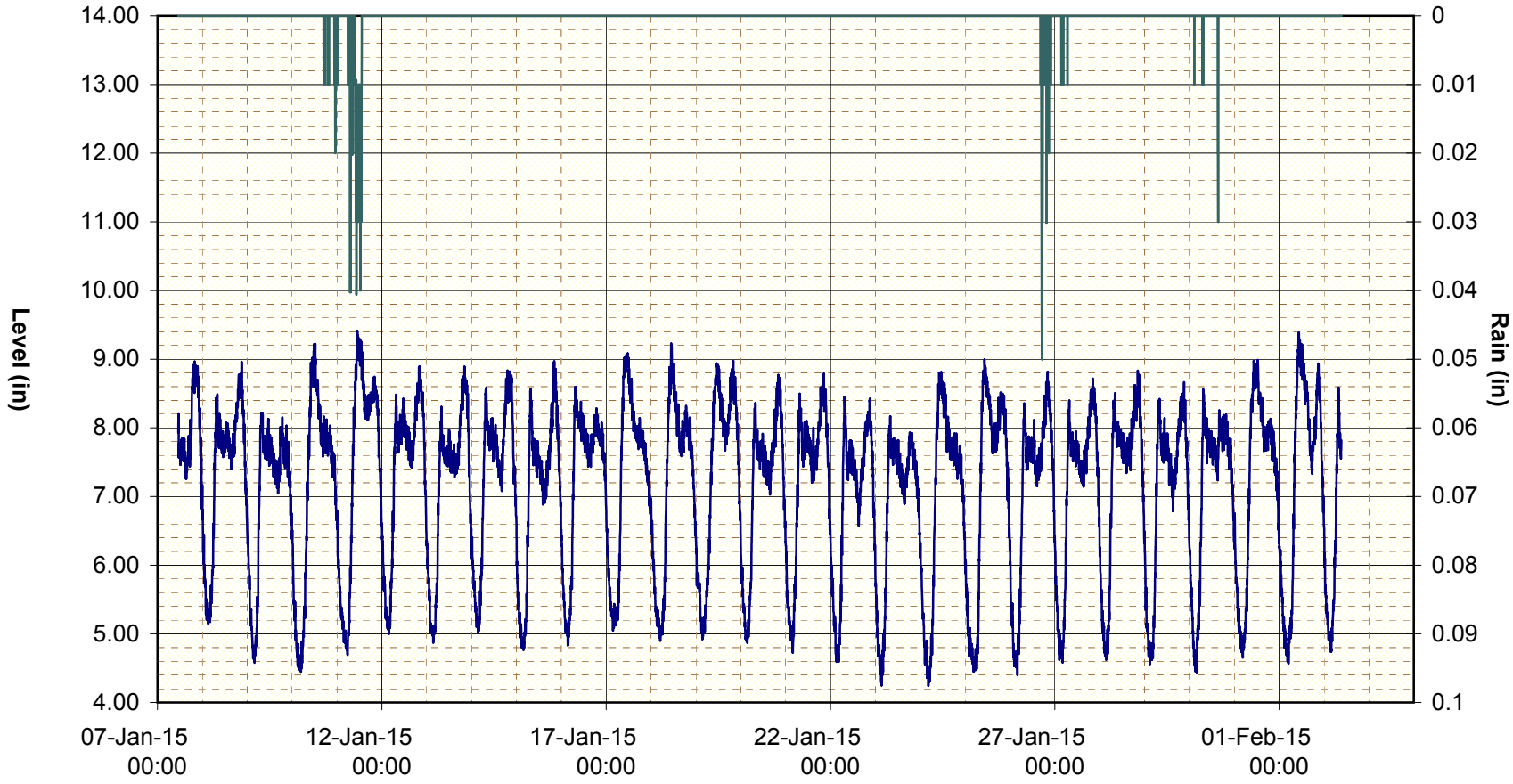
DATE	TIME	METER TIME	METER DEPTH	FIELD MEAS	METER VEL	FIELD VEL-VIS	FLOW	BATT OLD	BATT NEW	SILT	MTR RUN	MTC BY	COMMENTS
M/D/YY	HH:MM	HH:MM	in.	in.	fps	fps	gpm	V	V	in.	Y/N	(INIT.)	
1/7/2015	11:15	11:18	7.58	7.5	2.89	*	1.79	N/A	12.5	0	Y	AM	New Install
1/8/2015	12:35	12:35	7.96	8	2.57	*	1.674	12.4	N/A	0	Y	AM	
2/2/2015	9:19	9:19	7.663	7.75	3.048	*	1.874	11.8	N/A	0	Y	BF	Uninstall Complete

NOTES:

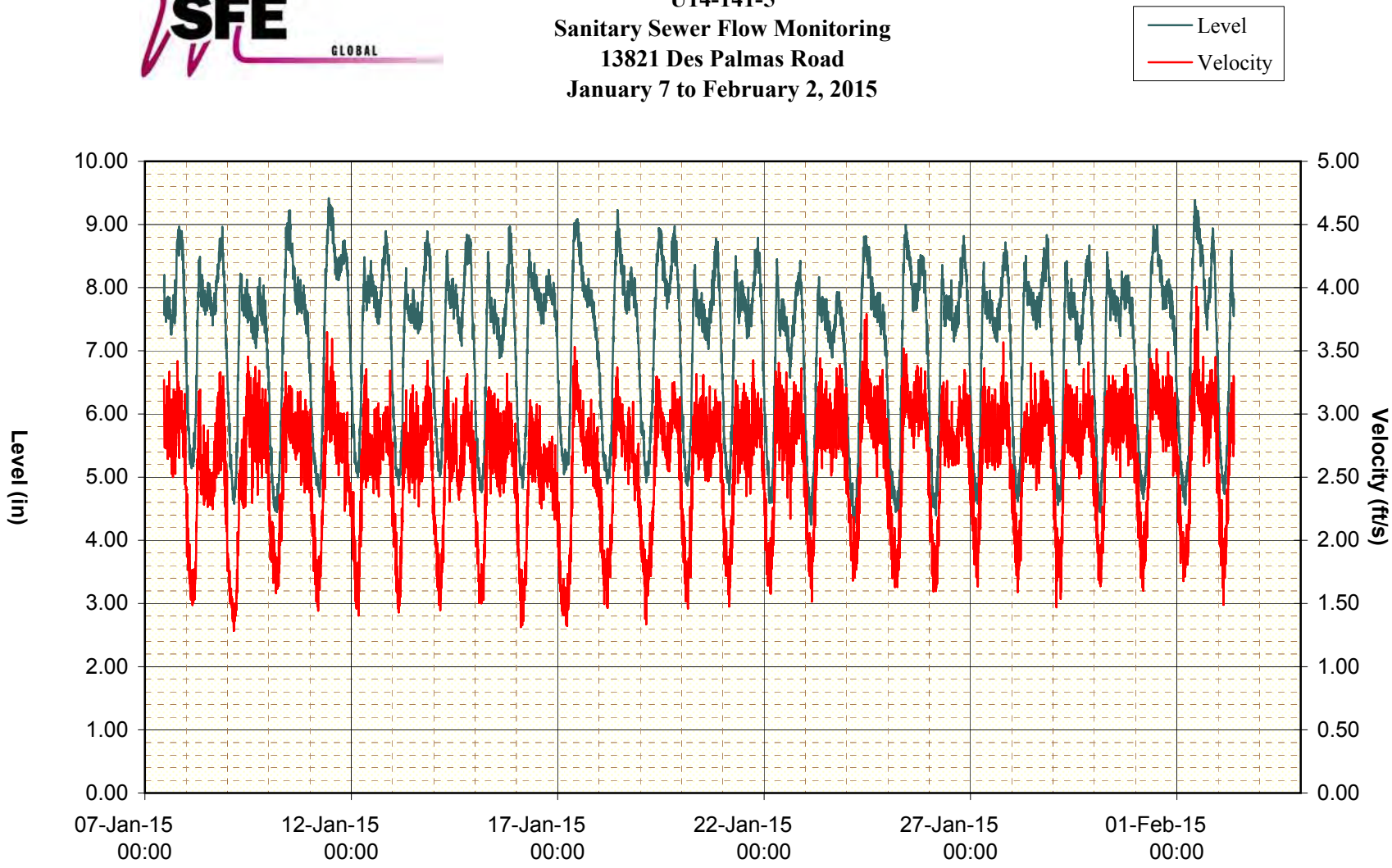
U14-141 Victorville CA
U14-141-5
Sanitary Sewer Flow Monitoring
13821 Des Palmas Road
January 7 to February 2, 2015



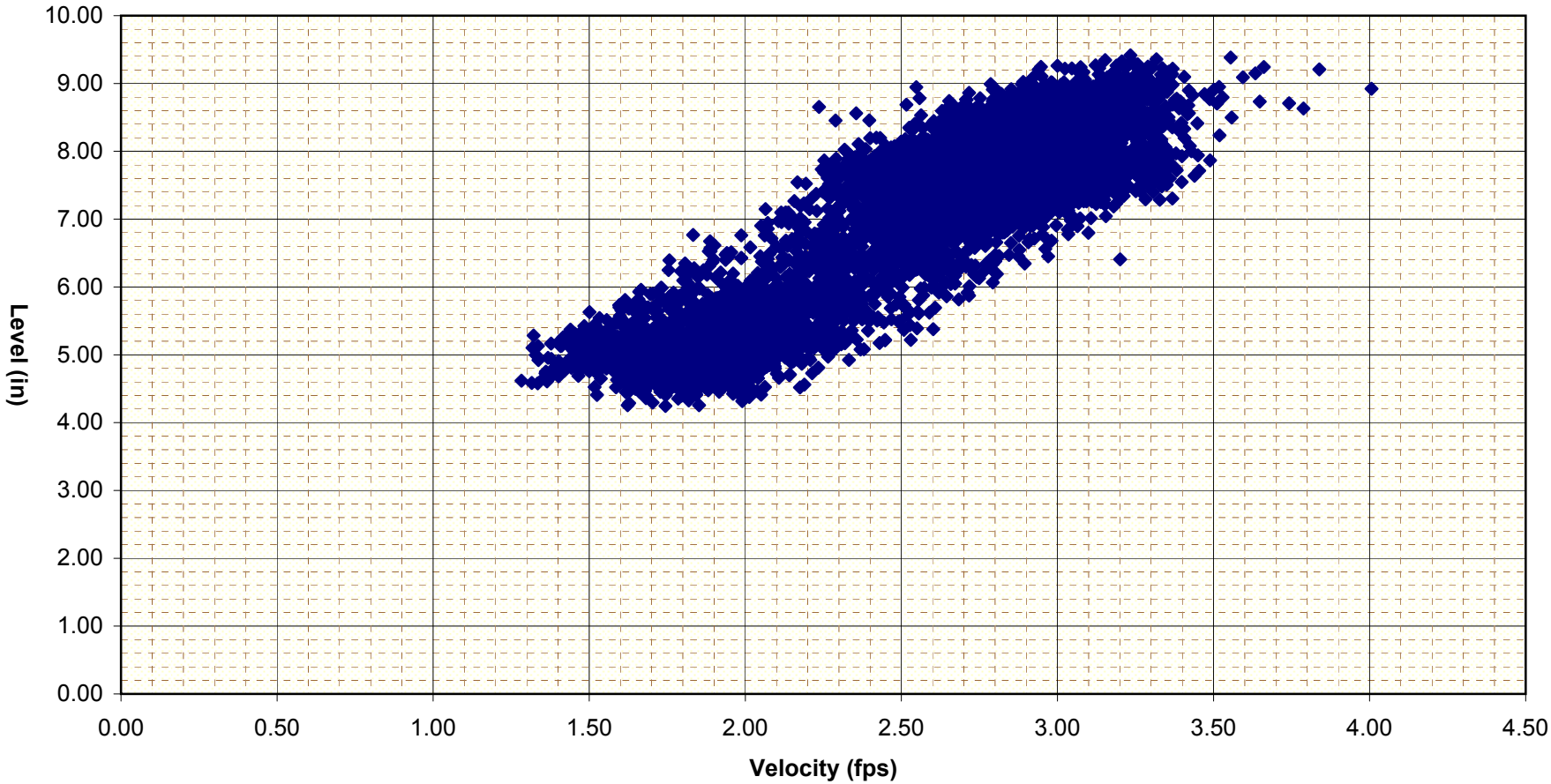
U14-141 Victorville CA
U14-141-5
Sanitary Sewer Flow Monitoring
13821 Des Palmas Road
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-5
Sanitary Sewer Flow Monitoring
13821 Des Palmas Road
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-5
Sanitary Sewer Flow Monitoring
13821 Des Palmas Road
January 7 to February 2, 2015



U14-141 Victorville CA
U14-141-5
Sanitary Sewer Flow Monitoring
13821 Des Palmas Road
January 7 to February 2, 2015

Date	Avg Flow (cfs)	Min Flow (cfs)	Max Flow (cfs)	Total Flow (mgd)
07-Jan-15	1.911	1.311	2.469	1.235
08-Jan-15	1.483	0.564	2.479	0.958
09-Jan-15	1.440	0.412	2.249	0.931
10-Jan-15	1.515	0.493	2.475	0.979
11-Jan-15	1.613	0.490	2.796	1.043
12-Jan-15	1.559	0.522	2.298	1.008
13-Jan-15	1.528	0.496	2.515	0.988
14-Jan-15	1.545	0.533	2.381	0.999
15-Jan-15	1.474	0.508	2.361	0.953
16-Jan-15	1.439	0.475	2.172	0.930
17-Jan-15	1.508	0.495	2.640	0.975
18-Jan-15	1.498	0.513	2.577	0.968
19-Jan-15	1.580	0.468	2.494	1.021
20-Jan-15	1.536	0.515	2.336	0.993
21-Jan-15	1.571	0.507	2.340	1.016
22-Jan-15	1.511	0.512	2.239	0.977
23-Jan-15	1.517	0.459	2.173	0.980
24-Jan-15	1.565	0.494	2.769	1.011
25-Jan-15	1.605	0.501	2.613	1.037
26-Jan-15	1.549	0.505	2.395	1.001
27-Jan-15	1.581	0.543	2.552	1.022
28-Jan-15	1.603	0.528	2.391	1.036
29-Jan-15	1.579	0.494	2.384	1.020
30-Jan-15	1.597	0.507	2.262	1.032
31-Jan-15	1.644	0.540	2.593	1.063
01-Feb-15	1.711	0.561	3.049	1.106
02-Feb-15	1.181	0.504	2.264	0.763

Total Flow (mg)	Min Flow (cfs)	Max Flow (cfs)
27.043	0.412	3.049

Appendix 2

Site Books

Site Assessment

CLIENT FLOW MONITORING #:	**U14-141-01**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**1**
Date / Time:	07/01/15		

Project Specific Information

Client Name:	Hall & Foreman ENG	
End User Name:	Hall & Foreman ENG	
Project Name:	U14-141	
Client Contact:	Yazdan Emrani	
Field Contact:	Adrian Marshall	509-312-0612
SFE PM Contact:	Paul Loving	604-992-6792

Site Equipment

Install / Remove Date:	07/01/15
Meter Make & Model:	Isco 2150 AV
Level Type:	Pressure
Velocity Type:	Average
Primary Device:	Pipe
Wireless:	Yes
Redundancy:	No
Logging Rate:	5min

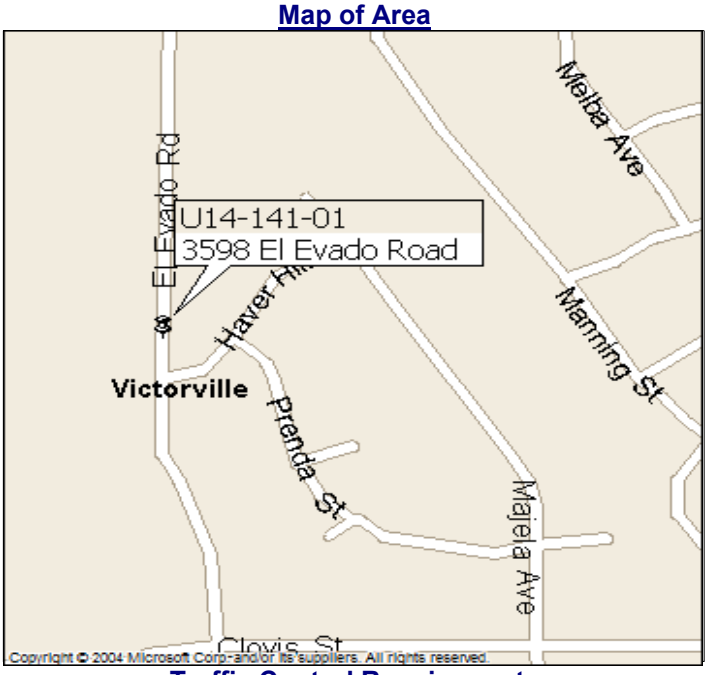
Site Location Information

Client Manhole #:	U14-141-01	
Address (Location):	3598 El Evado Road	
City, State:	Victorville, CA	
GPS (North - West):	34.55371	-117.34660
Landmarks:		
Additional Information:		

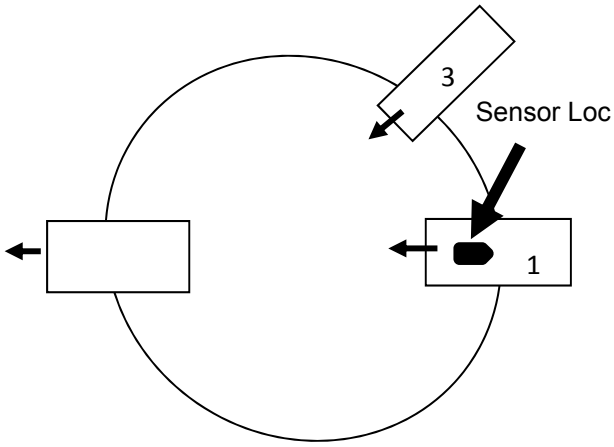
Site Profile

Pipe #1 Size:	36	Inches
Pipe #2 Size:	36	Inches
Pipe #3 Size:	15	Inches
Pipe #4 Size:	NA	Inches
Constant:	185.25	Inches
Laterals / Rungs:	No	
Additional Information:		

Map of Area



Manhole Layout



Traffic Control Requirements

Provider:	City
Condition	No Traffic
Frequency:	Install
Speed Limit:	NA
# of Lanes Effected:	0
Lane Configuration:	Path
Additional Information:	

Notes

1
2

Site Hydraulics

Date & Time:	07/01/15	8:35
Depth:	5	Inches
Velocity:	5	FPS
Turbulent:	yes	
Surcharge:	Possible	
Silting:	No	
Solids:		

Notes

3
4

Site Pictures

CLIENT FLOW MONITORING #: U14-141-01
NAME: City of Victorville, CA
Date / Time: 07/01/15

SFE PROJECT #: U14-141
SFE SITE #: 1

Picture 1

Picture 2

Picture 3

Picture 4

Picture 5

Picture 6

Notes

1
2
3

Area Velocity Site Installation Form

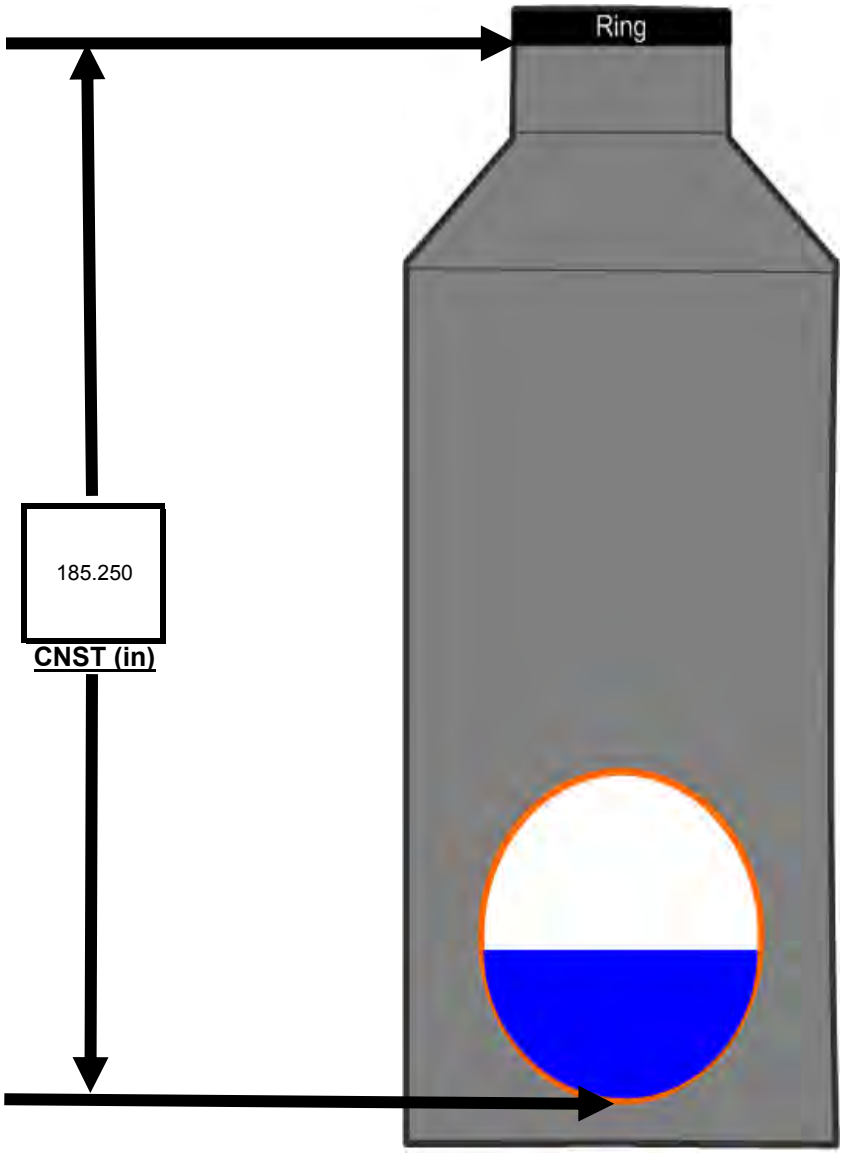
CLIENT FLOW MONITORING #: U14-141-01
NAME: City of Victorville, CA
Date / Time: 07/01/15

SFE PROJECT #: U14-141
SFE SITE #: 1
Technician 1: A Marshall 509-312-0612
Technician 2: James Scott

Meter Depth vs.. Field Depth Calibration / Verification

Reading Number	Date	Time	Field Meas (in.)	Meter Depth (in)	Comments (Zero Meter Level before Installation)
Initial	01/07/2015	8:35	5.000	4.910	Install
1	01/07/2015	9:35	5.000	5.120	
2	01/07/2015	9:37	5.000	5.060	
3		10:33	5.000	4.930	
Average			5.000	5.037	

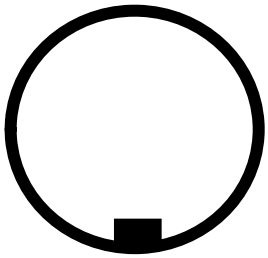
* Three Continuous Measurements Within 0.5 Inches
* Average Meter vs (WL1 and WL2) Within 5%



Manhole Depth (in) = CNST
185.250

Pipe Diameters (in)

Pipe 1	36
Pipe 2	36
Pipe 3	15
Pipe 4	NA



Sensor Location

Velocity Profile Form

CLIENT FLOW MONITORING #:	**U14-141-01**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**1**
Date / Time:	07/01/15		

Pipe Diameter (in):	36	**PV Meter**	Flowmate
Weather	Sunny	**AV Meter:**	Isco 2150

2-D Method

Depth from Invert (in)	Left Corner	Left	Center	Right	Right Corner
5	4.7	6.5	5.76	6.17	4.23
2.5		5.72	5.38	5.79	
Bottom		5.79	3.86	5.02	
Average all readings		5.356			

0.9 Vmax Method

If depth is less than 4", use Max measured velocity x 0.9
Use above 2-D method as preferred method when possible

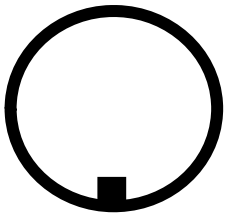
Max	2.43	**Max * 0.9**	2.187	

Velocity Profile Summary

Profile Average fps	Meter Reading fps	Meter Coeff.	Depth of Flow (in.)	Time	
5.36	5.41	NA	5	8:35	

Meter Location and Orientation

Sensor Location



Section View

Comments:

Final Check-off Sheet

CLIENT FLOW MONITORING #:	**U14-141-01**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**1**
Date / Time:	07/01/15		

Flow Meter Information

Meter Make:	Isco	Logging Rate:	5 Minute
Meter Model:	2150	Flow Units:	CFS
Sensor Type	AV	Velocity Units:	FPS
Meter Serial Number:	NA	Depth Units	Inches
Battery Volts:	11.9	Surcharge Meter (Y/N):	Yes

Site Physical Information

Silt Level:	0	Weather:	Sunny
Slope:	NA	Weir Size:	NA
Uniform Flow (Y/N)	Y	Depth Only(DO)	NA
Debris in Flow (Y/N):	Y	or Look up Table(LT)	NA
Pipe Material:	PVC	Comments	

Check Off List

	Yes	No
Time Set:	x	
Depth Calibrated:	x	
Velocity Profile:		x
Download Data:	x	
Meter Running:	x	
Pipe Size Verified:	x	
Photograph Taken:	x	
Site Cleaned:	x	
Site Secured:	x	

Site Assessment

CLIENT FLOW MONITORING #:	**U14-141-02**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**2**
Date / Time:	07/01/15		

Project Specific Information

Client Name:	Hall & Foreman ENG	
End User Name:	Hall & Foreman ENG	
Project Name:	U14-141	
Client Contact:	Yazdan Emrani	
Field Contact:	Adrian Marshall	509-312-0612
SFE PM Contact:	Paul Loving	604-992-6792

Site Equipment

Install / Remove Date:	07/01/15
Meter Make & Model:	Isco 2150 AV
Level Type:	Pressure
Velocity Type:	Average
Primary Device:	Pipe
Wireless:	Yes
Redundancy:	No
Logging Rate:	5min

Site Location Information

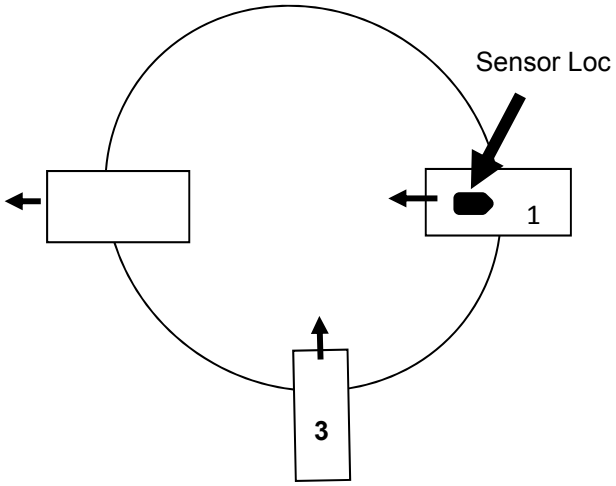
Client Manhole #:	000-91	
Address (Location):	14951 La Mesa	
City, State:	Victorville, CA	
GPS (North - West):	34.48502	-117.33832
Landmarks:		
Additional Information:		

Site Profile

Pipe #1 Size:	15	Inches
Pipe #2 Size:	15	Inches
Pipe #3 Size:	8	Inches
Pipe #4 Size:	NA	Inches
Constant:	126.75	Inches
Laterals / Rungs:	No	
Additional Information:		

Map of Area

Manhole Layout



Traffic Control Requirements

Provider:	City
Condition	No Traffic
Frequency:	Install
Speed Limit:	NA
# of Lanes Effected:	0
Lane Configuration:	Path
Additional Information:	

Notes

1
2

Site Hydraulics

Date & Time:	07/01/15	12:55
Depth:	7	Inches
Velocity:	5	FPS
Turbulent:	yes	
Surcharge:	Possible	
Silting:	No	
Solids:		

Notes

3
4

Site Pictures

CLIENT FLOW MONITORING #: U14-141-02
NAME: City of Victorville, CA
Date / Time: 07/01/15

SFE PROJECT #: U14-141
SFE SITE #: 2

Picture 1

Picture 2

Picture 3

Picture 4

Picture 5

Picture 6

Notes

1
2
3

Area Velocity Site Installation Form

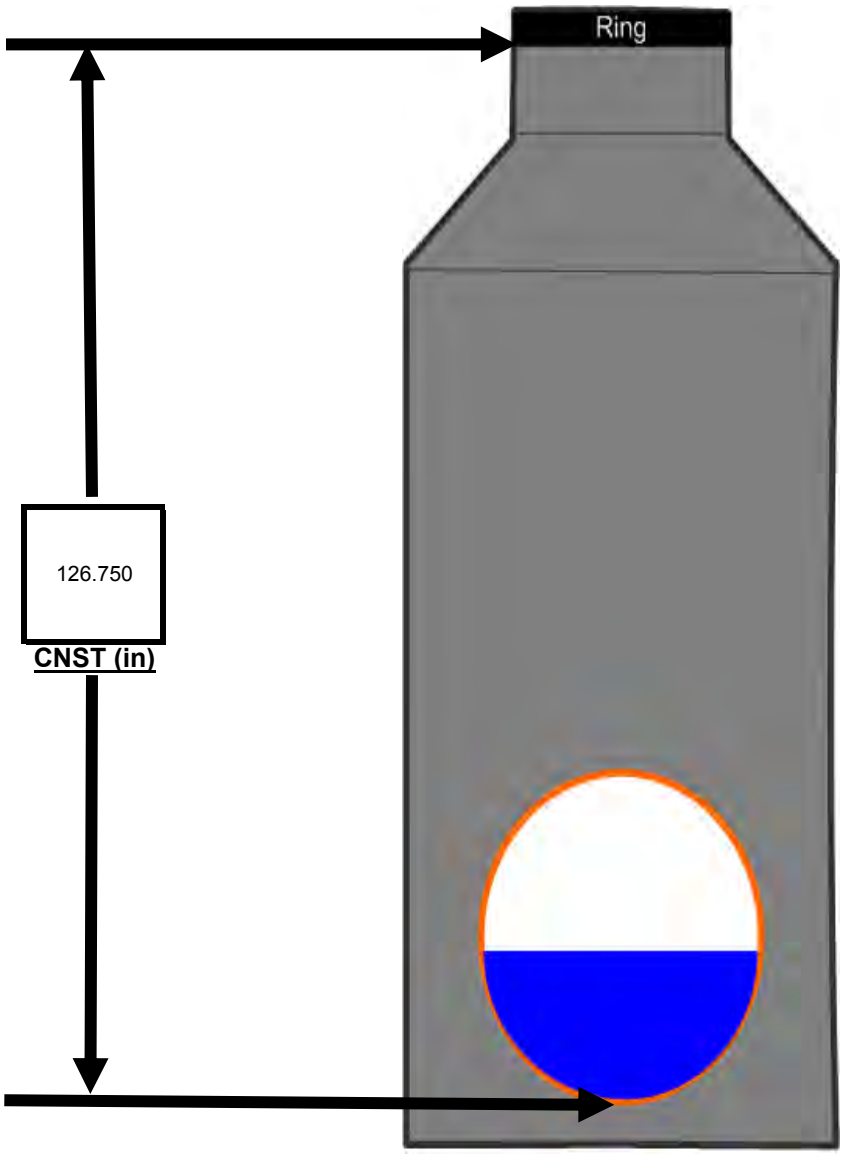
CLIENT FLOW MONITORING #: U14-141-02
NAME: City of Victorville, CA
Date / Time: 07/01/15

SFE PROJECT #: U14-141
SFE SITE #: 2
Technician 1: A Marshall 509-312-0612
Technician 2: James Scott

Meter Depth vs.. Field Depth Calibration / Verification

Reading Number	Date	Time	Field Meas (in.)	Meter Depth (in)	Comments (Zero Meter Level before Installation)
Initial	01/07/2015	12:55	5.000	4.960	Install
1	01/07/2015	13:00	5.000	5.010	
2	01/07/2015	13:03	5.000	5.120	
3		13:10	5.000	5.070	
Average			5.000	5.067	

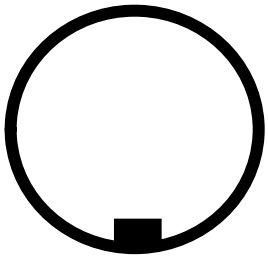
* Three Continuous Measurements Within 0.5 Inches
* Average Meter vs (WL1 and WL2) Within 5%



Manhole Depth (in) = CNST
126.750

Pipe Diameters (in)

Pipe 1	15
Pipe 2	15
Pipe 3	8
Pipe 4	NA



Sensor Location

Velocity Profile Form

CLIENT FLOW MONITORING #:	**U14-141-02**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**2**
Date / Time:	07/01/15		

Pipe Diameter (in):	15	**PV Meter**	Flowmate
Weather	Sunny	**AV Meter:**	Isco 2150

2-D Method

Depth from Invert (in)	Left Corner	Left	Center	Right	Right Corner
Average all readings		#DIV/0!			

0.9 Vmax Method

If depth is less than 4", use Max measured velocity x 0.9
Use above 2-D method as preferred method when possible

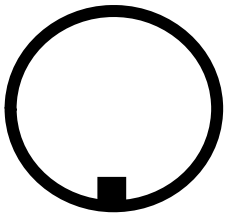
Max	5.42	**Max * 0.9**	4.878	

Velocity Profile Summary

Profile Average fps	Meter Reading fps	Meter Coeff.	Depth of Flow (in.)	Time	
4.88	5.41	NA	5	12:55	

Meter Location and Orientation

Sensor Location



Section View

Comments:

Revision 3.1

Final Check-off Sheet

CLIENT FLOW MONITORING #:	**U14-141-02**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**2**
Date / Time:	07/01/15		

Flow Meter Information

Meter Make:	Isco	Logging Rate:	5 Minute
Meter Model:	2150	Flow Units:	CFS
Sensor Type	AV	Velocity Units:	FPS
Meter Serial Number:	NA	Depth Units	Inches
Battery Volts:	12	Surcharge Meter (Y/N):	Yes

Site Physical Information

Silt Level:	0	Weather:	Sunny
Slope:	NA	Weir Size:	NA
Uniform Flow (Y/N)	Y	Depth Only(DO)	NA
Debris in Flow (Y/N):	Y	or Look up Table(LT)	NA
Pipe Material:	Clay	Comments	

Check Off List

	Yes	No
Time Set:	x	
Depth Calibrated:	x	
Velocity Profile:		x
Download Data:	x	
Meter Running:	x	
Pipe Size Verified:	x	
Photograph Taken:	x	
Site Cleaned:	x	
Site Secured:	x	

Site Assessment

CLIENT FLOW MONITORING #:	**U14-141-03**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**3**
Date / Time:	07/01/15		

Project Specific Information

Client Name:	Hall & Foreman ENG	
End User Name:	Hall & Foreman ENG	
Project Name:	U14-141	
Client Contact:	Yazdan Emrani	
Field Contact:	Adrian Marshall	509-312-0612
SFE PM Contact:	Paul Loving	604-992-6792

Site Equipment

Install / Remove Date:	07/01/15
Meter Make & Model:	Isco 2150 AV
Level Type:	Pressure
Velocity Type:	Average
Primary Device:	Pipe
Wireless:	Yes
Redundancy:	No
Logging Rate:	5min

Site Location Information

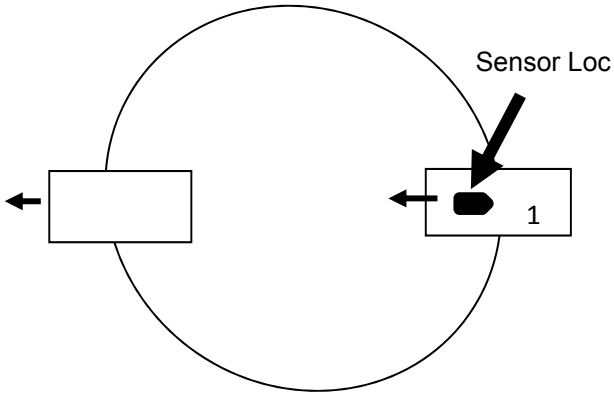
Client Manhole #:	U14-141-03	
Address (Location):	8th St between Forest Ave & A St	
City, State:	Victorville, CA	
GPS (North - West):	34.53297	-117.29511
Landmarks:		
Additional Information:		

Site Profile

Pipe #1 Size:	21	Inches
Pipe #2 Size:	21	Inches
Pipe #3 Size:	NA	Inches
Pipe #4 Size:	NA	Inches
Constant:	104	Inches
Laterals / Rungs:	No	
Additional Information:		

Map of Area

Manhole Layout



Traffic Control Requirements

Provider:	City
Condition	Local
Frequency:	Install
Speed Limit:	25
# of Lanes Effected:	1
Lane Configuration:	Road
Additional Information:	

Notes

1
2

Site Hydraulics

Date & Time:	07/01/15	14:50
Depth:	7	Inches
Velocity:	6	FPS
Turbulent:	yes	
Surcharge:	Possible	
Silting:	No	
Solids:		

Notes

3
4

Site Pictures

CLIENT FLOW MONITORING #: U14-141-03
NAME: City of Victorville, CA
Date / Time: 07/01/15

SFE PROJECT #: U14-141
SFE SITE #: 3

Picture 1

Picture 2

Picture 3

Picture 4

Picture 5

Picture 6

Notes

1
2
3

Area Velocity Site Installation Form

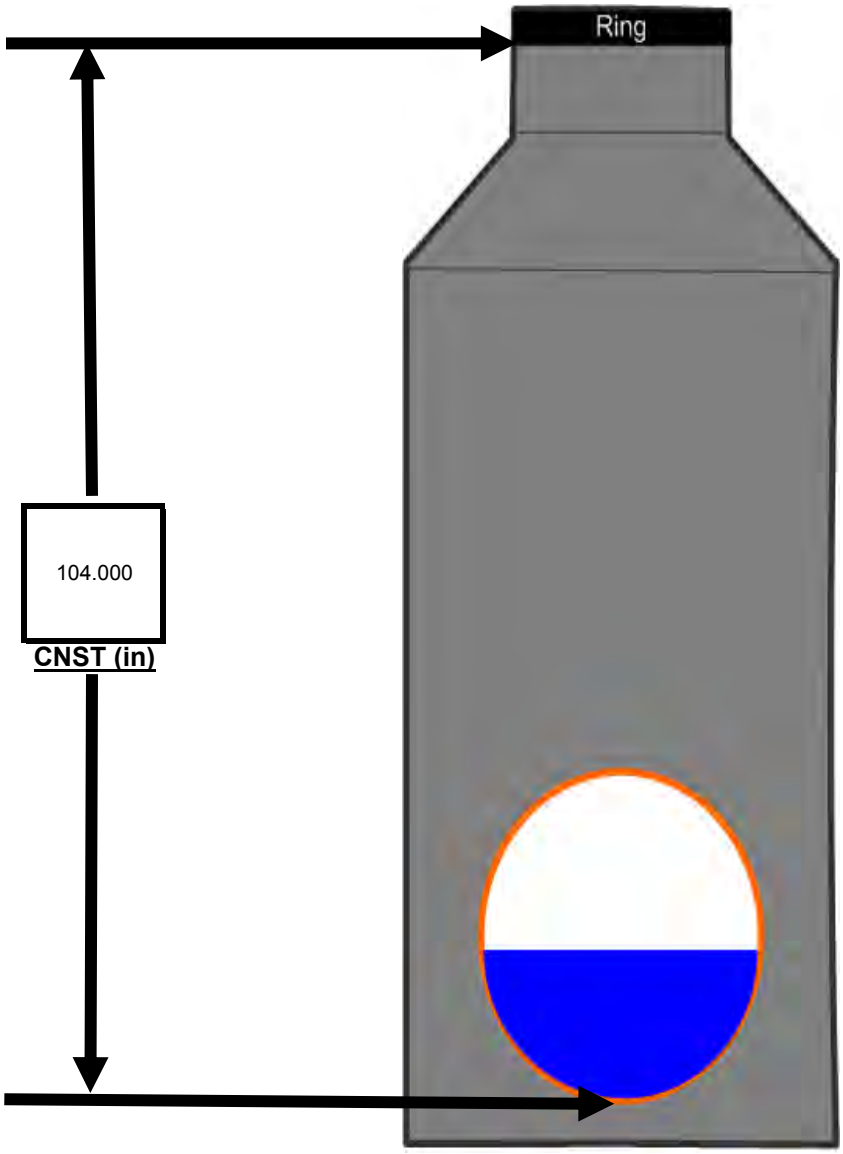
CLIENT FLOW MONITORING #: U14-141-03
NAME: City of Victorville, CA
Date / Time: 07/01/15

SFE PROJECT #: U14-141
SFE SITE #: 3
Technician 1: A Marshall 509-312-0612
Technician 2: James Scott

Meter Depth vs.. Field Depth Calibration / Verification

Reading Number	Date	Time	Field Meas (in.)	Meter Depth (in)	Comments (Zero Meter Level before Installation)
Initial	01/07/2015	14:50	7.000	7.120	Install
1	01/07/2015	14:54	7.500	7.630	
2	01/07/2015	14:59	7.500	7.560	
3		15:04	7.000	7.090	
Average			7.250	7.427	

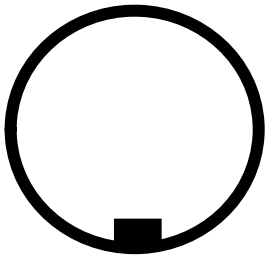
* Three Continuous Measurements Within 0.5 Inches
* Average Meter vs (WL1 and WL2) Within 5%



Manhole Depth (in) = CNST
104.000

Pipe Diameters (in)

Pipe 1	21
Pipe 2	21
Pipe 3	NA
Pipe 4	NA



Sensor Location

Velocity Profile Form

CLIENT FLOW MONITORING #:	**U14-141-03**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**3**
Date / Time:	07/01/15		

Pipe Diameter (in):	21	**PV Meter**	Flowmate
Weather	Sunny	**AV Meter:**	Isco 2150

2-D Method

Depth from Invert (in)	Left Corner	Left	Center	Right	Right Corner
6	4.3	6.08	6.36	5.47	3.18
3		5.5	5.98	5.17	
Bottom		4.02	4.28	5.28	
Average all readings		5.056			

0.9 Vmax Method

If depth is less than 4", use Max measured velocity x 0.9
Use above 2-D method as preferred method when possible

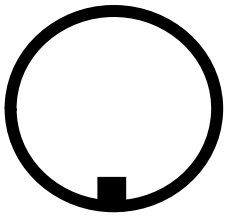
Max	6.36	**Max * 0.9**	5.724	

Velocity Profile Summary

Profile Average fps	Meter Reading fps	Meter Coeff.	Depth of Flow (in.)	Time	
5.06	6.13	NA	6	14:50	

Meter Location and Orientation

Sensor Location



Section View

Comments:

Final Check-off Sheet

CLIENT FLOW MONITORING #:	**U14-141-03**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**3**
Date / Time:	07/01/15		

Flow Meter Information

Meter Make:	Isco	Logging Rate:	5 Minute
Meter Model:	2150	Flow Units:	CFS
Sensor Type	AV	Velocity Units:	FPS
Meter Serial Number:	NA	Depth Units	Inches
Battery Volts:	12	Surcharge Meter (Y/N):	Yes

Site Physical Information

Silt Level:	0	Weather:	Sunny
Slope:	NA	Weir Size:	NA
Uniform Flow (Y/N)	Y	Depth Only(DO)	NA
Debris in Flow (Y/N):	Y	or Look up Table(LT)	NA
Pipe Material:	Concrete	Comments	

Check Off List

	Yes	No
Time Set:	x	
Depth Calibrated:	x	
Velocity Profile:		x
Download Data:	x	
Meter Running:	x	
Pipe Size Verified:	x	
Photograph Taken:	x	
Site Cleaned:	x	
Site Secured:	x	

Site Assessment

CLIENT FLOW MONITORING #:	**U14-141-04**
NAME:	**City of Victorville, CA**
Date / Time:	08/01/15

SFE PROJECT #:	**U14-141**
SFE SITE #:	**4**

Project Specific Information

Client Name:	Hall & Foreman ENG	
End User Name:	Hall & Foreman ENG	
Project Name:	U14-141	
Client Contact:	Yazdan Emrani	
Field Contact:	Adrian Marshall	509-312-0612
SFE PM Contact:	Paul Loving	604-992-6792

Site Equipment

Install / Remove Date:	08/01/15
Meter Make & Model:	Isco 2150 AV
Level Type:	Pressure
Velocity Type:	Average
Primary Device:	Pipe
Wireless:	Yes
Redundancy:	No
Logging Rate:	5min

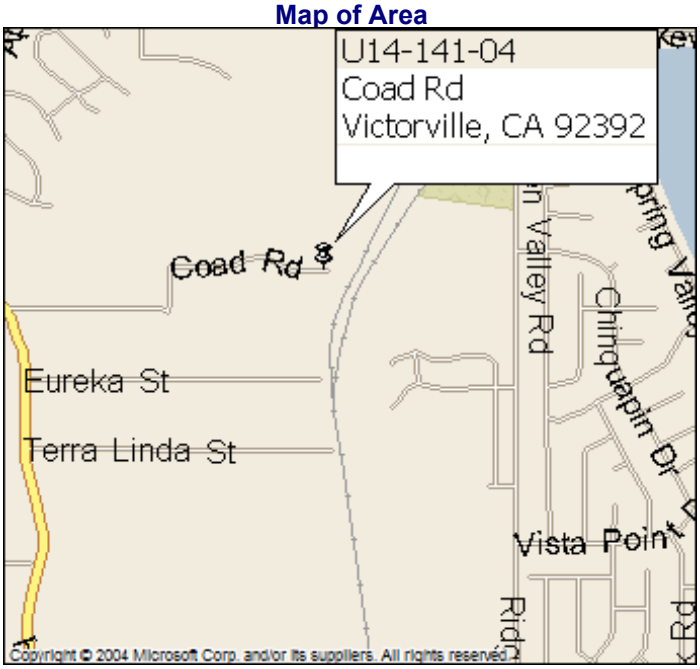
Site Location Information

Client Manhole #:	0-5038	
Address (Location):	17481 Coad Road	
City, State:	Victorville, CA	
GPS (North - West):	34.49963	-117.28310
Landmarks:		
Additional Information:		

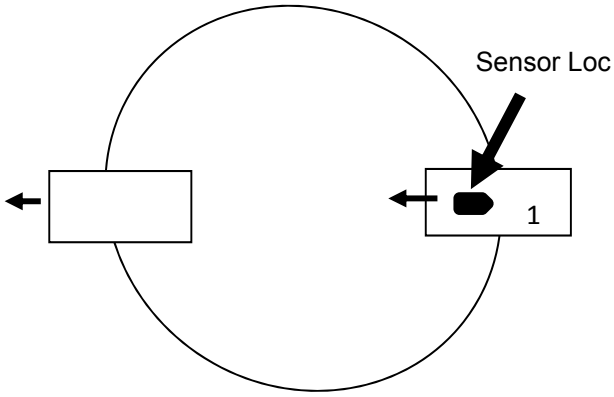
Site Profile

Pipe #1 Size:	15	Inches
Pipe #2 Size:	15	Inches
Pipe #3 Size:	NA	Inches
Pipe #4 Size:	NA	Inches
Constant:	146.75	Inches
Laterals / Rungs:	No	
Additional Information:		

Map of Area



Manhole Layout



Traffic Control Requirements

Provider:	City
Condition	No Traffic
Frequency:	Install
Speed Limit:	NA
# of Lanes Effected:	0
Lane Configuration:	Path
Additional Information:	

Notes

1

2

Site Hydraulics

Date & Time:	08/01/15	8:20
Depth:	5	Inches
Velocity:	5	FPS
Turbulent:	yes	
Surcharge:	Possible	
Silting:	No	
Solids:		

Notes

3

4

Site Pictures

CLIENT FLOW MONITORING #: U14-141-04
NAME: City of Victorville, CA
Date / Time: 08/01/15

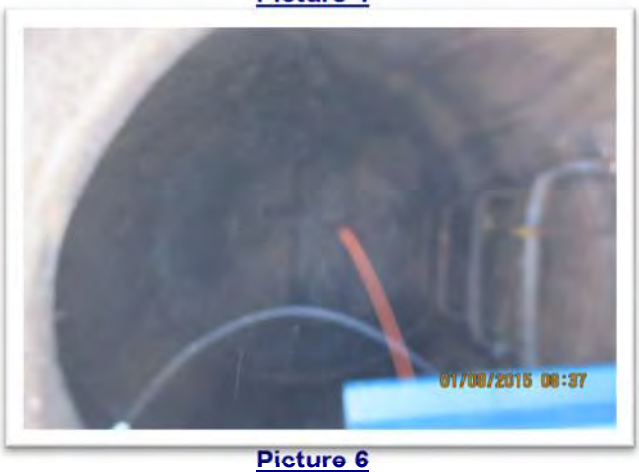
SFE PROJECT #: U14-141
SFE SITE #: 4

Picture 1

Picture 2

Picture 3

Picture 4



Picture 5

Picture 6

Notes

1
2
3

Area Velocity Site Installation Form

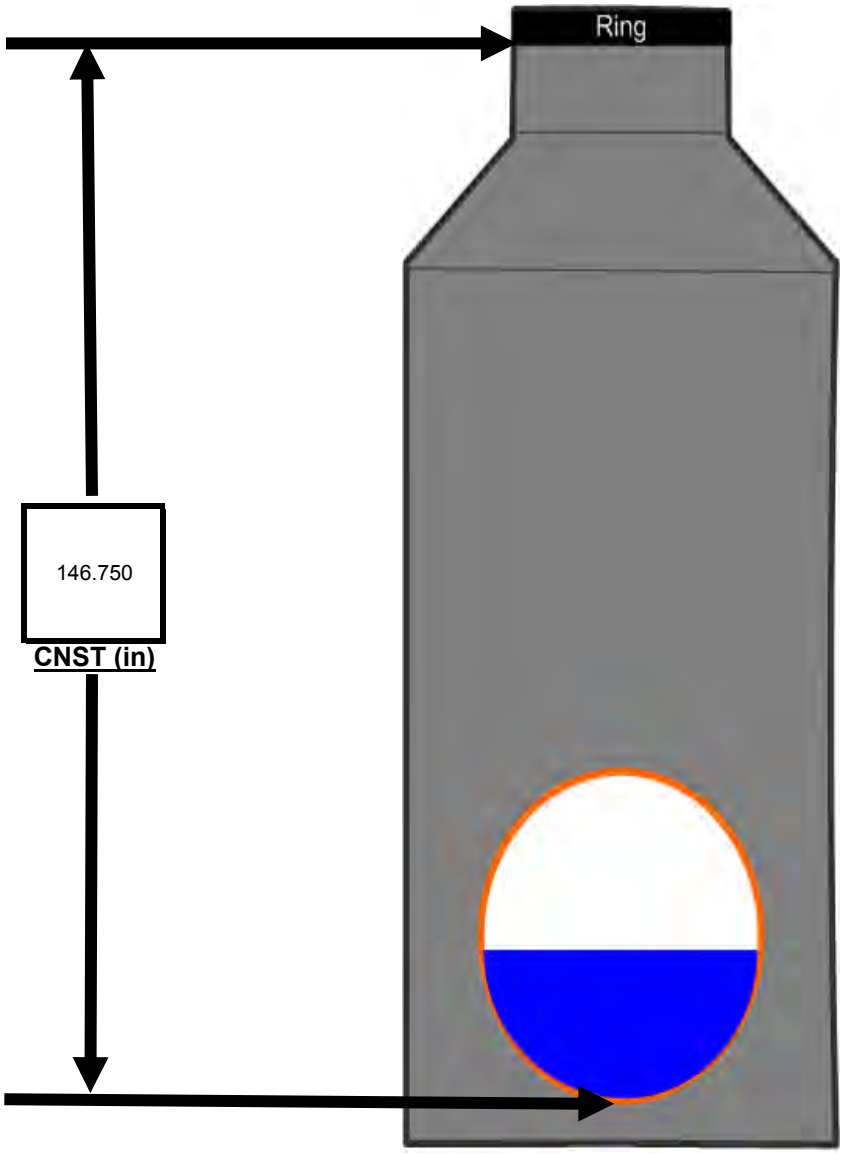
CLIENT FLOW MONITORING #: U14-141-04
NAME: City of Victorville, CA
Date / Time: 08/01/15

SFE PROJECT #: U14-141
SFE SITE #: 4
Technician 1: A Marshall 509-312-0612
Technician 2: James Scott

Meter Depth vs.. Field Depth Calibration / Verification

Reading Number	Date	Time	Field Meas (in.)	Meter Depth (in)	Comments (Zero Meter Level before Installation)
Initial	01/08/2015	8:20	5.000	5.040	Install
1	01/08/2015	8:24	5.250	5.330	
2	01/08/2015	8:27	5.250	5.310	
3		8:35	5.250	5.240	
Average			5.188	5.293	

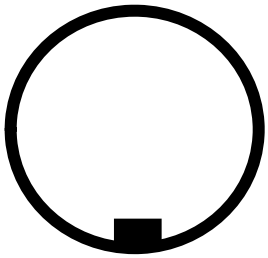
* Three Continuous Measurements Within 0.5 Inches
* Average Meter vs (WL1 and WL2) Within 5%



Manhole Depth (in) = CNST
146.750

Pipe Diameters (in)

Pipe 1	15
Pipe 2	15
Pipe 3	NA
Pipe 4	NA



Sensor Location

Velocity Profile Form

CLIENT FLOW MONITORING #:	**U14-141-04**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**4**
Date / Time:	08/01/15		

Pipe Diameter (in):	15	**PV Meter**	Flowmate
Weather	Sunny	**AV Meter:**	Isco 2150

2-D Method

Depth from Invert (in)	Left Corner	Left	Center	Right	Right Corner
5	3.94	4.81	4.9	5,75	3.4
2.5		4.61	4.28	4.52	
Bottom		4.4	3.39	3.6	
Average all readings		4.185			

0.9 Vmax Method

If depth is less than 4", use Max measured velocity x 0.9
Use above 2-D method as preferred method when possible

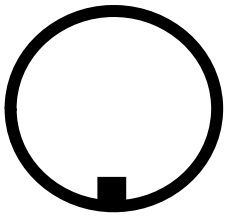
Max	5.75	**Max * 0.9**	5.175	

Velocity Profile Summary

Profile Average fps	Meter Reading fps	Meter Coeff.	Depth of Flow (in.)	Time	
4.19	4.82	NA	5	8:20	

Meter Location and Orientation

Sensor Location



Section View

Comments:

Final Check-off Sheet

CLIENT FLOW MONITORING #:	**U14-141-04**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**4**
Date / Time:	08/01/15		

Flow Meter Information

Meter Make:	Isco	Logging Rate:	5 Minute
Meter Model:	2150	Flow Units:	CFS
Sensor Type	AV	Velocity Units:	FPS
Meter Serial Number:	NA	Depth Units	Inches
Battery Volts:	12.2	Surcharge Meter (Y/N):	Yes

Site Physical Information

Silt Level:	0	Weather:	Sunny
Slope:	NA	Weir Size:	NA
Uniform Flow (Y/N)	Y	Depth Only(DO)	NA
Debris in Flow (Y/N):	Y	or Look up Table(LT)	NA
Pipe Material:	Clay	Comments	

Check Off List

	Yes	No
Time Set:	x	
Depth Calibrated:	x	
Velocity Profile:		x
Download Data:	x	
Meter Running:	x	
Pipe Size Verified:	x	
Photograph Taken:	x	
Site Cleaned:	x	
Site Secured:	x	

Site Assessment

CLIENT FLOW MONITORING #:	**U14-141-05**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**5**
Date / Time:	07/01/15		

Project Specific Information

Client Name:	Hall & Foreman ENG	
End User Name:	Hall & Foreman ENG	
Project Name:	U14-141	
Client Contact:	Yazdan Emrani	
Field Contact:	Adrian Marshall	509-312-0612
SFE PM Contact:	Paul Loving	604-992-6792

Site Equipment

Install / Remove Date:	07/01/15
Meter Make & Model:	Isco 2150 AV
Level Type:	Pressure
Velocity Type:	Average
Primary Device:	Pipe
Wireless:	Yes
Redundancy:	No
Logging Rate:	5min

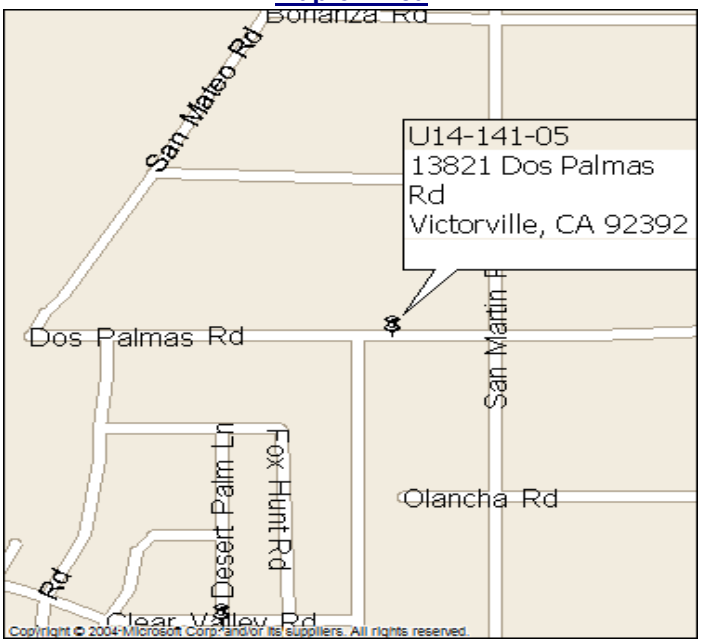
Site Location Information

Client Manhole #:	0-5716	
Address (Location):	13821 Des Palmas	
City, State:	Victorville, CA	
GPS (North - West):	34.49629	-117.36193
Landmarks:		
Additional Information:		

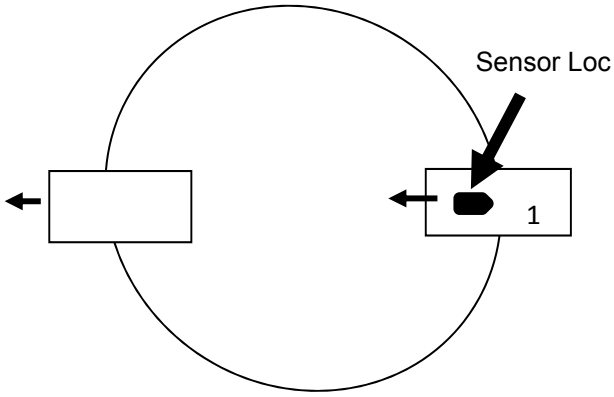
Site Profile

Pipe #1 Size:	15	Inches
Pipe #2 Size:	15	Inches
Pipe #3 Size:	NA	Inches
Pipe #4 Size:	NA	Inches
Constant:	154.25	Inches
Laterals / Rungs:	No	
Additional Information:		

Map of Area



Manhole Layout



Traffic Control Requirements

Provider:	City
Condition	Local
Frequency:	Install
Speed Limit:	35
# of Lanes Effected:	1
Lane Configuration:	Road
Additional Information:	

Notes

1
2

Site Hydraulics

Date & Time:	07/01/15	10:25
Depth:	7	Inches
Velocity:	3	FPS
Turbulent:	No	
Surcharge:	Possible	
Silting:	No	
Solids:		

Notes

3
4

Site Pictures

CLIENT FLOW MONITORING #: U14-141-05
NAME: City of Victorville, CA
Date / Time: 07/01/15

SFE PROJECT #: U14-141
SFE SITE #: 5

Picture 1

Picture 2

Picture 3

Picture 4

Picture 5

Picture 6

Notes

1
2
3

Area Velocity Site Installation Form

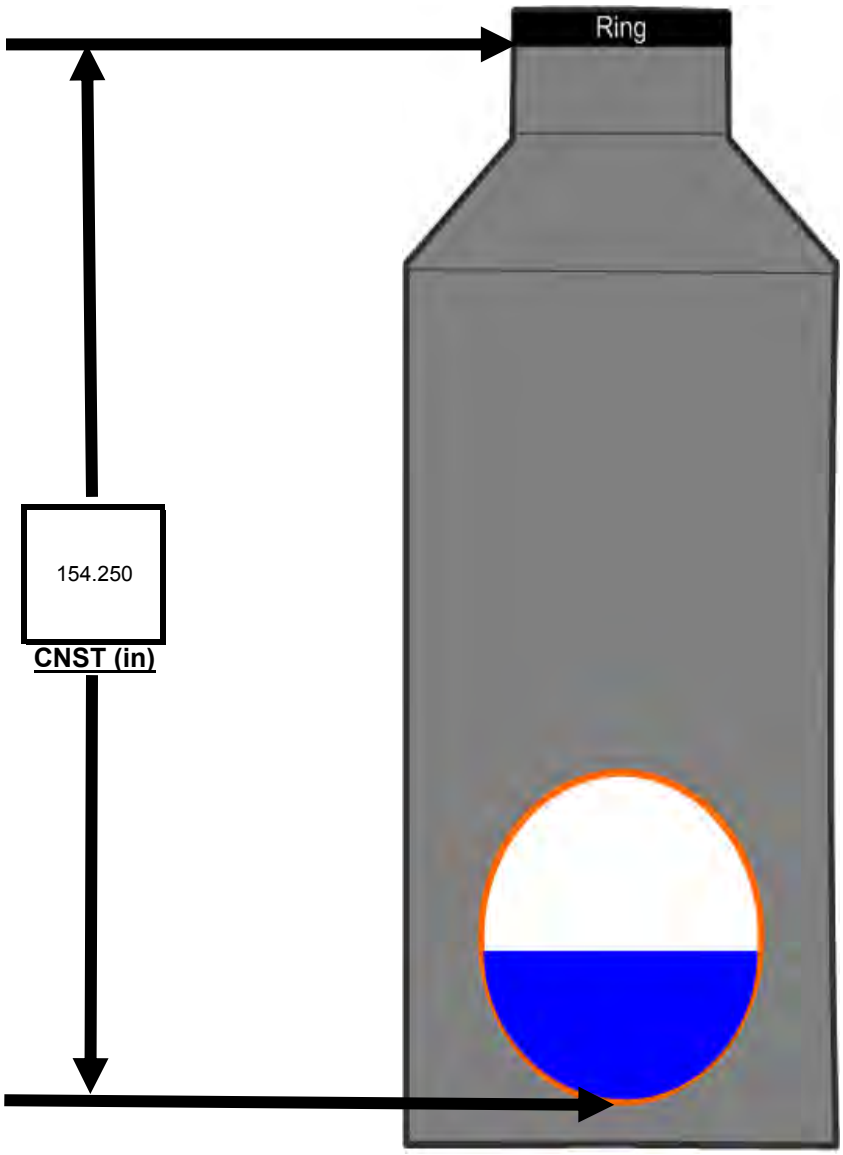
CLIENT FLOW MONITORING #: U14-141-05
NAME: City of Victorville, CA
Date / Time: 07/01/15

SFE PROJECT #: U14-141
SFE SITE #: 5
Technician 1: A Marshall 509-312-0612
Technician 2: James Scott

Meter Depth vs.. Field Depth Calibration / Verification

Reading Number	Date	Time	Field Meas (in.)	Meter Depth (in)	Comments (Zero Meter Level before Installation)
Initial	01/07/2015	10:25	7.000	6.890	Install
1	01/07/2015	10:28	7.000	7.110	
2	01/07/2015	10:30	7.250	7.310	
3		10:33	7.500	7.290	
Average			7.188	7.237	

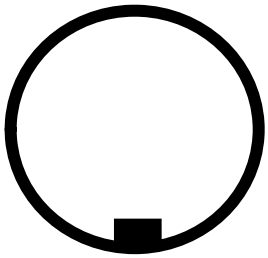
* Three Continuous Measurements Within 0.5 Inches
* Average Meter vs (WL1 and WL2) Within 5%



Manhole Depth (in) = CNST
154.250

Pipe Diameters (in)

Pipe 1	15
Pipe 2	15
Pipe 3	NA
Pipe 4	NA



Sensor Location

Velocity Profile Form

CLIENT FLOW MONITORING #:	**U14-141-05**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**5**
Date / Time:	07/01/15		

Pipe Diameter (in):	15	**PV Meter**	Flowmate
Weather	Sunny	**AV Meter:**	Isco 2150

2-D Method

Depth from Invert (in)	Left Corner	Left	Center	Right	Right Corner
5	2.86	3.44	4.12	3.67	3.22
2.5		3.12	3.87	3.33	
Bottom		2.88	3.27	2.39	
Average all readings		3.288			

0.9 Vmax Method

If depth is less than 4", use Max measured velocity x 0.9
Use above 2-D method as preferred method when possible

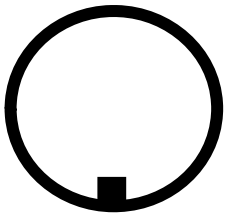
Max	4.12	**Max * 0.9**	3.708	

Velocity Profile Summary

Profile Average fps	Meter Reading fps	Meter Coeff.	Depth of Flow (in.)	Time	
3.29	3.53	NA	5	10:25	

Meter Location and Orientation

Sensor Location



Section View

Comments:

Final Check-off Sheet

CLIENT FLOW MONITORING #:	**U14-141-05**	**SFE PROJECT #:**	**U14-141**
NAME:	**City of Victorville, CA**	**SFE SITE #:**	**5**
Date / Time:	07/01/15		

Flow Meter Information

Meter Make:	Isco	Logging Rate:	5 Minute
Meter Model:	2150	Flow Units:	CFS
Sensor Type	AV	Velocity Units:	FPS
Meter Serial Number:	NA	Depth Units	Inches
Battery Volts:	12.1	Surcharge Meter (Y/N):	Yes

Site Physical Information

Silt Level:	0	Weather:	Sunny
Slope:	NA	Weir Size:	NA
Uniform Flow (Y/N)	Y	Depth Only(DO)	NA
Debris in Flow (Y/N):	Y	or Look up Table(LT)	NA
Pipe Material:	Clay	Comments	

Check Off List

	Yes	No
Time Set:	x	
Depth Calibrated:	x	
Velocity Profile:		x
Download Data:	x	
Meter Running:	x	
Pipe Size Verified:	x	
Photograph Taken:	x	
Site Cleaned:	x	
Site Secured:	x	

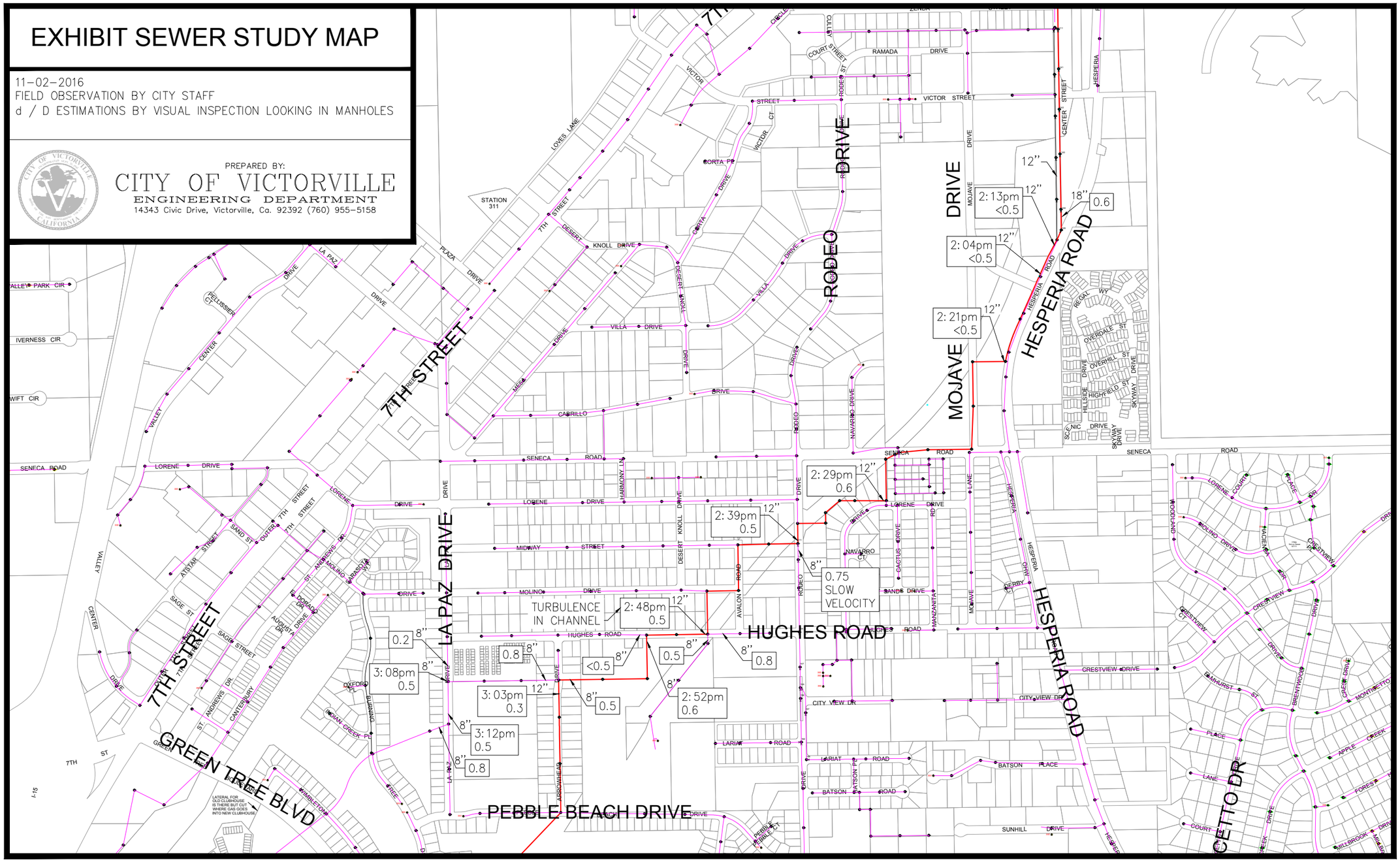
Appendix B

FIELD OBSERVATIONS OF FLOW DEPTHS AND D/D

EXHIBIT SEWER STUDY MAP

11-02-2016
FIELD OBSERVATION BY CITY STAFF
d / D ESTIMATIONS BY VISUAL INSPECTION LOOKING IN MANHOLES

PREPARED BY:
CITY OF VICTORVILLE
ENGINEERING DEPARTMENT
14343 Civic Drive, Victorville, Ca. 92392 (760) 955-5158



CENTER/HESPERIA PEAK = 1030 9912 LF TO METER 1.8 fps ≈ 91 min

View Graph | Modify Parameters

HYDROGRAPH REPORT

Victor Valley Wastewater Reclamation Authority

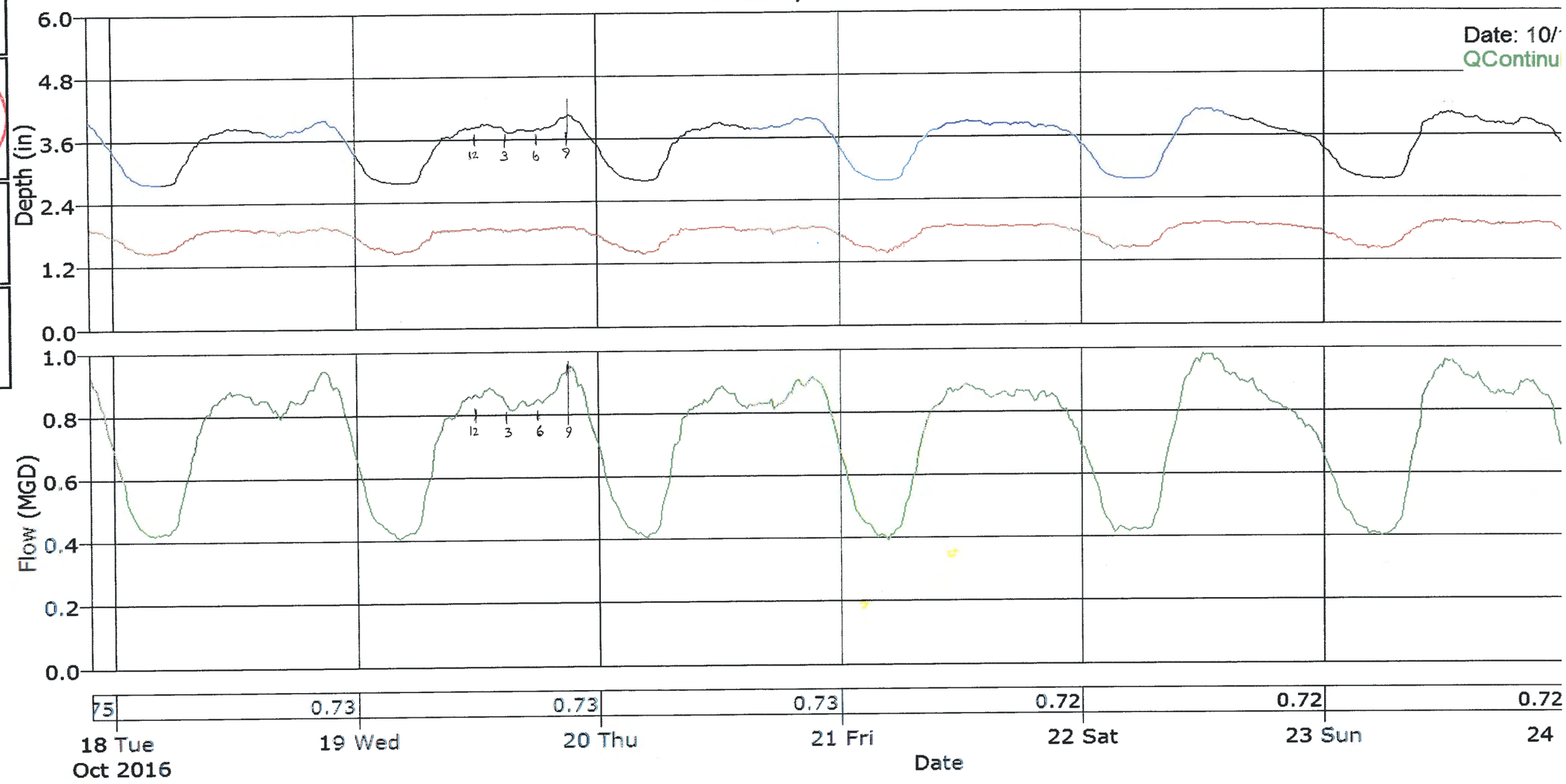
Flow Monitor
VSD_N06

Pipe Height
23.28 in

Report Period
10/6/2016
To
11/2/2016

Legend
- Silt
- UniDepth
- Raw Velocity
- QContinuity

ADS ENVIRONMENTAL SERVICES



Appendix C

INFOSEWER EXISTING CONDITION MODEL RESULTS

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000001	SWRMH-008537	SWRMH-008254	AA34101	AA34118	283	0.002	8	0.06	0.002	10:09 hr	0.39	0.42
SWRGM-000002	SWRMH-008536	SWRMH-008537	AA34102	AA34101	300	0.002	8	0.06	0.002	10:08 hr	0.39	0.42
SWRGM-000003	SWRMH-008535	SWRMH-008536	AA34103	AA34102	300	0.005	8	0.05	0.002	10:04 hr	0.54	0.65
SWRGM-000004	SWRMH-008486	SWRMH-008535	AA35105	AA34103	149	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000006	SWRMH-000003	SWRMH-007850	T48171	T48128	295	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000007	SWRMH-000002	SWRMH-000003	T48172	T48171	300	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000016	SWRMH-006742	SWRMH-000423	AA48114	AA48117	224	0.009	8	0.15	0.032	10:06 hr	1.52	1.02
SWRGM-000017	SWRMH-000423	SWRMH-006791	AA48117	AA48112	76	0.009	8	0.15	0.032	10:07 hr	1.48	0.98
SWRGM-000018	SWRNJ-000435	SWRMH-000057	W45000	W45103	10	0.01	8	0.02	0	19:00 hr	0.38	0.77
SWRGM-000019	SWRMH-000057	SWRMH-000056	W45103	W45102	350	0.027	8	0.01	0	19:01 hr	0.53	1.21
SWRGM-000020	SWRMH-000056	SWRMH-009153	SP720MH29	SDMH000056	350	0.021	8	0.01	0	19:03 hr	0.49	1.09
SWRGM-000021	SWRMH-009153	SWRMH-006651	SDMH006651	SP720MH29	350	0.015	8	0.02	0	19:05 hr	0.44	0.94
SWRGM-000022	SWRMH-004531	SWRMH-000078	Y39124	Y39127	203	0.003	8	0.17	0.023	10:25 hr	0.91	0.58
SWRGM-000030	SWRMH-000088	SWRMH-000086	S29112	S29113	331	0.004	8	0.10	0.008	19:07 hr	0.74	0.62
SWRGM-000031	SWRNJ-000166	SWRMH-000087	S29000	S29111	68	0.004	8	0.10	0.008	19:00 hr	0.74	0.62
SWRGM-000032	SWRNJ-000165	SWRMH-000087	S29000	S29111	118	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000033	SWRNJ-000178	SWRMH-000086	S29000	S29113	78	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000034	SWRMH-000086	SWRMH-000089	S29113	S29114	176	0.004	8	0.10	0.008	19:08 hr	0.74	0.62
SWRGM-000035	SWRMH-000087	SWRMH-000088	S29111	S29112	331	0.004	8	0.10	0.008	19:03 hr	0.74	0.62
SWRGM-000036	SWRMH-001855	SWRNJ-000164	S43132	S43130	75	0.028	8	0.04	0.004	19:05 hr	1.14	1.48
SWRGM-000037	SWRMH-000306	SWRNJ-000618	Y41144	Y41143	367	0.05	8	0.04	0.006	19:01 hr	1.59	1.99
SWRGM-000038	SWRMH-000323	SWRMH-000322	Y40143	X40127	72	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000039	SWRMH-000324	SWRMH-000323	Y40144	Y40143	349	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000040	SWRMH-000325	SWRMH-006296	Y45148	Y45146	274	0.008	8	0.04	0.002	19:12 hr	0.59	0.79
SWRGM-000041	SWRMH-000326	SWRMH-000325	Y45145	Y45148	276	0.01	8	0.04	0.002	19:10 hr	0.63	0.86
SWRGM-000042	SWRMH-000697	SWRMH-000326	Y45170	Y45145	129	0.009	8	0.04	0.002	19:09 hr	0.62	0.84
SWRGM-000043	SWRMH-000328	SWRMH-004554	Z40153	Z40126	255	0.018	8	0.06	0.006	19:01 hr	1.12	1.23
SWRGM-000044	SWRMH-000329	SWRMH-008551	AA37160	AA37103	237	0.048	8	0.05	0.006	19:00 hr	1.61	1.97
SWRGM-000045	SWRMH-000330	SWRMH-000329	AA38166	AA37160	265	0.014	8	0.05	0.004	10:01 hr	0.95	1.10
SWRGM-000046	SWRCO-000093	SWRNJ-000767	AA38301	AA38110	281	0.012	8	0.05	0.004	19:01 hr	0.85	1.00
SWRGM-000051	SWRMH-004381	SWRMH-000335	W39146	W39153	76	0.002	8	0.31	0.056	19:24 hr	0.94	0.43
SWRGM-000052	SWRMH-000334	SWRMH-004860	W39152	W39115	111	0.004	8	0.25	0.058	19:26 hr	1.30	0.67
SWRGM-000053	SWRMH-000335	SWRMH-000334	W39153	W39152	108	0.004	8	0.25	0.058	19:25 hr	1.29	0.66
SWRGM-000054	SWRNJ-000223	SWRMH-000340	0	T28111	29	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000055	SWRMH-000340	SWRMH-000341	T28111	T28110	216	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000056	SWRMH-000341	SWRMH-000342	T28110	T28109	69	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000057	SWRMH-000342	SWRMH-000343	T28109	T28108	84	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000058	SWRMH-000343	SWRMH-000344	T28108	T28107	226	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000059	SWRMH-000344	SWRMH-000345	T28107	T28106	230	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000060	SWRMH-000345	SWRMH-000346	T28106	T28105	250	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000061	SWRMH-000346	SWRMH-000347	T28105	T27119	179	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000062	SWRMH-000347	SWRMH-000348	T27119	S27106	385	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000063	SWRMH-000348	SWRMH-000349	S27106	S27105	135	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000064	SWRMH-000349	SWRMH-000350	S27105	S27104	77	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000065	SWRMH-000354	SWRMH-008566	V35124	V35106	269	0.009	8	0.12	0.019	19:16 hr	1.26	0.96
SWRGM-000066	SWRMH-003575	SWRMH-000356	V35105	V35122	251	0.006	8	0.13	0.018	19:13 hr	1.12	0.82
SWRGM-000067	SWRMH-000356	SWRMH-000355	V35122	V35123	198	0.017	8	0.10	0.019	19:14 hr	1.57	1.29
SWRGM-000068	SWRMH-000355	SWRMH-000354	V35123	V35124	41	0.013	8	0.11	0.019	19:15 hr	1.43	1.14
SWRGM-000069	SWRMH-003524	SWRMH-008145	V36110	V36108	250	0.03	8	0.04	0.003	19:07 hr	1.16	1.53
SWRGM-000070	SWRMH-000357	SWRMH-003524	V36165	V36110	80	0.011	8	0.02	0.001	19:02 hr	0.52	0.87
SWRGM-000071	SWRMH-000358	SWRMH-000357	V36164	V36165	269	0.005	8	0.03	0.001	19:02 hr	0.40	0.62
SWRGM-000072	SWRMH-000358	SWRMH-000359	V36164	V36163	337	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000073	SWRMH-000359	SWRMH-003523	V36163	V36111	56	0.039	8	0.04	0.003	19:00 hr	1.20	1.70
SWRGM-000074	SWRMH-003546	SWRMH-000367	V36109	V36159	248	0.006	8	0.17	0.034	19:09 hr	1.33	0.83
SWRGM-000075	SWRMH-000361	SWRMH-003546	V36162	V36109	257	0.008	8	0.14	0.024	19:08 hr	1.30	0.91
SWRGM-000076	SWRMH-000360	SWRMH-000361	V36161	V36162	208	0.007	8	0.14	0.022	19:06 hr	1.22	0.87
SWRGM-000077	SWRMH-003523	SWRMH-000360	V36111	V36161	190	0.026	8	0.09	0.02	19:05 hr	1.86	1.59
SWRGM-000078	SWRMH-000365	SWRMH-000362	V35119	V35125	44	0.119	8	0.14	0.098	19:18 hr	5.14	3.57
SWRGM-000079	SWRMH-003568	SWRMH-000365	V35108	V35119	185	0.008	8	0.27	0.098	19:17 hr	1.98	0.97
SWRGM-000080	SWRMH-000364	SWRMH-003568	V35120	V35108	61	0.007	8	0.25	0.075	19:18 hr	1.74	0.90
SWRGM-000081	SWRMH-000363	SWRMH-000364	V35121	V35120	347	0.008	8	0.24	0.075	19:17 hr	1.81	0.94
SWRGM-000082	SWRMH-000366	SWRMH-000363	V36160	V35121	329	0.008	8	0.23	0.071	19:15 hr	1.79	0.96
SWRGM-000083	SWRMH-000367	SWRMH-000366	V36159	V36160	120	0.014	8	0.20	0.067	19:12 hr	2.17	1.27
SWRGM-000084	SWRMH-000368	SWRMH-000367	V36158	V36159	90	0.016	8	0.14	0.033	19:15 hr	1.81	1.29
SWRGM-000085	SWRMH-002076	SWRMH-000368	U36107	V36158	231	0.014	8	0.13	0.03	19:15 hr	1.71	1.23
SWRGM-000086	SWRMH-002050	SWRMH-002076	U36117	U36107	251	0.017	8	0.12	0.027	19:14 hr	1.76	1.33
SWRGM-000087	SWRMH-002051	SWRMH-002050	U36123	U36117	221	0.018	8	0.12	0.027	19:13 hr	1.80	1.37
SWRGM-000088	SWRMH-000369	SWRMH-002051	U36159	U36123	142	0.015	8	0.12	0.027	19:11 hr	1.70	1.27
SWRGM-000089	SWRMH-002070	SWRMH-000369	U36133	U36159	133	0.007	8	0.15	0.027	19:11 hr	1.28	0.87
SWRGM-000090	SWRMH-002311	SWRMH-002070	U36142	U36133	138	0.006	8	0.16	0.027	19:10 hr	1.19	0.78
SWRGM-000091	SWRMH-002073	SWRMH-002311	U36143	U36142	186	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000092	SWRCO-000119	SWRMH-002073	U36300	U36143	143	0.057	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000093	SWRMH-000370	SWRNJ-000295	U35114	U35108	208	0.061	8	0.17	0.099	19:26 hr	4.05	2.59
SWRGM-000094	SWRMH-007802	SWRMH-000370	U35110	U35114	240	0.014	8	0.24	0.099	19:25 hr	2.43	1.28
SWRGM-000095	SWRMH-000371	SWRMH-007802	U36158	U35110	262	0.04	8	0.18	0.099	19:24 hr	3.49	2.11
SWRGM-000096	SWRMH-000372	SWRMH-000371	U36157	U36158	350	0.004	8	0.32	0.099	19:23 hr	1.59	0.72
SWRGM-000097	SWRMH-002053	SWRMH-000372	U36149	U36157	232	0.007	8	0.28	0.099	19:20 hr	1.93	0.94
SWRGM-000098	SWRMH-000351	SWRMH-002054	U36156	U36148	178	0.025	8	0.14	0.047	19:19 hr	2.38	1.63
SWRGM-000099	SWRMH-002419	SWRMH-000351	U36107	U36156	120	0.014	8	0.17	0.047	19:19 hr	1.93	1.23
SWRGM-000100	SWRMH-000373	SWRMH-000374	V37129	V37128	269	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000101	SWRMH-000374	SWRMH-000375	V37128	V37127	346	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000102	SWRMH-000375	SWRMH-000376	V37127	U37126	346	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000103	SWRMH-000376	SWRMH-009023	SP573MH026	SDMH000376	346	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000104	SWRMH-000378	SWRMH-005747	X44126	X44110	408	0.019	8	0.18	0.062	19:02 hr	2.34	1.45
SWRGM-000105	SWRMH-000377	SWRMH-000378	X44127	X44126	408	0.019	8	0.08	0.011	19:05 hr	1.40	1.32
SWRGM-000106	SWRCO-000120	SWRMH-000377	X44300	X44127	341	0.004	8	0.11	0.011	19:03 hr	0.81	0.64
SWRGM-000118	SWRNJ-000742	SWRMH-000424		AA48127	5	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000119	SWRMH-000424	SWRMH-000425	AA48127	AA48125	140	0.043	8	0.07	0.015	10:00 hr	2.03	1.99
SWRGM-000120	SWRMH-000425	SWRMH-006741	AA48125	AA48116	360	0.024	8	0.08	0.015	10:02 hr	1.66	1.52
SWRGM-000121	SWRCO-000220	SWRMH-001462	W35301	W35105	150	0.057	8	0.02	0.001	19:00 hr	1.07	1.92
SWRGM-000122	SWRMH-000455	SWRNJ-000725	AA43143	AA43144	39	0.006	8	0.05	0.002	19:04 hr	0.58	0.71

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000123	SWRNJ-000725	SWRMH-000457	AA43144	AA43138	198	0.004	8	0.05	0.002	19:05 hr	0.49	0.57
SWRGM-000124	SWRMH-000457	SWRMH-000458	AA43138	AA43139	86	0.005	8	0.05	0.002	19:05 hr	0.53	0.63
SWRGM-000125	SWRMH-000458	SWRMH-000459	AA43139	AA43133	208	0.005	8	0.05	0.002	19:07 hr	0.53	0.64
SWRGM-000126	SWRMH-000459	SWRMH-000460	AA43133	AA43132	124	0.005	8	0.05	0.002	19:09 hr	0.53	0.63
SWRGM-000127	SWRMH-000460	SWRMH-000464	AA43132	AA43129	137	0.01	8	0.04	0.002	19:10 hr	0.68	0.88
SWRGM-000135	SWRNJ-000720	SWRMH-000458	AA43140	AA43139	45	0.116	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000136	SWRMH-000456	SWRNJ-000720	AA43140	AA43139	90	0.058	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000146	SWRCO-000270	SWRMH-000468	W2300	W42123	180	0.009	8	0.01	0	10:01 hr	0.28	0.68
SWRGM-000147	SWRMH-000468	SWRMH-000467	W42123	W41114	330	0.009	8	0.01	0	10:02 hr	0.28	0.68
SWRGM-000148	SWRMH-000467	SWRMH-000466	W41114	W41113	329	0.009	8	0.01	0	10:05 hr	0.28	0.68
SWRGM-000149	SWRMH-000466	SWRMH-000465	W41113	W41112	333	0.009	8	0.02	0	19:02 hr	0.36	0.72
SWRGM-000150	SWRMH-000465	SWRMH-009238	SDMH000465	SP612MH10	328	0.009	8	0.16	0.034	19:02 hr	1.50	0.98
SWRGM-000151	SWRMH-000469	SWRMH-000624	V48121	V48103	181	0.005	8	0.10	0.011	10:10 hr	0.85	0.69
SWRGM-000152	SWRMH-000470	SWRMH-000469	V48122	V48121	217	0.005	8	0.10	0.01	10:09 hr	0.84	0.69
SWRGM-000153	SWRMH-000471	SWRMH-000470	V48123	V48122	281	0.004	8	0.10	0.009	10:08 hr	0.75	0.63
SWRGM-000154	SWRMH-003887	SWRMH-000471	V48113	V48123	162	0.004	8	0.10	0.009	10:05 hr	0.77	0.65
SWRGM-000155	SWRMH-000812	SWRMH-000474	P48113	P48122	103	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000156	SWRMH-000474	SWRMH-000475	P48122	P48121	79	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000157	SWRMH-002949	SWRMH-000552	X35106	Y35156	147	0.036	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000158	SWRMH-000620	SWRMH-000619	S38131	S38132	260	0.029	8	0.06	0.009	19:03 hr	1.52	1.60
SWRGM-000159	SWRMH-000572	SWRMH-000621	S38129	S38130	248	0.015	8	0.05	0.005	19:01 hr	1.00	1.12
SWRGM-000160	SWRMH-000587	SWRMH-000588	S38105	S38104	260	0.018	8	0.12	0.027	19:04 hr	1.81	1.37
SWRGM-000161	SWRMH-000574	SWRMH-000620	S38127	S38131	160	0.008	8	0.04	0.002	19:01 hr	0.58	0.79
SWRGM-000162	SWRMH-000582	SWRMH-000581	S38110	S38112	187	0.005	8	0.05	0.003	19:03 hr	0.58	0.66
SWRGM-000163	SWRMH-000576	SWRMH-000582	S38125	S38110	328	0.019	8	0.03	0.001	19:15 hr	0.72	1.14
SWRGM-000164	SWRNJ-000147	SWRMH-000497	S38225	S38120	90	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000165	SWRMH-000862	SWRMH-000539	X35165	Y35204	260	0.064	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000166	SWRMH-000539	SWRMH-000538	Y35204	Y35205	159	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000167	SWRMH-002587	SWRMH-000500	R38110	S38117	350	0.007	8	0.22	0.057	19:25 hr	1.61	0.89
SWRGM-000168	SWRCO-000750	SWRMH-000515	Y35103	Y35105	165	0.01	8	0.02	0.001	19:01 hr	0.46	0.79
SWRGM-000169	SWRMH-000562	SWRMH-000564	Y35121	Y35119	208	0.004	8	0.01	0	19:04 hr	0.20	0.46
SWRGM-000170	SWRMH-002915	SWRMH-006960	X35140	X36118	217	0.016	8	0.03	0.001	19:01 hr	0.67	1.04
SWRGM-000171	SWRMH-008468	SWRMH-008469	AA32108	AA32107	335	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000172	SWRMH-005196	SWRMH-000568	AA41131	AA41166	35	0.06	8	0.13	0.061	19:07 hr	3.50	2.52
SWRGM-000173	SWRMH-003859	SWRMH-003860	Y36169	Y36168	301	0.015	8	0.03	0.002	19:01 hr	0.73	1.06
SWRGM-000174	SWRMH-002953	SWRMH-002952	X35102	X35103	300	0.033	8	0.05	0.006	19:01 hr	1.38	1.64
SWRGM-000175	SWRMH-002909	SWRMH-000528	X35146	Y35139	329	0.055	8	0.03	0.002	19:03 hr	1.22	1.94
SWRGM-000176	SWRNJ-000564	SWRMH-000526	SP0602MH03	SDMH000526	96	0.052	8	0.12	0.05	19:04 hr	3.14	2.33
SWRGM-000177	SWRMH-003860	SWRMH-000505	Y36168	Y35115	303	0.015	8	0.04	0.002	19:03 hr	0.79	1.07
SWRGM-000178	SWRMH-000556	SWRMH-000506	Y35152	Y35114	75	0.004	8	0.21	0.04	19:23 hr	1.19	0.68
SWRGM-000179	SWRMH-000481	SWRMH-000477	Y35128	Y35132	285	0.004	8	0.12	0.013	19:06 hr	0.86	0.65
SWRGM-000180	SWRMH-000566	SWRMH-000564	Y35117	Y35119	221	0.004	8	0.08	0.006	19:07 hr	0.67	0.61
SWRGM-000181	SWRCO-000751	SWRMH-000561	Y35102	Y35122	142	0.024	8	0.03	0.001	19:00 hr	0.81	1.29
SWRGM-000182	SWRMH-000482	SWRMH-000480	Y35127	Y35129	307	0.037	8	0.05	0.006	19:02 hr	1.43	1.73
SWRGM-000183	SWRMH-000538	SWRMH-000845	Y35205	Y34155	171	0.035	8	0.02	0.001	19:00 hr	0.72	1.45
SWRGM-000185	SWRMH-000476	SWRMH-008939	SDMH000476	SP0602MH03	144	0.047	8	0.08	0.02	19:08 hr	2.31	2.11
SWRGM-000186	SWRMH-000480	SWRMH-000515	Y35129	Y35105	119	0.025	8	0.05	0.006	19:02 hr	1.29	1.46
SWRGM-000187	SWRMH-000845	SWRMH-000842	Y34155	Y34158	208	0.017	8	0.06	0.006	19:02 hr	1.11	1.20
SWRGM-000188	SWRMH-000534	SWRMH-000842	Y35200	Y34158	183	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000189	SWRMH-000547	SWRMH-000546	Y35161	Y35162	111	0.026	8	0.09	0.02	19:03 hr	1.87	1.60
SWRGM-000190	SWRMH-000546	SWRMH-000548	Y35162	Y35160	109	0.012	8	0.11	0.02	19:03 hr	1.42	1.11
SWRGM-000191	SWRMH-000549	SWRMH-000550	Y35159	Y35158	175	0.015	8	0.11	0.021	19:05 hr	1.55	1.22
SWRGM-000192	SWRMH-000529	SWRMH-000530	Y35138	Y35137	331	0.033	8	0.03	0.002	19:01 hr	1.08	1.56
SWRGM-000193	SWRMH-000530	SWRMH-000531	Y35137	Y35136	330	0.016	8	0.05	0.004	19:03 hr	0.94	1.14
SWRGM-000194	SWRMH-000532	SWRMH-000476	Y35135	Y35133	229	0.075	8	0.04	0.006	19:04 hr	1.86	2.41
SWRGM-000195	SWRCO-000477	SWRNJ-000693	Z43109	Z43386	265	0.015	8	0.11	0.02	19:01 hr	1.55	1.24
SWRGM-000196	SWRMH-000510	SWRMH-000511	Y35110	Y35109	88	0.021	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000197	SWRNJ-000599	SWRMH-000510	Y35256	Y35110	17	0.049	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000198	SWRMH-005090	SWRMH-005259	AA41118	AA41126	20	0.022	8	0.10	0.022	19:01 hr	1.84	1.50
SWRGM-000202	SWRMH-000517	SWRMH-000604	Y35102	Y35103	151	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000203	SWRMH-000604	SWRMH-000544	Y35103	Y35173	298	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000204	SWRNJ-000535	SWRMH-000548	Y35257	Y35160	10	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000205	SWRMH-002952	SWRMH-000555	X35103	Y35153	240	0.063	8	0.05	0.009	19:01 hr	1.97	2.29
SWRGM-000206	SWRMH-000513	SWRMH-000514	Y35107	Y35106	88	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000207	SWRMH-000552	SWRMH-000554	Y35156	Y35154	277	0.032	8	0.03	0.002	19:01 hr	1.03	1.53
SWRGM-000208	SWRCO-000857	SWRMH-000571	Y36103	Y35166	94	0.005	8	0.02	0	19:00 hr	0.33	0.56
SWRGM-000209	SWRMH-000581	SWRMH-000504	S38112	S38111	48	0.005	8	0.05	0.003	19:04 hr	0.55	0.62
SWRGM-000210	SWRMH-000585	SWRMH-000586	S38107	S38106	162	0.028	8	0.04	0.003	19:00 hr	1.08	1.45
SWRGM-000211	SWRCO-000725	SWRMH-000584	S38103	S38108	73	0.027	8	0.02	0.001	19:00 hr	0.79	1.34
SWRGM-000212	SWRCO-000726	SWRMH-000585	S38102	S38107	76	0.013	8	0.02	0.001	19:00 hr	0.52	0.91
SWRGM-000213	SWRMH-000621	SWRMH-000620	S38130	S38131	155	0.014	8	0.06	0.006	19:03 hr	1.06	1.12
SWRGM-000214	SWRCO-000727	SWRMH-000572	S38101	S38129	133	0.008	8	0.04	0.002	19:01 hr	0.59	0.78
SWRGM-000215	SWRMH-000477	SWRMH-000476	Y35132	Y35133	319	0.004	8	0.12	0.014	19:09 hr	0.87	0.65
SWRGM-000216	SWRMH-000571	SWRMH-000482	Y35166	Y35127	275	0.033	8	0.02	0.001	19:01 hr	0.84	1.46
SWRGM-000217	SWRMH-000478	SWRMH-000482	Y35131	Y35127	185	0.05	8	0.03	0.003	19:01 hr	1.29	1.90
SWRGM-000218	SWRCO-000752	SWRMH-000478	Y35101	Y35131	245	0.013	8	0.04	0.002	19:01 hr	0.71	0.98
SWRGM-000219	SWRMH-006596	SWRMH-006597	S39114	S39113	228	0.019	8	0.07	0.008	19:01 hr	1.27	1.29
SWRGM-000220	SWRMH-000516	SWRMH-000611	Y35104	Y35101	231	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000221	SWRMH-000611	SWRMH-000517	Y35101	Y35102	224	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000222	SWRMH-000500	SWRMH-000497	S38117	S38120	340	0.007	8	0.22	0.057	19:28 hr	1.61	0.89
SWRGM-000223	SWRMH-000564	SWRMH-000569	Y35119	Y35168	67	0.004	8	0.08	0.006	19:08 hr	0.66	0.60
SWRGM-000224	SWRMH-000540	SWRMH-000539	Y35203	Y35204	80	0.081	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000225	SWRMH-000535	SWRMH-000534	Y35199	Y35200	165	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000226	SWRMH-000543	SWRMH-000529	Y35179	Y35138	267	0.007	8	0.03	0.001	19:02 hr	0.46	0.72
SWRGM-000227	SWRCO-000749	SWRMH-000521	Y35104	Y35146	118	0.08	8	0.01	0.001	19:00 hr	0.91	2.09
SWRGM-000228	SWRMH-000522	SWRMH-000556	Y35145	Y35152	340	0.04	8	0.05	0.005	19:06 hr	1.44	1.78
SWRGM-000229	SWRMH-000565	SWRMH-000567	Y35118	Y35116	320	0.004	8	0.06	0.003	19:05 hr	0.53	0.58
SWRGM-000230	SWRMH-000505	SWRMH-000567	Y35115	Y35116	271	0.036	8	0.04	0.003	19:03 hr	1.18	1.64
SWRGM-000231	SWRMH-000548	SWRMH-000549	Y35160	Y35159	175	0.033	8	0.09	0.02	19:04 hr	2.04	1.79
SWRGM-000232	SWRMH-000553	SWRMH-000547	Y35155	Y35161	244	0.05	8	0.06	0.01	19:02 hr	1.92	2.07
SWRGM-000233	SWRMH-000550	SWRMH-000551	Y35158	Y35157	115	0.031	8	0.09	0.021	19:05 hr	2.02	1.75

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000234	SWRMH-000561	SWRMH-000483	Y35122	Y35126	213	0.029	8	0.03	0.002	19:01 hr	0.91	1.43
SWRGM-000235	SWRMH-000557	SWRMH-000520	Y35151	Y35147	75	0.005	8	0.23	0.058	19:21 hr	1.47	0.79
SWRGM-000236	SWRMH-000551	SWRMH-000605	Y35157	Y35171	98	0.018	8	0.11	0.021	19:06 hr	1.65	1.33
SWRGM-000237	SWRMH-000563	SWRMH-000562	Y35120	Y35121	210	0.007	8	0.01	0	19:02 hr	0.25	0.61
SWRGM-000238	SWRMH-000520	SWRMH-000558	Y35147	Y35150	175	0.011	8	0.20	0.059	19:22 hr	1.88	1.09
SWRGM-000239	SWRMH-000541	SWRMH-000845	Y35202	Y34155	278	0.014	8	0.05	0.004	19:01 hr	0.93	1.07
SWRGM-000240	SWRMH-006599	SWRMH-000576	S39111	S38125	90	0.019	8	0.02	0	19:00 hr	0.53	1.07
SWRGM-000241	SWRMH-006577	SWRMH-000576	S39133	S38125	268	0.018	8	0.02	0.001	19:14 hr	0.62	1.08
SWRGM-000242	SWRMH-000831	SWRMH-005729	Z44132	Z44104	207	0.013	8	0.07	0.008	19:11 hr	1.09	1.08
SWRGM-000243	SWRMH-004567	SWRMH-000831	Z44119	Z44132	144	0.016	8	0.06	0.007	19:10 hr	1.12	1.17
SWRGM-000244	SWRMH-000554	SWRMH-000553	Y35154	Y35155	153	0.011	8	0.08	0.01	19:02 hr	1.14	1.04
SWRGM-000245	SWRMH-000484	SWRMH-000527	Y35125	Y35140	19	0.447	8	0.08	0.064	19:27 hr	7.18	6.51
SWRGM-000246	SWRMH-000567	SWRMH-000566	Y35116	Y35117	199	0.016	8	0.06	0.006	19:05 hr	1.10	1.19
SWRGM-000247	SWRMH-000507	SWRMH-000556	Y35113	Y35152	217	0.019	8	0.13	0.035	19:24 hr	1.97	1.41
SWRGM-000248	SWRMH-000506	SWRMH-000557	Y35114	Y35151	199	0.005	8	0.24	0.058	19:21 hr	1.39	0.73
SWRGM-000249	SWRMH-008939	SWRNJ-000564	SP0602MH03	SDMH000526	151	0.052	8	0.12	0.05	19:04 hr	3.14	2.33
SWRGM-000250	SWRMH-000588	SWRNJ-000194	S38104	S38229	130	0.005	8	0.18	0.031	19:05 hr	1.17	0.72
SWRGM-000251	SWRMH-000504	SWRNJ-000200	S38111	T38426	30	0.009	8	0.05	0.003	19:04 hr	0.69	0.85
SWRGM-000253	SWRMH-000590	SWRNJ-000627	Y45185	Z45101	209	0.021	8	0.03	0.001	19:01 hr	0.71	1.18
SWRGM-000254	SWRMH-000602	SWRMH-000619	S38101	S38132	131	0.005	8	0.19	0.037	19:09 hr	1.24	0.74
SWRGM-000255	SWRMH-000573	SWRMH-000601	S38128	S38102	178	0.005	8	0.19	0.037	19:07 hr	1.25	0.74
SWRGM-000256	SWRMH-000589	SWRMH-000588	S38103	S38104	116	0.027	8	0.02	0.001	19:00 hr	0.69	1.29
SWRGM-000257	SWRMH-000584	SWRMH-000583	S38108	S38109	195	0.013	8	0.04	0.002	19:01 hr	0.73	1.00
SWRGM-000258	SWRMH-000515	SWRMH-000479	Y35105	Y35130	274	0.026	8	0.07	0.009	19:03 hr	1.48	1.51
SWRGM-000259	SWRMH-000603	SWRMH-008529	Z38169	AA38105	230	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000260	SWRMH-003892	SWRMH-000603	Z38167	Z38169	308	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000261	SWRMH-000483	SWRMH-000560	Y35126	Y35123	296	0.047	8	0.14	0.064	19:26 hr	3.26	2.25
SWRGM-000262	SWRMH-000511	SWRMH-000512	Y35109	Y35108	88	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000263	SWRMH-000512	SWRMH-000513	Y35108	Y35107	88	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000264	SWRMH-006442	SWRMH-006279	Y45163	X45110	259	0.004	8	0.07	0.005	19:05 hr	0.62	0.60
SWRGM-000269	SWRMH-005329	SWRMH-005331	Y42113	Y42111	245	0.039	8	0.03	0.002	19:02 hr	1.13	1.68
SWRGM-000270	SWRMH-000597	SWRMH-002507	AA41167	AA40116	462	0.023	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000271	SWRMH-008053	SWRMH-008054	U39137	U39136	233	0.01	8	0.06	0.005	19:01 hr	0.86	0.93
SWRGM-000272	SWRMH-008054	SWRMH-008057	U39136	U39133	260	0.032	8	0.12	0.036	19:07 hr	2.40	1.83
SWRGM-000273	SWRMH-008074	SWRMH-008075	U39116	U39115	246	0.006	8	0.16	0.028	19:05 hr	1.20	0.78
SWRGM-000274	SWRMH-008025	SWRMH-008024	U39165	U39166	167	0.004	8	0.05	0.002	19:01 hr	0.46	0.56
SWRGM-000275	SWRMH-007993	SWRMH-003452	U39184	V39103	279	0.004	8	0.11	0.011	19:04 hr	0.81	0.63
SWRGM-000276	SWRMH-007999	SWRMH-007998	U39178	U39179	180	0.004	8	0.06	0.003	19:01 hr	0.54	0.58
SWRGM-000277	SWRMH-007998	SWRMH-007997	U39179	U39180	207	0.004	8	0.08	0.006	19:03 hr	0.65	0.60
SWRGM-000278	SWRMH-008014	SWRMH-008000	U39176	U39177	279	0.004	8	0.05	0.002	19:02 hr	0.51	0.58
SWRGM-000279	SWRMH-008023	SWRMH-008022	U39167	U39168	183	0.004	8	0.10	0.01	19:06 hr	0.78	0.63
SWRGM-000280	SWRMH-008598	SWRMH-008599	U39103	U39102	325	0.004	8	0.06	0.003	19:03 hr	0.55	0.59
SWRGM-000281	SWRMH-000730	SWRMH-000932	Q52104	R52173	353	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000282	SWRMH-000720	SWRMH-000930	Q52126	R52175	350	0.007	8	0.09	0.01	19:05 hr	0.96	0.83
SWRGM-000283	SWRMH-000724	SWRMH-000927	Q52122	R52178	353	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000284	SWRMH-000932	SWRMH-000931	R52173	R52174	337	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000285	SWRMH-000931	SWRMH-008871	SDMH000931	SP0582MH2	281	0.076	8	0.02	0.001	19:00 hr	1.00	2.10
SWRGM-000286	SWRMH-000930	SWRMH-000929	R52175	R52176	350	0.011	8	0.10	0.013	19:07 hr	1.20	1.02
SWRGM-000287	SWRMH-000929	SWRMH-008865	SDMH000929	SP0582MH7	309	0.008	8	0.11	0.015	19:09 hr	1.14	0.90
SWRGM-000288	SWRMH-000927	SWRMH-000926	R52178	R52179	347	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000289	SWRMH-000926	SWRMH-000925	R52179	R52180	125	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000290	SWRMH-000925	SWRMH-000924	R52180	R52181	142	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000291	SWRMH-000924	SWRMH-008864	SDMH000924	SP0582MH13	50	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000292	SWRMH-006979	SWRMH-006978	P45102	P45103	263	0.005	8	0.09	0.008	19:04 hr	0.83	0.72
SWRGM-000293	SWRMH-001913	SWRMH-001597	R44159	R43128	350	0.016	8	0.05	0.003	19:03 hr	0.92	1.13
SWRGM-000294	SWRMH-001569	SWRMH-001560	R44174	R44183	290	0.005	8	0.15	0.022	19:06 hr	1.07	0.72
SWRGM-000295	SWRMH-001563	SWRMH-001561	R44180	R44182	300	0.014	8	0.04	0.003	19:01 hr	0.84	1.07
SWRGM-000296	SWRMH-001568	SWRMH-001567	R44175	R44176	240	0.028	8	0.03	0.002	19:01 hr	0.96	1.42
SWRGM-000297	SWRMH-001567	SWRMH-001566	R44176	R44177	159	0.013	8	0.09	0.012	19:04 hr	1.27	1.13
SWRGM-000298	SWRMH-001565	SWRMH-001564	R44178	R44179	330	0.017	8	0.05	0.004	19:02 hr	0.98	1.17
SWRGM-000299	SWRMH-001564	SWRMH-001560	R44179	R44183	265	0.018	8	0.06	0.006	19:03 hr	1.13	1.25
SWRGM-000300	SWRMH-001939	SWRMH-001936	R44134	R44137	264	0.018	8	0.11	0.022	19:09 hr	1.68	1.34
SWRGM-000301	SWRMH-001938	SWRMH-001939	R44135	R44134	263	0.004	8	0.15	0.022	19:08 hr	0.99	0.66
SWRGM-000302	SWRMH-001407	SWRMH-001411	Q44113	Q43117	223	0.014	8	0.13	0.028	19:09 hr	1.64	1.19
SWRGM-000303	SWRMH-001418	SWRMH-001417	Q43110	Q43111	182	0.005	8	0.15	0.024	19:06 hr	1.10	0.73
SWRGM-000304	SWRMH-001419	SWRMH-001418	Q43109	Q43110	279	0.011	8	0.12	0.02	19:05 hr	1.40	1.07
SWRGM-000305	SWRMH-001416	SWRMH-001415	Q43112	Q43113	275	0.015	8	0.47	0.378	19:40 hr	3.61	1.34
SWRGM-000306	SWRMH-001420	SWRMH-001418	Q43108	Q43110	250	0.006	8	0.05	0.003	19:02 hr	0.60	0.69
SWRGM-000307	SWRMH-001421	SWRMH-001419	Q43107	Q43109	228	0.005	8	0.05	0.002	19:02 hr	0.55	0.64
SWRGM-000308	SWRMH-001410	SWRMH-001408	Q43118	Q43120	344	0.027	8	0.12	0.034	19:11 hr	2.21	1.66
SWRGM-000309	SWRMH-001430	SWRMH-001431	Q42115	Q42114	200	0.005	8	0.28	0.08	19:24 hr	1.57	0.76
SWRGM-000310	SWRMH-002683	SWRMH-001430	P42112	Q42115	310	0.005	8	0.27	0.08	19:23 hr	1.59	0.78
SWRGM-000311	SWRMH-006530	SWRMH-002810	Z35107	Z34107	319	0.029	8	0.05	0.005	19:09 hr	1.26	1.54
SWRGM-000313	SWRNJ-000099	SWRMH-002093	R48340	R48149	10	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000315	SWRNJ-000118	SWRMH-002128	R48342	R48114	16	0.026	8	0.17	0.07	19:17 hr	2.74	1.72
SWRGM-000316	SWRMH-002132	SWRNJ-000118	R48110	R48342	26	0.004	8	0.27	0.07	19:17 hr	1.43	0.70
SWRGM-000317	SWRMH-002117	SWRMH-002114	R48125	R48128	138	0.015	8	0.06	0.005	19:03 hr	1.03	1.14
SWRGM-000318	SWRMH-002110	SWRMH-002080	R48132	R48162	222	0.007	8	0.15	0.027	19:07 hr	1.31	0.88
SWRGM-000319	SWRMH-003183	SWRMH-003182	V47147	V47148	284	0.004	8	0.10	0.009	19:03 hr	0.75	0.63
SWRGM-000320	SWRMH-003197	SWRMH-003196	V47133	V47134	349	0.006	8	0.14	0.02	19:05 hr	1.09	0.77
SWRGM-000321	SWRMH-003173	SWRMH-003188	V47157	V47142	262	0.004	8	0.46	0.183	19:24 hr	1.82	0.68
SWRGM-000322	SWRMH-003188	SWRMH-003189	V47142	V47141	332	0.008	8	0.38	0.186	19:27 hr	2.34	0.95
SWRGM-000323	SWRMH-007593	SWRMH-007561	T46105	T46137	285	0.008	8	0.09	0.01	19:04 hr	1.02	0.90
SWRGM-000324	SWRMH-007335	SWRMH-007860	S46102	T46101	262	0.008	8	0.10	0.013	19:05 hr	1.10	0.91
SWRGM-000325	SWRMH-000788	SWRMH-000787	P49105	P49106	226	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000326	SWRMH-000790	SWRMH-000789	P49103	P49104	359	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000327	SWRMH-000755	SWRMH-000777	P49124	P49116	286	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000328	SWRMH-002259	SWRMH-000792	Q49101	P49101	178	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000329	SWRMH-000792	SWRMH-000755	P49101	P49124	286	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000330	SWRMH-000735	SWRMH-000755	P49141	P49124	263	0.025	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000331	SWRMH-000746	SWRMH-000747	P49130	P49129	267	0.02	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000332	SWRMH-000745	SWRMH-000746	P49131	P49130	264	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000333	SWRMH-008895	SWRMH-005685	SP0607MH1	SDMH005685	177	0.005	8	0.06	0.003	19:11 hr	0.58	0.62
SWRGM-000334	SWRMH-007707	SWRMH-007706	U38172	U38173	210	0.006	8	0.57	0.319	19:28 hr	2.42	0.83
SWRGM-000335	SWRMH-007607	SWRMH-007604	U38178	U38181	350	0.009	8	0.06	0.005	19:04 hr	0.88	0.91
SWRGM-000336	SWRMH-008206	SWRMH-007607	T38107	U38178	350	0.01	8	0.05	0.003	19:02 hr	0.72	0.88
SWRGM-000337	SWRMH-007204	SWRMH-007203	S47149	S47150	64	0.014	8	0.12	0.024	19:06 hr	1.59	1.20
SWRGM-000338	SWRMH-007222	SWRMH-007221	S47132	S47133	210	0.009	8	0.06	0.004	19:01 hr	0.82	0.89
SWRGM-000339	SWRMH-007219	SWRMH-007216	S47135	S47138	220	0.01	8	0.06	0.006	19:02 hr	0.91	0.94
SWRGM-000340	SWRMH-007220	SWRMH-007219	S47134	S47135	218	0.01	8	0.06	0.004	19:01 hr	0.84	0.93
SWRGM-000341	SWRMH-007216	SWRMH-007211	S47138	S47143	299	0.012	8	0.10	0.017	19:05 hr	1.34	1.08
SWRGM-000342	SWRMH-007217	SWRMH-007216	S47137	S47138	300	0.006	8	0.09	0.009	19:04 hr	0.89	0.77
SWRGM-000343	SWRMH-007379	SWRMH-007756	T38140	T38141	149	0.019	8	0.22	0.097	19:18 hr	2.67	1.47
SWRGM-000344	SWRMH-007508	SWRMH-007507	T45112	T45113	310	0.009	8	0.12	0.02	19:07 hr	1.29	0.98
SWRGM-000345	SWRMH-007574	SWRMH-007509	T46124	T45111	350	0.023	8	0.05	0.005	19:02 hr	1.20	1.40
SWRGM-000346	SWRMH-008029	SWRMH-008028	U39161	U39162	190	0.018	8	0.07	0.01	19:08 hr	1.33	1.28
SWRGM-000347	SWRMH-008034	SWRMH-008033	U39156	U39157	200	0.008	8	0.07	0.006	19:06 hr	0.89	0.87
SWRGM-000348	SWRMH-008036	SWRMH-008022	U39154	U39168	277	0.008	8	0.04	0.002	19:02 hr	0.61	0.78
SWRGM-000349	SWRMH-008037	SWRMH-008038	U39153	U39152	161	0.022	8	0.04	0.003	19:00 hr	1.00	1.30
SWRGM-000350	SWRMH-008040	SWRMH-008041	U39150	U39149	249	0.006	8	0.13	0.019	19:05 hr	1.11	0.81
SWRGM-000351	SWRMH-001850	SWRMH-001848	S43144	S43146	264	0.005	8	0.08	0.006	19:05 hr	0.74	0.68
SWRGM-000352	SWRMH-001847	SWRMH-001842	S43147	S43152	183	0.005	8	0.09	0.008	19:11 hr	0.81	0.71
SWRGM-000353	SWRMH-001832	SWRMH-001833	S43162	S43161	136	0.008	8	0.10	0.012	19:03 hr	1.05	0.89
SWRGM-000354	SWRMH-001863	SWRMH-001864	S43131	S43130	241	0.006	8	0.34	0.124	19:12 hr	1.85	0.81
SWRGM-000355	SWRMH-001864	SWRNJ-000190	S43130	S43438	101	0.005	8	0.34	0.125	19:13 hr	1.82	0.78
SWRGM-000356	SWRCO-000652	SWRMH-002036	S43101	S43113	104	0.005	8	0.03	0.001	19:01 hr	0.37	0.58
SWRGM-000357	SWRMH-002038	SWRMH-002028	S43111	S43121	137	0.045	8	0.04	0.004	19:01 hr	1.42	1.87
SWRGM-000358	SWRMH-001858	SWRNJ-000191	S43136	S43437	286	0.003	8	0.20	0.034	19:11 hr	1.02	0.58
SWRGM-000359	SWRMH-004452	SWRMH-006960	Y36166	X36118	324	0.02	8	0.13	0.033	19:22 hr	1.98	1.44
SWRGM-000360	SWRMH-005053	SWRMH-004584	Y36129	Y36153	180	0.039	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000361	SWRMH-004586	SWRMH-000563	Y36151	Y35120	240	0.02	8	0.00	0	19:01 hr	0.00	0.00
SWRGM-000362	SWRMH-000886	SWRMH-000887	P46144	P46143	300	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000363	SWRMH-000884	SWRMH-000886	P46150	P46144	305	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000364	SWRMH-000887	SWRMH-000899	P46143	P46138	246	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000365	SWRMH-000888	SWRMH-000893	P46142	P46141	300	0.005	8	0.08	0.006	19:05 hr	0.74	0.68
SWRGM-000366	SWRMH-000885	SWRMH-000888	P46149	P46142	305	0.005	8	0.06	0.003	19:03 hr	0.60	0.65
SWRGM-000367	SWRMH-000893	SWRMH-000901	P46141	P46136	246	0.031	8	0.06	0.008	19:05 hr	1.49	1.63
SWRGM-000368	SWRMH-000901	SWRMH-000900	P46136	P46137	261	0.005	8	0.10	0.01	19:06 hr	0.85	0.70
SWRGM-000369	SWRMH-006713	SWRNJ-000046	P45116	P45366	46	0.006	8	0.15	0.024	19:09 hr	1.18	0.80
SWRGM-000370	SWRMH-006976	SWRMH-006802	P45105	P44157	365	0.011	8	0.05	0.004	19:02 hr	0.83	0.94
SWRGM-000371	SWRMH-006977	SWRMH-006801	P45104	P44158	373	0.012	8	0.05	0.003	19:02 hr	0.85	1.01
SWRGM-000372	SWRMH-007843	SWRMH-007845	T48113	T48111	210	0.015	8	0.07	0.007	19:03 hr	1.13	1.14
SWRGM-000373	SWRMH-008130	SWRMH-008128	T48123	T48125	132	0.011	8	0.03	0.001	19:01 hr	0.59	0.87
SWRGM-000374	SWRMH-008131	SWRMH-008132	T48122	T48121	303	0.014	8	0.09	0.013	19:05 hr	1.32	1.17
SWRGM-000375	SWRMH-007182	SWRMH-008123	S48133	T48130	259	0.011	8	0.06	0.006	19:02 hr	0.96	1.00
SWRGM-000376	SWRMH-007273	SWRMH-007291	T48166	T48148	140	0.006	8	0.03	0.001	19:01 hr	0.46	0.66
SWRGM-000377	SWRMH-007292	SWRMH-007293	T48147	T48146	140	0.006	8	0.02	0	19:01 hr	0.36	0.62
SWRGM-000378	SWRMH-007299	SWRMH-007300	T48140	T48139	140	0.006	8	0.03	0.001	19:01 hr	0.41	0.64
SWRGM-000379	SWRMH-007278	SWRMH-007279	T48161	T48160	370	0.007	8	0.07	0.005	19:05 hr	0.76	0.78
SWRGM-000380	SWRMH-007282	SWRMH-007279	T48157	T48160	230	0.01	8	0.06	0.004	19:02 hr	0.84	0.92
SWRGM-000381	SWRMH-007279	SWRMH-007276	T48160	T48163	161	0.008	8	0.09	0.01	19:04 hr	1.02	0.90
SWRGM-000382	SWRMH-007295	SWRMH-007296	T48144	T48143	155	0.007	8	0.05	0.003	19:01 hr	0.65	0.78
SWRGM-000383	SWRMH-007283	SWRMH-007284	T48156	T48155	182	0.012	8	0.03	0.001	19:01 hr	0.54	0.89
SWRGM-000384	SWRMH-007294	SWRMH-007289	T48145	T48150	201	0.006	8	0.14	0.022	19:05 hr	1.16	0.80
SWRGM-000385	SWRMH-001555	SWRMH-001554	R44188	R44189	300	0.017	8	0.19	0.071	19:11 hr	2.37	1.40
SWRGM-000386	SWRMH-001947	SWRMH-001946	R44126	R44127	350	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000387	SWRMH-001946	SWRMH-001945	R44127	R44128	257	0.004	8	0.07	0.004	19:06 hr	0.57	0.59
SWRGM-000388	SWRCO-000290	SWRMH-000882	T36102	T36112	75	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000389	SWRMH-000882	SWRMH-009257	T36112	T36113	38	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000390	SWRMH-008318	SWRMH-008317	T46164	T46165	330	0.011	8	0.05	0.004	19:02 hr	0.82	0.94
SWRGM-000392	SWRMH-000855	SWRMH-000856	P47132	P47131	320	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000393	SWRMH-000816	SWRMH-000855	P48110	P47132	303	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000394	SWRCO-000320	SWRMH-005054	X37106	X37127	146	0.006	8	0.03	0.001	19:01 hr	0.45	0.66
SWRGM-000395	SWRMH-000857	SWRMH-000853	P47130	P47134	320	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000396	SWRMH-000820	SWRMH-000857	P48106	P47130	221	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000397	SWRMH-000815	SWRMH-000854	P48111	P47133	246	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000398	SWRMH-000854	SWRMH-000857	P47133	P47130	301	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000399	SWRMH-007950	SWRMH-007951	U38118	U38117	148	0.012	8	0.03	0.001	19:01 hr	0.55	0.90
SWRGM-000400	SWRMH-007955	SWRMH-007956	U38113	U38112	277	0.005	8	0.15	0.021	19:08 hr	1.05	0.71
SWRGM-000401	SWRMH-007956	SWRMH-007965	U38112	U38103	207	0.02	8	0.11	0.026	19:08 hr	1.85	1.43
SWRGM-000402	SWRMH-007960	SWRMH-007961	U38108	U38107	190	0.02	8	0.10	0.019	19:09 hr	1.68	1.39
SWRGM-000403	SWRMH-007959	SWRMH-007960	U38109	U38108	190	0.006	8	0.12	0.018	19:08 hr	1.11	0.82
SWRGM-000404	SWRMH-007727	SWRMH-007724	U38152	U38155	260	0.004	8	0.10	0.01	19:04 hr	0.78	0.63
SWRGM-000405	SWRMH-007730	SWRMH-007727	U38149	U38152	259	0.007	8	0.06	0.004	19:03 hr	0.71	0.76
SWRGM-000406	SWRMH-007939	SWRMH-007940	U38129	U38128	237	0.005	8	0.10	0.01	19:06 hr	0.83	0.69
SWRGM-000407	SWRMH-007940	SWRMH-007941	U38128	U38127	226	0.005	8	0.11	0.011	19:07 hr	0.87	0.69
SWRGM-000408	SWRMH-007954	SWRMH-007955	U38114	U38113	207	0.005	8	0.14	0.02	19:06 hr	1.07	0.75
SWRGM-000409	SWRMH-007721	SWRMH-007716	U38158	U38163	254	0.004	8	0.06	0.003	19:02 hr	0.54	0.58
SWRGM-000410	SWRMH-007722	SWRMH-007715	U38157	U38164	240	0.004	8	0.18	0.028	19:08 hr	1.07	0.66
SWRGM-000411	SWRMH-007966	SWRMH-007717	U38102	U38162	140	0.023	8	0.02	0.001	19:00 hr	0.70	1.23
SWRGM-000412	SWRMH-007992	SWRMH-007726	U39185	U38153	218	0.007	8	0.05	0.003	19:01 hr	0.64	0.76
SWRGM-000413	SWRMH-007726	SWRMH-007725	U38153	U38154	170	0.007	8	0.07	0.005	19:02 hr	0.78	0.80
SWRGM-000414	SWRMH-007604	SWRMH-007603	U38181	U38182	350	0.011	8	0.07	0.008	19:05 hr	1.03	0.99
SWRGM-000415	SWRMH-007957	SWRMH-007958	U38111	U38110	229	0.006	8	0.06	0.004	19:02 hr	0.65	0.70
SWRGM-000416	SWRMH-007953	SWRMH-007954	U38115	U38114	167	0.005	8	0.12	0.013	19:05 hr	0.94	0.72
SWRGM-000417	SWRMH-007952	SWRMH-007953	U38116	U38115	185	0.005	8	0.11	0.012	19:04 hr	0.90	0.72
SWRGM-000418	SWRMH-007731	SWRMH-007730	U38148	U38149	81	0.01	8	0.03	0.001	19:00 hr	0.52	0.84
SWRGM-000419	SWRMH-007327	SWRMH-007328	S46110	S46109	209	0.006	8	0.07	0.005	19:03 hr	0.73	0.72
SWRGM-000420	SWRNJ-000527	SWRMH-005183	X41102	X41128	15	0.009	8	0.02	0	09:59 hr	0.36	0.72
SWRGM-000421	SWRMH-009023	SWRMH-002418	SDMH002418	SP573MH026	310	0.006	8	0.20	0.047	19:17 hr	1.44	0.83
SWRGM-000422	SWRMH-002418	SWRMH-002419	U36107	U36108	196	0.014	8	0.16	0.047	19:19 hr	1.95	1.25
SWRGM-000423	SWRMH-002616	SWRMH-008211	T37121	T37119	377	0.013	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000424	SWRMH-008212	SWRMH-002616	T37118	T37121	255	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000425	SWRNJ-000303	SWRMH-002050	U36282	U36152	37	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000426	SWRMH-002077	SWRNJ-000303	U36125	U36282	248	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000427	SWRNJ-000302	SWRMH-002051	U36281	U36151	37	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000428	SWRMH-002052	SWRNJ-000302	U36150	U36281	261	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000429	SWRNJ-000304	SWRMH-002070	U36280	U36132	39	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000430	SWRMH-002069	SWRNJ-000304	U36133	U36280	34	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000431	SWRMH-007450	SWRMH-007454	T47133	T47129	350	0.01	8	0.45	0.276	19:37 hr	2.84	1.08
SWRGM-000432	SWRMH-008102	SWRMH-008101	T47145	T47146	184	0.004	8	0.09	0.007	19:07 hr	0.70	0.61
SWRGM-000433	SWRMH-008101	SWRMH-008100	T47146	T47147	198	0.004	8	0.10	0.008	19:08 hr	0.74	0.62
SWRGM-000434	SWRMH-002071	SWRMH-002072	U36131	U36130	192	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000435	SWRMH-002312	SWRMH-002313	U36116	U36115	243	0.005	8	0.05	0.003	19:02 hr	0.60	0.68
SWRGM-000436	SWRMH-008069	SWRMH-008067	U39121	U39123	220	0.023	8	0.04	0.002	19:01 hr	0.94	1.30
SWRGM-000437	SWRMH-008070	SWRMH-008067	U39120	U39123	210	0.018	8	0.05	0.004	19:02 hr	1.02	1.22
SWRGM-000438	SWRMH-008071	SWRMH-008068	U39119	U39122	210	0.024	8	0.06	0.008	19:02 hr	1.36	1.45
SWRGM-000439	SWRMH-008072	SWRMH-008074	U39118	U39116	210	0.024	8	0.05	0.006	19:01 hr	1.23	1.41
SWRGM-000440	SWRMH-008076	SWRMH-008073	U39114	U39117	192	0.017	8	0.05	0.005	19:02 hr	1.03	1.19
SWRGM-000441	SWRMH-008596	SWRMH-008597	U39105	U39104	140	0.02	8	0.03	0.002	19:00 hr	0.80	1.19
SWRGM-000442	SWRMH-008597	SWRMH-007722	U39104	U38157	240	0.004	8	0.16	0.024	19:07 hr	1.01	0.66
SWRGM-000443	SWRMH-008599	SWRMH-008600	U39102	U39101	335	0.004	8	0.09	0.007	19:06 hr	0.70	0.62
SWRGM-000444	SWRMH-000854	SWRMH-000855	P47133	P47132	311	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000445	SWRMH-000856	SWRMH-000858	P47131	P47129	355	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000446	SWRMH-000853	SWRMH-000858	P47134	P47129	256	0.001	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000447	SWRMH-007079	SWRMH-006186	T43123	U43105	135	0.01	8	0.14	0.03	19:09 hr	1.49	1.03
SWRGM-000448	SWRMH-008193	SWRMH-007077	T44145	T43125	213	0.01	8	0.15	0.035	19:13 hr	1.60	1.06
SWRGM-000449	SWRMH-007085	SWRMH-007084	T43117	T43118	250	0.009	8	0.05	0.003	19:01 hr	0.76	0.87
SWRGM-000450	SWRMH-007092	SWRMH-007082	T43110	T43120	250	0.005	8	0.10	0.009	19:05 hr	0.85	0.71
SWRGM-000451	SWRMH-007081	SWRMH-007080	T43121	T43122	263	0.005	8	0.15	0.023	19:07 hr	1.08	0.73
SWRGM-000452	SWRMH-007078	SWRMH-007081	T43124	T43121	275	0.005	8	0.06	0.003	19:02 hr	0.60	0.66
SWRGM-000453	SWRCO-000717	SWRMH-007083	T43101	T43119	126	0.009	8	0.03	0.001	19:01 hr	0.52	0.79
SWRGM-000454	SWRMH-007550	SWRMH-007407	T46148	T45101	348	0.006	8	0.25	0.073	19:22 hr	1.64	0.84
SWRGM-000455	SWRMH-008085	SWRMH-007536	T47162	T46178	340	0.004	8	0.12	0.012	19:10 hr	0.83	0.63
SWRGM-000456	SWRMH-007580	SWRMH-007578	T46118	T46120	181	0.015	8	0.04	0.002	19:02 hr	0.76	1.05
SWRGM-000457	SWRMH-007581	SWRMH-007580	T46117	T46118	138	0.014	8	0.03	0.001	19:01 hr	0.67	0.99
SWRGM-000458	SWRMH-008295	SWRMH-008296	S48111	S48110	280	0.014	8	0.12	0.024	19:04 hr	1.59	1.20
SWRGM-000459	SWRMH-008297	SWRMH-007464	S48109	S48125	275	0.008	8	0.27	0.099	19:16 hr	2.02	0.99
SWRGM-000460	SWRMH-007465	SWRMH-007464	S48124	S48125	185	0.01	8	0.04	0.002	19:01 hr	0.68	0.88
SWRGM-000461	SWRMH-007396	SWRMH-007399	S48129	S48126	352	0.008	8	0.08	0.009	19:05 hr	0.98	0.90
SWRGM-000462	SWRMH-007398	SWRMH-007396	S48127	S48129	250	0.009	8	0.07	0.006	19:02 hr	0.87	0.89
SWRGM-000463	SWRMH-007397	SWRMH-007398	S48128	S48127	250	0.01	8	0.05	0.003	19:01 hr	0.79	0.93
SWRGM-000464	SWRMH-007184	SWRMH-008297	S48131	S48109	235	0.007	8	0.23	0.066	19:27 hr	1.66	0.88
SWRGM-000465	SWRMH-007183	SWRMH-007182	S48132	S48133	260	0.012	8	0.05	0.004	19:01 hr	0.89	1.02
SWRGM-000466	SWRMH-007174	SWRMH-007173	S48141	S48142	213	0.007	8	0.20	0.049	19:25 hr	1.56	0.91
SWRGM-000467	SWRMH-007173	SWRMH-008298	S48142	S48108	215	0.02	8	0.16	0.05	19:26 hr	2.23	1.47
SWRGM-000468	SWRMH-007324	SWRMH-007323	S46113	S46114	175	0.009	8	0.08	0.009	19:02 hr	1.03	0.93
SWRGM-000469	SWRMH-007322	SWRMH-007321	S46115	S46116	165	0.012	8	0.05	0.003	19:02 hr	0.79	0.96
SWRGM-000470	SWRMH-008033	SWRMH-008030	U39157	U39160	170	0.008	8	0.08	0.009	19:06 hr	0.97	0.88
SWRGM-000471	SWRNJ-000266	SWRMH-007928	U38561	U38140	7	0.004	8	0.08	0.006	19:04 hr	0.69	0.64
SWRGM-000472	SWRMH-007930	SWRNJ-000266	U38138	U38561	138	0.006	8	0.08	0.006	19:03 hr	0.76	0.72
SWRGM-000473	SWRMH-000531	SWRMH-000532	Y35136	Y35135	260	0.039	8	0.04	0.005	19:04 hr	1.39	1.75
SWRGM-000474	SWRNJ-000148	SWRMH-000497	S38226	S38120	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000475	SWRMH-006597	SWRMH-000583	S39113	S38109	249	0.019	8	0.08	0.013	19:02 hr	1.48	1.34
SWRGM-000476	SWRMH-000601	SWRMH-000602	S38102	S38101	61	0.005	8	0.19	0.037	19:08 hr	1.23	0.73
SWRGM-000477	SWRNJ-000194	SWRMH-000573	S38229	S38128	144	0.004	8	0.18	0.032	19:06 hr	1.15	0.70
SWRGM-000478	SWRMH-000586	SWRMH-000587	S38106	S38105	118	0.019	8	0.04	0.003	19:01 hr	0.97	1.23
SWRGM-000479	SWRMH-000583	SWRMH-000587	S38109	S38105	260	0.019	8	0.10	0.019	19:03 hr	1.65	1.37
SWRGM-000480	SWRMH-001851	SWRMH-001856	S43143	S43138	254	0.005	8	0.06	0.003	19:02 hr	0.58	0.65
SWRGM-000481	SWRMH-007579	SWRMH-007578	T46119	T46120	300	0.011	8	0.03	0.001	19:02 hr	0.56	0.86
SWRGM-000482	SWRMH-007578	SWRMH-007577	T46120	T46121	120	0.01	8	0.05	0.004	19:02 hr	0.81	0.92
SWRGM-000483	SWRMH-007589	SWRMH-007590	T46109	T46108	300	0.008	8	0.07	0.007	19:04 hr	0.89	0.86
SWRGM-000484	SWRMH-007207	SWRMH-007206	S47147	S47148	219	0.018	8	0.04	0.002	19:01 hr	0.81	1.15
SWRGM-000485	SWRMH-007695	SWRMH-007486	S45104	T45134	266	0.008	8	0.07	0.005	19:04 hr	0.81	0.82
SWRGM-000486	SWRMH-007571	SWRMH-007510	T46127	T45110	310	0.022	8	0.05	0.004	19:03 hr	1.07	1.32
SWRGM-000487	SWRMH-007456	SWRMH-007449	T47127	T47134	264	0.01	8	0.16	0.039	19:08 hr	1.62	1.04
SWRGM-000488	SWRNJ-000643	SWRMH-000828	Z44156	Z44135	60	0.008	8	0.09	0.011	19:04 hr	1.03	0.90
SWRGM-000489	SWRNJ-000309	SWRMH-002311	U36279	U36117	27	0.04	8	0.10	0.027	19:10 hr	2.37	1.99
SWRGM-000490	SWRMH-002318	SWRNJ-000309	U36110	U36279	45	0.042	8	0.10	0.027	19:09 hr	2.42	2.04
SWRGM-000491	SWRMH-002055	SWRMH-002054	U36147	U36148	235	0.03	8	0.10	0.026	19:08 hr	2.12	1.73
SWRGM-000492	SWRMH-002056	SWRMH-002055	U36146	U36147	177	0.014	8	0.12	0.024	19:07 hr	1.59	1.21
SWRGM-000493	SWRMH-002057	SWRMH-002056	U36145	U36146	200	0.014	8	0.12	0.023	19:07 hr	1.57	1.20
SWRGM-000494	SWRMH-002046	SWRMH-002057	U36156	U36145	200	0.015	8	0.11	0.02	19:06 hr	1.53	1.21
SWRGM-000495	SWRMH-002047	SWRMH-002065	U36155	U36137	181	0.005	8	0.06	0.003	19:01 hr	0.59	0.66
SWRGM-000496	SWRMH-002316	SWRMH-002317	U36112	U36111	224	0.022	8	0.05	0.005	19:02 hr	1.17	1.35
SWRGM-000497	SWRMH-002315	SWRMH-002316	U36113	U36112	220	0.015	8	0.04	0.003	19:01 hr	0.83	1.07
SWRGM-000498	SWRMH-002067	SWRMH-002068	U36135	U36134	210	0.027	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000499	SWRMH-002317	SWRMH-002046	U36111	U36156	293	0.018	8	0.10	0.017	19:05 hr	1.57	1.33
SWRGM-000500	SWRMH-002319	SWRMH-002069	U36109	U36133	154	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000501	SWRMH-007795	SWRMH-007045	S46138	S46137	130	0.01	8	0.03	0.001	19:01 hr	0.54	0.84
SWRGM-000502	SWRMH-007045	SWRMH-007794	S46137	S46139	262	0.011	8	0.07	0.007	19:03 hr	0.99	0.98
SWRGM-000503	SWRMH-007786	SWRMH-000599	S46148	S46147	295	0.005	8	0.15	0.024	19:10 hr	1.10	0.73
SWRGM-000504	SWRMH-007328	SWRMH-007786	S46109	S46148	345	0.007	8	0.13	0.02	19:08 hr	1.20	0.87
SWRGM-000505	SWRMH-003848	SWRMH-003488	V37116	V37127	180	0.031	8	0.04	0.003	19:00 hr	1.12	1.54
SWRGM-000506	SWRMH-003488	SWRMH-003489	V37127	V37126	292	0.005	8	0.12	0.014	19:04 hr	0.93	0.71
SWRGM-000507	SWRMH-003858	SWRMH-003488	V37106	V37127	288	0.005	8	0.08	0.007	19:04 hr	0.75	0.69
SWRGM-000508	SWRMH-003851	SWRMH-003489	V37113	V37126	180	0.031	8	0.03	0.001	19:00 hr	0.89	1.46
SWRGM-000509	SWRMH-004205	SWRMH-003854	V37105	V37110	223	0.02	8	0.07	0.008	19:05 hr	1.31	1.33
SWRGM-000510	SWRMH-003854	SWRMH-003855	V37110	V37109	292	0.008	8	0.12	0.019	19:05 hr	1.20	0.90
SWRGM-000511	SWRMH-003849	SWRMH-003854	V37115	V37110	250	0.01	8	0.07	0.007	19:02 hr	0.97	0.95
SWRGM-000512	SWRMH-003850	SWRMH-003849	V37114	V37115	268	0.012	8	0.06	0.006	19:01 hr	0.96	1.02
SWRGM-000513	SWRCO-000720	SWRMH-007020	AA35101	AA35130	135	0.085	8	0.06	0.016	19:12 hr	2.65	2.75
SWRGM-000514	SWRCO-000719	SWRCO-000720	AA35102	AA35101	337	0.125	8	0.06	0.016	19:11 hr	3.03	3.28

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000515	SWRMH-007020	SWRMH-007021	AA35130	AA35129	302	0.006	8	0.12	0.016	19:15 hr	1.05	0.79
SWRGM-000516	SWRMH-002345	SWRMH-002346	S50110	S50109	382	0.01	8	0.12	0.022	19:10 hr	1.38	1.02
SWRGM-000517	SWRNJ-000153	SWRMH-002344	S50103	S50111	23	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000518	SWRNJ-000155	SWRMH-001964	S50104	S50115	23	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000519	SWRMH-002346	SWRMH-008284	S50109	S49101	270	0.01	8	0.12	0.022	19:11 hr	1.37	1.01
SWRGM-000520	SWRMH-008283	SWRMH-007177	S49102	S48138	300	0.012	8	0.13	0.026	19:22 hr	1.55	1.14
SWRGM-000521	SWRMH-008282	SWRMH-008283	S49103	S49102	320	0.011	8	0.13	0.026	19:21 hr	1.49	1.07
SWRGM-000522	SWRMH-007935	SWRMH-007936	U38133	U38132	269	0.016	8	0.04	0.003	19:02 hr	0.87	1.11
SWRGM-000525	SWRMH-001336	SWRMH-001335	Q45128	Q45129	205	0.015	8	0.09	0.013	19:04 hr	1.35	1.19
SWRGM-000526	SWRMH-007198	SWRMH-007199	S47155	S47154	265	0.021	8	0.37	0.282	19:39 hr	3.77	1.57
SWRGM-000527	SWRMH-007361	SWRMH-007360	S47119	S47120	202	0.01	8	0.31	0.148	19:24 hr	2.44	1.10
SWRGM-000528	SWRMH-007362	SWRMH-007361	S47118	S47119	207	0.013	8	0.30	0.148	19:23 hr	2.64	1.24
SWRGM-000529	SWRMH-007201	SWRMH-007199	S47152	S47154	59	0.02	8	0.12	0.028	19:11 hr	1.90	1.45
SWRGM-000530	SWRMH-007976	SWRMH-007195	R47102	S47158	314	0.005	8	0.55	0.274	19:31 hr	2.17	0.75
SWRGM-000531	SWRMH-007616	SWRMH-007778	R47110	S47163	149	0.006	8	0.16	0.03	19:08 hr	1.26	0.82
SWRGM-000532	SWRMH-007372	SWRMH-007328	S47108	S46109	344	0.014	8	0.09	0.013	19:06 hr	1.32	1.17
SWRGM-000533	SWRMH-007378	SWRMH-007327	S47102	S46110	355	0.014	8	0.05	0.004	19:03 hr	0.93	1.08
SWRGM-000534	SWRMH-007233	SWRMH-007051	S47164	S46131	200	0.014	8	0.14	0.032	19:11 hr	1.74	1.22
SWRGM-000535	SWRMH-007199	SWRMH-007326	S47154	S46111	310	0.018	8	0.40	0.309	19:39 hr	3.68	1.47
SWRGM-000536	SWRMH-007055	SWRMH-007056	S46127	S46126	93	0.01	8	0.20	0.057	19:14 hr	1.81	1.05
SWRGM-000537	SWRMH-007787	SWRMH-007788	S46146	S46145	150	0.004	8	0.17	0.027	19:14 hr	1.07	0.67
SWRGM-000538	SWRMH-007321	SWRMH-007340	S46116	S45157	180	0.008	8	0.11	0.015	19:03 hr	1.15	0.92
SWRGM-000539	SWRMH-007792	SWRMH-007786	S46141	S46148	139	0.012	8	0.03	0.001	19:00 hr	0.62	0.94
SWRGM-000540	SWRMH-007720	SWRMH-007719	U38159	U38160	182	0.004	8	0.06	0.003	19:01 hr	0.57	0.59
SWRGM-000541	SWRMH-007719	SWRMH-007714	U38160	U38165	38	0.003	8	0.17	0.024	19:05 hr	0.94	0.60
SWRGM-000542	SWRMH-007286	SWRMH-007303	T48153	T48136	350	0.011	8	0.13	0.026	19:10 hr	1.49	1.08
SWRGM-000543	SWRMH-007303	SWRMH-007287	T48136	T48152	297	0.008	8	0.14	0.027	19:12 hr	1.34	0.91
SWRGM-000544	SWRCO-000694	SWRMH-007285	T48103	T48154	100	0.008	8	0.03	0.001	19:00 hr	0.50	0.74
SWRGM-000545	SWRMH-007300	SWRMH-007293	T48139	T48146	271	0.026	8	0.03	0.002	19:01 hr	0.95	1.39
SWRGM-000546	SWRMH-000708	SWRMH-000706	R51133	R51135	119	0.004	8	0.11	0.011	19:05 hr	0.82	0.65
SWRGM-000547	SWRMH-000709	SWRMH-000708	R51132	R51133	317	0.005	8	0.10	0.009	19:05 hr	0.83	0.70
SWRGM-000548	SWRMH-007505	SWRMH-007501	T45115	T45119	274	0.004	8	0.19	0.035	19:11 hr	1.14	0.67
SWRGM-000549	SWRMH-003520	SWRNJ-000352	V36147	V36102	113	0.006	8	0.05	0.003	19:06 hr	0.60	0.69
SWRGM-000550	SWRNJ-000336	SWRMH-003523	V36101	V36144	35	0.006	8	0.12	0.015	19:05 hr	1.02	0.77
SWRGM-000551	SWRMH-003522	SWRNJ-000336	V36145	V36101	97	0.006	8	0.12	0.015	19:05 hr	1.01	0.77
SWRGM-000552	SWRMH-003517	SWRMH-003520	V36150	V36147	154	0.006	8	0.05	0.003	19:05 hr	0.60	0.69
SWRGM-000553	SWRMH-003512	SWRMH-003513	V36155	V36154	270	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000554	SWRMH-003513	SWRMH-003517	V36154	V36150	270	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000555	SWRMH-003518	SWRMH-003517	V36149	V36150	223	0.005	8	0.05	0.003	19:04 hr	0.59	0.67
SWRGM-000556	SWRMH-006706	SWRMH-006705	P45123	P45124	322	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000557	SWRMH-004620	SWRMH-004912	Y40122	Y41132	324	0.007	8	0.07	0.006	10:03 hr	0.83	0.81
SWRGM-000558	SWRNJ-000561	SWRMH-006463	Y45110	Y45124	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000559	SWRMH-000599	SWRMH-007787	S46147	S46146	335	0.004	8	0.17	0.026	19:13 hr	1.04	0.66
SWRGM-000560	SWRCO-000723	SWRMH-007324	S46103	S46113	111	0.009	8	0.04	0.002	19:00 hr	0.60	0.82
SWRGM-000561	SWRMH-007325	SWRMH-007332	S46112	S46105	290	0.01	8	0.06	0.005	19:02 hr	0.88	0.92
SWRGM-000562	SWRCO-000724	SWRMH-007064	S46102	S46118	110	0.013	8	0.03	0.001	19:00 hr	0.67	0.98
SWRGM-000563	SWRMH-007064	SWRMH-007334	S46118	S46103	350	0.015	8	0.05	0.004	19:02 hr	0.95	1.11
SWRGM-000564	SWRMH-007061	SWRMH-007062	S46121	S46120	132	0.005	8	0.06	0.003	19:01 hr	0.57	0.62
SWRGM-000565	SWRMH-007054	SWRMH-007055	S46128	S46127	200	0.006	8	0.22	0.056	19:14 hr	1.52	0.83
SWRGM-000566	SWRNJ-000728	SWRMH-004403	AA43132	AA43117	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000567	SWRNJ-000789	SWRMH-004052	AA38183	AA38164	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000570	SWRNJ-000409	SWRMH-003057	W34103	W34105	10	0.008	8	0.02	0	18:59 hr	0.40	0.72
SWRGM-000571	SWRNJ-000834	SWRMH-005563	AB47113	AB47126	10	0.004	8	0.10	0.008	10:00 hr	0.75	0.63
SWRGM-000572	SWRCO-000304	SWRMH-004059	Z40107	Z40129	165	0.019	8	0.04	0.003	19:00 hr	0.90	1.21
SWRGM-000573	SWRCO-000305	SWRMH-004059	Z40106	Z40129	201	0.019	8	0.04	0.003	19:01 hr	0.93	1.22
SWRGM-000575	SWRNJ-000696	SWRMH-005260	Z43101	Z43131	10	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000579	SWRMH-002049	SWRMH-002063	U36153	U36139	270	0.052	8	0.04	0.004	19:01 hr	1.47	2.00
SWRGM-000580	SWRNJ-000296	SWRMH-007802	U35131	U35110	33	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000581	SWRMH-007800	SWRNJ-000296	U35112	U35131	245	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000582	SWRMH-007799	SWRMH-007970	U35113	U35114	267	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000583	SWRMH-007839	SWRMH-007838	T48117	T48118	195	0.008	8	0.05	0.002	19:01 hr	0.63	0.79
SWRGM-000584	SWRMH-008133	SWRMH-007838	T48120	T48118	300	0.014	8	0.06	0.006	19:02 hr	1.05	1.12
SWRGM-000585	SWRCO-000677	SWRMH-007840	T48120	T48116	150	0.004	8	0.06	0.003	19:01 hr	0.53	0.58
SWRGM-000586	SWRMH-007842	SWRMH-007841	T48114	T48115	185	0.005	8	0.05	0.003	19:01 hr	0.59	0.67
SWRGM-000587	SWRMH-008126	SWRMH-008125	T48127	T48128	210	0.01	8	0.07	0.006	19:02 hr	0.95	0.97
SWRGM-000588	SWRMH-008127	SWRMH-008126	T48126	T48127	210	0.012	8	0.05	0.003	19:01 hr	0.82	0.98
SWRGM-000589	SWRMH-007293	SWRMH-007291	T48146	T48148	271	0.015	8	0.05	0.004	19:02 hr	0.97	1.12
SWRGM-000590	SWRMH-007291	SWRMH-007294	T48148	T48145	277	0.014	8	0.07	0.007	19:03 hr	1.09	1.11
SWRGM-000591	SWRMH-007262	SWRMH-007263	AA35115	AA35114	300	0.003	8	0.03	0.001	19:02 hr	0.30	0.48
SWRGM-000592	SWRMH-007263	SWRMH-007258	AA35114	AA35119	315	0.003	8	0.04	0.001	19:05 hr	0.39	0.52
SWRGM-000593	SWRMH-007261	SWRMH-007070	AA35116	AA35124	311	0.003	8	0.03	0.001	19:03 hr	0.34	0.49
SWRGM-000594	SWRMH-007070	SWRMH-007259	AA35124	AA35118	202	0.004	8	0.04	0.001	19:05 hr	0.38	0.52
SWRGM-000595	SWRMH-000479	SWRMH-000481	Y35130	Y35128	320	0.021	8	0.08	0.012	19:04 hr	1.47	1.39
SWRGM-000596	SWRMH-002891	SWRMH-000506	X35164	Y35114	219	0.004	8	0.14	0.019	19:14 hr	0.94	0.65
SWRGM-000597	SWRMH-000509	SWRMH-000516	Y35111	Y35104	85	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000598	SWRMH-000514	SWRMH-000509	Y35106	Y35111	85	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000599	SWRNJ-000745	SWRMH-000597	AA40145	AA41167	10	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000600	SWRMH-004584	SWRMH-000565	Y36153	Y35118	319	0.014	8	0.04	0.002	19:02 hr	0.73	1.02
SWRGM-000601	SWRMH-006960	SWRMH-000507	X36118	Y35113	187	0.018	8	0.13	0.035	19:23 hr	1.95	1.39
SWRGM-000602	SWRNJ-000182	SWRMH-009249	S38227	SP634MH9	90	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000603	SWRMH-000619	SWRMH-000502	S38132	S38115	150	0.004	8	0.22	0.046	19:10 hr	1.28	0.71
SWRGM-000604	SWRMH-007970	SWRMH-007800	U35114	U35112	290	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000605	SWRMH-007801	SWRMH-007800	U35111	U35112	237	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000606	SWRNJ-000295	SWRMH-007804	U35130	U35108	32	0.062	8	0.16	0.099	19:26 hr	4.08	2.61
SWRGM-000607	SWRMH-002068	SWRMH-007800	U36134	U35112	290	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000608	SWRMH-007840	SWRMH-008107	T48116	T47140	315	0.039	8	0.04	0.004	19:02 hr	1.29	1.73
SWRGM-000609	SWRMH-007844	SWRMH-008109	T48112	T47138	344	0.015	8	0.08	0.011	19:06 hr	1.27	1.19
SWRGM-000610	SWRMH-003674	SWRMH-007848	U48137	T48108	118	0.01	8	0.06	0.005	19:00 hr	0.84	0.91
SWRGM-000611	SWRMH-007847	SWRMH-003674	T48109	U48137	150	0.031	8	0.04	0.003	19:00 hr	1.13	1.53
SWRGM-000612	SWRMH-003709	SWRMH-007852	U48102	T48104	309	0.005	8	0.09	0.008	10:12 hr	0.77	0.67
SWRGM-000613	SWRMH-008123	SWRMH-008124	T48130	T48129	277	0.011	8	0.08	0.009	19:03 hr	1.08	1.01

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000614	SWRMH-008125	SWRMH-008131	T48128	T48122	258	0.013	8	0.07	0.009	19:03 hr	1.15	1.10
SWRGM-000615	SWRMH-008134	SWRMH-008133	T48119	T48120	195	0.007	8	0.06	0.004	19:01 hr	0.73	0.80
SWRGM-000616	SWRMH-007597	SWRMH-007598	U38188	U38187	314	0.009	8	0.10	0.012	19:05 hr	1.12	0.95
SWRGM-000617	SWRMH-007928	SWRMH-007927	U38140	U38141	127	0.005	8	0.20	0.043	19:08 hr	1.36	0.79
SWRGM-000618	SWRMH-001349	SWRMH-001350	Q45115	Q45114	340	0.005	8	0.40	0.163	19:32 hr	1.92	0.77
SWRGM-000619	SWRMH-001332	SWRMH-001827	Q45132	R45117	350	0.013	8	0.08	0.009	19:04 hr	1.18	1.11
SWRGM-000620	SWRMH-001335	SWRMH-001334	Q45129	Q45130	350	0.015	8	0.10	0.018	19:05 hr	1.49	1.22
SWRGM-000621	SWRMH-001334	SWRMH-001932	Q45130	R45108	363	0.016	8	0.11	0.021	19:07 hr	1.61	1.27
SWRGM-000622	SWRMH-000883	SWRMH-000885	P46158	P46149	202	0.005	8	0.03	0.001	19:02 hr	0.38	0.59
SWRGM-000623	SWRMH-002072	SWRMH-002074	U36130	U36128	181	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000624	SWRCO-000676	SWRMH-007841	T48121	T48115	117	0.031	8	0.02	0.001	19:00 hr	0.73	1.38
SWRGM-000625	SWRMH-006705	SWRMH-006989	P45124	P44160	322	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000626	SWRMH-006980	SWRMH-006979	P45101	P45102	296	0.005	8	0.07	0.005	19:02 hr	0.72	0.71
SWRGM-000627	SWRMH-007963	SWRMH-007964	U38105	U38104	185	0.007	8	0.05	0.003	19:01 hr	0.66	0.78
SWRGM-000628	SWRMH-007964	SWRMH-007965	U38104	U38103	178	0.007	8	0.07	0.005	19:02 hr	0.79	0.81
SWRGM-000629	SWRMH-007945	SWRMH-007956	U38123	U38112	295	0.012	8	0.06	0.004	19:03 hr	0.90	1.00
SWRGM-000630	SWRMH-007600	SWRMH-007602	U38185	U38183	189	0.005	8	0.14	0.021	19:09 hr	1.10	0.77
SWRGM-000631	SWRMH-007598	SWRMH-007600	U38187	U38185	313	0.006	8	0.13	0.018	19:08 hr	1.09	0.80
SWRGM-000632	SWRNJ-000804	SWRMH-004288	AA43126	AA43124	30	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000638	SWRNJ-000749	SWRMH-006356	AA42121	AA42101	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000639	SWRNJ-000488	SWRMH-006002	X38104	X38115	10	0.008	8	0.02	0	18:59 hr	0.33	0.69
SWRGM-000640	SWRNJ-000410	SWRMH-004277	W38101	W38154	10	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000641	SWRNJ-000571	SWRMH-005472	Y43102	Y43113	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000642	SWRNJ-000574	SWRMH-005472	Y43101	Y43113	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000643	SWRNJ-000726	SWRMH-004375	AA42141	AA42192	10	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000644	SWRNJ-000473	SWRMH-006026	X40185	x40102	29	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000645	SWRMH-004783	SWRMH-004831	AA42130	AA42124	159	0.019	8	0.27	0.143	19:13 hr	2.99	1.48
SWRGM-000646	SWRNJ-000715	SWRMH-004016	AA41221	AA41159	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000647	SWRNJ-000317	SWRMH-003164	V47110	V47166	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000648	SWRNJ-000713	SWRMH-005641	AA43139	AA43104	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000650	SWRMH-006006	SWRMH-006005	X38111	X38112	10	0.004	8	0.03	0.001	19:06 hr	0.37	0.54
SWRGM-000651	SWRNJ-000430	SWRMH-005306	W38106	W38123	10	0.002	8	0.03	0	19:00 hr	0.24	0.37
SWRGM-000652	SWRMH-004311	SWRMH-004915	Y41149	Y41129	11	0.001	8	0.12	0.007	19:02 hr	0.42	0.31
SWRGM-000653	SWRNJ-000617	SWRMH-004314	Y41104	Y41146	28	0.019	8	0.06	0.007	19:00 hr	1.22	1.30
SWRGM-000654	SWRNJ-000544	SWRMH-005176	Y41109	Y41119	10	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000657	SWRCO-000570	SWRMH-004089	AA39101	AA39133	89	0.012	8	0.03	0.001	19:00 hr	0.54	0.89
SWRGM-000661	SWRNJ-000825	SWRMH-005583	AB44102	AB44104	15	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000662	SWRNJ-000616	SWRMH-004311	Y41103	Y41149	10	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000663	SWRNJ-000746	SWRMH-005292	AA42131	AA42114	10	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000664	SWRMH-004312	SWRMH-004915	Y41148	Y41129	128	0.006	8	0.39	0.161	10:26 hr	1.99	0.81
SWRGM-000665	SWRNJ-000818	SWRNJ-000819	AB43101	AB43103	30	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000666	SWRMH-006116	SWRMH-006144	AA36275	AA36136	240	0.025	8	0.04	0.003	19:09 hr	1.03	1.38
SWRGM-000667	SWRMH-006119	SWRMH-006121	AA36151	AA36149	178	0.001	8	0.20	0.023	19:11 hr	0.70	0.40
SWRGM-000668	SWRMH-006120	SWRMH-006119	AA36150	AA36151	186	0.002	8	0.11	0.008	19:04 hr	0.57	0.45
SWRGM-000671	SWRNJ-000403	SWRMH-003087	W33101	W33108	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000672	SWRNJ-000741	SWRMH-001223	AA47101	AA47134	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000673	SWRMH-001269	SWRMH-001239	AA46128	AA46158	181	0.043	8	0.14	0.055	19:08 hr	3.03	2.15
SWRGM-000674	SWRMH-001240	SWRMH-001269	AA46157	AA46128	144	0.043	8	0.13	0.047	19:08 hr	2.88	2.13
SWRGM-000675	SWRNJ-000262	SWRMH-001520	U40102	U40166	55	0.032	8	0.03	0.002	19:01 hr	1.05	1.52
SWRGM-000676	SWRNJ-000381	SWRMH-003188	V47109	V47142	8	0.01	8	0.02	0.001	19:00 hr	0.45	0.80
SWRGM-000678	SWRMH-000555	SWRMH-000547	Y35153	Y35161	119	0.022	8	0.07	0.009	19:02 hr	1.39	1.40
SWRGM-000679	SWRMH-002950	SWRMH-000554	X35105	Y35154	291	0.035	8	0.05	0.007	19:02 hr	1.53	1.72
SWRGM-000680	SWRMH-002905	SWRMH-002891	X35150	X35164	317	0.044	8	0.08	0.018	19:13 hr	2.18	2.03
SWRGM-000681	SWRNJ-000200	SWRMH-007038	T38426	T38172	42	0.01	8	0.05	0.003	19:05 hr	0.71	0.88
SWRGM-000682	SWRMH-007797	SWRMH-007923	U38146	U38145	240	0.011	8	0.18	0.053	19:10 hr	1.85	1.11
SWRGM-000683	SWRMH-007923	SWRMH-007925	U38145	U38143	196	0.019	8	0.16	0.054	19:12 hr	2.25	1.44
SWRGM-000684	SWRMH-007057	SWRMH-007052	S46125	S46130	188	0.014	8	0.08	0.011	19:04 hr	1.24	1.14
SWRGM-000685	SWRMH-007794	SWRMH-007335	S46139	S46102	203	0.009	8	0.09	0.01	19:04 hr	1.07	0.95
SWRGM-000686	SWRMH-007065	SWRMH-007322	S46117	S46115	165	0.011	8	0.04	0.002	19:01 hr	0.69	0.92
SWRGM-000688	SWRMH-006305	SWRMH-006304	Y45137	Y45138	147	0.01	8	0.04	0.002	19:01 hr	0.68	0.87
SWRGM-000689	SWRMH-008387	SWRMH-008386	U47128	U47129	312	0.012	8	0.24	0.097	19:14 hr	2.31	1.21
SWRGM-000690	SWRMH-007716	SWRMH-007717	U38163	U38162	270	0.004	8	0.27	0.067	19:11 hr	1.38	0.68
SWRGM-000691	SWRNJ-000670	SWRMH-004024	Z40102	Z40152	10	0.04	8	0.02	0.001	18:59 hr	0.90	1.60
SWRGM-000692	SWRNJ-000753	SWRMH-002610	AA40144	AA40104	10	0.019	8	0.33	0.22	19:36 hr	3.37	1.48
SWRGM-000693	SWRNJ-000240	SWRMH-007555	T46452	T46143	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000696	SWRNJ-000849	SWRMH-008136	AB31116	AB31108	10	0.026	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000697	SWRNJ-000668	SWRMH-007170	Z35152	Z35103	10	0.009	8	0.01	0	18:59 hr	0.28	0.69
SWRGM-000698	SWRMH-007062	SWRMH-007063	S46120	S46119	180	0.004	8	0.07	0.005	19:02 hr	0.64	0.64
SWRGM-000699	SWRMH-007060	SWRMH-007053	S46122	S46129	245	0.015	8	0.05	0.004	19:02 hr	0.96	1.12
SWRGM-000700	SWRMH-007059	SWRMH-007058	S46123	S46124	165	0.007	8	0.05	0.003	19:01 hr	0.65	0.77
SWRGM-000701	SWRMH-007058	SWRMH-007057	S46124	S46125	118	0.013	8	0.08	0.009	19:03 hr	1.14	1.09
SWRGM-000703	SWRMH-005313	SWRMH-004657	Z43126	Z43155	54	0.012	8	0.12	0.024	19:06 hr	1.50	1.11
SWRGM-000704	SWRNJ-000568	SWRMH-004295	Y40169	Y40133	10	0.032	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000705	SWRCO-000361	SWRCO-000367	AA47111	AA47107	59	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000707	SWRNJ-000815	SWRMH-006144	AB36153	AA36136	157	0.002	8	0.19	0.024	19:39 hr	0.82	0.49
SWRGM-000708	SWRMH-006622	SWRMH-004116	Z39104	Z39118	292	0.025	8	0.16	0.057	10:17 hr	2.54	1.67
SWRGM-000709	SWRNJ-000369	SWRMH-006385	V43101	V43105	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000710	SWRNJ-000843	SWRMH-008457	AB41235	AB41102	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000711	SWRNJ-000842	SWRMH-008457	AB41236	AB41102	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000712	SWRMH-008436	SWRMH-008435	AB36103	AB36104	333	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000713	SWRMH-008435	SWRMH-008434	AB36104	AB36105	353	0.07	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000714	SWRNJ-000855	SWRMH-008456	AB41234	AB41103	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000715	SWRNJ-000819	SWRMH-004926	AB43103	AB43106	246	0.033	8	0.04	0.003	10:04 hr	1.19	1.59
SWRGM-000716	SWRMH-004927	SWRNJ-000819	AB43105	AB43103	230	0.033	8	0.04	0.003	10:03 hr	1.20	1.59
SWRGM-000717	SWRNJ-000432	SWRMH-004385	W38104	W38149	10	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000718	SWRMH-006139	SWRMH-006734	AA36141	AA37121	178	0.052	8	0.03	0.003	19:01 hr	1.28	1.92
SWRGM-000719	SWRNJ-000575	SWRMH-006464	Y45112	Y45123	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000720	SWRNJ-000576	SWRMH-006464	Y45113	Y45123	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000721	SWRMH-004239	SWRMH-005342	X42146	X42120	189	0.02	8	0.26	0.138	10:36 hr	3.02	1.53
SWRGM-000722	SWRMH-004831	SWRMH-005986	AA42124	AA42108	191	0.025	8	0.25	0.145	19:14 hr	3.30	1.69
SWRGM-000723	SWRNJ-000560	SWRMH-006463	Y45109	Y45124	10	0.008	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000724	SWRNJ-000550	SWRMH-005541	Y38231	Y38119	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000726	SWRMH-005911	SWRMH-005663	AB48107	AB48123	81	0.016	8	0.08	0.012	10:07 hr	1.34	1.23
SWRGM-000727	SWRMH-006728	SWRMH-006263	AA36110	AA36129	227	0.061	8	0.14	0.071	19:30 hr	3.68	2.56
SWRGM-000728	SWRNJ-000545	SWRMH-004407	Y40120	Y40124	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000729	SWRNJ-000714	SWRMH-004016	AA41222	AA41159	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000730	SWRMH-004838	SWRMH-005290	AA42121	AA42116	34	0.003	8	0.37	0.11	19:07 hr	1.48	0.62
SWRGM-000731	SWRCO-000521	SWRMH-005992	Z42106	Z42104	100	0.01	8	0.02	0	19:00 hr	0.43	0.79
SWRGM-000738	SWRNJ-000811	SWRNJ-000809	AA36172	AA36171	36	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000739	SWRNJ-000569	SWRMH-004406	Y40118	Y40125	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000740	SWRMH-004996	SWRMH-004226	Y43134	Y43151	159	0.028	8	0.09	0.02	10:21 hr	1.92	1.65
SWRGM-000741	SWRNJ-000343	SWRMH-003575	V35102	V35104	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000742	SWRMH-006730	SWRMH-006729	AA36108	AA36109	302	0.061	8	0.14	0.067	19:30 hr	3.63	2.55
SWRGM-000743	SWRCO-000690	SWRCO-000691	T48107	T48106	86	0.008	8	0.04	0.002	10:02 hr	0.62	0.81
SWRGM-000744	SWRCO-000679	SWRCO-000678	T48118	T48119	94	0.011	8	0.08	0.01	10:02 hr	1.15	1.05
SWRGM-000745	SWRCO-000695	SWRCO-000688	T48102	T48109	100	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000746	SWRCO-000689	SWRCO-000690	T48108	T48107	86	0.008	8	0.04	0.002	10:02 hr	0.62	0.81
SWRGM-000747	SWRMH-007855	SWRCO-000689	T48101	T48108	86	0.008	8	0.04	0.002	10:01 hr	0.61	0.80
SWRGM-000749	SWRNJ-000620	SWRMH-004346	Y44101	Y44132	10	0.008	8	0.01	0	18:59 hr	0.28	0.66
SWRGM-000750	SWRMH-006274	SWRMH-006118	AA36118	AA36152	270	0.01	8	0.10	0.015	19:10 hr	1.21	0.99
SWRGM-000751	SWRNJ-000239	SWRMH-007296	T48415	T48143	10	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000752	SWRNJ-000333	SWRMH-006373	V41101	V41111	10	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000754	SWRMH-004338	SWRMH-005216	AB36107	AB37123	241	0.013	8	0.18	0.052	19:37 hr	1.94	1.19
SWRGM-000755	SWRNJ-000065	SWRMH-006472	Q51122	Q51109	15	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000757	SWRMH-007494	SWRNJ-000257	T45126	T45332	71	0.013	8	0.02	0	10:00 hr	0.42	0.87
SWRGM-000758	SWRNJ-000264	SWRMH-008075	U39371	U39115	8	0.005	8	0.07	0.005	19:02 hr	0.67	0.67
SWRGM-000759	SWRNJ-000408	SWRMH-003056	W34105	W34106	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000760	SWRNJ-000407	SWRMH-003057	W34104	W34105	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000761	SWRNJ-000021	SWRMH-003050	L46101	L46101	15	0.001	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000762	SWRNJ-000406	SWRMH-003058	W34101	W34104	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000763	SWRFT-000049	SWRMH-003950	W41110	W40148	315	0.009	8	0.23	0.074	19:08 hr	1.87	1.00
SWRGM-000764	SWRMH-004932	SWRFT-000049	W41104	W41110	15	0.036	8	0.16	0.074	19:06 hr	3.11	2.00
SWRGM-000765	SWRMH-001232	SWRMH-009064	SDMH001232	SP652MH27	65	0.029	8	0.35	0.304	19:41 hr	4.30	1.84
SWRGM-000766	SWRNJ-000449	SWRMH-006052	W48105	W48122	10	0.01	8	0.05	0.004	10:00 hr	0.80	0.92
SWRGM-000767	SWRMH-006734	SWRMH-006140	AA37121	AA36140	191	0.052	8	0.03	0.003	19:01 hr	1.32	1.94
SWRGM-000768	SWRNJ-000854	SWRMH-008456	AB41233	AB41103	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000771	SWRMH-000780	SWRMH-000783	P49113	P49110	320	0.021	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000772	SWRMH-000785	SWRMH-000784	P49108	P49109	265	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000773	SWRNJ-000053	SWRMH-000791	P49102	P49102	12	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000774	SWRMH-000789	SWRNJ-000053	P49104	P49102	336	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000775	SWRMH-000787	SWRMH-000790	P49106	P49103	221	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000776	SWRMH-007459	SWRMH-007456	T47124	T47127	264	0.017	8	0.13	0.032	19:07 hr	1.84	1.32
SWRGM-000777	SWRMH-008109	SWRMH-008110	T47138	T47137	162	0.004	8	0.18	0.03	19:12 hr	1.08	0.66
SWRGM-000778	SWRMH-007448	SWRMH-007450	T47135	T47133	72	0.007	8	0.49	0.274	19:35 hr	2.51	0.91
SWRGM-000779	SWRMH-007534	SWRMH-007535	T46180	T46179	215	0.009	8	0.06	0.005	19:02 hr	0.84	0.90
SWRGM-000780	SWRMH-007552	SWRMH-007551	T46146	T46147	350	0.007	8	0.05	0.003	19:03 hr	0.63	0.75
SWRGM-000781	SWRMH-007560	SWRMH-007559	T46138	T46139	231	0.011	8	0.04	0.002	19:01 hr	0.67	0.92
SWRGM-000782	SWRMH-007562	SWRMH-007561	T46136	T46137	238	0.012	8	0.05	0.003	19:01 hr	0.82	0.98
SWRGM-000783	SWRMH-007561	SWRMH-007555	T46137	T46143	281	0.008	8	0.11	0.016	19:05 hr	1.17	0.92
SWRGM-000784	SWRMH-007530	SWRMH-008312	T46184	T46170	250	0.014	8	0.05	0.004	19:01 hr	0.91	1.09
SWRGM-000785	SWRMH-007728	SWRMH-007727	U38151	U38152	76	0.004	8	0.06	0.003	19:02 hr	0.54	0.58
SWRGM-000786	SWRMH-007951	SWRMH-007952	U38117	U38116	128	0.005	8	0.09	0.007	19:04 hr	0.78	0.69
SWRGM-000787	SWRMH-007933	SWRMH-007934	U38135	U38134	100	0.005	8	0.04	0.001	19:01 hr	0.47	0.62
SWRGM-000788	SWRMH-007934	SWRMH-007935	U38134	U38133	79	0.005	8	0.04	0.001	19:01 hr	0.47	0.62
SWRGM-000789	SWRMH-007711	SWRMH-007712	U38168	U38167	240	0.007	8	0.10	0.011	19:04 hr	1.02	0.86
SWRGM-000790	SWRMH-007712	SWRMH-007707	U38167	U38172	189	0.029	8	0.07	0.012	19:05 hr	1.64	1.61
SWRGM-000791	SWRMH-002013	SWRMH-008163	S44133	T44173	195	0.012	8	0.05	0.004	19:01 hr	0.89	1.02
SWRGM-000792	SWRMH-002011	SWRMH-008190	S44135	T44148	194	0.015	8	0.05	0.004	19:01 hr	0.93	1.11
SWRGM-000793	SWRMH-002019	SWRMH-008191	S44127	T44147	194	0.014	8	0.05	0.004	19:01 hr	0.91	1.09
SWRGM-000794	SWRMH-008184	SWRMH-008156	T44154	T44180	137	0.005	8	0.09	0.008	19:04 hr	0.80	0.71
SWRGM-000796	SWRMH-002012	SWRMH-008192	S44134	T44146	194	0.013	8	0.05	0.004	19:01 hr	0.87	1.03
SWRGM-000797	SWRMH-008163	SWRMH-008192	T44173	T44146	278	0.01	8	0.06	0.005	19:03 hr	0.87	0.92
SWRGM-000798	SWRMH-008192	SWRMH-008191	T44146	T44147	323	0.015	8	0.08	0.009	19:05 hr	1.25	1.20
SWRGM-000799	SWRMH-008683	SWRMH-008183	T44104	T44155	185	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000800	SWRMH-000679	SWRMH-008683	T44104	T44155	32	0.008	8	0.34	0.158	19:40 hr	2.29	0.99
SWRGM-000801	SWRMH-007053	SWRMH-007054	S46129	S46128	350	0.012	8	0.18	0.053	19:13 hr	1.91	1.16
SWRGM-000802	SWRCO-000863	SWRMH-007325	S46101	S46112	100	0.015	8	0.03	0.001	19:00 hr	0.65	1.02
SWRGM-000803	SWRMH-000600	SWRMH-007324	S46101	S46113	197	0.009	8	0.07	0.006	19:01 hr	0.90	0.89
SWRGM-000804	SWRMH-007323	SWRMH-007321	S46114	S46116	150	0.017	8	0.08	0.01	19:02 hr	1.31	1.24
SWRGM-000805	SWRNJ-000152	SWRMH-007790	S46343	S46143	10	0.004	8	0.03	0.001	19:00 hr	0.36	0.54
SWRGM-000806	SWRMH-007326	SWRMH-007789	S46111	S46144	320	0.014	8	0.43	0.31	19:41 hr	3.34	1.29
SWRGM-000807	SWRMH-007789	SWRMH-007790	S46144	S46143	328	0.009	8	0.49	0.311	19:43 hr	2.81	1.02
SWRGM-000808	SWRMH-007790	SWRMH-007788	S46143	S46145	340	0.004	8	0.63	0.311	19:46 hr	2.10	0.70
SWRGM-000809	SWRNJ-000421	SWRMH-005670	W47101	W47143	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000810	SWRNJ-000709	SWRMH-004324	AA42191	AA42146	10	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000811	SWRNJ-000723	SWRMH-004323	AA42190	AA42147	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000812	SWRNJ-000777	SWRMH-005484	AA42188	AA42109	10	0.008	8	0.12	0.018	19:00 hr	1.21	0.91
SWRGM-000813	SWRNJ-000657	SWRMH-005529	Z43103	Z43118	10	0.004	8	0.16	0.025	19:00 hr	1.04	0.67
SWRGM-000814	SWRNJ-000695	SWRMH-005260	Z43102	Z43131	10	0.008	8	0.02	0.001	18:59 hr	0.42	0.72
SWRGM-000817	SWRMH-007063	SWRMH-002162	S46119	R46157	156	0.017	8	0.06	0.006	19:02 hr	1.12	1.21
SWRGM-000818	SWRMH-008016	SWRMH-008019	U39174	U39171	191	0.004	8	0.24	0.055	19:13 hr	1.30	0.68
SWRGM-000819	SWRMH-008020	SWRMH-008016	U39170	U39174	241	0.014	8	0.16	0.047	19:12 hr	1.94	1.24
SWRGM-000820	SWRMH-008052	SWRMH-008053	U39138	U39137	105	0.012	8	0.04	0.002	19:00 hr	0.71	0.94
SWRGM-000821	SWRMH-008065	SWRMH-008064	U39125	U39126	272	0.032	8	0.07	0.011	19:03 hr	1.70	1.70
SWRGM-000822	SWRMH-001520	SWRMH-008065	U40166	U39125	278	0.005	8	0.08	0.007	19:02 hr	0.75	0.68
SWRGM-000823	SWRMH-008595	SWRMH-008597	U39106	U39104	320	0.008	8	0.08	0.008	19:05 hr	0.95	0.87
SWRGM-000824	SWRMH-008594	SWRMH-008595	U39107	U39106	328	0.004	8	0.07	0.004	19:03 hr	0.59	0.60
SWRGM-000825	SWRMH-007995	SWRMH-007996	U39182	U39181	300	0.005	8	0.07	0.004	19:02 hr	0.65	0.65
SWRGM-000826	SWRNJ-000273	SWRMH-008077	U39367	U39113	104	0.006	8	0.35	0.137	19:26 hr	1.93	0.82
SWRGM-000828	SWRMH-008434	SWRMH-008440	AB36105	AB36101	222	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000829	SWRMH-008440	SWRMH-008439	AB36101	AB36102	249	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000830	SWRMH-004086	SWRMH-005774	AA39136	AA39115	16	0.006	12	0.71	1.367	20:06 hr	3.55	0.93

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000835	SWRNJ-000548	SWRMH-005757	Y43103	Y43110	10	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000836	SWRCO-000683	SWRCO-000684	T48114	T48113	97	0.007	8	0.09	0.011	10:03 hr	1.00	0.85
SWRGM-000837	SWRMH-006265	SWRMH-006264	AA36127	AA36128	202	0.065	8	0.04	0.006	19:05 hr	1.76	2.26
SWRGM-000839	SWRNJ-000699	SWRMH-001235	AA46109	AA46162	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000840	SWRCO-000647	SWRNJ-000837	AB46104	AB46107	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000842	SWRMH-006729	SWRMH-006728	AA36109	AA36110	292	0.061	8	0.14	0.07	19:30 hr	3.67	2.56
SWRGM-000843	SWRNJ-000505	SWRMH-005921	X47103	X47106	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000844	SWRNJ-000503	SWRMH-005924	X47102	X47103	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000846	SWRMH-006732	SWRMH-006731	AA36106	AA36107	124	0.059	8	0.14	0.065	19:30 hr	3.54	2.50
SWRGM-000847	SWRMH-006731	SWRMH-006730	AA36107	AA36108	321	0.061	8	0.14	0.066	19:30 hr	3.61	2.55
SWRGM-000848	SWRNJ-000681	SWRMH-001210	Z47101	Z47108	10	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000849	SWRNJ-000370	SWRMH-006389	V43103	V43101	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000851	SWRMH-006123	SWRMH-006122	AA36147	AA36148	270	0.052	8	0.05	0.008	19:01 hr	1.79	2.09
SWRGM-000852	SWRMH-006118	SWRCO-000504	AA36152	AA36102	120	0.189	8	0.05	0.015	19:10 hr	3.41	3.96
SWRGM-000853	SWRCO-000504	SWRMH-006119	AA36102	AA36151	185	0.187	8	0.05	0.015	19:10 hr	3.41	3.94
SWRGM-000854	SWRMH-001525	SWRNJ-000262	U40161	U40102	187	0.032	8	0.03	0.002	19:00 hr	1.06	1.54
SWRGM-000856	SWRMH-002467	SWRMH-002623	R44108	R44101	294	0.033	8	0.02	0.001	19:01 hr	0.84	1.46
SWRGM-000857	SWRMH-001396	SWRMH-001419	Q44124	Q43109	267	0.011	8	0.10	0.015	19:04 hr	1.27	1.04
SWRGM-000858	SWRMH-007056	SWRMH-007329	S46126	S46108	85	0.018	8	0.17	0.057	19:15 hr	2.23	1.40
SWRGM-000859	SWRMH-007052	SWRMH-007053	S46130	S46129	257	0.011	8	0.17	0.046	19:11 hr	1.79	1.12
SWRGM-000860	SWRMH-007788	SWRMH-007791	S46145	S46142	206	0.004	8	0.66	0.338	19:47 hr	2.13	0.69
SWRGM-000861	SWRMH-007334	SWRMH-007337	S46103	S45160	151	0.011	8	0.06	0.006	19:03 hr	0.96	1.00
SWRGM-000862	SWRMH-007332	SWRMH-007682	S46105	S45117	350	0.004	8	0.10	0.009	19:05 hr	0.76	0.63
SWRGM-000863	SWRCO-000584	SWRMH-007664	S45102	S45135	140	0.016	8	0.03	0.001	19:00 hr	0.72	1.08
SWRGM-000864	SWRMH-007351	SWRNJ-000171	S45146	S45496	152	0.008	8	0.08	0.008	19:02 hr	0.95	0.88
SWRGM-000865	SWRMH-007679	SWRMH-007680	S45120	S45119	258	0.014	8	0.21	0.074	19:12 hr	2.20	1.25
SWRGM-000866	SWRMH-007678	SWRMH-007679	S45121	S45120	261	0.014	8	0.19	0.064	19:11 hr	2.14	1.27
SWRGM-000867	SWRMH-007677	SWRMH-007678	S45122	S45121	262	0.015	8	0.18	0.056	19:10 hr	2.10	1.29
SWRGM-000868	SWRMH-007654	SWRMH-007351	S45145	S45146	200	0.007	8	0.08	0.007	19:01 hr	0.89	0.84
SWRGM-000869	SWRNJ-000285	SWRMH-008047	U39370	U39143	52	0.004	8	0.26	0.063	19:08 hr	1.34	0.67
SWRGM-000870	SWRMH-008057	SWRNJ-000285	U39133	U39370	120	0.004	8	0.25	0.063	19:08 hr	1.40	0.71
SWRGM-000872	SWRMH-000757	SWRMH-000755	P49123	P49124	350	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000873	SWRMH-000769	SWRMH-000764	P49119	P49120	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000874	SWRMH-000770	SWRMH-000769	P49118	P49119	282	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000875	SWRMH-000764	SWRMH-000735	P49120	P49141	350	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000876	SWRMH-000821	SWRMH-000822	Z44142	Z44141	270	0.006	8	0.10	0.011	19:02 hr	0.91	0.76
SWRGM-000877	SWRMH-001550	SWRMH-001553	R44193	R44190	243	0.005	8	0.20	0.042	19:40 hr	1.32	0.77
SWRGM-000878	SWRMH-001551	SWRMH-001550	R44192	R44193	330	0.006	8	0.19	0.04	19:38 hr	1.38	0.82
SWRGM-000879	SWRMH-001553	SWRMH-001549	R44190	R44194	87	0.006	8	0.33	0.12	19:27 hr	1.86	0.82
SWRGM-000880	SWRMH-001574	SWRMH-001555	R44169	R44188	200	0.008	8	0.23	0.068	19:10 hr	1.76	0.95
SWRGM-000881	SWRMH-008021	SWRMH-007997	U39169	U39180	137	0.018	8	0.13	0.035	19:10 hr	1.95	1.39
SWRGM-000882	SWRMH-008028	SWRNJ-000298	U39162	U39369	128	0.004	8	0.19	0.034	19:10 hr	1.13	0.67
SWRGM-000883	SWRNJ-000298	SWRMH-008035	U39369	U39155	42	0.004	8	0.19	0.034	19:10 hr	1.12	0.66
SWRGM-000884	SWRMH-008031	SWRMH-008028	U39159	U39162	212	0.024	8	0.04	0.004	19:02 hr	1.08	1.37
SWRGM-000885	SWRMH-008046	SWRMH-007991	U39144	U39186	172	0.004	8	0.26	0.063	19:11 hr	1.35	0.68
SWRGM-000886	SWRMH-007988	SWRMH-007987	U39189	U39190	164	0.008	8	0.23	0.071	19:15 hr	1.80	0.96
SWRGM-000887	SWRMH-007989	SWRMH-007988	U39188	U39189	239	0.014	8	0.20	0.07	19:14 hr	2.16	1.25
SWRGM-000888	SWRMH-001341	SWRMH-001342	Q45123	Q45122	189	0.006	8	0.09	0.008	19:02 hr	0.87	0.78
SWRGM-000889	SWRMH-001339	SWRMH-001338	Q45125	Q45126	103	0.005	8	0.07	0.004	19:03 hr	0.66	0.66
SWRGM-000890	SWRMH-001345	SWRMH-001347	Q45119	Q45117	350	0.007	8	0.11	0.014	19:07 hr	1.06	0.85
SWRGM-000891	SWRMH-001354	SWRMH-001349	Q45110	Q45115	164	0.039	8	0.09	0.023	19:11 hr	2.26	1.95
SWRGM-000892	SWRMH-007949	SWRMH-007951	U38119	U38117	140	0.005	8	0.08	0.006	19:03 hr	0.70	0.65
SWRGM-000893	SWRMH-000822	SWRNJ-000643	Z44141	Z44156	200	0.006	8	0.10	0.011	19:03 hr	0.91	0.76
SWRGM-000895	SWRMH-000828	SWRMH-000823	Z44135	Z44140	293	0.006	8	0.10	0.011	19:06 hr	0.93	0.78
SWRGM-000896	SWRMH-000823	SWRMH-000829	Z44140	Z44134	270	0.005	8	0.10	0.011	19:08 hr	0.89	0.73
SWRGM-000897	SWRCO-000687	SWRMH-007270	T48110	T48169	97	0.006	8	0.10	0.011	10:05 hr	0.95	0.80
SWRGM-000898	SWRCO-000686	SWRCO-000687	T48111	T48110	97	0.007	8	0.09	0.011	10:05 hr	1.00	0.85
SWRGM-000902	SWRNJ-000829	SWRMH-001063	AB45122	AB45115	11	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000903	SWRMH-004357	SWRMH-004239	X42134	X42146	96	0.022	8	0.04	0.003	10:02 hr	0.94	1.28
SWRGM-000904	SWRNJ-000828	SWRMH-001063	AB45115	AB45115	11	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000905	SWRMH-008439	SWRMH-000693	AB36102	AB35101	395	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000906	SWRMH-008546	SWRMH-008547	AA37108	AA37107	305	0.005	8	0.14	0.021	19:21 hr	1.06	0.74
SWRGM-000907	SWRMH-008550	SWRCO-000573	AA37104	AA37106	309	0.01	8	0.16	0.038	19:27 hr	1.60	1.03
SWRGM-000909	SWRNJ-000132	SWRMH-001626	R39195	R39119	45	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000910	SWRNJ-000905	SWRMH-004262	AC43110	AC43120	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000911	SWRNJ-000906	SWRMH-004263	AC43109	AC43119	10	0.008	8	0.07	0.006	10:00 hr	0.85	0.85
SWRGM-000913	SWRNJ-000583	SWRMH-006322	Y44221	Y44102	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000914	SWRMH-006122	SWRMH-006120	AA36148	AA36150	174	0.001	8	0.12	0.008	19:02 hr	0.50	0.38
SWRGM-000915	SWRNJ-000896	SWRMH-006223	AB44120	AB44102	44	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000916	SWRNJ-000387	SWRMH-003881	V48102	V48115	18	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000917	SWRNJ-000396	SWRMH-003886	V48101	V48110	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000918	SWRNJ-000539	SWRMH-004953	Y38227	Y38140	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000919	SWRMH-008300	SWRMH-008301	S48106	S48105	256	0.009	8	0.20	0.058	19:30 hr	1.79	1.03
SWRGM-000920	SWRMH-008298	SWRMH-008299	S48108	S48107	256	0.008	8	0.20	0.055	19:28 hr	1.66	0.95
SWRGM-000921	SWRCO-000722	SWRMH-008292	S48101	S48114	95	0.045	8	0.05	0.008	19:00 hr	1.74	1.96
SWRGM-000922	SWRMH-008296	SWRMH-008297	S48110	S48109	280	0.011	8	0.14	0.031	19:05 hr	1.59	1.10
SWRGM-000923	SWRMH-006890	SWRMH-006887	P51104	P51107	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000924	SWRMH-006891	SWRMH-006890	P51103	P51104	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000925	SWRMH-006892	SWRMH-006893	P51102	P51101	292	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000926	SWRMH-006893	SWRMH-006480	P51101	Q51101	350	0.006	8	0.03	0.001	19:13 hr	0.42	0.63
SWRGM-000927	SWRMH-006886	SWRMH-006887	P51108	P51107	292	0.017	8	0.02	0.001	19:08 hr	0.62	1.06
SWRGM-000928	SWRMH-006888	SWRMH-006886	P51106	P51108	350	0.005	8	0.03	0.001	19:06 hr	0.40	0.60
SWRGM-000929	SWRMH-006889	SWRMH-006888	P51105	P51106	350	0.005	8	0.03	0.001	19:03 hr	0.41	0.60
SWRGM-000930	SWRCO-000731	SWRMH-006886	P51101	P51108	175	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000931	SWRMH-007997	SWRMH-008020	U39180	U39170	289	0.004	8	0.22	0.044	19:11 hr	1.22	0.68
SWRGM-000932	SWRMH-002548	SWRMH-008023	U40105	U39167	174	0.004	8	0.10	0.009	19:04 hr	0.75	0.62
SWRGM-000933	SWRMH-008017	SWRMH-008016	U39173	U39174	263	0.004	8	0.09	0.007	19:05 hr	0.71	0.62
SWRGM-000934	SWRMH-008018	SWRMH-008017	U39172	U39173	303	0.004	8	0.07	0.005	19:03 hr	0.62	0.60
SWRGM-000935	SWRMH-002751	SWRMH-002782	M44125	M43123	350	0.012	8	0.06	0.005	19:02 hr	0.95	1.01
SWRGM-000936	SWRMH-002750	SWRMH-002781	M44126	M43124	350	0.012	8	0.04	0.002	19:02 hr	0.74	0.97
SWRGM-000937	SWRMH-002749	SWRMH-002774	M44127	M44102	347	0.01	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-000938	SWRMH-002758	SWRMH-002759	M44118	M44117	300	0.004	8	0.02	0	19:02 hr	0.30	0.52
SWRGM-000939	SWRMH-002767	SWRMH-002766	M44109	M44110	300	0.005	8	0.04	0.002	19:02 hr	0.47	0.60
SWRGM-000940	SWRMH-002769	SWRMH-002768	M44107	M44108	287	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000941	SWRMH-008075	SWRMH-007928	U39115	U38140	248	0.006	8	0.18	0.034	19:07 hr	1.28	0.79
SWRGM-000942	SWRMH-008041	SWRMH-007931	U39149	U38137	151	0.037	8	0.08	0.019	19:05 hr	2.08	1.87
SWRGM-000943	SWRMH-007931	SWRMH-007713	U38137	U38166	227	0.004	8	0.32	0.095	19:19 hr	1.52	0.68
SWRGM-000944	SWRMH-007944	SWRMH-007945	U38124	U38123	270	0.009	8	0.05	0.003	19:02 hr	0.71	0.84
SWRGM-000945	SWRMH-007948	SWRMH-007949	U38120	U38119	185	0.005	8	0.07	0.005	19:02 hr	0.67	0.65
SWRGM-000946	SWRMH-007947	SWRMH-007948	U38121	U38120	164	0.005	8	0.05	0.002	19:01 hr	0.55	0.63
SWRGM-000947	SWRMH-007946	SWRMH-007954	U38122	U38114	350	0.012	8	0.06	0.005	19:02 hr	0.93	1.01
SWRGM-000948	SWRMH-008068	SWRMH-008074	U39122	U39116	264	0.011	8	0.11	0.019	19:03 hr	1.36	1.05
SWRGM-000949	SWRMH-008044	SWRMH-007931	U39146	U38137	239	0.008	8	0.24	0.074	19:18 hr	1.81	0.95
SWRGM-000950	SWRMH-008042	SWRMH-008043	U39148	U39147	87	0.01	8	0.04	0.002	19:00 hr	0.69	0.87
SWRGM-000951	SWRMH-008026	SWRMH-008024	U39164	U39166	270	0.012	8	0.04	0.003	19:01 hr	0.76	0.97
SWRGM-000952	SWRMH-008055	SWRMH-008057	U39135	U39133	261	0.004	8	0.04	0.001	19:02 hr	0.43	0.55
SWRGM-000953	SWRMH-008211	SWRMH-002617	T37119	T37120	281	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000954	SWRMH-002618	SWRMH-008207	T38189	T38106	281	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000956	SWRMH-002294	SWRMH-002619	AA40124	AA40101	79	0.067	8	0.02	0.001	19:01 hr	0.94	1.97
SWRGM-000957	SWRMH-002620	SWRMH-002025	S43101	S43124	314	0.004	8	0.16	0.023	19:11 hr	0.99	0.64
SWRGM-000958	SWRMH-006351	SWRMH-002613	Y45105	Y45171	190	0.01	8	0.04	0.002	19:05 hr	0.63	0.86
SWRGM-000959	SWRMH-002614	SWRMH-008388	Y45169	Y45101	192	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000960	SWRCO-000682	SWRCO-000681	T48115	T48116	94	0.011	8	0.07	0.008	10:01 hr	1.06	1.03
SWRGM-000961	SWRCO-000685	SWRCO-000686	T48112	T48111	97	0.007	8	0.09	0.011	10:04 hr	1.00	0.85
SWRGM-000962	SWRNJ-000282	SWRMH-007988	U39364	U39189	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000963	SWRNJ-000423	SWRMH-006060	W48102	W48114	10	0.008	8	0.09	0.011	10:00 hr	1.03	0.89
SWRGM-000965	SWRMH-004048	SWRMH-003997	Y40137	Y40140	254	0.004	8	0.06	0.003	10:03 hr	0.54	0.58
SWRGM-000968	SWRMH-007990	SWRMH-007989	U39187	U39188	259	0.004	8	0.27	0.068	19:13 hr	1.38	0.68
SWRGM-000969	SWRMH-008043	SWRMH-007991	U39147	U39186	242	0.037	8	0.04	0.004	19:01 hr	1.26	1.68
SWRGM-000970	SWRMH-007987	SWRMH-008045	U39190	U39145	191	0.008	8	0.23	0.072	19:16 hr	1.82	0.97
SWRGM-000971	SWRMH-007991	SWRMH-007990	U39186	U39187	75	0.004	8	0.27	0.066	19:11 hr	1.36	0.67
SWRGM-000973	SWRMH-008064	SWRMH-008061	U39126	U39129	134	0.006	8	0.33	0.126	19:21 hr	1.92	0.84
SWRGM-000974	SWRMH-008035	SWRMH-008021	U39155	U39169	52	0.004	8	0.20	0.034	19:10 hr	1.10	0.64
SWRGM-000975	SWRMH-008600	SWRMH-008597	U39101	U39104	260	0.013	8	0.08	0.009	19:06 hr	1.16	1.10
SWRGM-000976	SWRMH-008061	SWRMH-008060	U39129	U39130	51	0.017	8	0.26	0.126	19:21 hr	2.77	1.41
SWRGM-000977	SWRMH-008060	SWRMH-008592	U39130	U39109	186	0.02	8	0.25	0.127	19:22 hr	2.92	1.51
SWRGM-000980	SWRNJ-000547	SWRMH-005547	Y38232	Y38113	10	0.008	8	0.01	0	18:59 hr	0.26	0.65
SWRGM-000981	SWRNJ-000809	SWRMH-006143	AA36171	AA36137	160	0.01	8	0.00	0	18:58 hr	0.00	0.00
SWRGM-000982	SWRMH-006370	SWRMH-006265	AA37124	AA36127	320	0.037	8	0.05	0.006	19:05 hr	1.43	1.72
SWRGM-000983	SWRMH-006144	SWRMH-006143	AA36136	AA36137	172	0.002	8	0.20	0.027	19:38 hr	0.85	0.49
SWRGM-000984	SWRMH-004821	SWRMH-004531	Y39117	Y39124	63	0.004	8	0.16	0.023	10:22 hr	1.01	0.66
SWRGM-000990	SWRMH-003877	SWRMH-005021	AA39139	AA38131	612	0.01	8	0.09	0.011	19:07 hr	1.11	0.98
SWRGM-000991	SWRNJ-000779	SWRCO-000373	AA47103	AA47101	81	0.006	8	0.04	0.002	19:00 hr	0.53	0.68
SWRGM-000992	SWRNJ-000338	SWRMH-006375	V41103	V41109	25	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000993	SWRNJ-000878	SWRMH-000693	AB35103	AB35101	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000994	SWRNJ-000879	SWRMH-000693	AB35102	AB35101	10	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-000995	SWRNJ-000559	SWRMH-006461	Y45111	Y45126	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001001	SWRMH-005910	SWRMH-005911	AB48108	AB48107	148	0.016	8	0.04	0.003	10:05 hr	0.90	1.13
SWRGM-001002	SWRNJ-000371	SWRMH-006395	V44103	V44109	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001003	SWRMH-006403	SWRMH-006399	V44101	V44105	104	0.003	8	0.66	0.271	19:34 hr	1.72	0.56
SWRGM-001004	SWRNJ-000847	SWRMH-005560	AB47107	AB47116	295	0.026	8	0.10	0.021	10:02 hr	1.89	1.60
SWRGM-001005	SWRMH-005559	SWRNJ-000847	AB47117	AB47107	55	0.027	8	0.07	0.011	10:00 hr	1.57	1.55
SWRGM-001006	SWRNJ-000579	SWRMH-006213	Y36274	Y36102	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001007	SWRMH-008073	SWRNJ-000264	U39117	U39371	80	0.008	8	0.06	0.005	19:02 hr	0.79	0.83
SWRGM-001008	SWRNJ-000033	SWRMH-002728	N45102	N45102	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001011	SWRNJ-000020	SWRMH-003078	L44113	L44106	15	0.001	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001012	SWRNJ-000018	SWRMH-003078	L44101	L44106	15	0.001	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001014	SWRMH-006142	SWRMH-006138	AA36138	AA36142	171	0.052	8	0.04	0.005	19:02 hr	1.57	2.02
SWRGM-001015	SWRCO-000497	SWRMH-006124	AA36104	AA36146	225	0.055	8	0.03	0.002	19:01 hr	1.28	1.96
SWRGM-001016	SWRMH-006124	SWRMH-006123	AA36146	AA36147	100	0.074	8	0.03	0.003	19:02 hr	1.51	2.29
SWRGM-001017	SWRMH-006264	SWRMH-006115	AA36128	AA36155	55	0.02	8	0.06	0.006	19:06 hr	1.17	1.30
SWRGM-001018	SWRNJ-000023	SWRMH-002993	L47103	L47107	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001019	SWRNJ-000027	SWRMH-003074	L45101	L45101	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001020	SWRNJ-000025	SWRMH-003072	L45102	L45103	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001023	SWRNJ-000883	SWRMH-008455	AB40121	AB40101	10	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001026	SWRMH-003852	SWRMH-003855	V37112	V37109	250	0.01	8	0.07	0.006	19:02 hr	0.92	0.94
SWRGM-001027	SWRMH-007891	SWRMH-007890	V37103	V37104	121	0.04	8	0.15	0.067	19:14 hr	3.13	2.09
SWRGM-001028	SWRMH-003495	SWRMH-007891	V37120	V37103	294	0.005	8	0.25	0.067	19:14 hr	1.49	0.76
SWRGM-001029	SWRMH-003492	SWRMH-003494	V37123	V37121	260	0.005	8	0.17	0.029	19:11 hr	1.16	0.74
SWRGM-001030	SWRMH-003491	SWRMH-003492	V37124	V37123	260	0.005	8	0.16	0.026	19:09 hr	1.13	0.74
SWRGM-001031	SWRNJ-000321	SWRMH-003546	V36103	V36121	35	0.02	8	0.07	0.008	19:04 hr	1.32	1.35
SWRGM-001032	SWRMH-003545	SWRNJ-000321	V36122	V36103	106	0.012	8	0.08	0.008	19:04 hr	1.09	1.04
SWRGM-001033	SWRNJ-000352	SWRMH-003524	V36102	V36143	31	0.01	8	0.05	0.003	19:07 hr	0.72	0.88
SWRGM-001034	SWRMH-002804	SWRMH-002800	M43101	M43105	343	0.016	8	0.08	0.011	19:10 hr	1.33	1.23
SWRGM-001035	SWRMH-002780	SWRMH-002784	M43125	M43121	185	0.026	8	0.10	0.024	19:07 hr	1.96	1.60
SWRGM-001036	SWRMH-008022	SWRMH-008024	U39168	U39166	272	0.008	8	0.11	0.014	19:07 hr	1.11	0.89
SWRGM-001037	SWRMH-008039	SWRMH-008040	U39151	U39150	334	0.008	8	0.10	0.013	19:03 hr	1.11	0.91
SWRGM-001038	SWRMH-008038	SWRMH-008039	U39152	U39151	285	0.012	8	0.07	0.008	19:01 hr	1.08	1.04
SWRGM-001039	SWRMH-008047	SWRMH-008046	U39143	U39144	138	0.004	8	0.26	0.063	19:09 hr	1.35	0.68
SWRGM-001040	SWRMH-007023	SWRMH-007597	T38187	U38188	313	0.009	8	0.08	0.008	19:04 hr	0.99	0.92
SWRGM-001041	SWRMH-004342	SWRMH-004338	AB37119	AB37123	10	0.056	8	0.12	0.052	19:35 hr	3.26	2.42
SWRGM-001042	SWRNJ-000580	SWRMH-004622	Y40117	Y40120	10	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001043	SWRNJ-000507	SWRMH-006959	X42123	X42105	10	0.002	8	0.03	0.001	09:59 hr	0.27	0.38
SWRGM-001044	SWRNJ-000897	SWRNJ-000896	AB44118	AB44120	54	1.87	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001045	SWRNJ-000424	SWRMH-006062	W48103	W48112	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001046	SWRNJ-000538	SWRMH-003987	Y41108	Y41155	10	0.008	8	0.04	0.002	10:00 hr	0.61	0.79
SWRGM-001047	SWRNJ-000814	SWRNJ-000813	AA43131	AA43195	44	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001048	SWRNJ-000797	SWRMH-004287	AA43128	AA43125	79	0.001	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001049	SWRNJ-000812	SWRMH-005736	AA43127	AA43106	14	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001050	SWRMH-007467	SWRMH-008298	S48122	S48108	275	0.009	8	0.05	0.002	19:02 hr	0.70	0.87
SWRGM-001051	SWRMH-007395	SWRMH-008305	S48130	S48101	213	0.006	8	0.24	0.063	19:24 hr	1.56	0.83
SWRGM-001052	SWRMH-008305	SWRMH-007184	S48101	S48131	235	0.006	8	0.24	0.065	19:25 hr	1.58	0.83

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001053	SWRMH-008160	SWRMH-008161	T44176	T44175	146	0.014	8	0.08	0.01	19:03 hr	1.23	1.16
SWRGM-001054	SWRMH-008000	SWRMH-007993	U39177	U39184	261	0.008	8	0.07	0.006	19:04 hr	0.86	0.86
SWRGM-001055	SWRMH-008015	SWRMH-008000	U39175	U39177	92	0.049	8	0.02	0.001	19:00 hr	0.96	1.76
SWRGM-001056	SWRMH-007277	SWRMH-007278	T48162	T48161	350	0.016	8	0.04	0.002	19:02 hr	0.79	1.10
SWRGM-001057	SWRCO-000693	SWRMH-007277	T48104	T48162	50	0.016	8	0.02	0.001	19:00 hr	0.57	1.01
SWRGM-001058	SWRMH-007281	SWRMH-007282	T48158	T48157	270	0.01	8	0.04	0.002	19:01 hr	0.62	0.86
SWRGM-001059	SWRMH-007297	SWRMH-007296	T48142	T48143	225	0.01	8	0.08	0.009	19:05 hr	1.04	0.96
SWRGM-001060	SWRMH-007298	SWRMH-007297	T48141	T48142	300	0.011	8	0.07	0.007	19:04 hr	1.02	1.00
SWRGM-001061	SWRMH-007302	SWRMH-007298	T48137	T48141	295	0.011	8	0.06	0.005	19:02 hr	0.88	0.97
SWRGM-001062	SWRNJ-000283	SWRMH-008045	U39145	U39362	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001064	SWRNJ-000226	SWRMH-007579	T46451	T46119	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001065	SWRNJ-000221	SWRMH-007573	T46450	T46125	10	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001066	SWRNJ-000245	SWRMH-007588	T46447	T46110	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001067	SWRNJ-000293	SWRMH-007703	U38558	U38176	30	0.02	8	0.02	0	19:00 hr	0.50	1.07
SWRGM-001068	SWRCO-000860	SWRCO-000861	AA37102	AA37101	96	0.019	8	0.02	0.001	19:02 hr	0.67	1.13
SWRGM-001069	SWRMH-008469	SWRMH-008471	AA32107	AA32105	349	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001070	SWRMH-005052	SWRMH-000522	Y36130	Y35145	306	0.006	8	0.07	0.004	19:05 hr	0.71	0.72
SWRGM-001071	SWRMH-005641	SWRMH-000596	AA43104	AA43129	360	0.052	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001078	SWRMH-002254	SWRMH-002260	Q49106	Q48114	107	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001079	SWRCO-000286	SWRMH-001680	Q48109	Q48144	158	0.01	8	0.04	0.002	19:01 hr	0.69	0.88
SWRGM-001081	SWRMH-008077	SWRMH-008078	U39113	U39112	350	0.012	8	0.30	0.144	19:28 hr	2.54	1.18
SWRGM-001082	SWRMH-008591	SWRMH-008592	U39110	U39109	208	0.014	8	0.06	0.005	19:02 hr	1.00	1.11
SWRGM-001083	SWRMH-008045	SWRMH-008044	U39145	U39146	98	0.008	8	0.24	0.072	19:17 hr	1.78	0.94
SWRGM-001084	SWRMH-008593	SWRMH-008594	U39108	U39107	135	0.005	8	0.04	0.001	19:01 hr	0.45	0.62
SWRGM-001085	SWRCO-000744	SWRMH-002750	M44104	M44126	111	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001086	SWRMH-002756	SWRMH-002793	M44120	M43112	259	0.01	8	0.05	0.003	19:01 hr	0.78	0.90
SWRGM-001087	SWRMH-002754	SWRMH-002791	M44122	M43114	350	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001088	SWRMH-002755	SWRMH-002792	M44121	M43113	350	0.011	8	0.06	0.005	19:02 hr	0.94	1.00
SWRGM-001089	SWRMH-006887	SWRMH-006893	P51107	P51101	300	0.005	8	0.03	0.001	19:10 hr	0.40	0.60
SWRGM-001090	SWRMH-006913	SWRMH-006965	P47104	P46117	277	0.062	8	0.05	0.007	19:06 hr	1.85	2.24
SWRGM-001091	SWRMH-001465	SWRMH-001471	W35114	W35108	196	0.032	8	0.12	0.037	19:14 hr	2.42	1.83
SWRGM-001092	SWRMH-001471	SWRMH-003051	W35108	W34111	249	0.018	8	0.15	0.045	19:14 hr	2.10	1.39
SWRGM-001093	SWRMH-003059	SWRMH-003058	W34103	W34104	248	0.028	8	0.02	0.001	19:01 hr	0.66	1.30
SWRGM-001094	SWRNJ-000405	SWRMH-003059	W34102	W34103	10	0.005	8	0.03	0.001	19:00 hr	0.36	0.59
SWRGM-001095	SWRMH-006703	SWRMH-006704	P45126	P45125	278	0.006	8	0.07	0.005	19:02 hr	0.72	0.72
SWRGM-001096	SWRMH-006704	SWRMH-006700	P45125	P45129	258	0.006	8	0.08	0.007	19:04 hr	0.83	0.76
SWRGM-001097	SWRMH-006700	SWRMH-006985	P45129	P44164	274	0.023	8	0.08	0.012	19:05 hr	1.54	1.46
SWRGM-001098	SWRMH-004617	SWRMH-004616	Y42127	Y42128	328	0.004	8	0.65	0.312	10:49 hr	2.01	0.66
SWRGM-001099	SWRNJ-000914	SWRMH-007899	AC40105	AC40102	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001100	SWRNJ-000904	SWRMH-008460	AC40104	AC40101	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001103	SWRNJ-000727	SWRMH-004402	AA43137	AA43120	10	0.008	8	0.09	0.01	19:00 hr	1.01	0.88
SWRGM-001104	SWRNJ-000778	SWRMH-005484	AA42189	AA42109	55	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001105	SWRNJ-000216	SWRMH-008091	T47622	T47156	10	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001106	SWRNJ-000233	SWRMH-008095	T47621	T47152	8	0.008	8	0.02	0	18:59 hr	0.36	0.68
SWRGM-001109	SWRMH-006140	SWRMH-006141	AA36140	AA36139	177	0.052	8	0.04	0.004	19:02 hr	1.41	1.97
SWRGM-001110	SWRNJ-000448	SWRMH-006082	W47103	W47111	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001111	SWRNJ-000445	SWRMH-006085	W47102	W47108	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001112	SWRNJ-000752	SWRMH-004441	AA41101	AA41146	36	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001113	SWRNJ-000703	SWRMH-005259	AA41224	AA41126	10	0.041	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001114	SWRMH-005722	SWRNJ-000697	Z44107	Z44164	131	0.005	8	0.01	0	19:03 hr	0.22	0.51
SWRGM-001115	SWRNJ-000697	SWRMH-005630	Z44164	Z44102	196	0.005	8	0.01	0	19:04 hr	0.22	0.51
SWRGM-001116	SWRMH-009238	SWRFT-000047	SP612MH10	SDMH004933	237	0.007	8	0.17	0.034	19:04 hr	1.37	0.87
SWRGM-001117	SWRFT-000047	SWRMH-004933	SP612MH10	SDMH004933	69	0.029	8	0.12	0.034	19:04 hr	2.28	1.74
SWRGM-001118	SWRMH-007051	SWRMH-007052	S46131	S46130	249	0.012	8	0.15	0.034	19:11 hr	1.68	1.14
SWRGM-001119	SWRNJ-000558	SWRMH-004405	Y40119	Y40126	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001120	SWRMH-005216	SWRMH-004806	AB36107	AB36109	147	0.027	8	0.15	0.052	19:37 hr	2.52	1.71
SWRGM-001121	SWRNJ-000895	SWRMH-008453	AB40120	AB40103	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001122	SWRMH-006400	SWRMH-006403	V44104	V44101	246	0.004	8	0.54	0.254	19:34 hr	2.06	0.72
SWRGM-001123	SWRNJ-000355	SWRMH-006489	V41102	V41107	38	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001127	SWRMH-006141	SWRMH-006142	AA36139	AA36138	237	0.052	8	0.04	0.004	19:02 hr	1.50	2.00
SWRGM-001128	SWRCO-000363	SWRNJ-000779	AA47109	AA47103	11	0.005	8	0.03	0.001	19:00 hr	0.43	0.63
SWRGM-001129	SWRCO-000356	SWRNJ-000779	AA47114	AA47103	74	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001130	SWRNJ-000676	SWRMH-005729	Z44101	Z44104	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001131	SWRNJ-000377	SWRMH-006384	V43102	V43106	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001132	SWRNJ-000351	SWRMH-006398	V44102	V44106	10	0.008	8	0.00	0	18:58 hr	0.00	0.00
SWRGM-001133	SWRNJ-000337	SWRMH-006400	V44101	V44104	10	0.008	8	0.02	0.001	18:59 hr	0.41	0.72
SWRGM-001134	SWRNJ-000402	SWRMH-006053	W48104	W48121	10	0.005	8	0.06	0.004	10:00 hr	0.63	0.66
SWRGM-001135	SWRMH-000858	SWRMH-006916	P47129	P47101	197	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001138	SWRMH-007049	SWRMH-007048	S46133	S46134	250	0.01	8	0.07	0.006	19:02 hr	0.95	0.95
SWRGM-001139	SWRMH-007050	SWRMH-007049	S46132	S46133	230	0.01	8	0.06	0.004	19:01 hr	0.84	0.91
SWRGM-001140	SWRMH-007047	SWRMH-007045	S46135	S46137	310	0.01	8	0.05	0.004	19:02 hr	0.81	0.92
SWRGM-001141	SWRMH-007046	SWRMH-007794	S46136	S46139	155	0.012	8	0.04	0.002	19:01 hr	0.72	0.95
SWRGM-001142	SWRNJ-000803	SWRMH-004289	AA43125	AA43123	40	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001143	SWRMH-008500	SWRMH-004341	AB37101	AB37120	182	0.01	8	0.13	0.024	19:29 hr	1.41	1.02
SWRGM-001144	SWRMH-008548	SWRMH-008500	AA37106	AB37101	324	0.002	8	0.19	0.024	19:28 hr	0.82	0.49
SWRGM-001145	SWRMH-008547	SWRMH-008548	AA37107	AA37106	409	0.006	8	0.14	0.023	19:25 hr	1.17	0.81
SWRGM-001146	SWRMH-008538	SWRMH-000701	AA37116	AA37151	94	0.01	8	0.02	0.001	19:00 hr	0.44	0.80
SWRGM-001147	SWRMH-008539	SWRCO-000571	AA37115	AA37108	154	0.01	8	0.03	0.001	19:01 hr	0.52	0.82
SWRGM-001148	SWRNJ-000770	SWRMH-006355	AA42123	AA42102	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001149	SWRNJ-000057	SWRMH-001430	Q42104	Q42115	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001150	SWRMH-006533	SWRMH-006532	Z35104	Z35105	394	0.004	8	0.05	0.002	19:03 hr	0.47	0.57
SWRGM-001151	SWRNJ-000781	SWRMH-008509	AA38181	AA38125	264	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001153	SWRNJ-000870	SWRMH-008450	AB40119	AB40106	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001154	SWRNJ-000869	SWRMH-008450	AB40118	AB40106	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001155	SWRNJ-000585	SWRMH-006308	Y45114	Y45134	10	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001156	SWRNJ-000808	SWRMH-005737	AA43130	AA43105	13	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001157	SWRNJ-000570	SWRMH-005321	Y42102	Y42121	10	0.008	8	0.07	0.007	19:00 hr	0.89	0.86
SWRGM-001158	SWRCO-000362	SWRCO-000356	AA47110	AA47114	79	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001159	SWRNJ-000586	SWRMH-004824	Y39186	Y39113	6	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001160	SWRNJ-000693	SWRNJ-000692	Z43386	Z43321	324	0.01	8	0.12	0.02	19:04 hr	1.34	1.01
SWRGM-001161	SWRNJ-000810	SWRMH-005988	AA42106	AA42185	10	0.004	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001162	SWRNJ-000608	SWRMH-004048	Y40107	Y40137	10	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001163	SWRMH-007527	SWRMH-007525	T47104	T47106	180	0.007	8	0.06	0.005	19:02 hr	0.75	0.78
SWRGM-001164	SWRMH-007521	SWRMH-007525	T47110	T47106	280	0.011	8	0.11	0.017	19:06 hr	1.34	1.07
SWRGM-001165	SWRMH-007526	SWRMH-007521	T47105	T47110	210	0.011	8	0.04	0.003	19:01 hr	0.75	0.95
SWRGM-001166	SWRMH-007848	SWRMH-007314	T48108	T47190	265	0.01	8	0.08	0.009	19:01 hr	1.06	0.97
SWRGM-001167	SWRMH-006138	SWRMH-006136	AA36142	AA36144	300	0.054	8	0.04	0.005	19:03 hr	1.61	2.05
SWRGM-001168	SWRMH-007942	SWRMH-007943	U38126	U38125	177	0.006	8	0.05	0.002	19:01 hr	0.58	0.70
SWRGM-001169	SWRMH-007025	SWRMH-007710	T38185	U38169	350	0.005	8	0.05	0.002	19:03 hr	0.57	0.67
SWRGM-001170	SWRMH-007710	SWRMH-007711	U38169	U38168	350	0.005	8	0.09	0.007	19:03 hr	0.78	0.70
SWRGM-001171	SWRMH-007714	SWRMH-007715	U38165	U38164	260	0.004	8	0.18	0.029	19:07 hr	1.08	0.67
SWRGM-001172	SWRMH-007715	SWRMH-007716	U38164	U38163	260	0.004	8	0.25	0.059	19:09 hr	1.33	0.68
SWRGM-001173	SWRNJ-000841	SWRMH-008351	AB34107	AB34108	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001174	SWRMH-004089	SWRMH-004092	AA39133	AA39130	68	0.011	8	0.07	0.007	19:00 hr	1.01	1.01
SWRGM-001175	SWRNJ-000704	SWRMH-005090	AA41223	AA41118	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001176	SWRNJ-000888	SWRMH-005568	AB47106	AB47108	37	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001177	SWRMH-003997	SWRMH-004049	Y40140	Y40136	46	0.004	8	0.11	0.011	10:21 hr	0.77	0.60
SWRGM-001178	SWRCO-000289	SWRMH-000793	P48103	P48121	112	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001179	SWRNJ-000045	SWRMH-000798	P48103	P48116	16	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001180	SWRNJ-000049	SWRMH-000812	P48102	P48114	20	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001181	SWRMH-000829	SWRMH-000825	Z44134	Z44138	250	0.004	8	0.14	0.018	19:10 hr	0.94	0.65
SWRGM-001182	SWRMH-000827	SWRMH-000826	Z44136	Z44137	213	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001183	SWRMH-000804	SWRMH-000805	Y44139	Y44138	197	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001184	SWRMH-000803	SWRMH-000804	Y44140	Y44139	205	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001185	SWRMH-000802	SWRMH-000806	Y44141	Y44137	196	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001186	SWRMH-000801	SWRMH-000802	Y44142	Y44141	205	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001187	SWRMH-000800	SWRMH-000807	Y44143	Y44136	195	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001188	SWRMH-000799	SWRMH-000800	Y44144	Y44143	204	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001189	SWRMH-000809	SWRMH-000808	Y44134	Y44135	259	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001190	SWRMH-000810	SWRMH-000809	Y44133	Y44134	186	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001191	SWRMH-000808	SWRMH-000807	Y44135	Y44136	271	0.004	8	0.04	0.001	19:02 hr	0.44	0.56
SWRGM-001192	SWRMH-000806	SWRMH-000805	Y44137	Y44138	283	0.004	8	0.07	0.005	19:05 hr	0.62	0.60
SWRGM-001193	SWRMH-001948	SWRMH-001945	R44125	R44128	164	0.013	8	0.04	0.002	19:01 hr	0.78	1.01
SWRGM-001194	SWRMH-001944	SWRMH-001943	R44129	R44130	164	0.012	8	0.05	0.003	19:01 hr	0.79	0.98
SWRGM-001195	SWRMH-001952	SWRMH-001951	R44121	R44122	350	0.006	8	0.06	0.004	19:03 hr	0.69	0.74
SWRGM-001196	SWRMH-001951	SWRMH-001941	R44122	R44132	350	0.008	8	0.08	0.007	19:06 hr	0.89	0.86
SWRGM-001197	SWRMH-001909	SWRMH-001910	R44163	R44162	305	0.013	8	0.06	0.006	19:02 hr	1.04	1.09
SWRGM-001198	SWRMH-001909	SWRMH-001911	R44163	R44161	295	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001199	SWRMH-007729	SWRMH-007728	U38150	U38151	221	0.004	8	0.05	0.002	19:02 hr	0.49	0.57
SWRGM-001200	SWRMH-007796	SWRMH-007730	U38147	U38149	160	0.004	8	0.05	0.002	19:01 hr	0.45	0.56
SWRGM-001201	SWRMH-000689	SWRMH-007797	U38101	U38146	303	0.005	8	0.09	0.008	19:05 hr	0.80	0.70
SWRGM-001202	SWRMH-007932	SWRMH-004201	U38136	V38104	72	0.004	8	0.05	0.002	19:00 hr	0.44	0.55
SWRGM-001203	SWRMH-007938	SWRMH-007939	U38130	U38129	258	0.009	8	0.07	0.006	19:05 hr	0.90	0.89
SWRGM-001204	SWRMH-007936	SWRMH-007937	U38132	U38131	142	0.008	8	0.05	0.003	19:03 hr	0.73	0.83
SWRGM-001205	SWRMH-007943	SWRMH-004204	U38125	V38101	118	0.01	8	0.05	0.003	19:01 hr	0.74	0.89
SWRGM-001206	SWRMH-008066	SWRMH-007926	U39124	U38142	350	0.012	8	0.31	0.153	19:32 hr	2.58	1.18
SWRGM-001207	SWRMH-007713	SWRMH-007709	U38166	U38170	200	0.004	8	0.32	0.095	19:21 hr	1.52	0.68
SWRGM-001208	SWRNJ-000275	SWRMH-007604	U38560	U38181	30	0.02	8	0.02	0.001	19:00 hr	0.57	1.10
SWRGM-001209	SWRNJ-000263	SWRMH-007607	U38559	U38178	30	0.02	8	0.03	0.001	19:00 hr	0.70	1.16
SWRGM-001210	SWRNJ-000311	SWRMH-007705	U38557	U38174	30	0.02	8	0.02	0.001	19:00 hr	0.58	1.11
SWRGM-001211	SWRMH-007708	SWRMH-007707	U38171	U38172	210	0.004	8	0.63	0.307	19:27 hr	2.07	0.69
SWRGM-001212	SWRMH-002304	SWRMH-002053	U36124	U36149	118	0.005	8	0.27	0.075	19:21 hr	1.53	0.75
SWRGM-001213	SWRMH-007457	SWRMH-007456	T47126	T47127	302	0.009	8	0.07	0.006	19:03 hr	0.89	0.91
SWRGM-001214	SWRMH-007442	SWRMH-007437	T47173	T47178	250	0.009	8	0.05	0.004	19:01 hr	0.78	0.88
SWRGM-001215	SWRMH-007443	SWRMH-007438	T47172	T47177	250	0.009	8	0.05	0.004	19:01 hr	0.78	0.88
SWRGM-001216	SWRMH-007510	SWRMH-007508	T45110	T45112	320	0.01	8	0.09	0.012	19:06 hr	1.14	0.98
SWRGM-001217	SWRNJ-000131	SWRMH-006838	R47527	R47158	47	0.004	8	0.05	0.002	19:02 hr	0.49	0.57
SWRGM-001218	SWRMH-006837	SWRNJ-000131	R47159	R47527	223	0.004	8	0.05	0.002	19:02 hr	0.50	0.58
SWRGM-001219	SWRMH-007338	SWRMH-001818	S45159	R45126	300	0.016	8	0.60	0.577	19:54 hr	4.06	1.36
SWRGM-001220	SWRNJ-000174	SWRMH-007693	S45498	S45106	33	0.014	8	0.07	0.008	19:02 hr	1.14	1.13
SWRGM-001221	SWRNJ-000177	SWRMH-007343	S45499	S45154	33	0.008	8	0.09	0.009	19:03 hr	1.00	0.90
SWRGM-001222	SWRNJ-000573	SWRMH-004349	Y44103	Y44129	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001223	SWRCO-000688	SWRMH-007855	T48109	T48101	100	0.013	8	0.04	0.002	10:00 hr	0.73	1.01
SWRGM-001225	SWRCO-000678	SWRMH-007268	T48119	T48171	94	0.012	8	0.08	0.011	10:02 hr	1.18	1.06
SWRGM-001226	SWRNJ-000910	SWRMH-005038	AC43107	AC43109	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001227	SWRNJ-000572	SWRMH-004349	Y44104	Y44129	10	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001228	SWRNJ-000795	SWRMH-004287	AA43129	AA43125	10	0.051	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001229	SWRNJ-000587	SWRMH-006308	Y45120	Y45134	72	0.015	8	0.01	0	19:00 hr	0.39	0.90
SWRGM-001230	SWRNJ-000234	SWRMH-008133	T48418	T48120	10	0.012	8	0.01	0	18:59 hr	0.37	0.82
SWRGM-001231	SWRMH-002753	SWRMH-002790	M44123	M43115	350	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001232	SWRCO-000743	SWRMH-002751	M44105	M44125	114	0.01	8	0.03	0.001	19:00 hr	0.49	0.81
SWRGM-001233	SWRMH-006882	SWRMH-002581	Q38104	R38116	349	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001234	SWRMH-006892	SWRMH-006479	P51102	Q51102	350	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001235	SWRNJ-000368	SWRMH-003345	V40101	V40135	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001236	SWRNJ-000392	SWRMH-003408	V39101	V39147	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001237	SWRNJ-000496	SWRMH-005239	X44101	X44114	95	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001238	SWRMH-007669	SWRMH-007668	S45130	S45131	204	0.007	8	0.09	0.009	19:04 hr	0.96	0.84
SWRGM-001239	SWRMH-007670	SWRMH-007669	S45129	S45130	304	0.017	8	0.06	0.007	19:02 hr	1.20	1.24
SWRGM-001240	SWRMH-007674	SWRMH-007670	S45125	S45129	284	0.019	8	0.05	0.004	19:01 hr	1.03	1.24
SWRGM-001241	SWRMH-007662	SWRMH-007661	S45137	S45138	250	0.006	8	0.07	0.006	19:04 hr	0.79	0.77
SWRGM-001242	SWRMH-007382	SWRMH-007381	T38137	T38138	162	0.005	8	0.28	0.088	19:16 hr	1.67	0.80
SWRGM-001243	SWRMH-007392	SWRMH-007393	T38127	T38126	113	0.006	8	0.07	0.006	19:01 hr	0.78	0.76
SWRGM-001244	SWRMH-008214	SWRMH-008213	T37116	T37117	279	0.024	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001245	SWRMH-008215	SWRMH-008214	T37115	T37116	246	0.024	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001246	SWRMH-008213	SWRMH-008212	T37117	T37118	345	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001249	SWRMH-007209	SWRMH-007202	S47145	S47151	130	0.011	8	0.02	0.001	19:00 hr	0.50	0.85
SWRGM-001252	SWRNJ-000692	SWRMH-005260	Z43321	Z43131	252	0.007	8	0.13	0.02	19:06 hr	1.18	0.86
SWRGM-001253	SWRNJ-000674	SWRMH-001037	Z46103	Z46117	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001254	SWRNJ-000654	SWRMH-001035	Z46102	Z46119	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001255	SWRNJ-000700	SWRMH-002527	AA46110	AA46106	16	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001256	SWRNJ-000890	SWRMH-005663	AB48103	AB48123	20	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001258	SWRNJ-000790	SWRMH-008468	AA32110	AA32108	10	0.011	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001259	SWRNJ-000791	SWRMH-008468	AA32109	AA32108	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001261	SWRMH-000841	SWRMH-000840	Y34159	Y34160	152	0.011	8	0.07	0.006	19:04 hr	0.95	0.98
SWRGM-001262	SWRMH-000866	SWRMH-000844	X34142	Y34156	231	0.068	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001263	SWRMH-000842	SWRMH-000841	Y34158	Y34159	150	0.01	8	0.07	0.006	19:03 hr	0.94	0.96
SWRGM-001264	SWRMH-000844	SWRMH-000843	Y34156	Y34157	150	0.081	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001265	SWRMH-000843	SWRMH-000840	Y34157	Y34160	172	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001266	SWRMH-007267	SWRMH-007255	AA35110	AA35122	327	0.004	8	0.04	0.001	19:03 hr	0.40	0.55
SWRGM-001268	SWRMH-008474	SWRMH-008277	AA32102	AA32125	391	0.005	8	0.24	0.056	19:29 hr	1.37	0.72
SWRGM-001269	SWRNJ-000873	SWRMH-007859	AB35108	AB35108	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001270	SWRNJ-000874	SWRMH-007858	AB35107	AB35109	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001271	SWRNJ-000238	SWRMH-007552	T46453	T46146	10	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001272	SWRNJ-000218	SWRMH-007576	T46448	T46122	10	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001273	SWRNJ-000224	SWRMH-007582	T46449	T46116	10	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001274	SWRMH-000685	SWRMH-000684	AB32101	AB32102	172	0.048	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001275	SWRNJ-000056	SWRMH-002683	P42141	P42112	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001276	SWRNJ-000257	SWRMH-007489	T45332	T45131	279	0.013	8	0.02	0	10:01 hr	0.43	0.87
SWRGM-001277	SWRMH-006587	SWRMH-006586	S39123	S39124	277	0.007	8	0.03	0.001	19:02 hr	0.46	0.72
SWRGM-001278	SWRMH-006586	SWRMH-006585	S39124	S39125	337	0.032	8	0.02	0.001	19:03 hr	0.76	1.41
SWRGM-001279	SWRMH-006585	SWRMH-006583	S39125	S39127	260	0.005	8	0.03	0.001	19:05 hr	0.41	0.62
SWRGM-001280	SWRMH-006578	SWRMH-006577	S39132	S39133	98	0.005	8	0.03	0.001	19:12 hr	0.39	0.57
SWRGM-001281	SWRMH-006583	SWRMH-006582	S39127	S39128	163	0.005	8	0.03	0.001	19:07 hr	0.40	0.59
SWRGM-001282	SWRMH-006582	SWRMH-006580	S39128	S39130	101	0.005	8	0.03	0.001	19:08 hr	0.39	0.59
SWRGM-001283	SWRMH-006580	SWRMH-006600	S39130	S39110	220	0.005	8	0.03	0.001	19:10 hr	0.40	0.59
SWRGM-001284	SWRMH-006600	SWRMH-006579	S39110	S39131	107	0.005	8	0.03	0.001	19:11 hr	0.39	0.58
SWRGM-001285	SWRMH-006598	SWRMH-006596	S39112	S39114	106	0.012	8	0.02	0	19:00 hr	0.40	0.84
SWRGM-001286	SWRMH-008100	SWRMH-007448	T47147	T47135	177	0.004	8	0.11	0.011	19:08 hr	0.81	0.63
SWRGM-001287	SWRMH-007462	SWRMH-007516	T47121	T47115	260	0.014	8	0.08	0.011	19:05 hr	1.24	1.14
SWRGM-001288	SWRMH-006822	SWRMH-001404	P44137	Q44116	300	0.017	8	0.28	0.148	19:21 hr	2.92	1.42
SWRGM-001289	SWRMH-006984	SWRMH-002669	P44165	P43125	273	0.016	8	0.14	0.035	19:10 hr	1.87	1.31
SWRGM-001290	SWRMH-003511	SWRMH-003510	V36156	V36157	249	0.027	8	0.05	0.005	19:01 hr	1.21	1.49
SWRGM-001291	SWRMH-007420	SWRMH-007419	AB31121	AB31122	350	0.005	8	0.04	0.002	19:06 hr	0.50	0.63
SWRGM-001292	SWRMH-007419	SWRMH-007418	AB31122	AB31123	350	0.005	8	0.07	0.005	19:03 hr	0.69	0.67
SWRGM-001293	SWRMH-007415	SWRMH-007413	AB31126	AB31128	77	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001294	SWRMH-007430	SWRMH-007431	AB30103	AB30102	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001295	SWRMH-007429	SWRMH-007430	AB30104	AB30103	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001296	SWRMH-007312	SWRMH-007313	T47192	T47191	357	0.03	8	0.09	0.018	19:04 hr	1.91	1.70
SWRGM-001297	SWRMH-007314	SWRMH-007312	T47190	T47192	313	0.013	8	0.09	0.014	19:04 hr	1.32	1.12
SWRGM-001298	SWRMH-007514	SWRMH-007518	T47117	T47113	351	0.011	8	0.15	0.036	19:09 hr	1.63	1.08
SWRGM-001299	SWRMH-008111	SWRMH-008103	T47136	T47144	350	0.006	8	0.07	0.005	19:03 hr	0.75	0.76
SWRGM-001300	SWRMH-008106	SWRMH-008102	T47141	T47145	250	0.006	8	0.07	0.005	19:06 hr	0.76	0.75
SWRGM-001301	SWRMH-008107	SWRMH-008106	T47140	T47141	250	0.007	8	0.07	0.005	19:04 hr	0.75	0.77
SWRGM-001302	SWRMH-007668	SWRMH-007665	S45131	S45134	104	0.011	8	0.08	0.009	19:04 hr	1.09	1.00
SWRGM-001303	SWRMH-000826	SWRMH-000824	Z44137	Z44139	278	0.011	8	0.03	0.001	19:01 hr	0.63	0.91
SWRGM-001304	SWRMH-000824	SWRMH-000829	Z44139	Z44134	266	0.004	8	0.09	0.008	19:08 hr	0.73	0.63
SWRGM-001305	SWRMH-000805	SWRMH-000824	Y44138	Z44139	290	0.005	8	0.07	0.005	19:07 hr	0.65	0.65
SWRGM-001311	SWRNJ-000750	SWRMH-006356	AA42122	AA42101	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001312	SWRMH-007301	SWRMH-007302	T48138	T48137	190	0.012	8	0.03	0.002	19:01 hr	0.65	0.94
SWRGM-001313	SWRMH-007284	SWRMH-007285	T48155	T48154	230	0.011	8	0.04	0.002	19:02 hr	0.66	0.92
SWRGM-001314	SWRMH-008339	SWRMH-008338	T44135	T44216	270	0.012	8	0.06	0.006	19:01 hr	0.97	1.02
SWRGM-001315	SWRCO-000709	SWRMH-008340	T44108	T44134	105	0.008	8	0.03	0.001	19:00 hr	0.52	0.76
SWRGM-001316	SWRMH-008341	SWRMH-008340	T44133	T44134	271	0.008	8	0.14	0.028	19:09 hr	1.39	0.95
SWRGM-001317	SWRMH-007576	SWRMH-007575	T46122	T46123	164	0.026	8	0.02	0.001	19:00 hr	0.68	1.28
SWRGM-001318	SWRMH-008321	SWRMH-008320	T46161	T46162	140	0.008	8	0.10	0.012	19:06 hr	1.04	0.88
SWRGM-001319	SWRMH-007592	SWRMH-007593	T46106	T46105	140	0.008	8	0.07	0.005	19:02 hr	0.82	0.84
SWRGM-001320	SWRMH-007594	SWRMH-007593	T46104	T46105	113	0.008	8	0.05	0.003	19:01 hr	0.69	0.82
SWRGM-001321	SWRCO-000699	SWRMH-007591	T46101	T46107	87	0.02	8	0.02	0.001	19:00 hr	0.65	1.15
SWRGM-001322	SWRMH-007591	SWRMH-007592	T46107	T46106	158	0.019	8	0.05	0.005	19:01 hr	1.08	1.27
SWRGM-001323	SWRNJ-000621	SWRMH-004346	Y44102	Y44132	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001324	SWRNJ-000785	SWRMH-006354	AA42125	AA42103	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001325	SWRNJ-000771	SWRMH-006355	AA42124	AA42102	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001326	SWRMH-006895	SWRMH-006896	P47122	P47121	320	0.005	8	0.07	0.005	19:03 hr	0.69	0.67
SWRGM-001327	SWRMH-006902	SWRMH-006901	P47115	P47116	200	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001328	SWRCO-000733	SWRMH-006902	P47101	P47115	130	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001329	SWRMH-007793	SWRNJ-000152	S46140	S46343	118	0.021	8	0.02	0.001	19:00 hr	0.64	1.16
SWRGM-001330	SWRMH-007333	SWRMH-007342	S46104	S45155	250	0.007	8	0.07	0.006	19:02 hr	0.84	0.81
SWRGM-001335	SWRNJ-000885	SWRMH-008141	AB31111	AB31103	10	0.023	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001336	SWRNJ-000887	SWRMH-008141	AB31112	AB31103	10	0.023	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001337	SWRMH-000749	SWRMH-000748	P49127	P49128	255	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001338	SWRMH-000750	SWRMH-000749	P49126	P49127	255	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001339	SWRMH-000760	SWRMH-000757	P49122	P49123	282	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001340	SWRMH-000762	SWRMH-000760	P49121	P49122	350	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001341	SWRMH-000773	SWRMH-000832	Z45125	Z44131	325	0.029	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001342	SWRCO-000310	SWRMH-000773	Z45104	Z45125	90	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001343	SWRMH-000772	SWRMH-000830	Z45126	Z44133	163	0.039	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001344	SWRCO-000309	SWRMH-000772	Z45105	Z45126	107	0.039	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001345	SWRMH-000774	SWRMH-000835	Z45124	Z44128	325	0.029	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001346	SWRCO-000311	SWRMH-000774	Z45103	Z45124	90	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001347	SWRMH-000775	SWRMH-000834	Z45123	Z44129	325	0.029	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001348	SWRCO-000312	SWRMH-000775	Z45102	Z45123	90	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001349	SWRMH-000776	SWRMH-000833	Z45122	Z44130	325	0.03	8	0.02	0.001	19:01 hr	0.69	1.35
SWRGM-001350	SWRCO-000313	SWRMH-000776	Z45101	Z45122	90	0.022	8	0.01	0	19:00 hr	0.45	1.08
SWRGM-001351	SWRMH-000783	SWRMH-000790	P49110	P49103	296	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001352	SWRMH-000786	SWRMH-000734	P49107	P49142	43	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001353	SWRMH-000791	SWRMH-000734	P49102	P49142	138	0.029	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001354	SWRMH-007556	SWRMH-007555	T46142	T46143	238	0.012	8	0.05	0.003	19:01 hr	0.79	0.97
SWRGM-001355	SWRMH-007555	SWRMH-007557	T46143	T46141	281	0.008	8	0.13	0.021	19:07 hr	1.26	0.93
SWRGM-001356	SWRMH-007445	SWRMH-007535	T47170	T46179	275	0.007	8	0.09	0.009	19:06 hr	0.94	0.84
SWRGM-001357	SWRMH-007543	SWRMH-008316	T46155	T46166	146	0.008	8	0.03	0.001	19:01 hr	0.53	0.77
SWRGM-001358	SWRMH-008312	SWRMH-008313	T46170	T46169	250	0.012	8	0.06	0.006	19:03 hr	1.00	1.05
SWRGM-001359	SWRMH-008313	SWRMH-007537	T46169	T46177	252	0.01	8	0.07	0.008	19:04 hr	1.02	0.98
SWRGM-001360	SWRMH-007549	SWRMH-007550	T46149	T46148	175	0.006	8	0.25	0.07	19:19 hr	1.61	0.83

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001361	SWRMH-007539	SWRMH-007538	T46159	T46160	168	0.006	8	0.10	0.01	19:04 hr	0.90	0.77
SWRGM-001362	SWRMH-000807	SWRMH-000806	Y44136	Y44137	283	0.004	8	0.06	0.003	19:04 hr	0.56	0.59
SWRGM-001363	SWRMH-000817	SWRMH-000816	P48109	P48110	198	0.027	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001364	SWRMH-000819	SWRMH-000820	P48107	P48106	280	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001365	SWRMH-000818	SWRMH-000819	P48108	P48107	301	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001366	SWRMH-000817	SWRMH-000818	P48109	P48108	311	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001367	SWRMH-000818	SWRMH-000815	P48108	P48111	255	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001368	SWRMH-000814	SWRMH-000816	P48112	P48110	341	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001369	SWRMH-000813	SWRMH-000814	P48113	P48112	281	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001370	SWRCO-000314	SWRMH-000813	P48102	P48113	127	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001371	SWRMH-000811	SWRMH-000812	P48115	P48114	340	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001372	SWRMH-000793	SWRMH-000811	P48121	P48115	340	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001373	SWRMH-000475	SWRMH-000819	P48121	P48107	136	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001374	SWRMH-000733	SWRMH-000732	Q52101	Q52102	346	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001375	SWRMH-001385	SWRMH-001382	Q44135	Q44138	74	0.019	8	0.04	0.002	19:00 hr	0.84	1.19
SWRGM-001376	SWRMH-001386	SWRMH-001392	Q44134	Q44128	200	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001377	SWRMH-001392	SWRMH-001393	Q44128	Q44127	207	0.014	8	0.04	0.003	19:01 hr	0.79	1.03
SWRGM-001378	SWRMH-008317	SWRMH-008316	T46165	T46166	330	0.009	8	0.11	0.017	19:08 hr	1.26	0.98
SWRGM-001379	SWRMH-008316	SWRMH-008308	T46166	T46174	332	0.018	8	0.10	0.02	19:08 hr	1.63	1.33
SWRGM-001380	SWRMH-007582	SWRMH-007581	T46116	T46117	175	0.014	8	0.02	0.001	19:01 hr	0.58	0.98
SWRGM-001381	SWRMH-007681	SWRMH-001975	S45118	S44171	295	0.019	8	0.22	0.097	19:13 hr	2.68	1.48
SWRGM-001382	SWRMH-007680	SWRMH-007681	S45119	S45118	295	0.012	8	0.24	0.095	19:12 hr	2.28	1.19
SWRGM-001383	SWRMH-007686	SWRMH-007698	S45113	S45101	200	0.004	8	0.08	0.006	19:01 hr	0.69	0.65
SWRGM-001384	SWRMH-007687	SWRMH-007685	S45112	S45114	200	0.004	8	0.07	0.005	19:01 hr	0.66	0.64
SWRGM-001385	SWRMH-007688	SWRMH-007684	S45111	S45115	200	0.004	8	0.07	0.005	19:02 hr	0.65	0.64
SWRGM-001386	SWRMH-007689	SWRMH-007683	S45110	S45116	250	0.005	8	0.08	0.005	19:02 hr	0.69	0.67
SWRGM-001387	SWRMH-007693	SWRMH-007348	S45106	S45149	253	0.01	8	0.12	0.021	19:05 hr	1.37	1.03
SWRGM-001388	SWRMH-007343	SWRMH-007693	S45154	S45106	320	0.012	8	0.09	0.011	19:05 hr	1.19	1.05
SWRGM-001389	SWRMH-007340	SWRMH-007339	S45157	S45158	150	0.008	8	0.11	0.016	19:04 hr	1.16	0.90
SWRGM-001390	SWRMH-007348	SWRMH-007350	S45149	S45147	257	0.014	8	0.13	0.03	19:05 hr	1.68	1.20
SWRGM-001391	SWRMH-007660	SWRMH-007659	S45139	S45140	250	0.006	8	0.07	0.005	19:02 hr	0.76	0.76
SWRGM-001392	SWRMH-007540	SWRMH-007539	T46158	T46159	262	0.01	8	0.08	0.008	19:03 hr	1.00	0.94
SWRGM-001393	SWRMH-007542	SWRMH-007541	T46156	T46157	250	0.012	8	0.05	0.004	19:01 hr	0.85	0.98
SWRGM-001394	SWRMH-007541	SWRMH-007540	T46157	T46158	250	0.008	8	0.07	0.006	19:02 hr	0.86	0.87
SWRGM-001395	SWRMH-007532	SWRMH-007530	T46182	T46184	125	0.017	8	0.03	0.001	19:00 hr	0.72	1.09
SWRGM-001396	SWRMH-003959	SWRMH-003958	X37148	X37149	142	0.018	8	0.10	0.02	19:09 hr	1.65	1.35
SWRGM-001397	SWRMH-003961	SWRMH-003959	X37146	X37148	143	0.018	8	0.10	0.019	19:09 hr	1.63	1.35
SWRGM-001398	SWRMH-004291	SWRMH-006936	Y42141	Y42102	165	0.006	8	0.20	0.045	19:14 hr	1.43	0.83
SWRGM-001400	SWRMH-005031	SWRMH-005085	AC44138	AC44124	215	0.041	8	0.06	0.009	19:01 hr	1.71	1.88
SWRGM-001401	SWRMH-007850	SWRMH-008123	T48106	T48130	200	0.012	8	0.03	0.001	19:01 hr	0.62	0.94
SWRGM-001402	SWRMH-007851	SWRMH-007843	T48105	T48113	220	0.025	8	0.02	0.001	19:01 hr	0.69	1.26
SWRGM-001403	SWRMH-003092	SWRMH-003090	W33103	W33105	213	0.038	8	0.06	0.008	19:05 hr	1.62	1.81
SWRGM-001404	SWRMH-003118	SWRMH-003117	W32101	W32102	264	0.061	8	0.03	0.002	19:00 hr	1.33	2.06
SWRGM-001405	SWRMH-003116	SWRMH-003094	W32103	W33101	145	0.004	8	0.07	0.004	19:03 hr	0.61	0.62
SWRGM-001406	SWRMH-003104	SWRMH-003103	W32115	W32116	169	0.027	8	0.03	0.002	19:01 hr	0.94	1.40
SWRGM-001407	SWRMH-001462	SWRMH-001464	W35117	W35115	350	0.014	8	0.15	0.036	19:11 hr	1.81	1.24
SWRGM-001408	SWRMH-001463	SWRMH-001462	W35116	W35117	215	0.016	8	0.14	0.035	19:10 hr	1.85	1.30
SWRGM-001409	SWRMH-001166	SWRMH-001165	AA47141	AA47142	282	0.022	8	0.06	0.008	19:02 hr	1.34	1.40
SWRGM-001410	SWRNJ-000762	SWRMH-001279	AA46106	AA46118	10	0.044	8	0.05	0.007	19:01 hr	1.62	1.91
SWRGM-001411	SWRMH-001244	SWRNJ-000762	AA46153	AA46106	294	0.054	8	0.05	0.007	19:01 hr	1.74	2.10
SWRGM-001413	SWRMH-005485	SWRMH-004047	X41126	X41154	55	0.006	8	0.03	0.001	10:07 hr	0.45	0.68
SWRGM-001414	SWRMH-001953	SWRMH-001949	R44120	R44124	247	0.015	8	0.03	0.001	19:02 hr	0.69	1.04
SWRGM-001416	SWRMH-006466	SWRMH-007003	Q51115	Q51117	137	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001417	SWRMH-006471	SWRMH-006472	Q51110	Q51109	328	0.005	8	0.03	0.001	19:27 hr	0.40	0.59
SWRGM-001418	SWRMH-006470	SWRMH-006471	Q51111	Q51110	313	0.014	8	0.03	0.001	19:24 hr	0.58	0.97
SWRGM-001419	SWRMH-006469	SWRMH-006470	Q51112	Q51111	317	0.008	8	0.03	0.001	19:22 hr	0.47	0.73
SWRGM-001420	SWRMH-006468	SWRMH-006469	Q51113	Q51112	196	0.016	8	0.02	0.001	19:20 hr	0.61	1.03
SWRGM-001421	SWRMH-006467	SWRMH-006468	Q51114	Q51113	155	0.006	8	0.03	0.001	19:19 hr	0.43	0.66
SWRGM-001422	SWRMH-007003	SWRMH-007002	Q51117	Q51118	300	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001423	SWRMH-002034	SWRMH-002033	S43115	S43116	315	0.029	8	0.06	0.007	19:02 hr	1.39	1.56
SWRGM-001424	SWRMH-002035	SWRMH-002026	S43114	S43123	190	0.027	8	0.05	0.005	19:02 hr	1.25	1.48
SWRGM-001425	SWRMH-002037	SWRMH-002031	S43112	S43118	126	0.013	8	0.08	0.009	19:05 hr	1.14	1.08
SWRGM-001426	SWRMH-002020	SWRMH-002021	S43129	S43128	287	0.013	8	0.09	0.013	19:04 hr	1.29	1.12
SWRGM-001427	SWRMH-002313	SWRMH-002314	U36115	U36114	205	0.014	8	0.07	0.007	19:03 hr	1.08	1.11
SWRGM-001428	SWRMH-007506	SWRMH-007505	T45114	T45115	191	0.004	8	0.19	0.032	19:09 hr	1.11	0.67
SWRGM-001429	SWRMH-007479	SWRMH-007477	T45141	T45143	280	0.004	8	0.09	0.008	19:06 hr	0.73	0.62
SWRGM-001430	SWRMH-007484	SWRMH-007485	T45136	T45135	262	0.024	8	0.02	0.001	19:01 hr	0.73	1.26
SWRGM-001431	SWRCO-000705	SWRMH-007483	T45101	T45137	175	0.012	8	0.04	0.002	19:01 hr	0.70	0.95
SWRGM-001432	SWRMH-007483	SWRMH-007482	T45137	T45138	262	0.026	8	0.03	0.002	19:02 hr	0.97	1.39
SWRGM-001433	SWRMH-007499	SWRMH-007498	T45121	T45122	330	0.007	8	0.32	0.126	19:36 hr	2.02	0.90
SWRGM-001434	SWRCO-000715	SWRMH-000686	T44102	T44103	61	0.005	8	0.03	0.001	19:00 hr	0.39	0.60
SWRGM-001435	SWRCO-000714	SWRMH-000687	T44103	T44102	133	0.02	8	0.02	0.001	19:00 hr	0.66	1.14
SWRGM-001436	SWRMH-001380	SWRMH-001381	Q44140	Q44139	213	0.019	8	0.32	0.2	19:42 hr	3.27	1.47
SWRGM-001437	SWRMH-007882	SWRMH-002992	L47101	L47109	300	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001438	SWRNJ-000015	SWRMH-003012	L47102	L47103	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001439	SWRMH-002992	SWRMH-002991	L47109	L47110	286	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001440	SWRMH-001455	SWRMH-008884	SDMH001455	SP0584MH111	318	0.004	8	0.06	0.003	19:04 hr	0.55	0.59
SWRGM-001441	SWRMH-001454	SWRMH-001455	W35125	W35124	309	0.045	8	0.03	0.002	19:01 hr	1.04	1.73
SWRGM-001442	SWRMH-001459	SWRMH-008891	SDMH001459	SP0584MH001	258	0.004	8	0.12	0.013	19:09 hr	0.85	0.64
SWRGM-001443	SWRMH-001460	SWRMH-001470	W35119	W35109	269	0.004	8	0.09	0.008	19:06 hr	0.72	0.62
SWRGM-001444	SWRMH-003812	SWRMH-003831	U45122	U45103	328	0.007	8	0.18	0.039	19:09 hr	1.45	0.89
SWRGM-001445	SWRMH-003797	SWRMH-003822	U45137	U45112	350	0.013	8	0.20	0.065	19:15 hr	2.11	1.23
SWRGM-001446	SWRMH-003822	SWRMH-003821	U45112	U45113	348	0.005	8	0.25	0.066	19:18 hr	1.49	0.76
SWRGM-001447	SWRMH-003807	SWRMH-003806	U45127	U45128	330	0.005	8	0.08	0.007	19:05 hr	0.79	0.72
SWRGM-001448	SWRMH-003778	SWRMH-003780	U45156	U45154	320	0.005	8	0.20	0.039	19:12 hr	1.25	0.73
SWRGM-001449	SWRMH-000711	SWRMH-000969	R51130	R51124	328	0.015	8	0.05	0.003	19:02 hr	0.90	1.11
SWRGM-001450	SWRMH-000707	SWRMH-000709	R51134	R51132	255	0.005	8	0.07	0.004	19:04 hr	0.65	0.66
SWRGM-001451	SWRMH-000710	SWRMH-000707	R51131	R51134	214	0.005	8	0.05	0.002	19:02 hr	0.52	0.64
SWRGM-001452	SWRMH-000723	SWRMH-000724	Q52123	Q52122	350	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001453	SWRMH-000721	SWRMH-000722	Q52125	Q52124	317	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001454	SWRMH-000722	SWRMH-000723	Q52124	Q52123	350	0.011	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001455	SWRMH-000719	SWRMH-000720	Q52127	Q52126	350	0.014	8	0.06	0.006	19:03 hr	1.05	1.11
SWRGM-001456	SWRMH-000717	SWRMH-000718	Q52129	Q52128	313	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001457	SWRMH-000718	SWRMH-000719	Q52128	Q52127	350	0.011	8	0.04	0.002	19:02 hr	0.72	0.93
SWRGM-001458	SWRMH-000731	SWRMH-000730	Q52103	Q52104	350	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001459	SWRMH-000732	SWRMH-000731	Q52102	Q52103	351	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001460	SWRMH-000777	SWRMH-000771	P49116	P49117	191	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001461	SWRNJ-000052	SWRMH-000779	P49101	P49114	133	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001462	SWRMH-008288	SWRMH-008287	S48118	S48119	211	0.011	8	0.07	0.007	19:03 hr	1.02	0.99
SWRGM-001463	SWRMH-008289	SWRMH-008288	S48117	S48118	164	0.007	8	0.07	0.005	19:02 hr	0.79	0.81
SWRGM-001464	SWRMH-007176	SWRMH-007175	S48139	S48140	162	0.011	8	0.04	0.002	19:01 hr	0.69	0.92
SWRGM-001465	SWRMH-007180	SWRMH-007179	S48135	S48136	293	0.014	8	0.13	0.028	10:18 hr	1.68	1.23
SWRGM-001466	SWRMH-008293	SWRMH-008292	S48113	S48114	350	0.009	8	0.07	0.006	19:05 hr	0.93	0.92
SWRGM-001467	SWRMH-008301	SWRMH-007395	S48105	S48130	285	0.008	8	0.21	0.06	19:32 hr	1.75	0.98
SWRGM-001468	SWRMH-008303	SWRMH-008296	S48103	S48110	346	0.012	8	0.06	0.005	19:03 hr	0.94	1.02
SWRGM-001469	SWRMH-008302	SWRMH-008295	S48104	S48111	346	0.008	8	0.07	0.005	19:03 hr	0.84	0.86
SWRGM-001470	SWRMH-008299	SWRMH-008300	S48107	S48106	256	0.007	8	0.22	0.056	19:29 hr	1.58	0.88
SWRGM-001471	SWRMH-000675	SWRMH-000673	T44108	T44110	117	0.015	8	0.04	0.003	19:00 hr	0.83	1.07
SWRGM-001472	SWRMH-000678	SWRMH-008175	T44105	T44163	283	0.01	8	0.32	0.147	19:39 hr	2.39	1.08
SWRGM-001473	SWRMH-008175	SWRMH-000679	T44163	T44104	283	0.021	8	0.26	0.148	19:40 hr	3.15	1.57
SWRGM-001474	SWRMH-008182	SWRMH-008181	T44156	T44157	320	0.004	8	0.04	0.001	19:03 hr	0.43	0.56
SWRGM-001475	SWRMH-008181	SWRMH-000678	T44157	T44105	320	0.004	8	0.05	0.002	19:06 hr	0.47	0.57
SWRGM-001476	SWRMH-008340	SWRMH-008193	T44134	T44145	335	0.005	8	0.17	0.032	19:12 hr	1.24	0.77
SWRGM-001477	SWRMH-008151	SWRMH-008152	T44185	T44184	242	0.017	8	0.02	0	19:01 hr	0.47	1.00
SWRGM-001478	SWRMH-008199	SWRMH-008338	T44139	T44136	250	0.008	8	0.05	0.003	19:01 hr	0.69	0.82
SWRGM-001479	SWRCO-000712	SWRMH-008199	T44105	T44139	85	0.015	8	0.03	0.001	19:00 hr	0.65	1.01
SWRGM-001480	SWRCO-000707	SWRMH-008341	T44110	T44133	75	0.015	8	0.02	0	19:00 hr	0.48	0.95
SWRGM-001481	SWRMH-008191	SWRMH-008190	T44147	T44148	296	0.015	8	0.09	0.015	19:04 hr	1.41	1.22
SWRGM-001482	SWRMH-007414	SWRMH-007468	AB31127	AB32123	116	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001483	SWRMH-008129	SWRMH-008128	T48124	T48125	256	0.008	8	0.05	0.003	19:02 hr	0.71	0.81
SWRGM-001484	SWRMH-007841	SWRMH-007843	T48115	T48113	262	0.012	8	0.06	0.005	19:02 hr	0.97	1.03
SWRGM-001485	SWRMH-002305	SWRMH-002304	U36123	U36124	270	0.005	8	0.27	0.075	19:20 hr	1.54	0.76
SWRGM-001486	SWRMH-002054	SWRMH-002305	U36148	U36123	126	0.023	8	0.18	0.073	19:17 hr	2.64	1.61
SWRGM-001487	SWRNJ-000308	SWRMH-002076	U36283	U36126	35	0.007	8	0.05	0.003	19:02 hr	0.65	0.78
SWRGM-001488	SWRMH-002075	SWRNJ-000308	U36127	U36283	201	0.007	8	0.05	0.003	19:01 hr	0.63	0.76
SWRGM-001489	SWRMH-003818	SWRMH-008588	U45116	V45101	350	0.005	8	0.06	0.004	19:03 hr	0.64	0.66
SWRGM-001490	SWRMH-003819	SWRMH-008579	U45115	V45110	180	0.005	8	0.05	0.003	19:03 hr	0.56	0.64
SWRGM-001491	SWRMH-003795	SWRMH-003796	U45139	U45138	351	0.012	8	0.20	0.062	19:13 hr	2.00	1.17
SWRGM-001492	SWRMH-003798	SWRMH-003795	U45136	U45139	367	0.021	8	0.05	0.006	19:05 hr	1.19	1.34
SWRGM-001493	SWRMH-007153	SWRMH-007152	T39131	T39132	143	0.006	8	0.08	0.007	19:04 hr	0.81	0.75
SWRGM-001494	SWRMH-007168	SWRMH-007123	T39116	T39161	168	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001495	SWRMH-007168	SWRMH-007238	T39116	T39110	228	0.033	8	0.04	0.004	19:01 hr	1.19	1.58
SWRGM-001496	SWRMH-007238	SWRMH-007384	T39110	T38135	126	0.007	8	0.06	0.004	19:02 hr	0.71	0.79
SWRGM-001497	SWRMH-007130	SWRMH-007121	T39154	T39163	300	0.005	8	0.17	0.032	19:12 hr	1.24	0.77
SWRGM-001498	SWRMH-003672	SWRMH-003660	U48139	U48151	202	0.016	8	0.08	0.01	19:03 hr	1.26	1.20
SWRGM-001499	SWRMH-003661	SWRMH-003659	U48150	U48152	300	0.016	8	0.05	0.004	19:01 hr	1.01	1.17
SWRGM-001500	SWRMH-003567	SWRMH-003566	V35112	V35113	314	0.023	8	0.05	0.006	19:01 hr	1.22	1.38
SWRGM-001501	SWRMH-007274	SWRMH-007280	T48165	T48159	270	0.011	8	0.03	0.001	19:01 hr	0.51	0.85
SWRGM-001502	SWRMH-007280	SWRMH-007282	T48159	T48157	230	0.015	8	0.04	0.002	19:02 hr	0.76	1.07
SWRGM-001503	SWRMH-007276	SWRMH-007287	T48163	T48152	267	0.024	8	0.12	0.031	19:05 hr	2.08	1.58
SWRGM-001504	SWRMH-007275	SWRMH-007278	T48164	T48161	100	0.007	8	0.02	0.001	19:00 hr	0.38	0.65
SWRGM-001505	SWRMH-008079	SWRNJ-000273	U39111	U39368	225	0.006	8	0.35	0.136	19:25 hr	1.96	0.84
SWRGM-001506	SWRMH-008078	SWRMH-008066	U39112	U39124	320	0.014	8	0.29	0.148	19:30 hr	2.70	1.27
SWRGM-001507	SWRMH-008048	SWRMH-008049	U39142	U39141	205	0.017	8	0.04	0.002	19:01 hr	0.83	1.13
SWRGM-001508	SWRMH-008049	SWRMH-008051	U39141	U39139	195	0.007	8	0.05	0.003	19:02 hr	0.66	0.77
SWRGM-001509	SWRMH-007268	SWRCO-000683	T48171	T48114	89	0.007	8	0.09	0.011	10:03 hr	0.99	0.85
SWRGM-001510	SWRMH-000899	SWRMH-000901	P46138	P46136	260	0.005	8	0.03	0.001	19:02 hr	0.39	0.59
SWRGM-001515	SWRCO-000684	SWRCO-000685	T48113	T48112	97	0.007	8	0.09	0.011	10:04 hr	1.00	0.85
SWRGM-001516	SWRCO-000681	SWRCO-000680	T48116	T48117	94	0.011	8	0.08	0.01	10:01 hr	1.14	1.04
SWRGM-001517	SWRMH-007269	SWRCO-000682	T48170	T48115	94	0.011	8	0.07	0.008	10:00 hr	1.05	1.02
SWRGM-001518	SWRNJ-000889	SWRMH-005662	AB48102	AB48124	45	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001519	SWRNJ-000891	SWRMH-005662	AB48101	AB48124	35	0.009	8	0.09	0.01	10:00 hr	1.06	0.95
SWRGM-001520	SWRMH-000830	SWRMH-004567	Z44133	Z44119	21	0.091	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001521	SWRMH-000832	SWRMH-000831	Z44131	Z44132	279	0.026	8	0.02	0.001	19:09 hr	0.74	1.31
SWRGM-001522	SWRMH-000835	SWRMH-000832	Z44128	Z44131	276	0.005	8	0.03	0.001	19:07 hr	0.42	0.60
SWRGM-001523	SWRMH-000834	SWRMH-000835	Z44129	Z44128	276	0.005	8	0.03	0.001	19:05 hr	0.42	0.60
SWRGM-001524	SWRMH-000833	SWRMH-000834	Z44130	Z44129	277	0.005	8	0.03	0.001	19:03 hr	0.41	0.60
SWRGM-001525	SWRMH-000837	SWRMH-000836	Z43169	Z43170	204	0.005	8	0.15	0.022	19:14 hr	1.08	0.73
SWRGM-001526	SWRMH-000825	SWRMH-000837	Z44138	Z43169	245	0.004	8	0.15	0.021	19:12 hr	0.99	0.66
SWRGM-001527	SWRMH-003560	SWRMH-003561	V35119	V35118	277	0.005	8	0.09	0.008	19:05 hr	0.79	0.69
SWRGM-001528	SWRMH-000778	SWRMH-000786	P49115	P49107	280	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001529	SWRMH-000781	SWRMH-000783	P49112	P49110	239	0.021	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001530	SWRMH-000782	SWRMH-000781	P49111	P49112	239	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001531	SWRMH-006926	SWRMH-006927	R47118	R47117	304	0.005	8	0.40	0.154	19:27 hr	1.84	0.74
SWRGM-001534	SWRMH-008089	SWRMH-008090	T47158	T47157	200	0.019	8	0.02	0.001	19:01 hr	0.66	1.13
SWRGM-001535	SWRMH-002583	SWRMH-002584	R38114	R38113	350	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001536	SWRMH-002582	SWRMH-002583	R38115	R38114	300	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001537	SWRMH-002579	SWRMH-002582	R38118	R38115	274	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001538	SWRMH-007126	SWRMH-007131	T39158	T39153	309	0.01	8	0.10	0.015	19:07 hr	1.23	1.01
SWRGM-001539	SWRMH-007131	SWRMH-007130	T39153	T39154	300	0.01	8	0.14	0.028	19:09 hr	1.48	1.04
SWRGM-001540	SWRMH-007139	SWRMH-007140	T39145	T39144	276	0.017	8	0.07	0.009	19:02 hr	1.29	1.26
SWRGM-001541	SWRMH-007235	SWRMH-007234	T39113	T39114	252	0.007	8	0.04	0.001	19:02 hr	0.54	0.73
SWRGM-001542	SWRMH-001849	SWRMH-001857	S43145	S43137	245	0.005	8	0.41	0.168	19:18 hr	1.93	0.76
SWRGM-001543	SWRMH-001338	SWRMH-001337	Q45126	Q45127	177	0.005	8	0.09	0.008	19:03 hr	0.78	0.69
SWRGM-001544	SWRMH-001340	SWRMH-001341	Q45124	Q45123	183	0.007	8	0.06	0.003	19:01 hr	0.70	0.78
SWRGM-001545	SWRCO-000646	SWRMH-001349	Q45101	Q45115	32	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001546	SWRMH-007206	SWRMH-007204	S47148	S47149	265	0.015	8	0.11	0.022	19:06 hr	1.59	1.24
SWRGM-001547	SWRMH-007232	SWRMH-007231	S47165	S47166	350	0.007	8	0.07	0.005	19:03 hr	0.75	0.77
SWRGM-001548	SWRMH-007229	SWRMH-007206	S47168	S47148	239	0.012	8	0.04	0.003	19:02 hr	0.78	0.98
SWRGM-001549	SWRMH-007230	SWRMH-007229	S47167	S47168	191	0.008	8	0.04	0.002	19:01 hr	0.57	0.77
SWRGM-001550	SWRMH-007375	SWRMH-007374	S47105	S47106	205	0.018	8	0.04	0.002	19:01 hr	0.84	1.17
SWRGM-001551	SWRMH-007374	SWRMH-007373	S47106	S47107	225	0.018	8	0.05	0.004	19:02 hr	1.03	1.22

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001552	SWRMH-007373	SWRMH-007779	S47107	S47162	310	0.014	8	0.07	0.008	19:03 hr	1.17	1.14
SWRGM-001553	SWRMH-007371	SWRMH-007370	S47109	S47110	350	0.013	8	0.10	0.018	19:09 hr	1.41	1.14
SWRGM-001554	SWRNJ-000096	SWRMH-006853	R47530	R47143	42	0.004	8	0.12	0.015	19:06 hr	0.92	0.68
SWRGM-001555	SWRMH-006854	SWRNJ-000096	R47142	R47530	159	0.005	8	0.12	0.015	19:05 hr	0.94	0.70
SWRGM-001556	SWRNJ-000126	SWRMH-006860	R47529	R47136	49	0.006	8	0.13	0.019	19:05 hr	1.09	0.79
SWRGM-001557	SWRMH-006864	SWRNJ-000126	R47132	R47529	137	0.006	8	0.13	0.019	19:05 hr	1.09	0.79
SWRGM-001558	SWRNJ-000123	SWRMH-006858	R47528	R47138	51	0.007	8	0.10	0.012	19:04 hr	1.01	0.83
SWRGM-001559	SWRMH-006865	SWRNJ-000123	R47131	R47528	136	0.008	8	0.10	0.012	19:03 hr	1.04	0.87
SWRGM-001560	SWRMH-007961	SWRMH-007704	U38107	U38175	126	0.004	8	0.28	0.071	19:11 hr	1.40	0.68
SWRGM-001561	SWRMH-007602	SWRMH-007603	U38183	U38182	161	0.016	8	0.44	0.342	19:29 hr	3.60	1.38
SWRGM-001562	SWRMH-007706	SWRMH-007602	U38173	U38183	189	0.015	8	0.43	0.32	19:29 hr	3.46	1.34
SWRGM-001563	SWRMH-007509	SWRMH-007508	T45111	T45112	207	0.01	8	0.07	0.006	19:03 hr	0.92	0.94
SWRGM-001564	SWRMH-007469	SWRMH-007405	T45151	T45103	168	0.009	8	0.04	0.002	19:02 hr	0.62	0.84
SWRGM-001565	SWRMH-007264	SWRMH-007265	AA35113	AA35112	300	0.003	8	0.03	0	19:02 hr	0.29	0.47
SWRGM-001566	SWRMH-008315	SWRMH-008314	T46167	T46168	250	0.014	8	0.04	0.002	19:01 hr	0.79	1.04
SWRGM-001567	SWRMH-001736	SWRMH-001737	Q47133	Q47132	97	0.005	8	0.03	0.001	19:00 hr	0.36	0.59
SWRGM-001568	SWRMH-001750	SWRMH-001749	Q47119	Q47120	325	0.008	8	0.07	0.006	19:02 hr	0.88	0.87
SWRGM-001569	SWRMH-005798	SWRNJ-000692	Z43111	Z43321	68	0.007	8	0.02	0	19:02 hr	0.29	0.62
SWRGM-001570	SWRMH-004658	SWRMH-005313	Z43154	Z43126	32	0.009	8	0.12	0.021	19:06 hr	1.29	0.96
SWRGM-001572	SWRFT-000046	SWRMH-004932	W41111	W41104	285	0.009	8	0.23	0.074	19:06 hr	1.93	1.04
SWRGM-001573	SWRMH-004933	SWRFT-000046	W41103	W41111	45	0.007	8	0.25	0.074	19:04 hr	1.73	0.90
SWRGM-001574	SWRMH-001530	SWRNJ-000269	U40156	U40101	54	0.089	8	0.04	0.005	19:01 hr	1.84	2.57
SWRGM-001575	SWRNJ-000269	SWRMH-001528	U40101	U40158	58	0.089	8	0.04	0.005	19:01 hr	1.89	2.59
SWRGM-001576	SWRMH-005915	SWRMH-005911	AB48103	AB48107	296	0.012	8	0.08	0.009	10:06 hr	1.11	1.06
SWRGM-001579	SWRCO-000680	SWRCO-000679	T48117	T48118	94	0.011	8	0.08	0.01	10:02 hr	1.14	1.04
SWRGM-001580	SWRCO-000692	SWRMH-007270	T48105	T48169	86	0.001	8	0.07	0.002	10:04 hr	0.27	0.27
SWRGM-001581	SWRCO-000691	SWRCO-000692	T48106	T48105	86	0.015	8	0.04	0.002	10:04 hr	0.76	1.07
SWRGM-001582	SWRNJ-000886	SWRMH-000685	AB32105	AB32101	10	0.034	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001583	SWRMH-007428	SWRMH-007429	AB30105	AB30104	350	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001584	SWRMH-007140	SWRMH-007149	T39144	T39135	256	0.016	8	0.13	0.03	19:04 hr	1.76	1.28
SWRGM-001585	SWRMH-007147	SWRMH-007160	T39137	T39124	247	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001586	SWRMH-007151	SWRMH-007150	T39133	T39134	331	0.007	8	0.07	0.006	19:03 hr	0.83	0.80
SWRGM-001587	SWRMH-007154	SWRMH-007153	T39130	T39131	351	0.006	8	0.08	0.006	19:03 hr	0.78	0.74
SWRGM-001588	SWRMH-007133	SWRMH-007242	T39151	T39106	283	0.005	8	0.05	0.003	19:02 hr	0.57	0.65
SWRGM-001589	SWRMH-007242	SWRMH-007241	T39106	T39107	283	0.005	8	0.08	0.006	19:04 hr	0.72	0.68
SWRGM-001590	SWRMH-007161	SWRMH-007162	T39123	T39122	291	0.017	8	0.07	0.008	19:03 hr	1.23	1.24
SWRGM-001591	SWRMH-007364	SWRMH-007363	S47116	S47117	249	0.005	8	0.35	0.127	19:22 hr	1.79	0.76
SWRGM-001592	SWRMH-007363	SWRMH-007362	S47117	S47118	229	0.013	8	0.30	0.148	19:22 hr	2.62	1.22
SWRGM-001593	SWRMH-007200	SWRMH-007201	S47153	S47152	208	0.01	8	0.14	0.028	19:10 hr	1.49	1.04
SWRGM-001594	SWRMH-008279	SWRMH-008280	S49106	S49105	330	0.017	8	0.11	0.022	19:16 hr	1.65	1.30
SWRGM-001595	SWRMH-008284	SWRMH-008279	S49101	S49106	330	0.014	8	0.12	0.022	19:14 hr	1.54	1.19
SWRGM-001596	SWRMH-008287	SWRMH-007780	S48119	S47161	202	0.012	8	0.07	0.008	19:05 hr	1.08	1.04
SWRGM-001597	SWRMH-008285	SWRMH-007780	S48121	S47161	270	0.005	8	0.33	0.11	19:18 hr	1.72	0.76
SWRGM-001598	SWRMH-008290	SWRMH-008124	S48116	T48129	344	0.01	8	0.06	0.004	19:02 hr	0.83	0.92
SWRGM-001599	SWRMH-008915	SWRMH-007180	SP0601MH001	SDMH007180	291	0.01	8	0.14	0.028	10:15 hr	1.46	1.01
SWRGM-001600	SWRMH-007937	SWRMH-007938	U38131	U38130	305	0.009	8	0.06	0.004	19:05 hr	0.79	0.86
SWRGM-001601	SWRCO-000423	SWRMH-005844	Y42102	Z42121	150	0.015	8	0.02	0.001	19:00 hr	0.57	0.98
SWRGM-001602	SWRMH-003666	SWRMH-003662	U48145	U48149	175	0.011	8	0.04	0.002	19:01 hr	0.69	0.93
SWRGM-001603	SWRMH-003671	SWRMH-003672	U48140	U48139	210	0.017	8	0.07	0.007	19:02 hr	1.18	1.22
SWRGM-001604	SWRMH-007157	SWRMH-008064	T39127	U39126	375	0.028	8	0.08	0.016	19:05 hr	1.82	1.64
SWRGM-001605	SWRMH-008067	SWRMH-008068	U39123	U39122	264	0.017	8	0.07	0.009	19:03 hr	1.25	1.24
SWRGM-001606	SWRMH-007164	SWRMH-008065	T39120	U39125	326	0.016	8	0.04	0.002	19:02 hr	0.81	1.09
SWRGM-001607	SWRMH-008019	SWRMH-003452	U39171	V39103	309	0.017	8	0.17	0.058	19:14 hr	2.24	1.39
SWRGM-001608	SWRMH-007994	SWRMH-007993	U39183	U39184	274	0.004	8	0.06	0.003	19:02 hr	0.56	0.59
SWRGM-001609	SWRMH-008030	SWRMH-008029	U39160	U39161	180	0.004	8	0.10	0.009	19:08 hr	0.79	0.66
SWRGM-001610	SWRMH-001923	SWRMH-001924	R44149	R44148	200	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001611	SWRMH-001927	SWRMH-001925	R44145	R44147	294	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001612	SWRMH-001549	SWRMH-001548	R44194	R44195	330	0.006	8	0.33	0.122	19:30 hr	1.89	0.83
SWRGM-001613	SWRMH-006761	SWRMH-002664	P44118	P43130	268	0.008	8	0.10	0.013	19:06 hr	1.08	0.87
SWRGM-001614	SWRMH-006806	SWRMH-006805	P44153	P44154	256	0.007	8	0.04	0.002	19:02 hr	0.54	0.72
SWRGM-001615	SWRMH-006989	SWRMH-006988	P44160	P44161	258	0.004	8	0.04	0.002	19:02 hr	0.44	0.56
SWRGM-001619	SWRMH-006826	SWRMH-006844	R47170	R47152	264	0.004	8	0.11	0.01	19:04 hr	0.80	0.65
SWRGM-001620	SWRMH-006844	SWRMH-007206	R47152	S47148	270	0.005	8	0.12	0.015	19:05 hr	0.98	0.73
SWRGM-001621	SWRMH-006849	SWRMH-006850	R47147	R47146	154	0.005	8	0.06	0.004	19:02 hr	0.63	0.67
SWRGM-001622	SWRMH-006850	SWRMH-006851	R47146	R47145	155	0.007	8	0.07	0.006	19:02 hr	0.80	0.80
SWRGM-001623	SWRMH-006855	SWRMH-006865	R47141	R47131	219	0.012	8	0.04	0.002	19:01 hr	0.69	0.95
SWRGM-001624	SWRMH-006861	SWRMH-006864	R47135	R47132	157	0.006	8	0.11	0.014	19:04 hr	0.98	0.75
SWRGM-001625	SWRMH-006874	SWRMH-001777	R47122	R46183	170	0.018	8	0.08	0.011	19:04 hr	1.36	1.29
SWRGM-001626	SWRMH-006870	SWRMH-006861	R47126	R47135	124	0.013	8	0.09	0.012	19:03 hr	1.27	1.12
SWRGM-001627	SWRMH-006863	SWRMH-006864	R47133	R47132	157	0.011	8	0.06	0.004	19:02 hr	0.88	0.99
SWRGM-001628	SWRMH-006933	SWRMH-006932	R47111	R47112	152	0.014	8	0.03	0.002	19:01 hr	0.71	1.01
SWRGM-001629	SWRMH-006783	SWRMH-007621	R47181	R47105	180	0.025	8	0.03	0.002	19:00 hr	0.89	1.34
SWRGM-001630	SWRMH-006786	SWRMH-006785	R47178	R47179	315	0.009	8	0.06	0.005	19:02 hr	0.83	0.89
SWRGM-001631	SWRMH-007458	SWRMH-007457	T47125	T47126	228	0.012	8	0.05	0.004	19:01 hr	0.85	0.99
SWRGM-001632	SWRCO-000698	SWRMH-008111	T47101	T47136	142	0.007	8	0.05	0.003	19:01 hr	0.65	0.78
SWRGM-001633	SWRMH-008082	SWRMH-008081	T47165	T47166	249	0.006	8	0.12	0.015	19:09 hr	1.01	0.76
SWRGM-001634	SWRMH-007924	SWRMH-007708	U38144	U38171	74	0.005	8	0.47	0.21	19:31 hr	2.03	0.75
SWRGM-001636	SWRMH-001713	SWRMH-001712	Q47156	Q47157	250	0.007	8	0.08	0.007	19:03 hr	0.85	0.81
SWRGM-001637	SWRMH-001712	SWRMH-001711	Q47157	Q47158	250	0.007	8	0.09	0.01	19:04 hr	0.96	0.82
SWRGM-001638	SWRMH-001711	SWRMH-001715	Q47158	Q47154	256	0.01	8	0.10	0.013	19:05 hr	1.16	0.99
SWRGM-001639	SWRMH-001715	SWRMH-001716	Q47154	Q47153	260	0.01	8	0.12	0.019	19:06 hr	1.32	1.01
SWRGM-001640	SWRMH-007359	SWRMH-007358	S47121	S47122	290	0.005	8	0.10	0.011	19:05 hr	0.86	0.70
SWRGM-001641	SWRMH-007214	SWRMH-007213	S47140	S47141	350	0.012	8	0.10	0.015	19:06 hr	1.31	1.09
SWRGM-001642	SWRMH-006277	SWRMH-006278	Y45165	Y45164	214	0.011	8	0.04	0.002	19:03 hr	0.67	0.90
SWRGM-001643	SWRMH-001357	SWRMH-001963	Q44163	R44110	340	0.007	8	0.10	0.011	19:09 hr	0.98	0.83
SWRGM-001644	SWRMH-001358	SWRMH-001357	Q44162	Q44163	350	0.006	8	0.09	0.008	19:06 hr	0.83	0.74
SWRGM-001645	SWRMH-001359	SWRMH-001358	Q44161	Q44162	350	0.006	8	0.07	0.004	19:03 hr	0.71	0.73
SWRGM-001646	SWRMH-007149	SWRMH-007152	T39135	T39132	267	0.005	8	0.19	0.04	19:06 hr	1.29	0.76
SWRGM-001647	SWRMH-000737	SWRMH-000785	P49139	P49108	296	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001648	SWRMH-000748	SWRMH-000741	P49128	P49135	266	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001649	SWRMH-000737	SWRMH-000748	P49139	P49128	264	0.015	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001650	SWRMH-000741	SWRMH-000740	P49135	P49136	271	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001651	SWRMH-000742	SWRMH-000741	P49134	P49135	255	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001652	SWRMH-000743	SWRMH-000742	P49133	P49134	255	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001653	SWRMH-000744	SWRMH-000747	P49132	P49129	227	0.023	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001654	SWRMH-000740	SWRMH-000744	P49136	P49132	260	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001655	SWRMH-000751	SWRMH-000792	P49125	P49101	263	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001656	SWRMH-000747	SWRMH-000751	P49129	P49125	259	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001657	SWRMH-000779	SWRMH-000745	P49114	P49131	188	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001658	SWRMH-000736	SWRMH-000746	P49140	P49130	238	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001659	SWRMH-000784	SWRMH-000736	P49109	P49140	232	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001660	SWRMH-000738	SWRMH-000737	P49138	P49139	254	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001661	SWRMH-000739	SWRMH-000738	P49137	P49138	267	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001662	SWRMH-009049	SWRMH-000867	SP641MH5	SDMH000867	314	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001663	SWRMH-001724	SWRMH-001721	Q47145	Q47148	350	0.011	8	0.08	0.01	19:04 hr	1.10	1.01
SWRGM-001664	SWRMH-007075	SWRMH-007091	T43127	T43111	270	0.006	8	0.12	0.015	19:09 hr	1.01	0.77
SWRGM-001665	SWRMH-007089	SWRMH-007075	T43113	T43127	287	0.006	8	0.06	0.003	19:05 hr	0.65	0.70
SWRGM-001666	SWRNJ-000207	SWRMH-007100	T42102	T42106	40	0.005	8	0.14	0.021	10:00 hr	1.07	0.73
SWRGM-001667	SWRMH-000694	SWRMH-008421	T40104	T40105	218	0.015	8	0.06	0.005	19:01 hr	0.99	1.12
SWRGM-001668	SWRMH-008421	SWRMH-008420	T40105	T40106	218	0.015	8	0.07	0.008	19:02 hr	1.16	1.15
SWRGM-001669	SWRMH-001573	SWRMH-001906	R44170	R44166	249	0.005	8	0.12	0.015	19:06 hr	0.95	0.72
SWRGM-001670	SWRMH-001963	SWRMH-001574	R44110	R44169	192	0.006	8	0.24	0.066	19:09 hr	1.61	0.85
SWRGM-001671	SWRMH-001911	SWRMH-001912	R44161	R44160	300	0.012	8	0.06	0.004	19:01 hr	0.89	1.00
SWRGM-001672	SWRMH-001919	SWRMH-001918	R44153	R44154	350	0.01	8	0.06	0.004	19:02 hr	0.82	0.92
SWRGM-001673	SWRMH-001920	SWRMH-001911	R44152	R44161	135	0.005	8	0.05	0.002	19:01 hr	0.53	0.65
SWRGM-001674	SWRMH-007265	SWRMH-007257	AA35112	AA35120	309	0.004	8	0.04	0.001	19:03 hr	0.41	0.53
SWRGM-001675	SWRMH-007559	SWRMH-007584	T46139	T46114	180	0.006	8	0.16	0.028	19:10 hr	1.21	0.79
SWRGM-001676	SWRMH-008311	SWRMH-007549	T46171	T46149	115	0.012	8	0.21	0.069	19:18 hr	2.05	1.17
SWRGM-001677	SWRMH-007558	SWRMH-007557	T46140	T46141	238	0.012	8	0.05	0.003	19:01 hr	0.79	0.97
SWRGM-001678	SWRMH-007588	SWRMH-007589	T46110	T46109	305	0.009	8	0.05	0.003	19:02 hr	0.76	0.88
SWRGM-001679	SWRMH-007572	SWRMH-007571	T46126	T46127	310	0.022	8	0.04	0.003	19:01 hr	0.99	1.30
SWRGM-001680	SWRMH-007575	SWRMH-007574	T46123	T46124	224	0.031	8	0.04	0.003	19:01 hr	1.07	1.51
SWRGM-001681	SWRMH-007573	SWRMH-007572	T46125	T46126	175	0.022	8	0.02	0.001	19:00 hr	0.72	1.21
SWRGM-001682	SWRMH-003295	SWRNJ-000339	V46112	V46103	98	0.004	8	0.15	0.021	19:07 hr	0.99	0.66
SWRGM-001683	SWRNJ-000339	SWRMH-003293	V46103	V46114	94	0.004	8	0.16	0.023	19:07 hr	1.00	0.65
SWRGM-001684	SWRMH-003293	SWRNJ-000349	V46114	V46544	211	0.004	8	0.17	0.026	19:09 hr	1.04	0.66
SWRGM-001685	SWRMH-003287	SWRMH-003288	V46120	V46119	305	0.012	8	0.05	0.004	19:02 hr	0.90	1.02
SWRGM-001686	SWRNJ-000325	SWRMH-003279	V46109	V46128	84	0.01	8	0.06	0.005	19:02 hr	0.88	0.94
SWRGM-001687	SWRMH-003712	SWRMH-003248	U46157	V46159	349	0.009	8	0.09	0.011	19:04 hr	1.07	0.93
SWRGM-001688	SWRMH-003248	SWRNJ-000323	V46159	V46108	98	0.009	8	0.10	0.013	19:04 hr	1.15	0.97
SWRGM-001689	SWRNJ-000323	SWRMH-003274	V46108	V46133	252	0.009	8	0.10	0.015	19:05 hr	1.20	0.97
SWRGM-001690	SWRMH-007444	SWRMH-007439	T47171	T47176	250	0.01	8	0.05	0.004	19:01 hr	0.81	0.93
SWRGM-001691	SWRMH-007438	SWRMH-007439	T47177	T47176	266	0.014	8	0.10	0.018	19:05 hr	1.48	1.20
SWRGM-001692	SWRMH-003103	SWRMH-003085	W32116	W33110	313	0.031	8	0.04	0.004	19:02 hr	1.22	1.56
SWRGM-001693	SWRMH-006581	SWRMH-006580	S39129	S39130	182	0.021	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001694	SWRMH-006595	SWRMH-006594	S39115	S39116	227	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001695	SWRMH-008104	SWRMH-008103	T47143	T47144	260	0.005	8	0.09	0.008	19:05 hr	0.79	0.69
SWRGM-001696	SWRMH-007437	SWRMH-007438	T47178	T47177	266	0.006	8	0.11	0.013	19:04 hr	0.96	0.76
SWRGM-001697	SWRMH-007441	SWRMH-007440	T47174	T47175	186	0.015	8	0.04	0.002	19:01 hr	0.77	1.05
SWRGM-001698	SWRMH-007440	SWRMH-007436	T47175	T47179	200	0.013	8	0.06	0.005	19:01 hr	0.94	1.05
SWRGM-001699	SWRMH-007446	SWRMH-007445	T47169	T47170	255	0.009	8	0.07	0.007	19:04 hr	0.97	0.93
SWRGM-001700	SWRMH-008080	SWRMH-007447	T47167	T47168	250	0.008	8	0.06	0.004	19:01 hr	0.76	0.83
SWRGM-001701	SWRMH-007447	SWRMH-007446	T47168	T47169	250	0.008	8	0.07	0.006	19:03 hr	0.83	0.83
SWRGM-001702	SWRCO-000716	SWRMH-000686	T44101	T44103	70	0.037	8	0.02	0.001	19:00 hr	0.89	1.55
SWRGM-001703	SWRMH-008170	SWRMH-000666	T44168	T44116	100	0.004	8	0.05	0.002	19:00 hr	0.51	0.58
SWRGM-001704	SWRMH-007523	SWRMH-007522	T47108	T47109	290	0.014	8	0.08	0.009	19:02 hr	1.20	1.14
SWRGM-001705	SWRMH-008084	SWRMH-008083	T47163	T47164	350	0.009	8	0.09	0.011	19:06 hr	1.08	0.93
SWRGM-001706	SWRMH-006588	SWRMH-006589	S39122	S39121	325	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001707	SWRMH-006579	SWRMH-006578	S39131	S39132	134	0.005	8	0.03	0.001	19:12 hr	0.40	0.59
SWRGM-001708	SWRMH-006589	SWRMH-006590	S39121	S39120	317	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001709	SWRMH-006590	SWRMH-006577	S39120	S39133	325	0.021	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001710	SWRMH-008083	SWRNJ-000215	T47164	T47624	58	0.007	8	0.10	0.011	19:06 hr	0.99	0.83
SWRGM-001711	SWRMH-007926	SWRMH-007925	U38142	U38143	210	0.012	8	0.31	0.155	19:33 hr	2.59	1.18
SWRGM-001712	SWRMH-007717	SWRMH-007718	U38162	U38161	111	0.004	8	0.27	0.068	19:12 hr	1.38	0.67
SWRGM-001713	SWRMH-007723	SWRMH-007724	U38156	U38155	95	0.004	8	0.05	0.002	19:00 hr	0.45	0.55
SWRGM-001714	SWRMH-007724	SWRMH-007725	U38155	U38154	37	0.003	8	0.12	0.011	19:05 hr	0.78	0.60
SWRGM-001715	SWRMH-007958	SWRMH-007965	U38110	U38103	235	0.02	8	0.06	0.006	19:03 hr	1.18	1.30
SWRGM-001716	SWRMH-007962	SWRMH-007961	U38106	U38107	88	0.004	8	0.24	0.052	19:10 hr	1.27	0.67
SWRGM-001717	SWRMH-007941	SWRMH-007962	U38127	U38106	346	0.011	8	0.10	0.014	19:08 hr	1.25	1.05
SWRGM-001718	SWRMH-007965	SWRMH-007962	U38103	U38106	208	0.004	8	0.20	0.038	19:10 hr	1.16	0.67
SWRGM-001719	SWRMH-007709	SWRMH-007708	U38170	U38171	165	0.004	8	0.32	0.096	19:22 hr	1.52	0.68
SWRGM-001720	SWRMH-007478	SWRMH-000678	T45142	T44105	315	0.018	8	0.27	0.145	19:37 hr	2.94	1.45
SWRGM-001721	SWRMH-007482	SWRMH-000679	T45138	T44104	307	0.011	8	0.08	0.01	19:07 hr	1.11	1.01
SWRGM-001722	SWRMH-007554	SWRMH-007472	T46144	T45148	352	0.008	8	0.06	0.004	19:03 hr	0.77	0.83
SWRGM-001723	SWRMH-007504	SWRMH-007500	T45116	T45120	320	0.012	8	0.05	0.003	19:02 hr	0.81	0.98
SWRGM-001724	SWRMH-007270	SWRMH-007271	T48169	T48168	81	0.008	8	0.10	0.013	10:05 hr	1.05	0.87
SWRGM-001725	SWRMH-007271	SWRMH-007272	T48168	T48167	395	0.024	8	0.08	0.013	10:08 hr	1.58	1.49
SWRGM-001726	SWRNJ-000259	SWRMH-007271	T48417	T48168	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001727	SWRMH-007272	SWRMH-007276	T48167	T48163	114	0.026	8	0.10	0.022	10:15 hr	1.91	1.59
SWRGM-001728	SWRMH-007296	SWRMH-007294	T48143	T48145	260	0.016	8	0.09	0.013	19:06 hr	1.37	1.23
SWRGM-001729	SWRMH-007852	SWRMH-007853	T48104	T48103	207	0.004	8	0.10	0.009	10:14 hr	0.74	0.61
SWRGM-001730	SWRMH-007853	SWRMH-007854	T48103	T48102	200	0.004	8	0.10	0.01	19:03 hr	0.77	0.63
SWRGM-001731	SWRMH-007289	SWRMH-007288	T48150	T48151	303	0.013	8	0.12	0.024	19:08 hr	1.53	1.14
SWRGM-001732	SWRMH-007288	SWRMH-007286	T48151	T48153	118	0.02	8	0.11	0.024	19:08 hr	1.80	1.42
SWRGM-001733	SWRMH-007854	SWRMH-007272	T48102	T48167	19	0.011	8	0.08	0.01	19:02 hr	1.09	1.00
SWRGM-001734	SWRMH-002039	SWRMH-002035	S43110	S43114	105	0.032	8	0.04	0.004	19:01 hr	1.22	1.57
SWRGM-001735	SWRMH-001860	SWRMH-001859	S43134	S43135	85	0.004	8	0.18	0.031	19:09 hr	1.09	0.66
SWRGM-001736	SWRMH-001861	SWRMH-001860	S43133	S43134	150	0.004	8	0.18	0.031	19:09 hr	1.09	0.66
SWRGM-001737	SWRMH-002033	SWRMH-001861	S43116	S43133	149	0.004	8	0.18	0.029	19:08 hr	1.10	0.68
SWRGM-001738	SWRMH-001838	SWRMH-001836	S43156	S43158	264	0.005	8	0.11	0.012	19:07 hr	0.90	0.70
SWRGM-001739	SWRNJ-000190	SWRMH-001848	S43438	S43146	135	0.005	8	0.39	0.153	19:13 hr	1.85	0.75
SWRGM-001740	SWRMH-001845	SWRMH-001844	S43149	S43150	285	0.005	8	0.24	0.059	19:05 hr	1.40	0.73

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001741	SWRMH-001846	SWRMH-001845	S43148	S43149	285	0.005	8	0.23	0.056	19:02 hr	1.41	0.75
SWRGM-001742	SWRMH-001842	SWRMH-001846	S43152	S43148	290	0.005	8	0.10	0.01	19:12 hr	0.86	0.70
SWRGM-001743	SWRMH-002786	SWRMH-002787	M43119	M43118	308	0.005	8	0.04	0.001	19:03 hr	0.43	0.60
SWRGM-001744	SWRMH-002785	SWRMH-002786	M43120	M43119	259	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001745	SWRMH-002783	SWRMH-002780	M43122	M43125	248	0.01	8	0.06	0.005	19:07 hr	0.87	0.94
SWRGM-001746	SWRMH-002782	SWRMH-002779	M43123	M43126	350	0.012	8	0.08	0.008	19:04 hr	1.08	1.03
SWRGM-001747	SWRMH-002781	SWRMH-002778	M43124	M43127	350	0.011	8	0.06	0.005	19:04 hr	0.93	0.98
SWRGM-001748	SWRMH-003789	SWRMH-003788	U45145	U45146	351	0.007	8	0.15	0.027	19:09 hr	1.27	0.85
SWRGM-001749	SWRCO-000781	SWRMH-003820	U45105	U45114	110	0.049	8	0.01	0	19:00 hr	0.72	1.64
SWRGM-001750	SWRMH-003820	SWRMH-003819	U45114	U45115	238	0.005	8	0.05	0.002	19:02 hr	0.53	0.63
SWRGM-001751	SWRMH-003791	SWRMH-003787	U45143	U45147	350	0.01	8	0.09	0.011	19:04 hr	1.11	0.97
SWRGM-001752	SWRMH-003792	SWRMH-003790	U45142	U45144	350	0.01	8	0.07	0.007	19:04 hr	0.98	0.96
SWRGM-001753	SWRMH-003801	SWRMH-003800	U45133	U45134	299	0.01	8	0.06	0.004	19:04 hr	0.85	0.93
SWRGM-001754	SWRMH-003800	SWRMH-003799	U45134	U45135	282	0.012	8	0.06	0.006	19:05 hr	1.00	1.04
SWRGM-001755	SWRMH-003804	SWRMH-003805	U45130	U45129	327	0.013	8	0.04	0.002	19:02 hr	0.71	0.99
SWRGM-001756	SWRMH-003829	SWRMH-003830	U45105	U45104	203	0.013	8	0.04	0.002	19:01 hr	0.77	1.02
SWRGM-001757	SWRMH-003414	SWRMH-003413	V39141	V39142	336	0.005	8	0.08	0.006	19:03 hr	0.72	0.67
SWRGM-001758	SWRCO-000766	SWRMH-003399	V39102	V39156	122	0.004	8	0.05	0.002	19:01 hr	0.47	0.57
SWRGM-001759	SWRMH-003402	SWRMH-003401	V39153	V39154	286	0.007	8	0.14	0.024	19:08 hr	1.26	0.88
SWRGM-001760	SWRMH-003404	SWRMH-003405	V39151	V39150	310	0.009	8	0.09	0.012	19:05 hr	1.10	0.94
SWRGM-001761	SWRMH-003403	SWRMH-003404	V39152	V39151	300	0.009	8	0.08	0.009	19:03 hr	1.02	0.94
SWRGM-001762	SWRMH-003407	SWRMH-003402	V39148	V39153	310	0.008	8	0.08	0.008	19:05 hr	0.93	0.87
SWRGM-001763	SWRMH-003406	SWRMH-003407	V39149	V39148	300	0.008	8	0.06	0.005	19:04 hr	0.83	0.86
SWRGM-001764	SWRMH-003393	SWRMH-003392	V39162	V39163	220	0.004	8	0.22	0.046	19:11 hr	1.24	0.68
SWRGM-001765	SWRMH-003410	SWRMH-003411	V39145	V39144	320	0.006	8	0.08	0.006	19:05 hr	0.79	0.75
SWRGM-001766	SWRMH-003427	SWRMH-003448	V39128	V39107	132	0.01	8	0.06	0.005	19:01 hr	0.90	0.93
SWRGM-001767	SWRMH-006834	SWRNJ-000138	R47162	R47525	265	0.006	8	0.10	0.011	19:06 hr	0.95	0.79
SWRGM-001768	SWRMH-006746	SWRMH-006747	P44133	P44132	250	0.01	8	0.09	0.012	19:05 hr	1.16	1.00
SWRGM-001769	SWRMH-006747	SWRNJ-000051	P44132	P44521	115	0.008	8	0.10	0.014	19:05 hr	1.11	0.90
SWRGM-001770	SWRMH-001330	SWRMH-001329	Q45134	Q45135	294	0.005	8	0.10	0.009	19:05 hr	0.83	0.70
SWRGM-001771	SWRMH-001331	SWRMH-001330	Q45133	Q45134	350	0.005	8	0.07	0.005	19:03 hr	0.67	0.67
SWRGM-001772	SWRMH-001333	SWRMH-001332	Q45131	Q45132	345	0.019	8	0.06	0.005	19:02 hr	1.12	1.26
SWRGM-001773	SWRMH-001346	SWRMH-001345	Q45118	Q45119	77	0.013	8	0.04	0.003	19:00 hr	0.80	1.01
SWRGM-001774	SWRMH-001342	SWRMH-001343	Q45122	Q45121	350	0.006	8	0.11	0.013	19:04 hr	0.99	0.80
SWRGM-001775	SWRMH-001343	SWRMH-001344	Q45121	Q45120	350	0.007	8	0.12	0.018	19:07 hr	1.14	0.85
SWRGM-001777	SWRMH-001353	SWRMH-001347	Q45111	Q45117	140	0.014	8	0.31	0.163	19:36 hr	2.79	1.28
SWRGM-001778	SWRMH-001352	SWRMH-001353	Q45112	Q45111	134	0.005	8	0.40	0.163	19:36 hr	1.95	0.78
SWRGM-001779	SWRMH-007077	SWRMH-007076	T43125	T43126	270	0.006	8	0.18	0.037	19:15 hr	1.31	0.79
SWRGM-001780	SWRMH-007084	SWRMH-007090	T43118	T43112	262	0.012	8	0.06	0.004	19:02 hr	0.89	1.00
SWRGM-001781	SWRMH-007083	SWRMH-007089	T43119	T43113	349	0.008	8	0.05	0.003	19:03 hr	0.66	0.79
SWRGM-001782	SWRMH-001978	SWRMH-001975	S44168	S44171	20	0.003	8	0.14	0.016	19:04 hr	0.81	0.56
SWRGM-001783	SWRMH-001977	SWRMH-001978	S44169	S44168	262	0.004	8	0.12	0.012	19:04 hr	0.84	0.64
SWRGM-001784	SWRMH-002014	SWRMH-002032	S44132	S43117	270	0.007	8	0.13	0.02	19:05 hr	1.18	0.86
SWRGM-001785	SWRMH-002016	SWRMH-002034	S44130	S43115	350	0.02	8	0.05	0.004	19:01 hr	1.08	1.28
SWRGM-001786	SWRMH-002017	SWRMH-002020	S44129	S43129	300	0.013	8	0.08	0.009	19:03 hr	1.16	1.09
SWRGM-001787	SWRMH-001857	SWRMH-007098	S43137	T43104	284	0.013	8	0.32	0.171	19:19 hr	2.73	1.22
SWRGM-001788	SWRMH-001856	SWRMH-007097	S43138	T43105	280	0.005	8	0.08	0.006	19:04 hr	0.72	0.68
SWRGM-001789	SWRMH-001834	SWRMH-001835	S43160	S43159	87	0.019	8	0.09	0.015	19:04 hr	1.54	1.37
SWRGM-001790	SWRMH-001848	SWRMH-001849	S43146	S43145	323	0.005	8	0.40	0.163	19:16 hr	1.93	0.77
SWRGM-001791	SWRMH-007228	SWRMH-007378	S47169	S47102	210	0.008	8	0.04	0.002	19:01 hr	0.60	0.80
SWRGM-001792	SWRMH-007376	SWRMH-007373	S47104	S47107	161	0.012	8	0.04	0.002	19:01 hr	0.73	0.96
SWRGM-001793	SWRMH-007377	SWRMH-007376	S47103	S47104	98	0.012	8	0.03	0.001	19:00 hr	0.60	0.92
SWRGM-001794	SWRMH-007779	SWRMH-007372	S47162	S47108	145	0.014	8	0.08	0.01	19:03 hr	1.20	1.13
SWRGM-001795	SWRNJ-000151	SWRMH-007199	S47433	S47154	15	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001796	SWRMH-007203	SWRMH-007202	S47150	S47151	164	0.007	8	0.14	0.025	19:07 hr	1.27	0.89
SWRGM-001797	SWRMH-007360	SWRMH-007353	S47120	S47127	296	0.012	8	0.30	0.148	19:26 hr	2.61	1.21
SWRGM-001798	SWRNJ-000154	SWRMH-007198	S47432	S47155	10	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001799	SWRMH-007195	SWRMH-007781	S47158	S47160	192	0.005	8	0.56	0.277	19:32 hr	2.14	0.74
SWRGM-001800	SWRMH-007781	SWRMH-007196	S47160	S47157	355	0.007	8	0.50	0.279	19:35 hr	2.45	0.88
SWRGM-001801	SWRMH-007196	SWRMH-007197	S47157	S47156	260	0.011	8	0.43	0.28	19:36 hr	3.01	1.16
SWRGM-001802	SWRMH-007197	SWRMH-007198	S47156	S47155	260	0.017	8	0.39	0.28	19:38 hr	3.45	1.39
SWRGM-001803	SWRCO-000708	SWRMH-008342	T44109	T44132	75	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001804	SWRNJ-000208	SWRMH-007071	T43206	T43131	40	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001805	SWRMH-007091	SWRMH-007088	T43111	T43114	270	0.01	8	0.19	0.056	19:16 hr	1.85	1.09
SWRGM-001806	SWRMH-007087	SWRMH-007086	T43115	T43116	100	0.088	8	0.14	0.081	19:15 hr	4.36	3.06
SWRGM-001807	SWRMH-007136	SWRMH-007135	T39148	T39149	334	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001808	SWRMH-007163	SWRMH-007385	T39121	T38134	163	0.037	8	0.08	0.019	19:04 hr	2.08	1.89
SWRGM-001809	SWRMH-007123	SWRMH-007124	T39161	T39160	300	0.011	8	0.16	0.038	19:16 hr	1.69	1.11
SWRGM-001810	SWRMH-007476	SWRMH-007478	T45144	T45142	214	0.006	8	0.12	0.016	19:08 hr	1.07	0.82
SWRGM-001811	SWRMH-007502	SWRMH-007500	T45118	T45120	172	0.007	8	0.31	0.119	19:31 hr	1.97	0.89
SWRGM-001812	SWRMH-007500	SWRMH-007499	T45120	T45121	305	0.007	8	0.31	0.124	19:33 hr	2.04	0.92
SWRGM-001813	SWRMH-007490	SWRMH-007489	T45130	T45131	262	0.01	8	0.04	0.002	19:01 hr	0.68	0.88
SWRGM-001814	SWRMH-007493	SWRMH-007492	T45127	T45128	223	0.015	8	0.03	0.001	19:01 hr	0.69	1.03
SWRGM-001815	SWRMH-007474	SWRMH-007475	T45146	T45145	148	0.017	8	0.03	0.002	19:00 hr	0.78	1.12
SWRGM-001816	SWRMH-007503	SWRMH-007502	T45117	T45118	200	0.008	8	0.30	0.118	19:30 hr	2.05	0.95
SWRGM-001817	SWRMH-007507	SWRMH-007506	T45113	T45114	192	0.009	8	0.15	0.031	19:08 hr	1.50	1.01
SWRGM-001818	SWRMH-007498	SWRMH-007478	T45122	T45142	143	0.007	8	0.32	0.127	19:37 hr	2.01	0.90
SWRGM-001819	SWRMH-007405	SWRMH-007404	T45103	T45104	224	0.006	8	0.26	0.078	19:28 hr	1.67	0.84
SWRGM-001820	SWRMH-007350	SWRMH-007655	S45147	S45144	256	0.014	8	0.15	0.039	19:06 hr	1.84	1.24
SWRGM-001821	SWRMH-007657	SWRMH-007656	S45142	S45143	250	0.007	8	0.07	0.006	19:02 hr	0.82	0.79
SWRGM-001822	SWRMH-007655	SWRMH-007658	S45144	S45141	300	0.01	8	0.20	0.057	19:08 hr	1.80	1.05
SWRGM-001823	SWRMH-007658	SWRMH-001971	S45141	S44175	290	0.028	8	0.16	0.065	19:09 hr	2.74	1.77
SWRGM-001824	SWRMH-008099	SWRMH-008100	T47148	T47147	333	0.004	8	0.06	0.002	19:03 hr	0.52	0.58
SWRGM-001825	SWRMH-008097	SWRMH-008098	T47150	T47149	260	0.004	8	0.13	0.016	19:08 hr	0.90	0.64
SWRGM-001826	SWRMH-008098	SWRMH-008108	T47149	T47139	212	0.004	8	0.14	0.017	19:11 hr	0.91	0.65
SWRGM-001827	SWRMH-008108	SWRMH-008109	T47139	T47138	224	0.004	8	0.14	0.019	19:13 hr	0.94	0.65
SWRGM-001828	SWRMH-007439	SWRMH-007452	T47176	T47131	255	0.022	8	0.11	0.024	19:06 hr	1.86	1.49
SWRGM-001829	SWRMH-007452	SWRMH-007514	T47131	T47117	270	0.004	8	0.18	0.029	19:08 hr	1.07	0.66
SWRGM-001830	SWRMH-007522	SWRMH-007521	T47109	T47110	380	0.007	8	0.10	0.012	19:05 hr	1.02	0.83
SWRGM-001831	SWRMH-007316	SWRMH-007315	T47188	T47189	188	0.006	8	0.45	0.217	19:32 hr	2.21	0.84
SWRGM-001832	SWRMH-007317	SWRMH-007316	T47187	T47188	265	0.006	8	0.43	0.204	19:32 hr	2.24	0.87

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001833	SWRMH-007318	SWRMH-007317	T47186	T47187	266	0.008	8	0.39	0.197	19:30 hr	2.43	0.99
SWRGM-001834	SWRMH-008124	SWRMH-007435	T48129	T47180	280	0.009	8	0.11	0.015	19:05 hr	1.18	0.95
SWRGM-001835	SWRMH-007435	SWRMH-007434	T47180	T47181	280	0.008	8	0.13	0.022	19:06 hr	1.28	0.93
SWRGM-001836	SWRMH-007434	SWRMH-007318	T47181	T47186	280	0.012	8	0.14	0.029	19:07 hr	1.62	1.15
SWRGM-001837	SWRMH-007436	SWRMH-007437	T47179	T47178	264	0.005	8	0.08	0.007	19:03 hr	0.79	0.71
SWRGM-001838	SWRNJ-000215	SWRMH-008082	T47624	T47165	242	0.006	8	0.11	0.014	19:07 hr	1.01	0.80
SWRGM-001839	SWRMH-007753	SWRNJ-000211	T38144	T38425	220	0.01	8	0.06	0.004	19:01 hr	0.82	0.92
SWRGM-001840	SWRMH-007240	SWRMH-007039	T39108	T38171	287	0.023	8	0.06	0.008	19:03 hr	1.39	1.44
SWRGM-001841	SWRNJ-000225	SWRMH-007755	T38424	T38142	56	0.049	8	0.03	0.002	19:00 hr	1.17	1.84
SWRGM-001842	SWRMH-007386	SWRNJ-000225	T38133	T38424	79	0.048	8	0.03	0.002	19:00 hr	1.16	1.83
SWRGM-001843	SWRNJ-000232	SWRMH-007755	T38423	T38142	42	0.006	8	0.16	0.029	19:09 hr	1.25	0.81
SWRGM-001844	SWRMH-007741	SWRNJ-000232	T38156	T38423	234	0.007	8	0.16	0.029	19:08 hr	1.32	0.87
SWRGM-001845	SWRNJ-000231	SWRMH-007379	T38422	T38140	55	0.01	8	0.05	0.003	19:02 hr	0.76	0.90
SWRGM-001846	SWRMH-007387	SWRNJ-000231	T38132	T38422	51	0.009	8	0.05	0.003	19:02 hr	0.74	0.88
SWRGM-001847	SWRNJ-000235	SWRMH-007381	T38421	T38138	52	0.015	8	0.04	0.003	19:02 hr	0.82	1.07
SWRGM-001848	SWRMH-007391	SWRNJ-000235	T38128	T38421	47	0.014	8	0.04	0.003	19:02 hr	0.81	1.05
SWRGM-001849	SWRMH-007755	SWRMH-007253	T38142	T38117	154	0.008	8	0.32	0.13	19:17 hr	2.10	0.94
SWRGM-001850	SWRNJ-000236	SWRMH-007383	T38420	T38136	51	0.005	8	0.09	0.008	19:03 hr	0.81	0.69
SWRGM-001851	SWRMH-007393	SWRNJ-000236	T38126	T38420	290	0.005	8	0.09	0.008	19:03 hr	0.80	0.69
SWRGM-001852	SWRMH-007124	SWRMH-007028	T39160	T38182	188	0.018	8	0.15	0.042	19:16 hr	2.07	1.41
SWRGM-001853	SWRMH-007734	SWRMH-007733	T38163	T38164	333	0.013	8	0.09	0.013	19:07 hr	1.28	1.12
SWRGM-001854	SWRMH-007034	SWRMH-007033	T38176	T38177	251	0.008	8	0.06	0.005	19:01 hr	0.82	0.86
SWRGM-001855	SWRMH-007736	SWRMH-007737	T38161	T38160	276	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001856	SWRMH-007739	SWRMH-007740	T38158	T38157	149	0.005	8	0.15	0.023	19:06 hr	1.10	0.75
SWRGM-001857	SWRMH-007756	SWRMH-007755	T38141	T38142	149	0.024	8	0.21	0.098	19:19 hr	2.93	1.66
SWRGM-001858	SWRCO-000703	SWRMH-007495	T45103	T45125	115	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001859	SWRCO-000704	SWRMH-007490	T45102	T45130	70	0.01	8	0.04	0.002	19:00 hr	0.61	0.85
SWRGM-001860	SWRMH-007492	SWRMH-007491	T45128	T45129	360	0.019	8	0.05	0.004	19:02 hr	1.01	1.24
SWRGM-001861	SWRMH-007475	SWRMH-007473	T45145	T45147	148	0.017	8	0.04	0.002	19:01 hr	0.84	1.13
SWRGM-001862	SWRMH-007211	SWRMH-008081	S47143	T47166	269	0.006	8	0.19	0.038	19:08 hr	1.32	0.79
SWRGM-001863	SWRMH-007225	SWRMH-007318	S47129	T47186	350	0.012	8	0.32	0.167	19:30 hr	2.66	1.19
SWRGM-001864	SWRMH-007223	SWRMH-008084	S47131	T47163	350	0.009	8	0.07	0.007	19:04 hr	0.96	0.93
SWRGM-001865	SWRMH-008291	SWRMH-007359	S48115	S47121	290	0.005	8	0.09	0.007	19:04 hr	0.77	0.68
SWRGM-001866	SWRMH-008286	SWRMH-007371	S48120	S47109	350	0.012	8	0.10	0.014	19:08 hr	1.29	1.10
SWRGM-001867	SWRMH-007725	SWRMH-007719	U38154	U38160	260	0.004	8	0.14	0.019	19:05 hr	0.98	0.68
SWRGM-001868	SWRMH-007152	SWRMH-007155	T39132	T39129	222	0.005	8	0.22	0.05	19:08 hr	1.36	0.75
SWRGM-001869	SWRMH-007150	SWRMH-007149	T39134	T39135	203	0.025	8	0.06	0.007	19:04 hr	1.36	1.48
SWRGM-001870	SWRMH-007234	SWRMH-007169	T39114	T39115	126	0.005	8	0.06	0.004	19:02 hr	0.61	0.65
SWRGM-001871	SWRMH-007237	SWRMH-007112	T39111	T39172	165	0.067	8	0.03	0.003	19:00 hr	1.40	2.16
SWRGM-001872	SWRNJ-000199	SWRMH-007240	T39474	T39108	53	0.006	8	0.02	0	19:01 hr	0.32	0.62
SWRGM-001873	SWRNJ-000251	SWRMH-007124	T39473	T39160	40	0.018	8	0.04	0.003	19:01 hr	0.94	1.21
SWRGM-001874	SWRMH-007125	SWRNJ-000251	T39159	T39473	120	0.018	8	0.04	0.003	19:00 hr	0.93	1.19
SWRGM-001875	SWRMH-007119	SWRMH-008209	T39165	T38104	313	0.004	8	0.09	0.007	19:07 hr	0.72	0.64
SWRGM-001876	SWRMH-007112	SWRMH-007113	T39172	T39171	88	0.022	27	0.19	1.97	20:34 hr	5.90	1.92
SWRGM-001877	SWRMH-007115	SWRMH-007114	T39169	T39170	124	0.043	8	0.03	0.002	19:00 hr	1.09	1.72
SWRGM-001878	SWRMH-007236	SWRMH-007237	T39112	T39111	128	0.022	8	0.02	0.001	19:00 hr	0.67	1.19
SWRGM-001880	SWRNJ-000237	SWRMH-007385	T39472	T38134	51	0.007	8	0.21	0.054	19:13 hr	1.55	0.87
SWRGM-001881	SWRMH-007156	SWRNJ-000237	T39128	T39472	297	0.008	8	0.20	0.054	19:13 hr	1.65	0.95
SWRGM-001882	SWRMH-008420	SWRMH-007158	T40106	T39126	278	0.017	8	0.08	0.01	19:03 hr	1.32	1.25
SWRGM-001883	SWRMH-007146	SWRMH-007147	T39138	T39137	100	0.02	8	0.06	0.006	19:02 hr	1.19	1.31
SWRGM-001884	SWRMH-007512	SWRMH-007463	T47119	T47120	350	0.01	8	0.07	0.007	19:03 hr	0.96	0.95
SWRGM-001885	SWRMH-007463	SWRMH-007462	T47120	T47121	347	0.01	8	0.09	0.01	19:04 hr	1.09	0.97
SWRGM-001886	SWRMH-007524	SWRMH-007523	T47107	T47108	288	0.014	8	0.06	0.005	19:01 hr	1.02	1.11
SWRGM-001887	SWRMH-007528	SWRMH-007527	T47103	T47104	184	0.007	8	0.06	0.004	19:01 hr	0.71	0.77
SWRGM-001888	SWRMH-008103	SWRMH-008097	T47144	T47150	260	0.004	8	0.12	0.014	19:06 hr	0.87	0.64
SWRGM-001889	SWRCO-000697	SWRMH-008105	T47102	T47142	142	0.006	8	0.05	0.003	19:01 hr	0.60	0.70
SWRGM-001890	SWRMH-007215	SWRMH-007214	S47139	S47140	140	0.011	8	0.09	0.011	19:06 hr	1.13	1.01
SWRGM-001891	SWRMH-007210	SWRMH-007204	S47144	S47149	198	0.016	8	0.03	0.001	19:01 hr	0.66	1.04
SWRGM-001892	SWRMH-007231	SWRMH-007215	S47166	S47139	320	0.006	8	0.09	0.008	19:06 hr	0.87	0.77
SWRGM-001893	SWRMH-007368	SWRMH-007367	S47112	S47113	230	0.01	8	0.05	0.004	19:01 hr	0.81	0.92
SWRGM-001894	SWRMH-007365	SWRMH-007364	S47115	S47116	205	0.005	8	0.35	0.122	19:21 hr	1.76	0.76
SWRGM-001895	SWRMH-007691	SWRMH-007488	S45108	T45132	260	0.011	8	0.07	0.007	19:03 hr	1.01	0.99
SWRGM-001896	SWRMH-007577	SWRMH-007511	T46121	T45109	120	0.008	8	0.06	0.004	19:03 hr	0.76	0.82
SWRGM-001897	SWRMH-007496	SWRMH-007477	T45124	T45143	185	0.029	8	0.06	0.007	19:03 hr	1.41	1.57
SWRGM-001898	SWRMH-007406	SWRMH-007405	T45102	T45103	216	0.006	8	0.26	0.075	19:26 hr	1.65	0.83
SWRGM-001899	SWRMH-007511	SWRMH-007510	T45109	T45110	310	0.01	8	0.07	0.006	19:05 hr	0.94	0.94
SWRGM-001900	SWRMH-007481	SWRMH-007480	T45139	T45140	350	0.011	8	0.05	0.004	19:02 hr	0.86	0.98
SWRGM-001901	SWRMH-007480	SWRMH-007479	T45140	T45141	344	0.011	8	0.07	0.006	19:04 hr	0.99	1.01
SWRGM-001902	SWRCO-000702	SWRMH-007497	T45104	T45123	70	0.008	8	0.03	0.001	19:00 hr	0.52	0.75
SWRGM-001903	SWRMH-008171	SWRMH-008170	T44167	T44168	73	0.004	8	0.04	0.001	19:00 hr	0.40	0.56
SWRGM-001904	SWRMH-000672	SWRMH-008174	T44111	T44164	142	0.01	8	0.06	0.005	19:01 hr	0.85	0.92
SWRGM-001905	SWRMH-008173	SWRMH-000673	T44165	T44110	302	0.012	8	0.11	0.017	19:04 hr	1.35	1.09
SWRGM-001906	SWRMH-007618	SWRMH-006930	R47108	R47114	66	0.004	8	0.08	0.005	19:00 hr	0.64	0.62
SWRGM-001907	SWRMH-007610	SWRMH-007609	R47196	R47197	220	0.013	8	0.11	0.019	19:04 hr	1.43	1.14
SWRGM-001908	SWRMH-003111	SWRMH-003110	W32108	W32109	233	0.049	8	0.03	0.002	19:00 hr	1.10	1.82
SWRGM-001909	SWRMH-003112	SWRMH-003115	W32107	W32104	166	0.01	8	0.04	0.002	19:01 hr	0.63	0.88
SWRGM-001910	SWRMH-003113	SWRMH-003115	W32106	W32104	233	0.015	8	0.03	0.002	19:01 hr	0.73	1.04
SWRGM-001911	SWRMH-003115	SWRMH-003114	W32104	W32105	284	0.021	8	0.05	0.006	19:02 hr	1.17	1.32
SWRGM-001912	SWRMH-003114	SWRMH-003095	W32105	W32124	179	0.036	8	0.05	0.006	19:02 hr	1.46	1.72
SWRGM-001913	SWRMH-003117	SWRMH-003116	W32102	W32103	207	0.027	8	0.04	0.004	19:01 hr	1.12	1.45
SWRGM-001914	SWRMH-003097	SWRMH-003098	W32122	W32121	350	0.035	8	0.08	0.016	19:05 hr	1.94	1.80
SWRGM-001915	SWRMH-003220	SWRNJ-000388	V47110	V47111	98	0.021	8	0.07	0.009	19:01 hr	1.38	1.39
SWRGM-001916	SWRMH-003213	SWRNJ-000389	V47117	V47112	177	0.021	8	0.07	0.009	19:01 hr	1.38	1.38
SWRGM-001917	SWRMH-006842	SWRMH-006843	R47154	R47153	136	0.008	8	0.03	0.001	19:01 hr	0.52	0.76
SWRGM-001918	SWRMH-002912	SWRMH-002903	X35143	X35152	306	0.031	8	0.02	0.001	19:01 hr	0.67	1.36
SWRGM-001919	SWRCO-000757	SWRMH-002912	X35101	X35143	103	0.021	8	0.02	0.001	19:00 hr	0.58	1.14
SWRGM-001920	SWRMH-002918	SWRMH-002906	X35137	X35149	337	0.004	8	0.09	0.006	19:06 hr	0.69	0.62
SWRGM-001921	SWRCO-000756	SWRMH-002906	X35102	X35149	57	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001922	SWRMH-002920	SWRMH-002907	X35135	X35148	237	0.03	8	0.04	0.003	19:02 hr	1.06	1.49
SWRGM-001923	SWRMH-002901	SWRMH-002903	X35154	X35152	340	0.025	8	0.06	0.006	19:04 hr	1.29	1.45
SWRGM-001924	SWRMH-002911	SWRMH-002910	X35144	X35145	348	0.017	8	0.01	0	19:02 hr	0.37	0.94

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-001925	SWRMH-002917	SWRMH-002905	X35138	X35150	197	0.073	8	0.05	0.008	19:08 hr	2.00	2.43
SWRGM-001926	SWRMH-002906	SWRMH-002917	X35149	X35138	223	0.011	8	0.07	0.007	19:07 hr	1.02	1.00
SWRGM-001927	SWRMH-002914	SWRMH-002913	X35141	X35142	233	0.036	8	0.06	0.008	19:06 hr	1.56	1.75
SWRGM-001928	SWRMH-003759	SWRMH-003764	U46110	U46105	350	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001929	SWRMH-003760	SWRMH-003761	U46109	U46108	350	0.008	8	0.06	0.005	19:05 hr	0.80	0.84
SWRGM-001930	SWRMH-003715	SWRNJ-000310	U46154	U46130	100	0.01	8	0.03	0.001	19:00 hr	0.55	0.85
SWRGM-001931	SWRNJ-000310	SWRMH-003714	U46130	U46155	155	0.009	8	0.05	0.003	19:01 hr	0.71	0.87
SWRGM-001932	SWRMH-003725	SWRMH-003724	U46144	U46145	270	0.01	8	0.05	0.003	19:01 hr	0.75	0.90
SWRGM-001933	SWRMH-003727	SWRMH-003726	U46142	U46143	200	0.006	8	0.04	0.001	19:01 hr	0.51	0.67
SWRGM-001934	SWRMH-003735	SWRMH-003734	U46134	U46135	350	0.005	8	0.04	0.002	19:03 hr	0.49	0.63
SWRGM-001935	SWRMH-003731	SWRMH-003732	U46138	U46137	300	0.011	8	0.04	0.003	19:02 hr	0.76	0.95
SWRGM-001936	SWRMH-003732	SWRMH-003733	U46137	U46136	336	0.008	8	0.07	0.005	19:05 hr	0.81	0.82
SWRGM-001937	SWRMH-003733	SWRMH-003730	U46136	U46139	300	0.017	8	0.07	0.008	19:05 hr	1.22	1.23
SWRGM-001938	SWRMH-008281	SWRMH-008282	S49104	S49103	330	0.02	8	0.11	0.026	19:19 hr	1.83	1.42
SWRGM-001939	SWRMH-006718	SWRMH-001354	P45111	Q45110	346	0.008	8	0.13	0.023	19:11 hr	1.28	0.92
SWRGM-001940	SWRMH-001327	SWRMH-001356	Q46109	Q45108	312	0.005	8	0.36	0.139	19:24 hr	1.88	0.79
SWRGM-001941	SWRMH-001329	SWRMH-001328	Q45135	Q45136	265	0.005	8	0.12	0.013	19:06 hr	0.93	0.71
SWRGM-001942	SWRMH-001582	SWRMH-001583	R43143	R43142	197	0.004	8	0.20	0.037	19:11 hr	1.15	0.66
SWRGM-001943	SWRMH-001592	SWRMH-001590	R43133	R43135	302	0.018	8	0.07	0.01	19:03 hr	1.32	1.27
SWRGM-001944	SWRMH-001596	SWRMH-001598	R43129	R43127	310	0.048	8	0.05	0.007	19:05 hr	1.68	1.99
SWRGM-001945	SWRMH-001597	SWRMH-001596	R43128	R43129	350	0.016	8	0.06	0.006	19:04 hr	1.07	1.17
SWRGM-001946	SWRMH-001578	SWRMH-001577	R43147	R43148	300	0.004	8	0.21	0.04	19:15 hr	1.14	0.64
SWRGM-001947	SWRMH-001583	SWRMH-001578	R43142	R43147	245	0.004	8	0.20	0.039	19:13 hr	1.17	0.67
SWRGM-001948	SWRMH-002584	SWRMH-002585	R38113	R38112	350	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001949	SWRMH-006465	SWRMH-007003	Q51116	Q51117	195	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001950	SWRMH-006472	SWRMH-006473	Q51109	Q51108	153	0.005	8	0.03	0.001	19:28 hr	0.40	0.59
SWRGM-001951	SWRMH-007001	SWRMH-006467	Q51119	Q51114	327	0.005	8	0.03	0.001	19:18 hr	0.40	0.59
SWRGM-001952	SWRMH-006509	SWRMH-006551	Q50114	R50102	198	0.035	8	0.04	0.003	19:01 hr	1.20	1.62
SWRGM-001953	SWRMH-006511	SWRMH-006512	Q50112	Q50111	90	0.018	8	0.04	0.003	19:02 hr	0.90	1.18
SWRGM-001954	SWRMH-006512	SWRMH-006519	Q50111	Q50104	129	0.008	8	0.05	0.003	19:03 hr	0.66	0.79
SWRGM-001955	SWRMH-006520	SWRMH-006512	Q50103	Q50111	170	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-001956	SWRMH-002576	SWRMH-002575	R38121	R38122	240	0.005	8	0.06	0.004	19:02 hr	0.63	0.66
SWRGM-001957	SWRMH-002091	SWRMH-007608	R48151	R47198	220	0.018	8	0.13	0.033	19:09 hr	1.90	1.37
SWRGM-001958	SWRMH-007608	SWRMH-006575	R47198	R47200	219	0.042	8	0.11	0.035	19:09 hr	2.60	2.06
SWRGM-001959	SWRMH-006930	SWRNJ-000146	R47114	R47523	305	0.004	8	0.09	0.008	19:03 hr	0.73	0.62
SWRGM-001960	SWRMH-001287	SWRMH-007621	Q47161	R47105	144	0.01	8	0.15	0.034	19:07 hr	1.59	1.06
SWRGM-001961	SWRMH-007615	SWRMH-007610	R47191	R47196	288	0.025	8	0.08	0.014	19:04 hr	1.65	1.53
SWRGM-001962	SWRMH-006928	SWRMH-006570	R47116	R47205	350	0.008	8	0.35	0.159	19:33 hr	2.27	0.97
SWRGM-001963	SWRMH-005232	SWRMH-005233	Y36123	Y36122	160	0.024	8	0.03	0.002	19:02 hr	0.92	1.32
SWRGM-001964	SWRMH-005233	SWRMH-005234	Y36122	Y36121	215	0.017	8	0.04	0.002	19:03 hr	0.83	1.14
SWRGM-001965	SWRMH-007339	SWRNJ-000179	S45158	S45500	116	0.006	8	0.14	0.024	19:05 hr	1.22	0.84
SWRGM-001966	SWRMH-007344	SWRNJ-000177	S45153	S45499	164	0.008	8	0.09	0.009	19:02 hr	0.95	0.85
SWRGM-001967	SWRMH-007346	SWRNJ-000174	S45151	S45498	164	0.014	8	0.07	0.008	19:02 hr	1.13	1.11
SWRGM-001968	SWRMH-007349	SWRNJ-000173	S45148	S45497	317	0.012	8	0.07	0.007	19:02 hr	1.05	1.04
SWRGM-001969	SWRMH-001821	SWRMH-007696	R45123	S45103	161	0.013	8	0.04	0.003	19:01 hr	0.80	1.01
SWRGM-001970	SWRMH-007336	SWRMH-007696	S45161	S45103	300	0.01	8	0.70	0.565	19:50 hr	3.35	1.08
SWRGM-001971	SWRMH-007696	SWRMH-007697	S45103	S45102	259	0.013	8	0.64	0.569	19:51 hr	3.72	1.22
SWRGM-001972	SWRMH-007697	SWRMH-007338	S45102	S45159	200	0.016	8	0.60	0.574	19:53 hr	4.05	1.36
SWRGM-001973	SWRMH-007694	SWRMH-007336	S45105	S45161	192	0.014	8	0.61	0.555	19:49 hr	3.89	1.30
SWRGM-001974	SWRMH-007345	SWRMH-007344	S45152	S45153	250	0.008	8	0.08	0.008	19:01 hr	0.92	0.87
SWRGM-001975	SWRMH-007347	SWRMH-007346	S45150	S45151	200	0.019	8	0.06	0.007	19:01 hr	1.22	1.30
SWRGM-001976	SWRMH-007380	SWRMH-007379	T38139	T38140	152	0.012	8	0.24	0.093	19:18 hr	2.22	1.16
SWRGM-001977	SWRMH-008091	SWRMH-008084	T47156	T47163	140	0.016	8	0.03	0.001	19:00 hr	0.64	1.04
SWRGM-001978	SWRCO-000730	SWRMH-006568	R47101	R47207	114	0.012	8	0.05	0.003	19:00 hr	0.80	0.99
SWRGM-001979	SWRMH-001403	SWRMH-001402	Q44117	Q44118	159	0.011	8	0.05	0.003	19:01 hr	0.76	0.95
SWRGM-001980	SWRMH-001367	SWRMH-001366	Q44153	Q44154	187	0.007	8	0.04	0.002	19:01 hr	0.59	0.76
SWRGM-001981	SWRMH-001368	SWRMH-001363	Q44152	Q44157	325	0.023	8	0.03	0.002	19:01 hr	0.87	1.29
SWRGM-001982	SWRMH-001370	SWRMH-001369	Q44150	Q44151	252	0.005	8	0.06	0.003	19:02 hr	0.58	0.65
SWRGM-001983	SWRMH-001371	SWRMH-001369	Q44149	Q44151	262	0.011	8	0.07	0.006	19:02 hr	0.98	1.01
SWRGM-001984	SWRMH-001372	SWRMH-001371	Q44148	Q44149	235	0.027	8	0.03	0.002	19:01 hr	0.98	1.40
SWRGM-001985	SWRMH-001387	SWRMH-001386	Q44133	Q44134	265	0.013	8	0.09	0.014	19:05 hr	1.33	1.13
SWRGM-001986	SWRMH-001388	SWRMH-001387	Q44132	Q44133	260	0.014	8	0.08	0.011	19:03 hr	1.26	1.14
SWRGM-001987	SWRMH-001389	SWRMH-001388	Q44131	Q44132	260	0.014	8	0.07	0.008	19:02 hr	1.14	1.12
SWRGM-001988	SWRMH-001366	SWRMH-001365	Q44154	Q44155	229	0.005	8	0.07	0.004	19:02 hr	0.65	0.66
SWRGM-001989	SWRMH-002941	SWRMH-002921	X35114	X35134	170	0.039	8	0.07	0.012	19:04 hr	1.83	1.87
SWRGM-001990	SWRMH-007780	SWRMH-007365	S47161	S47115	205	0.005	8	0.34	0.12	19:19 hr	1.75	0.76
SWRGM-001991	SWRMH-007202	SWRMH-007200	S47151	S47153	270	0.006	8	0.16	0.028	19:09 hr	1.23	0.81
SWRGM-001992	SWRMH-008090	SWRMH-008088	T47157	T47159	330	0.013	8	0.05	0.004	19:02 hr	0.92	1.04
SWRGM-001993	SWRMH-008088	SWRMH-008087	T47159	T47160	330	0.005	8	0.09	0.007	19:05 hr	0.75	0.67
SWRGM-001994	SWRMH-008087	SWRMH-008086	T47160	T47161	343	0.015	8	0.07	0.008	19:07 hr	1.18	1.16
SWRGM-001995	SWRMH-007144	SWRMH-007143	T39140	T39141	301	0.028	8	0.05	0.006	19:01 hr	1.36	1.54
SWRGM-001996	SWRMH-007241	SWRMH-007132	T39107	T39152	239	0.005	8	0.09	0.009	19:05 hr	0.82	0.70
SWRGM-001997	SWRMH-007246	SWRMH-007112	T39102	T39172	141	0.017	27	0.20	1.967	20:34 hr	5.37	1.69
SWRGM-001998	SWRMH-007244	SWRMH-008076	T39104	U39114	190	0.017	8	0.05	0.004	19:01 hr	0.96	1.17
SWRGM-001999	SWRMH-007239	SWRMH-008591	T39109	U39110	210	0.006	8	0.06	0.004	19:01 hr	0.66	0.72
SWRGM-002000	SWRMH-007165	SWRMH-008070	T39119	U39120	220	0.018	8	0.05	0.003	19:01 hr	0.97	1.20
SWRGM-002001	SWRMH-007166	SWRMH-008071	T39118	U39119	220	0.024	8	0.06	0.007	19:01 hr	1.29	1.43
SWRGM-002002	SWRMH-007167	SWRMH-008072	T39117	U39118	220	0.024	8	0.04	0.003	19:01 hr	1.06	1.36
SWRGM-002003	SWRNJ-000211	SWRMH-007039	T38425	T38171	42	0.01	8	0.06	0.004	19:02 hr	0.81	0.90
SWRGM-002004	SWRMH-007401	SWRMH-007400	T45107	T45108	350	0.008	8	0.08	0.008	19:06 hr	0.95	0.89
SWRGM-002005	SWRMH-001139	SWRMH-002596	W36122	W36105	297	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002006	SWRMH-002598	SWRMH-002599	W36103	W36102	270	0.028	8	0.02	0.001	19:01 hr	0.80	1.36
SWRGM-002007	SWRMH-003482	SWRMH-007957	V38126	U38111	176	0.005	8	0.04	0.002	19:01 hr	0.49	0.63
SWRGM-002008	SWRMH-003476	SWRMH-007959	V38132	U38109	165	0.005	8	0.13	0.017	19:07 hr	0.99	0.72
SWRGM-002009	SWRMH-003478	SWRMH-003477	V38130	V38131	101	0.004	8	0.07	0.004	19:03 hr	0.60	0.62
SWRGM-002010	SWRCO-000774	SWRMH-003687	U48105	U48124	96	0.007	8	0.04	0.001	19:00 hr	0.52	0.71
SWRGM-002011	SWRMH-003687	SWRMH-003686	U48124	U48125	124	0.004	8	0.09	0.007	19:01 hr	0.73	0.63
SWRGM-002012	SWRMH-003686	SWRMH-003685	U48125	U48126	117	0.004	8	0.10	0.01	19:03 hr	0.77	0.62
SWRGM-002013	SWRMH-001644	SWRMH-001645	Q49141	Q49140	215	0.008	8	0.05	0.003	19:01 hr	0.71	0.83
SWRGM-002014	SWRMH-001645	SWRMH-001643	Q49140	Q49142	268	0.008	8	0.06	0.004	19:03 hr	0.80	0.85
SWRGM-002015	SWRNJ-000071	SWRMH-001650	Q49248	Q49135	10	0.003	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002016	SWRMH-006568	SWRMH-006569	R47207	R47206	350	0.016	8	0.06	0.006	19:02 hr	1.11	1.19
SWRGM-002017	SWRMH-002580	SWRMH-002579	R38117	R38118	326	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002018	SWRNJ-000104	SWRMH-002579	R38123	R38118	90	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002019	SWRMH-002581	SWRMH-002580	R38116	R38117	350	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002020	SWRMH-002575	SWRMH-008992	SDMH002575	SP572MH07	283	0.005	8	0.11	0.011	19:09 hr	0.88	0.71
SWRGM-002021	SWRMH-002573	SWRMH-002575	R38124	R38122	304	0.005	8	0.08	0.007	19:08 hr	0.77	0.70
SWRGM-002022	SWRNJ-000105	SWRMH-002579	R38124	R38118	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002023	SWRMH-007002	SWRMH-007001	Q51118	Q51119	187	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002024	SWRMH-006480	SWRMH-007001	Q51101	Q51119	300	0.029	8	0.02	0.001	19:15 hr	0.74	1.35
SWRGM-002025	SWRMH-006479	SWRMH-006466	Q51102	Q51115	350	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002026	SWRMH-001917	SWRMH-001916	R44155	R44156	78	0.009	8	0.09	0.01	19:04 hr	1.04	0.93
SWRGM-002027	SWRMH-001918	SWRMH-001916	R44154	R44156	197	0.009	8	0.06	0.005	19:03 hr	0.82	0.87
SWRGM-002028	SWRMH-001924	SWRMH-001925	R44148	R44147	86	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002029	SWRMH-001566	SWRMH-001569	R44177	R44174	170	0.013	8	0.09	0.013	19:05 hr	1.30	1.12
SWRGM-002030	SWRMH-001941	SWRMH-001940	R44132	R44133	187	0.016	8	0.08	0.01	19:06 hr	1.28	1.21
SWRGM-002031	SWRMH-001942	SWRMH-001941	R44131	R44132	203	0.031	8	0.03	0.002	19:00 hr	0.95	1.47
SWRGM-002032	SWRMH-001908	SWRMH-001907	R44164	R44165	253	0.009	8	0.07	0.006	19:01 hr	0.88	0.88
SWRGM-002033	SWRCO-000346	SWRMH-001734	Q47103	Q47135	92	0.01	8	0.02	0.001	19:00 hr	0.47	0.80
SWRGM-002034	SWRMH-001717	SWRMH-001710	Q47152	Q47159	183	0.011	8	0.13	0.026	19:07 hr	1.52	1.10
SWRGM-002035	SWRMH-001721	SWRMH-001720	Q47148	Q47149	265	0.01	8	0.09	0.012	19:05 hr	1.15	0.99
SWRGM-002036	SWRMH-001720	SWRMH-001722	Q47149	Q47147	196	0.009	8	0.12	0.02	19:05 hr	1.31	0.99
SWRGM-002037	SWRMH-001560	SWRMH-001559	R44183	R44184	143	0.005	8	0.17	0.029	19:07 hr	1.17	0.74
SWRGM-002038	SWRCO-000347	SWRMH-001723	Q47102	Q47146	158	0.008	8	0.05	0.003	19:01 hr	0.65	0.79
SWRGM-002039	SWRNJ-000187	SWRMH-007645	S29102	S29103	100	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002041	SWRMH-001433	SWRMH-006881	Q42112	Q41101	345	0.01	8	0.24	0.083	10:05 hr	2.03	1.07
SWRGM-002042	SWRMH-006432	SWRMH-006431	SDMH006432	Q41106	331	0.004	8	0.31	0.09	10:20 hr	1.50	0.68
SWRGM-002043	SWRMH-006431	SWRMH-006993	Q41106	R41106	335	0.004	8	0.31	0.09	10:23 hr	1.50	0.68
SWRGM-002044	SWRMH-006881	SWRMH-006880	Q41101	Q41102	341	0.011	8	0.24	0.09	10:07 hr	2.17	1.14
SWRGM-002045	SWRMH-006880	SWRMH-006879	Q41102	Q41103	319	0.01	8	0.25	0.09	10:10 hr	2.09	1.08
SWRGM-002046	SWRMH-003191	SWRMH-003183	V47139	V47147	138	0.004	8	0.08	0.005	19:01 hr	0.64	0.60
SWRGM-002047	SWRMH-003186	SWRMH-003185	V47144	V47145	203	0.004	8	0.09	0.007	19:02 hr	0.69	0.62
SWRGM-002048	SWRMH-003215	SWRMH-003213	V47115	V47117	140	0.022	8	0.05	0.005	19:01 hr	1.18	1.36
SWRGM-002049	SWRNJ-000384	SWRMH-003225	V47113	V47105	124	0.01	8	0.08	0.009	19:02 hr	1.07	0.99
SWRGM-002050	SWRMH-002793	SWRMH-002789	M43112	M43116	291	0.01	8	0.07	0.006	19:03 hr	0.94	0.94
SWRGM-002051	SWRMH-002792	SWRMH-002788	M43113	M43117	350	0.012	8	0.08	0.008	19:04 hr	1.08	1.04
SWRGM-002052	SWRMH-002791	SWRMH-002787	M43114	M43118	350	0.012	8	0.04	0.002	19:02 hr	0.69	0.94
SWRGM-002053	SWRMH-002790	SWRMH-002786	M43115	M43119	350	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002054	SWRMH-002788	SWRMH-002789	M43117	M43116	308	0.006	8	0.12	0.015	19:07 hr	1.00	0.76
SWRGM-002055	SWRMH-002779	SWRMH-002780	M43126	M43125	298	0.018	8	0.10	0.019	19:06 hr	1.62	1.34
SWRGM-002056	SWRMH-002778	SWRMH-002779	M43127	M43126	308	0.005	8	0.10	0.01	19:05 hr	0.82	0.68
SWRGM-002057	SWRMH-003757	SWRMH-003774	U46112	U45160	316	0.005	8	0.15	0.022	19:07 hr	1.06	0.71
SWRGM-002058	SWRMH-003726	SWRMH-003792	U46143	U45142	350	0.01	8	0.06	0.005	19:02 hr	0.85	0.92
SWRGM-002059	SWRMH-003724	SWRMH-003791	U46145	U45143	350	0.01	8	0.07	0.007	19:03 hr	0.99	0.95
SWRGM-002060	SWRMH-003794	SWRMH-003793	U45140	U45141	350	0.012	8	0.07	0.007	19:02 hr	1.04	1.03
SWRGM-002061	SWRCO-000785	SWRMH-003794	U45101	U45140	66	0.006	8	0.07	0.005	19:00 hr	0.73	0.75
SWRGM-002062	SWRMH-006572	SWRMH-006571	R47203	R47204	300	0.005	8	0.26	0.071	19:13 hr	1.49	0.74
SWRGM-002063	SWRMH-007622	SWRMH-006790	R47104	R47174	300	0.006	8	0.09	0.008	19:04 hr	0.83	0.74
SWRGM-002064	SWRMH-006790	SWRMH-006788	R47174	R47176	294	0.005	8	0.17	0.03	19:12 hr	1.19	0.75
SWRGM-002065	SWRMH-006825	SWRMH-006826	R47171	R47170	140	0.014	8	0.07	0.008	19:01 hr	1.14	1.11
SWRGM-002066	SWRMH-006823	SWRMH-006824	R47173	R47172	120	0.024	8	0.02	0.001	19:00 hr	0.72	1.26
SWRGM-002067	SWRMH-006840	SWRMH-006839	R47156	R47157	350	0.019	8	0.06	0.006	19:02 hr	1.13	1.26
SWRGM-002068	SWRMH-004226	SWRMH-003982	Y43151	Y43156	122	0.028	8	0.10	0.024	10:18 hr	2.03	1.68
SWRGM-002069	SWRMH-005877	SWRMH-004226	X43111	Y43151	224	0.03	8	0.04	0.004	19:01 hr	1.24	1.55
SWRGM-002070	SWRMH-005477	SWRMH-004007	AB42111	AB42123	105	0.008	8	0.03	0.001	19:00 hr	0.50	0.74
SWRGM-002072	SWRMH-005745	SWRMH-005352	X44108	X44112	206	0.005	8	0.02	0	19:02 hr	0.28	0.55
SWRGM-002073	SWRMH-005614	SWRMH-004682	X36121	X36167	63	0.043	8	0.08	0.016	19:07 hr	2.08	1.99
SWRGM-002074	SWRMH-004515	SWRMH-004514	X39112	X39113	224	0.006	8	0.11	0.012	10:02 hr	0.94	0.75
SWRGM-002075	SWRMH-004512	SWRMH-003927	X39115	X39128	224	0.006	8	0.11	0.012	10:12 hr	0.94	0.75
SWRGM-002076	SWRMH-005261	SWRMH-005262	Y41113	Y41112	204	0.018	8	0.18	0.061	10:20 hr	2.28	1.41
SWRGM-002077	SWRMH-002853	SWRMH-002847	Y33134	Y34101	137	0.029	8	0.05	0.005	19:03 hr	1.24	1.53
SWRGM-002078	SWRMH-002858	SWRMH-002845	Y33129	Y34103	334	0.009	8	0.09	0.01	19:06 hr	1.03	0.92
SWRGM-002079	SWRMH-006691	SWRMH-006690	P46107	P46108	229	0.005	8	0.07	0.004	19:02 hr	0.67	0.68
SWRGM-002080	SWRMH-006439	SWRMH-006438	P46120	P46121	343	0.012	8	0.07	0.006	19:03 hr	1.00	1.02
SWRGM-002081	SWRMH-006440	SWRMH-006439	P46119	P46120	287	0.012	8	0.05	0.003	19:01 hr	0.80	0.98
SWRGM-002082	SWRMH-006965	SWRMH-006964	P46117	P46118	303	0.005	8	0.10	0.009	19:09 hr	0.83	0.70
SWRGM-002083	SWRMH-006760	SWRMH-006752	P44119	P44127	195	0.005	8	0.12	0.015	19:05 hr	0.94	0.70
SWRGM-002084	SWRMH-006751	SWRNJ-000047	P44128	P44520	59	0.024	8	0.07	0.011	19:04 hr	1.50	1.48
SWRGM-002085	SWRMH-006752	SWRMH-006765	P44127	P44114	295	0.005	8	0.16	0.028	19:07 hr	1.16	0.74
SWRGM-002086	SWRMH-006766	SWRMH-006767	P44113	P44112	325	0.017	8	0.10	0.019	19:06 hr	1.57	1.30
SWRGM-002087	SWRMH-006767	SWRMH-006768	P44112	P44111	319	0.014	8	0.12	0.023	19:08 hr	1.58	1.21
SWRGM-002088	SWRMH-006772	SWRMH-006771	P44107	P44108	304	0.005	8	0.06	0.003	19:03 hr	0.62	0.66
SWRGM-002089	SWRMH-006771	SWRMH-006770	P44108	P44109	304	0.005	8	0.08	0.006	19:06 hr	0.75	0.69
SWRGM-002090	SWRMH-006770	SWRMH-006769	P44109	P44110	305	0.005	8	0.09	0.009	19:08 hr	0.82	0.70
SWRGM-002091	SWRMH-003110	SWRMH-003109	W32109	W32110	88	0.011	8	0.04	0.002	19:01 hr	0.70	0.93
SWRGM-002092	SWRCO-000594	SWRMH-003107	W32101	W32112	95	0.064	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-002093	SWRMH-003098	SWRMH-003099	W32121	W32120	216	0.032	8	0.09	0.018	19:06 hr	1.94	1.74
SWRGM-002094	SWRMH-003099	SWRMH-003101	W32120	W32118	188	0.014	8	0.11	0.019	19:07 hr	1.48	1.18
SWRGM-002095	SWRMH-001350	SWRMH-001351	Q45114	Q45113	174	0.005	8	0.41	0.163	19:34 hr	1.87	0.74
SWRGM-002096	SWRMH-001347	SWRMH-001348	Q45117	Q45116	140	0.024	8	0.28	0.176	19:36 hr	3.44	1.66
SWRGM-002097	SWRMH-003218	SWRMH-003220	V47112	V47110	127	0.02	8	0.05	0.004	19:00 hr	1.05	1.26
SWRGM-002098	SWRMH-003226	SWRMH-003227	V47104	V47103	300	0.012	8	0.07	0.008	19:03 hr	1.06	1.03
SWRGM-002099	SWRMH-003199	SWRMH-003195	V47131	V47135	220	0.006	8	0.08	0.007	19:02 hr	0.82	0.77
SWRGM-002100	SWRMH-003301	SWRMH-003197	V46106	V47133	330	0.009	8	0.07	0.007	19:02 hr	0.92	0.90
SWRGM-002101	SWRMH-003196	SWRMH-003194	V47134	V47136	350	0.005	8	0.15	0.023	19:08 hr	1.10	0.74
SWRGM-002102	SWRMH-003198	SWRMH-003194	V47132	V47136	233	0.006	8	0.06	0.004	19:02 hr	0.67	0.70
SWRGM-002103	SWRMH-000673	SWRMH-000674	T44110	T44109	259	0.012	8	0.12	0.022	19:05 hr	1.47	1.11
SWRGM-002104	SWRMH-000674	SWRMH-000676	T44109	T44107	250	0.015	8	0.12	0.026	19:06 hr	1.65	1.24
SWRGM-002105	SWRMH-000677	SWRMH-008167	T44106	T44171	284	0.015	8	0.04	0.003	19:01 hr	0.85	1.10
SWRGM-002106	SWRMH-000669	SWRMH-000668	T44113	T44114	200	0.013	8	0.04	0.002	19:01 hr	0.73	0.99
SWRGM-002107	SWRMH-000668	SWRMH-000667	T44114	T44115	219	0.029	8	0.04	0.004	19:01 hr	1.18	1.51
SWRGM-002108	SWRCO-000710	SWRMH-008172	T44107	T44166	120	0.01	8	0.04	0.002	19:00 hr	0.69	0.88

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002109	SWRMH-008169	SWRMH-008168	T44169	T44170	327	0.01	8	0.07	0.006	19:03 hr	0.93	0.94
SWRGM-002110	SWRMH-008168	SWRMH-008173	T44170	T44165	270	0.01	8	0.08	0.009	19:03 hr	1.06	0.97
SWRGM-002111	SWRMH-008174	SWRMH-008173	T44164	T44165	138	0.01	8	0.06	0.005	19:02 hr	0.88	0.92
SWRGM-002112	SWRMH-007431	SWRMH-007421	AB30102	AB31120	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002113	SWRMH-007421	SWRMH-007420	AB31120	AB31121	350	0.005	8	0.03	0.001	19:03 hr	0.40	0.60
SWRGM-002114	SWRMH-007413	SWRMH-007414	AB31128	AB31127	342	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002115	SWRMH-007423	SWRMH-007422	AB31118	AB31119	362	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002116	SWRMH-007418	SWRMH-007417	AB31123	AB31124	265	0.007	8	0.08	0.007	19:05 hr	0.86	0.80
SWRGM-002117	SWRMH-007417	SWRMH-007416	AB31124	AB31125	264	0.023	8	0.06	0.008	19:06 hr	1.36	1.43
SWRGM-002118	SWRMH-001680	SWRMH-001679	Q48144	Q48145	238	0.01	8	0.06	0.005	19:02 hr	0.88	0.93
SWRGM-002119	SWRMH-001709	SWRMH-001681	Q48115	Q48143	209	0.011	8	0.06	0.004	19:03 hr	0.88	0.97
SWRGM-002120	SWRMH-001686	SWRMH-001682	Q48138	Q48142	113	0.004	8	0.07	0.004	19:04 hr	0.63	0.63
SWRGM-002121	SWRMH-001685	SWRMH-001689	Q48139	Q48135	149	0.009	8	0.12	0.019	19:07 hr	1.26	0.95
SWRGM-002122	SWRMH-001689	SWRMH-001690	Q48135	Q48134	216	0.006	8	0.13	0.02	19:08 hr	1.12	0.80
SWRGM-002123	SWRMH-001691	SWRMH-001690	Q48133	Q48134	237	0.013	8	0.04	0.003	19:01 hr	0.80	1.01
SWRGM-002124	SWRMH-001673	SWRMH-001678	Q48151	Q48146	193	0.004	8	0.13	0.015	19:06 hr	0.87	0.63
SWRGM-002125	SWRMH-001687	SWRMH-001685	Q48137	Q48139	95	0.013	8	0.04	0.002	19:00 hr	0.74	1.01
SWRGM-002126	SWRMH-001676	SWRMH-001673	Q48148	Q48151	290	0.004	8	0.09	0.008	19:06 hr	0.73	0.62
SWRGM-002140	SWRMH-006759	SWRMH-006760	P44120	P44119	182	0.005	8	0.11	0.013	19:04 hr	0.94	0.73
SWRGM-002141	SWRMH-001579	SWRMH-001580	R43146	R43145	300	0.008	8	0.15	0.031	19:07 hr	1.44	0.95
SWRGM-002142	SWRMH-001576	SWRMH-001575	R43149	R43150	246	0.005	8	0.06	0.003	19:02 hr	0.58	0.65
SWRGM-002143	SWRMH-001585	SWRMH-001586	R43140	R43139	300	0.005	8	0.09	0.008	19:03 hr	0.77	0.67
SWRGM-002144	SWRMH-004785	SWRMH-004784	X37128	X37129	301	0.005	8	0.06	0.003	19:07 hr	0.60	0.65
SWRGM-002145	SWRMH-004566	SWRMH-004785	X38132	X37128	261	0.005	8	0.04	0.001	19:04 hr	0.48	0.62
SWRGM-002146	SWRMH-002566	SWRMH-001144	AA40115	AA40137	295	0.026	8	0.08	0.015	19:04 hr	1.74	1.58
SWRGM-002147	SWRMH-004585	SWRMH-004708	Y36152	Y36146	339	0.003	8	0.03	0.001	19:03 hr	0.29	0.44
SWRGM-002148	SWRMH-005231	SWRMH-005232	Y36124	Y36123	243	0.016	8	0.04	0.002	19:01 hr	0.80	1.09
SWRGM-002149	SWRMH-004463	SWRMH-004857	W39143	W39118	187	0.004	8	0.27	0.066	19:20 hr	1.37	0.68
SWRGM-002150	SWRMH-004466	SWRMH-004465	W39140	W39141	195	0.009	8	0.05	0.003	19:01 hr	0.74	0.85
SWRGM-002151	SWRMH-004775	SWRMH-004455	Y36140	Y36163	338	0.055	8	0.06	0.012	19:12 hr	2.07	2.20
SWRGM-002152	SWRMH-000885	SWRMH-000884	P46149	P46150	260	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002153	SWRMH-007538	SWRMH-008321	T46160	T46161	150	0.009	8	0.09	0.011	19:05 hr	1.05	0.92
SWRGM-002154	SWRMH-007557	SWRMH-007559	T46141	T46139	280	0.008	8	0.14	0.026	19:09 hr	1.35	0.94
SWRGM-002155	SWRMH-007563	SWRMH-007564	T46135	T46134	240	0.011	8	0.20	0.065	19:11 hr	1.98	1.13
SWRGM-002156	SWRMH-007564	SWRMH-007565	T46134	T46133	240	0.009	8	0.22	0.067	19:12 hr	1.86	1.03
SWRGM-002157	SWRMH-007491	SWRMH-007485	T45129	T45135	290	0.012	8	0.07	0.007	19:04 hr	1.02	1.03
SWRGM-002158	SWRMH-003774	SWRMH-003778	U45160	U45156	316	0.005	8	0.19	0.036	19:09 hr	1.23	0.73
SWRGM-002159	SWRMH-003777	SWRMH-003774	U45157	U45160	245	0.011	8	0.08	0.009	19:03 hr	1.10	1.02
SWRGM-002160	SWRMH-006967	SWRMH-006966	P46115	P46116	330	0.005	8	0.15	0.022	19:09 hr	1.07	0.73
SWRGM-002161	SWRMH-006964	SWRMH-006967	P46118	P46115	371	0.004	8	0.14	0.018	19:08 hr	0.97	0.68
SWRGM-002162	SWRMH-006968	SWRMH-006969	P46114	P46113	286	0.007	8	0.07	0.005	19:04 hr	0.78	0.80
SWRGM-002163	SWRMH-006970	SWRMH-006968	P46112	P46114	242	0.007	8	0.05	0.002	19:02 hr	0.62	0.76
SWRGM-002164	SWRMH-006969	SWRMH-006971	P46113	P46111	350	0.005	8	0.09	0.008	19:05 hr	0.77	0.67
SWRGM-002165	SWRMH-007513	SWRMH-007512	T47118	T47119	225	0.014	8	0.05	0.003	19:01 hr	0.86	1.07
SWRGM-002166	SWRMH-002022	SWRMH-002620	S43127	S43101	307	0.004	8	0.15	0.021	19:08 hr	1.00	0.67
SWRGM-002167	SWRMH-002585	SWRMH-008991	SDMH002585	SP572MH06	59	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002168	SWRMH-008991	SWRMH-002586	SP572MH06	SDMH002586	287	0.007	8	0.21	0.057	19:19 hr	1.64	0.92
SWRGM-002169	SWRNJ-000227	SWRMH-009255	T36103	T36105	10	0.05	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002170	SWRMH-007773	SWRMH-002339	R51106	S51103	334	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002171	SWRMH-002339	SWRMH-002335	S51103	S51107	334	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002173	SWRMH-000771	SWRMH-000778	P49117	P49115	189	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002174	SWRMH-000705	SWRMH-008979	SDMH000705	SP570MH04	168	0.049	8	0.06	0.011	19:08 hr	1.93	2.06
SWRGM-002175	SWRMH-000704	SWRMH-000705	R51138	R51137	347	0.011	8	0.09	0.011	19:08 hr	1.15	1.02
SWRGM-002176	SWRMH-000706	SWRMH-000704	R51135	R51138	75	0.004	8	0.11	0.011	19:06 hr	0.79	0.62
SWRGM-002177	SWRMH-008314	SWRMH-008306	T46168	T46176	267	0.016	8	0.05	0.004	19:02 hr	1.01	1.17
SWRGM-002178	SWRMH-007536	SWRMH-007537	T46178	T46177	275	0.009	8	0.14	0.028	19:11 hr	1.41	0.97
SWRGM-002179	SWRMH-007537	SWRMH-008306	T46177	T46176	275	0.009	8	0.17	0.038	19:11 hr	1.54	0.98
SWRGM-002180	SWRMH-007535	SWRMH-007536	T46179	T46178	292	0.008	8	0.11	0.015	19:07 hr	1.12	0.88
SWRGM-002181	SWRMH-008027	SWRMH-008028	U39163	U39162	133	0.004	8	0.15	0.019	19:09 hr	0.95	0.65
SWRGM-002182	SWRMH-003235	SWRNJ-000322	V46172	V46107	266	0.005	8	0.17	0.031	19:07 hr	1.18	0.74
SWRGM-002183	SWRMH-001759	SWRMH-001758	Q47110	Q47111	150	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002184	SWRMH-001760	SWRMH-001759	Q47109	Q47110	229	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002185	SWRMH-001760	SWRMH-001754	Q47109	Q47115	171	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002186	SWRMH-001286	SWRMH-001288	Q47162	Q47160	202	0.016	8	0.11	0.022	19:06 hr	1.62	1.27
SWRGM-002187	SWRMH-001714	SWRMH-001713	Q47155	Q47156	239	0.016	8	0.04	0.003	19:01 hr	0.91	1.13
SWRGM-002188	SWRMH-005750	SWRMH-005751	X44103	X44102	350	0.012	8	0.03	0.001	10:05 hr	0.64	0.93
SWRGM-002189	SWRMH-001666	SWRMH-001671	Q48158	Q48153	100	0.007	8	0.13	0.02	19:04 hr	1.18	0.86
SWRGM-002190	SWRMH-001670	SWRMH-001669	Q48154	Q48155	186	0.011	8	0.03	0.001	19:01 hr	0.62	0.89
SWRGM-002191	SWRMH-007520	SWRMH-007594	T47111	T46104	129	0.008	8	0.04	0.002	19:01 hr	0.63	0.80
SWRGM-002192	SWRMH-007529	SWRMH-007591	T47102	T46107	201	0.01	8	0.05	0.003	19:01 hr	0.72	0.90
SWRGM-002193	SWRMH-005752	SWRMH-005748	X44101	X44105	261	0.007	8	0.04	0.002	10:09 hr	0.53	0.71
SWRGM-002194	SWRMH-004238	SWRMH-003907	Y37150	Y37164	287	0.02	8	0.08	0.012	19:08 hr	1.44	1.36
SWRGM-002195	SWRMH-003902	SWRMH-005228	Z36133	Y36127	324	0.018	8	0.04	0.002	19:01 hr	0.86	1.17
SWRGM-002196	SWRMH-006633	SWRMH-005047	Y36114	Y36135	346	0.039	8	0.09	0.022	19:20 hr	2.21	1.94
SWRGM-002197	SWRMH-005045	SWRMH-005235	Y36137	Y36120	226	0.039	8	0.04	0.003	19:01 hr	1.22	1.71
SWRGM-002198	SWRMH-004461	SWRMH-005045	Y36157	Y36137	165	0.035	8	0.03	0.002	19:01 hr	0.98	1.55
SWRGM-002199	SWRMH-004460	SWRMH-004461	Y36158	Y36157	305	0.031	8	0.03	0.002	19:01 hr	0.92	1.46
SWRGM-002200	SWRMH-006026	SWRMH-006027	x40102	x40101	335	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002201	SWRMH-002184	SWRMH-002183	R46135	R46136	352	0.008	8	0.11	0.014	19:08 hr	1.10	0.88
SWRGM-002202	SWRMH-002191	SWRMH-002192	R46128	R46127	145	0.008	8	0.06	0.004	19:02 hr	0.75	0.81
SWRGM-002203	SWRMH-002194	SWRMH-002193	R46125	R46126	250	0.009	8	0.10	0.013	19:05 hr	1.14	0.95
SWRGM-002204	SWRMH-002196	SWRMH-002194	R46123	R46125	185	0.008	8	0.09	0.01	19:04 hr	1.00	0.86
SWRGM-002205	SWRMH-002195	SWRMH-002196	R46124	R46123	294	0.007	8	0.05	0.003	19:02 hr	0.68	0.78
SWRGM-002206	SWRMH-001766	SWRMH-002210	R46194	R46109	240	0.008	8	0.15	0.03	19:08 hr	1.39	0.92
SWRGM-002207	SWRMH-001765	SWRMH-001775	R46195	R46185	260	0.013	8	0.06	0.006	19:03 hr	1.02	1.07
SWRGM-002208	SWRMH-001771	SWRMH-001765	R46189	R46195	250	0.016	8	0.05	0.004	19:03 hr	0.99	1.16
SWRGM-002209	SWRMH-001770	SWRMH-001766	R46190	R46194	270	0.007	8	0.15	0.028	19:07 hr	1.31	0.88
SWRGM-002210	SWRMH-002120	SWRMH-002082	R48122	R48160	300	0.011	8	0.10	0.014	19:04 hr	1.22	1.03
SWRGM-002211	SWRMH-002131	SWRMH-002090	R48111	R48152	250	0.016	8	0.06	0.005	19:01 hr	1.05	1.16
SWRGM-002212	SWRCO-000334	SWRMH-002084	R48104	R48158	80	0.019	8	0.03	0.001	19:00 hr	0.71	1.14
SWRGM-002213	SWRMH-002759	SWRMH-002760	M44117	M44116	289	0.011	8	0.03	0.002	19:01 hr	0.64	0.91

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002214	SWRMH-002500	SWRMH-002501	AC47102	AC47101	348	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002215	SWRMH-002496	SWRMH-002495	AC47106	AC47107	345	0.006	8	0.12	0.016	10:19 hr	1.06	0.79
SWRGM-002216	SWRNJ-000436	SWRMH-005307	W38105	W38122	10	0.001	8	0.05	0.001	19:00 hr	0.25	0.29
SWRGM-002217	SWRMH-005307	SWRMH-004385	W38122	W38149	284	0.012	8	0.04	0.002	19:01 hr	0.73	0.97
SWRGM-002218	SWRMH-006016	SWRMH-004020	W38103	W38169	177	0.004	8	0.56	0.255	19:32 hr	1.98	0.68
SWRGM-002219	SWRMH-008081	SWRNJ-000214	T47166	T46455	139	0.009	8	0.20	0.054	19:10 hr	1.70	0.99
SWRGM-002220	SWRNJ-000214	SWRMH-007563	T46455	T46135	131	0.009	8	0.20	0.056	19:10 hr	1.72	0.99
SWRGM-002221	SWRMH-007590	SWRMH-007585	T46108	T46113	128	0.008	8	0.07	0.007	19:05 hr	0.89	0.86
SWRGM-002222	SWRMH-007381	SWRMH-007380	T38138	T38139	153	0.008	8	0.27	0.092	19:17 hr	1.92	0.95
SWRGM-002223	SWRMH-007737	SWRMH-007751	T38160	T38146	138	0.014	8	0.03	0.002	19:00 hr	0.70	1.00
SWRGM-002224	SWRMH-007736	SWRMH-007027	T38161	T38183	190	0.016	8	0.06	0.005	19:01 hr	1.05	1.16
SWRGM-002225	SWRMH-007735	SWRMH-007734	T38162	T38163	180	0.009	8	0.06	0.004	19:03 hr	0.81	0.89
SWRGM-002226	SWRMH-007742	SWRMH-007738	T38155	T38159	226	0.012	8	0.10	0.017	19:03 hr	1.34	1.08
SWRGM-002227	SWRMH-007744	SWRMH-007743	T38153	T38154	154	0.006	8	0.04	0.001	19:01 hr	0.47	0.65
SWRGM-002228	SWRMH-007738	SWRMH-007739	T38159	T38158	234	0.006	8	0.13	0.021	19:05 hr	1.16	0.82
SWRGM-002229	SWRMH-007392	SWRMH-007389	T38127	T38130	226	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002230	SWRMH-007025	SWRMH-007024	T38185	T38186	230	0.016	8	0.05	0.004	19:01 hr	0.98	1.15
SWRGM-002231	SWRMH-007024	SWRMH-007023	T38186	T38187	166	0.016	8	0.07	0.008	19:02 hr	1.18	1.21
SWRGM-002232	SWRMH-007037	SWRMH-007035	T38173	T38175	250	0.006	8	0.07	0.005	19:02 hr	0.75	0.76
SWRGM-002233	SWRMH-007035	SWRMH-007036	T38175	T38174	251	0.011	8	0.07	0.006	19:03 hr	0.97	0.99
SWRGM-002234	SWRMH-004778	SWRMH-004831	AA42135	AA42124	73	0.012	8	0.04	0.002	10:04 hr	0.73	0.95
SWRGM-002235	SWRNJ-000748	SWRMH-004779	AA42112	AA42134	78	0.036	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002237	SWRMH-005513	SWRMH-004852	W39102	W39123	174	0.01	8	0.09	0.01	19:04 hr	1.08	0.96
SWRGM-002238	SWRMH-004852	SWRMH-004464	W39123	W39142	155	0.026	8	0.09	0.019	19:04 hr	1.85	1.58
SWRGM-002239	SWRMH-004776	SWRMH-004457	Y36139	Y36161	126	0.036	8	0.09	0.019	19:11 hr	2.06	1.85
SWRGM-002240	SWRCO-000580	SWRMH-004896	Z40102	Z40119	117	0.004	8	0.04	0.002	10:01 hr	0.44	0.55
SWRGM-002241	SWRMH-006619	SWRMH-006620	Z39107	Z39106	300	0.036	8	0.12	0.04	10:13 hr	2.58	1.93
SWRGM-002242	SWRMH-005442	SWRMH-005446	Z39115	Z39111	313	0.019	8	0.11	0.022	10:02 hr	1.70	1.37
SWRGM-002243	SWRCO-000568	SWRMH-005442	Z39102	Z39115	168	0.01	8	0.11	0.018	10:01 hr	1.28	0.99
SWRGM-002244	SWRMH-001677	SWRMH-001676	Q48147	Q48148	147	0.004	8	0.02	0	19:01 hr	0.29	0.50
SWRGM-002245	SWRMH-002045	SWRMH-002044	S43104	S43105	247	0.009	8	0.05	0.003	19:02 hr	0.73	0.86
SWRGM-002246	SWRMH-002043	SWRMH-002042	S43106	S43107	165	0.012	8	0.04	0.002	19:01 hr	0.73	0.95
SWRGM-002247	SWRMH-002041	SWRMH-002040	S43108	S43109	135	0.01	8	0.04	0.002	19:01 hr	0.68	0.87
SWRGM-002248	SWRMH-002040	SWRMH-002039	S43109	S43110	150	0.023	8	0.04	0.004	19:01 hr	1.05	1.34
SWRGM-002249	SWRMH-002036	SWRMH-002037	S43113	S43112	344	0.008	8	0.08	0.008	19:05 hr	0.91	0.84
SWRGM-002250	SWRMH-008884	SWRMH-001460	SP0584MH111	SDMH001460	109	0.007	8	0.08	0.007	19:04 hr	0.83	0.78
SWRGM-002251	SWRMH-006987	SWRMH-006986	P44162	P44163	270	0.004	8	0.09	0.007	19:06 hr	0.72	0.62
SWRGM-002252	SWRMH-006986	SWRMH-006985	P44163	P44164	270	0.004	8	0.10	0.009	19:08 hr	0.77	0.63
SWRGM-002253	SWRMH-006811	SWRMH-006809	P44148	P44150	325	0.015	8	0.11	0.02	19:08 hr	1.54	1.22
SWRGM-002254	SWRMH-006812	SWRMH-006811	P44147	P44148	317	0.015	8	0.09	0.014	19:07 hr	1.39	1.20
SWRGM-002255	SWRMH-002637	SWRMH-002638	P43157	P43156	260	0.006	8	0.09	0.008	19:06 hr	0.88	0.79
SWRGM-002256	SWRMH-002066	SWRMH-002068	U36136	U36134	235	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002257	SWRMH-002314	SWRMH-002317	U36114	U36111	340	0.006	8	0.09	0.009	19:04 hr	0.91	0.79
SWRGM-002258	SWRMH-007489	SWRMH-007491	T45131	T45129	290	0.012	8	0.04	0.003	19:03 hr	0.77	0.97
SWRGM-002259	SWRMH-007495	SWRMH-007494	T45125	T45126	350	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002260	SWRMH-008200	SWRMH-007081	T44138	T43121	231	0.011	8	0.11	0.017	19:05 hr	1.32	1.06
SWRGM-002261	SWRMH-007088	SWRMH-007087	T43114	T43115	270	0.012	8	0.22	0.081	19:15 hr	2.16	1.18
SWRGM-002262	SWRMH-000676	SWRMH-007079	T44107	T43123	338	0.012	8	0.13	0.029	19:09 hr	1.58	1.12
SWRGM-002263	SWRMH-007690	SWRMH-007691	S45109	S45108	260	0.008	8	0.06	0.004	19:02 hr	0.75	0.85
SWRGM-002264	SWRMH-007692	SWRMH-007695	S45107	S45104	266	0.008	8	0.05	0.004	19:02 hr	0.74	0.84
SWRGM-002265	SWRMH-007676	SWRMH-007677	S45123	S45122	257	0.013	8	0.17	0.048	19:09 hr	1.90	1.20
SWRGM-002266	SWRMH-007675	SWRMH-007676	S45124	S45123	256	0.021	8	0.14	0.039	19:08 hr	2.11	1.49
SWRGM-002267	SWRMH-007341	SWRMH-007675	S45156	S45124	265	0.006	8	0.15	0.026	19:07 hr	1.22	0.81
SWRGM-002268	SWRMH-007663	SWRMH-007662	S45136	S45137	250	0.008	8	0.06	0.005	19:02 hr	0.80	0.86
SWRGM-002269	SWRMH-001725	SWRMH-001724	Q47144	Q47145	353	0.011	8	0.06	0.005	19:02 hr	0.90	0.98
SWRGM-002270	SWRMH-005863	SWRMH-005864	Z45121	Z45120	362	0.005	8	0.04	0.001	19:03 hr	0.46	0.61
SWRGM-002271	SWRMH-005676	SWRMH-005864	Z45117	Z45120	261	0.008	8	0.04	0.002	19:03 hr	0.63	0.79
SWRGM-002272	SWRMH-005674	SWRMH-005675	Z45119	Z45118	211	0.014	8	0.02	0.001	19:01 hr	0.58	0.98
SWRGM-002273	SWRMH-005675	SWRMH-005676	Z45118	Z45117	209	0.013	8	0.03	0.001	19:02 hr	0.65	0.95
SWRGM-002274	SWRMH-008086	SWRMH-008085	T47161	T47162	239	0.008	8	0.09	0.011	19:08 hr	1.01	0.87
SWRGM-002275	SWRMH-008095	SWRMH-008086	T47152	T47161	102	0.005	8	0.03	0.001	19:01 hr	0.40	0.62
SWRGM-002276	SWRMH-007846	SWRMH-008104	T48110	T47143	214	0.009	8	0.03	0.001	19:01 hr	0.55	0.82
SWRGM-002277	SWRMH-007519	SWRMH-008094	T47112	T47153	292	0.012	8	0.18	0.054	19:15 hr	1.91	1.15
SWRGM-002278	SWRMH-007516	SWRMH-007519	T47115	T47112	367	0.005	8	0.23	0.054	19:14 hr	1.41	0.76
SWRGM-002279	SWRMH-008092	SWRMH-008093	T47155	T47154	139	0.006	8	0.12	0.015	19:07 hr	1.05	0.80
SWRGM-002280	SWRMH-008132	SWRMH-008092	T48121	T47155	176	0.006	8	0.12	0.015	19:06 hr	1.01	0.78
SWRGM-002281	SWRNJ-000129	SWRMH-006926	R47513	R47118	27	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002282	SWRMH-003944	SWRMH-004098	Z39124	AA39124	350	0.04	8	0.13	0.052	19:11 hr	2.88	2.05
SWRGM-002283	SWRMH-008128	SWRMH-007320	T48125	T47184	152	0.009	8	0.07	0.006	19:03 hr	0.90	0.91
SWRGM-002284	SWRMH-007838	SWRMH-007459	T48118	T47124	284	0.016	8	0.08	0.01	19:03 hr	1.30	1.23
SWRGM-002285	SWRMH-007460	SWRMH-008093	T47123	T47154	148	0.007	8	0.05	0.002	19:01 hr	0.62	0.74
SWRGM-002286	SWRMH-008093	SWRMH-007461	T47154	T47122	80	0.007	8	0.12	0.018	19:06 hr	1.14	0.84
SWRGM-002287	SWRMH-007525	SWRMH-008094	T47106	T47153	172	0.011	8	0.12	0.023	19:06 hr	1.44	1.08
SWRGM-002288	SWRMH-001716	SWRMH-001717	Q47153	Q47152	190	0.007	8	0.14	0.024	19:06 hr	1.24	0.86
SWRGM-002289	SWRMH-001718	SWRMH-001716	Q47151	Q47153	231	0.011	8	0.05	0.003	19:01 hr	0.77	0.93
SWRGM-002290	SWRCO-000348	SWRMH-001719	Q47101	Q47150	75	0.007	8	0.04	0.002	19:00 hr	0.61	0.77
SWRGM-002291	SWRMH-001719	SWRMH-001715	Q47150	Q47154	300	0.008	8	0.06	0.005	19:02 hr	0.78	0.82
SWRGM-002292	SWRMH-001722	SWRMH-001710	Q47147	Q47159	200	0.012	8	0.12	0.021	19:06 hr	1.46	1.12
SWRGM-002293	SWRMH-001723	SWRMH-001720	Q47146	Q47149	349	0.008	8	0.07	0.006	19:03 hr	0.85	0.84
SWRGM-002294	SWRMH-003207	SWRNJ-000395	V47123	V47114	105	0.016	8	0.09	0.013	19:02 hr	1.39	1.25
SWRGM-002295	SWRMH-007782	SWRMH-007195	S47159	S47158	176	0.028	8	0.03	0.002	19:00 hr	1.00	1.43
SWRGM-002296	SWRMH-007353	SWRMH-007352	S47127	S47128	242	0.013	8	0.31	0.162	19:26 hr	2.70	1.23
SWRGM-002297	SWRMH-007356	SWRMH-007355	S47124	S47125	210	0.011	8	0.06	0.004	19:01 hr	0.86	0.97
SWRGM-002298	SWRMH-007224	SWRMH-007223	S47130	S47131	305	0.01	8	0.06	0.005	19:02 hr	0.87	0.94
SWRGM-002299	SWRMH-007221	SWRMH-007217	S47133	S47137	250	0.009	8	0.07	0.006	19:02 hr	0.90	0.91
SWRGM-002300	SWRMH-007369	SWRMH-007363	S47111	S47117	161	0.012	8	0.11	0.02	19:10 hr	1.43	1.11
SWRGM-002302	SWRMH-004998	SWRMH-004997	Y43132	Y43133	46	0.026	8	0.05	0.005	19:04 hr	1.25	1.46
SWRGM-002303	SWRMH-002926	SWRMH-002925	X35129	X35130	62	0.004	8	0.04	0.001	19:02 hr	0.43	0.56
SWRGM-002304	SWRCO-000754	SWRMH-002927	X35104	X35128	86	0.024	8	0.02	0.001	19:00 hr	0.63	1.22
SWRGM-002305	SWRMH-002940	SWRMH-002941	X35115	X35114	46	0.005	8	0.07	0.004	19:04 hr	0.68	0.68
SWRGM-002306	SWRMH-002929	SWRMH-002926	X35126	X35129	334	0.035	8	0.02	0.001	19:01 hr	0.90	1.53

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002307	SWRMH-002925	SWRMH-002924	X35130	X35131	222	0.004	8	0.05	0.002	19:03 hr	0.51	0.58
SWRGM-002308	SWRMH-002924	SWRMH-002928	X35131	X35127	219	0.004	8	0.06	0.003	19:05 hr	0.56	0.60
SWRGM-002309	SWRMH-002913	SWRMH-002904	X35142	X35151	175	0.004	8	0.09	0.008	19:07 hr	0.73	0.63
SWRGM-002310	SWRMH-002923	SWRMH-002922	X35132	X35133	114	0.004	8	0.15	0.021	19:09 hr	0.99	0.66
SWRGM-002311	SWRMH-002934	SWRMH-002932	X35121	X35123	175	0.012	8	0.02	0	19:01 hr	0.45	0.85
SWRGM-002312	SWRMH-002897	SWRMH-002902	X35158	X35153	135	0.031	8	0.08	0.017	19:13 hr	1.89	1.72
SWRGM-002313	SWRMH-002916	SWRMH-002905	X35139	X35150	294	0.004	8	0.11	0.01	19:15 hr	0.76	0.60
SWRGM-002314	SWRMH-002939	SWRMH-002940	X35116	X35115	112	0.004	8	0.07	0.004	19:03 hr	0.64	0.63
SWRGM-002315	SWRMH-007497	SWRMH-007496	T45123	T45124	350	0.008	8	0.07	0.006	19:03 hr	0.86	0.85
SWRGM-002316	SWRMH-007487	SWRMH-007486	T45133	T45134	205	0.007	8	0.05	0.003	19:01 hr	0.66	0.75
SWRGM-002317	SWRMH-007488	SWRMH-007486	T45132	T45134	295	0.007	8	0.09	0.009	19:05 hr	0.96	0.85
SWRGM-002318	SWRMH-007472	SWRMH-007471	T45148	T45149	349	0.008	8	0.07	0.005	19:06 hr	0.83	0.84
SWRGM-002319	SWRMH-002021	SWRMH-002022	S43128	S43127	245	0.018	8	0.09	0.014	19:06 hr	1.50	1.33
SWRGM-002321	SWRMH-002113	SWRMH-002110	R48129	R48132	145	0.012	8	0.10	0.014	19:06 hr	1.26	1.07
SWRGM-002322	SWRMH-002114	SWRMH-002113	R48128	R48129	209	0.006	8	0.11	0.013	19:05 hr	0.99	0.79
SWRGM-002323	SWRMH-002122	SWRMH-002121	R48120	R48121	245	0.012	8	0.05	0.004	19:01 hr	0.87	1.01
SWRGM-002324	SWRMH-002121	SWRMH-002120	R48121	R48122	300	0.014	8	0.07	0.009	19:02 hr	1.18	1.14
SWRGM-002325	SWRMH-002133	SWRMH-001709	R48109	Q48115	209	0.004	8	0.05	0.002	19:02 hr	0.50	0.57
SWRGM-002326	SWRNJ-000050	SWRMH-006974	P45365	P45107	180	0.006	8	0.05	0.003	19:01 hr	0.63	0.72
SWRGM-002327	SWRMH-006974	SWRMH-006975	P45107	P45106	270	0.006	8	0.07	0.005	19:03 hr	0.74	0.73
SWRGM-002328	SWRMH-006702	SWRMH-006701	P45127	P45128	255	0.006	8	0.03	0.001	19:02 hr	0.46	0.67
SWRGM-002329	SWRMH-006702	SWRMH-006703	P45127	P45126	278	0.005	8	0.03	0.001	19:02 hr	0.41	0.60
SWRGM-002330	SWRMH-001793	SWRMH-001792	R45151	R45152	186	0.006	8	0.20	0.044	19:17 hr	1.42	0.83
SWRGM-002331	SWRMH-001822	SWRMH-001778	R45122	R45166	176	0.014	8	0.17	0.051	19:14 hr	1.98	1.24
SWRGM-002332	SWRMH-007158	SWRMH-007157	T39126	T39127	277	0.013	8	0.09	0.013	19:04 hr	1.30	1.14
SWRGM-002333	SWRMH-007617	SWRMH-007616	R47109	R47110	41	0.005	8	0.03	0.001	19:00 hr	0.36	0.58
SWRGM-002334	SWRMH-003201	SWRMH-003195	V47129	V47135	233	0.007	8	0.06	0.004	19:02 hr	0.72	0.77
SWRGM-002335	SWRMH-003205	SWRMH-003202	V47125	V47128	233	0.008	8	0.06	0.004	19:01 hr	0.78	0.82
SWRGM-002336	SWRMH-003203	SWRMH-003204	V47127	V47126	350	0.007	8	0.06	0.004	19:03 hr	0.71	0.78
SWRGM-002337	SWRMH-003176	SWRMH-003175	V47154	V47155	250	0.007	8	0.25	0.079	19:15 hr	1.78	0.91
SWRGM-002338	SWRMH-005973	SWRMH-005941	W46104	W46153	178	0.021	8	0.23	0.111	19:11 hr	2.88	1.55
SWRGM-002339	SWRMH-003714	SWRMH-003719	U46155	U46150	320	0.014	8	0.08	0.011	19:03 hr	1.25	1.15
SWRGM-002340	SWRNJ-000357	SWRMH-003387	V39103	V39168	50	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002341	SWRMH-001690	SWRMH-001692	Q48134	Q48132	282	0.013	8	0.12	0.025	19:09 hr	1.56	1.16
SWRGM-002342	SWRMH-001695	SWRMH-001694	Q48129	Q48130	127	0.005	8	0.12	0.015	19:09 hr	0.94	0.70
SWRGM-002343	SWRMH-001694	SWRMH-001693	Q48130	Q48131	350	0.005	8	0.14	0.019	19:11 hr	1.02	0.71
SWRGM-002344	SWRMH-001693	SWRMH-001692	Q48131	Q48132	303	0.005	8	0.15	0.022	19:14 hr	1.06	0.72
SWRGM-002345	SWRMH-001698	SWRMH-001697	Q48126	Q48127	220	0.006	8	0.05	0.002	19:02 hr	0.58	0.69
SWRGM-002346	SWRMH-001697	SWRMH-001696	Q48127	Q48128	300	0.01	8	0.07	0.007	19:02 hr	0.97	0.95
SWRGM-002347	SWRMH-001681	SWRMH-001682	Q48143	Q48142	269	0.023	8	0.06	0.008	19:03 hr	1.34	1.43
SWRGM-002348	SWRMH-001682	SWRMH-001683	Q48142	Q48141	175	0.004	8	0.12	0.014	19:05 hr	0.89	0.68
SWRGM-002349	SWRMH-001683	SWRMH-001684	Q48141	Q48140	178	0.004	8	0.13	0.016	19:06 hr	0.94	0.68
SWRGM-002350	SWRMH-001684	SWRMH-001685	Q48140	Q48139	107	0.004	8	0.13	0.016	19:07 hr	0.93	0.68
SWRGM-002351	SWRMH-001688	SWRMH-001687	Q48136	Q48137	113	0.022	8	0.03	0.001	19:00 hr	0.73	1.22
SWRGM-002352	SWRMH-001675	SWRMH-001674	Q48149	Q48150	350	0.01	8	0.05	0.003	19:02 hr	0.78	0.91
SWRGM-002353	SWRMH-001674	SWRMH-001673	Q48150	Q48151	300	0.004	8	0.08	0.006	19:04 hr	0.66	0.61
SWRGM-002354	SWRMH-001679	SWRMH-001676	Q48145	Q48148	240	0.007	8	0.08	0.007	19:04 hr	0.85	0.81
SWRGM-002355	SWRMH-002638	SWRMH-007017	P43156	P43117	185	0.004	8	0.17	0.025	19:06 hr	1.00	0.63
SWRGM-002356	SWRMH-001840	SWRMH-001839	S43154	S43155	285	0.005	8	0.09	0.008	19:04 hr	0.79	0.70
SWRGM-002357	SWRMH-001844	SWRMH-001863	S43150	S43131	260	0.004	8	0.25	0.061	19:07 hr	1.36	0.69
SWRGM-002358	SWRMH-002578	SWRMH-002573	R38119	R38124	265	0.011	8	0.07	0.006	19:06 hr	0.95	0.97
SWRGM-002359	SWRMH-002586	SWRMH-002587	R38111	R38110	354	0.007	8	0.22	0.057	19:22 hr	1.60	0.89
SWRGM-002360	SWRMH-002023	SWRMH-002024	S43126	S43125	300	0.025	8	0.06	0.008	19:03 hr	1.42	1.48
SWRGM-002361	SWRCO-000596	SWRMH-006530	Z34103	Z35107	161	0.041	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-002362	SWRMH-006853	SWRNJ-000098	R47143	R46502	133	0.012	8	0.11	0.019	19:05 hr	1.40	1.10
SWRGM-002363	SWRNJ-000173	SWRMH-007348	S45497	S45149	33	0.012	8	0.07	0.007	19:02 hr	1.06	1.05
SWRGM-002364	SWRNJ-000171	SWRMH-007350	S45496	S45147	33	0.008	8	0.08	0.008	19:02 hr	0.96	0.88
SWRGM-002365	SWRMH-007666	SWRMH-007664	S45133	S45135	115	0.011	8	0.06	0.005	19:01 hr	0.90	0.99
SWRGM-002366	SWRNJ-000184	SWRMH-007675	S45489	S45124	24	0.009	8	0.09	0.011	19:07 hr	1.07	0.92
SWRGM-002367	SWRMH-000981	SWRMH-000982	AA46176	AA46175	126	0.017	8	0.04	0.003	19:00 hr	0.92	1.17
SWRGM-002368	SWRMH-000985	SWRMH-000986	AA46172	AA46171	224	0.026	8	0.04	0.003	19:01 hr	1.11	1.44
SWRGM-002369	SWRMH-006221	SWRMH-006220	AC44102	AC44103	316	0.094	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002370	SWRMH-006443	SWRMH-006442	X45109	X45110	105	0.004	8	0.06	0.003	19:04 hr	0.55	0.58
SWRGM-002372	SWRMH-004562	SWRMH-004561	W37142	W37143	350	0.025	8	0.06	0.008	19:03 hr	1.40	1.47
SWRGM-002373	SWRMH-004520	SWRMH-004344	X37145	W37150	175	0.034	8	0.03	0.002	19:00 hr	1.05	1.57
SWRGM-002374	SWRMH-003972	SWRMH-005640	W37153	W37102	216	0.005	8	0.05	0.003	19:02 hr	0.56	0.65
SWRGM-002375	SWRMH-005527	SWRMH-004606	W37117	W37139	175	0.046	8	0.03	0.003	19:00 hr	1.24	1.83
SWRGM-002376	SWRMH-005721	SWRMH-004604	W37115	W37140	171	0.053	8	0.03	0.003	19:00 hr	1.30	1.94
SWRGM-002377	SWRMH-004716	SWRMH-002559	W37133	W36107	340	0.041	8	0.09	0.023	19:11 hr	2.29	1.99
SWRGM-002378	SWRMH-005325	SWRMH-005326	Y42117	Y42116	192	0.034	8	0.05	0.006	19:03 hr	1.42	1.68
SWRGM-002379	SWRCO-000419	SWRMH-004351	Y42106	Y42136	165	0.028	8	0.03	0.002	19:00 hr	0.93	1.40
SWRGM-002380	SWRMH-005326	SWRMH-004352	Y42116	Y42135	258	0.005	8	0.11	0.012	19:04 hr	0.91	0.73
SWRGM-002381	SWRMH-005330	SWRMH-005329	Y42112	Y42113	237	0.014	8	0.03	0.002	19:01 hr	0.68	0.99
SWRGM-002382	SWRMH-004353	SWRMH-005325	Y42134	Y42117	239	0.005	8	0.07	0.005	19:02 hr	0.70	0.69
SWRGM-002383	SWRMH-002171	SWRMH-002173	R46148	R46146	339	0.009	8	0.07	0.007	19:03 hr	0.94	0.90
SWRGM-002384	SWRMH-002208	SWRMH-002207	R46111	R46112	212	0.018	8	0.07	0.01	19:02 hr	1.33	1.30
SWRGM-002385	SWRMH-002150	SWRMH-002149	R46169	R46170	90	0.006	8	0.08	0.006	19:04 hr	0.77	0.72
SWRGM-002386	SWRMH-002151	SWRMH-002150	R46168	R46169	151	0.006	8	0.07	0.005	19:04 hr	0.74	0.74
SWRGM-002387	SWRMH-002142	SWRMH-002138	R46177	R46181	323	0.013	8	0.13	0.028	19:07 hr	1.63	1.19
SWRGM-002388	SWRMH-002139	SWRMH-002138	R46180	R46181	338	0.006	8	0.06	0.004	19:03 hr	0.68	0.71
SWRGM-002389	SWRMH-002138	SWRMH-002137	R46181	R46182	310	0.008	8	0.16	0.034	19:08 hr	1.47	0.96
SWRGM-002390	SWRMH-002140	SWRMH-002137	R46179	R46182	310	0.015	8	0.08	0.01	19:03 hr	1.24	1.18
SWRGM-002391	SWRMH-001764	SWRMH-001776	R46196	R46184	200	0.013	8	0.21	0.071	19:17 hr	2.11	1.20
SWRGM-002392	SWRMH-003895	SWRMH-004486	Z36140	Z36126	274	0.002	8	0.19	0.025	19:22 hr	0.85	0.51
SWRGM-002393	SWRMH-004278	SWRMH-005520	W38153	W38113	172	0.003	8	0.65	0.289	19:46 hr	1.86	0.61
SWRGM-002394	SWRMH-001492	SWRMH-001493	U40194	U40193	79	0.019	8	0.03	0.002	19:01 hr	0.78	1.17
SWRGM-002395	SWRMH-001652	SWRMH-001664	Q49133	Q49121	332	0.013	8	0.08	0.01	19:04 hr	1.18	1.09
SWRGM-002396	SWRMH-001656	SWRMH-001657	Q49129	Q49128	289	0.007	8	0.15	0.026	19:09 hr	1.24	0.84
SWRGM-002397	SWRMH-001642	SWRMH-001640	Q49143	Q49145	195	0.008	8	0.05	0.002	19:01 hr	0.64	0.79
SWRGM-002398	SWRMH-001640	SWRMH-001641	Q49145	Q49144	290	0.008	8	0.06	0.005	19:03 hr	0.79	0.83
SWRGM-002399	SWRMH-001641	SWRMH-001646	Q49144	Q49139	350	0.01	8	0.14	0.028	19:07 hr	1.49	1.04

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002400	SWRMH-001771	SWRMH-001770	R46189	R46190	302	0.023	8	0.05	0.005	19:03 hr	1.16	1.37
SWRGM-002401	SWRMH-002149	SWRMH-002148	R46170	R46171	118	0.007	8	0.10	0.013	19:03 hr	1.02	0.83
SWRGM-002402	SWRMH-002162	SWRMH-001773	R46157	R46187	152	0.036	8	0.08	0.016	19:04 hr	1.95	1.84
SWRGM-002403	SWRMH-002168	SWRMH-002173	R46151	R46146	309	0.016	8	0.10	0.017	19:07 hr	1.51	1.25
SWRGM-002404	SWRMH-003185	SWRMH-003184	V47145	V47146	222	0.004	8	0.11	0.012	19:04 hr	0.82	0.64
SWRGM-002405	SWRMH-003187	SWRMH-003185	V47143	V47145	289	0.014	8	0.04	0.002	19:01 hr	0.75	1.03
SWRGM-002406	SWRMH-002514	SWRMH-001219	AA47113	AA47138	269	0.006	8	0.30	0.104	19:17 hr	1.86	0.87
SWRGM-002407	SWRMH-002520	SWRMH-001155	AA47107	AA47152	350	0.006	8	0.18	0.036	19:12 hr	1.36	0.84
SWRGM-002408	SWRMH-002856	SWRMH-002849	Y33131	Y33138	285	0.035	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002409	SWRMH-002849	SWRMH-002862	Y33138	Y33125	175	0.043	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002410	SWRMH-002859	SWRMH-002858	Y33128	Y33129	325	0.01	8	0.08	0.008	19:05 hr	1.03	0.97
SWRGM-002411	SWRMH-002866	SWRMH-002859	Y33121	Y33128	198	0.011	8	0.06	0.005	19:03 hr	0.94	0.99
SWRGM-002412	SWRMH-002883	SWRMH-002860	Y33104	Y33127	226	0.043	8	0.05	0.008	19:02 hr	1.69	1.90
SWRGM-002413	SWRMH-002874	SWRMH-002875	Y33113	Y33112	331	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002414	SWRCO-000753	SWRMH-002877	Y33101	Y33110	131	0.045	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002415	SWRMH-002877	SWRMH-002878	Y33110	Y33109	266	0.057	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002416	SWRMH-002867	SWRMH-002866	Y33120	Y33121	333	0.017	8	0.04	0.003	19:02 hr	0.92	1.17
SWRGM-002417	SWRMH-002868	SWRMH-002867	Y33119	Y33120	330	0.017	8	0.00	0	19:02 hr	0.00	0.00
SWRGM-002418	SWRMH-002869	SWRMH-002870	Y33118	Y33117	239	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002419	SWRMH-002876	SWRMH-002871	Y33111	Y33116	328	0.016	8	0.03	0.001	19:02 hr	0.71	1.07
SWRGM-002420	SWRMH-001813	SWRMH-001812	R45131	R45132	213	0.004	8	0.06	0.003	19:02 hr	0.54	0.61
SWRGM-002421	SWRMH-001814	SWRMH-001816	R45130	R45128	261	0.009	8	0.09	0.011	19:04 hr	1.09	0.95
SWRGM-002422	SWRMH-001305	SWRMH-001304	Q46131	Q46132	195	0.02	8	0.07	0.009	19:02 hr	1.32	1.34
SWRGM-002423	SWRMH-001306	SWRMH-001305	Q46130	Q46131	270	0.012	8	0.06	0.006	19:01 hr	0.98	1.02
SWRGM-002424	SWRMH-001307	SWRMH-001302	Q46129	Q46134	306	0.022	8	0.09	0.017	19:06 hr	1.70	1.47
SWRGM-002425	SWRMH-001308	SWRMH-001307	Q46128	Q46129	300	0.01	8	0.10	0.014	19:05 hr	1.18	0.98
SWRGM-002426	SWRMH-001309	SWRMH-001308	Q46127	Q46128	302	0.01	8	0.09	0.01	19:03 hr	1.09	0.98
SWRGM-002427	SWRMH-001311	SWRMH-001310	Q46125	Q46126	200	0.013	8	0.04	0.003	19:01 hr	0.82	1.04
SWRGM-002428	SWRMH-001302	SWRMH-001312	Q46134	Q46124	200	0.006	8	0.17	0.032	19:06 hr	1.29	0.82
SWRGM-002429	SWRMH-001314	SWRMH-001313	Q46122	Q46123	350	0.02	8	0.17	0.063	19:13 hr	2.40	1.49
SWRGM-002430	SWRMH-001315	SWRMH-001314	Q46121	Q46122	270	0.004	8	0.24	0.058	19:12 hr	1.38	0.72
SWRGM-002431	SWRMH-001316	SWRMH-001315	Q46120	Q46121	199	0.005	8	0.23	0.054	19:10 hr	1.36	0.73
SWRGM-002433	SWRMH-002629	SWRMH-002628	P43165	P43166	350	0.014	8	0.07	0.008	19:04 hr	1.16	1.14
SWRGM-002434	SWRMH-002645	SWRMH-002644	P43149	P43150	197	0.02	8	0.02	0.001	19:01 hr	0.66	1.14
SWRGM-002435	SWRMH-002647	SWRMH-002646	P43147	P43148	155	0.019	8	0.03	0.001	19:00 hr	0.69	1.13
SWRGM-002436	SWRMH-002655	SWRMH-002654	P43139	P43140	124	0.017	8	0.09	0.014	19:07 hr	1.45	1.28
SWRGM-002437	SWRMH-002632	SWRMH-002631	P43162	P43163	270	0.006	8	0.06	0.003	19:02 hr	0.63	0.71
SWRGM-002438	SWRMH-002631	SWRMH-007636	P43163	P43102	300	0.006	8	0.07	0.005	19:04 hr	0.75	0.74
SWRGM-002439	SWRMH-002666	SWRMH-002665	P43129	P43128	172	0.013	8	0.04	0.002	19:01 hr	0.75	0.99
SWRGM-002440	SWRMH-002668	SWRMH-002667	P43126	P43127	231	0.02	8	0.14	0.041	19:11 hr	2.11	1.47
SWRGM-002441	SWRMH-007630	SWRMH-007019	P43108	P43115	226	0.005	8	0.05	0.002	19:02 hr	0.54	0.64
SWRGM-002442	SWRMH-007631	SWRMH-007624	P43107	P43114	127	0.006	8	0.05	0.002	19:01 hr	0.58	0.69
SWRGM-002443	SWRMH-001598	SWRMH-001599	R43127	R43126	343	0.004	8	0.30	0.082	19:19 hr	1.46	0.68
SWRGM-002444	SWRMH-001317	SWRMH-001316	Q46119	Q46120	158	0.004	8	0.23	0.051	19:09 hr	1.33	0.72
SWRGM-002445	SWRMH-001313	SWRMH-001764	Q46123	R46196	315	0.007	8	0.23	0.065	19:16 hr	1.65	0.88
SWRGM-002446	SWRNJ-000092	SWRMH-002199	Q46288	R46120	107	0.013	8	0.03	0.001	19:00 hr	0.66	0.97
SWRGM-002447	SWRMH-001295	SWRMH-001327	Q46141	Q46109	285	0.026	8	0.24	0.139	19:21 hr	3.33	1.74
SWRGM-002448	SWRMH-001326	SWRMH-002208	Q46110	R46111	266	0.017	8	0.05	0.004	19:01 hr	1.01	1.19
SWRGM-002449	SWRMH-001301	SWRMH-001294	Q46135	Q46142	290	0.01	8	0.14	0.028	19:20 hr	1.50	1.05
SWRGM-002450	SWRMH-001318	SWRMH-001317	Q46118	Q46119	93	0.005	8	0.21	0.049	19:08 hr	1.41	0.79
SWRGM-002451	SWRNJ-000091	SWRMH-001318	Q46290	Q46118	55	0.006	8	0.21	0.049	19:07 hr	1.46	0.83
SWRGM-002452	SWRMH-002748	SWRMH-002804	M43130	M43101	350	0.01	8	0.09	0.011	19:08 hr	1.12	0.97
SWRGM-002453	SWRMH-002775	SWRMH-002783	M44101	M43122	280	0.01	8	0.06	0.005	19:06 hr	0.87	0.94
SWRGM-002454	SWRMH-002774	SWRMH-002777	M44102	M43128	255	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002455	SWRMH-002787	SWRMH-002788	M43118	M43117	308	0.005	8	0.07	0.005	19:05 hr	0.66	0.65
SWRGM-002456	SWRMH-001381	SWRMH-001382	Q44139	Q44138	185	0.007	8	0.43	0.218	19:42 hr	2.36	0.91
SWRGM-002457	SWRMH-001383	SWRMH-001384	Q44137	Q44136	300	0.007	8	0.43	0.222	19:45 hr	2.38	0.92
SWRGM-002458	SWRNJ-000046	SWRMH-006720	P45366	P45109	100	0.005	8	0.16	0.025	19:10 hr	1.11	0.72
SWRGM-002459	SWRMH-006698	SWRMH-006699	P45131	P45130	298	0.005	8	0.03	0.001	19:02 hr	0.42	0.60
SWRGM-002460	SWRMH-006698	SWRMH-006707	P45131	P45122	239	0.007	8	0.03	0.001	19:02 hr	0.49	0.71
SWRGM-002461	SWRMH-006699	SWRMH-006700	P45130	P45129	274	0.006	8	0.06	0.003	19:02 hr	0.62	0.70
SWRGM-002462	SWRMH-006714	SWRMH-006715	P45115	P45114	346	0.008	8	0.06	0.004	19:03 hr	0.78	0.83
SWRGM-002463	SWRMH-006715	SWRMH-006716	P45114	P45113	313	0.008	8	0.08	0.008	19:05 hr	0.95	0.87
SWRGM-002464	SWRMH-006716	SWRMH-006717	P45113	P45112	350	0.008	8	0.10	0.013	19:05 hr	1.10	0.89
SWRGM-002465	SWRMH-001997	SWRMH-001988	S44149	S44158	207	0.004	8	0.07	0.004	19:02 hr	0.58	0.59
SWRGM-002466	SWRMH-002000	SWRMH-001999	S44146	S44147	199	0.014	8	0.04	0.002	19:01 hr	0.78	1.03
SWRGM-002467	SWRMH-002001	SWRMH-002002	S44145	S44144	175	0.018	8	0.06	0.006	19:03 hr	1.15	1.24
SWRGM-002468	SWRMH-006515	SWRMH-006514	Q50108	Q50109	220	0.01	8	0.06	0.004	19:01 hr	0.83	0.92
SWRGM-002469	SWRMH-006514	SWRMH-006513	Q50109	Q50110	195	0.009	8	0.06	0.005	19:02 hr	0.85	0.91
SWRGM-002470	SWRMH-003107	SWRMH-003106	W32112	W32113	210	0.049	8	0.02	0.001	19:00 hr	0.89	1.73
SWRGM-002477	SWRMH-004941	SWRMH-004940	AC43111	AC43112	100	0.069	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002478	SWRMH-002089	SWRMH-002088	R48153	R48154	81	0.015	8	0.07	0.008	19:02 hr	1.16	1.16
SWRGM-002479	SWRCO-000332	SWRMH-002082	R48106	R48160	218	0.01	8	0.06	0.004	19:01 hr	0.83	0.92
SWRGM-002480	SWRMH-008319	SWRMH-008318	T46163	T46164	65	0.006	8	0.04	0.002	19:00 hr	0.52	0.69
SWRGM-002481	SWRMH-008306	SWRMH-008307	T46176	T46175	218	0.008	8	0.18	0.044	19:12 hr	1.55	0.94
SWRGM-002482	SWRMH-008307	SWRMH-008308	T46175	T46174	210	0.008	8	0.19	0.046	19:13 hr	1.57	0.94
SWRGM-002483	SWRMH-008308	SWRMH-008309	T46174	T46173	242	0.005	8	0.25	0.067	19:14 hr	1.53	0.79
SWRGM-002484	SWRMH-007531	SWRMH-007530	T46183	T46184	100	0.008	8	0.02	0.001	19:00 hr	0.42	0.72
SWRGM-002485	SWRMH-007533	SWRMH-007534	T46181	T46180	250	0.009	8	0.05	0.004	19:01 hr	0.78	0.88
SWRGM-002486	SWRMH-006784	SWRMH-006929	R47180	R47115	190	0.012	8	0.05	0.003	19:01 hr	0.82	0.98
SWRGM-002487	SWRMH-006929	SWRMH-007622	R47115	R47104	261	0.011	8	0.07	0.006	19:02 hr	0.98	1.00
SWRGM-002488	SWRMH-006777	SWRMH-006776	R47187	R47188	210	0.009	8	0.06	0.005	19:01 hr	0.84	0.89
SWRGM-002489	SWRMH-007621	SWRMH-006782	R47105	R47182	215	0.01	8	0.16	0.038	19:08 hr	1.63	1.06
SWRGM-002490	SWRMH-006782	SWRMH-006778	R47182	R47186	213	0.011	8	0.16	0.039	19:09 hr	1.68	1.09
SWRGM-002491	SWRMH-002042	SWRMH-002038	S43107	S43111	104	0.014	8	0.05	0.004	19:01 hr	0.93	1.09
SWRGM-002492	SWRMH-007159	SWRMH-007160	T39125	T39124	207	0.02	8	0.04	0.003	19:02 hr	0.98	1.24
SWRGM-002493	SWRMH-007160	SWRMH-007161	T39124	T39123	309	0.021	8	0.06	0.006	19:02 hr	1.19	1.33
SWRGM-002494	SWRMH-007135	SWRMH-007161	T39149	T39123	69	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002495	SWRMH-007138	SWRMH-007139	T39146	T39145	178	0.015	8	0.07	0.007	19:01 hr	1.12	1.16
SWRGM-002496	SWRMH-007121	SWRMH-007122	T39163	T39162	216	0.006	8	0.17	0.034	19:12 hr	1.34	0.84
SWRGM-002497	SWRMH-007122	SWRMH-007123	T39162	T39161	218	0.007	8	0.17	0.036	19:14 hr	1.42	0.90

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002498	SWRMH-007137	SWRMH-007138	T39147	T39146	94	0.048	8	0.04	0.003	19:00 hr	1.34	1.88
SWRGM-002499	SWRMH-007243	SWRMH-007162	T39105	T39122	358	0.012	8	0.08	0.01	19:03 hr	1.16	1.08
SWRGM-002500	SWRCO-000718	SWRMH-007159	T39101	T39125	174	0.01	8	0.04	0.002	19:01 hr	0.65	0.87
SWRGM-002501	SWRMH-007145	SWRMH-007146	T39139	T39138	281	0.015	8	0.06	0.006	19:01 hr	1.05	1.14
SWRGM-002502	SWRMH-007155	SWRMH-007156	T39129	T39128	317	0.007	8	0.21	0.052	19:11 hr	1.55	0.87
SWRGM-002503	SWRMH-007136	SWRMH-007243	T39148	T39105	225	0.016	8	0.06	0.007	19:01 hr	1.14	1.20
SWRGM-002504	SWRMH-001827	SWRMH-001932	R45117	R45108	288	0.013	8	0.10	0.018	19:04 hr	1.42	1.15
SWRGM-002505	SWRMH-009050	SWRMH-001931	SP671MH4	SDMH001931	149	0.006	8	0.03	0.001	19:01 hr	0.46	0.68
SWRGM-002506	SWRMH-001922	SWRMH-001915	R44150	R44157	294	0.013	8	0.07	0.007	19:03 hr	1.07	1.07
SWRGM-002507	SWRMH-001921	SWRMH-001922	R44151	R44150	300	0.01	8	0.05	0.004	19:02 hr	0.81	0.92
SWRGM-002508	SWRMH-001920	SWRMH-001921	R44152	R44151	228	0.005	8	0.03	0.001	19:02 hr	0.40	0.59
SWRGM-002509	SWRMH-001916	SWRMH-001579	R44156	R43146	251	0.008	8	0.11	0.017	19:05 hr	1.20	0.93
SWRGM-002510	SWRMH-001961	SWRMH-001585	R44112	R43140	260	0.023	8	0.04	0.004	19:01 hr	1.05	1.34
SWRGM-002511	SWRMH-001912	SWRMH-001592	R44160	R43133	300	0.023	8	0.06	0.008	19:02 hr	1.35	1.43
SWRGM-002512	SWRMH-001910	SWRMH-001594	R44162	R43131	300	0.018	8	0.07	0.009	19:03 hr	1.29	1.27
SWRGM-002513	SWRMH-001940	SWRMH-001938	R44133	R44135	223	0.021	8	0.08	0.012	19:05 hr	1.50	1.41
SWRGM-002514	SWRMH-001992	SWRMH-001989	S44154	S44157	360	0.016	8	0.07	0.009	19:04 hr	1.23	1.20
SWRGM-002515	SWRMH-001989	SWRMH-001988	S44157	S44158	282	0.015	8	0.11	0.02	19:04 hr	1.52	1.21
SWRGM-002516	SWRMH-002080	SWRMH-002091	R48162	R48151	159	0.008	8	0.15	0.03	19:08 hr	1.38	0.91
SWRGM-002517	SWRCO-000592	SWRMH-007170	Z35101	Z35103	120	0.005	8	0.01	0	19:01 hr	0.22	0.52
SWRGM-002518	SWRMH-007170	SWRNJ-000662	Z35103	Z35154	98	0.037	8	0.02	0.001	19:00 hr	0.71	1.47
SWRGM-002519	SWRMH-002104	SWRMH-002103	R48138	R48139	177	0.01	8	0.05	0.003	19:01 hr	0.72	0.89
SWRGM-002520	SWRMH-002111	SWRMH-002107	R48131	R48135	347	0.016	8	0.05	0.005	19:02 hr	1.02	1.16
SWRGM-002521	SWRMH-002107	SWRMH-002108	R48135	R48134	290	0.004	8	0.09	0.007	19:04 hr	0.74	0.66
SWRGM-002522	SWRMH-002108	SWRMH-002109	R48134	R48133	121	0.007	8	0.09	0.011	19:05 hr	1.00	0.85
SWRGM-002523	SWRMH-002109	SWRMH-002110	R48133	R48132	180	0.007	8	0.10	0.012	19:05 hr	1.03	0.85
SWRGM-002524	SWRMH-002116	SWRMH-002115	R48126	R48127	325	0.005	8	0.06	0.004	19:03 hr	0.64	0.68
SWRGM-002525	SWRMH-002694	SWRMH-002682	P42101	P42113	200	0.005	8	0.17	0.03	19:12 hr	1.19	0.75
SWRGM-002526	SWRMH-002677	SWRNJ-000054	P42118	P42145	134	0.007	8	0.26	0.08	19:19 hr	1.75	0.89
SWRGM-002527	SWRNJ-000054	SWRMH-002683	P42145	P42112	162	0.007	8	0.26	0.08	19:20 hr	1.76	0.89
SWRGM-002528	SWRMH-002682	SWRMH-002681	P42113	P42114	129	0.005	8	0.17	0.03	19:13 hr	1.20	0.76
SWRGM-002529	SWRMH-002681	SWRMH-002680	P42114	P42115	197	0.005	8	0.17	0.03	19:14 hr	1.18	0.74
SWRGM-002530	SWRMH-001993	SWRMH-001977	S44153	S44169	200	0.004	8	0.07	0.005	19:01 hr	0.62	0.60
SWRGM-002531	SWRMH-001994	SWRMH-001992	S44152	S44154	203	0.004	8	0.07	0.004	19:02 hr	0.62	0.60
SWRGM-002532	SWRMH-001995	SWRMH-001989	S44151	S44157	211	0.004	8	0.07	0.004	19:02 hr	0.60	0.60
SWRGM-002533	SWRCO-000645	SWRMH-002008	S44104	S44138	105	0.008	8	0.03	0.001	19:00 hr	0.43	0.72
SWRGM-002534	SWRMH-003548	SWRMH-003549	V36119	V36118	239	0.021	8	0.05	0.005	19:01 hr	1.14	1.32
SWRGM-002535	SWRMH-003549	SWRMH-003550	V36118	V36117	230	0.017	8	0.07	0.008	19:02 hr	1.22	1.24
SWRGM-002536	SWRMH-003550	SWRMH-003547	V36117	V36120	115	0.004	8	0.10	0.009	19:03 hr	0.80	0.66
SWRGM-002537	SWRMH-000648	SWRMH-003721	U47106	U46148	160	0.011	8	0.11	0.016	19:05 hr	1.28	1.03
SWRGM-002538	SWRMH-003763	SWRMH-003762	U46106	U46107	348	0.008	8	0.03	0.001	19:03 hr	0.52	0.75
SWRGM-002539	SWRMH-002545	SWRMH-002548	U40108	U40105	253	0.004	8	0.08	0.006	19:03 hr	0.68	0.62
SWRGM-002540	SWRMH-001535	SWRMH-001534	U40151	U40152	114	0.002	8	0.30	0.064	19:09 hr	1.15	0.54
SWRGM-002541	SWRMH-001879	SWRMH-001496	U40130	U40190	270	0.015	8	0.08	0.011	19:03 hr	1.28	1.19
SWRGM-002542	SWRNJ-000260	SWRMH-001520	U40103	U40166	55	0.024	8	0.03	0.001	19:01 hr	0.79	1.28
SWRGM-002543	SWRMH-005651	SWRMH-005485	X41112	X41126	225	0.006	8	0.03	0.001	10:07 hr	0.45	0.68
SWRGM-002544	SWRMH-001499	SWRMH-001500	U40187	U40186	135	0.014	8	0.15	0.039	19:06 hr	1.84	1.24
SWRGM-002545	SWRCO-000354	SWRMH-001500	U40101	U40186	62	0.009	8	0.03	0.001	19:00 hr	0.57	0.83
SWRGM-002546	SWRMH-001510	SWRMH-001502	U40176	U40184	252	0.013	8	0.17	0.05	19:11 hr	1.91	1.19
SWRGM-002547	SWRMH-001511	SWRMH-001510	U40175	U40176	128	0.005	8	0.04	0.002	19:01 hr	0.53	0.66
SWRGM-002550	SWRMH-003193	SWRMH-005853	V47137	W47135	240	0.018	8	0.08	0.012	19:05 hr	1.41	1.31
SWRGM-002551	SWRMH-003229	SWRMH-005858	V47101	W47130	185	0.012	8	0.16	0.042	19:05 hr	1.77	1.14
SWRGM-002552	SWRNJ-000388	SWRMH-003212	V47111	V47118	108	0.021	8	0.07	0.009	19:02 hr	1.39	1.39
SWRGM-002553	SWRMH-001409	SWRMH-001408	Q43119	Q43120	172	0.013	8	0.05	0.003	19:02 hr	0.86	1.04
SWRGM-002554	SWRMH-001415	SWRMH-001412	Q43113	Q43116	298	0.013	8	0.49	0.381	19:41 hr	3.42	1.24
SWRGM-002555	SWRMH-002666	SWRMH-001409	P43128	Q43119	268	0.005	8	0.04	0.001	19:02 hr	0.47	0.62
SWRGM-002556	SWRMH-001411	SWRMH-001410	Q43117	Q43118	214	0.015	8	0.13	0.03	19:10 hr	1.73	1.25
SWRGM-002557	SWRNJ-000061	SWRMH-001422	Q43198	Q43106	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002558	SWRNJ-000059	SWRMH-001422	Q43199	Q43106	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002559	SWRNJ-000062	SWRMH-001423	Q43200	Q43105	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002560	SWRMH-002880	SWRMH-002881	Y33107	Y33106	292	0.044	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002561	SWRMH-002848	SWRMH-002880	Y33139	Y33107	310	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002562	SWRMH-002879	SWRMH-002848	Y33108	Y33139	288	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002563	SWRMH-002850	SWRMH-002852	Y33137	Y33135	111	0.035	8	0.05	0.006	19:02 hr	1.43	1.69
SWRGM-002564	SWRMH-002864	SWRMH-002863	Y33123	Y33124	300	0.005	8	0.08	0.006	19:04 hr	0.74	0.68
SWRGM-002565	SWRMH-002865	SWRMH-002864	Y33122	Y33123	300	0.005	8	0.06	0.004	19:02 hr	0.63	0.66
SWRGM-002566	SWRMH-001665	SWRMH-001656	Q49120	Q49129	302	0.006	8	0.13	0.02	19:07 hr	1.14	0.83
SWRGM-002567	SWRMH-001655	SWRMH-001663	Q49130	Q49122	219	0.009	8	0.02	0	19:01 hr	0.41	0.76
SWRGM-002568	SWRNJ-000072	SWRMH-001655	Q49247	Q49130	10	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002569	SWRMH-002134	SWRMH-001686	R48108	Q48138	348	0.004	8	0.07	0.004	19:03 hr	0.63	0.63
SWRGM-002570	SWRMH-001672	SWRMH-001666	Q48152	Q48158	118	0.019	8	0.07	0.01	19:04 hr	1.37	1.34
SWRGM-002571	SWRMH-001668	SWRMH-001667	Q48156	Q48157	74	0.007	8	0.09	0.009	19:03 hr	0.90	0.81
SWRGM-002572	SWRMH-002170	SWRMH-002188	R46149	R46131	295	0.008	8	0.05	0.003	19:02 hr	0.68	0.83
SWRGM-002573	SWRCO-000338	SWRMH-002172	R46103	R46147	90	0.009	8	0.04	0.002	19:00 hr	0.60	0.82
SWRGM-002574	SWRMH-003091	SWRMH-003596	W33104	V33109	313	0.033	8	0.12	0.035	19:11 hr	2.41	1.85
SWRGM-002575	SWRMH-003596	SWRMH-003597	V33109	V33108	370	0.028	8	0.12	0.035	19:12 hr	2.27	1.70
SWRGM-002578	SWRMH-007358	SWRMH-007357	S47122	S47123	191	0.005	8	0.11	0.013	19:06 hr	0.93	0.73
SWRGM-002579	SWRMH-007357	SWRMH-007353	S47123	S47127	107	0.005	8	0.11	0.013	19:07 hr	0.89	0.69
SWRGM-002580	SWRMH-007354	SWRMH-008476	S47126	S47101	250	0.01	8	0.06	0.004	19:01 hr	0.84	0.93
SWRGM-002581	SWRMH-008197	SWRMH-008152	T44141	T44184	205	0.012	8	0.02	0	19:01 hr	0.43	0.86
SWRGM-002582	SWRMH-008342	SWRMH-008341	T44132	T44133	259	0.009	8	0.14	0.026	19:07 hr	1.38	0.96
SWRGM-002583	SWRMH-008161	SWRMH-008156	T44175	T44180	260	0.008	8	0.09	0.011	19:05 hr	1.05	0.89
SWRGM-002584	SWRMH-008166	SWRMH-000670	T44172	T44112	285	0.013	8	0.04	0.002	19:01 hr	0.76	0.99
SWRGM-002585	SWRMH-008172	SWRMH-008169	T44166	T44169	115	0.01	8	0.05	0.003	19:01 hr	0.74	0.89
SWRGM-002586	SWRCO-000711	SWRMH-008168	T44106	T44170	100	0.01	8	0.03	0.001	19:00 hr	0.52	0.82
SWRGM-002587	SWRMH-000667	SWRNJ-000248	T44115	T44493	133	0.009	8	0.11	0.015	19:04 hr	1.20	0.96
SWRGM-002588	SWRNJ-000248	SWRMH-000670	T44493	T44112	157	0.009	8	0.11	0.016	19:05 hr	1.21	0.95
SWRGM-002589	SWRMH-007620	SWRMH-007615	R47106	R47191	257	0.008	8	0.06	0.004	19:02 hr	0.77	0.84
SWRGM-002590	SWRCO-000729	SWRMH-007611	R47102	R47195	99	0.038	8	0.03	0.002	19:00 hr	1.05	1.64
SWRGM-002591	SWRMH-007614	SWRMH-007611	R47192	R47195	180	0.005	8	0.04	0.001	19:01 hr	0.46	0.62
SWRGM-002592	SWRMH-006838	SWRMH-006928	R47158	R47116	248	0.005	8	0.41	0.158	19:30 hr	1.85	0.74

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002593	SWRMH-006927	SWRMH-006838	R47117	R47158	102	0.005	8	0.40	0.155	19:28 hr	1.83	0.73
SWRGM-002594	SWRMH-006829	SWRMH-006839	R47167	R47157	260	0.006	8	0.14	0.023	19:08 hr	1.18	0.81
SWRGM-002595	SWRMH-006831	SWRMH-006825	R47165	R47171	110	0.013	8	0.05	0.003	19:00 hr	0.85	1.02
SWRGM-002596	SWRCO-000379	SWRMH-002602	AA40101	AA40112	50	0.123	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002597	SWRMH-005222	SWRNJ-000536	Y38128	Y38234	70	0.009	8	0.22	0.068	19:46 hr	1.82	0.99
SWRGM-002598	SWRMH-003462	SWRMH-003459	V38146	V38149	198	0.006	8	0.13	0.019	19:07 hr	1.12	0.81
SWRGM-002599	SWRMH-006809	SWRMH-006810	P44150	P44149	260	0.011	8	0.23	0.078	19:19 hr	2.05	1.11
SWRGM-002600	SWRNJ-000048	SWRMH-006803	P44519	P44156	65	0.004	8	0.19	0.034	19:16 hr	1.17	0.70
SWRGM-002601	SWRNJ-000189	SWRMH-007676	S45490	S45123	24	0.005	8	0.08	0.007	19:04 hr	0.80	0.72
SWRGM-002602	SWRNJ-000179	SWRMH-007341	S45500	S45156	24	0.006	8	0.15	0.024	19:05 hr	1.20	0.82
SWRGM-002603	SWRNJ-000192	SWRMH-007677	S45491	S45122	24	0.004	8	0.08	0.006	19:04 hr	0.68	0.63
SWRGM-002604	SWRNJ-000193	SWRMH-007678	S45492	S45121	24	0.004	8	0.09	0.006	19:03 hr	0.67	0.60
SWRGM-002605	SWRNJ-000195	SWRMH-007679	S45493	S45120	24	0.004	8	0.09	0.008	19:03 hr	0.75	0.64
SWRGM-002606	SWRNJ-000169	SWRMH-007658	S45494	S45141	33	0.006	8	0.08	0.007	19:04 hr	0.81	0.76
SWRGM-002607	SWRNJ-000170	SWRMH-007655	S45495	S45144	33	0.006	8	0.08	0.007	19:04 hr	0.83	0.77
SWRGM-002608	SWRMH-002008	SWRMH-008162	S44138	T44174	282	0.006	8	0.20	0.044	19:12 hr	1.41	0.82
SWRGM-002609	SWRMH-002018	SWRMH-002044	S44128	S43105	295	0.019	8	0.06	0.006	19:01 hr	1.18	1.27
SWRGM-002610	SWRMH-001999	SWRMH-002036	S44147	S43113	298	0.014	8	0.06	0.005	19:01 hr	1.02	1.12
SWRGM-002611	SWRMH-001987	SWRMH-001988	S44159	S44158	272	0.009	8	0.10	0.014	19:07 hr	1.14	0.94
SWRGM-002612	SWRMH-001996	SWRMH-002015	S44150	S44131	277	0.017	8	0.04	0.003	19:01 hr	0.94	1.17
SWRGM-002613	SWRMH-001996	SWRMH-002001	S44150	S44145	370	0.017	8	0.04	0.003	19:02 hr	0.94	1.17
SWRGM-002614	SWRMH-007029	SWRMH-007030	T38181	T38180	325	0.004	8	0.20	0.039	19:10 hr	1.23	0.71
SWRGM-002615	SWRMH-007030	SWRMH-007031	T38180	T38179	336	0.004	8	0.20	0.041	19:13 hr	1.24	0.71
SWRGM-002616	SWRMH-001859	SWRMH-001858	S43135	S43136	33	0.004	8	0.18	0.031	19:10 hr	1.11	0.67
SWRGM-002617	SWRMH-001843	SWRMH-001863	S43151	S43131	36	0.004	8	0.25	0.061	19:14 hr	1.40	0.72
SWRGM-002618	SWRMH-001837	SWRMH-001836	S43157	S43158	229	0.004	8	0.22	0.043	19:14 hr	1.21	0.67
SWRGM-002619	SWRMH-001852	SWRMH-001847	S43142	S43147	205	0.005	8	0.08	0.006	19:10 hr	0.75	0.68
SWRGM-002620	SWRMH-001836	SWRMH-001843	S43158	S43151	230	0.004	8	0.25	0.061	19:14 hr	1.39	0.72
SWRGM-002621	SWRMH-002027	SWRMH-001837	S43122	S43157	33	0.004	8	0.22	0.042	19:12 hr	1.16	0.64
SWRGM-002622	SWRMH-006599	SWRNJ-000199	S39111	T39474	217	0.008	8	0.02	0	19:01 hr	0.35	0.69
SWRGM-002623	SWRMH-006588	SWRMH-006587	S39122	S39123	64	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002624	SWRMH-007366	SWRMH-007364	S47114	S47116	119	0.011	8	0.06	0.004	19:02 hr	0.86	0.97
SWRGM-002625	SWRMH-007367	SWRMH-007366	S47113	S47114	61	0.008	8	0.06	0.004	19:02 hr	0.77	0.83
SWRGM-002626	SWRMH-008024	SWRMH-008027	U39166	U39163	201	0.004	8	0.14	0.019	19:08 hr	0.95	0.65
SWRGM-002627	SWRMH-008032	SWRMH-008031	U39158	U39159	151	0.012	8	0.04	0.003	19:01 hr	0.77	0.96
SWRGM-002628	SWRNJ-000270	SWRMH-008079	U39365	U39366	20	0.017	8	0.26	0.133	19:24 hr	2.83	1.41
SWRGM-002629	SWRMH-008592	SWRNJ-000270	U39109	U39365	232	0.004	8	0.38	0.133	19:23 hr	1.68	0.68
SWRGM-002630	SWRMH-008051	SWRMH-008054	U39139	U39136	265	0.01	8	0.14	0.029	19:06 hr	1.50	1.05
SWRGM-002631	SWRMH-008050	SWRMH-008051	U39140	U39139	271	0.01	8	0.13	0.023	19:06 hr	1.42	1.04
SWRGM-002632	SWRMH-008056	SWRMH-008059	U39134	U39131	283	0.018	8	0.11	0.022	19:06 hr	1.69	1.35
SWRGM-002633	SWRMH-008059	SWRMH-008057	U39131	U39133	290	0.023	8	0.11	0.025	19:07 hr	1.92	1.52
SWRGM-002634	SWRMH-008058	SWRMH-008059	U39132	U39131	182	0.005	8	0.05	0.002	19:01 hr	0.52	0.64
SWRGM-002635	SWRMH-008063	SWRMH-008064	U39127	U39126	276	0.005	8	0.31	0.096	19:21 hr	1.66	0.76
SWRGM-002636	SWRMH-008062	SWRMH-008063	U39128	U39127	277	0.004	8	0.31	0.094	19:19 hr	1.56	0.71
SWRGM-002637	SWRMH-001526	SWRMH-008062	U40160	U39128	278	0.004	8	0.31	0.091	19:17 hr	1.54	0.71
SWRGM-002638	SWRMH-007566	SWRMH-007567	T46132	T46131	294	0.005	8	0.28	0.087	19:18 hr	1.67	0.80
SWRGM-002639	SWRMH-007567	SWRMH-007568	T46131	T46130	330	0.005	8	0.29	0.089	19:21 hr	1.68	0.80
SWRGM-002640	SWRMH-007568	SWRMH-007569	T46130	T46129	330	0.009	8	0.25	0.09	19:23 hr	2.04	1.05
SWRGM-002641	SWRMH-007569	SWRMH-007570	T46129	T46128	331	0.011	8	0.24	0.091	19:25 hr	2.16	1.12
SWRGM-002642	SWRMH-008094	SWRMH-007548	T47153	T46150	62	0.012	8	0.22	0.077	19:14 hr	2.13	1.18
SWRGM-002643	SWRMH-008310	SWRMH-008311	T46172	T46171	240	0.005	8	0.25	0.068	19:17 hr	1.55	0.80
SWRGM-002644	SWRMH-008309	SWRMH-008310	T46173	T46172	256	0.015	8	0.19	0.068	19:15 hr	2.20	1.29
SWRGM-002645	SWRMH-008320	SWRMH-008317	T46162	T46165	140	0.01	8	0.09	0.012	19:07 hr	1.15	0.99
SWRGM-002646	SWRMH-007486	SWRMH-008189	T45134	T44149	295	0.011	8	0.11	0.019	19:06 hr	1.35	1.04
SWRGM-002647	SWRMH-007470	SWRMH-007469	T45150	T45151	120	0.008	8	0.04	0.001	19:01 hr	0.57	0.78
SWRGM-002648	SWRMH-007402	SWRMH-007401	T45106	T45107	222	0.008	8	0.06	0.005	19:05 hr	0.83	0.86
SWRGM-002649	SWRMH-007551	SWRMH-007402	T46147	T45106	222	0.008	8	0.05	0.003	19:04 hr	0.73	0.84
SWRGM-002650	SWRMH-007485	SWRMH-007482	T45135	T45138	280	0.012	8	0.07	0.008	19:05 hr	1.08	1.06
SWRGM-002651	SWRMH-001369	SWRMH-001573	Q44151	R44170	263	0.005	8	0.11	0.012	19:04 hr	0.90	0.71
SWRGM-002652	SWRMH-001382	SWRMH-001383	Q44138	Q44137	144	0.007	8	0.44	0.22	19:43 hr	2.34	0.90
SWRGM-002653	SWRMH-001386	SWRMH-001381	Q44134	Q44139	286	0.005	8	0.14	0.019	19:06 hr	1.01	0.71
SWRGM-002654	SWRNJ-000085	SWRMH-001367	Q44438	Q44153	25	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002655	SWRNJ-000070	SWRMH-001360	Q44439	Q44160	12	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002656	SWRMH-001348	SWRMH-001374	Q45116	Q44146	119	0.024	8	0.28	0.177	19:37 hr	3.46	1.68
SWRGM-002657	SWRMH-001377	SWRMH-001374	Q44143	Q44146	220	0.005	8	0.05	0.002	19:04 hr	0.54	0.63
SWRGM-002658	SWRMH-001405	SWRMH-001416	Q44115	Q43112	227	0.015	8	0.47	0.374	19:39 hr	3.60	1.33
SWRGM-002659	SWRMH-001669	SWRMH-001668	Q48155	Q48156	339	0.005	8	0.09	0.007	19:03 hr	0.80	0.71
SWRGM-002660	SWRMH-001772	SWRMH-001764	R46188	R46196	310	0.012	8	0.06	0.004	19:02 hr	0.91	1.01
SWRGM-002661	SWRMH-002206	SWRMH-002208	R46113	R46111	200	0.008	8	0.05	0.003	19:01 hr	0.68	0.81
SWRGM-002662	SWRMH-001767	SWRMH-001768	R46193	R46192	301	0.011	8	0.05	0.003	19:02 hr	0.80	0.95
SWRGM-002663	SWRMH-002192	SWRMH-002196	R46127	R46123	261	0.005	8	0.08	0.006	19:03 hr	0.73	0.68
SWRGM-002664	SWRMH-006848	SWRMH-006849	R47148	R47147	146	0.006	8	0.04	0.002	19:01 hr	0.55	0.70
SWRGM-002665	SWRMH-006824	SWRMH-006825	R47172	R47171	254	0.014	8	0.05	0.004	19:01 hr	0.91	1.08
SWRGM-002666	SWRMH-006835	SWRMH-006836	R47161	R47160	174	0.012	8	0.04	0.002	19:01 hr	0.73	0.97
SWRGM-002667	SWRMH-006841	SWRMH-006840	R47155	R47156	82	0.022	8	0.04	0.003	19:00 hr	0.95	1.29
SWRGM-002668	SWRMH-006843	SWRMH-006844	R47153	R47152	260	0.017	8	0.04	0.003	19:01 hr	0.94	1.17
SWRGM-002669	SWRMH-001373	SWRMH-001371	Q44147	Q44149	230	0.015	8	0.04	0.002	19:01 hr	0.75	1.07
SWRGM-002670	SWRMH-002002	SWRMH-002003	S44144	S44143	145	0.023	8	0.06	0.007	19:03 hr	1.34	1.43
SWRGM-002671	SWRNJ-000395	SWRMH-003162	V47114	V47168	117	0.017	8	0.09	0.014	19:02 hr	1.46	1.29
SWRGM-002672	SWRMH-003192	SWRMH-003193	V47138	V47137	216	0.011	8	0.08	0.009	19:04 hr	1.08	1.00
SWRGM-002673	SWRMH-003208	SWRMH-003207	V47122	V47123	184	0.022	8	0.08	0.011	19:01 hr	1.50	1.44
SWRGM-002674	SWRMH-003209	SWRMH-003208	V47121	V47122	190	0.022	8	0.07	0.009	19:02 hr	1.35	1.39
SWRGM-002675	SWRMH-002144	SWRMH-002142	R46175	R46177	100	0.018	8	0.05	0.004	19:01 hr	0.98	1.20
SWRGM-002676	SWRMH-002146	SWRMH-002143	R46173	R46176	140	0.006	8	0.06	0.004	19:02 hr	0.70	0.75
SWRGM-002677	SWRMH-002153	SWRMH-002152	R46166	R46167	131	0.037	8	0.05	0.005	19:00 hr	1.41	1.72
SWRGM-002678	SWRMH-002156	SWRMH-002157	R46163	R46162	151	0.011	8	0.08	0.009	19:03 hr	1.10	1.03
SWRGM-002679	SWRMH-002160	SWRMH-002162	R46159	R46157	200	0.01	8	0.08	0.009	19:04 hr	1.08	0.99
SWRGM-002680	SWRNJ-000119	SWRMH-001557	R44604	R44186	27	0.01	8	0.02	0	19:00 hr	0.43	0.79
SWRGM-002681	SWRMH-001554	SWRMH-008942	SDMH001554	SP0710MH9	51	0.018	8	0.19	0.071	19:12 hr	2.39	1.42
SWRGM-002682	SWRMH-007599	SWRMH-007598	U38186	U38187	225	0.007	8	0.06	0.004	19:01 hr	0.75	0.79
SWRGM-002683	SWRMH-007601	SWRMH-007600	U38184	U38185	311	0.02	8	0.05	0.004	19:01 hr	1.01	1.26

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002684	SWRMH-007929	SWRMH-007930	U38139	U38138	203	0.008	8	0.07	0.006	19:02 hr	0.86	0.86
SWRGM-002685	SWRMH-007927	SWRMH-007797	U38141	U38146	200	0.005	8	0.21	0.044	19:10 hr	1.29	0.73
SWRGM-002686	SWRMH-007925	SWRMH-007924	U38143	U38144	191	0.022	8	0.31	0.21	19:31 hr	3.53	1.61
SWRGM-002687	SWRMH-008292	SWRMH-008295	S48114	S48111	270	0.016	8	0.10	0.017	19:03 hr	1.48	1.24
SWRGM-002688	SWRMH-008294	SWRMH-008293	S48112	S48113	350	0.005	8	0.06	0.004	19:03 hr	0.63	0.66
SWRGM-002689	SWRMH-008159	SWRMH-008160	T44177	T44176	300	0.016	8	0.07	0.008	19:03 hr	1.17	1.19
SWRGM-002690	SWRMH-008158	SWRMH-008159	T44178	T44177	350	0.017	8	0.05	0.005	19:02 hr	1.05	1.20
SWRGM-002691	SWRMH-008157	SWRMH-008158	T44179	T44178	350	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002692	SWRCO-000713	SWRMH-008157	T44104	T44179	130	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002693	SWRMH-008155	SWRMH-008184	T44181	T44154	155	0.005	8	0.08	0.007	19:03 hr	0.76	0.70
SWRGM-002694	SWRMH-008154	SWRMH-008155	T44182	T44181	320	0.016	8	0.05	0.005	19:01 hr	1.04	1.17
SWRGM-002695	SWRCO-000706	SWRMH-008154	T44111	T44182	70	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002696	SWRMH-008153	SWRMH-008156	T44183	T44180	81	0.008	8	0.06	0.004	19:02 hr	0.73	0.82
SWRGM-002697	SWRMH-008152	SWRMH-008153	T44184	T44183	305	0.017	8	0.04	0.003	19:01 hr	0.94	1.17
SWRGM-002698	SWRMH-008194	SWRMH-008151	T44144	T44185	340	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002699	SWRMH-007213	SWRMH-007212	S47141	S47142	227	0.009	8	0.11	0.017	19:07 hr	1.22	0.95
SWRGM-002700	SWRMH-007212	SWRMH-007211	S47142	S47143	350	0.014	8	0.11	0.02	19:09 hr	1.52	1.20
SWRGM-002701	SWRMH-007778	SWRMH-007233	S47163	S47164	202	0.011	8	0.14	0.03	19:10 hr	1.56	1.08
SWRGM-002702	SWRMH-007352	SWRMH-007225	S47128	S47129	288	0.013	8	0.31	0.165	19:28 hr	2.71	1.23
SWRGM-002703	SWRMH-007208	SWRMH-007202	S47146	S47151	161	0.008	8	0.03	0.001	19:01 hr	0.45	0.74
SWRGM-002704	SWRMH-005390	SWRNJ-000928	AC44117	AC44102	78	0.009	8	0.05	0.003	19:01 hr	0.75	0.87
SWRGM-002705	SWRMH-004938	SWRMH-004937	AC43114	AC43115	279	0.006	8	0.14	0.022	19:04 hr	1.14	0.79
SWRGM-002706	SWRMH-004940	SWRMH-004939	AC43112	AC43113	133	0.031	8	0.02	0.001	19:00 hr	0.76	1.39
SWRGM-002707	SWRMH-004069	SWRMH-004067	U44135	U44137	294	0.015	8	0.14	0.037	19:06 hr	1.87	1.28
SWRGM-002708	SWRMH-006687	SWRMH-004069	U44110	U44135	350	0.015	8	0.09	0.015	19:06 hr	1.40	1.20
SWRGM-002709	SWRMH-004031	SWRMH-004032	Z40145	Z40144	258	0.037	8	0.08	0.018	19:01 hr	2.03	1.86
SWRGM-002710	SWRMH-004030	SWRMH-004031	Z40146	Z40145	246	0.044	8	0.06	0.011	19:00 hr	1.88	1.97
SWRGM-002711	SWRMH-004033	SWRMH-004034	Z40143	Z40142	276	0.015	8	0.22	0.09	19:04 hr	2.41	1.31
SWRGM-002712	SWRMH-005595	SWRMH-005587	W40113	W40121	147	0.004	8	0.24	0.056	19:12 hr	1.36	0.72
SWRGM-002713	SWRMH-005589	SWRMH-005588	W40119	W40120	363	0.009	8	0.14	0.029	19:11 hr	1.46	1.00
SWRGM-002714	SWRMH-005591	SWRMH-005589	W40117	W40119	350	0.01	8	0.14	0.026	19:09 hr	1.45	1.03
SWRGM-002715	SWRMH-005590	SWRMH-005591	W40118	W40117	350	0.011	8	0.04	0.002	19:02 hr	0.68	0.93
SWRGM-002716	SWRMH-004298	SWRMH-004299	Y40130	Y40129	350	0.004	8	0.09	0.008	10:09 hr	0.77	0.66
SWRGM-002717	SWRMH-004297	SWRMH-004298	Y40131	Y40130	249	0.004	8	0.09	0.008	10:06 hr	0.76	0.66
SWRGM-002718	SWRMH-006004	SWRMH-004437	X38113	Y38155	350	0.02	8	0.04	0.004	19:04 hr	1.01	1.26
SWRGM-002719	SWRMH-001580	SWRMH-001581	R43145	R43144	229	0.013	8	0.15	0.035	19:08 hr	1.75	1.20
SWRGM-002720	SWRMH-001375	SWRMH-001374	Q44145	Q44146	300	0.014	8	0.05	0.004	19:01 hr	0.95	1.08
SWRGM-002721	SWRMH-001376	SWRMH-001375	Q44144	Q44145	180	0.014	8	0.03	0.002	19:01 hr	0.71	1.02
SWRGM-002722	SWRMH-003536	SWRMH-003545	V36131	V36122	61	0.01	8	0.08	0.008	19:04 hr	1.01	0.95
SWRGM-002723	SWRMH-003541	SWRMH-003540	V36126	V36127	200	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002724	SWRMH-001869	SWRMH-001870	U40140	U40139	280	0.008	8	0.05	0.003	19:02 hr	0.71	0.83
SWRGM-002725	SWRMH-003516	SWRMH-003515	V36151	V36152	248	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002726	SWRMH-003515	SWRMH-003513	V36152	V36154	220	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002727	SWRMH-005731	SWRMH-004394	Y44105	Y44126	120	0.019	8	0.12	0.026	19:15 hr	1.79	1.38
SWRGM-002728	SWRMH-004285	SWRMH-000613	AA43127	AA43128	174	0.089	8	0.01	0	19:01 hr	0.82	2.12
SWRGM-002729	SWRMH-005987	SWRMH-004729	AA42107	AA42139	138	0.023	8	0.12	0.031	19:05 hr	2.06	1.55
SWRGM-002730	SWRMH-007757	SWRMH-007227	R52106	R52107	251	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002731	SWRMH-007758	SWRMH-007227	R52105	R52107	265	0.031	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002732	SWRMH-007767	SWRMH-007768	R51115	R51114	340	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002733	SWRMH-007768	SWRMH-007764	R51114	R51118	302	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002734	SWRMH-007760	SWRMH-007759	R51122	R51123	251	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002735	SWRMH-007761	SWRMH-007760	R51121	R51122	255	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002736	SWRMH-007762	SWRMH-007761	R51120	R51121	255	0.027	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002737	SWRMH-007766	SWRMH-007765	R51116	R51117	213	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002738	SWRMH-002936	SWRMH-002935	X35119	X35120	257	0.026	8	0.06	0.006	19:02 hr	1.32	1.48
SWRGM-002739	SWRMH-002124	SWRMH-002120	R48118	R48122	231	0.011	8	0.04	0.002	19:01 hr	0.70	0.93
SWRGM-002740	SWRMH-002096	SWRMH-002095	R48146	R48147	142	0.033	8	0.03	0.002	19:00 hr	1.08	1.56
SWRGM-002741	SWRMH-002105	SWRMH-002135	R48137	R48107	275	0.01	8	0.06	0.004	19:02 hr	0.87	0.95
SWRGM-002742	SWRMH-002106	SWRMH-002105	R48136	R48137	274	0.013	8	0.04	0.002	19:01 hr	0.72	0.99
SWRGM-002743	SWRMH-002099	SWRMH-002097	R48143	R48145	220	0.017	8	0.07	0.009	19:04 hr	1.28	1.26
SWRGM-002744	SWRMH-002115	SWRMH-002114	R48127	R48128	300	0.006	8	0.08	0.006	19:06 hr	0.80	0.77
SWRGM-002745	SWRMH-002098	SWRMH-002095	R48144	R48147	25	0.005	8	0.23	0.055	19:14 hr	1.45	0.78
SWRGM-002746	SWRMH-002095	SWRMH-002100	R48147	R48142	218	0.004	8	0.25	0.06	19:16 hr	1.33	0.68
SWRGM-002747	SWRMH-002100	SWRMH-002097	R48142	R48145	63	0.004	8	0.25	0.06	19:16 hr	1.39	0.72
SWRGM-002748	SWRMH-002112	SWRMH-002108	R48130	R48134	283	0.011	8	0.04	0.003	19:01 hr	0.75	0.95
SWRGM-002749	SWRMH-007518	SWRMH-007517	T47113	T47114	351	0.012	8	0.16	0.039	19:11 hr	1.76	1.16
SWRGM-002750	SWRMH-007517	SWRMH-007516	T47114	T47115	353	0.013	8	0.16	0.043	19:12 hr	1.83	1.18
SWRGM-002751	SWRMH-007432	SWRMH-007433	T47183	T47182	267	0.009	8	0.06	0.004	19:01 hr	0.79	0.89
SWRGM-002752	SWRMH-007433	SWRMH-007317	T47182	T47187	260	0.014	8	0.06	0.006	19:02 hr	1.04	1.11
SWRGM-002753	SWRMH-007320	SWRMH-007319	T47184	T47185	310	0.006	8	0.09	0.009	19:05 hr	0.91	0.79
SWRGM-002754	SWRMH-007319	SWRMH-007316	T47185	T47188	350	0.01	8	0.09	0.011	19:07 hr	1.14	1.00
SWRGM-002755	SWRMH-007461	SWRMH-007459	T47122	T47124	302	0.007	8	0.13	0.02	19:08 hr	1.19	0.86
SWRGM-002756	SWRMH-007032	SWRMH-007029	T38178	T38181	280	0.005	8	0.19	0.037	19:07 hr	1.26	0.75
SWRGM-002757	SWRMH-007751	SWRMH-007738	T38146	T38159	100	0.018	8	0.04	0.002	19:01 hr	0.82	1.15
SWRGM-002758	SWRMH-007753	SWRMH-007735	T38144	T38162	249	0.005	8	0.06	0.003	19:02 hr	0.58	0.65
SWRGM-002759	SWRMH-007754	SWRMH-007753	T38143	T38144	223	0.031	8	0.04	0.003	19:01 hr	1.10	1.52
SWRGM-002760	SWRMH-007743	SWRMH-007742	T38154	T38155	260	0.025	8	0.07	0.009	19:03 hr	1.45	1.48
SWRGM-002761	SWRMH-007740	SWRMH-007741	T38157	T38156	108	0.033	8	0.10	0.023	19:07 hr	2.13	1.81
SWRGM-002762	SWRMH-007749	SWRMH-007741	T38148	T38156	255	0.021	8	0.05	0.004	19:01 hr	1.09	1.31
SWRGM-002763	SWRMH-007750	SWRMH-007749	T38147	T38148	185	0.026	8	0.04	0.003	19:00 hr	1.00	1.38
SWRGM-002764	SWRMH-007388	SWRMH-007387	T38131	T38132	204	0.011	8	0.05	0.003	19:01 hr	0.76	0.95
SWRGM-002765	SWRMH-007390	SWRMH-007391	T38129	T38128	200	0.005	8	0.05	0.002	19:02 hr	0.53	0.63
SWRGM-002766	SWRMH-007389	SWRMH-007390	T38130	T38129	100	0.005	8	0.02	0	19:01 hr	0.32	0.56
SWRGM-002767	SWRMH-007748	SWRMH-007747	T38149	T38150	186	0.005	8	0.06	0.004	19:01 hr	0.63	0.66
SWRGM-002768	SWRMH-001841	SWRMH-001840	S43153	S43154	289	0.005	8	0.07	0.004	19:02 hr	0.66	0.66
SWRGM-002769	SWRMH-001835	SWRMH-002030	S43159	S43119	71	0.035	8	0.08	0.015	19:05 hr	1.90	1.81
SWRGM-002770	SWRMH-001833	SWRMH-001834	S43161	S43160	220	0.012	8	0.10	0.014	19:04 hr	1.30	1.10
SWRGM-002771	SWRMH-002044	SWRMH-001832	S43105	S43162	83	0.007	8	0.09	0.01	19:02 hr	0.97	0.84
SWRGM-002772	SWRMH-002003	SWRMH-002014	S44143	S44132	195	0.036	8	0.06	0.009	19:03 hr	1.65	1.77
SWRGM-002773	SWRNJ-000837	SWRMH-001077	AB46107	AB46140	316	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002775	SWRMH-001600	SWRMH-001601	R43125	R43124	258	0.004	8	0.30	0.082	19:24 hr	1.47	0.69

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002776	SWRMH-001599	SWRMH-001600	R43126	R43125	350	0.004	8	0.30	0.082	19:22 hr	1.46	0.68
SWRGM-002777	SWRMH-002567	SWRMH-001612	R39106	R39120	301	0.007	8	0.06	0.004	19:04 hr	0.72	0.78
SWRGM-002778	SWRMH-002568	SWRMH-002567	R39105	R39106	339	0.008	8	0.04	0.002	19:02 hr	0.64	0.81
SWRGM-002779	SWRNJ-000106	SWRMH-002568	R39194	R39105	25	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002780	SWRMH-007142	SWRMH-007141	T39142	T39143	159	0.023	8	0.09	0.017	19:02 hr	1.72	1.50
SWRGM-002781	SWRMH-007148	SWRMH-007142	T39136	T39142	147	0.026	8	0.07	0.009	19:02 hr	1.49	1.53
SWRGM-002782	SWRMH-007147	SWRMH-007148	T39137	T39136	133	0.012	8	0.08	0.008	19:02 hr	1.09	1.04
SWRGM-002783	SWRMH-006879	SWRMH-006878	Q41103	Q41104	335	0.007	8	0.26	0.09	10:13 hr	1.88	0.94
SWRGM-002784	SWRMH-006878	SWRMH-006432	Q41104	SDMH006432	334	0.005	8	0.30	0.09	10:16 hr	1.58	0.73
SWRGM-002788	SWRMH-006885	SWRMH-006884	Q38101	Q38102	281	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002789	SWRMH-001692	SWRMH-002135	Q48132	R48107	283	0.005	8	0.22	0.049	19:13 hr	1.34	0.74
SWRGM-002790	SWRMH-002135	SWRMH-002098	R48107	R48144	188	0.004	8	0.24	0.055	19:14 hr	1.30	0.68
SWRGM-002791	SWRMH-003189	SWRMH-003190	V47141	V47140	350	0.016	8	0.32	0.188	19:29 hr	3.03	1.36
SWRGM-002792	SWRMH-003175	SWRMH-003174	V47155	V47156	265	0.007	8	0.25	0.081	19:17 hr	1.80	0.91
SWRGM-002793	SWRMH-003177	SWRMH-003169	V47153	V47161	140	0.007	8	0.08	0.008	19:03 hr	0.91	0.83
SWRGM-002794	SWRMH-003181	SWRMH-003180	V47149	V47150	146	0.004	8	0.08	0.005	19:01 hr	0.65	0.61
SWRGM-002795	SWRMH-003221	SWRMH-003222	V47109	V47108	220	0.017	8	0.04	0.002	19:01 hr	0.84	1.13
SWRGM-002796	SWRMH-003228	SWRMH-003226	V47102	V47104	300	0.008	8	0.05	0.003	19:02 hr	0.70	0.82
SWRGM-002797	SWRMH-002968	SWRMH-002969	X34124	X34123	115	0.033	8	0.12	0.04	19:09 hr	2.48	1.85
SWRGM-002798	SWRMH-002964	SWRMH-002961	X34128	X34131	260	0.009	8	0.11	0.015	19:04 hr	1.18	0.94
SWRGM-002799	SWRMH-002969	SWRMH-002971	X34123	X34121	120	0.03	8	0.13	0.04	19:09 hr	2.41	1.76
SWRGM-002800	SWRMH-002978	SWRMH-007977	X34114	X34101	162	0.005	8	0.26	0.071	19:10 hr	1.50	0.75
SWRGM-002801	SWRMH-003102	SWRMH-003084	W32117	W33111	122	0.004	8	0.16	0.022	19:10 hr	0.98	0.65
SWRGM-002802	SWRMH-003085	SWRMH-003084	W33110	W33111	157	0.062	8	0.04	0.005	19:02 hr	1.62	2.17
SWRGM-002803	SWRMH-003108	SWRMH-003089	W32111	W33106	221	0.012	8	0.05	0.004	19:03 hr	0.84	0.98
SWRGM-002804	SWRMH-001160	SWRMH-001159	AA47147	AA47148	219	0.004	8	0.21	0.044	19:10 hr	1.26	0.71
SWRGM-002805	SWRMH-002515	SWRMH-001226	AA47112	AA47131	210	0.042	8	0.04	0.005	19:00 hr	1.43	1.83
SWRGM-002806	SWRMH-002516	SWRMH-001223	AA47111	AA47134	288	0.004	8	0.11	0.011	19:08 hr	0.80	0.63
SWRGM-002807	SWRMH-002015	SWRMH-002023	S44131	S43126	300	0.015	8	0.06	0.006	19:02 hr	1.07	1.13
SWRGM-002808	SWRMH-001983	SWRMH-001984	S44163	S44162	220	0.015	8	0.04	0.003	19:01 hr	0.85	1.08
SWRGM-002809	SWRMH-001984	SWRMH-001985	S44162	S44161	300	0.016	8	0.06	0.006	19:02 hr	1.09	1.17
SWRGM-002810	SWRMH-001985	SWRMH-001986	S44161	S44160	310	0.014	8	0.08	0.01	19:04 hr	1.23	1.15
SWRGM-002811	SWRMH-001990	SWRMH-001989	S44156	S44157	235	0.01	8	0.06	0.005	19:03 hr	0.88	0.94
SWRGM-002812	SWRMH-001991	SWRMH-001990	S44155	S44156	358	0.015	8	0.04	0.003	19:02 hr	0.87	1.09
SWRGM-002813	SWRMH-002004	SWRMH-002010	S44142	S44136	140	0.011	8	0.07	0.006	19:02 hr	0.99	1.01
SWRGM-002814	SWRMH-001980	SWRMH-001979	S44166	S44167	260	0.015	8	0.03	0.002	19:01 hr	0.72	1.06
SWRGM-002815	SWRMH-001979	SWRMH-001978	S44167	S44168	356	0.019	8	0.04	0.003	19:03 hr	0.96	1.22
SWRGM-002816	SWRMH-001982	SWRMH-001981	S44164	S44165	250	0.008	8	0.06	0.004	19:01 hr	0.75	0.83
SWRGM-002817	SWRMH-001981	SWRMH-001977	S44165	S44169	253	0.008	8	0.07	0.006	19:03 hr	0.84	0.83
SWRGM-002818	SWRMH-001986	SWRMH-001987	S44160	S44159	233	0.01	8	0.09	0.012	19:05 hr	1.14	0.98
SWRGM-002819	SWRMH-002005	SWRMH-002004	S44141	S44142	270	0.014	8	0.05	0.004	19:01 hr	0.92	1.09
SWRGM-002820	SWRMH-002006	SWRMH-002018	S44140	S44128	165	0.024	8	0.04	0.003	19:00 hr	1.00	1.34
SWRGM-002821	SWRMH-001998	SWRMH-002007	S44148	S44139	335	0.006	8	0.19	0.042	19:10 hr	1.39	0.82
SWRGM-002822	SWRMH-002007	SWRMH-002008	S44139	S44138	57	0.006	8	0.19	0.042	19:11 hr	1.39	0.82
SWRGM-002823	SWRMH-002010	SWRMH-002014	S44136	S44132	365	0.031	8	0.06	0.009	19:03 hr	1.56	1.66
SWRGM-002824	SWRCO-000651	SWRMH-002004	S44102	S44142	120	0.012	8	0.03	0.001	19:00 hr	0.56	0.89
SWRGM-002826	SWRMH-001559	SWRMH-001558	R44184	R44185	300	0.01	8	0.15	0.032	19:09 hr	1.52	1.02
SWRGM-002827	SWRMH-001562	SWRMH-001561	R44181	R44182	115	0.012	8	0.03	0.002	19:00 hr	0.67	0.95
SWRGM-002828	SWRMH-001561	SWRMH-001557	R44182	R44186	165	0.015	8	0.06	0.005	19:02 hr	1.04	1.14
SWRGM-002829	SWRMH-001907	SWRMH-001906	R44165	R44166	271	0.014	8	0.07	0.008	19:02 hr	1.14	1.13
SWRGM-002830	SWRMH-001906	SWRMH-001904	R44166	R44168	267	0.005	8	0.16	0.025	19:07 hr	1.12	0.74
SWRGM-002831	SWRMH-001905	SWRMH-001904	R44167	R44168	264	0.018	8	0.05	0.004	19:01 hr	1.00	1.20
SWRGM-002832	SWRMH-001955	SWRMH-001933	R44118	R44140	175	0.078	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002833	SWRMH-001956	SWRMH-001955	R44117	R44118	300	0.021	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002834	SWRMH-001957	SWRMH-001937	R44116	R44136	276	0.043	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002835	SWRMH-001958	SWRMH-001934	R44115	R44139	276	0.04	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002836	SWRMH-001959	SWRMH-001935	R44114	R44138	276	0.037	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002837	SWRMH-001950	SWRMH-001949	R44123	R44124	345	0.026	8	0.02	0.001	19:01 hr	0.72	1.28
SWRGM-002838	SWRMH-001904	SWRMH-001960	R44168	R44113	255	0.058	8	0.10	0.031	19:07 hr	2.82	2.39
SWRGM-002839	SWRMH-002903	SWRMH-002914	X35152	X35141	228	0.036	8	0.05	0.007	19:05 hr	1.53	1.74
SWRGM-002840	SWRMH-006852	SWRMH-006853	R47144	R47143	247	0.025	8	0.04	0.004	19:01 hr	1.12	1.42
SWRGM-002841	SWRMH-006872	SWRMH-006870	R47124	R47126	299	0.011	8	0.08	0.009	19:03 hr	1.07	1.00
SWRGM-002842	SWRMH-006868	SWRMH-006872	R47128	R47124	210	0.015	8	0.04	0.003	19:01 hr	0.86	1.10
SWRGM-002843	SWRMH-006871	SWRMH-006872	R47125	R47124	194	0.015	8	0.04	0.003	19:01 hr	0.84	1.07
SWRGM-002844	SWRMH-006875	SWRMH-006874	R47121	R47122	273	0.015	8	0.07	0.009	19:03 hr	1.23	1.19
SWRGM-002845	SWRMH-006876	SWRMH-006875	R47120	R47121	276	0.017	8	0.06	0.006	19:02 hr	1.14	1.23
SWRGM-002846	SWRMH-006873	SWRMH-006876	R47123	R47120	266	0.014	8	0.05	0.004	19:01 hr	0.88	1.05
SWRGM-002847	SWRMH-006571	SWRMH-006569	R47204	R47206	300	0.005	8	0.31	0.099	19:14 hr	1.63	0.74
SWRGM-002848	SWRMH-006569	SWRMH-006570	R47206	R47205	182	0.009	8	0.27	0.106	19:15 hr	2.14	1.05
SWRGM-002849	SWRMH-006828	SWRMH-006829	R47168	R47167	290	0.011	8	0.08	0.01	19:03 hr	1.11	1.02
SWRGM-002850	SWRMH-006830	SWRMH-006824	R47166	R47172	85	0.014	8	0.02	0.001	19:00 hr	0.56	0.96
SWRGM-002851	SWRMH-005945	SWRMH-005944	W46149	W46150	316	0.005	8	0.20	0.04	19:10 hr	1.28	0.75
SWRGM-002852	SWRMH-004350	SWRMH-004315	Y42137	Y41145	450	0.006	8	0.18	0.034	10:17 hr	1.28	0.79
SWRGM-002853	SWRMH-005600	SWRMH-005602	AC44111	AC44109	229	0.008	8	0.10	0.013	19:03 hr	1.08	0.88
SWRGM-002854	SWRMH-003561	SWRMH-003562	V35118	V35117	263	0.009	8	0.08	0.009	19:06 hr	1.02	0.93
SWRGM-002855	SWRMH-003574	SWRMH-003573	V35105	V35106	238	0.005	8	0.13	0.018	19:09 hr	1.02	0.73
SWRGM-002856	SWRMH-003562	SWRMH-003574	V35117	V35105	320	0.007	8	0.12	0.016	19:07 hr	1.09	0.83
SWRGM-002857	SWRMH-001663	SWRMH-001665	Q49122	Q49120	301	0.007	8	0.08	0.007	19:04 hr	0.83	0.78
SWRGM-002858	SWRMH-001650	SWRMH-001651	Q49135	Q49134	312	0.004	8	0.05	0.002	19:03 hr	0.53	0.60
SWRGM-002859	SWRMH-001662	SWRMH-001661	Q49123	Q49124	191	0.01	8	0.06	0.005	19:01 hr	0.86	0.94
SWRGM-002860	SWRMH-001661	SWRMH-001663	Q49124	Q49122	175	0.014	8	0.06	0.005	19:02 hr	1.00	1.09
SWRGM-002861	SWRMH-007014	SWRMH-007015	P44103	P44102	309	0.005	8	0.10	0.009	19:07 hr	0.84	0.70
SWRGM-002862	SWRMH-007015	SWRMH-007016	P44102	P44101	310	0.005	8	0.11	0.012	19:09 hr	0.91	0.72
SWRGM-002863	SWRMH-006813	SWRMH-006812	P44146	P44147	246	0.007	8	0.10	0.011	19:06 hr	0.97	0.82
SWRGM-002864	SWRMH-006814	SWRMH-006813	P44145	P44146	246	0.007	8	0.08	0.007	19:04 hr	0.87	0.81
SWRGM-002865	SWRMH-006815	SWRMH-006814	P44144	P44145	296	0.007	8	0.06	0.004	19:02 hr	0.74	0.79
SWRGM-002866	SWRMH-006816	SWRMH-006811	P44143	P44148	125	0.014	8	0.05	0.003	19:00 hr	0.85	1.05
SWRGM-002867	SWRMH-006817	SWRMH-006810	P44142	P44149	296	0.017	8	0.18	0.066	19:18 hr	2.33	1.40
SWRGM-002868	SWRMH-006818	SWRMH-006817	P44141	P44142	230	0.017	8	0.18	0.064	19:17 hr	2.28	1.39
SWRGM-002869	SWRMH-001575	SWRMH-001853	R43150	S43141	351	0.005	8	0.07	0.004	19:05 hr	0.67	0.67
SWRGM-002870	SWRMH-001615	SWRMH-001862	R43118	S43132	317	0.006	8	0.04	0.002	19:03 hr	0.57	0.72

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002871	SWRMH-007770	SWRMH-007766	R51112	R51116	203	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002872	SWRMH-006563	SWRMH-006562	R49104	R49105	195	0.012	8	0.05	0.004	19:01 hr	0.87	1.02
SWRGM-002873	SWRMH-006560	SWRNJ-000094	R49107	R49157	139	0.013	8	0.35	0.197	19:49 hr	2.83	1.22
SWRGM-002874	SWRMH-006557	SWRMH-006556	R49110	R49111	330	0.01	8	0.10	0.013	19:02 hr	1.19	1.01
SWRGM-002875	SWRNJ-000121	SWRMH-006557	R49156	R49110	23	0.01	8	0.09	0.011	19:00 hr	1.11	0.96
SWRGM-002876	SWRNJ-000094	SWRMH-006559	R49157	R49108	152	0.01	8	0.37	0.197	19:51 hr	2.56	1.06
SWRGM-002877	SWRMH-002085	SWRMH-002084	R48157	R48158	296	0.008	8	0.06	0.004	19:02 hr	0.76	0.82
SWRGM-002878	SWRMH-002083	SWRMH-002082	R48159	R48160	350	0.012	8	0.06	0.006	19:02 hr	0.96	1.01
SWRGM-002879	SWRCO-000333	SWRMH-002083	R48105	R48159	124	0.017	8	0.04	0.003	19:00 hr	0.90	1.15
SWRGM-002880	SWRMH-002088	SWRMH-002087	R48154	R48155	132	0.008	8	0.09	0.01	19:02 hr	1.01	0.90
SWRGM-002881	SWRMH-002087	SWRMH-002086	R48155	R48156	175	0.008	8	0.09	0.011	19:03 hr	1.02	0.88
SWRGM-002882	SWRMH-002081	SWRMH-002080	R48161	R48162	268	0.01	8	0.05	0.003	19:01 hr	0.72	0.90
SWRGM-002883	SWRMH-002090	SWRMH-002089	R48152	R48153	87	0.015	8	0.06	0.006	19:02 hr	1.08	1.15
SWRGM-002884	SWRNJ-000198	SWRMH-000350	S27101	S27103	72	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002885	SWRMH-000350	SWRMH-007653	S27101	S27103	48	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002886	SWRMH-006877	SWRMH-006926	R47119	R47118	249	0.005	8	0.39	0.153	19:24 hr	1.87	0.75
SWRGM-002887	SWRMH-006789	SWRMH-006877	R47175	R47119	249	0.007	8	0.36	0.152	19:22 hr	2.09	0.89
SWRGM-002888	SWRMH-007609	SWRMH-006575	R47197	R47200	300	0.005	8	0.17	0.028	19:06 hr	1.13	0.72
SWRGM-002889	SWRNJ-000127	SWRMH-006860	R47508	R47136	50	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002890	SWRMH-002816	SWRMH-007172	Z34101	Z35101	188	0.044	8	0.06	0.01	19:07 hr	1.84	1.96
SWRGM-002891	SWRMH-006536	SWRMH-006537	R50117	R50116	228	0.015	8	0.05	0.004	19:01 hr	0.93	1.12
SWRGM-002892	SWRMH-006535	SWRMH-006536	R50118	R50117	217	0.011	8	0.03	0.001	19:01 hr	0.53	0.86
SWRGM-002893	SWRMH-006539	SWRMH-006534	R50114	R50119	194	0.004	8	0.09	0.008	19:04 hr	0.70	0.59
SWRGM-002894	SWRMH-006537	SWRMH-006538	R50116	R50115	226	0.023	8	0.06	0.006	19:02 hr	1.26	1.40
SWRGM-002895	SWRMH-006538	SWRMH-006539	R50115	R50114	116	0.004	8	0.09	0.007	19:03 hr	0.71	0.61
SWRGM-002896	SWRMH-006556	SWRMH-006553	R49111	R49114	325	0.012	8	0.10	0.014	19:04 hr	1.30	1.10
SWRGM-002897	SWRMH-007553	SWRMH-007554	T46145	T46144	241	0.008	8	0.04	0.002	19:01 hr	0.60	0.79
SWRGM-002898	SWRMH-008280	SWRMH-008281	S49105	S49104	330	0.016	8	0.12	0.026	19:17 hr	1.69	1.28
SWRGM-002899	SWRMH-003816	SWRMH-008584	U45118	V45105	350	0.005	8	0.06	0.003	19:04 hr	0.61	0.66
SWRGM-002900	SWRMH-007028	SWRMH-007026	T38182	T38184	353	0.01	8	0.18	0.046	19:18 hr	1.72	1.05
SWRGM-002901	SWRMH-007661	SWRMH-007655	S45138	S45144	270	0.006	8	0.09	0.009	19:06 hr	0.89	0.78
SWRGM-002902	SWRCO-000585	SWRMH-007661	S45101	S45138	100	0.012	8	0.03	0.001	19:00 hr	0.59	0.92
SWRGM-002903	SWRMH-007698	SWRNJ-000195	S45101	S45493	252	0.004	8	0.09	0.008	19:03 hr	0.76	0.65
SWRGM-002904	SWRMH-007685	SWRNJ-000193	S45114	S45492	190	0.004	8	0.08	0.006	19:02 hr	0.70	0.64
SWRGM-002905	SWRMH-007684	SWRNJ-000192	S45115	S45491	208	0.004	8	0.08	0.006	19:04 hr	0.69	0.64
SWRGM-002906	SWRMH-007501	SWRMH-007503	T45119	T45117	160	0.016	8	0.25	0.117	19:29 hr	2.65	1.36
SWRGM-002907	SWRMH-007404	SWRMH-007403	T45104	T45105	225	0.006	8	0.27	0.081	19:30 hr	1.69	0.84
SWRGM-002908	SWRMH-007403	SWRMH-007501	T45105	T45119	234	0.007	8	0.26	0.081	19:31 hr	1.79	0.91
SWRGM-002909	SWRMH-007400	SWRMH-007507	T45108	T45113	350	0.008	8	0.09	0.011	19:08 hr	1.05	0.91
SWRGM-002910	SWRMH-007169	SWRMH-007240	T39115	T39108	168	0.01	8	0.06	0.005	19:02 hr	0.90	0.94
SWRGM-002911	SWRCO-000700	SWRMH-007481	T45107	T45139	120	0.011	8	0.03	0.001	19:00 hr	0.61	0.90
SWRGM-002912	SWRMH-007477	SWRMH-007476	T45143	T45144	201	0.004	8	0.13	0.015	19:06 hr	0.89	0.64
SWRGM-002913	SWRMH-007227	SWRMH-007770	R52107	R51112	302	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002914	SWRMH-001294	SWRMH-001295	Q46142	Q46141	278	0.031	8	0.23	0.139	19:20 hr	3.55	1.90
SWRGM-002915	SWRMH-001432	SWRMH-001433	Q42113	Q42112	345	0.01	8	0.10	0.014	10:02 hr	1.23	1.02
SWRGM-002916	SWRNJ-000066	SWRMH-001438	Q42107	Q42107	15	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002917	SWRMH-002188	SWRMH-002187	R46131	R46132	225	0.014	8	0.07	0.009	19:03 hr	1.16	1.13
SWRGM-002918	SWRMH-002155	SWRMH-002154	R46164	R46165	326	0.009	8	0.06	0.004	19:02 hr	0.80	0.88
SWRGM-002919	SWRCO-000339	SWRMH-002154	R46102	R46165	88	0.06	8	0.02	0.001	19:00 hr	1.02	1.93
SWRGM-002920	SWRCO-000336	SWRMH-002081	R48102	R48161	90	0.008	8	0.03	0.001	19:00 hr	0.50	0.75
SWRGM-002921	SWRNJ-000662	SWRMH-006525	Z35154	Z35112	219	0.031	8	0.02	0.001	19:01 hr	0.71	1.38
SWRGM-002922	SWRMH-006532	SWRMH-006531	Z35105	Z35106	345	0.003	8	0.06	0.003	19:06 hr	0.48	0.51
SWRGM-002923	SWRMH-006862	SWRMH-006863	R47134	R47133	183	0.018	8	0.04	0.003	19:01 hr	0.94	1.19
SWRGM-002924	SWRMH-006847	SWRMH-006865	R47149	R47131	140	0.016	8	0.07	0.008	19:02 hr	1.19	1.21
SWRGM-002925	SWRMH-001777	SWRMH-006854	R46183	R47142	193	0.014	8	0.09	0.013	19:05 hr	1.32	1.16
SWRGM-002926	SWRMH-006576	SWRMH-006575	R47199	R47200	184	0.016	8	0.03	0.001	19:01 hr	0.71	1.08
SWRGM-002927	SWRMH-007611	SWRMH-007610	R47195	R47196	150	0.005	8	0.07	0.004	19:02 hr	0.63	0.65
SWRGM-002928	SWRMH-007612	SWRMH-007609	R47194	R47197	270	0.004	8	0.05	0.002	19:02 hr	0.51	0.60
SWRGM-002929	SWRMH-007613	SWRMH-007609	R47193	R47197	350	0.036	8	0.05	0.005	19:01 hr	1.38	1.69
SWRGM-002930	SWRMH-006575	SWRMH-006574	R47200	R47201	136	0.004	8	0.26	0.065	19:09 hr	1.42	0.72
SWRGM-002931	SWRMH-006574	SWRMH-006573	R47201	R47202	172	0.005	8	0.26	0.066	19:10 hr	1.46	0.74
SWRGM-002932	SWRMH-008105	SWRMH-008104	T47142	T47143	350	0.007	8	0.07	0.005	19:03 hr	0.79	0.81
SWRGM-002933	SWRMH-006945	SWRMH-004618	Y42106	Y42126	161	0.026	8	0.39	0.349	10:44 hr	4.30	1.74
SWRGM-002934	SWRMH-004618	SWRMH-006944	Y42126	Y42107	239	0.006	8	0.59	0.35	10:46 hr	2.50	0.84
SWRGM-002935	SWRMH-006935	SWRMH-006936	Y42103	Y42102	284	0.052	8	0.03	0.003	19:01 hr	1.33	1.94
SWRGM-002936	SWRMH-005321	SWRMH-005320	Y42121	Y42122	191	0.036	8	0.36	0.359	10:49 hr	4.88	2.05
SWRGM-002937	SWRMH-006934	SWRMH-005321	Y42104	Y42121	211	0.021	8	0.42	0.355	10:50 hr	3.98	1.56
SWRGM-002938	SWRMH-006226	SWRMH-001211	Z48142	Z47107	353	0.016	8	0.07	0.007	19:02 hr	1.18	1.20
SWRGM-002939	SWRMH-001016	SWRMH-001012	Z47132	Z47136	250	0.004	8	0.19	0.035	19:09 hr	1.14	0.67
SWRGM-002940	SWRMH-001452	SWRMH-001451	W35127	W35128	158	0.032	8	0.10	0.027	19:08 hr	2.21	1.80
SWRGM-002941	SWRMH-001464	SWRMH-001465	W35115	W35114	373	0.017	8	0.14	0.037	19:14 hr	1.92	1.34
SWRGM-002942	SWRMH-003362	SWRMH-003363	V40118	V40117	345	0.011	8	0.05	0.004	19:02 hr	0.82	0.95
SWRGM-002943	SWRMH-003335	SWRMH-003332	V40145	V40148	260	0.004	8	0.15	0.022	19:06 hr	1.00	0.66
SWRGM-002944	SWRMH-003317	SWRMH-003319	V40163	V40161	240	0.004	8	0.07	0.004	19:02 hr	0.59	0.60
SWRGM-002945	SWRMH-003373	SWRMH-003371	V40107	V40109	225	0.015	8	0.10	0.017	19:08 hr	1.48	1.22
SWRGM-002946	SWRMH-003372	SWRMH-003373	V40108	V40107	297	0.015	8	0.07	0.009	19:07 hr	1.21	1.18
SWRGM-002947	SWRMH-003334	SWRMH-003333	V40146	V40147	276	0.014	8	0.05	0.005	19:01 hr	0.97	1.10
SWRGM-002948	SWRMH-003349	SWRMH-003353	V40131	V40127	270	0.007	8	0.09	0.009	19:08 hr	0.93	0.83
SWRGM-002949	SWRMH-003351	SWRMH-003353	V40129	V40127	337	0.005	8	0.09	0.008	19:06 hr	0.84	0.73
SWRGM-002950	SWRMH-003352	SWRMH-003351	V40128	V40129	331	0.008	8	0.07	0.005	19:03 hr	0.80	0.83
SWRGM-002951	SWRMH-003350	SWRMH-003352	V40130	V40128	135	0.02	8	0.03	0.001	19:00 hr	0.74	1.17
SWRGM-002952	SWRMH-006295	SWRMH-004743	Y45147	Y44109	230	0.004	8	0.04	0.001	19:02 hr	0.39	0.54
SWRGM-002953	SWRCO-000374	SWRMH-001248	AA46101	AA46149	164	0.07	8	0.04	0.005	19:00 hr	1.70	2.30
SWRGM-002954	SWRMH-002998	SWRMH-002997	X33113	X33114	200	0.005	8	0.10	0.01	19:08 hr	0.85	0.70
SWRGM-002955	SWRNJ-000013	SWRMH-003013	L47101	L47102	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002956	SWRMH-002997	SWRMH-002996	X33114	X33115	324	0.005	8	0.11	0.012	19:10 hr	0.89	0.71
SWRGM-002957	SWRNJ-000014	SWRMH-003013	L47106	L47102	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002958	SWRNJ-000016	SWRMH-003012	L47107	L47103	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002959	SWRMH-001469	SWRMH-001452	W35110	W35127	362	0.038	8	0.05	0.006	19:03 hr	1.48	1.76
SWRGM-002960	SWRMH-003090	SWRMH-003091	W33105	W33104	61	0.03	8	0.12	0.035	19:10 hr	2.34	1.77
SWRGM-002961	SWRMH-003081	SWRMH-002757	L44103	M44119	320	0.007	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-002962	SWRMH-002633	SWRMH-007637	P43161	P43101	300	0.006	8	0.09	0.009	19:07 hr	0.89	0.77
SWRGM-002963	SWRMH-002636	SWRMH-002624	P43158	P43170	300	0.008	8	0.07	0.005	19:04 hr	0.81	0.83
SWRGM-002964	SWRMH-002639	SWRMH-002636	P43155	P43158	274	0.005	8	0.06	0.003	19:02 hr	0.60	0.66
SWRGM-002965	SWRMH-002640	SWRMH-002637	P43154	P43157	321	0.016	8	0.06	0.006	19:04 hr	1.10	1.19
SWRGM-002966	SWRMH-002641	SWRMH-002640	P43153	P43154	300	0.014	8	0.06	0.005	19:03 hr	0.97	1.08
SWRGM-002967	SWRMH-002642	SWRMH-002641	P43152	P43153	300	0.014	8	0.04	0.003	19:01 hr	0.83	1.04
SWRGM-002968	SWRMH-007628	SWRMH-007627	P43110	P43111	200	0.005	8	0.05	0.003	19:01 hr	0.56	0.65
SWRGM-002969	SWRMH-001806	SWRMH-001805	R45138	R45139	115	0.011	8	0.09	0.011	19:03 hr	1.13	1.01
SWRGM-002970	SWRMH-001807	SWRMH-001806	R45137	R45138	246	0.011	8	0.08	0.009	19:02 hr	1.08	1.00
SWRGM-002971	SWRMH-001808	SWRMH-001807	R45136	R45137	226	0.011	8	0.05	0.003	19:01 hr	0.76	0.93
SWRGM-002972	SWRMH-001811	SWRMH-001810	R45133	R45134	136	0.004	8	0.07	0.005	19:03 hr	0.65	0.63
SWRGM-002973	SWRMH-001799	SWRMH-001803	R45145	R45141	338	0.006	8	0.11	0.012	19:05 hr	0.94	0.76
SWRGM-002974	SWRMH-001805	SWRMH-001804	R45139	R45140	325	0.012	8	0.10	0.014	19:05 hr	1.28	1.08
SWRGM-002975	SWRMH-001809	SWRMH-001807	R45135	R45137	224	0.013	8	0.05	0.004	19:01 hr	0.89	1.04
SWRGM-002976	SWRMH-001810	SWRMH-001814	R45134	R45130	350	0.01	8	0.08	0.008	19:04 hr	1.03	0.99
SWRGM-002977	SWRMH-001815	SWRMH-001814	R45129	R45130	215	0.009	8	0.04	0.002	19:01 hr	0.61	0.84
SWRGM-002978	SWRCO-000342	SWRMH-001789	R45101	R45155	120	0.008	8	0.05	0.002	19:01 hr	0.67	0.82
SWRGM-002979	SWRMH-001787	SWRMH-001789	R45157	R45155	300	0.007	8	0.16	0.031	19:12 hr	1.32	0.85
SWRGM-002980	SWRCO-000341	SWRMH-001788	R45102	R45156	120	0.016	8	0.04	0.003	19:00 hr	0.87	1.11
SWRGM-002981	SWRMH-001788	SWRMH-001790	R45156	R45154	45	0.005	8	0.20	0.039	19:14 hr	1.25	0.73
SWRGM-002982	SWRMH-001792	SWRMH-001791	R45152	R45153	239	0.005	8	0.21	0.046	19:19 hr	1.37	0.78
SWRGM-002983	SWRMH-001794	SWRMH-001795	R45150	R45149	249	0.005	8	0.26	0.069	19:20 hr	1.52	0.77
SWRGM-002984	SWRMH-001914	SWRMH-001913	R44158	R44159	315	0.016	8	0.03	0.002	19:01 hr	0.74	1.08
SWRGM-002985	SWRMH-001915	SWRMH-001917	R44157	R44155	232	0.01	8	0.08	0.009	19:04 hr	1.06	0.99
SWRGM-002986	SWRMH-001962	SWRMH-001961	R44111	R44112	154	0.025	8	0.03	0.001	19:00 hr	0.80	1.30
SWRGM-002990	SWRMH-000089	SWRMH-007645	S29103	S29103	100	0.004	8	0.10	0.008	19:08 hr	0.74	0.63
SWRGM-002992	SWRMH-006884	SWRMH-006883	Q38102	Q38103	350	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002993	SWRMH-006883	SWRMH-006882	Q38103	Q38104	350	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002994	SWRMH-006894	SWRMH-006964	P47123	P46118	287	0.055	8	0.04	0.004	19:01 hr	1.54	2.05
SWRGM-002995	SWRMH-006901	SWRMH-006900	P47116	P47117	231	0.013	8	0.04	0.002	19:01 hr	0.75	1.00
SWRGM-002996	SWRCO-000732	SWRMH-006916	P47102	P47101	186	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002997	SWRMH-006908	SWRMH-006905	P47109	P47112	328	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002998	SWRMH-006909	SWRMH-006908	P47108	P47109	342	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-002999	SWRMH-006910	SWRMH-006911	P47107	P47106	350	0.01	8	0.04	0.002	19:02 hr	0.66	0.89
SWRGM-003000	SWRMH-006912	SWRMH-006913	P47105	P47104	350	0.007	8	0.07	0.006	19:06 hr	0.84	0.82
SWRGM-003001	SWRMH-006915	SWRMH-006914	P47102	P47103	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003002	SWRMH-006916	SWRMH-006915	P47101	P47102	314	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003003	SWRMH-006904	SWRMH-006900	P47113	P47117	311	0.006	8	0.02	0	19:03 hr	0.34	0.62
SWRGM-003004	SWRMH-006905	SWRMH-006904	P47112	P47113	311	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003005	SWRMH-006906	SWRMH-006904	P47111	P47113	223	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003006	SWRMH-006907	SWRMH-006906	P47110	P47111	230	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003007	SWRMH-006918	SWRMH-001297	P46134	Q46139	340	0.009	8	0.11	0.015	19:08 hr	1.18	0.94
SWRGM-003008	SWRMH-006922	SWRMH-001300	P46130	Q46136	335	0.01	8	0.12	0.02	19:09 hr	1.34	1.02
SWRGM-003009	SWRMH-006921	SWRMH-001301	P46131	Q46135	298	0.007	8	0.15	0.028	19:18 hr	1.28	0.85
SWRGM-003010	SWRMH-006434	SWRMH-006693	P46125	P46105	197	0.02	8	0.07	0.009	19:05 hr	1.34	1.35
SWRGM-003011	SWRMH-006435	SWRMH-006434	P46124	P46125	300	0.005	8	0.09	0.008	19:04 hr	0.81	0.71
SWRGM-003012	SWRMH-006436	SWRMH-006435	P46123	P46124	320	0.018	8	0.05	0.005	19:01 hr	1.10	1.25
SWRGM-003013	SWRMH-006437	SWRMH-006436	P46122	P46123	161	0.016	8	0.03	0.001	19:01 hr	0.71	1.06
SWRGM-003015	SWRMH-007012	SWRMH-006773	P44105	P44106	245	0.005	8	0.06	0.003	19:02 hr	0.62	0.66
SWRGM-003016	SWRMH-006773	SWRMH-007014	P44106	P44103	309	0.005	8	0.08	0.006	19:05 hr	0.75	0.69
SWRGM-003017	SWRMH-003412	SWRMH-003408	V39143	V39147	172	0.007	8	0.21	0.055	19:13 hr	1.58	0.89
SWRGM-003018	SWRMH-006402	SWRMH-006401	V44102	V44103	326	0.004	8	0.51	0.223	19:30 hr	1.91	0.68
SWRGM-003019	SWRMH-006405	SWRMH-006404	V45144	V45145	260	0.008	8	0.07	0.007	19:05 hr	0.87	0.84
SWRGM-003020	SWRMH-006344	SWRMH-006341	Y45112	Y45115	185	0.018	8	0.03	0.001	19:01 hr	0.65	1.09
SWRGM-003021	SWRMH-006346	SWRMH-006342	Y45110	Y45114	185	0.008	8	0.03	0.001	19:01 hr	0.53	0.75
SWRGM-003022	SWRMH-006086	SWRMH-006085	W47107	W47108	335	0.01	8	0.27	0.107	10:37 hr	2.19	1.08
SWRGM-003023	SWRMH-006087	SWRMH-006086	W47106	W47107	335	0.01	8	0.27	0.107	10:35 hr	2.19	1.08
SWRGM-003024	SWRCO-000357	SWRMH-001228	AA47112	AA47129	178	0.012	8	0.04	0.003	19:01 hr	0.78	0.98
SWRGM-003025	SWRMH-003831	SWRMH-006184	U45103	U44102	306	0.005	8	0.32	0.107	19:18 hr	1.70	0.76
SWRGM-003026	SWRMH-003823	SWRMH-004070	U45111	U44134	301	0.006	8	0.30	0.101	19:23 hr	1.76	0.82
SWRGM-003027	SWRMH-003429	SWRMH-003430	V39126	V39125	191	0.005	8	0.05	0.002	19:01 hr	0.55	0.65
SWRGM-003028	SWRMH-003430	SWRMH-003446	V39125	V39109	109	0.006	8	0.05	0.002	19:02 hr	0.57	0.68
SWRGM-003029	SWRMH-003170	SWRMH-003179	V47160	V47151	26	0.006	8	0.36	0.143	19:17 hr	1.96	0.83
SWRGM-003030	SWRMH-003101	SWRMH-003102	W32118	W32117	357	0.004	8	0.15	0.021	19:09 hr	0.98	0.65
SWRGM-003031	SWRMH-006513	SWRMH-006521	Q50110	Q50102	281	0.008	8	0.12	0.018	19:06 hr	1.19	0.91
SWRGM-003032	SWRMH-006481	SWRMH-006484	Q50126	Q50123	263	0.013	8	0.07	0.008	19:03 hr	1.10	1.08
SWRGM-003033	SWRMH-006508	SWRMH-006509	Q50115	Q50114	188	0.015	8	0.04	0.003	19:01 hr	0.82	1.07
SWRGM-003034	SWRMH-001646	SWRMH-006565	Q49139	R49102	223	0.01	8	0.14	0.03	19:08 hr	1.52	1.04
SWRGM-003035	SWRMH-001647	SWRMH-006564	Q49138	R49103	199	0.024	8	0.04	0.004	19:02 hr	1.08	1.37
SWRGM-003036	SWRMH-001643	SWRMH-001641	Q49142	Q49144	263	0.016	8	0.11	0.02	19:05 hr	1.58	1.26
SWRGM-003037	SWRMH-003312	SWRMH-003374	V40168	V40106	54	0.004	8	0.32	0.089	19:13 hr	1.46	0.66
SWRGM-003038	SWRMH-003375	SWRMH-003376	V40105	V40104	350	0.009	8	0.25	0.09	19:16 hr	2.02	1.03
SWRGM-003039	SWRMH-003376	SWRMH-003377	V40104	V40103	350	0.009	8	0.26	0.09	19:19 hr	1.98	1.00
SWRGM-003040	SWRNJ-000354	SWRMH-003317	V40102	V40163	36	0.004	8	0.04	0.001	19:00 hr	0.38	0.54
SWRGM-003041	SWRMH-003362	SWRNJ-000383	V40118	V39104	120	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003042	SWRNJ-000383	SWRMH-003409	V39104	V39146	161	0.008	8	0.02	0.001	19:01 hr	0.43	0.74
SWRGM-003043	SWRMH-003408	SWRMH-005503	V39147	W39112	204	0.011	8	0.19	0.055	19:14 hr	1.89	1.13
SWRGM-003044	SWRMH-003377	SWRMH-003390	V40103	V39165	310	0.008	8	0.26	0.091	19:21 hr	1.94	0.97
SWRGM-003045	SWRMH-003364	SWRMH-003411	V40116	V39144	280	0.004	8	0.20	0.038	19:11 hr	1.17	0.67
SWRGM-003046	SWRMH-003398	SWRMH-003397	V39157	V39158	90	0.004	8	0.07	0.004	19:00 hr	0.59	0.59
SWRGM-003047	SWRMH-003396	SWRMH-003398	V39159	V39157	88	0.004	8	0.06	0.002	19:00 hr	0.50	0.56
SWRGM-003048	SWRMH-004201	SWRMH-003453	V38104	V39102	130	0.004	8	0.07	0.005	19:01 hr	0.62	0.60
SWRGM-003049	SWRMH-003442	SWRMH-003447	V39113	V39108	122	0.012	8	0.06	0.006	19:01 hr	0.96	1.01
SWRGM-003050	SWRMH-003445	SWRMH-003444	V39110	V39111	175	0.004	8	0.17	0.027	19:06 hr	1.05	0.65
SWRGM-003051	SWRMH-003450	SWRMH-003449	V39105	V39106	192	0.004	8	0.32	0.092	19:13 hr	1.50	0.67
SWRGM-003052	SWRMH-003424	SWRMH-003426	V39131	V39129	164	0.012	8	0.04	0.002	19:01 hr	0.75	0.96
SWRGM-003053	SWRMH-003426	SWRMH-003425	V39129	V39130	126	0.015	8	0.04	0.003	19:01 hr	0.85	1.10
SWRGM-003054	SWRMH-003428	SWRMH-003431	V39127	V39124	151	0.009	8	0.05	0.003	19:01 hr	0.69	0.85
SWRGM-003055	SWRMH-003431	SWRMH-003432	V39124	V39123	149	0.016	8	0.05	0.004	19:01 hr	0.95	1.13
SWRGM-003056	SWRMH-003391	SWRMH-003390	V39164	V39165	54	0.028	8	0.15	0.053	19:11 hr	2.56	1.73
SWRGM-003058	SWRMH-003436	SWRMH-003435	V39119	V39120	112	0.017	8	0.04	0.003	19:01 hr	0.92	1.16

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003059	SWRMH-006869	SWRMH-006870	R47127	R47126	250	0.014	8	0.04	0.003	19:01 hr	0.82	1.05
SWRGM-003060	SWRMH-003217	SWRMH-003218	V47113	V47112	96	0.011	8	0.04	0.002	19:00 hr	0.69	0.91
SWRGM-003061	SWRMH-003167	SWRMH-003164	V47163	V47166	281	0.008	8	0.07	0.006	19:02 hr	0.84	0.84
SWRGM-003062	SWRMH-003166	SWRMH-003168	V47164	V47162	296	0.004	8	0.22	0.046	19:09 hr	1.24	0.68
SWRGM-003063	SWRMH-006972	SWRMH-006919	P46110	P46133	229	0.014	8	0.06	0.007	19:02 hr	1.08	1.12
SWRGM-003064	SWRMH-006966	SWRMH-006917	P46116	P46135	329	0.005	8	0.16	0.025	19:12 hr	1.12	0.74
SWRGM-003065	SWRMH-005749	SWRMH-005750	X44104	X44103	264	0.014	8	0.03	0.001	10:03 hr	0.64	0.98
SWRGM-003067	SWRMH-003405	SWRMH-003402	V39150	V39153	280	0.007	8	0.11	0.016	19:07 hr	1.12	0.87
SWRGM-003068	SWRMH-007673	SWRMH-001974	S45126	S44172	305	0.029	8	0.05	0.004	19:01 hr	1.22	1.51
SWRGM-003069	SWRMH-007342	SWRMH-007339	S45155	S45158	244	0.013	8	0.07	0.008	19:03 hr	1.11	1.09
SWRGM-003070	SWRMH-007733	SWRMH-007732	T38164	T38165	316	0.021	8	0.09	0.015	19:08 hr	1.59	1.42
SWRGM-003071	SWRMH-007732	SWRMH-007752	T38165	T38145	265	0.005	8	0.13	0.016	19:10 hr	0.98	0.72
SWRGM-003072	SWRMH-007746	SWRMH-007745	T38151	T38152	187	0.012	8	0.05	0.004	19:01 hr	0.88	1.01
SWRGM-003073	SWRMH-007022	SWRMH-007929	T38188	U38139	210	0.008	8	0.06	0.004	19:01 hr	0.74	0.84
SWRGM-003074	SWRMH-007745	SWRMH-007742	T38152	T38155	185	0.025	8	0.05	0.006	19:01 hr	1.26	1.45
SWRGM-003075	SWRMH-003889	SWRMH-000625	V48107	V48102	249	0.016	8	0.06	0.005	19:01 hr	1.03	1.15
SWRGM-003076	SWRMH-000626	SWRMH-000625	V48101	V48102	312	0.004	8	0.21	0.038	19:08 hr	1.14	0.65
SWRGM-003077	SWRCO-000502	SWRMH-004413	W46102	W46159	95	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003078	SWRMH-006430	SWRMH-004416	W46101	W46156	145	0.014	8	0.03	0.001	19:00 hr	0.61	0.98
SWRGM-003079	SWRMH-001168	SWRMH-000984	AA46168	AA46173	179	0.019	8	0.14	0.037	19:08 hr	2.01	1.42
SWRGM-003080	SWRNJ-000510	SWRMH-005918	X47104	X47109	10	0.005	8	0.02	0	19:00 hr	0.26	0.54
SWRGM-003081	SWRMH-005918	SWRNJ-000509	X47109	X47101	116	0.005	8	0.02	0	19:00 hr	0.26	0.54
SWRGM-003087	SWRMH-001208	SWRMH-001154	Z47110	AA47153	237	0.004	8	0.44	0.17	19:23 hr	1.79	0.69
SWRGM-003088	SWRMH-006623	SWRMH-004095	Z39103	AA39127	216	0.049	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003089	SWRMH-003283	SWRMH-003282	V46124	V46125	250	0.01	8	0.47	0.303	19:32 hr	2.89	1.07
SWRGM-003090	SWRMH-003247	SWRMH-003246	V46160	V46161	350	0.007	8	0.24	0.07	19:11 hr	1.72	0.91
SWRGM-003091	SWRNJ-000324	SWRMH-003271	V46110	V46136	84	0.005	8	0.07	0.005	19:01 hr	0.72	0.69
SWRGM-003092	SWRMH-003269	SWRNJ-000325	V46138	V46109	276	0.01	8	0.06	0.005	19:01 hr	0.88	0.93
SWRGM-003093	SWRMH-003276	SWRNJ-000348	V46131	V46105	241	0.009	8	0.15	0.031	19:08 hr	1.49	1.01
SWRGM-003094	SWRNJ-000348	SWRMH-003277	V46105	V46130	109	0.009	8	0.15	0.032	19:08 hr	1.52	1.02
SWRGM-003095	SWRMH-003291	SWRNJ-000353	V46116	V46102	264	0.017	8	0.11	0.022	19:05 hr	1.65	1.31
SWRGM-003096	SWRMH-003250	SWRMH-003249	V46157	V46158	330	0.021	8	0.05	0.005	19:01 hr	1.13	1.31
SWRGM-003097	SWRMH-003254	SWRMH-003255	V46153	V46152	236	0.031	8	0.04	0.003	19:01 hr	1.11	1.52
SWRGM-003098	SWRMH-003257	SWRMH-003258	V46150	V46149	270	0.033	8	0.04	0.003	19:01 hr	1.13	1.56
SWRGM-003099	SWRMH-003264	SWRMH-003265	V46143	V46142	270	0.014	8	0.04	0.003	19:01 hr	0.85	1.07
SWRGM-003100	SWRMH-003260	SWRMH-003263	V46147	V46144	265	0.012	8	0.04	0.003	19:01 hr	0.78	0.97
SWRGM-003101	SWRMH-003263	SWRMH-003262	V46144	V46145	350	0.026	8	0.05	0.006	19:02 hr	1.30	1.47
SWRGM-003102	SWRMH-003268	SWRMH-003267	V46139	V46140	305	0.022	8	0.06	0.006	19:03 hr	1.21	1.36
SWRGM-003103	SWRMH-003265	SWRMH-003268	V46142	V46139	225	0.013	8	0.05	0.004	19:02 hr	0.93	1.04
SWRGM-003104	SWRMH-004711	SWRMH-004709	Y36143	Y36145	350	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003105	SWRMH-004456	SWRMH-004457	Y36162	Y36161	208	0.004	8	0.07	0.004	19:04 hr	0.59	0.59
SWRGM-003106	SWRMH-003385	SWRMH-004197	V39170	V38108	350	0.017	8	0.28	0.145	19:30 hr	2.87	1.40
SWRGM-003107	SWRMH-003453	SWRMH-007996	V39102	U39181	134	0.004	8	0.08	0.005	19:02 hr	0.62	0.60
SWRGM-003108	SWRMH-007548	SWRMH-007547	T46150	T46151	350	0.005	8	0.28	0.077	19:17 hr	1.51	0.73
SWRGM-003109	SWRMH-007547	SWRMH-007546	T46151	T46152	350	0.022	8	0.19	0.078	19:18 hr	2.64	1.57
SWRGM-003110	SWRMH-007546	SWRMH-007545	T46152	T46153	350	0.005	8	0.28	0.079	19:21 hr	1.56	0.76
SWRGM-003111	SWRMH-008201	SWRMH-008200	T44137	T44138	346	0.015	8	0.09	0.014	19:04 hr	1.40	1.21
SWRGM-003112	SWRMH-008338	SWRMH-008201	T44136	T44137	175	0.013	8	0.08	0.01	19:03 hr	1.19	1.09
SWRGM-003113	SWRMH-008343	SWRMH-008342	T44131	T44132	136	0.009	8	0.13	0.024	19:06 hr	1.35	0.96
SWRGM-003114	SWRMH-007093	SWRMH-007092	T43109	T43110	315	0.006	8	0.07	0.006	19:06 hr	0.78	0.76
SWRGM-003115	SWRMH-007082	SWRMH-007075	T43120	T43127	262	0.007	8	0.10	0.011	19:07 hr	0.99	0.83
SWRGM-003116	SWRMH-007076	SWRMH-007091	T43126	T43111	349	0.01	8	0.17	0.041	19:17 hr	1.66	1.06
SWRGM-003117	SWRMH-001667	SWRMH-001666	Q48157	Q48158	70	0.006	8	0.09	0.009	19:04 hr	0.85	0.74
SWRGM-003118	SWRMH-003558	SWRMH-003562	V36109	V35117	320	0.01	8	0.06	0.005	19:04 hr	0.89	0.94
SWRGM-003119	SWRMH-003557	SWRMH-003560	V36110	V35119	320	0.006	8	0.07	0.005	19:03 hr	0.71	0.72
SWRGM-003120	SWRMH-003554	SWRMH-003552	V36113	V36115	254	0.007	8	0.05	0.003	19:02 hr	0.63	0.74
SWRGM-003121	SWRMH-003555	SWRMH-003554	V36112	V36113	187	0.006	8	0.03	0.001	19:01 hr	0.48	0.69
SWRGM-003122	SWRMH-003553	SWRMH-003551	V36114	V36116	242	0.009	8	0.05	0.003	19:01 hr	0.71	0.84
SWRGM-003123	SWRMH-006810	SWRMH-006822	P44149	P44137	300	0.017	8	0.27	0.146	19:20 hr	2.91	1.42
SWRGM-003124	SWRMH-006743	SWRMH-006744	P44136	P44135	294	0.005	8	0.07	0.004	19:02 hr	0.66	0.67
SWRGM-003125	SWRMH-006744	SWRMH-006745	P44135	P44134	194	0.005	8	0.08	0.007	19:03 hr	0.77	0.69
SWRGM-003126	SWRMH-006758	SWRMH-006757	P44121	P44122	172	0.005	8	0.05	0.002	19:01 hr	0.56	0.65
SWRGM-003127	SWRMH-006753	SWRMH-006759	P44126	P44120	70	0.005	8	0.10	0.011	19:03 hr	0.87	0.71
SWRGM-003128	SWRMH-001612	SWRMH-002578	R39120	R38119	265	0.011	8	0.06	0.005	19:05 hr	0.92	0.98
SWRGM-003129	SWRMH-002152	SWRMH-002149	R46167	R46170	140	0.031	8	0.05	0.006	19:01 hr	1.36	1.59
SWRGM-003130	SWRMH-002167	SWRMH-002165	R46152	R46154	232	0.006	8	0.07	0.004	19:03 hr	0.69	0.71
SWRGM-003131	SWRMH-002190	SWRMH-002191	R46129	R46128	153	0.008	8	0.05	0.003	19:01 hr	0.66	0.80
SWRGM-003132	SWRMH-001769	SWRMH-001770	R46191	R46190	225	0.01	8	0.12	0.019	19:05 hr	1.34	1.03
SWRGM-003133	SWRMH-002145	SWRMH-002144	R46174	R46175	129	0.011	8	0.05	0.004	19:00 hr	0.82	0.95
SWRGM-003134	SWRMH-006748	SWRMH-006749	P44131	P44130	244	0.005	8	0.06	0.004	19:02 hr	0.64	0.66
SWRGM-003135	SWRMH-006374	SWRMH-006375	V41110	V41109	310	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003136	SWRMH-003382	SWRMH-003379	V39173	V39176	305	0.009	8	0.07	0.006	19:04 hr	0.88	0.88
SWRGM-003137	SWRMH-003694	SWRMH-003667	U48117	U48144	320	0.012	8	0.05	0.003	19:02 hr	0.80	0.98
SWRGM-003138	SWRMH-003675	SWRMH-003660	U48136	U48151	356	0.015	8	0.20	0.071	19:10 hr	2.24	1.30
SWRGM-003139	SWRMH-001398	SWRMH-001397	Q44122	Q44123	189	0.004	8	0.06	0.004	19:01 hr	0.60	0.62
SWRGM-003140	SWRMH-001362	SWRMH-001361	Q44158	Q44159	125	0.009	8	0.06	0.004	19:03 hr	0.80	0.87
SWRGM-003141	SWRMH-001363	SWRMH-001362	Q44157	Q44158	180	0.005	8	0.06	0.003	19:02 hr	0.60	0.66
SWRGM-003142	SWRMH-001364	SWRMH-001361	Q44156	Q44159	192	0.022	8	0.04	0.003	19:01 hr	0.97	1.29
SWRGM-003143	SWRMH-001399	SWRMH-001400	Q44121	Q44120	298	0.012	8	0.07	0.007	19:01 hr	1.04	1.05
SWRGM-003144	SWRMH-001401	SWRMH-001399	Q44119	Q44121	250	0.01	8	0.04	0.002	19:01 hr	0.70	0.88
SWRGM-003145	SWRMH-001404	SWRMH-001384	Q44116	Q44136	246	0.017	8	0.28	0.149	19:22 hr	2.91	1.41
SWRGM-003146	SWRMH-004673	SWRMH-004674	W40145	W40144	324	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003147	SWRMH-004674	SWRMH-004675	W40144	W40143	293	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003149	SWRMH-003537	SWRMH-003536	V36130	V36131	125	0.008	8	0.07	0.006	19:04 hr	0.88	0.86
SWRGM-003150	SWRMH-003544	SWRMH-003540	V36123	V36127	135	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003151	SWRMH-004601	SWRMH-004600	X36170	X36171	195	0.016	8	0.02	0.001	19:01 hr	0.60	1.03
SWRGM-003152	SWRCO-000791	SWRMH-005924	X47102	X47103	123	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003153	SWRMH-004949	SWRMH-004948	X36144	X36145	95	0.007	8	0.61	0.392	20:24 hr	2.72	0.91
SWRGM-003154	SWRMH-004798	SWRMH-004799	X36160	X36159	322	0.011	8	0.52	0.382	20:18 hr	3.26	1.16
SWRGM-003155	SWRMH-005751	SWRMH-005752	X44102	X44101	267	0.012	8	0.03	0.001	10:07 hr	0.64	0.93
SWRGM-003156	SWRMH-005382	SWRMH-005356	AB40108	AB41134	78	0.004	8	0.06	0.003	19:02 hr	0.55	0.58

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003157	SWRMH-004675	SWRMH-004676	W40143	W40142	267	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003158	SWRMH-001929	SWRMH-001928	R45111	R45112	287	0.01	8	0.13	0.024	19:10 hr	1.43	1.03
SWRGM-003159	SWRMH-001928	SWRMH-001824	R45112	R45120	133	0.005	8	0.16	0.027	19:11 hr	1.13	0.73
SWRGM-003160	SWRMH-001824	SWRMH-001823	R45120	R45121	142	0.005	8	0.22	0.049	19:12 hr	1.36	0.75
SWRGM-003161	SWRMH-001823	SWRMH-001822	R45121	R45122	133	0.005	8	0.22	0.05	19:13 hr	1.36	0.75
SWRGM-003162	SWRMH-001790	SWRMH-001793	R45154	R45151	221	0.006	8	0.19	0.042	19:15 hr	1.41	0.84
SWRGM-003163	SWRMH-001800	SWRMH-001801	R45144	R45143	166	0.005	8	0.06	0.003	19:01 hr	0.60	0.67
SWRGM-003164	SWRMH-001801	SWRMH-001802	R45143	R45142	147	0.005	8	0.08	0.006	19:02 hr	0.72	0.69
SWRGM-003165	SWRMH-001802	SWRMH-001799	R45142	R45145	198	0.009	8	0.08	0.008	19:03 hr	0.98	0.92
SWRGM-003166	SWRMH-001204	SWRMH-001027	Z47114	Z46127	296	0.004	8	0.54	0.245	19:28 hr	1.98	0.69
SWRGM-003167	SWRMH-001017	SWRMH-001022	Z47131	Z46132	395	0.004	8	0.11	0.011	19:11 hr	0.81	0.63
SWRGM-003168	SWRNJ-000322	SWRMH-003273	V46107	V46134	84	0.005	8	0.17	0.031	19:08 hr	1.18	0.74
SWRGM-003169	SWRMH-003249	SWRMH-003192	V46158	V47138	202	0.01	8	0.07	0.007	19:03 hr	0.97	0.95
SWRGM-003170	SWRMH-003255	SWRMH-003256	V46152	V46151	268	0.01	8	0.07	0.006	19:02 hr	0.94	0.94
SWRGM-003171	SWRCO-000351	SWRMH-001471	W35101	W35108	160	0.019	8	0.01	0	19:00 hr	0.40	0.99
SWRGM-003172	SWRMH-001468	SWRMH-001451	W35111	W35128	350	0.02	8	0.06	0.007	19:03 hr	1.23	1.31
SWRGM-003173	SWRMH-001451	SWRMH-001463	W35128	W35116	215	0.006	8	0.17	0.034	19:08 hr	1.34	0.84
SWRGM-003174	SWRMH-008891	SWRMH-001457	SP0584MH001	SDMH001457	191	0.005	8	0.15	0.021	19:07 hr	1.03	0.70
SWRGM-003175	SWRMH-003898	SWRMH-003900	Z36137	Z36135	250	0.036	8	0.03	0.002	19:01 hr	0.96	1.56
SWRGM-003176	SWRMH-005583	SWRMH-005582	AB44104	AB44105	380	0.022	8	0.09	0.016	19:14 hr	1.64	1.45
SWRGM-003177	SWRMH-006361	SWRMH-003903	Z38104	Z38166	100	0.02	8	0.08	0.013	19:09 hr	1.52	1.39
SWRGM-003178	SWRMH-004749	SWRMH-004745	AB42114	AB42118	43	0.016	8	0.05	0.003	19:00 hr	0.91	1.13
SWRGM-003179	SWRMH-007383	SWRMH-007382	T38136	T38137	127	0.005	8	0.28	0.087	19:15 hr	1.65	0.79
SWRGM-003180	SWRMH-007039	SWRMH-007038	T38171	T38172	207	0.004	8	0.12	0.014	19:04 hr	0.90	0.68
SWRGM-003181	SWRMH-007036	SWRMH-007032	T38174	T38178	280	0.019	8	0.12	0.026	19:05 hr	1.80	1.39
SWRGM-003182	SWRMH-002757	SWRMH-002758	M44119	M44118	319	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003183	SWRMH-002757	SWRMH-002749	M44119	M44127	288	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003184	SWRCO-000747	SWRMH-002753	M44101	M44123	114	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003185	SWRCO-000746	SWRMH-002754	M44102	M44122	114	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003186	SWRCO-000745	SWRMH-002755	M44103	M44121	116	0.011	8	0.03	0.001	19:00 hr	0.51	0.85
SWRGM-003187	SWRMH-002752	SWRMH-002775	M44124	M44101	324	0.01	8	0.06	0.005	19:04 hr	0.85	0.91
SWRGM-003188	SWRMH-002765	SWRMH-002756	M44111	M44120	302	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003189	SWRMH-002771	SWRMH-002770	M44105	M44106	345	0.005	8	0.05	0.002	19:03 hr	0.50	0.61
SWRGM-003190	SWRMH-002772	SWRMH-002771	M44104	M44105	345	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003191	SWRMH-002776	SWRMH-002778	M43129	M43127	304	0.005	8	0.04	0.001	19:03 hr	0.46	0.63
SWRGM-003192	SWRMH-001785	SWRMH-001786	R45159	R45158	365	0.004	8	0.16	0.025	19:07 hr	1.03	0.66
SWRGM-003193	SWRMH-001786	SWRMH-001787	R45158	R45157	373	0.004	8	0.17	0.027	19:10 hr	1.06	0.66
SWRGM-003194	SWRMH-001789	SWRMH-001788	R45155	R45156	314	0.006	8	0.18	0.036	19:14 hr	1.36	0.84
SWRGM-003195	SWRMH-001791	SWRMH-001794	R45153	R45150	250	0.005	8	0.25	0.066	19:18 hr	1.47	0.75
SWRGM-003196	SWRMH-001795	SWRMH-001796	R45149	R45148	280	0.006	8	0.25	0.072	19:21 hr	1.61	0.82
SWRGM-003197	SWRMH-001798	SWRMH-001796	R45146	R45148	218	0.012	8	0.05	0.004	19:01 hr	0.88	1.01
SWRGM-003198	SWRMH-001797	SWRMH-001791	R45147	R45153	279	0.008	8	0.12	0.019	19:08 hr	1.19	0.89
SWRGM-003199	SWRMH-001803	SWRMH-001797	R45141	R45147	340	0.008	8	0.11	0.015	19:07 hr	1.16	0.92
SWRGM-003200	SWRMH-001831	SWRMH-001827	R45113	R45117	278	0.01	8	0.07	0.006	19:02 hr	0.95	0.94
SWRGM-003201	SWRMH-001828	SWRMH-001829	R45116	R45115	258	0.005	8	0.06	0.004	19:02 hr	0.63	0.66
SWRGM-003202	SWRMH-001829	SWRMH-001830	R45115	R45114	207	0.005	8	0.08	0.007	19:04 hr	0.76	0.68
SWRGM-003203	SWRMH-001830	SWRMH-001930	R45114	R45110	200	0.005	8	0.10	0.01	19:04 hr	0.84	0.70
SWRGM-003204	SWRMH-001930	SWRMH-001932	R45110	R45108	300	0.008	8	0.10	0.013	19:06 hr	1.10	0.90
SWRGM-003205	SWRMH-001748	SWRMH-001746	Q47121	Q47123	349	0.004	8	0.08	0.006	19:06 hr	0.68	0.62
SWRGM-003206	SWRMH-001758	SWRMH-001751	Q47111	Q47118	174	0.014	8	0.02	0.001	19:12 hr	0.56	0.97
SWRGM-003207	SWRMH-001752	SWRMH-001758	Q47117	Q47111	174	0.013	8	0.02	0.001	19:11 hr	0.55	0.93
SWRGM-003208	SWRMH-001751	SWRMH-001755	Q47118	Q47114	183	0.015	8	0.03	0.001	19:13 hr	0.67	1.03
SWRGM-003209	SWRMH-001761	SWRMH-001752	Q47108	Q47117	200	0.011	8	0.03	0.001	19:10 hr	0.52	0.86
SWRGM-003210	SWRMH-001746	SWRMH-001743	Q47123	Q47126	274	0.004	8	0.12	0.013	19:07 hr	0.86	0.65
SWRGM-003211	SWRMH-006917	SWRMH-001296	P46135	Q46140	280	0.005	8	0.16	0.028	19:13 hr	1.15	0.74
SWRGM-003212	SWRMH-001297	SWRMH-001290	Q46139	Q46146	296	0.031	8	0.08	0.017	19:08 hr	1.90	1.72
SWRGM-003213	SWRMH-001298	SWRMH-001291	Q46138	Q46145	298	0.027	8	0.07	0.012	19:05 hr	1.62	1.57
SWRGM-003214	SWRMH-006919	SWRMH-001298	P46133	Q46138	285	0.005	8	0.10	0.01	19:04 hr	0.85	0.70
SWRGM-003215	SWRMH-001299	SWRMH-001292	Q46137	Q46144	297	0.014	8	0.08	0.012	19:07 hr	1.30	1.17
SWRGM-003216	SWRMH-001658	SWRMH-001656	Q49127	Q49129	198	0.018	8	0.05	0.005	19:02 hr	1.09	1.22
SWRGM-003217	SWRMH-001659	SWRMH-001658	Q49126	Q49127	210	0.015	8	0.05	0.004	19:01 hr	0.97	1.11
SWRGM-003218	SWRMH-001651	SWRMH-001652	Q49134	Q49133	213	0.005	8	0.07	0.004	19:05 hr	0.65	0.66
SWRGM-003219	SWRMH-002635	SWRMH-002649	P43159	P43145	61	0.005	8	0.05	0.002	19:02 hr	0.55	0.64
SWRGM-003220	SWRMH-002676	SWRMH-002653	P43118	P43141	292	0.015	8	0.03	0.002	19:01 hr	0.72	1.06
SWRGM-003221	SWRMH-006988	SWRMH-006987	P44161	P44162	270	0.004	8	0.07	0.005	19:05 hr	0.63	0.61
SWRGM-003222	SWRMH-006819	SWRMH-006818	P44140	P44141	209	0.007	8	0.22	0.06	19:16 hr	1.60	0.87
SWRGM-003223	SWRMH-006820	SWRMH-006819	P44139	P44140	200	0.007	8	0.22	0.058	19:14 hr	1.60	0.88
SWRGM-003224	SWRMH-006821	SWRMH-006820	P44138	P44139	300	0.007	8	0.21	0.055	19:13 hr	1.60	0.90
SWRGM-003225	SWRMH-001584	SWRMH-001579	R43141	R43146	101	0.005	8	0.10	0.01	19:06 hr	0.84	0.70
SWRGM-003226	SWRMH-001577	SWRMH-001595	R43148	R43130	232	0.004	8	0.28	0.073	19:14 hr	1.41	0.68
SWRGM-003227	SWRMH-001595	SWRMH-001598	R43130	R43127	350	0.004	8	0.28	0.075	19:17 hr	1.42	0.68
SWRGM-003228	SWRMH-001587	SWRMH-001585	R43138	R43140	140	0.005	8	0.05	0.002	19:01 hr	0.55	0.64
SWRGM-003229	SWRMH-001225	SWRMH-001224	AA47132	AA47133	215	0.004	8	0.05	0.002	19:02 hr	0.46	0.56
SWRGM-003230	SWRMH-001881	SWRMH-001880	U40128	U40129	219	0.017	8	0.10	0.016	19:05 hr	1.51	1.29
SWRGM-003231	SWRMH-001490	SWRMH-001493	U40196	U40193	236	0.008	8	0.10	0.013	19:07 hr	1.09	0.91
SWRGM-003232	SWRMH-001491	SWRMH-001492	U40195	U40194	135	0.035	8	0.03	0.002	19:00 hr	0.96	1.55
SWRGM-003233	SWRMH-001528	SWRMH-001527	U40158	U40159	222	0.004	8	0.30	0.087	19:14 hr	1.52	0.71
SWRGM-003234	SWRMH-001480	SWRMH-001484	U40206	U40202	263	0.005	8	0.06	0.003	19:02 hr	0.59	0.65
SWRGM-003235	SWRMH-001481	SWRMH-001483	U40205	U40203	274	0.005	8	0.07	0.005	19:02 hr	0.67	0.67
SWRGM-003236	SWRMH-001866	SWRMH-001489	U40143	U40197	350	0.015	8	0.07	0.009	19:04 hr	1.19	1.16
SWRGM-003237	SWRMH-001867	SWRMH-001866	U40142	U40143	350	0.017	8	0.06	0.005	19:02 hr	1.08	1.20
SWRGM-003238	SWRMH-001868	SWRMH-001867	U40141	U40142	195	0.017	8	0.04	0.002	19:01 hr	0.82	1.14
SWRGM-003239	SWRMH-008419	SWRNJ-000260	T40107	U40103	271	0.023	8	0.03	0.001	19:01 hr	0.77	1.25
SWRGM-003240	SWRMH-008415	SWRMH-001539	T40111	U40147	336	0.021	8	0.04	0.004	19:01 hr	1.04	1.31
SWRGM-003241	SWRMH-006615	SWRMH-006215	X39107	X39105	360	0.004	8	0.13	0.016	19:06 hr	0.91	0.65
SWRGM-003242	SWRMH-004508	SWRMH-003926	X39119	X39129	350	0.006	8	0.02	0	10:13 hr	0.35	0.63
SWRGM-003244	SWRMH-004511	SWRMH-004510	X39116	X39117	280	0.005	8	0.02	0	10:02 hr	0.33	0.57
SWRGM-003245	SWRMH-004510	SWRMH-004509	X39117	X39118	235	0.014	8	0.02	0	10:04 hr	0.47	0.92
SWRGM-003246	SWRMH-004509	SWRMH-004507	X39118	X39120	350	0.006	8	0.02	0	10:07 hr	0.35	0.63
SWRGM-003247	SWRMH-004507	SWRMH-004508	X39120	X39119	350	0.006	8	0.02	0	10:10 hr	0.35	0.63
SWRGM-003248	SWRMH-004299	SWRMH-004300	Y40129	Y40128	350	0.004	8	0.09	0.008	10:13 hr	0.77	0.66

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003249	SWRMH-004203	SWRMH-003478	V38102	V38130	349	0.014	8	0.05	0.003	19:02 hr	0.89	1.07
SWRGM-003250	SWRMH-003459	SWRMH-003460	V38149	V38148	184	0.012	8	0.11	0.02	19:08 hr	1.40	1.09
SWRGM-003251	SWRMH-003460	SWRMH-003461	V38148	V38147	165	0.014	8	0.15	0.037	19:09 hr	1.83	1.25
SWRGM-003252	SWRMH-003483	SWRMH-003485	V38125	V38123	167	0.012	8	0.24	0.096	19:18 hr	2.31	1.21
SWRGM-003253	SWRMH-003484	SWRMH-003483	V38124	V38125	124	0.004	8	0.32	0.096	19:17 hr	1.52	0.67
SWRGM-003254	SWRMH-004186	SWRMH-004187	V38120	V38119	207	0.047	8	0.23	0.168	19:24 hr	4.32	2.32
SWRGM-003255	SWRMH-004188	SWRMH-004186	V38118	V38120	223	0.004	8	0.44	0.167	19:23 hr	1.78	0.68
SWRGM-003256	SWRNJ-000330	SWRMH-004186	V38101	V38120	50	0.02	8	0.02	0.001	19:00 hr	0.56	1.10
SWRGM-003257	SWRMH-004197	SWRMH-004199	V38108	V38106	340	0.021	8	0.26	0.145	19:31 hr	3.13	1.57
SWRGM-003258	SWRMH-003487	SWRMH-004188	V38121	V38118	287	0.004	8	0.44	0.167	19:21 hr	1.77	0.68
SWRGM-003259	SWRMH-003203	SWRMH-003206	V47127	V47124	300	0.018	8	0.06	0.006	19:01 hr	1.12	1.24
SWRGM-003260	SWRMH-003206	SWRMH-003197	V47124	V47133	290	0.013	8	0.08	0.009	19:02 hr	1.16	1.11
SWRGM-003261	SWRMH-003210	SWRMH-003209	V47120	V47121	186	0.023	8	0.06	0.006	19:00 hr	1.26	1.40
SWRGM-003262	SWRMH-003212	SWRMH-003229	V47118	V47101	200	0.011	8	0.13	0.025	19:03 hr	1.47	1.06
SWRGM-003263	SWRMH-003329	SWRMH-003326	V40151	V40154	223	0.01	8	0.10	0.015	19:04 hr	1.21	0.99
SWRGM-003264	SWRMH-003331	SWRMH-003332	V40149	V40148	228	0.012	8	0.06	0.005	19:01 hr	0.94	1.01
SWRGM-003265	SWRMH-003313	SWRMH-003312	V40167	V40168	112	0.004	8	0.31	0.089	19:12 hr	1.48	0.67
SWRGM-003266	SWRMH-003374	SWRMH-003375	V40106	V40105	218	0.008	8	0.26	0.089	19:14 hr	1.96	1.00
SWRGM-003267	SWRMH-006375	SWRMH-006488	V41109	V41108	270	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003268	SWRMH-006488	SWRMH-006489	V41108	V41107	271	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003269	SWRMH-002933	SWRMH-002964	X35122	X34128	262	0.014	8	0.06	0.006	19:02 hr	1.03	1.10
SWRGM-003270	SWRMH-002931	SWRMH-002963	X35124	X34129	262	0.01	8	0.06	0.004	19:03 hr	0.84	0.92
SWRGM-003271	SWRMH-002977	SWRMH-002970	X34115	X34122	225	0.02	8	0.04	0.003	19:02 hr	0.96	1.24
SWRGM-003272	SWRMH-002961	SWRMH-002955	X34131	X34137	260	0.013	8	0.11	0.021	19:05 hr	1.51	1.17
SWRGM-003273	SWRMH-002965	SWRMH-002966	X34127	X34126	200	0.019	8	0.12	0.031	19:07 hr	1.92	1.42
SWRGM-003274	SWRMH-001177	SWRMH-001176	Z47123	Z47124	371	0.015	8	0.07	0.008	19:02 hr	1.18	1.16
SWRGM-003275	SWRMH-005049	SWRMH-005048	Y36133	Y36134	210	0.005	8	0.08	0.006	19:11 hr	0.72	0.66
SWRGM-003276	SWRMH-005048	SWRMH-006634	Y36134	Y36113	237	0.005	8	0.09	0.007	19:13 hr	0.75	0.67
SWRGM-003277	SWRMH-005624	SWRMH-005790	Z36107	Z36101	372	0.072	8	0.03	0.002	19:01 hr	1.31	2.19
SWRGM-003278	SWRMH-005786	SWRMH-004526	Z36105	Z36113	245	0.06	8	0.02	0.001	19:01 hr	1.09	1.95
SWRGM-003279	SWRMH-005787	SWRMH-005788	Z36104	Z36103	309	0.033	8	0.03	0.002	19:01 hr	0.99	1.53
SWRGM-003280	SWRCO-000659	SWRMH-005787	Z36106	Z36104	134	0.009	8	0.02	0.001	19:01 hr	0.45	0.78
SWRGM-003281	SWRMH-006920	SWRMH-001299	P46132	Q46137	285	0.008	8	0.09	0.01	19:06 hr	1.00	0.87
SWRGM-003282	SWRMH-001296	SWRMH-001289	Q46140	Q46147	308	0.005	8	0.17	0.029	19:16 hr	1.16	0.73
SWRGM-003283	SWRMH-001710	SWRNJ-000091	Q47159	Q46290	126	0.006	8	0.21	0.049	19:07 hr	1.42	0.80
SWRGM-003284	SWRMH-001310	SWRMH-001309	Q46126	Q46127	215	0.014	8	0.06	0.005	19:02 hr	1.00	1.08
SWRGM-003285	SWRMH-001300	SWRMH-001293	Q46136	Q46143	297	0.006	8	0.14	0.023	19:11 hr	1.19	0.83
SWRGM-003286	SWRMH-001303	SWRMH-001302	Q46133	Q46134	293	0.008	8	0.10	0.013	19:04 hr	1.08	0.89
SWRGM-003287	SWRMH-001304	SWRMH-001303	Q46132	Q46133	196	0.017	8	0.08	0.011	19:03 hr	1.34	1.27
SWRGM-003288	SWRMH-002910	SWRMH-002909	X35145	X35146	350	0.018	8	0.03	0.002	19:02 hr	0.75	1.12
SWRGM-003289	SWRMH-002935	SWRMH-002941	X35120	X35114	257	0.009	8	0.07	0.007	19:03 hr	0.92	0.89
SWRGM-003290	SWRMH-003530	SWRMH-003532	V36137	V36135	295	0.005	8	0.08	0.007	19:02 hr	0.78	0.71
SWRGM-003291	SWRCO-000768	SWRMH-003530	V36105	V36137	176	0.009	8	0.04	0.002	19:01 hr	0.62	0.83
SWRGM-003292	SWRMH-003531	SWRMH-003527	V36136	V36140	300	0.005	8	0.13	0.016	19:07 hr	0.98	0.72
SWRGM-003293	SWRMH-003527	SWRMH-003529	V36140	V36138	300	0.005	8	0.14	0.022	19:08 hr	1.07	0.73
SWRGM-003294	SWRMH-003528	SWRMH-003529	V36139	V36138	239	0.013	8	0.05	0.003	19:01 hr	0.83	1.01
SWRGM-003295	SWRMH-003552	SWRMH-003556	V36115	V36111	220	0.042	8	0.05	0.008	19:04 hr	1.67	1.89
SWRGM-003296	SWRMH-002535	SWRMH-002533	U40118	U40120	83	0.02	8	0.06	0.006	19:03 hr	1.20	1.32
SWRGM-003297	SWRMH-002533	SWRMH-002534	U40120	U40119	271	0.021	8	0.08	0.012	19:03 hr	1.48	1.39
SWRGM-003298	SWRMH-008418	SWRMH-002537	T40108	U40116	121	0.013	8	0.04	0.003	19:00 hr	0.80	1.00
SWRGM-003299	SWRMH-002539	SWRMH-002542	U40114	U40111	251	0.016	8	0.13	0.028	19:06 hr	1.74	1.28
SWRGM-003300	SWRMH-003370	SWRMH-003365	V40110	V40115	160	0.004	8	0.18	0.028	19:09 hr	1.06	0.66
SWRGM-003301	SWRMH-003309	SWRMH-003393	V40171	V39162	228	0.007	8	0.19	0.043	19:09 hr	1.45	0.86
SWRGM-003302	SWRMH-002959	SWRMH-002961	X34133	X34131	300	0.01	8	0.06	0.004	19:02 hr	0.83	0.92
SWRGM-003303	SWRMH-002958	SWRMH-002957	X34134	X34135	309	0.013	8	0.06	0.005	19:03 hr	0.98	1.08
SWRGM-003304	SWRMH-002957	SWRMH-002970	X34135	X34122	264	0.034	8	0.08	0.015	19:04 hr	1.86	1.77
SWRGM-003305	SWRCO-000507	SWRMH-005695	Y46102	Y46103	189	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003306	SWRMH-005696	SWRMH-005697	Y46102	Y46101	350	0.005	8	0.02	0	19:03 hr	0.27	0.54
SWRGM-003309	SWRMH-000973	SWRMH-000974	AA46184	AA46183	230	0.045	8	0.05	0.007	19:00 hr	1.66	1.94
SWRGM-003310	SWRMH-001284	SWRMH-001285	AA46113	AA46112	336	0.008	8	0.16	0.033	19:03 hr	1.45	0.96
SWRGM-003311	SWRMH-001283	SWRMH-001284	AA46114	AA46113	196	0.045	8	0.09	0.023	19:01 hr	2.36	2.09
SWRGM-003312	SWRMH-005709	SWRMH-005917	X48104	X48101	301	0.015	8	0.08	0.01	10:07 hr	1.24	1.17
SWRGM-003313	SWRMH-005917	SWRMH-005916	X48101	X48102	52	0.017	8	0.08	0.01	10:07 hr	1.30	1.24
SWRGM-003314	SWRMH-005919	SWRMH-005923	X47108	X47104	45	0.011	8	0.09	0.011	10:14 hr	1.15	1.04
SWRGM-003315	SWRMH-001991	SWRMH-001992	S44155	S44154	233	0.01	8	0.04	0.002	19:01 hr	0.71	0.89
SWRGM-003316	SWRMH-003551	SWRMH-003552	V36116	V36115	310	0.005	8	0.07	0.005	19:04 hr	0.68	0.67
SWRGM-003317	SWRMH-003271	SWRMH-003273	V46136	V46134	320	0.01	8	0.12	0.02	19:05 hr	1.33	1.01
SWRGM-003318	SWRMH-003284	SWRMH-003283	V46123	V46124	350	0.012	8	0.45	0.301	19:31 hr	3.10	1.18
SWRGM-003319	SWRMH-003278	SWRMH-003284	V46129	V46123	350	0.012	8	0.44	0.297	19:29 hr	3.09	1.18
SWRGM-003320	SWRMH-003270	SWRMH-003279	V46137	V46128	187	0.018	8	0.04	0.003	19:01 hr	0.91	1.17
SWRGM-003321	SWRMH-003289	SWRMH-003296	V46118	V46111	215	0.006	8	0.11	0.014	19:05 hr	1.01	0.80
SWRGM-003322	SWRMH-003292	SWRMH-003289	V46115	V46118	205	0.006	8	0.10	0.011	19:04 hr	0.95	0.79
SWRGM-003323	SWRMH-003294	SWRMH-003295	V46113	V46112	146	0.043	8	0.04	0.004	19:00 hr	1.36	1.82
SWRGM-003324	SWRMH-003234	SWRNJ-000324	V46173	V46110	187	0.005	8	0.07	0.005	19:01 hr	0.71	0.68
SWRGM-003325	SWRMH-003716	SWRMH-003235	U46153	V46172	196	0.008	8	0.14	0.027	19:05 hr	1.33	0.92
SWRGM-003326	SWRMH-003211	SWRMH-003210	V47119	V47120	115	0.017	8	0.04	0.002	19:00 hr	0.82	1.14
SWRGM-003327	SWRMH-003182	SWRMH-003171	V47148	V47159	55	0.004	8	0.10	0.009	19:03 hr	0.74	0.61
SWRGM-003328	SWRMH-003195	SWRMH-003194	V47135	V47136	300	0.013	8	0.13	0.027	19:04 hr	1.61	1.17
SWRGM-003329	SWRMH-003202	SWRMH-003195	V47128	V47135	290	0.011	8	0.10	0.014	19:03 hr	1.25	1.05
SWRGM-003330	SWRMH-003194	SWRMH-003247	V47136	V46160	311	0.012	8	0.19	0.057	19:09 hr	1.93	1.15
SWRGM-003331	SWRMH-003163	SWRMH-003166	V47167	V47164	281	0.01	8	0.14	0.03	19:06 hr	1.51	1.04
SWRGM-003332	SWRMH-006803	SWRMH-006802	P44156	P44157	346	0.007	8	0.19	0.041	19:19 hr	1.44	0.86
SWRGM-003333	SWRMH-006801	SWRMH-006800	P44158	P44159	133	0.005	8	0.22	0.051	19:21 hr	1.37	0.75
SWRGM-003334	SWRNJ-000047	SWRMH-006752	P44520	P44127	33	0.023	8	0.07	0.011	19:05 hr	1.47	1.43
SWRGM-003335	SWRMH-007635	SWRMH-007634	P43103	P43104	280	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003336	SWRMH-007634	SWRMH-007633	P43104	P43105	289	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003337	SWRMH-001512	SWRMH-001510	U40174	U40176	100	0.007	8	0.19	0.046	19:09 hr	1.51	0.89
SWRGM-003338	SWRMH-001537	SWRMH-001538	U40149	U40148	65	0.015	8	0.06	0.005	19:01 hr	1.03	1.14
SWRGM-003339	SWRMH-002536	SWRMH-002535	U40117	U40118	131	0.009	8	0.06	0.005	19:03 hr	0.88	0.91
SWRGM-003340	SWRMH-002538	SWRMH-002536	U40115	U40117	118	0.008	8	0.07	0.005	19:02 hr	0.85	0.87
SWRGM-003341	SWRMH-001882	SWRMH-001490	U40127	U40196	209	0.005	8	0.10	0.01	19:07 hr	0.86	0.73

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003342	SWRMH-002550	SWRMH-001505	U40103	U40181	210	0.021	8	0.03	0.001	19:01 hr	0.72	1.20
SWRGM-003343	SWRMH-001523	SWRMH-001522	U40163	U40164	67	0.004	8	0.07	0.005	19:01 hr	0.67	0.64
SWRGM-003344	SWRMH-001522	SWRMH-001521	U40164	U40165	226	0.005	8	0.08	0.006	19:04 hr	0.74	0.70
SWRGM-003345	SWRMH-001529	SWRMH-001530	U40157	U40156	259	0.01	8	0.05	0.004	19:01 hr	0.82	0.92
SWRGM-003346	SWRMH-002537	SWRMH-002538	U40116	U40115	109	0.011	8	0.05	0.004	19:01 hr	0.84	0.95
SWRGM-003347	SWRMH-003314	SWRMH-003313	V40166	V40167	220	0.011	8	0.07	0.007	19:02 hr	1.03	1.00
SWRGM-003348	SWRMH-003315	SWRMH-003314	V40165	V40166	220	0.016	8	0.06	0.006	19:01 hr	1.07	1.16
SWRGM-003349	SWRMH-003390	SWRMH-003389	V39165	V39166	340	0.01	8	0.31	0.144	19:20 hr	2.39	1.08
SWRGM-003350	SWRMH-003388	SWRMH-003387	V39167	V39168	341	0.011	8	0.31	0.145	19:23 hr	2.44	1.11
SWRGM-003351	SWRMH-003444	SWRMH-003443	V39111	V39112	67	0.008	8	0.15	0.027	19:06 hr	1.33	0.91
SWRGM-003352	SWRMH-003719	SWRMH-003716	U46150	U46153	320	0.011	8	0.11	0.019	19:05 hr	1.37	1.06
SWRGM-003353	SWRMH-002669	SWRMH-002668	P43125	P43126	177	0.02	8	0.14	0.038	19:10 hr	2.05	1.44
SWRGM-003354	SWRMH-002635	SWRMH-002634	P43159	P43160	282	0.005	8	0.05	0.002	19:03 hr	0.55	0.64
SWRGM-003355	SWRMH-007018	SWRMH-002694	P43116	P42101	250	0.008	8	0.15	0.03	19:10 hr	1.42	0.96
SWRGM-003356	SWRMH-002674	SWRMH-002693	P43120	P42102	300	0.008	8	0.06	0.005	19:04 hr	0.80	0.85
SWRGM-003357	SWRMH-002627	SWRMH-002677	P43167	P42118	300	0.009	8	0.17	0.042	19:10 hr	1.63	1.02
SWRGM-003358	SWRMH-003096	SWRMH-003095	W32123	W32124	170	0.001	8	0.07	0.002	19:01 hr	0.28	0.29
SWRGM-003359	SWRMH-003095	SWRMH-003100	W32124	W32119	238	0.008	8	0.08	0.009	19:03 hr	0.97	0.88
SWRGM-003360	SWRMH-003100	SWRMH-003097	W32119	W32122	350	0.025	8	0.07	0.011	19:05 hr	1.52	1.50
SWRGM-003361	SWRMH-003109	SWRMH-003108	W32110	W32111	210	0.02	8	0.04	0.003	19:02 hr	0.98	1.26
SWRGM-003362	SWRMH-001457	SWRMH-001452	W35122	W35127	142	0.004	8	0.15	0.021	19:09 hr	0.98	0.65
SWRGM-003363	SWRNJ-000414	SWRMH-001451	W35101	W35128	10	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003364	SWRMH-003464	SWRMH-003463	V38144	V38145	287	0.006	8	0.11	0.015	19:05 hr	1.02	0.79
SWRGM-003365	SWRMH-003466	SWRMH-003463	V38142	V38145	104	0.017	8	0.04	0.002	19:00 hr	0.80	1.12
SWRGM-003366	SWRMH-003467	SWRMH-003464	V38141	V38144	115	0.011	8	0.04	0.002	19:00 hr	0.67	0.92
SWRGM-003367	SWRMH-003474	SWRMH-003475	V38134	V38133	116	0.004	8	0.08	0.006	19:06 hr	0.68	0.63
SWRGM-003368	SWRMH-003477	SWRMH-003474	V38131	V38134	233	0.004	8	0.08	0.005	19:05 hr	0.67	0.64
SWRGM-003369	SWRMH-004200	SWRMH-003465	V38105	V38143	217	0.006	8	0.05	0.002	19:01 hr	0.60	0.70
SWRGM-003370	SWRMH-003469	SWRMH-003465	V38139	V38143	210	0.012	8	0.06	0.005	19:01 hr	0.93	1.00
SWRGM-003371	SWRMH-003468	SWRMH-003469	V38140	V38139	127	0.013	8	0.05	0.003	19:00 hr	0.83	1.02
SWRGM-003372	SWRMH-003475	SWRMH-004198	V38133	V38107	111	0.005	8	0.08	0.006	19:06 hr	0.75	0.69
SWRGM-003373	SWRMH-004198	SWRMH-003476	V38107	V38132	122	0.005	8	0.12	0.016	19:06 hr	0.98	0.73
SWRGM-003374	SWRMH-003465	SWRMH-003464	V38143	V38144	248	0.006	8	0.09	0.01	19:04 hr	0.93	0.80
SWRGM-003375	SWRMH-003457	SWRMH-003456	V38151	V38152	250	0.005	8	0.09	0.009	19:05 hr	0.81	0.70
SWRGM-003376	SWRMH-003456	SWRMH-003455	V38152	V38153	254	0.005	8	0.12	0.013	19:07 hr	0.92	0.71
SWRGM-003377	SWRMH-004202	SWRMH-004204	V38103	V38101	190	0.008	8	0.04	0.001	19:01 hr	0.56	0.78
SWRGM-003378	SWRMH-003168	SWRMH-003174	V47162	V47156	292	0.004	8	0.23	0.049	19:11 hr	1.26	0.68
SWRGM-003379	SWRMH-003174	SWRMH-003169	V47156	V47161	279	0.013	8	0.28	0.132	19:16 hr	2.53	1.21
SWRGM-003380	SWRMH-003169	SWRMH-003170	V47161	V47160	218	0.007	8	0.34	0.143	19:17 hr	2.08	0.90
SWRGM-003381	SWRMH-003179	SWRMH-003171	V47151	V47159	324	0.007	8	0.36	0.154	19:20 hr	2.13	0.90
SWRGM-003382	SWRMH-001737	SWRMH-001738	Q47132	Q47131	81	0.005	8	0.04	0.001	19:00 hr	0.47	0.62
SWRGM-003383	SWRMH-002839	SWRMH-002838	Y34109	Y34110	212	0.039	8	0.04	0.005	19:04 hr	1.37	1.76
SWRGM-003384	SWRMH-002840	SWRMH-002839	Y34108	Y34109	216	0.054	8	0.04	0.004	19:03 hr	1.45	2.01
SWRGM-003385	SWRMH-002846	SWRMH-002845	Y34102	Y34103	109	0.012	8	0.06	0.006	19:04 hr	0.97	1.01
SWRGM-003386	SWRMH-005037	SWRMH-005036	AC44132	AC44133	264	0.005	8	0.10	0.01	19:05 hr	0.84	0.70
SWRGM-003387	SWRMH-005036	SWRMH-004160	AC44133	AC44149	264	0.005	8	0.12	0.016	19:05 hr	0.97	0.72
SWRGM-003388	SWRMH-004588	SWRMH-004163	AC44142	AC44146	155	0.004	8	0.23	0.05	19:06 hr	1.27	0.68
SWRGM-003389	SWRMH-004160	SWRMH-004161	AC44149	AC44148	254	0.008	8	0.12	0.02	19:06 hr	1.26	0.93
SWRGM-003390	SWRMH-004156	SWRMH-004588	AC44153	AC44142	134	0.018	8	0.14	0.04	19:05 hr	2.04	1.41
SWRGM-003391	SWRMH-005248	SWRMH-004024	Z40109	Z40152	369	0.003	8	0.10	0.009	19:03 hr	0.72	0.59
SWRGM-003392	SWRMH-005867	SWRMH-005117	Z42114	Z42139	302	0.007	8	0.10	0.013	19:08 hr	1.05	0.85
SWRGM-003393	SWRMH-006460	SWRMH-006353	Y45127	Y45103	314	0.014	8	0.03	0.001	19:04 hr	0.61	0.98
SWRGM-003394	SWRMH-006272	SWRMH-006271	AA36120	AA36121	244	0.037	8	0.07	0.014	19:03 hr	1.88	1.84
SWRGM-003396	SWRMH-005343	SWRMH-005344	X42119	X42118	289	0.006	8	0.37	0.143	10:40 hr	1.93	0.81
SWRGM-003397	SWRCO-000433	SWRMH-005345	X42102	X42117	99	0.004	8	0.11	0.011	10:00 hr	0.82	0.64
SWRGM-003399	SWRMH-004161	SWRMH-004162	AC44148	AC44147	113	0.004	8	0.16	0.024	19:06 hr	1.02	0.65
SWRGM-003400	SWRMH-001060	SWRMH-001061	AB45118	AB45117	268	0.005	8	0.13	0.016	19:07 hr	0.98	0.72
SWRGM-003401	SWRMH-006441	SWRMH-006442	X45111	X45110	139	0.004	8	0.04	0.001	19:01 hr	0.38	0.54
SWRGM-003402	SWRMH-004670	SWRMH-005813	Z41148	Z41113	315	0.006	8	1.00	0.57	10:52 hr	2.53	0.83
SWRGM-003403	SWRNJ-000632	SWRMH-005813	Z41369	Z41113	237	0.084	8	0.07	0.021	19:07 hr	2.84	2.77
SWRGM-003404	SWRMH-005277	SWRMH-005278	AB41140	AB41139	191	0.036	8	0.03	0.002	19:02 hr	1.10	1.61
SWRGM-003405	SWRMH-005279	SWRMH-005280	AB41138	AB41137	259	0.036	8	0.03	0.002	19:02 hr	1.06	1.60
SWRGM-003406	SWRMH-005147	SWRMH-004884	Z40116	Z40125	201	0.036	8	0.11	0.032	19:02 hr	2.42	1.92
SWRGM-003407	SWRMH-001116	SWRMH-001115	AB45108	AB45109	168	0.006	8	0.21	0.052	10:06 hr	1.50	0.84
SWRGM-003408	SWRMH-004722	SWRMH-004723	AB41144	AB41143	231	0.022	8	0.07	0.008	19:05 hr	1.36	1.40
SWRGM-003409	SWRMH-005089	SWRMH-004722	AB41136	AB41144	289	0.057	8	0.05	0.007	19:04 hr	1.82	2.16
SWRGM-003410	SWRMH-005956	SWRMH-005958	W46121	W46119	220	0.008	8	0.10	0.013	19:06 hr	1.07	0.88
SWRGM-003411	SWRMH-006421	SWRMH-006422	V45128	V45127	194	0.005	8	0.10	0.011	19:07 hr	0.89	0.72
SWRGM-003412	SWRMH-006416	SWRMH-006397	V45133	V44107	298	0.013	8	0.14	0.032	19:22 hr	1.71	1.20
SWRGM-003413	SWRMH-008575	SWRMH-006419	V45114	V45130	298	0.007	8	0.07	0.005	19:08 hr	0.77	0.80
SWRGM-003414	SWRMH-006427	SWRMH-006428	V45122	V45121	155	0.008	8	0.11	0.016	19:09 hr	1.15	0.89
SWRGM-003415	SWRMH-008571	SWRMH-006420	V45118	V45129	168	0.008	8	0.13	0.022	19:15 hr	1.28	0.92
SWRGM-003416	SWRMH-005076	SWRMH-005065	AA37144	AA37145	298	0.003	8	0.23	0.044	19:29 hr	1.13	0.60
SWRGM-003417	SWRCO-000573	SWRMH-005076	AA37106	AA37144	324	0.041	8	0.12	0.038	19:28 hr	2.66	2.04
SWRGM-003418	SWRCO-000579	SWRMH-005256	Z40103	Z40101	148	0.08	8	0.05	0.008	19:00 hr	2.11	2.55
SWRGM-003419	SWRMH-001165	SWRMH-001163	AA47142	AA47144	287	0.004	8	0.13	0.015	19:03 hr	0.88	0.64
SWRGM-003420	SWRMH-005393	SWRMH-005395	X37119	X37117	150	0.01	8	0.04	0.002	19:01 hr	0.61	0.85
SWRGM-003421	SWRMH-005176	SWRMH-003986	Y41119	Y41156	186	0.003	8	0.06	0.002	10:01 hr	0.47	0.52
SWRGM-003422	SWRMH-005293	SWRMH-004371	AA42113	AA42145	76	0.007	8	0.11	0.014	19:05 hr	1.08	0.86
SWRGM-003424	SWRMH-005310	SWRMH-005309	W38119	W38120	280	0.005	8	0.11	0.012	19:06 hr	0.87	0.68
SWRGM-003425	SWRCO-000444	SWRMH-006642	X37103	X37102	176	0.014	8	0.03	0.001	19:01 hr	0.65	1.00
SWRGM-003426	SWRMH-005075	SWRMH-005074	AA38135	AA38136	352	0.125	8	0.02	0.001	10:07 hr	1.45	2.77
SWRGM-003427	SWRMH-005122	SWRMH-005121	X43125	X43126	350	0.012	8	0.04	0.002	10:04 hr	0.75	0.96
SWRGM-003428	SWRMH-005123	SWRMH-005122	X43124	X43125	97	0.03	8	0.02	0.001	10:02 hr	0.84	1.42
SWRGM-003429	SWRMH-005121	SWRMH-005120	X43126	X43127	350	0.008	8	0.06	0.004	10:07 hr	0.75	0.84
SWRGM-003430	SWRMH-005120	SWRMH-005646	X43127	X43115	135	0.006	8	0.06	0.004	10:08 hr	0.66	0.71
SWRGM-003431	SWRMH-005129	SWRMH-005126	X43118	X43121	204	0.005	8	0.07	0.005	10:25 hr	0.69	0.67
SWRGM-003432	SWRNJ-000312	SWRMH-003486	V38103	V38122	42	0.004	8	0.27	0.069	19:13 hr	1.37	0.67
SWRGM-003433	SWRNJ-000532	SWRMH-002998	X33101	X33113	10	0.004	8	0.10	0.009	19:06 hr	0.77	0.63
SWRGM-003434	SWRMH-006971	SWRMH-006918	P46111	P46134	341	0.009	8	0.10	0.012	19:07 hr	1.10	0.93
SWRGM-003435	SWRMH-006433	SWRMH-006925	P46126	P46127	190	0.01	8	0.04	0.001	19:01 hr	0.61	0.86

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003436	SWRMH-006697	SWRMH-006696	P46101	P46102	233	0.006	8	0.04	0.002	19:02 hr	0.56	0.70
SWRGM-003437	SWRMH-006696	SWRMH-006923	P46102	P46129	350	0.004	8	0.12	0.013	19:06 hr	0.87	0.67
SWRGM-003438	SWRMH-006923	SWRMH-006922	P46129	P46130	350	0.01	8	0.11	0.017	19:07 hr	1.28	1.02
SWRGM-003439	SWRMH-006924	SWRMH-006696	P46128	P46102	300	0.016	8	0.07	0.007	19:03 hr	1.17	1.19
SWRGM-003440	SWRMH-006925	SWRMH-006924	P46127	P46128	291	0.01	8	0.06	0.005	19:02 hr	0.89	0.93
SWRGM-003441	SWRMH-006851	SWRMH-002166	R47145	R46153	266	0.008	8	0.08	0.009	19:04 hr	0.97	0.89
SWRGM-003442	SWRMH-001586	SWRMH-001584	R43139	R43141	203	0.004	8	0.10	0.009	19:05 hr	0.80	0.66
SWRGM-003443	SWRMH-001589	SWRMH-001588	R43136	R43137	281	0.009	8	0.05	0.003	19:02 hr	0.70	0.85
SWRGM-003444	SWRMH-001588	SWRMH-001591	R43137	R43134	300	0.005	8	0.08	0.006	19:04 hr	0.71	0.68
SWRGM-003445	SWRMH-001591	SWRMH-001590	R43134	R43135	182	0.004	8	0.08	0.007	19:05 hr	0.72	0.65
SWRGM-003446	SWRMH-001593	SWRMH-001590	R43132	R43135	299	0.015	8	0.09	0.015	19:05 hr	1.42	1.23
SWRGM-003447	SWRMH-001796	SWRMH-001553	R45148	R44190	274	0.016	8	0.20	0.078	19:21 hr	2.37	1.36
SWRGM-003448	SWRMH-001804	SWRMH-001544	R45140	R44199	350	0.008	8	0.11	0.016	19:08 hr	1.14	0.88
SWRGM-003449	SWRMH-001819	SWRMH-007697	R45125	S45102	350	0.006	8	0.06	0.003	19:03 hr	0.68	0.74
SWRGM-003450	SWRMH-002157	SWRMH-001785	R46162	R45159	302	0.01	8	0.11	0.017	19:05 hr	1.27	1.00
SWRGM-003451	SWRMH-001344	SWRMH-001929	Q45120	R45111	167	0.006	8	0.14	0.021	19:08 hr	1.13	0.80
SWRGM-003452	SWRMH-003105	SWRMH-003104	W32114	W32115	225	0.027	8	0.02	0.001	19:01 hr	0.78	1.33
SWRGM-003453	SWRMH-003106	SWRMH-003097	W32113	W32122	350	0.033	8	0.03	0.003	19:01 hr	1.08	1.55
SWRGM-003454	SWRMH-007040	SWRMH-007041	T38170	T38169	241	0.004	8	0.24	0.055	19:21 hr	1.30	0.68
SWRGM-003455	SWRMH-007027	SWRMH-007040	T38183	T38170	192	0.019	8	0.17	0.055	19:19 hr	2.28	1.46
SWRGM-003456	SWRMH-007384	SWRMH-007385	T38135	T38134	103	0.025	8	0.04	0.004	19:02 hr	1.12	1.40
SWRGM-003457	SWRMH-007038	SWRMH-007036	T38172	T38174	83	0.005	8	0.13	0.016	19:05 hr	0.97	0.70
SWRGM-003458	SWRMH-007041	SWRMH-007042	T38169	T38168	245	0.004	8	0.24	0.055	19:23 hr	1.31	0.68
SWRGM-003459	SWRMH-008207	SWRMH-008215	T38106	T37115	250	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003460	SWRMH-001854	SWRNJ-000183	S43140	S43439	186	0.005	8	0.06	0.004	19:01 hr	0.63	0.66
SWRGM-003461	SWRMH-001853	SWRMH-001852	S43141	S43142	323	0.005	8	0.08	0.006	19:08 hr	0.75	0.68
SWRGM-003462	SWRMH-002032	SWRMH-002033	S43117	S43116	280	0.004	8	0.15	0.022	19:07 hr	0.99	0.66
SWRGM-003463	SWRMH-002026	SWRMH-002027	S43123	S43122	180	0.004	8	0.21	0.042	19:12 hr	1.20	0.67
SWRGM-003464	SWRMH-001862	SWRMH-001855	S43132	S43139	308	0.013	8	0.05	0.004	19:05 hr	0.87	1.04
SWRGM-003465	SWRNJ-000183	SWRMH-001836	S43439	S43158	33	0.005	8	0.06	0.004	19:01 hr	0.63	0.65
SWRGM-003466	SWRMH-007771	SWRMH-007770	R51110	R51112	345	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003467	SWRMH-007765	SWRMH-007763	R51117	R51119	304	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003468	SWRMH-007763	SWRMH-007769	R51119	R51113	203	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003469	SWRMH-007764	SWRMH-007759	R51118	R51123	303	0.021	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003470	SWRMH-007767	SWRMH-007766	R51115	R51116	176	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003471	SWRMH-007762	SWRMH-007763	R51120	R51119	271	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003472	SWRMH-007772	SWRMH-007774	R51107	R51105	335	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003473	SWRMH-007774	SWRMH-007773	R51105	R51106	335	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003474	SWRMH-007759	SWRMH-007772	R51123	R51107	204	0.027	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003475	SWRMH-006526	SWRMH-004494	Z35111	Z36118	355	0.006	8	0.04	0.001	19:05 hr	0.47	0.65
SWRGM-003476	SWRMH-005785	SWRMH-006526	Z36106	Z35111	171	0.006	8	0.03	0.001	19:02 hr	0.44	0.65
SWRGM-003477	SWRMH-006562	SWRMH-006561	R49105	R49106	209	0.019	8	0.05	0.005	19:02 hr	1.13	1.28
SWRGM-003478	SWRMH-002777	SWRMH-002776	M43128	M43129	250	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003479	SWRMH-002789	SWRMH-002794	M43116	M43111	185	0.019	8	0.11	0.022	19:08 hr	1.71	1.38
SWRGM-003480	SWRCO-000597	SWRMH-002813	Z34102	Z34104	130	0.004	8	0.02	0	19:01 hr	0.27	0.50
SWRGM-003481	SWRMH-002814	SWRMH-002813	Z34103	Z34104	239	0.02	8	0.03	0.002	19:03 hr	0.85	1.21
SWRGM-003482	SWRMH-002811	SWRMH-002816	Z34106	Z34101	190	0.052	8	0.06	0.01	19:07 hr	1.92	2.12
SWRGM-003483	SWRMH-002812	SWRMH-002811	Z34105	Z34106	283	0.012	8	0.05	0.004	19:06 hr	0.87	0.99
SWRGM-003484	SWRMH-002813	SWRMH-002812	Z34104	Z34105	251	0.004	8	0.06	0.003	19:05 hr	0.56	0.59
SWRGM-003485	SWRMH-002815	SWRMH-002814	Z34102	Z34103	348	0.017	8	0.03	0.002	19:02 hr	0.77	1.11
SWRGM-003486	SWRMH-002810	SWRMH-002811	Z34107	Z34106	277	0.01	8	0.06	0.005	19:10 hr	0.90	0.95
SWRGM-003487	SWRCO-000748	SWRMH-002815	Z34101	Z34102	82	0.055	8	0.01	0	19:00 hr	0.73	1.72
SWRGM-003488	SWRMH-001825	SWRMH-001824	R45119	R45120	244	0.005	8	0.15	0.022	19:10 hr	1.07	0.73
SWRGM-003489	SWRMH-001826	SWRMH-001825	R45118	R45119	158	0.005	8	0.14	0.02	19:08 hr	1.04	0.72
SWRGM-003490	SWRMH-005890	SWRMH-005896	AA45107	AA45101	168	0.004	8	0.04	0.001	19:01 hr	0.42	0.56
SWRGM-003491	SWRMH-005892	SWRMH-005896	AA45105	AA45101	200	0.004	8	0.05	0.002	19:02 hr	0.50	0.60
SWRGM-003492	SWRMH-004003	SWRMH-004002	X42147	X42148	350	0.015	8	0.07	0.008	10:06 hr	1.18	1.16
SWRGM-003493	SWRMH-004638	SWRMH-004639	X37133	X37132	303	0.006	8	0.08	0.007	19:15 hr	0.83	0.76
SWRGM-003494	SWRCO-000861	SWRMH-004891	AA37101	AA37138	265	0.014	8	0.03	0.002	19:02 hr	0.70	1.02
SWRGM-003495	SWRMH-003224	SWRMH-003223	V47106	V47107	240	0.018	8	0.09	0.013	19:05 hr	1.45	1.30
SWRGM-003496	SWRMH-003225	SWRMH-003224	V47105	V47106	272	0.018	8	0.08	0.011	19:04 hr	1.39	1.31
SWRGM-003497	SWRMH-003227	SWRNJ-000384	V47103	V47113	33	0.011	8	0.08	0.008	19:03 hr	1.04	0.99
SWRGM-003498	SWRMH-003223	SWRMH-003229	V47107	V47101	200	0.014	8	0.10	0.015	19:06 hr	1.38	1.16
SWRGM-003499	SWRCO-000742	SWRMH-002630	P43101	P43164	95	0.008	8	0.03	0.001	19:00 hr	0.47	0.76
SWRGM-003500	SWRMH-002675	SWRMH-002673	P43119	P43121	244	0.016	8	0.04	0.002	19:01 hr	0.77	1.09
SWRGM-003501	SWRMH-004037	SWRMH-004892	Z40139	Z40123	350	0.022	8	0.06	0.006	19:01 hr	1.21	1.36
SWRGM-003502	SWRMH-005195	SWRMH-005259	AA41132	AA41126	337	0.051	8	0.04	0.004	19:01 hr	1.49	1.98
SWRGM-003503	SWRMH-005199	SWRMH-004011	AA41128	AA41164	273	0.064	8	0.03	0.003	19:00 hr	1.36	2.11
SWRGM-003504	SWRMH-004013	SWRMH-004408	AA41162	AA41152	300	0.049	8	0.04	0.003	19:01 hr	1.35	1.91
SWRGM-003505	SWRMH-005993	SWRMH-005845	Z42103	Z42120	337	0.005	8	0.05	0.002	19:03 hr	0.55	0.66
SWRGM-003506	SWRNJ-000642	SWRNJ-000644	Z42119	Z42120	100	0.038	8	0.10	0.028	19:08 hr	2.38	1.96
SWRGM-003507	SWRNJ-000747	SWRMH-001252	AA46101	AA46145	14	0.013	8	0.07	0.008	19:03 hr	1.09	1.08
SWRGM-003508	SWRMH-001279	SWRMH-001280	AA46118	AA46117	300	0.03	8	0.07	0.012	19:02 hr	1.67	1.64
SWRGM-003509	SWRMH-004659	SWRMH-004651	Z43153	Z43161	90	0.004	8	0.20	0.036	19:18 hr	1.14	0.66
SWRGM-003510	SWRMH-004655	SWRMH-004652	Z43157	Z43160	317	0.005	8	0.05	0.003	19:03 hr	0.58	0.67
SWRGM-003512	SWRMH-003981	SWRMH-003980	Y43157	Y43158	201	0.003	8	0.20	0.033	19:05 hr	1.01	0.57
SWRGM-003513	SWRMH-005005	SWRMH-005004	Y41117	Y41118	275	0.006	8	0.10	0.012	10:10 hr	0.95	0.77
SWRGM-003514	SWRMH-004657	SWRMH-004396	Z43155	Z43168	243	0.009	8	0.14	0.025	19:07 hr	1.38	0.97
SWRGM-003515	SWRMH-005285	SWRMH-005112	Y43119	Y43120	293	0.037	8	0.05	0.007	19:02 hr	1.52	1.75
SWRGM-003516	SWRMH-003971	SWRMH-005523	W37154	W37121	114	0.006	8	0.03	0.001	19:01 hr	0.44	0.64
SWRGM-003517	SWRMH-005523	SWRMH-004556	W37121	W37148	266	0.011	8	0.08	0.008	19:07 hr	1.07	1.01
SWRGM-003518	SWRMH-005525	SWRMH-005523	W37119	W37121	289	0.009	8	0.07	0.006	19:06 hr	0.90	0.89
SWRGM-003519	SWRMH-005384	SWRMH-005607	AC44123	AC44104	68	0.028	8	0.03	0.001	19:00 hr	0.87	1.40
SWRGM-003522	SWRMH-006172	SWRMH-004937	AC43101	AC43115	257	0.029	8	0.12	0.034	19:10 hr	2.28	1.73
SWRGM-003523	SWRMH-004009	SWRMH-004006	AB42121	AB42124	362	0.029	8	0.03	0.002	19:02 hr	0.92	1.42
SWRGM-003524	SWRMH-006363	SWRMH-006362	Z38102	Z38103	300	0.003	8	0.10	0.008	19:07 hr	0.68	0.57
SWRGM-003525	SWRCO-000653	SWRMH-006362	Z38101	Z38103	140	0.014	8	0.02	0	19:00 hr	0.48	0.92
SWRGM-003526	SWRCO-000856	SWRMH-004583	Y36104	Y36154	186	0.026	8	0.02	0.001	19:00 hr	0.70	1.28
SWRGM-003527	SWRMH-004379	SWRMH-004378	X41150	X41151	351	0.007	8	0.02	0	10:03 hr	0.31	0.64
SWRGM-003528	SWRMH-004378	SWRMH-004377	X41151	X41152	351	0.007	8	0.02	0	10:06 hr	0.31	0.64
SWRGM-003529	SWRMH-004377	SWRMH-004376	X41152	X41153	352	0.007	8	0.02	0	10:09 hr	0.31	0.64

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003530	SWRMH-005491	SWRMH-004379	X41120	X41150	351	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003531	SWRMH-004581	SWRNJ-000603	Y36156	Y36311	52	0.147	8	0.04	0.006	19:04 hr	2.41	3.32
SWRGM-003532	SWRMH-002506	SWRMH-002505	AA40118	AA40119	37	0.155	8	0.05	0.011	19:06 hr	2.90	3.54
SWRGM-003533	SWRMH-005109	SWRMH-005110	Y43123	Y43122	240	0.016	8	0.07	0.007	19:02 hr	1.16	1.20
SWRGM-003534	SWRNJ-000334	SWRMH-006418	SP697MH02	SDMH006418	53	0.061	8	0.02	0.001	19:00 hr	0.91	1.88
SWRGM-003535	SWRMH-006749	SWRMH-006750	P44130	P44129	153	0.005	8	0.08	0.006	19:03 hr	0.72	0.68
SWRGM-003536	SWRMH-006750	SWRMH-006751	P44129	P44128	352	0.015	8	0.08	0.01	19:05 hr	1.26	1.18
SWRGM-003537	SWRMH-006754	SWRMH-006753	P44125	P44126	173	0.013	8	0.07	0.007	19:03 hr	1.06	1.08
SWRGM-003538	SWRMH-006982	SWRMH-006981	P44167	P44168	226	0.014	8	0.05	0.004	19:02 hr	0.95	1.09
SWRGM-003539	SWRMH-006983	SWRMH-006982	P44166	P44167	274	0.016	8	0.04	0.002	19:01 hr	0.84	1.12
SWRGM-003540	SWRMH-006804	SWRMH-006803	P44155	P44156	211	0.007	8	0.07	0.005	19:03 hr	0.77	0.78
SWRGM-003541	SWRMH-006805	SWRMH-006804	P44154	P44155	218	0.007	8	0.05	0.003	19:03 hr	0.65	0.75
SWRGM-003542	SWRMH-006802	SWRMH-006801	P44157	P44158	270	0.007	8	0.20	0.047	19:20 hr	1.49	0.86
SWRGM-003543	SWRMH-001932	SWRMH-001963	R45108	R44110	265	0.005	8	0.23	0.054	19:08 hr	1.41	0.76
SWRGM-003544	SWRMH-001931	SWRMH-001785	R45109	R45159	255	0.005	8	0.06	0.003	19:02 hr	0.60	0.67
SWRGM-003545	SWRMH-001812	SWRMH-001811	R45132	R45133	100	0.004	8	0.06	0.003	19:02 hr	0.57	0.61
SWRGM-003549	SWRMH-006654	SWRMH-006655	AC45116	AC45115	120	0.01	8	0.26	0.103	19:23 hr	2.16	1.08
SWRGM-003550	SWRMH-006660	SWRMH-006659	AC45110	AC45111	243	0.03	8	0.23	0.142	19:22 hr	3.52	1.87
SWRGM-003551	SWRMH-006657	SWRMH-006660	AC45113	AC45110	143	0.02	8	0.26	0.14	19:21 hr	3.05	1.54
SWRGM-003552	SWRMH-005585	SWRMH-005584	W40123	W40124	259	0.005	8	0.21	0.046	19:15 hr	1.34	0.75
SWRGM-003553	SWRMH-005587	SWRMH-005586	W40121	W40122	312	0.006	8	0.22	0.056	19:15 hr	1.50	0.82
SWRGM-003554	SWRMH-005586	SWRMH-005505	W40122	W39110	299	0.01	8	0.20	0.056	19:17 hr	1.81	1.06
SWRGM-003555	SWRMH-005588	SWRMH-005368	W40120	W40137	153	0.039	8	0.10	0.03	19:11 hr	2.44	1.98
SWRGM-003556	SWRMH-001056	SWRMH-001055	AB46150	AB45123	250	0.02	8	0.04	0.002	10:01 hr	0.90	1.22
SWRGM-003557	SWRMH-001055	SWRMH-001057	AB45123	AB45121	218	0.026	8	0.05	0.005	10:03 hr	1.20	1.46
SWRGM-003558	SWRMH-006373	SWRMH-006374	V41111	V41110	310	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003559	SWRMH-007132	SWRMH-007131	T39152	T39153	217	0.005	8	0.10	0.01	19:06 hr	0.85	0.70
SWRGM-003560	SWRMH-007162	SWRMH-007163	T39122	T39121	119	0.028	8	0.09	0.018	19:03 hr	1.86	1.65
SWRGM-003561	SWRMH-007127	SWRMH-007128	T39157	T39156	347	0.005	8	0.06	0.004	19:03 hr	0.63	0.66
SWRGM-003562	SWRMH-007128	SWRMH-007129	T39156	T39155	350	0.005	8	0.09	0.007	19:06 hr	0.78	0.69
SWRGM-003563	SWRMH-007129	SWRMH-007126	T39155	T39158	350	0.01	8	0.09	0.011	19:07 hr	1.10	0.96
SWRGM-003564	SWRMH-008156	SWRMH-008343	T44180	T44131	107	0.008	8	0.13	0.023	19:04 hr	1.29	0.92
SWRGM-003565	SWRMH-000663	SWRMH-000662	T44119	T44120	240	0.009	8	0.04	0.002	19:01 hr	0.60	0.82
SWRGM-003566	SWRMH-000662	SWRMH-000664	T44120	T44118	262	0.005	8	0.06	0.003	19:03 hr	0.60	0.65
SWRGM-003567	SWRMH-000665	SWRMH-000664	T44117	T44118	250	0.024	8	0.04	0.002	19:01 hr	0.96	1.33
SWRGM-003568	SWRMH-000664	SWRMH-000666	T44118	T44116	179	0.025	8	0.06	0.006	19:02 hr	1.31	1.46
SWRGM-003569	SWRCO-000775	SWRMH-003687	U48104	U48124	150	0.026	8	0.05	0.004	19:00 hr	1.18	1.45
SWRGM-003570	SWRCO-000777	SWRMH-003677	U48102	U48134	54	0.005	8	0.05	0.003	19:00 hr	0.58	0.65
SWRGM-003571	SWRMH-003303	SWRMH-003302	V40177	V40178	262	0.016	8	0.11	0.024	19:08 hr	1.65	1.27
SWRGM-003572	SWRMH-003304	SWRMH-003303	V40176	V40177	258	0.005	8	0.13	0.018	19:07 hr	1.03	0.74
SWRGM-003573	SWRMH-003310	SWRMH-003309	V40170	V40171	259	0.004	8	0.12	0.013	19:05 hr	0.86	0.64
SWRGM-003574	SWRMH-003307	SWRMH-003306	V40173	V40174	250	0.02	8	0.07	0.01	19:02 hr	1.37	1.34
SWRGM-003575	SWRMH-003302	SWRMH-003309	V40178	V40171	260	0.004	8	0.17	0.026	19:10 hr	1.05	0.66
SWRGM-003576	SWRMH-004328	SWRMH-004329	Z42166	Z42165	203	0.012	8	0.09	0.011	19:06 hr	1.21	1.09
SWRGM-003577	SWRMH-004966	SWRMH-005068	X41146	X41147	398	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003578	SWRNJ-000677	SWRMH-005796	Z43396	Z43113	200	0.054	8	0.04	0.006	19:00 hr	1.66	2.07
SWRGM-003579	SWRMH-005795	SWRNJ-000677	Z43114	Z43396	150	0.037	8	0.04	0.004	19:00 hr	1.31	1.70
SWRGM-003580	SWRMH-005104	SWRMH-005102	AA41103	AA41105	321	0.034	8	0.07	0.012	19:03 hr	1.78	1.77
SWRGM-003590	SWRMH-003668	SWRMH-000626	U48143	V48101	285	0.022	8	0.06	0.008	19:01 hr	1.32	1.39
SWRGM-003591	SWRMH-003673	SWRMH-003890	U48138	V48106	350	0.008	8	0.08	0.008	19:03 hr	0.94	0.86
SWRGM-003592	SWRMH-002296	SWRMH-002473	Q44105	R44102	267	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003593	SWRMH-002297	SWRMH-002296	Q44104	Q44105	144	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003594	SWRMH-002298	SWRMH-002295	Q44103	Q44106	350	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003595	SWRMH-001035	SWRMH-001036	Z46119	Z46118	345	0.013	8	0.06	0.005	10:05 hr	0.98	1.06
SWRGM-003596	SWRMH-005488	SWRMH-005487	X41123	X41124	315	0.004	8	0.05	0.002	10:05 hr	0.49	0.56
SWRGM-003597	SWRMH-001027	SWRMH-001030	Z46127	Z46124	230	0.004	8	0.55	0.247	19:30 hr	1.95	0.68
SWRGM-003598	SWRMH-001026	SWRMH-001025	Z46128	Z46129	150	0.035	8	0.05	0.006	19:01 hr	1.46	1.70
SWRGM-003599	SWRMH-001141	SWRMH-001134	AA40140	AA40145	252	0.019	8	0.33	0.22	19:30 hr	3.41	1.50
SWRGM-003600	SWRMH-001142	SWRMH-001141	AA40139	AA40140	309	0.015	8	0.35	0.22	19:29 hr	3.08	1.31
SWRGM-003601	SWRMH-001137	SWRMH-002490	W36124	W36108	164	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003602	SWRMH-000644	SWRMH-000645	U47110	U47109	363	0.005	8	0.11	0.012	19:08 hr	0.87	0.68
SWRGM-003603	SWRMH-002980	SWRMH-002981	X34112	X34111	259	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003604	SWRMH-002960	SWRMH-002964	X34132	X34128	394	0.011	8	0.08	0.008	19:03 hr	1.06	1.01
SWRGM-003605	SWRMH-002972	SWRMH-002975	X34120	X34117	178	0.007	8	0.15	0.027	19:06 hr	1.27	0.86
SWRGM-003606	SWRMH-002673	SWRMH-002674	P43121	P43120	300	0.015	8	0.05	0.004	19:02 hr	0.97	1.13
SWRGM-003607	SWRMH-002634	SWRMH-002633	P43160	P43161	325	0.006	8	0.08	0.007	19:05 hr	0.81	0.74
SWRGM-003608	SWRMH-002521	SWRMH-001162	AA47106	AA47145	255	0.004	8	0.07	0.004	19:02 hr	0.61	0.60
SWRGM-003609	SWRMH-001162	SWRMH-001226	AA47145	AA47131	302	0.001	8	0.13	0.008	19:05 hr	0.48	0.35
SWRGM-003610	SWRMH-001219	SWRMH-001220	AA47138	AA47137	254	0.006	8	0.30	0.106	19:19 hr	1.88	0.87
SWRGM-003611	SWRMH-001521	SWRMH-001882	U40165	U40127	137	0.005	8	0.08	0.007	19:05 hr	0.76	0.70
SWRGM-003612	SWRMH-003512	SWRMH-003509	V36155	V36158	270	0.018	8	0.06	0.006	19:05 hr	1.15	1.24
SWRGM-003613	SWRMH-003514	SWRMH-003512	V36153	V36155	220	0.006	8	0.06	0.004	19:04 hr	0.67	0.70
SWRGM-003614	SWRMH-003521	SWRMH-003514	V36146	V36153	249	0.007	8	0.05	0.003	19:02 hr	0.64	0.76
SWRGM-003615	SWRMH-003945	SWRMH-004114	Z39123	Z39120	206	0.027	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003616	SWRMH-004114	SWRMH-003942	Z39120	Z39126	307	0.036	8	0.13	0.047	19:08 hr	2.70	1.94
SWRGM-003617	SWRMH-005761	SWRMH-005762	Y43106	Y43105	336	0.005	8	0.05	0.002	19:03 hr	0.55	0.65
SWRGM-003618	SWRMH-005473	SWRMH-005169	Y43112	Y43136	159	0.013	8	0.03	0.001	19:01 hr	0.56	0.93
SWRGM-003619	SWRMH-004228	SWRMH-004227	Y43149	Y43150	226	0.025	8	0.10	0.024	19:05 hr	1.95	1.59
SWRGM-003620	SWRMH-004906	SWRMH-004905	Y43140	Y43141	310	0.025	8	0.17	0.07	19:14 hr	2.67	1.66
SWRGM-003621	SWRMH-001515	SWRMH-001513	U40171	U40173	85	0.005	8	0.21	0.043	19:07 hr	1.29	0.73
SWRGM-003622	SWRMH-001514	SWRMH-001515	U40172	U40171	37	0.017	8	0.15	0.041	19:07 hr	2.01	1.37
SWRGM-003623	SWRMH-003216	SWRMH-003215	V47114	V47115	235	0.024	8	0.04	0.004	19:01 hr	1.09	1.37
SWRGM-003624	SWRMH-003219	SWRMH-003217	V47111	V47113	122	0.011	8	0.03	0.001	19:00 hr	0.59	0.88
SWRGM-003625	SWRMH-003171	SWRMH-003172	V47159	V47158	349	0.017	8	0.29	0.166	19:21 hr	3.02	1.42
SWRGM-003626	SWRMH-003172	SWRMH-003173	V47158	V47157	157	0.004	8	0.45	0.178	19:22 hr	1.79	0.68
SWRGM-003627	SWRMH-003180	SWRMH-003179	V47150	V47151	346	0.004	8	0.10	0.009	19:04 hr	0.76	0.63
SWRGM-003628	SWRMH-003164	SWRMH-003163	V47166	V47167	280	0.01	8	0.11	0.016	19:04 hr	1.23	0.99
SWRGM-003629	SWRMH-003184	SWRMH-003172	V47146	V47158	43	0.004	8	0.12	0.012	19:04 hr	0.80	0.62
SWRGM-003630	SWRMH-003256	SWRMH-005955	V46151	W46122	258	0.007	8	0.10	0.01	19:04 hr	0.95	0.81
SWRGM-003631	SWRMH-003266	SWRMH-005954	V46141	W46123	217	0.007	8	0.09	0.009	19:07 hr	0.90	0.81
SWRGM-003632	SWRMH-003259	SWRMH-005947	V46148	W46147	296	0.008	8	0.09	0.01	19:04 hr	1.02	0.89

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003633	SWRMH-003230	SWRMH-003231	V46177	V46176	213	0.009	8	0.06	0.005	19:01 hr	0.86	0.90
SWRGM-003634	SWRMH-003267	SWRMH-003266	V46140	V46141	300	0.011	8	0.07	0.008	19:05 hr	1.05	1.01
SWRGM-003635	SWRMH-003274	SWRMH-003275	V46133	V46132	350	0.009	8	0.12	0.021	19:06 hr	1.33	0.99
SWRGM-003636	SWRMH-003275	SWRMH-003276	V46132	V46131	350	0.009	8	0.14	0.027	19:08 hr	1.43	1.00
SWRGM-003637	SWRMH-003282	SWRMH-003281	V46125	V46126	198	0.004	8	0.63	0.304	19:33 hr	2.04	0.68
SWRGM-003638	SWRMH-003817	SWRMH-003816	U45117	U45118	205	0.014	8	0.04	0.002	19:01 hr	0.73	1.01
SWRGM-003639	SWRMH-007473	SWRMH-003782	T45147	U45152	279	0.012	8	0.06	0.005	19:02 hr	0.91	1.00
SWRGM-003640	SWRMH-003782	SWRMH-003783	U45152	U45151	280	0.012	8	0.07	0.008	19:03 hr	1.08	1.04
SWRGM-003641	SWRMH-003783	SWRMH-003784	U45151	U45150	280	0.012	8	0.08	0.01	19:04 hr	1.16	1.06
SWRGM-003642	SWRMH-003830	SWRNJ-000274	U45104	U45103	64	0.01	8	0.05	0.003	19:01 hr	0.75	0.89
SWRGM-003643	SWRNJ-000274	SWRMH-003827	U45103	U45107	141	0.01	8	0.06	0.006	19:02 hr	0.90	0.94
SWRGM-003644	SWRMH-003784	SWRNJ-000280	U45150	U45102	253	0.011	8	0.10	0.014	19:05 hr	1.22	1.02
SWRGM-003645	SWRMH-001152	SWRMH-001160	AA47155	AA47147	273	0.004	8	0.19	0.034	19:08 hr	1.14	0.67
SWRGM-003646	SWRMH-001154	SWRMH-009237	SP619MH4	SP619MH2	212	0.005	8	0.51	0.236	19:23 hr	2.04	0.73
SWRGM-003647	SWRMH-005436	SWRMH-005435	Z38119	Z38120	163	0.006	8	0.11	0.013	19:06 hr	0.98	0.77
SWRGM-003648	SWRMH-005435	SWRMH-005434	Z38120	Z38121	238	0.006	8	0.13	0.02	19:07 hr	1.10	0.79
SWRGM-003649	SWRMH-001241	SWRMH-001240	AA46156	AA46157	225	0.049	8	0.12	0.045	19:08 hr	2.98	2.25
SWRGM-003650	SWRNJ-000801	SWRMH-001241	AA46105	AA46156	11	0.004	8	0.21	0.041	19:08 hr	1.16	0.65
SWRGM-003651	SWRMH-001242	SWRNJ-000801	AA46155	AA46105	264	0.004	8	0.21	0.04	19:08 hr	1.19	0.67
SWRGM-003652	SWRMH-005481	SWRMH-005267	AA42112	AA41121	244	0.018	8	0.06	0.007	19:01 hr	1.20	1.26
SWRGM-003653	SWRCO-000516	SWRMH-005481	AA42105	AA42112	136	0.006	8	0.05	0.003	19:01 hr	0.62	0.71
SWRGM-003654	SWRCO-000282	SWRMH-006949	Y40102	Y40108	12	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003655	SWRMH-006949	SWRMH-006950	Y40108	Y40107	350	0.003	8	0.05	0.001	10:03 hr	0.40	0.49
SWRGM-003656	SWRMH-006951	SWRMH-006952	Y40106	Y40105	273	0.003	8	0.08	0.004	10:10 hr	0.54	0.51
SWRGM-003657	SWRCO-000426	SWRMH-005335	Y40101	Y40114	62	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003658	SWRCO-000786	SWRMH-005917	X48105	X48101	120	0.005	8	0.03	0.001	19:01 hr	0.35	0.57
SWRGM-003659	SWRCO-000787	SWRMH-005713	X48104	X48103	120	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003660	SWRNJ-000508	SWRMH-005927	X46121	X46117	115	0.004	8	0.03	0.001	19:02 hr	0.33	0.53
SWRGM-003661	SWRCO-000794	SWRMH-005928	X46103	X46116	115	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003662	SWRMH-005282	SWRMH-006735	AC44130	AC44101	210	0.044	8	0.06	0.009	19:03 hr	1.78	1.94
SWRGM-003663	SWRMH-005281	SWRMH-006735	AC44131	AC44101	215	0.013	8	0.05	0.004	19:01 hr	0.92	1.06
SWRGM-003664	SWRMH-005893	SWRMH-005892	AA45104	AA45105	195	0.009	8	0.03	0.001	19:01 hr	0.57	0.80
SWRGM-003665	SWRMH-006944	SWRMH-006943	Y42107	Y42108	306	0.006	8	0.60	0.352	10:48 hr	2.51	0.85
SWRGM-003666	SWRMH-006946	SWRMH-006943	Y42105	Y42108	132	0.038	8	0.03	0.002	19:00 hr	1.02	1.62
SWRGM-003667	SWRMH-004615	SWRMH-006944	Y42129	Y42107	136	0.036	8	0.03	0.002	19:00 hr	1.10	1.62
SWRGM-003668	SWRMH-004616	SWRMH-006945	Y42128	Y42106	206	0.006	8	0.56	0.312	10:50 hr	2.43	0.84
SWRGM-003669	SWRMH-003535	SWRMH-003534	V36132	V36133	296	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003670	SWRCO-000769	SWRMH-003535	V36104	V36132	165	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003671	SWRMH-003538	SWRMH-003537	V36129	V36130	250	0.006	8	0.07	0.005	19:03 hr	0.77	0.76
SWRGM-003672	SWRMH-003539	SWRMH-003538	V36128	V36129	270	0.017	8	0.04	0.003	19:01 hr	0.86	1.15
SWRGM-003673	SWRMH-003533	SWRMH-003539	V36134	V36128	270	0.023	8	0.02	0	19:01 hr	0.55	1.15
SWRGM-003674	SWRMH-003534	SWRMH-003543	V36133	V36124	103	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003675	SWRMH-003543	SWRMH-003544	V36124	V36123	160	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003676	SWRMH-006498	SWRMH-006497	V42113	V42114	242	0.005	8	0.25	0.065	19:17 hr	1.48	0.76
SWRGM-003677	SWRMH-006497	SWRMH-006496	V42114	V42115	249	0.005	8	0.25	0.065	19:19 hr	1.47	0.75
SWRGM-003681	SWRCO-000335	SWRMH-002116	R48103	R48126	61	0.013	8	0.02	0.001	19:00 hr	0.52	0.92
SWRGM-003682	SWRMH-002118	SWRMH-002117	R48124	R48125	112	0.017	8	0.05	0.005	19:02 hr	1.03	1.19
SWRGM-003683	SWRMH-002119	SWRMH-002118	R48123	R48124	290	0.011	8	0.05	0.004	19:02 hr	0.81	0.94
SWRGM-003685	SWRMH-007175	SWRMH-007174	S48140	S48141	270	0.005	8	0.21	0.048	19:24 hr	1.35	0.75
SWRGM-003686	SWRMH-007179	SWRMH-007178	S48136	S48137	50	0.004	8	0.18	0.028	10:17 hr	1.04	0.64
SWRGM-003687	SWRMH-007177	SWRMH-007175	S48138	S48140	256	0.022	8	0.14	0.045	19:22 hr	2.24	1.54
SWRGM-003688	SWRMH-007178	SWRMH-007177	S48137	S48138	18	0.004	8	0.17	0.028	10:17 hr	1.06	0.66
SWRGM-003689	SWRMH-008304	SWRMH-008285	S48102	S48121	336	0.015	8	0.05	0.004	19:02 hr	0.97	1.13
SWRGM-003690	SWRMH-007466	SWRMH-008289	S48123	S48117	261	0.013	8	0.05	0.004	19:01 hr	0.88	1.04
SWRGM-003691	SWRMH-007464	SWRMH-008285	S48125	S48121	326	0.005	8	0.32	0.104	19:18 hr	1.69	0.76
SWRGM-003692	SWRMH-007399	SWRMH-008286	S48126	S48120	254	0.01	8	0.09	0.011	19:06 hr	1.11	0.98
SWRGM-003693	SWRMH-007181	SWRMH-008291	S48134	S48115	290	0.008	8	0.06	0.004	19:02 hr	0.77	0.84
SWRGM-003694	SWRMH-007218	SWRMH-007217	S47136	S47137	150	0.011	8	0.03	0.001	19:01 hr	0.62	0.91
SWRGM-003695	SWRMH-006238	SWRMH-001202	Z48130	Z47116	350	0.019	8	0.08	0.011	19:05 hr	1.41	1.34
SWRGM-003696	SWRCO-000833	SWRMH-006228	Z48102	Z48140	60	0.01	8	0.05	0.003	19:00 hr	0.73	0.90
SWRGM-003697	SWRMH-002481	SWRMH-005891	AA44115	AA45106	350	0.01	8	0.05	0.004	19:02 hr	0.80	0.91
SWRGM-003698	SWRMH-001045	SWRMH-005753	AB45130	AB44109	349	0.004	8	0.13	0.015	19:06 hr	0.89	0.65
SWRGM-003699	SWRMH-001068	SWRMH-005583	AB45110	AB44104	200	0.02	8	0.09	0.016	19:12 hr	1.58	1.38
SWRGM-003700	SWRMH-002678	SWRMH-002677	P42117	P42118	251	0.005	8	0.19	0.038	19:22 hr	1.28	0.76
SWRGM-003701	SWRMH-002679	SWRMH-002678	P42116	P42117	310	0.005	8	0.19	0.037	19:20 hr	1.25	0.75
SWRGM-003702	SWRMH-002693	SWRMH-002679	P42102	P42116	345	0.005	8	0.18	0.035	19:17 hr	1.25	0.76
SWRGM-003703	SWRMH-002680	SWRMH-002693	P42115	P42102	17	0.004	8	0.18	0.03	19:15 hr	1.06	0.64
SWRGM-003704	SWRMH-001293	SWRMH-001294	Q46143	Q46142	197	0.018	8	0.24	0.111	19:18 hr	2.76	1.46
SWRGM-003705	SWRMH-001292	SWRMH-001293	Q46144	Q46143	280	0.01	8	0.24	0.088	19:18 hr	2.10	1.10
SWRGM-003706	SWRMH-001291	SWRMH-001292	Q46145	Q46144	280	0.005	8	0.27	0.076	19:18 hr	1.55	0.76
SWRGM-003707	SWRMH-001290	SWRMH-001291	Q46146	Q46145	280	0.005	8	0.25	0.064	19:17 hr	1.47	0.76
SWRGM-003708	SWRMH-001289	SWRMH-001290	Q46147	Q46146	294	0.005	8	0.21	0.046	19:17 hr	1.34	0.75
SWRGM-003709	SWRNJ-000130	SWRMH-002189	R46500	R46130	24	0.002	8	0.29	0.057	19:11 hr	1.05	0.50
SWRGM-003710	SWRNJ-000139	SWRMH-002176	R46499	R46143	51	0.01	8	0.17	0.045	19:09 hr	1.72	1.07
SWRGM-003711	SWRMH-002137	SWRNJ-000139	R46182	R46499	146	0.01	8	0.18	0.045	19:08 hr	1.70	1.05
SWRGM-003712	SWRMH-002164	SWRMH-007058	R46155	S46124	247	0.014	8	0.06	0.006	19:03 hr	1.03	1.10
SWRGM-003713	SWRMH-002161	SWRMH-007060	R46158	S46122	290	0.011	8	0.04	0.002	19:01 hr	0.71	0.93
SWRGM-003714	SWRMH-002143	SWRMH-002142	R46176	R46177	320	0.012	8	0.12	0.022	19:05 hr	1.44	1.09
SWRGM-003715	SWRMH-002148	SWRMH-002143	R46171	R46176	140	0.004	8	0.12	0.014	19:03 hr	0.90	0.67
SWRGM-003716	SWRCO-000337	SWRMH-002171	R46104	R46148	145	0.021	8	0.03	0.001	19:00 hr	0.72	1.18
SWRGM-003717	SWRMH-002172	SWRMH-002171	R46147	R46148	250	0.01	8	0.05	0.003	19:01 hr	0.78	0.91
SWRGM-003718	SWRMH-001772	SWRMH-001771	R46188	R46189	302	0.009	8	0.06	0.004	19:02 hr	0.78	0.87
SWRGM-003719	SWRMH-001610	SWRMH-001605	R39122	R39127	302	0.011	8	0.06	0.005	19:04 hr	0.91	0.96
SWRGM-003720	SWRMH-001632	SWRMH-001631	R39113	R39114	301	0.014	8	0.04	0.002	19:01 hr	0.79	1.05
SWRGM-003721	SWRMH-001631	SWRMH-008997	SDMH001631	SP572MH016	301	0.015	8	0.05	0.004	19:02 hr	0.92	1.09
SWRGM-003722	SWRMH-001635	SWRMH-001605	R39110	R39127	270	0.015	8	0.08	0.01	19:06 hr	1.25	1.19
SWRGM-003723	SWRMH-001633	SWRMH-008994	SDMH001633	SP572MH013	250	0.007	8	0.09	0.009	19:05 hr	0.93	0.83
SWRGM-003724	SWRMH-001634	SWRMH-001633	R39111	R39112	125	0.007	8	0.03	0.001	19:01 hr	0.50	0.73
SWRGM-003725	SWRNJ-000060	SWRMH-001423	Q43201	Q43105	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003726	SWRMH-006174	SWRMH-006175	X37106	X37105	342	0.016	8	0.04	0.002	19:05 hr	0.77	1.08
SWRGM-003727	SWRMH-004522	SWRMH-004521	X37143	X37144	220	0.004	8	0.67	0.32	20:11 hr	1.99	0.65

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003728	SWRNJ-000929	SWRMH-005037	AC44105	AC44132	50	0.005	8	0.07	0.005	19:03 hr	0.67	0.66
SWRGM-003729	SWRMH-005283	SWRMH-005282	AC44129	AC44130	351	0.009	8	0.07	0.006	19:03 hr	0.91	0.89
SWRGM-003730	SWRMH-005389	SWRMH-005388	AC44118	AC44119	200	0.054	8	0.05	0.009	19:01 hr	1.89	2.13
SWRGM-003731	SWRMH-005387	SWRMH-005389	AC44120	AC44118	279	0.054	8	0.05	0.006	19:01 hr	1.68	2.08
SWRGM-003732	SWRMH-005617	SWRMH-005616	Z37106	Z37107	255	0.013	8	0.03	0.001	19:01 hr	0.55	0.92
SWRGM-003733	SWRMH-004485	SWRMH-003896	Z36127	Z36139	300	0.002	8	0.17	0.021	19:17 hr	0.82	0.51
SWRGM-003734	SWRMH-004483	SWRMH-004485	Z36129	Z36127	300	0.002	8	0.16	0.019	19:15 hr	0.79	0.51
SWRGM-003735	SWRMH-004482	SWRMH-003896	Z36130	Z36139	254	0.002	8	0.06	0.002	19:04 hr	0.42	0.44
SWRGM-003736	SWRMH-004481	SWRMH-004482	Z36131	Z36130	238	0.002	8	0.06	0.002	19:02 hr	0.38	0.43
SWRGM-003737	SWRMH-004488	SWRMH-003895	Z36124	Z36140	215	0.002	8	0.03	0	19:02 hr	0.26	0.41
SWRGM-003738	SWRMH-003222	SWRMH-003220	V47108	V47110	198	0.015	8	0.05	0.004	19:02 hr	0.93	1.12
SWRGM-003739	SWRMH-001678	SWRMH-001695	Q48146	Q48129	204	0.006	8	0.12	0.015	19:07 hr	1.04	0.80
SWRGM-003740	SWRMH-001699	SWRMH-001669	Q48125	Q48155	171	0.035	8	0.03	0.002	19:00 hr	1.01	1.56
SWRGM-003741	SWRMH-001696	SWRMH-001672	Q48128	Q48152	223	0.016	8	0.07	0.009	19:03 hr	1.26	1.22
SWRGM-003742	SWRMH-001738	SWRMH-001747	Q47131	Q47122	182	0.005	8	0.05	0.003	19:01 hr	0.60	0.68
SWRGM-003743	SWRMH-001755	SWRMH-001289	Q47114	Q46147	287	0.053	8	0.07	0.017	19:12 hr	2.27	2.21
SWRGM-003744	SWRMH-001671	SWRMH-001286	Q48153	Q47162	76	0.01	8	0.12	0.021	19:04 hr	1.38	1.04
SWRGM-003745	SWRMH-001739	SWRMH-001744	Q47130	Q47125	160	0.021	8	0.05	0.004	19:01 hr	1.07	1.31
SWRGM-003746	SWRMH-001749	SWRMH-001734	Q47120	Q47135	179	0.009	8	0.07	0.007	19:03 hr	0.97	0.94
SWRGM-003747	SWRMH-001744	SWRMH-001745	Q47125	Q47124	142	0.01	8	0.07	0.007	19:02 hr	0.95	0.94
SWRGM-003748	SWRMH-001762	SWRMH-001761	Q47107	Q47108	350	0.005	8	0.03	0.001	19:09 hr	0.39	0.59
SWRGM-003749	SWRMH-001753	SWRMH-001761	Q47116	Q47108	310	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003750	SWRMH-001754	SWRMH-001757	Q47115	Q47112	186	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003751	SWRMH-001763	SWRMH-001753	Q47106	Q47116	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003752	SWRNJ-000078	SWRMH-001736	Q47319	Q47133	54	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003753	SWRMH-001747	SWRMH-001748	Q47122	Q47121	200	0.004	8	0.07	0.005	19:03 hr	0.63	0.61
SWRGM-003754	SWRMH-001745	SWRMH-001746	Q47124	Q47123	201	0.004	8	0.09	0.007	19:04 hr	0.72	0.62
SWRGM-003755	SWRMH-001734	SWRMH-001735	Q47135	Q47134	98	0.004	8	0.10	0.009	19:03 hr	0.76	0.64
SWRGM-003756	SWRMH-001735	SWRMH-001288	Q47134	Q47160	140	0.004	8	0.10	0.01	19:04 hr	0.80	0.66
SWRGM-003757	SWRMH-001740	SWRMH-001739	Q47129	Q47130	160	0.005	8	0.06	0.003	19:01 hr	0.61	0.66
SWRGM-003758	SWRCO-000345	SWRMH-001760	Q47104	Q47109	184	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003759	SWRMH-001756	SWRMH-001755	Q47113	Q47114	150	0.007	8	0.11	0.015	19:11 hr	1.06	0.82
SWRGM-003760	SWRMH-001757	SWRMH-001756	Q47112	Q47113	231	0.005	8	0.12	0.014	19:10 hr	0.94	0.72
SWRGM-003761	SWRMH-001288	SWRMH-001287	Q47160	Q47161	140	0.006	8	0.17	0.033	19:06 hr	1.28	0.80
SWRGM-003762	SWRMH-003665	SWRMH-003664	U48146	U48147	250	0.019	8	0.08	0.011	19:03 hr	1.41	1.34
SWRGM-003763	SWRMH-002181	SWRMH-002193	R46138	R46126	306	0.014	8	0.16	0.044	19:10 hr	1.93	1.26
SWRGM-003764	SWRMH-002199	SWRMH-002200	R46120	R46119	236	0.01	8	0.05	0.004	19:01 hr	0.79	0.90
SWRGM-003765	SWRMH-006932	SWRMH-002185	R47112	R46134	235	0.013	8	0.04	0.003	19:02 hr	0.81	1.02
SWRGM-003766	SWRMH-007632	SWRMH-007631	P43106	P43107	93	0.006	8	0.04	0.002	19:00 hr	0.52	0.67
SWRGM-003767	SWRMH-002626	SWRMH-002625	P43168	P43169	170	0.02	8	0.03	0.002	19:00 hr	0.79	1.19
SWRGM-003768	SWRMH-002654	SWRMH-002650	P43140	P43144	223	0.019	8	0.09	0.016	19:08 hr	1.55	1.35
SWRGM-003769	SWRMH-002658	SWRMH-002657	P43136	P43137	350	0.005	8	0.08	0.007	19:03 hr	0.75	0.69
SWRGM-003770	SWRCO-000740	SWRMH-002658	P43103	P43136	97	0.005	8	0.04	0.001	19:00 hr	0.47	0.62
SWRGM-003771	SWRMH-002659	SWRMH-002652	P43135	P43142	199	0.011	8	0.05	0.004	19:01 hr	0.83	0.94
SWRGM-003772	SWRMH-006896	SWRMH-006897	P47121	P47120	300	0.005	8	0.11	0.011	19:05 hr	0.90	0.72
SWRGM-003773	SWRMH-002852	SWRMH-002837	Y33135	Y34111	249	0.026	8	0.08	0.016	19:03 hr	1.73	1.56
SWRGM-003774	SWRMH-004883	SWRMH-004882	Y38141	Y38142	102	0.005	8	0.10	0.01	19:09 hr	0.87	0.72
SWRGM-003775	SWRMH-004521	SWRMH-006176	X37144	X37104	19	0.053	8	0.31	0.32	20:12 hr	5.43	2.49
SWRGM-003776	SWRMH-004879	SWRMH-004875	W37124	W37128	32	0.018	8	0.13	0.03	19:08 hr	1.87	1.38
SWRGM-003777	SWRMH-006617	SWRMH-005446	Z39109	Z39111	312	0.018	8	0.18	0.06	10:19 hr	2.27	1.41
SWRGM-003778	SWRMH-005110	SWRMH-005107	Y43122	Y43125	238	0.015	8	0.11	0.02	19:04 hr	1.56	1.24
SWRGM-003779	SWRMH-004876	SWRMH-004715	W37127	W37134	200	0.017	8	0.04	0.002	19:01 hr	0.84	1.13
SWRGM-003780	SWRMH-004878	SWRMH-005631	W37125	W37110	292	0.012	8	0.04	0.003	19:03 hr	0.78	0.98
SWRGM-003781	SWRMH-004877	SWRMH-004878	W37126	W37125	280	0.005	8	0.05	0.002	19:02 hr	0.52	0.64
SWRGM-003782	SWRMH-001249	SWRMH-001250	AA46148	AA46147	350	0.046	8	0.07	0.015	19:02 hr	2.08	2.05
SWRGM-003783	SWRNJ-000783	SWRMH-001249	AA46104	AA46148	76	0.035	8	0.06	0.009	19:01 hr	1.65	1.75
SWRGM-003784	SWRMH-006353	SWRMH-006351	Y45103	Y45105	350	0.014	8	0.03	0.001	19:06 hr	0.66	0.99
SWRGM-003785	SWRMH-006228	SWRMH-001180	Z48140	Z47120	302	0.012	8	0.07	0.006	19:02 hr	1.02	1.05
SWRGM-003786	SWRMH-001181	SWRMH-001155	Z47119	AA47152	264	0.018	8	0.12	0.028	19:06 hr	1.83	1.38
SWRGM-003787	SWRMH-004384	SWRMH-005310	W38150	W38119	319	0.004	8	0.10	0.009	19:04 hr	0.75	0.62
SWRGM-003788	SWRMH-000634	SWRMH-008387	U47120	U47128	293	0.018	8	0.05	0.004	19:01 hr	1.02	1.22
SWRGM-003789	SWRMH-000629	SWRMH-000630	U47125	U47124	141	0.022	8	0.09	0.017	19:04 hr	1.68	1.47
SWRGM-003790	SWRCO-000500	SWRMH-000631	U47101	U47123	121	0.017	8	0.03	0.002	19:00 hr	0.75	1.11
SWRGM-003791	SWRMH-000631	SWRMH-000629	U47123	U47125	259	0.014	8	0.09	0.014	19:04 hr	1.35	1.18
SWRGM-003792	SWRMH-000646	SWRMH-000644	U47108	U47110	258	0.01	8	0.08	0.009	19:05 hr	1.05	0.96
SWRGM-003793	SWRMH-002207	SWRMH-001768	R46112	R46192	215	0.013	8	0.09	0.012	19:03 hr	1.25	1.12
SWRGM-003794	SWRMH-001768	SWRMH-001769	R46192	R46191	200	0.016	8	0.10	0.017	19:04 hr	1.50	1.26
SWRGM-003795	SWRMH-002186	SWRMH-002184	R46133	R46135	127	0.009	8	0.09	0.01	19:05 hr	1.04	0.91
SWRGM-003796	SWRMH-002182	SWRMH-002181	R46137	R46138	188	0.008	8	0.12	0.017	19:09 hr	1.18	0.91
SWRGM-003797	SWRMH-002183	SWRMH-002182	R46136	R46137	170	0.005	8	0.12	0.015	19:09 hr	0.95	0.70
SWRGM-003798	SWRMH-002187	SWRMH-002186	R46132	R46133	115	0.011	8	0.08	0.009	19:04 hr	1.10	1.03
SWRGM-003799	SWRMH-002161	SWRMH-002163	R46158	R46156	83	0.01	8	0.04	0.002	19:00 hr	0.66	0.86
SWRGM-003800	SWRCO-000636	SWRMH-002164	R46105	R46155	141	0.004	8	0.04	0.001	19:01 hr	0.45	0.58
SWRGM-003801	SWRMH-002166	SWRMH-002165	R46153	R46154	261	0.009	8	0.09	0.011	19:04 hr	1.06	0.92
SWRGM-003802	SWRMH-002165	SWRMH-002168	R46154	R46151	259	0.007	8	0.12	0.016	19:06 hr	1.13	0.87
SWRGM-003803	SWRMH-002169	SWRMH-002167	R46150	R46152	158	0.004	8	0.05	0.002	19:01 hr	0.50	0.60
SWRGM-003804	SWRMH-001209	SWRMH-001208	Z47109	Z47110	300	0.003	8	0.46	0.169	19:21 hr	1.67	0.63
SWRGM-003805	SWRCO-000664	SWRMH-004530	Z36101	Z36109	128	0.01	8	0.04	0.001	19:01 hr	0.61	0.86
SWRGM-003806	SWRMH-005789	SWRMH-005790	Z36102	Z36101	285	0.012	8	0.03	0.001	19:01 hr	0.61	0.94
SWRGM-003807	SWRCO-000654	SWRMH-005789	Z36111	Z36102	150	0.077	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-003808	SWRCO-000388	SWRMH-005105	AA41105	AA41102	195	0.004	8	0.08	0.006	19:01 hr	0.66	0.61
SWRGM-003809	SWRMH-004888	SWRMH-004654	Z43134	Z43158	175	0.005	8	0.12	0.015	19:07 hr	0.97	0.74
SWRGM-003810	SWRMH-005531	SWRMH-005767	Z43116	Z43120	64	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003811	SWRMH-005800	SWRMH-005801	Z43109	Z43108	177	0.077	8	0.04	0.005	19:01 hr	1.80	2.42
SWRGM-003812	SWRMH-004594	SWRMH-005395	X37138	X37117	300	0.015	8	0.08	0.011	19:03 hr	1.29	1.18
SWRGM-003813	SWRMH-005395	SWRMH-005396	X37117	X37116	300	0.021	8	0.09	0.015	19:04 hr	1.57	1.40
SWRGM-003814	SWRMH-005396	SWRMH-005397	X37116	X37115	280	0.016	8	0.10	0.017	19:05 hr	1.51	1.25
SWRGM-003815	SWRMH-001032	SWRMH-001033	Z46122	Z46121	261	0.004	8	0.06	0.003	19:02 hr	0.57	0.61
SWRGM-003816	SWRMH-001021	SWRMH-001025	Z46133	Z46101	207	0.001	8	0.16	0.013	19:13 hr	0.55	0.36
SWRGM-003817	SWRMH-002773	SWRMH-002772	M44103	M44104	332	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003818	SWRMH-002770	SWRMH-002764	M44106	M44112	345	0.012	8	0.05	0.003	19:05 hr	0.82	0.97

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003819	SWRMH-002768	SWRMH-002767	M44108	M44109	300	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003820	SWRMH-002766	SWRMH-002765	M44110	M44111	300	0.005	8	0.07	0.004	19:02 hr	0.64	0.65
SWRGM-003821	SWRMH-002765	SWRMH-002763	M44111	M44113	190	0.004	8	0.09	0.007	19:03 hr	0.73	0.64
SWRGM-003822	SWRMH-002762	SWRMH-002752	M44114	M44124	289	0.019	8	0.04	0.002	19:01 hr	0.87	1.19
SWRGM-003823	SWRMH-002749	SWRMH-002761	M44127	M44115	319	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003824	SWRMH-002761	SWRMH-002762	M44115	M44114	300	0.005	8	0.03	0.001	19:02 hr	0.39	0.58
SWRGM-003825	SWRMH-002764	SWRMH-002763	M44112	M44113	287	0.019	8	0.05	0.004	19:06 hr	1.04	1.25
SWRGM-003826	SWRMH-002763	SWRMH-002748	M44113	M43130	344	0.011	8	0.09	0.011	19:06 hr	1.17	1.03
SWRGM-003827	SWRMH-002760	SWRMH-002752	M44124	M44116	288	0.024	8	0.04	0.002	19:03 hr	0.94	1.33
SWRGM-003828	SWRMH-003094	SWRMH-003093	W33101	W33102	262	0.018	8	0.05	0.004	19:04 hr	1.02	1.21
SWRGM-003829	SWRMH-006755	SWRMH-006754	P44124	P44125	165	0.008	8	0.07	0.005	19:02 hr	0.82	0.84
SWRGM-003830	SWRMH-006756	SWRMH-006755	P44123	P44124	206	0.005	8	0.06	0.003	19:01 hr	0.61	0.68
SWRGM-003831	SWRMH-006757	SWRMH-006753	P44122	P44126	157	0.005	8	0.06	0.004	19:02 hr	0.64	0.66
SWRGM-003832	SWRMH-006800	SWRMH-006807	P44159	P44152	300	0.018	8	0.17	0.055	19:21 hr	2.20	1.39
SWRGM-003833	SWRMH-006807	SWRMH-006808	P44152	P44151	180	0.014	8	0.18	0.056	19:22 hr	2.03	1.24
SWRGM-003834	SWRMH-006808	SWRMH-006809	P44151	P44150	193	0.011	8	0.19	0.057	19:23 hr	1.89	1.12
SWRGM-003835	SWRMH-006745	SWRMH-006746	P44134	P44133	159	0.005	8	0.09	0.009	19:04 hr	0.82	0.70
SWRGM-003836	SWRMH-006763	SWRMH-006762	P44116	P44117	299	0.005	8	0.09	0.007	19:02 hr	0.78	0.69
SWRGM-003837	SWRMH-006762	SWRMH-006761	P44117	P44118	216	0.005	8	0.10	0.01	19:05 hr	0.85	0.71
SWRGM-003838	SWRMH-006692	SWRMH-006693	P46106	P46105	292	0.007	8	0.13	0.019	19:08 hr	1.14	0.84
SWRGM-003839	SWRMH-006695	SWRMH-006921	P46103	P46131	348	0.007	8	0.15	0.028	19:16 hr	1.30	0.87
SWRGM-003840	SWRMH-006694	SWRMH-006695	P46104	P46103	342	0.008	8	0.15	0.028	19:13 hr	1.34	0.91
SWRGM-003841	SWRMH-006693	SWRMH-006694	P46105	P46104	342	0.007	8	0.15	0.028	19:10 hr	1.28	0.85
SWRGM-003842	SWRCO-000738	SWRMH-006709	P45102	P45120	145	0.013	8	0.02	0.001	19:00 hr	0.54	0.94
SWRGM-003843	SWRCO-000735	SWRMH-006719	P45105	P45110	124	0.005	8	0.02	0	19:01 hr	0.33	0.57
SWRGM-003844	SWRMH-006710	SWRMH-006709	P45119	P45120	251	0.004	8	0.07	0.004	19:04 hr	0.61	0.60
SWRGM-003845	SWRMH-006709	SWRMH-006708	P45120	P45121	386	0.013	8	0.07	0.007	19:05 hr	1.06	1.08
SWRGM-003846	SWRMH-006712	SWRMH-006713	P45117	P45116	307	0.022	8	0.10	0.023	19:08 hr	1.83	1.48
SWRGM-003847	SWRMH-006708	SWRMH-006712	P45121	P45117	308	0.011	8	0.12	0.021	19:08 hr	1.41	1.07
SWRGM-003850	SWRMH-007017	SWRMH-007018	P43117	P43116	215	0.004	8	0.17	0.026	19:09 hr	1.04	0.66
SWRGM-003851	SWRMH-007019	SWRMH-002638	P43115	P43156	270	0.004	8	0.13	0.016	19:05 hr	0.90	0.65
SWRGM-003852	SWRMH-007626	SWRMH-007625	P43112	P43113	182	0.008	8	0.07	0.005	19:02 hr	0.83	0.84
SWRGM-003853	SWRMH-007624	SWRMH-007019	P43114	P43115	270	0.015	8	0.08	0.011	19:03 hr	1.30	1.18
SWRGM-003854	SWRMH-007625	SWRMH-007624	P43113	P43114	178	0.019	8	0.06	0.007	19:03 hr	1.23	1.30
SWRGM-003855	SWRMH-002624	SWRMH-007637	P43170	P43101	300	0.016	8	0.08	0.01	19:03 hr	1.28	1.23
SWRGM-003856	SWRMH-002625	SWRMH-002624	P43169	P43170	75	0.032	8	0.03	0.002	19:01 hr	0.99	1.51
SWRGM-003857	SWRMH-007633	SWRMH-002627	P43105	P43167	281	0.005	8	0.17	0.029	19:09 hr	1.17	0.74
SWRGM-003858	SWRMH-002628	SWRMH-002627	P43166	P43167	350	0.024	8	0.07	0.012	19:05 hr	1.55	1.49
SWRGM-003859	SWRMH-002630	SWRMH-002629	P43164	P43165	350	0.018	8	0.05	0.005	19:02 hr	1.05	1.22
SWRGM-003860	SWRMH-001841	SWRMH-001842	S43153	S43152	262	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003861	SWRMH-001839	SWRMH-001838	S43155	S43156	285	0.005	8	0.10	0.011	19:06 hr	0.87	0.71
SWRGM-003862	SWRMH-001337	SWRMH-001336	Q45127	Q45128	171	0.009	8	0.09	0.01	19:03 hr	1.06	0.93
SWRGM-003863	SWRMH-006975	SWRMH-001345	P45106	Q45119	296	0.007	8	0.08	0.008	19:05 hr	0.90	0.82
SWRGM-003864	SWRMH-002930	SWRMH-002931	X35125	X35124	201	0.005	8	0.04	0.002	19:02 hr	0.50	0.63
SWRGM-003865	SWRMH-002938	SWRMH-002936	X35117	X35119	280	0.044	8	0.04	0.005	19:01 hr	1.44	1.85
SWRGM-003866	SWRMH-002937	SWRMH-002938	X35118	X35117	270	0.036	8	0.04	0.003	19:01 hr	1.16	1.64
SWRGM-003867	SWRMH-002945	SWRMH-002944	X35110	X35111	209	0.023	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003868	SWRMH-002943	SWRMH-002981	X35112	X34111	300	0.008	8	0.02	0	19:02 hr	0.39	0.72
SWRGM-003869	SWRMH-002948	SWRMH-002947	X35107	X35108	252	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003870	SWRMH-002947	SWRMH-002946	X35108	X35109	176	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003871	SWRMH-002954	SWRMH-002951	X35101	X35104	238	0.033	8	0.03	0.002	19:01 hr	0.97	1.51
SWRGM-003872	SWRMH-002097	SWRMH-002101	R48145	R48141	130	0.005	8	0.26	0.07	19:16 hr	1.48	0.74
SWRGM-003873	SWRMH-002102	SWRMH-002099	R48140	R48143	200	0.01	8	0.07	0.007	19:03 hr	0.99	0.96
SWRGM-003874	SWRMH-002103	SWRMH-002102	R48139	R48140	238	0.013	8	0.06	0.005	19:02 hr	0.95	1.07
SWRGM-003875	SWRMH-002123	SWRMH-002121	R48119	R48121	178	0.009	8	0.04	0.002	19:01 hr	0.62	0.83
SWRGM-003876	SWRMH-006558	SWRMH-006554	R49109	R49113	324	0.016	8	0.33	0.202	19:54 hr	3.08	1.35
SWRGM-003877	SWRMH-006559	SWRMH-006558	R49108	R49109	334	0.009	8	0.39	0.2	19:52 hr	2.47	1.00
SWRGM-003878	SWRMH-001653	SWRMH-006560	Q49132	R49107	286	0.008	8	0.40	0.196	19:49 hr	2.37	0.95
SWRGM-003879	SWRMH-007619	SWRMH-006790	R47107	R47174	34	0.006	8	0.14	0.02	19:11 hr	1.11	0.79
SWRGM-003880	SWRMH-007623	SWRMH-006828	R47103	R47168	66	0.016	8	0.06	0.007	19:02 hr	1.12	1.18
SWRGM-003881	SWRMH-002084	SWRMH-007615	R48158	R47191	323	0.016	8	0.07	0.008	19:04 hr	1.19	1.19
SWRGM-003882	SWRNJ-000098	SWRMH-002201	R46502	R46118	51	0.044	8	0.08	0.019	19:06 hr	2.21	2.04
SWRGM-003883	SWRNJ-000097	SWRMH-002201	R46501	R46118	48	0.021	8	0.05	0.005	19:03 hr	1.12	1.32
SWRGM-003884	SWRMH-002200	SWRNJ-000097	R46119	R46501	252	0.012	8	0.06	0.005	19:03 hr	0.91	1.00
SWRGM-003885	SWRMH-002193	SWRNJ-000130	R46126	R46500	171	0.008	8	0.21	0.057	19:10 hr	1.72	0.98
SWRGM-003886	SWRMH-002932	SWRMH-002933	X35123	X35122	203	0.018	8	0.04	0.003	19:01 hr	0.93	1.19
SWRGM-003887	SWRMH-002932	SWRMH-002930	X35123	X35125	222	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003888	SWRMH-002951	SWRMH-002950	X35104	X35105	177	0.028	8	0.04	0.004	19:01 hr	1.19	1.50
SWRGM-003889	SWRMH-002942	SWRMH-002939	X35113	X35116	252	0.005	8	0.06	0.004	19:02 hr	0.64	0.67
SWRGM-003890	SWRMH-002981	SWRMH-002942	X34111	X35113	252	0.005	8	0.04	0.001	19:02 hr	0.45	0.63
SWRGM-003891	SWRMH-002944	SWRMH-002943	X35111	X35112	209	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003892	SWRMH-005616	SWRMH-005619	Z37107	Z37104	350	0.003	8	0.05	0.002	19:03 hr	0.44	0.53
SWRGM-003893	SWRMH-003980	SWRMH-003979	Y43158	Y43159	246	0.003	8	0.21	0.036	19:07 hr	1.08	0.61
SWRGM-003894	SWRMH-003793	SWRMH-003788	U45141	U45146	324	0.019	8	0.12	0.027	19:07 hr	1.83	1.40
SWRGM-003895	SWRCO-000650	SWRMH-002018	S44103	S44128	120	0.026	8	0.03	0.001	19:00 hr	0.82	1.34
SWRGM-003896	SWRMH-001988	SWRMH-001998	S44158	S44148	276	0.006	8	0.19	0.039	19:07 hr	1.35	0.81
SWRGM-003897	SWRMH-002009	SWRMH-002017	S44137	S44129	289	0.007	8	0.07	0.006	19:02 hr	0.81	0.79
SWRGM-003898	SWRMH-001151	SWRMH-001152	AA47156	AA47155	233	0.028	8	0.08	0.014	19:05 hr	1.71	1.61
SWRGM-003899	SWRMH-001159	SWRMH-001158	AA47148	AA47149	251	0.004	8	0.22	0.046	19:12 hr	1.24	0.68
SWRGM-003900	SWRMH-001231	SWRMH-001230	AA47126	AA47127	188	0.008	8	0.13	0.02	19:03 hr	1.21	0.89
SWRGM-003901	SWRNJ-000827	SWRMH-005562	AB47103	AB47114	20	0.031	8	0.10	0.024	10:00 hr	2.09	1.75
SWRGM-003902	SWRMH-004676	SWRMH-004677	W40142	W40141	296	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003903	SWRMH-004672	SWRMH-004673	W40146	W40145	350	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003904	SWRMH-004679	SWRMH-006159	W40139	W40108	350	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003905	SWRMH-003355	SWRMH-003354	V40125	V40126	278	0.015	8	0.04	0.003	19:01 hr	0.83	1.09
SWRGM-003906	SWRMH-003348	SWRMH-003349	V40132	V40131	327	0.006	8	0.08	0.007	19:06 hr	0.82	0.76
SWRGM-003907	SWRMH-003347	SWRMH-003348	V40133	V40132	320	0.006	8	0.07	0.005	19:03 hr	0.72	0.74
SWRGM-003908	SWRMH-003368	SWRMH-003369	V40112	V40111	350	0.006	8	0.07	0.005	19:03 hr	0.74	0.76
SWRGM-003909	SWRMH-003305	SWRMH-003304	V40175	V40176	144	0.005	8	0.12	0.016	19:05 hr	0.98	0.73
SWRGM-003910	SWRMH-003340	SWRMH-003338	V40140	V40142	100	0.029	8	0.02	0.001	19:00 hr	0.81	1.38
SWRGM-003911	SWRMH-003338	SWRMH-003339	V40142	V40141	222	0.026	8	0.06	0.008	19:02 hr	1.41	1.50

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-003912	SWRMH-003339	SWRMH-003336	V40141	V40144	220	0.008	8	0.10	0.013	19:02 hr	1.08	0.89
SWRGM-003913	SWRMH-003311	SWRMH-003310	V40169	V40170	301	0.005	8	0.07	0.004	19:03 hr	0.66	0.68
SWRGM-003914	SWRMH-003387	SWRMH-003386	V39168	V39169	350	0.008	8	0.33	0.145	19:26 hr	2.20	0.96
SWRGM-003915	SWRMH-003389	SWRMH-003388	V39166	V39167	119	0.012	8	0.30	0.145	19:20 hr	2.54	1.18
SWRGM-003916	SWRMH-003395	SWRMH-003394	V39160	V39161	228	0.004	8	0.08	0.005	19:02 hr	0.63	0.60
SWRGM-003917	SWRMH-003394	SWRMH-003392	V39161	V39163	132	0.004	8	0.08	0.006	19:03 hr	0.66	0.61
SWRGM-003918	SWRMH-003409	SWRMH-003410	V39146	V39145	353	0.011	8	0.05	0.003	19:02 hr	0.82	0.97
SWRGM-003919	SWRMH-003413	SWRMH-003412	V39142	V39143	333	0.004	8	0.09	0.008	19:06 hr	0.73	0.62
SWRGM-003920	SWRMH-002141	SWRMH-002140	R46178	R46179	312	0.017	8	0.06	0.007	19:01 hr	1.16	1.23
SWRGM-003921	SWRMH-001393	SWRMH-001394	Q44127	Q44126	156	0.008	8	0.06	0.004	19:02 hr	0.80	0.85
SWRGM-003922	SWRMH-001365	SWRMH-001569	Q44155	R44174	185	0.006	8	0.07	0.006	19:04 hr	0.79	0.77
SWRGM-003923	SWRMH-001360	SWRMH-001359	Q44160	Q44161	211	0.004	8	0.04	0.002	19:02 hr	0.46	0.58
SWRGM-003924	SWRMH-001361	SWRMH-001567	Q44159	R44176	297	0.006	8	0.09	0.008	19:03 hr	0.85	0.74
SWRGM-003925	SWRMH-002966	SWRMH-002967	X34126	X34125	291	0.023	8	0.13	0.035	19:08 hr	2.12	1.56
SWRGM-003926	SWRMH-002967	SWRMH-002968	X34125	X34124	388	0.057	8	0.11	0.039	19:09 hr	3.01	2.40
SWRGM-003927	SWRMH-002960	SWRMH-002963	X34132	X34129	232	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003928	SWRMH-002959	SWRMH-002962	X34133	X34130	326	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003929	SWRMH-002970	SWRMH-002974	X34122	X34118	239	0.058	8	0.08	0.02	19:03 hr	2.47	2.32
SWRGM-003930	SWRMH-002963	SWRMH-002962	X34129	X34130	260	0.024	8	0.05	0.006	19:03 hr	1.23	1.41
SWRGM-003931	SWRMH-002962	SWRMH-002957	X34130	X34135	265	0.029	8	0.06	0.008	19:04 hr	1.47	1.59
SWRGM-003932	SWRMH-002971	SWRMH-002975	X34121	X34117	154	0.006	8	0.19	0.043	19:10 hr	1.41	0.83
SWRGM-003933	SWRCO-000758	SWRMH-002971	X34101	X34121	175	0.034	8	0.03	0.002	19:00 hr	1.03	1.56
SWRGM-003934	SWRCO-000590	SWRMH-002972	X34102	X34120	149	0.034	8	0.03	0.002	19:00 hr	1.00	1.55
SWRGM-003935	SWRMH-002979	SWRMH-002980	X34113	X34112	259	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003936	SWRNJ-000307	SWRMH-003714	U46129	U46155	86	0.004	8	0.08	0.005	19:01 hr	0.65	0.61
SWRGM-003937	SWRMH-007996	SWRMH-003451	U39181	V39104	255	0.004	8	0.11	0.012	19:04 hr	0.82	0.63
SWRGM-003938	SWRMH-000666	SWRMH-000667	T44116	T44115	290	0.004	8	0.10	0.01	19:04 hr	0.83	0.67
SWRGM-003939	SWRMH-008196	SWRMH-008197	T44142	T44141	290	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003940	SWRMH-008198	SWRMH-008339	T44140	T44135	200	0.01	8	0.04	0.002	19:01 hr	0.68	0.88
SWRGM-003941	SWRNJ-000520	SWRMH-002934	X35107	X35121	54	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-003942	SWRMH-002928	SWRMH-002923	X35127	X35132	153	0.004	8	0.07	0.005	19:05 hr	0.62	0.60
SWRGM-003943	SWRMH-002927	SWRMH-002928	X35128	X35127	112	0.096	8	0.02	0.001	19:00 hr	1.12	2.36
SWRGM-003944	SWRMH-001476	SWRMH-002540	U40210	U40113	263	0.008	8	0.10	0.012	19:05 hr	1.07	0.90
SWRGM-003945	SWRMH-001477	SWRMH-001476	U40209	U40210	310	0.012	8	0.05	0.004	19:02 hr	0.85	0.99
SWRGM-003946	SWRMH-001478	SWRMH-001475	U40208	U40211	140	0.012	8	0.05	0.004	19:02 hr	0.88	0.99
SWRGM-003947	SWRMH-008416	SWRMH-002534	T40110	U40119	330	0.011	8	0.05	0.004	19:02 hr	0.82	0.96
SWRGM-003948	SWRMH-008417	SWRMH-002533	T40109	U40120	330	0.01	8	0.05	0.003	19:02 hr	0.78	0.92
SWRGM-003949	SWRMH-001495	SWRMH-001496	U40191	U40190	175	0.005	8	0.03	0.001	19:01 hr	0.43	0.61
SWRGM-003950	SWRMH-001878	SWRMH-001879	U40131	U40130	200	0.005	8	0.09	0.008	19:01 hr	0.80	0.70
SWRGM-003951	SWRMH-001877	SWRMH-001878	U40132	U40131	150	0.005	8	0.06	0.003	19:01 hr	0.61	0.66
SWRGM-003952	SWRMH-001870	SWRMH-001871	U40139	U40138	280	0.008	8	0.08	0.008	19:02 hr	0.95	0.88
SWRGM-003953	SWRMH-006774	SWRMH-006775	R47190	R47189	280	0.013	8	0.06	0.005	19:01 hr	0.96	1.04
SWRGM-003954	SWRMH-006781	SWRMH-006780	R47183	R47184	316	0.013	8	0.05	0.004	19:02 hr	0.91	1.03
SWRGM-003955	SWRCO-000728	SWRMH-006831	R47103	R47165	45	0.009	8	0.05	0.003	19:00 hr	0.75	0.86
SWRGM-003956	SWRMH-006836	SWRMH-006846	R47160	R47150	300	0.012	8	0.07	0.006	19:01 hr	1.00	1.02
SWRGM-003957	SWRMH-006846	SWRMH-006834	R47150	R47162	300	0.01	8	0.08	0.01	19:04 hr	1.07	0.97
SWRGM-003958	SWRMH-006845	SWRMH-006829	R47151	R47167	314	0.016	8	0.09	0.013	19:07 hr	1.37	1.22
SWRGM-003959	SWRMH-006832	SWRMH-006833	R47164	R47163	253	0.011	8	0.06	0.004	19:01 hr	0.87	0.98
SWRGM-003960	SWRMH-006833	SWRMH-007623	R47163	R47103	187	0.015	8	0.06	0.005	19:02 hr	1.00	1.13
SWRGM-003961	SWRMH-006827	SWRMH-007623	R47169	R47103	159	0.015	8	0.03	0.001	19:01 hr	0.66	1.04
SWRGM-003962	SWRMH-002082	SWRMH-006571	R48160	R47204	300	0.023	8	0.11	0.026	19:04 hr	1.94	1.53
SWRGM-003963	SWRMH-006570	SWRMH-007976	R47205	R47102	300	0.004	8	0.55	0.265	19:28 hr	2.06	0.71
SWRGM-003964	SWRMH-005126	SWRMH-005125	X43121	X43122	206	0.005	8	0.07	0.005	10:28 hr	0.69	0.67
SWRGM-003966	SWRMH-007856	SWRMH-008474	AA32112	AA32102	351	0.012	8	0.19	0.056	19:26 hr	1.94	1.16
SWRGM-003967	SWRMH-006036	SWRMH-005652	X41110	X41111	230	0.006	8	0.03	0.001	10:02 hr	0.41	0.64
SWRGM-003968	SWRCO-000556	SWRMH-004564	X38101	X38134	98	0.051	8	0.01	0	19:00 hr	0.63	1.62
SWRGM-003969	SWRMH-004130	SWRMH-005438	X38137	X37110	287	0.012	8	0.07	0.008	19:20 hr	1.08	1.03
SWRGM-003970	SWRMH-005925	SWRMH-005926	X47102	X47101	352	0.022	8	0.07	0.011	10:19 hr	1.46	1.41
SWRGM-003971	SWRCO-000838	SWRMH-006675	X46101	X46104	262	0.004	8	0.02	0	19:02 hr	0.28	0.52
SWRGM-003972	SWRMH-005926	SWRMH-006674	X47101	X46105	350	0.014	8	0.08	0.011	10:21 hr	1.26	1.15
SWRGM-003973	SWRMH-006652	SWRMH-006653	X45132	X45131	350	0.008	8	0.02	0	19:10 hr	0.40	0.71
SWRGM-003974	SWRMH-006651	SWRMH-006652	X45133	X45132	350	0.008	8	0.02	0	19:07 hr	0.40	0.71
SWRGM-003975	SWRMH-007370	SWRMH-007369	S47110	S47111	130	0.013	8	0.11	0.019	19:09 hr	1.42	1.13
SWRGM-003976	SWRMH-007085	SWRMH-007093	T43117	T43109	320	0.006	8	0.05	0.003	19:03 hr	0.62	0.71
SWRGM-003977	SWRMH-006689	SWRMH-006972	P46109	P46110	228	0.008	8	0.06	0.004	19:01 hr	0.77	0.82
SWRGM-003978	SWRMH-006690	SWRMH-006920	P46108	P46132	230	0.006	8	0.08	0.007	19:04 hr	0.78	0.72
SWRGM-003979	SWRMH-003489	SWRMH-003490	V37126	V37125	288	0.005	8	0.14	0.02	19:05 hr	1.05	0.73
SWRGM-003980	SWRMH-003510	SWRMH-003509	V36157	V36158	217	0.005	8	0.08	0.007	19:03 hr	0.79	0.72
SWRGM-003981	SWRMH-003509	SWRMH-003522	V36158	V36145	172	0.005	8	0.12	0.014	19:04 hr	0.98	0.75
SWRGM-003982	SWRMH-004454	SWRMH-004704	Y36164	Y36150	255	0.025	8	0.06	0.007	19:05 hr	1.38	1.48
SWRGM-003983	SWRMH-005227	SWRMH-006640	Y36128	Y36107	317	0.004	8	0.09	0.008	19:09 hr	0.73	0.62
SWRGM-003984	SWRMH-004146	SWRMH-004003	W42121	X42147	350	0.015	8	0.05	0.005	10:04 hr	0.98	1.12
SWRGM-003985	SWRMH-004626	SWRMH-006151	X42130	X42104	296	0.004	8	0.16	0.025	10:36 hr	1.04	0.66
SWRGM-003986	SWRNJ-000648	SWRNJ-000649	Z42110	Z42107	131	0.05	8	0.09	0.023	19:06 hr	2.43	2.18
SWRGM-003987	SWRMH-005534	SWRMH-005533	Y38126	Y38127	172	0.06	8	0.02	0.001	19:00 hr	1.08	1.96
SWRGM-003988	SWRMH-005218	SWRMH-003906	Y38132	Y37165	303	0.016	8	0.00	0	10:00 hr	0.00	0.00
SWRGM-003989	SWRMH-004457	SWRMH-004458	Y36161	Y36160	11	0.017	8	0.11	0.023	19:10 hr	1.69	1.32
SWRGM-003990	SWRMH-007636	SWRMH-007633	P43102	P43105	300	0.012	8	0.13	0.028	19:07 hr	1.57	1.11
SWRGM-003991	SWRMH-007637	SWRMH-007636	P43101	P43102	300	0.016	8	0.11	0.021	19:06 hr	1.62	1.29
SWRGM-003992	SWRMH-007627	SWRMH-007626	P43111	P43112	44	0.005	8	0.05	0.003	19:02 hr	0.57	0.66
SWRGM-003993	SWRMH-007629	SWRMH-007628	P43109	P43110	125	0.005	8	0.04	0.001	19:01 hr	0.43	0.59
SWRGM-003994	SWRMH-001355	SWRMH-001349	Q45109	Q45115	311	0.002	8	0.47	0.139	19:30 hr	1.35	0.50
SWRGM-003995	SWRMH-001356	SWRMH-001355	Q45108	Q45109	316	0.005	8	0.37	0.139	19:27 hr	1.85	0.77
SWRGM-003996	SWRMH-001374	SWRMH-001378	Q44146	Q44142	300	0.01	8	0.36	0.185	19:38 hr	2.55	1.08
SWRGM-003997	SWRMH-001378	SWRMH-001400	Q44142	Q44120	58	0.012	8	0.34	0.185	19:39 hr	2.74	1.19
SWRGM-003998	SWRMH-001394	SWRMH-001395	Q44126	Q44125	161	0.007	8	0.08	0.007	19:02 hr	0.89	0.83
SWRGM-003999	SWRMH-001395	SWRMH-001396	Q44125	Q44124	249	0.016	8	0.07	0.009	19:03 hr	1.27	1.23
SWRGM-004000	SWRMH-001397	SWRMH-001396	Q44123	Q44124	90	0.005	8	0.06	0.004	19:01 hr	0.62	0.65
SWRGM-004001	SWRMH-001390	SWRMH-001389	Q44130	Q44131	257	0.014	8	0.06	0.005	19:01 hr	0.99	1.09
SWRGM-004002	SWRMH-001391	SWRMH-001390	Q44129	Q44130	275	0.01	8	0.03	0.001	19:01 hr	0.55	0.84
SWRGM-004003	SWRMH-001400	SWRMH-001379	Q44120	Q44141	242	0.014	8	0.33	0.194	19:39 hr	2.94	1.29

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004004	SWRMH-001402	SWRMH-001380	Q44118	Q44140	215	0.018	8	0.32	0.199	19:41 hr	3.26	1.47
SWRGM-004005	SWRMH-001406	SWRMH-001377	Q44114	Q44143	222	0.005	8	0.04	0.002	19:02 hr	0.48	0.62
SWRGM-004006	SWRMH-001472	SWRMH-001473	U40214	U40213	290	0.007	8	0.06	0.004	19:02 hr	0.77	0.81
SWRGM-004007	SWRMH-001473	SWRMH-002539	U40213	U40114	270	0.017	8	0.06	0.007	19:03 hr	1.15	1.22
SWRGM-004008	SWRMH-002540	SWRMH-002539	U40113	U40114	262	0.018	8	0.10	0.019	19:05 hr	1.61	1.33
SWRGM-004009	SWRMH-002543	SWRMH-002540	U40110	U40113	309	0.023	8	0.05	0.005	19:01 hr	1.15	1.37
SWRGM-004010	SWRMH-007451	SWRMH-007448	T47132	T47135	278	0.007	8	0.48	0.263	19:36 hr	2.49	0.92
SWRGM-004011	SWRMH-007449	SWRMH-007451	T47134	T47132	265	0.007	8	0.49	0.261	19:34 hr	2.40	0.88
SWRGM-004012	SWRMH-007515	SWRMH-007514	T47116	T47117	260	0.009	8	0.05	0.004	19:01 hr	0.78	0.87
SWRGM-004013	SWRMH-002667	SWRMH-002665	P43127	P43129	231	0.023	8	0.14	0.042	19:12 hr	2.24	1.56
SWRGM-004014	SWRMH-002643	SWRMH-002642	P43151	P43152	225	0.014	8	0.03	0.001	19:01 hr	0.60	0.97
SWRGM-004015	SWRMH-002644	SWRMH-002634	P43150	P43160	350	0.017	8	0.03	0.002	19:03 hr	0.75	1.10
SWRGM-004016	SWRMH-002646	SWRMH-002635	P43148	P43159	258	0.015	8	0.05	0.003	19:01 hr	0.88	1.09
SWRGM-004017	SWRCO-000741	SWRMH-002647	P43102	P43147	136	0.021	8	0.02	0.001	19:00 hr	0.64	1.16
SWRGM-004018	SWRMH-004324	SWRMH-004836	AA42146	AA42123	199	0.02	8	0.02	0	19:01 hr	0.52	1.07
SWRGM-004019	SWRMH-004836	SWRMH-004837	AA42123	AA42122	80	0.01	8	0.02	0	19:01 hr	0.41	0.78
SWRGM-004020	SWRMH-004372	SWRMH-004374	AA42144	AA42142	80	0.019	8	0.09	0.015	19:06 hr	1.55	1.36
SWRGM-004021	SWRMH-003449	SWRMH-003484	V39106	V38124	246	0.004	8	0.32	0.096	19:15 hr	1.53	0.68
SWRGM-004022	SWRMH-006764	SWRMH-006763	P44115	P44116	211	0.006	8	0.06	0.003	19:01 hr	0.63	0.71
SWRGM-004023	SWRMH-006765	SWRMH-006984	P44114	P44165	284	0.007	8	0.16	0.032	19:09 hr	1.33	0.86
SWRGM-004024	SWRNJ-000051	SWRMH-006766	P44521	P44113	135	0.008	8	0.11	0.015	19:06 hr	1.13	0.90
SWRGM-004025	SWRMH-001028	SWRMH-001031	Z46126	Z46123	262	0.018	8	0.05	0.005	19:01 hr	1.06	1.23
SWRGM-004026	SWRMH-002660	SWRMH-002651	P43134	P43143	199	0.011	8	0.05	0.004	19:01 hr	0.82	0.94
SWRGM-004027	SWRMH-002662	SWRMH-002661	P43132	P43133	350	0.015	8	0.11	0.021	19:09 hr	1.56	1.22
SWRGM-004028	SWRMH-002664	SWRMH-002663	P43130	P43131	272	0.018	8	0.10	0.017	19:07 hr	1.57	1.33
SWRGM-004029	SWRMH-001351	SWRMH-001352	Q45113	Q45112	183	0.009	8	0.34	0.163	19:35 hr	2.41	1.05
SWRGM-004030	SWRMH-002872	SWRMH-002854	Y33115	Y33133	194	0.031	8	0.05	0.005	19:01 hr	1.27	1.58
SWRGM-004031	SWRMH-002855	SWRMH-002861	Y33132	Y33126	143	0.049	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004032	SWRMH-006902	SWRMH-006903	P47115	P47114	308	0.005	8	0.03	0.001	19:03 hr	0.39	0.59
SWRGM-004033	SWRMH-006903	SWRMH-001762	P47114	Q47107	329	0.005	8	0.03	0.001	19:06 hr	0.39	0.59
SWRGM-004034	SWRMH-006894	SWRMH-006895	P47123	P47122	302	0.005	8	0.04	0.001	19:03 hr	0.46	0.62
SWRGM-004035	SWRMH-006911	SWRMH-006912	P47106	P47105	350	0.007	8	0.06	0.004	19:05 hr	0.73	0.80
SWRGM-004036	SWRMH-001134	SWRMH-001140	AA40145	AA40141	186	0.018	8	0.33	0.22	19:31 hr	3.33	1.46
SWRGM-004037	SWRMH-004473	SWRMH-004474	W39133	W39132	300	0.013	8	0.05	0.003	19:01 hr	0.82	1.01
SWRGM-004038	SWRMH-003463	SWRMH-003462	V38145	V38146	139	0.006	8	0.13	0.018	19:06 hr	1.10	0.81
SWRGM-004039	SWRMH-003479	SWRMH-004198	V38129	V38107	116	0.006	8	0.09	0.009	19:04 hr	0.88	0.77
SWRGM-004040	SWRMH-003480	SWRMH-003481	V38128	V38127	254	0.009	8	0.07	0.006	19:03 hr	0.93	0.93
SWRGM-004041	SWRMH-004465	SWRMH-004853	W39141	W39122	309	0.01	8	0.08	0.009	19:02 hr	1.04	0.96
SWRGM-004042	SWRMH-004854	SWRNJ-000417	W39121	W38379	203	0.004	8	0.49	0.208	19:31 hr	1.88	0.68
SWRGM-004043	SWRMH-004739	SWRMH-004281	Y44113	Z44126	352	0.004	8	0.10	0.008	19:08 hr	0.74	0.63
SWRGM-004044	SWRMH-006268	SWRMH-006269	AA36124	AA36123	216	0.075	8	0.06	0.014	19:04 hr	2.42	2.56
SWRGM-004045	SWRMH-006271	SWRMH-006268	AA36121	AA36124	330	0.044	8	0.07	0.014	19:04 hr	2.00	1.99
SWRGM-004046	SWRMH-006269	SWRMH-006270	AA36123	AA36122	91	0.004	8	0.13	0.014	19:05 hr	0.84	0.62
SWRGM-004047	SWRMH-001067	SWRMH-001043	AB45111	AB45132	132	0.004	8	0.10	0.009	19:05 hr	0.75	0.62
SWRGM-004048	SWRCO-000772	SWRMH-003557	V36101	V36110	136	0.007	8	0.04	0.001	19:01 hr	0.51	0.71
SWRGM-004049	SWRMH-008586	SWRMH-008585	V45103	V45104	350	0.03	8	0.04	0.004	19:01 hr	1.22	1.55
SWRGM-004050	SWRMH-005964	SWRMH-005972	W46113	W46105	192	0.01	8	0.15	0.031	19:07 hr	1.55	1.06
SWRGM-004051	SWRMH-005968	SWRMH-005964	W46109	W46113	255	0.012	8	0.10	0.014	19:05 hr	1.28	1.08
SWRGM-004052	SWRMH-005944	SWRMH-005949	W46150	W46145	147	0.009	8	0.21	0.062	19:11 hr	1.83	1.04
SWRGM-004053	SWRMH-005940	SWRMH-005941	W46154	W46153	139	0.008	8	0.03	0.001	19:02 hr	0.53	0.76
SWRGM-004054	SWRMH-004416	SWRMH-004414	W46156	W46158	270	0.006	8	0.33	0.119	19:18 hr	1.83	0.81
SWRGM-004055	SWRMH-000625	SWRMH-000624	V48102	V48103	391	0.004	8	0.23	0.047	19:10 hr	1.25	0.68
SWRGM-004056	SWRMH-003891	SWRMH-000623	V48105	V48104	289	0.013	8	0.10	0.015	19:07 hr	1.33	1.12
SWRGM-004057	SWRMH-004412	SWRMH-004411	W46160	W46161	170	0.015	8	0.10	0.016	19:08 hr	1.44	1.21
SWRGM-004058	SWRMH-004413	SWRMH-004412	W46159	W46160	350	0.025	8	0.02	0.001	19:01 hr	0.73	1.28
SWRGM-004059	SWRMH-003978	SWRMH-004228	Y43160	Y43149	241	0.012	8	0.08	0.01	19:03 hr	1.16	1.08
SWRGM-004060	SWRMH-003894	SWRMH-003893	Z36141	Z36142	349	0.005	8	0.04	0.001	19:03 hr	0.46	0.60
SWRGM-004061	SWRMH-003942	SWRMH-003943	Z39126	Z39125	170	0.017	8	0.16	0.048	19:09 hr	2.08	1.36
SWRGM-004062	SWRMH-005460	SWRMH-005156	Z43125	Z43139	258	0.047	8	0.04	0.003	19:01 hr	1.32	1.87
SWRGM-004063	SWRMH-004664	SWRMH-004906	Z43148	Y43140	215	0.014	8	0.08	0.01	19:04 hr	1.22	1.15
SWRGM-004064	SWRMH-006399	SWRMH-006398	V44105	V44106	350	0.004	8	0.58	0.271	19:37 hr	2.00	0.68
SWRGM-004065	SWRMH-007887	SWRMH-006419	V46101	V45130	430	0.005	8	0.07	0.004	19:08 hr	0.66	0.67
SWRGM-004066	SWRMH-006409	SWRMH-006408	V45140	V45141	215	0.014	8	0.03	0.002	19:01 hr	0.70	1.00
SWRGM-004067	SWRMH-006408	SWRMH-006410	V45141	V45139	260	0.016	8	0.05	0.004	19:02 hr	0.95	1.13
SWRGM-004068	SWRMH-006412	SWRMH-006404	V45137	V45145	299	0.01	8	0.08	0.01	19:07 hr	1.10	1.00
SWRGM-004069	SWRMH-001173	SWRMH-000971	Z47127	Z47160	153	0.024	8	0.23	0.117	19:10 hr	3.08	1.67
SWRGM-004070	SWRMH-000971	SWRMH-000994	Z47160	Z47154	56	0.036	8	0.21	0.128	19:11 hr	3.66	2.04
SWRGM-004071	SWRMH-000970	SWRMH-001173	Z47161	Z47127	170	0.004	8	0.25	0.06	19:09 hr	1.34	0.68
SWRGM-004072	SWRMH-000995	SWRMH-001016	Z47153	Z47132	190	0.004	8	0.05	0.002	19:01 hr	0.50	0.57
SWRGM-004073	SWRMH-001008	SWRMH-001009	Z47140	Z47139	330	0.031	8	0.05	0.006	19:01 hr	1.38	1.60
SWRGM-004074	SWRMH-009239	SWRMH-001204	AA47154	Z47114	186	0.016	8	0.36	0.237	19:26 hr	3.26	1.38
SWRGM-004075	SWRMH-006287	SWRMH-006299	Y45155	Y45143	264	0.028	8	0.04	0.004	19:04 hr	1.14	1.48
SWRGM-004076	SWRMH-006285	SWRMH-006281	Y45157	Y45161	250	0.004	8	0.09	0.007	19:11 hr	0.71	0.62
SWRGM-004077	SWRCO-000792	SWRMH-005919	X47101	X47108	49	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004078	SWRMH-005923	SWRMH-005924	X47104	X47103	274	0.01	8	0.09	0.011	10:15 hr	1.10	0.97
SWRGM-004079	SWRMH-005916	SWRMH-005920	X48102	X47107	322	0.015	8	0.08	0.01	10:10 hr	1.25	1.18
SWRGM-004080	SWRMH-003277	SWRNJ-000356	V46130	V46106	199	0.009	8	0.16	0.034	19:09 hr	1.54	1.01
SWRGM-004081	SWRMH-007885	SWRNJ-000374	V46103	V46545	158	0.01	8	0.05	0.003	19:05 hr	0.77	0.90
SWRGM-004082	SWRMH-007331	SWRMH-008012	S46106	T46103	160	0.016	8	0.04	0.002	19:01 hr	0.83	1.11
SWRGM-004083	SWRCO-000600	SWRMH-006889	P51103	P51105	74	0.005	8	0.03	0.001	19:00 hr	0.40	0.59
SWRGM-004084	SWRCO-000601	SWRMH-006891	P51102	P51103	69	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004085	SWRCO-000602	SWRMH-005904	AB48101	AB48114	165	0.014	8	0.09	0.012	10:01 hr	1.29	1.16
SWRGM-004086	SWRNJ-000213	SWRMH-007435	T47625	T47180	35	0.011	8	0.06	0.005	19:02 hr	0.92	0.99
SWRGM-004087	SWRMH-007355	SWRNJ-000213	S47125	T47625	173	0.012	8	0.06	0.005	19:02 hr	0.92	1.00
SWRGM-004088	SWRMH-001047	SWRMH-001048	AB45128	AB45127	249	0.037	8	0.03	0.002	19:01 hr	1.12	1.65
SWRGM-004089	SWRMH-001048	SWRMH-001065	AB45127	AB45113	144	0.023	8	0.04	0.003	19:01 hr	0.98	1.33
SWRGM-004090	SWRMH-001042	SWRMH-001043	AB45133	AB45132	144	0.044	8	0.03	0.002	19:02 hr	1.07	1.73
SWRGM-004091	SWRMH-001041	SWRMH-001042	AB45134	AB45133	256	0.008	8	0.04	0.002	19:02 hr	0.59	0.79
SWRGM-004092	SWRMH-005707	SWRMH-005698	X48106	X48105	231	0.016	8	0.08	0.01	10:03 hr	1.26	1.21
SWRGM-004096	SWRMH-004484	SWRMH-004485	Z36128	Z36127	305	0.037	8	0.02	0.001	19:01 hr	0.90	1.56
SWRGM-004097	SWRMH-005753	SWRMH-004050	AB44109	AB44111	231	0.005	8	0.13	0.016	19:08 hr	0.97	0.71

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004098	SWRMH-003937	SWRMH-003938	X37159	X37158	350	0.012	8	0.06	0.005	19:05 hr	0.94	1.01
SWRGM-004099	SWRMH-003938	SWRMH-003939	X37158	X37157	350	0.009	8	0.07	0.006	19:07 hr	0.92	0.91
SWRGM-004100	SWRMH-003939	SWRMH-003940	X37157	X37156	350	0.015	8	0.07	0.008	19:09 hr	1.17	1.17
SWRGM-004101	SWRMH-005983	SWRMH-004260	AB41129	AB41150	154	0.036	8	0.02	0.001	19:00 hr	0.87	1.52
SWRGM-004102	SWRMH-001210	SWRMH-001209	Z47108	Z47109	295	0.004	8	0.44	0.167	19:19 hr	1.73	0.66
SWRGM-004103	SWRMH-005955	SWRMH-005954	W46122	W46123	270	0.005	8	0.11	0.013	19:06 hr	0.94	0.74
SWRGM-004104	SWRMH-000078	SWRMH-004822	Y39127	Y39115	197	0.004	8	0.25	0.058	10:26 hr	1.34	0.69
SWRGM-004105	SWRMH-004823	SWRMH-004958	Y39114	Y38135	317	0.004	8	0.25	0.058	10:43 hr	1.31	0.67
SWRGM-004106	SWRCO-000847	SWRMH-006447	X45102	X45105	87	0.001	8	0.03	0.001	19:00 hr	0.23	0.33
SWRGM-004108	SWRMH-006313	SWRNJ-000625	Y45129	Y44220	154	0.017	8	0.05	0.005	19:03 hr	1.04	1.18
SWRGM-004109	SWRCO-000576	SWRMH-006139	AA37103	AA36141	344	0.052	8	0.03	0.002	19:01 hr	1.18	1.89
SWRGM-004110	SWRMH-005854	SWRMH-005965	W47134	W46112	240	0.02	8	0.09	0.015	19:06 hr	1.58	1.40
SWRGM-004111	SWRMH-006092	SWRMH-005971	W47101	W46106	275	0.01	8	0.23	0.076	19:09 hr	1.98	1.07
SWRGM-004112	SWRMH-006653	SWRMH-005749	X45131	X44104	336	0.013	8	0.02	0.001	10:07 hr	0.55	0.94
SWRGM-004113	SWRMH-004757	SWRMH-005435	Z38146	Z38120	133	0.036	8	0.04	0.005	19:01 hr	1.33	1.68
SWRGM-004114	SWRMH-005762	SWRMH-004306	Y43105	Y43148	56	0.071	8	0.03	0.003	19:04 hr	1.42	2.23
SWRGM-004115	SWRMH-004441	SWRMH-004369	AA41154	AA41146	94	0.012	8	0.34	0.186	19:21 hr	2.71	1.17
SWRGM-004116	SWRMH-005087	SWRMH-003988	Y41110	Y41154	227	0.004	8	0.15	0.022	10:06 hr	0.99	0.66
SWRGM-004117	SWRMH-003987	SWRMH-005087	Y41155	Y41110	288	0.012	8	0.07	0.007	10:01 hr	1.04	1.03
SWRGM-004118	SWRMH-005287	SWRMH-005288	Y41108	Y41107	300	0.007	8	0.16	0.034	10:16 hr	1.40	0.90
SWRGM-004122	SWRMH-006263	SWRMH-006262	AA36129	AA36130	13	0.106	8	0.12	0.071	19:30 hr	4.46	3.32
SWRGM-004123	SWRMH-004458	SWRMH-006213	Y36160	Y36102	290	0.016	8	0.12	0.024	19:11 hr	1.64	1.27
SWRGM-004125	SWRMH-002495	SWRMH-002494	AC47107	AC47108	204	0.061	8	0.07	0.016	10:20 hr	2.37	2.36
SWRGM-004126	SWRMH-004774	SWRMH-004773	Y36141	Y36142	225	0.017	8	0.03	0.001	19:01 hr	0.64	1.07
SWRGM-004127	SWRMH-004773	SWRMH-005051	Y36142	Y36131	225	0.004	8	0.04	0.001	19:03 hr	0.44	0.57
SWRGM-004128	SWRMH-004092	SWRMH-004091	AA39130	AA39131	177	0.015	8	0.08	0.01	19:01 hr	1.26	1.19
SWRGM-004129	SWRCO-000471	SWRMH-004092	AA39102	AA39130	46	0.007	8	0.05	0.002	19:00 hr	0.63	0.75
SWRGM-004130	SWRMH-004095	SWRMH-004093	AA39127	AA39129	304	0.039	8	0.04	0.004	19:01 hr	1.34	1.74
SWRGM-004131	SWRMH-004695	SWRMH-006198	Z38151	Z38106	15	0.12	8	0.11	0.06	10:52 hr	4.45	3.50
SWRGM-004132	SWRMH-006037	SWRMH-005486	X41109	X41125	208	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004133	SWRMH-004000	SWRMH-004043	X42150	X41158	350	0.006	8	0.05	0.003	10:03 hr	0.62	0.71
SWRGM-004134	SWRMH-004043	SWRMH-004044	X41158	X41157	352	0.004	8	0.06	0.003	10:08 hr	0.55	0.59
SWRGM-004135	SWRCO-000555	SWRMH-006044	X38102	X38104	100	0.023	8	0.03	0.001	19:00 hr	0.75	1.24
SWRGM-004136	SWRMH-004824	SWRMH-004823	Y39113	Y39114	343	0.004	8	0.25	0.058	10:40 hr	1.32	0.68
SWRGM-004137	SWRMH-000975	SWRMH-000980	AA46182	AA46177	334	0.007	8	0.16	0.031	19:12 hr	1.35	0.89
SWRGM-004138	SWRMH-001282	SWRMH-001284	AA46115	AA46113	165	0.038	8	0.03	0.003	19:00 hr	1.17	1.68
SWRGM-004139	SWRMH-004962	SWRMH-004963	Z38136	Z38135	130	0.002	8	0.06	0.003	19:01 hr	0.44	0.47
SWRGM-004140	SWRCO-000463	SWRMH-006193	Z38103	Z38111	150	0.01	8	0.02	0.001	19:01 hr	0.49	0.83
SWRGM-004141	SWRMH-006192	SWRMH-004757	Z38112	Z38146	301	0.028	8	0.05	0.004	19:01 hr	1.21	1.50
SWRGM-004142	SWRMH-004758	SWRMH-004427	Z38145	Z38163	218	0.019	8	0.03	0.001	19:01 hr	0.68	1.13
SWRGM-004143	SWRMH-005015	SWRMH-004523	Z38130	Z38154	215	0.01	8	0.04	0.002	19:01 hr	0.64	0.87
SWRGM-004144	SWRMH-004523	SWRMH-005014	Z38154	Z38131	217	0.026	8	0.04	0.003	19:02 hr	1.02	1.40
SWRGM-004145	SWRMH-004212	SWRMH-005014	Z37141	Z38131	310	0.002	8	0.13	0.011	19:09 hr	0.68	0.50
SWRGM-004146	SWRMH-002513	SWRMH-001166	AA47114	AA47141	279	0.012	8	0.06	0.005	19:01 hr	0.94	1.03
SWRGM-004147	SWRMH-002510	SWRMH-002511	AA47117	AA47116	287	0.009	8	0.08	0.007	19:03 hr	0.93	0.89
SWRGM-004148	SWRMH-006736	SWRMH-002510	AA48113	AA47117	285	0.017	8	0.04	0.003	19:01 hr	0.86	1.13
SWRGM-004149	SWRMH-006249	SWRMH-006248	Z48119	Z48120	317	0.015	8	0.11	0.022	19:05 hr	1.60	1.26
SWRGM-004150	SWRMH-006246	SWRMH-006249	Z48122	Z48119	262	0.017	8	0.08	0.01	19:04 hr	1.31	1.25
SWRGM-004151	SWRMH-006244	SWRMH-006246	Z48124	Z48122	120	0.023	8	0.03	0.002	19:00 hr	0.91	1.31
SWRGM-004152	SWRMH-006242	SWRMH-006243	Z48126	Z48125	277	0.01	8	0.06	0.004	19:04 hr	0.83	0.91
SWRGM-004153	SWRMH-006253	SWRMH-005929	Z48115	Z48111	123	0.015	8	0.04	0.002	19:00 hr	0.75	1.05
SWRGM-004154	SWRCO-000830	SWRMH-005937	Z48105	Z48103	45	0.009	8	0.03	0.001	19:00 hr	0.48	0.79
SWRGM-004155	SWRMH-006245	SWRMH-006246	Z48123	Z48122	350	0.009	8	0.07	0.006	19:03 hr	0.89	0.89
SWRGM-004156	SWRMH-006247	SWRMH-006249	Z48121	Z48119	350	0.008	8	0.07	0.006	19:03 hr	0.89	0.87
SWRGM-004157	SWRMH-006255	SWRMH-005929	Z48113	Z48111	196	0.024	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004158	SWRMH-006256	SWRMH-006255	Z48112	Z48113	196	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004159	SWRMH-006254	SWRMH-006256	Z48114	Z48112	256	0.026	8	0.04	0.004	19:01 hr	1.14	1.44
SWRGM-004160	SWRCO-000826	SWRMH-005931	Z48109	Z48109	109	0.005	8	0.04	0.001	19:01 hr	0.43	0.59
SWRGM-004161	SWRMH-001164	SWRMH-001165	AA47143	AA47142	241	0.023	8	0.04	0.002	19:01 hr	0.95	1.31
SWRGM-004162	SWRMH-001150	SWRMH-002511	AA47157	AA47116	115	0.027	8	0.02	0.001	19:00 hr	0.76	1.33
SWRGM-004163	SWRMH-004517	SWRMH-004516	X39110	X39111	283	0.004	8	0.06	0.003	19:02 hr	0.52	0.58
SWRGM-004164	SWRMH-003984	SWRMH-003985	Y43154	Y43153	200	0.054	8	0.04	0.004	19:01 hr	1.44	2.01
SWRGM-004165	SWRMH-003985	SWRMH-004903	Y43153	Y43143	151	0.009	8	0.06	0.005	19:02 hr	0.83	0.90
SWRGM-004166	SWRCO-000488	SWRMH-005108	Y43105	Y43124	110	0.018	8	0.03	0.001	19:00 hr	0.72	1.12
SWRGM-004167	SWRMH-005108	SWRMH-005109	Y43124	Y43123	330	0.032	8	0.05	0.005	19:01 hr	1.30	1.60
SWRGM-004168	SWRNJ-000610	SWRMH-004228	Y43398	Y43149	163	0.008	8	0.10	0.012	19:04 hr	1.04	0.87
SWRGM-004169	SWRMH-003982	SWRMH-003981	Y43156	Y43157	181	0.003	8	0.19	0.031	19:03 hr	1.03	0.61
SWRGM-004170	SWRMH-003979	SWRMH-003994	Y43159	Y42143	348	0.003	8	0.21	0.04	19:09 hr	1.13	0.63
SWRGM-004171	SWRMH-004225	SWRMH-004226	Y43152	Y43151	355	0.019	8	0.04	0.003	19:02 hr	0.92	1.21
SWRGM-004172	SWRMH-006248	SWRMH-006333	Z48120	AA48115	258	0.017	8	0.11	0.023	19:06 hr	1.66	1.30
SWRGM-004173	SWRMH-003400	SWRMH-003399	V39155	V39156	280	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004174	SWRMH-003400	SWRMH-003403	V39155	V39152	221	0.01	8	0.07	0.006	19:01 hr	0.91	0.93
SWRGM-004175	SWRMH-004325	SWRMH-004332	Z42169	Z42162	198	0.009	8	0.08	0.009	19:02 hr	0.99	0.90
SWRGM-004176	SWRMH-005875	SWRMH-005297	Z42106	Z42135	305	0.008	8	0.24	0.08	19:14 hr	1.90	0.99
SWRGM-004177	SWRMH-005295	SWRMH-005875	Z42137	Z42106	288	0.008	8	0.19	0.05	19:14 hr	1.63	0.96
SWRGM-004178	SWRMH-005296	SWRMH-005298	Z42136	Z42134	305	0.009	8	0.24	0.084	19:18 hr	1.97	1.03
SWRGM-004179	SWRMH-004329	SWRMH-004332	Z42165	Z42162	163	0.012	8	0.09	0.013	19:07 hr	1.25	1.07
SWRGM-004181	SWRMH-001185	SWRMH-001186	W36121	W36120	78	0.023	8	0.02	0	19:03 hr	0.53	1.14
SWRGM-004185	SWRMH-005056	SWRMH-005055	X37125	X37126	291	0.018	8	0.07	0.01	19:09 hr	1.33	1.29
SWRGM-004189	SWRMH-004811	SWRMH-003963	X36152	X36183	310	0.02	8	0.06	0.007	19:07 hr	1.27	1.33
SWRGM-004190	SWRMH-004803	SWRMH-004804	Y38145	Y38144	86	0.008	8	0.27	0.096	19:09 hr	1.93	0.94
SWRGM-004191	SWRMH-005409	SWRMH-004208	Z37132	Z37145	209	0.031	8	0.02	0.001	19:01 hr	0.79	1.41
SWRGM-004192	SWRMH-004437	SWRMH-004955	Y38155	Y38138	87	0.028	8	0.04	0.004	19:05 hr	1.18	1.49
SWRGM-004193	SWRMH-004955	SWRMH-004689	Y38138	Y38154	268	0.029	8	0.05	0.004	19:06 hr	1.23	1.51
SWRGM-004194	SWRMH-004689	SWRMH-004692	Y38154	Y38151	10	0.014	8	0.05	0.004	19:06 hr	0.96	1.09
SWRGM-004195	SWRCO-000569	SWRMH-004335	Z39101	Z39117	161	0.042	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004196	SWRMH-005783	SWRMH-004699	Z38118	Z38147	190	0.006	8	0.04	0.002	19:01 hr	0.51	0.68
SWRGM-004197	SWRMH-005602	SWRMH-004157	AC44109	AC44152	121	0.027	8	0.10	0.022	19:03 hr	1.96	1.64
SWRGM-004198	SWRMH-004535	SWRMH-006637	Y37139	Y36110	346	0.004	8	0.03	0.001	10:03 hr	0.38	0.55
SWRGM-004199	SWRMH-004539	SWRMH-005792	Y37135	Y37112	184	0.048	8	0.06	0.012	19:02 hr	1.97	2.06
SWRGM-004200	SWRMH-005791	SWRMH-004539	Y37113	Y37135	241	0.057	8	0.06	0.012	19:01 hr	2.09	2.23

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004201	SWRMH-004102	SWRMH-004101	AA38158	AA38159	355	0.026	8	0.13	0.037	19:22 hr	2.26	1.66
SWRGM-004202	SWRMH-004101	SWRMH-004100	AA38159	AA38160	422	0.039	8	0.12	0.037	19:24 hr	2.61	2.01
SWRGM-004206	SWRMH-004300	SWRMH-003996	Y40128	Y40141	325	0.002	8	0.12	0.008	10:17 hr	0.55	0.43
SWRGM-004208	SWRMH-004801	SWRMH-004951	X36157	X36142	247	0.01	8	0.55	0.389	20:20 hr	3.09	1.08
SWRGM-004209	SWRMH-004799	SWRMH-004801	X36159	X36157	329	0.012	8	0.51	0.384	20:20 hr	3.35	1.20
SWRGM-004210	SWRMH-004685	SWRMH-004800	X36164	X36158	185	0.051	8	0.03	0.003	19:02 hr	1.36	1.94
SWRGM-004211	SWRMH-004800	SWRMH-004801	X36158	X36157	180	0.03	8	0.04	0.004	19:03 hr	1.20	1.53
SWRGM-004212	SWRMH-006019	SWRMH-004063	X36109	X36180	258	0.004	8	0.04	0.001	19:02 hr	0.42	0.58
SWRGM-004213	SWRMH-004063	SWRMH-004064	X36180	X36179	255	0.005	8	0.05	0.003	19:04 hr	0.55	0.62
SWRGM-004214	SWRMH-004066	SWRMH-004065	X36177	X36178	300	0.003	8	0.10	0.007	19:08 hr	0.67	0.57
SWRGM-004215	SWRMH-004065	SWRMH-004064	X36178	X36179	300	0.004	8	0.10	0.008	19:10 hr	0.72	0.60
SWRGM-004216	SWRMH-005097	SWRMH-002566	AA41110	AA40115	300	0.032	8	0.07	0.012	19:03 hr	1.73	1.70
SWRGM-004217	SWRMH-003371	SWRMH-003370	V40109	V40110	117	0.011	8	0.11	0.017	19:08 hr	1.32	1.05
SWRGM-004218	SWRMH-003369	SWRMH-003372	V40111	V40108	340	0.008	8	0.08	0.008	19:06 hr	0.94	0.86
SWRGM-004219	SWRMH-003367	SWRMH-003368	V40113	V40112	176	0.005	8	0.03	0.001	19:01 hr	0.42	0.60
SWRGM-004220	SWRMH-003366	SWRMH-003367	V40114	V40113	112	0.014	8	0.02	0	19:00 hr	0.43	0.89
SWRGM-004221	SWRMH-001489	SWRMH-001488	U40197	U40198	180	0.023	8	0.07	0.01	19:04 hr	1.46	1.44
SWRGM-004222	SWRMH-001500	SWRMH-001514	U40186	U40172	153	0.02	8	0.14	0.041	19:06 hr	2.10	1.46
SWRGM-004223	SWRMH-002544	SWRMH-008034	U40109	U39156	188	0.009	8	0.06	0.005	19:05 hr	0.83	0.89
SWRGM-004224	SWRMH-001873	SWRMH-008050	U40136	U39140	226	0.007	8	0.06	0.005	19:02 hr	0.74	0.77
SWRGM-004225	SWRMH-001880	SWRMH-008056	U40129	U39134	190	0.015	8	0.10	0.019	19:05 hr	1.50	1.22
SWRGM-004226	SWRMH-001493	SWRMH-008050	U40193	U39140	270	0.013	8	0.10	0.017	19:07 hr	1.39	1.13
SWRGM-004227	SWRMH-003494	SWRMH-003495	V37121	V37120	302	0.005	8	0.24	0.06	19:12 hr	1.44	0.76
SWRGM-004228	SWRMH-003496	SWRMH-003497	V37119	V37118	301	0.01	8	0.04	0.002	19:02 hr	0.66	0.87
SWRGM-004229	SWRMH-006088	SWRMH-006087	W47105	W47106	335	0.01	8	0.27	0.107	10:32 hr	2.19	1.08
SWRGM-004230	SWRMH-005669	SWRMH-006088	W47144	W47105	337	0.01	8	0.27	0.107	10:30 hr	2.19	1.08
SWRGM-004232	SWRMH-006089	SWRMH-005669	W47104	W47144	350	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004233	SWRMH-005175	SWRMH-005088	Y41120	Y41109	200	0.035	8	0.04	0.003	10:04 hr	1.22	1.63
SWRGM-004234	SWRMH-002522	SWRMH-001231	AA47105	AA47126	145	0.008	8	0.11	0.015	19:03 hr	1.12	0.89
SWRGM-004235	SWRCO-000300	SWRMH-002523	AA47113	AA47104	51	0.022	8	0.03	0.001	19:00 hr	0.78	1.22
SWRGM-004236	SWRMH-002525	SWRMH-002523	AA47102	AA47104	292	0.015	8	0.04	0.003	19:01 hr	0.89	1.11
SWRGM-004237	SWRMH-001170	SWRMH-001227	AA47139	AA47130	204	0.024	8	0.03	0.002	19:01 hr	0.86	1.30
SWRGM-004238	SWRMH-001227	SWRMH-001224	AA47130	AA47133	262	0.025	8	0.08	0.012	19:02 hr	1.59	1.51
SWRGM-004239	SWRMH-001228	SWRMH-001227	AA47129	AA47130	260	0.024	8	0.06	0.008	19:02 hr	1.38	1.46
SWRGM-004240	SWRMH-001169	SWRMH-001228	AA47140	AA47129	203	0.02	8	0.03	0.002	19:01 hr	0.79	1.19
SWRGM-004241	SWRMH-006489	SWRMH-006493	V41107	V41103	163	0.026	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004242	SWRMH-006496	SWRMH-006499	V42115	V42112	275	0.005	8	0.26	0.07	19:21 hr	1.53	0.78
SWRGM-004243	SWRMH-003663	SWRMH-003664	U48148	U48147	230	0.02	8	0.05	0.005	19:01 hr	1.13	1.30
SWRGM-004244	SWRMH-003670	SWRMH-003671	U48141	U48140	175	0.016	8	0.05	0.004	19:01 hr	0.98	1.16
SWRGM-004245	SWRMH-003669	SWRMH-003665	U48142	U48146	335	0.015	8	0.07	0.009	19:02 hr	1.19	1.16
SWRGM-004246	SWRMH-002919	SWRMH-002901	X35136	X35154	202	0.021	8	0.05	0.005	19:03 hr	1.16	1.33
SWRGM-004247	SWRMH-002907	SWRMH-002919	X35148	X35136	206	0.021	8	0.05	0.004	19:02 hr	1.06	1.30
SWRGM-004248	SWRCO-000755	SWRMH-002907	X35103	X35148	111	0.005	8	0.03	0.001	19:01 hr	0.43	0.63
SWRGM-004249	SWRMH-002982	SWRMH-007977	X34110	X34101	90	0.026	8	0.17	0.07	19:09 hr	2.72	1.70
SWRGM-004251	SWRMH-002956	SWRMH-002958	X34136	X34134	226	0.012	8	0.04	0.002	19:01 hr	0.74	0.97
SWRGM-004252	SWRMH-002996	SWRMH-002978	X33115	X34114	320	0.005	8	0.12	0.013	19:13 hr	0.93	0.71
SWRGM-004253	SWRMH-001594	SWRMH-001593	R43131	R43132	297	0.012	8	0.09	0.012	19:04 hr	1.25	1.10
SWRGM-004254	SWRMH-001581	SWRMH-001582	R43144	R43143	110	0.004	8	0.20	0.036	19:10 hr	1.14	0.66
SWRGM-004255	SWRMH-001601	SWRMH-001602	R43124	R43123	13	0.005	8	0.29	0.082	19:24 hr	1.54	0.74
SWRGM-004256	SWRMH-007143	SWRMH-007142	T39141	T39142	107	0.043	8	0.05	0.007	19:01 hr	1.60	1.88
SWRGM-004257	SWRMH-007141	SWRMH-007140	T39143	T39144	94	0.025	8	0.09	0.018	19:03 hr	1.79	1.56
SWRGM-004258	SWRMH-005059	SWRMH-005058	X37122	X37123	353	0.017	8	0.07	0.007	19:06 hr	1.18	1.22
SWRGM-004259	SWRMH-004784	SWRMH-005059	X37129	X37122	269	0.016	8	0.05	0.005	19:05 hr	1.01	1.15
SWRGM-004260	SWRMH-006518	SWRMH-006517	Q50105	Q50106	220	0.012	8	0.05	0.004	19:01 hr	0.88	0.99
SWRGM-004261	SWRMH-006516	SWRMH-006513	Q50107	Q50110	271	0.008	8	0.10	0.011	19:04 hr	1.02	0.87
SWRGM-004262	SWRMH-006931	SWRMH-002151	R47113	R46168	307	0.004	8	0.06	0.003	19:03 hr	0.54	0.60
SWRGM-004263	SWRMH-006567	SWRMH-002164	R47208	R46155	314	0.011	8	0.04	0.002	19:02 hr	0.71	0.91
SWRGM-004264	SWRMH-001328	SWRMH-001826	Q45136	R45118	355	0.005	8	0.13	0.018	19:07 hr	1.01	0.72
SWRGM-004265	SWRCO-000461	SWRMH-005218	Y38101	Y38132	188	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004266	SWRMH-006148	SWRMH-006150	U44116	U44114	357	0.016	8	0.06	0.006	19:04 hr	1.12	1.18
SWRGM-004267	SWRMH-003943	SWRMH-003944	Z39125	Z39124	312	0.025	8	0.15	0.049	19:10 hr	2.41	1.64
SWRGM-004268	SWRMH-004120	SWRMH-004067	U44125	U44137	290	0.017	8	0.07	0.009	19:03 hr	1.28	1.25
SWRGM-004269	SWRMH-004909	SWRMH-004313	Y41135	Y41147	350	0.006	8	0.22	0.055	19:07 hr	1.50	0.83
SWRGM-004270	SWRMH-004851	SWRMH-004847	Z42157	Z42161	350	0.007	8	0.12	0.018	19:04 hr	1.17	0.88
SWRGM-004271	SWRMH-001120	SWRMH-001143	AA40146	AA40138	336	0.011	8	0.36	0.204	19:27 hr	2.75	1.15
SWRGM-004272	SWRNJ-000597	SWRMH-004538	Y37311	Y37136	35	-0.168	8	1.00	0.006	19:04 hr	0.03	0.01
SWRGM-004273	SWRMH-003960	SWRMH-003961	X37147	X37146	188	0.007	8	0.12	0.018	19:09 hr	1.17	0.88
SWRGM-004274	SWRCO-000443	SWRMH-006177	X37104	X37103	134	0.013	8	0.04	0.002	19:00 hr	0.69	0.97
SWRGM-004275	SWRMH-001485	SWRMH-001486	U40201	U40200	280	0.01	8	0.04	0.002	19:01 hr	0.72	0.90
SWRGM-004276	SWRMH-003519	SWRMH-003518	V36148	V36149	242	0.007	8	0.04	0.002	19:02 hr	0.59	0.74
SWRGM-004277	SWRMH-003529	SWRMH-002318	V36138	U36110	290	0.005	8	0.16	0.027	19:09 hr	1.15	0.74
SWRGM-004278	SWRMH-003526	SWRMH-003527	V36141	V36140	239	0.013	8	0.05	0.003	19:01 hr	0.83	1.01
SWRGM-004279	SWRMH-003525	SWRMH-003531	V36142	V36136	239	0.013	8	0.05	0.004	19:01 hr	0.88	1.03
SWRGM-004280	SWRMH-003532	SWRMH-003531	V36135	V36136	299	0.007	8	0.09	0.009	19:04 hr	0.92	0.81
SWRGM-004281	SWRMH-003279	SWRMH-003271	V46128	V46136	320	0.01	8	0.09	0.012	19:03 hr	1.13	0.98
SWRGM-004282	SWRNJ-000353	SWRMH-003298	V46102	V46109	56	0.016	8	0.11	0.022	19:05 hr	1.62	1.27
SWRGM-004283	SWRMH-003285	SWRNJ-000341	V46122	V46104	222	0.01	8	0.08	0.01	19:03 hr	1.07	0.97
SWRGM-004284	SWRNJ-000341	SWRMH-003290	V46104	V46117	90	0.01	8	0.09	0.012	19:03 hr	1.14	0.99
SWRGM-004285	SWRMH-003258	SWRMH-003259	V46149	V46148	268	0.011	8	0.07	0.006	19:02 hr	0.98	0.99
SWRGM-004286	SWRMH-003273	SWRMH-003272	V46134	V46135	202	0.01	8	0.19	0.052	19:07 hr	1.76	1.05
SWRGM-004287	SWRMH-003296	SWRMH-003295	V46111	V46112	320	0.004	8	0.13	0.016	19:08 hr	0.90	0.65
SWRGM-004288	SWRMH-003299	SWRMH-003297	V46108	V46110	265	0.008	8	0.06	0.003	19:02 hr	0.72	0.80
SWRGM-004289	SWRMH-004648	SWRMH-004649	AA41142	AA41141	311	0.006	8	0.06	0.004	19:06 hr	0.72	0.76
SWRGM-004290	SWRMH-004649	SWRMH-005756	AA41141	AB41130	247	0.062	8	0.04	0.005	19:05 hr	1.64	2.18
SWRGM-004291	SWRCO-000385	SWRMH-005263	AA41108	AA41125	133	0.037	8	0.01	0	19:00 hr	0.57	1.39
SWRGM-004292	SWRMH-005264	SWRMH-005265	AA41124	AA41123	322	0.019	8	0.05	0.005	19:01 hr	1.11	1.26
SWRGM-004293	SWRMH-004668	SWRNJ-000630	Z41150	Z41366	125	0.02	8	0.09	0.016	19:05 hr	1.59	1.39
SWRGM-004294	SWRMH-005164	SWRMH-005165	Z41134	Z41133	205	0.063	8	0.06	0.011	19:01 hr	2.13	2.33
SWRGM-004295	SWRMH-005163	SWRMH-005164	Z41135	Z41134	285	0.04	8	0.05	0.008	19:02 hr	1.63	1.85
SWRGM-004296	SWRMH-004224	SWRMH-004991	Z41165	Z41127	340	0.028	8	0.09	0.018	19:03 hr	1.84	1.63
SWRGM-004297	SWRMH-006256	SWRMH-000999	Z48112	Z47149	310	0.004	8	0.10	0.008	19:04 hr	0.73	0.62

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004298	SWRMH-006255	SWRMH-000998	Z48113	Z47150	335	0.004	8	0.08	0.005	19:03 hr	0.65	0.61
SWRGM-004299	SWRMH-006059	SWRMH-006058	W48115	W48116	323	0.012	8	0.21	0.07	10:12 hr	2.09	1.19
SWRGM-004300	SWRMH-006056	SWRMH-006059	W48118	W48115	322	0.012	8	0.21	0.07	10:10 hr	2.09	1.19
SWRGM-004301	SWRMH-003497	SWRMH-003498	V37118	V37117	300	0.01	8	0.06	0.004	19:04 hr	0.84	0.92
SWRGM-004302	SWRMH-003498	SWRMH-003495	V37117	V37120	300	0.015	8	0.06	0.006	19:04 hr	1.05	1.14
SWRGM-004303	SWRMH-003853	SWRMH-003852	V37111	V37112	268	0.01	8	0.05	0.004	19:01 hr	0.81	0.91
SWRGM-004304	SWRMH-008373	SWRMH-007978	V37101	V37102	122	0.005	8	0.03	0.001	19:01 hr	0.41	0.59
SWRGM-004305	SWRMH-003490	SWRMH-003491	V37125	V37124	258	0.005	8	0.15	0.023	19:07 hr	1.09	0.73
SWRGM-004306	SWRMH-003855	SWRMH-003493	V37109	V37122	288	0.005	8	0.16	0.029	19:06 hr	1.18	0.75
SWRGM-004307	SWRMH-003493	SWRMH-003494	V37122	V37121	195	0.018	8	0.12	0.029	19:08 hr	1.83	1.36
SWRGM-004308	SWRMH-003857	SWRMH-003858	V37107	V37106	351	0.018	8	0.04	0.003	19:02 hr	0.94	1.19
SWRGM-004309	SWRMH-003856	SWRMH-007978	V37108	V37102	318	0.004	8	0.08	0.005	19:03 hr	0.64	0.61
SWRGM-004310	SWRMH-003857	SWRMH-003856	V37107	V37108	304	0.004	8	0.04	0.001	19:03 hr	0.44	0.56
SWRGM-004311	SWRMH-004233	SWRMH-004546	Y37155	Y37128	215	0.004	8	0.07	0.004	19:06 hr	0.58	0.58
SWRGM-004312	SWRMH-004705	SWRMH-005230	Y36149	Y36125	174	0.029	8	0.04	0.003	19:04 hr	1.14	1.50
SWRGM-004313	SWRCO-000481	SWRMH-005800	Z43105	Z43109	191	0.011	8	0.04	0.003	19:01 hr	0.75	0.95
SWRGM-004314	SWRMH-006367	SWRMH-005217	AB37110	AB36106	217	0.009	8	0.16	0.034	19:29 hr	1.48	0.97
SWRGM-004315	SWRCO-000384	SWRMH-004401	AA43103	AA43121	133	0.042	8	0.02	0.001	19:00 hr	0.84	1.61
SWRGM-004316	SWRNJ-000144	SWRMH-007616	R47526	R47110	35	0.007	8	0.15	0.028	19:08 hr	1.32	0.88
SWRGM-004317	SWRMH-006839	SWRNJ-000144	R47157	R47526	75	0.007	8	0.15	0.028	19:07 hr	1.34	0.90
SWRGM-004318	SWRNJ-000140	SWRMH-006931	R47512	R47113	35	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004319	SWRNJ-000138	SWRMH-006845	R47525	R47151	35	0.006	8	0.10	0.011	19:06 hr	0.94	0.77
SWRGM-004320	SWRMH-002046	SWRMH-002047	U36156	U36155	181	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004321	SWRMH-002058	SWRMH-002062	U36144	U36140	272	0.051	8	0.04	0.004	19:01 hr	1.41	1.95
SWRGM-004322	SWRMH-002060	SWRMH-002061	U36142	U36141	234	0.039	8	0.04	0.004	19:02 hr	1.34	1.75
SWRGM-004323	SWRMH-002059	SWRMH-002060	U36143	U36142	234	0.019	8	0.04	0.002	19:01 hr	0.89	1.19
SWRGM-004324	SWRMH-002064	SWRMH-002048	U36138	U36154	262	0.029	8	0.06	0.008	19:03 hr	1.50	1.60
SWRGM-004325	SWRMH-002065	SWRMH-002064	U36137	U36138	259	0.026	8	0.05	0.006	19:02 hr	1.29	1.47
SWRGM-004326	SWRMH-007596	SWRMH-007597	U38189	U38188	225	0.007	8	0.05	0.003	19:01 hr	0.67	0.77
SWRGM-004327	SWRMH-002648	SWRMH-007018	P43146	P43116	250	0.016	8	0.05	0.005	19:03 hr	1.00	1.14
SWRGM-004328	SWRMH-002649	SWRMH-002648	P43145	P43146	280	0.014	8	0.05	0.004	19:02 hr	0.94	1.08
SWRGM-004329	SWRMH-002656	SWRMH-002655	P43138	P43139	226	0.005	8	0.11	0.012	19:07 hr	0.90	0.71
SWRGM-004330	SWRMH-002657	SWRMH-002656	P43137	P43138	210	0.005	8	0.10	0.009	19:05 hr	0.83	0.70
SWRGM-004331	SWRMH-002663	SWRMH-002662	P43131	P43132	109	0.016	8	0.10	0.018	19:08 hr	1.53	1.27
SWRGM-004332	SWRMH-002946	SWRMH-002945	X35109	X35110	112	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004333	SWRMH-002975	SWRMH-002982	X34117	X34110	150	0.048	8	0.15	0.07	19:08 hr	3.37	2.28
SWRGM-004334	SWRMH-001945	SWRMH-001943	R44128	R44130	264	0.004	8	0.09	0.006	19:07 hr	0.69	0.61
SWRGM-004335	SWRMH-001943	SWRMH-001938	R44130	R44135	257	0.019	8	0.07	0.01	19:05 hr	1.35	1.32
SWRGM-004336	SWRMH-001949	SWRMH-001946	R44124	R44127	261	0.008	8	0.05	0.003	19:04 hr	0.72	0.83
SWRGM-004337	SWRMH-001954	SWRMH-001953	R44119	R44120	153	0.01	8	0.03	0.001	19:01 hr	0.55	0.86
SWRGM-004338	SWRNJ-000145	SWRMH-007976	R47524	R47102	8	0.004	8	0.09	0.008	19:04 hr	0.71	0.61
SWRGM-004339	SWRNJ-000146	SWRNJ-000145	R47523	R47524	20	0.002	8	0.10	0.008	19:04 hr	0.62	0.50
SWRGM-004340	SWRMH-006866	SWRMH-006867	R47130	R47129	200	0.01	8	0.04	0.002	19:01 hr	0.70	0.89
SWRGM-004341	SWRMH-006867	SWRMH-006847	R47129	R47149	319	0.014	8	0.06	0.006	19:03 hr	1.03	1.11
SWRGM-004342	SWRMH-005135	SWRMH-005136	X41140	X41139	220	0.009	8	0.02	0.001	10:03 hr	0.46	0.79
SWRGM-004343	SWRCO-000545	SWRMH-005134	X41111	X41141	79	0.005	8	0.02	0	10:00 hr	0.26	0.54
SWRGM-004344	SWRMH-004547	SWRMH-004455	Y37127	Y36163	312	0.009	8	0.07	0.007	19:09 hr	0.95	0.92
SWRGM-004345	SWRMH-005062	SWRMH-005063	AA37148	AA37147	173	0.025	8	0.05	0.004	19:03 hr	1.16	1.42
SWRGM-004346	SWRMH-008377	SWRMH-005062	AA37119	AA37148	454	0.018	8	0.05	0.004	19:03 hr	1.00	1.21
SWRGM-004347	SWRMH-004057	SWRMH-004884	Z40131	Z40125	298	0.053	8	0.04	0.004	19:01 hr	1.50	2.01
SWRGM-004348	SWRMH-004398	SWRMH-005082	AC44145	AC44127	272	0.032	8	0.04	0.003	19:01 hr	1.11	1.54
SWRGM-004349	SWRMH-004399	SWRMH-005601	AC44144	AC44110	279	0.042	8	0.04	0.004	19:01 hr	1.39	1.81
SWRGM-004350	SWRMH-004322	SWRMH-004324	AA42148	AA42146	218	0.059	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004351	SWRMH-002845	SWRMH-002844	Y34103	Y34104	262	0.02	8	0.09	0.016	19:06 hr	1.60	1.39
SWRGM-004352	SWRMH-002834	SWRMH-002835	Y34114	Y34113	279	0.052	8	0.04	0.004	19:01 hr	1.47	1.99
SWRGM-004353	SWRMH-002835	SWRMH-002836	Y34113	Y34112	278	0.059	8	0.05	0.008	19:01 hr	1.86	2.21
SWRGM-004354	SWRMH-002832	SWRMH-002833	Y34116	Y34115	180	0.042	8	0.05	0.008	19:02 hr	1.67	1.88
SWRGM-004355	SWRMH-002841	SWRMH-002840	Y34107	Y34108	281	0.055	8	0.03	0.003	19:03 hr	1.38	2.00
SWRGM-004356	SWRMH-002838	SWRMH-002843	Y34110	Y34105	286	0.012	8	0.16	0.042	19:05 hr	1.80	1.17
SWRGM-004357	SWRMH-002843	SWRMH-002844	Y34105	Y34104	274	0.011	8	0.16	0.042	19:07 hr	1.73	1.11
SWRGM-004358	SWRNJ-000567	SWRMH-002842	Y34247	Y34106	201	0.018	8	0.02	0.001	19:01 hr	0.63	1.08
SWRGM-004359	SWRMH-002842	SWRMH-002841	Y34106	Y34107	350	0.018	8	0.04	0.002	19:02 hr	0.83	1.15
SWRGM-004360	SWRMH-002831	SWRMH-002830	Y34117	Y34118	339	0.048	8	0.04	0.004	19:01 hr	1.45	1.93
SWRGM-004361	SWRMH-002875	SWRMH-002876	Y33112	Y33111	331	0.026	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004362	SWRMH-002873	SWRMH-002848	Y33114	Y33139	247	0.066	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004363	SWRMH-002851	SWRMH-002850	Y33136	Y33137	308	0.054	8	0.04	0.005	19:02 hr	1.61	2.06
SWRGM-004364	SWRMH-002857	SWRMH-002851	Y33130	Y33136	308	0.054	8	0.03	0.003	19:01 hr	1.32	1.97
SWRGM-004365	SWRCO-000595	SWRMH-002855	Y33102	Y33132	160	0.061	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004366	SWRMH-002871	SWRMH-002872	Y33116	Y33115	200	0.013	8	0.05	0.004	19:02 hr	0.86	1.03
SWRGM-004367	SWRMH-002886	SWRMH-002885	Y33101	Y33102	213	0.047	8	0.03	0.003	19:00 hr	1.29	1.86
SWRGM-004368	SWRMH-002885	SWRMH-002884	Y33102	Y33103	212	0.057	8	0.04	0.005	19:01 hr	1.61	2.10
SWRGM-004369	SWRMH-002878	SWRMH-002879	Y33109	Y33108	268	0.058	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004370	SWRMH-002882	SWRMH-002865	Y33105	Y33122	300	0.005	8	0.03	0.001	19:02 hr	0.42	0.60
SWRGM-004371	SWRMH-002860	SWRMH-002852	Y33127	Y33135	209	0.036	8	0.06	0.009	19:02 hr	1.63	1.76
SWRGM-004372	SWRMH-002854	SWRMH-002853	Y33133	Y33134	163	0.029	8	0.05	0.005	19:02 hr	1.24	1.53
SWRGM-004375	SWRMH-006423	SWRMH-006421	V45126	V45128	200	0.01	8	0.05	0.003	19:05 hr	0.76	0.89
SWRGM-004376	SWRCO-000514	SWRMH-005293	AA42107	AA42113	196	0.031	8	0.04	0.003	19:00 hr	1.11	1.52
SWRGM-004378	SWRMH-001100	SWRMH-001114	AB46116	AB46102	305	0.021	8	0.12	0.027	19:04 hr	1.91	1.47
SWRGM-004379	SWRMH-001114	SWRMH-001089	AB46102	AB46127	33	0.043	8	0.20	0.119	19:07 hr	3.79	2.20
SWRGM-004380	SWRMH-005240	SWRMH-005127	X44113	X43120	348	0.008	8	0.04	0.002	10:18 hr	0.60	0.79
SWRGM-004381	SWRMH-004832	SWRMH-004833	X43131	X43130	79	0.027	8	0.07	0.01	10:15 hr	1.52	1.55
SWRGM-004382	SWRMH-004447	SWRMH-004602	Z43163	Z43162	169	0.009	8	0.21	0.062	19:10 hr	1.83	1.03
SWRGM-004383	SWRMH-004663	SWRMH-004664	Z43149	Z43148	266	0.004	8	0.09	0.007	19:03 hr	0.69	0.59
SWRGM-004384	SWRMH-004665	SWRMH-004664	Z43147	Z43148	135	0.012	8	0.03	0.001	19:00 hr	0.56	0.90
SWRGM-004385	SWRMH-005803	SWRMH-005804	Z43106	Z43105	289	0.02	8	0.05	0.004	19:01 hr	1.02	1.25
SWRGM-004386	SWRMH-006283	SWRMH-006279	Y45159	Y45163	55	0.039	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-004387	SWRMH-006307	SWRMH-006306	Y45135	Y45136	340	0.015	8	0.03	0.001	19:04 hr	0.65	1.03
SWRGM-004388	SWRCO-000831	SWRMH-005930	Z48104	Z48110	258	0.008	8	0.08	0.008	19:02 hr	0.92	0.86
SWRGM-004389	SWRMH-005931	SWRMH-005932	Z48109	Z48108	350	0.005	8	0.07	0.004	19:03 hr	0.65	0.67
SWRGM-004390	SWRNJ-000612	SWRMH-005549	Y38233	Y38111	279	0.005	8	0.23	0.058	10:52 hr	1.46	0.78
SWRGM-004391	SWRMH-004802	SWRMH-004803	Y38146	Y38145	102	0.008	8	0.27	0.096	19:09 hr	1.98	0.98

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004392	SWRMH-004258	SWRMH-005346	AB41152	AB41135	187	0.04	8	0.07	0.013	19:04 hr	1.90	1.91
SWRGM-004393	SWRMH-005346	SWRMH-005755	AB41135	AB41131	196	0.032	8	0.11	0.03	19:09 hr	2.28	1.80
SWRGM-004394	SWRNJ-000595	SWRNJ-000609	Y42352	Y42353	150	0.042	8	0.04	0.004	19:01 hr	1.34	1.79
SWRGM-004395	SWRCO-000773	SWRMH-003660	U48106	U48151	93	0.005	8	0.04	0.002	19:00 hr	0.48	0.63
SWRGM-004396	SWRMH-003660	SWRMH-003659	U48151	U48152	251	0.014	8	0.22	0.083	19:10 hr	2.32	1.28
SWRGM-004397	SWRMH-001236	SWRMH-001234	AA46161	AA46163	232	0.005	8	0.58	0.3	19:35 hr	2.23	0.76
SWRGM-004398	SWRMH-001233	SWRMH-001232	AA46164	AA46165	267	0.039	8	0.32	0.304	19:41 hr	4.81	2.15
SWRGM-004399	SWRMH-001235	SWRMH-001233	AA46162	AA46164	323	0.005	8	0.58	0.304	19:40 hr	2.24	0.76
SWRGM-004400	SWRMH-001234	SWRMH-001235	AA46163	AA46162	232	0.005	8	0.58	0.301	19:37 hr	2.22	0.76
SWRGM-004401	SWRMH-001250	SWRMH-001278	AA46147	AA46119	147	0.014	8	0.09	0.015	19:02 hr	1.38	1.19
SWRGM-004402	SWRMH-000633	SWRMH-000627	U47121	U47127	200	0.005	8	0.08	0.006	19:01 hr	0.72	0.68
SWRGM-004403	SWRMH-000632	SWRMH-000628	U47122	U47126	202	0.008	8	0.07	0.006	19:01 hr	0.86	0.84
SWRGM-004404	SWRMH-003664	SWRMH-000642	U48147	U47112	260	0.01	8	0.12	0.019	19:04 hr	1.31	1.01
SWRGM-004405	SWRMH-003662	SWRMH-000636	U48149	U47118	315	0.012	8	0.06	0.006	19:02 hr	0.97	1.01
SWRGM-004406	SWRMH-000635	SWRMH-000629	U47119	U47125	140	0.022	8	0.04	0.002	19:00 hr	0.91	1.28
SWRGM-004407	SWRMH-000641	SWRMH-000642	U47113	U47112	175	0.02	8	0.03	0.002	19:00 hr	0.84	1.20
SWRGM-004408	SWRMH-006501	SWRMH-006502	V42110	V42109	312	0.009	8	0.23	0.073	19:27 hr	1.90	1.02
SWRGM-004409	SWRMH-000647	SWRMH-000646	U47107	U47108	298	0.012	8	0.07	0.007	19:05 hr	1.06	1.04
SWRGM-004410	SWRMH-003667	SWRMH-000647	U48144	U47107	310	0.011	8	0.06	0.006	19:04 hr	0.98	1.01
SWRGM-004411	SWRMH-006415	SWRMH-006416	V45134	V45133	300	0.013	8	0.14	0.032	19:20 hr	1.70	1.19
SWRGM-004412	SWRMH-006419	SWRMH-006420	V45130	V45129	300	0.01	8	0.08	0.01	19:10 hr	1.07	0.97
SWRGM-004413	SWRMH-006417	SWRMH-006427	V45132	V45122	170	0.016	8	0.09	0.015	19:08 hr	1.46	1.27
SWRGM-004414	SWRMH-006422	SWRMH-006417	V45127	V45132	130	0.014	8	0.09	0.012	19:08 hr	1.28	1.15
SWRGM-004415	SWRMH-003084	SWRMH-003090	W33111	W33105	200	0.004	8	0.18	0.027	19:11 hr	1.01	0.63
SWRGM-004416	SWRMH-003093	SWRMH-003089	W33102	W33106	63	0.05	8	0.04	0.004	19:04 hr	1.46	1.95
SWRGM-004417	SWRMH-003089	SWRMH-003092	W33106	W33103	233	0.06	8	0.05	0.008	19:04 hr	1.88	2.22
SWRGM-004418	SWRCO-000415	SWRMH-005316	AA43101	AA43109	190	0.004	8	0.05	0.002	19:01 hr	0.49	0.57
SWRGM-004419	SWRMH-001005	SWRMH-001006	Z47143	Z47142	227	0.018	8	0.05	0.004	19:03 hr	1.01	1.20
SWRGM-004420	SWRMH-001004	SWRMH-001005	Z47144	Z47143	210	0.004	8	0.05	0.002	19:02 hr	0.51	0.58
SWRGM-004421	SWRMH-001020	SWRMH-001017	Z47128	Z47131	350	0.004	8	0.11	0.011	19:08 hr	0.81	0.63
SWRGM-004422	SWRMH-005870	SWRMH-004983	Z42111	Z42147	128	0.041	8	0.09	0.02	19:04 hr	2.20	1.98
SWRGM-004423	SWRMH-006194	SWRMH-005784	Z38110	Z38117	289	0.011	8	0.06	0.005	19:03 hr	0.93	0.99
SWRGM-004424	SWRMH-006195	SWRMH-006194	Z38109	Z38110	285	0.004	8	0.06	0.003	19:02 hr	0.58	0.61
SWRGM-004425	SWRMH-006196	SWRMH-006197	Z38108	Z38107	229	0.003	8	0.04	0.001	19:02 hr	0.40	0.50
SWRGM-004426	SWRMH-006195	SWRMH-006196	Z38109	Z38108	228	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004427	SWRMH-006198	SWRMH-004959	Z38106	Y38134	338	0.01	8	0.25	0.096	19:07 hr	2.15	1.09
SWRGM-004428	SWRMH-006445	SWRMH-005742	X45107	X44111	292	0.004	8	0.06	0.003	19:02 hr	0.54	0.58
SWRGM-004429	SWRMH-005742	SWRMH-004743	X44111	Y44109	151	0.004	8	0.06	0.003	19:03 hr	0.56	0.59
SWRGM-004430	SWRNJ-000706	SWRMH-005077	AA37107	AA37143	171	0.067	8	0.11	0.048	19:32 hr	3.38	2.62
SWRGM-004431	SWRMH-000992	SWRMH-000991	Z47156	Z47157	217	0.019	8	0.07	0.01	19:05 hr	1.38	1.33
SWRGM-004432	SWRMH-000991	SWRMH-001000	Z47157	Z47148	210	0.019	8	0.09	0.017	19:05 hr	1.59	1.37
SWRGM-004437	SWRMH-005887	SWRMH-006657	AC45126	AC45113	209	0.018	8	0.14	0.037	19:07 hr	1.97	1.37
SWRGM-004438	SWRMH-001474	SWRMH-001475	U40212	U40211	125	0.018	8	0.03	0.002	19:00 hr	0.74	1.12
SWRGM-004439	SWRMH-001475	SWRMH-001476	U40211	U40210	262	0.007	8	0.08	0.007	19:04 hr	0.85	0.79
SWRGM-004440	SWRMH-001536	SWRMH-001537	U40150	U40149	294	0.019	8	0.05	0.004	19:01 hr	1.00	1.23
SWRGM-004441	SWRMH-002546	SWRMH-002545	U40107	U40108	210	0.01	8	0.05	0.003	19:01 hr	0.71	0.88
SWRGM-004442	SWRMH-001486	SWRMH-001487	U40200	U40199	280	0.01	8	0.06	0.005	19:02 hr	0.90	0.95
SWRGM-004443	SWRMH-001876	SWRMH-001879	U40133	U40130	185	0.039	8	0.02	0.001	19:00 hr	0.90	1.59
SWRGM-004444	SWRMH-001494	SWRMH-001496	U40192	U40190	164	0.027	8	0.03	0.001	19:00 hr	0.80	1.35
SWRGM-004445	SWRMH-001871	SWRMH-001497	U40138	U40189	280	0.008	8	0.09	0.011	19:04 hr	1.03	0.88
SWRGM-004446	SWRMH-001487	SWRMH-001498	U40199	U40188	280	0.01	8	0.07	0.007	19:03 hr	0.98	0.97
SWRGM-004447	SWRMH-001872	SWRMH-001873	U40137	U40136	244	0.013	8	0.05	0.003	19:01 hr	0.83	1.03
SWRGM-004448	SWRMH-001874	SWRMH-001875	U40135	U40134	220	0.016	8	0.04	0.002	19:01 hr	0.77	1.08
SWRGM-004449	SWRMH-001497	SWRMH-001498	U40189	U40188	270	0.023	8	0.08	0.013	19:06 hr	1.58	1.47
SWRGM-004450	SWRMH-001498	SWRMH-001499	U40188	U40187	270	0.022	8	0.11	0.024	19:06 hr	1.84	1.48
SWRGM-004451	SWRMH-001513	SWRMH-001512	U40173	U40174	289	0.007	8	0.19	0.046	19:09 hr	1.50	0.88
SWRGM-004452	SWRMH-002547	SWRMH-002545	U40106	U40108	200	0.004	8	0.06	0.003	19:01 hr	0.54	0.58
SWRGM-004453	SWRMH-001541	SWRMH-001542	U40145	U40144	128	0.004	8	0.17	0.027	19:09 hr	1.05	0.66
SWRGM-004454	SWRMH-001518	SWRMH-002544	U40168	U40109	350	0.005	8	0.07	0.004	19:03 hr	0.64	0.65
SWRGM-004455	SWRMH-001538	SWRMH-001535	U40148	U40151	186	0.028	8	0.05	0.006	19:01 hr	1.33	1.52
SWRGM-004456	SWRMH-001540	SWRMH-001541	U40146	U40145	236	0.004	8	0.17	0.026	19:08 hr	1.05	0.66
SWRGM-004457	SWRMH-001539	SWRMH-001540	U40147	U40146	239	0.004	8	0.16	0.023	19:06 hr	1.01	0.66
SWRGM-004458	SWRMH-003288	SWRMH-003292	V46119	V46115	300	0.013	8	0.07	0.008	19:03 hr	1.11	1.08
SWRGM-004459	SWRMH-003262	SWRMH-003261	V46145	V46146	332	0.008	8	0.10	0.012	19:05 hr	1.03	0.86
SWRGM-004460	SWRMH-003231	SWRMH-003247	V46176	V46160	220	0.008	8	0.08	0.008	19:02 hr	0.96	0.89
SWRGM-004461	SWRMH-003246	SWRMH-003245	V46161	V46162	137	0.028	8	0.17	0.07	19:11 hr	2.79	1.76
SWRGM-004462	SWRMH-003252	SWRMH-003232	V46155	V46175	228	0.008	8	0.06	0.004	19:01 hr	0.77	0.84
SWRGM-004463	SWRMH-003232	SWRNJ-000394	V46175	V46101	185	0.016	8	0.06	0.006	19:03 hr	1.10	1.19
SWRGM-004464	SWRNJ-000394	SWRMH-003253	V46101	V46154	102	0.016	8	0.07	0.007	19:02 hr	1.18	1.21
SWRGM-004465	SWRMH-003251	SWRMH-003252	V46156	V46155	236	0.013	8	0.03	0.001	19:01 hr	0.65	0.96
SWRGM-004466	SWRMH-003233	SWRMH-007887	V46174	V46101	335	0.01	8	0.02	0	19:02 hr	0.36	0.76
SWRGM-004467	SWRNJ-000374	SWRMH-007887	V46545	V46101	42	0.01	8	0.05	0.003	19:05 hr	0.76	0.89
SWRGM-004468	SWRNJ-000393	SWRMH-003364	V40111	V40116	50	0.015	8	0.13	0.03	19:10 hr	1.75	1.27
SWRGM-004469	SWRMH-003365	SWRNJ-000393	V40115	V40111	116	0.006	8	0.16	0.03	19:10 hr	1.23	0.79
SWRGM-004470	SWRNJ-000391	SWRMH-003364	V40110	V40116	50	0.021	8	0.06	0.006	19:04 hr	1.22	1.33
SWRGM-004471	SWRMH-003363	SWRNJ-000391	V40117	V40110	283	0.009	8	0.07	0.006	19:04 hr	0.93	0.92
SWRGM-004472	SWRNJ-000386	SWRMH-003373	V40109	V40107	53	0.004	8	0.09	0.007	19:05 hr	0.72	0.65
SWRGM-004473	SWRMH-003361	SWRNJ-000386	V40119	V40109	180	0.004	8	0.09	0.007	19:05 hr	0.72	0.63
SWRGM-004474	SWRNJ-000390	SWRMH-003370	V40108	V40110	59	0.004	8	0.11	0.01	19:07 hr	0.78	0.62
SWRGM-004475	SWRMH-003358	SWRNJ-000390	V40122	V40108	188	0.008	8	0.09	0.01	19:06 hr	1.01	0.88
SWRGM-004476	SWRNJ-000397	SWRMH-005591	V40107	W40117	45	0.004	8	0.14	0.018	19:07 hr	0.93	0.64
SWRGM-004477	SWRMH-003353	SWRNJ-000397	V40127	V40107	130	0.005	8	0.13	0.018	19:07 hr	1.02	0.73
SWRGM-004478	SWRMH-002552	SWRMH-003342	U40101	V40138	182	0.004	8	0.06	0.003	19:02 hr	0.55	0.59
SWRGM-004479	SWRMH-000614	SWRMH-005948	W46162	W46146	209	0.006	8	0.35	0.142	19:20 hr	2.02	0.86
SWRGM-004480	SWRMH-005958	SWRMH-004412	W46119	W46160	350	0.009	8	0.10	0.015	19:08 hr	1.19	0.97
SWRGM-004481	SWRMH-005962	SWRMH-005957	W46115	W46120	260	0.01	8	0.08	0.008	19:04 hr	1.02	0.95
SWRGM-004482	SWRMH-005974	SWRMH-005973	W46103	W46104	27	0.008	8	0.24	0.077	19:12 hr	1.81	0.94
SWRGM-004483	SWRMH-003422	SWRMH-003442	V39133	V39113	270	0.016	8	0.05	0.004	19:01 hr	0.93	1.12
SWRGM-004484	SWRMH-003423	SWRMH-003427	V39132	V39128	188	0.007	8	0.05	0.002	19:01 hr	0.60	0.73
SWRGM-004485	SWRMH-000986	SWRMH-000987	AA46171	AA46170	244	0.012	8	0.12	0.021	19:01 hr	1.43	1.09
SWRGM-004486	SWRMH-004075	SWRMH-006625	U44129	U44119	349	0.005	8	0.33	0.112	19:29 hr	1.73	0.76

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004487	SWRMH-003912	SWRMH-004540	Y37159	Y37134	227	0.005	8	0.14	0.02	19:02 hr	1.06	0.74
SWRGM-004488	SWRMH-004772	SWRMH-003912	Y37121	Y37159	234	0.005	8	0.08	0.007	19:07 hr	0.76	0.69
SWRGM-004489	SWRMH-004542	SWRMH-004543	Y37132	Y37131	327	0.01	8	0.03	0.001	19:02 hr	0.58	0.83
SWRGM-004490	SWRMH-004543	SWRMH-004436	Y37131	Y38156	320	0.004	8	0.05	0.002	19:05 hr	0.48	0.57
SWRGM-004491	SWRMH-006208	SWRMH-006257	Y37103	Y37102	224	0.02	8	0.03	0.001	19:01 hr	0.75	1.17
SWRGM-004492	SWRMH-006257	SWRMH-004772	Y37102	Y37121	220	0.02	8	0.03	0.002	19:02 hr	0.83	1.21
SWRGM-004493	SWRMH-004450	SWRMH-004813	Y37147	Y37120	188	0.039	8	0.04	0.005	19:05 hr	1.38	1.76
SWRGM-004494	SWRMH-004449	SWRMH-004450	Y37148	Y37147	231	0.022	8	0.04	0.004	19:05 hr	1.04	1.31
SWRGM-004495	SWRMH-004813	SWRMH-004234	Y37120	Y37154	287	0.02	8	0.06	0.007	19:05 hr	1.22	1.31
SWRGM-004496	SWRMH-006258	SWRMH-004449	Y37101	Y37148	219	0.004	8	0.06	0.003	19:04 hr	0.52	0.55
SWRGM-004497	SWRMH-004448	SWRMH-006258	Y37149	Y37101	235	0.004	8	0.05	0.002	19:02 hr	0.47	0.54
SWRGM-004498	SWRMH-004703	SWRMH-005049	Y37122	Y36133	336	0.005	8	0.07	0.005	19:09 hr	0.71	0.70
SWRGM-004499	SWRMH-004639	SWRMH-005042	X37132	X36141	310	0.013	8	0.07	0.008	19:15 hr	1.11	1.08
SWRGM-004500	SWRMH-004640	SWRMH-004641	X37131	X37130	339	0.032	8	0.02	0.001	19:01 hr	0.85	1.45
SWRGM-004501	SWRMH-004641	SWRMH-004268	X37130	X36173	342	0.027	8	0.03	0.002	19:02 hr	0.89	1.37
SWRGM-004502	SWRCO-000858	SWRMH-004711	Y36102	Y36143	75	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004503	SWRMH-005046	SWRMH-004704	Y36136	Y36150	193	0.016	8	0.11	0.023	19:23 hr	1.66	1.29
SWRGM-004504	SWRCO-000427	SWRMH-003998	X42108	X42152	160	0.004	8	0.04	0.001	10:01 hr	0.43	0.56
SWRGM-004505	SWRMH-006953	SWRMH-005344	X42116	X42118	235	0.017	8	0.15	0.041	10:10 hr	1.99	1.36
SWRGM-004506	SWRMH-004356	SWRMH-006953	X42135	X42116	235	0.009	8	0.17	0.041	10:08 hr	1.58	0.99
SWRGM-004508	SWRMH-001088	SWRMH-009038	AB46128	AB46130	151	0.011	8	0.28	0.123	19:09 hr	2.36	1.13
SWRGM-004509	SWRMH-005904	SWRMH-005905	AB48114	AB48113	350	0.017	8	0.10	0.019	10:03 hr	1.61	1.32
SWRGM-004510	SWRMH-005914	SWRMH-005915	AB48104	AB48103	106	0.004	8	0.10	0.009	10:05 hr	0.77	0.64
SWRGM-004511	SWRMH-005653	SWRMH-005654	AB48133	AB48132	213	0.008	8	0.06	0.005	10:01 hr	0.80	0.83
SWRGM-004512	SWRMH-005656	SWRMH-005657	AB48130	AB48129	222	0.006	8	0.11	0.013	10:07 hr	0.99	0.79
SWRGM-004513	SWRMH-005655	SWRMH-005656	AB48131	AB48130	180	0.006	8	0.09	0.009	10:04 hr	0.89	0.77
SWRGM-004514	SWRMH-005659	SWRMH-005664	AB48127	AB48122	362	0.012	8	0.06	0.005	10:02 hr	0.92	1.02
SWRGM-004515	SWRMH-005661	SWRMH-005660	AB48125	AB48126	272	0.023	8	0.13	0.039	10:10 hr	2.20	1.58
SWRGM-004516	SWRMH-005664	SWRMH-005661	AB48122	AB48125	237	0.02	8	0.13	0.035	10:09 hr	2.00	1.45
SWRGM-004517	SWRMH-005662	SWRMH-005663	AB48124	AB48123	300	0.03	8	0.07	0.01	10:02 hr	1.58	1.63
SWRGM-004518	SWRMH-005554	SWRMH-005556	AB47122	AB47120	309	0.01	8	0.12	0.022	10:05 hr	1.37	1.02
SWRGM-004519	SWRMH-005556	SWRMH-005555	AB47120	AB47121	231	0.009	8	0.13	0.022	10:06 hr	1.32	0.96
SWRGM-004520	SWRMH-005555	SWRMH-005551	AB47121	AB47125	251	0.009	8	0.13	0.022	10:08 hr	1.34	0.98
SWRGM-004521	SWRMH-005954	SWRNJ-000400	W46123	W46108	140	0.005	8	0.15	0.022	19:07 hr	1.07	0.73
SWRGM-004522	SWRCO-000765	SWRMH-003405	V39103	V39150	101	0.007	8	0.05	0.002	19:00 hr	0.62	0.77
SWRGM-004523	SWRMH-003411	SWRMH-003412	V39144	V39143	280	0.004	8	0.22	0.046	19:12 hr	1.24	0.67
SWRGM-004524	SWRMH-007337	SWRMH-007336	S45160	S45161	250	0.013	8	0.07	0.008	19:04 hr	1.11	1.08
SWRGM-004525	SWRMH-007683	SWRNJ-000189	S45116	S45490	226	0.006	8	0.08	0.007	19:04 hr	0.81	0.73
SWRGM-004526	SWRMH-007682	SWRNJ-000184	S45117	S45489	282	0.01	8	0.09	0.011	19:07 hr	1.10	0.96
SWRGM-004527	SWRMH-007656	SWRNJ-000170	S45143	S45495	172	0.006	8	0.08	0.007	19:03 hr	0.83	0.77
SWRGM-004528	SWRMH-007659	SWRNJ-000169	S45140	S45494	232	0.006	8	0.08	0.007	19:04 hr	0.81	0.75
SWRGM-004529	SWRMH-007664	SWRMH-007665	S45135	S45134	340	0.015	8	0.07	0.008	19:03 hr	1.18	1.16
SWRGM-004530	SWRMH-007665	SWRMH-007680	S45134	S45119	281	0.011	8	0.12	0.02	19:05 hr	1.36	1.05
SWRGM-004531	SWRMH-007667	SWRMH-007666	S45132	S45133	177	0.011	8	0.05	0.004	19:01 hr	0.85	0.97
SWRGM-004532	SWRMH-007671	SWRMH-001972	S45128	S44174	305	0.018	8	0.05	0.004	19:01 hr	1.04	1.23
SWRGM-004533	SWRMH-004825	SWRMH-004824	Y39112	Y39113	342	0.004	8	0.25	0.058	10:38 hr	1.32	0.68
SWRGM-004534	SWRMH-004229	SWRMH-004825	Y39127	Y39112	343	0.004	8	0.25	0.058	10:33 hr	1.32	0.68
SWRGM-004535	SWRMH-005206	SWRMH-005205	X36134	X36135	224	0.033	8	0.07	0.014	19:11 hr	1.82	1.75
SWRGM-004536	SWRCO-000453	SWRMH-005419	Z37106	Z37122	300	0.041	8	0.02	0.001	19:01 hr	0.87	1.61
SWRGM-004537	SWRMH-005063	SWRMH-004925	AA37147	AA37133	49	0.024	8	0.04	0.002	19:04 hr	0.95	1.34
SWRGM-004538	SWRMH-004059	SWRMH-005809	Z40129	Z41117	176	0.067	8	0.05	0.007	19:01 hr	1.86	2.31
SWRGM-004539	SWRMH-004055	SWRMH-004987	Z40133	Z41131	324	0.008	8	0.32	0.138	19:08 hr	2.21	0.99
SWRGM-004540	SWRMH-004056	SWRMH-004055	Z40132	Z40133	143	0.005	8	0.37	0.136	19:05 hr	1.82	0.76
SWRGM-004541	SWRMH-004058	SWRMH-004057	Z40130	Z40131	301	0.057	8	0.03	0.003	19:01 hr	1.34	2.01
SWRGM-004542	SWRMH-005105	SWRMH-005104	AA41102	AA41103	292	0.038	8	0.06	0.008	19:02 hr	1.61	1.80
SWRGM-004543	SWRMH-005265	SWRMH-005266	AA41123	AA41122	91	0.004	8	0.08	0.006	19:02 hr	0.66	0.60
SWRGM-004544	SWRMH-004408	SWRMH-004409	AA41152	AA41151	280	0.027	8	0.12	0.035	19:04 hr	2.24	1.69
SWRGM-004545	SWRMH-003915	SWRMH-003919	x40121	x40117	271	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004546	SWRMH-003932	SWRMH-003931	X39123	X39124	350	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004547	SWRMH-004646	SWRMH-004318	AA41144	AB41148	259	0.025	8	0.02	0	19:01 hr	0.59	1.20
SWRGM-004548	SWRMH-004410	SWRMH-004260	AA41150	AB41150	326	0.046	8	0.03	0.003	19:02 hr	1.26	1.83
SWRGM-004549	SWRMH-003878	SWRMH-006460	Y45168	Y45127	350	0.011	8	0.02	0	19:02 hr	0.38	0.79
SWRGM-004550	SWRMH-003876	SWRMH-003878	Y46107	Y45168	205	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004552	SWRMH-002534	SWRMH-001539	U40119	U40147	269	0.03	8	0.09	0.017	19:04 hr	1.87	1.68
SWRGM-004553	SWRMH-006306	SWRMH-006309	Y45136	Y45133	340	0.017	8	0.03	0.002	19:06 hr	0.77	1.12
SWRGM-004554	SWRMH-006345	SWRMH-006341	Y45111	Y45115	200	0.008	8	0.03	0.001	19:01 hr	0.48	0.74
SWRGM-004555	SWRNJ-000268	SWRMH-003678	U48103	U48133	120	0.013	8	0.11	0.021	19:04 hr	1.51	1.17
SWRGM-004556	SWRMH-003678	SWRMH-003679	U48133	U48132	240	0.018	8	0.14	0.04	19:06 hr	2.03	1.40
SWRGM-004557	SWRMH-003681	SWRMH-003680	U48130	U48131	411	0.012	8	0.08	0.011	19:03 hr	1.19	1.08
SWRGM-004558	SWRMH-003680	SWRMH-003678	U48131	U48133	397	0.009	8	0.11	0.016	19:06 hr	1.21	0.96
SWRGM-004559	SWRMH-003685	SWRMH-003684	U48126	U48127	323	0.01	8	0.10	0.015	19:04 hr	1.23	1.01
SWRGM-004560	SWRMH-003684	SWRMH-003679	U48127	U48132	324	0.015	8	0.10	0.018	19:06 hr	1.49	1.21
SWRGM-004561	SWRCO-000778	SWRMH-003676	U48101	U48135	54	0.005	8	0.04	0.002	19:00 hr	0.49	0.63
SWRGM-004562	SWRMH-003679	SWRMH-003675	U48132	U48136	279	0.006	8	0.23	0.061	19:08 hr	1.53	0.82
SWRGM-004563	SWRMH-003688	SWRMH-003689	U48123	U48122	325	0.024	8	0.04	0.003	19:01 hr	1.02	1.35
SWRGM-004564	SWRMH-003690	SWRNJ-000268	U48121	U48103	121	0.009	8	0.12	0.019	19:04 hr	1.28	0.97
SWRGM-004565	SWRMH-007285	SWRMH-003691	T48154	U48120	185	0.023	8	0.05	0.006	19:00 hr	1.25	1.41
SWRGM-004566	SWRMH-003691	SWRMH-003690	U48120	U48121	185	0.019	8	0.07	0.008	19:02 hr	1.29	1.30
SWRGM-004567	SWRMH-003693	SWRMH-003689	U48118	U48122	230	0.007	8	0.06	0.004	19:01 hr	0.72	0.77
SWRGM-004568	SWRMH-003689	SWRMH-003690	U48122	U48121	230	0.006	8	0.09	0.009	19:04 hr	0.87	0.74
SWRGM-004569	SWRMH-003692	SWRMH-003693	U48119	U48118	325	0.027	8	0.02	0.001	19:01 hr	0.79	1.33
SWRGM-004570	SWRMH-003708	SWRMH-003709	U48103	U48102	238	0.004	8	0.10	0.008	10:09 hr	0.73	0.62
SWRGM-004571	SWRNJ-000004	SWRMH-003606	K47105	K47117	27	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004572	SWRNJ-000012	SWRMH-003584	K47101	K47132	25	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004573	SWRMH-002974	SWRMH-002973	X34118	X34119	221	0.052	8	0.09	0.023	19:04 hr	2.51	2.24
SWRGM-004574	SWRMH-002973	SWRMH-002972	X34119	X34120	143	0.028	8	0.10	0.024	19:05 hr	2.01	1.66
SWRGM-004575	SWRMH-002955	SWRMH-002965	X34137	X34127	225	0.018	8	0.11	0.023	19:06 hr	1.72	1.36
SWRGM-004576	SWRMH-006897	SWRMH-001757	P47120	Q47112	310	0.005	8	0.11	0.013	19:08 hr	0.95	0.75
SWRGM-004577	SWRMH-006898	SWRMH-006897	P47119	P47120	226	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004578	SWRMH-006899	SWRMH-006898	P47118	P47119	230	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004579	SWRMH-006900	SWRMH-006896	P47117	P47121	300	0.012	8	0.05	0.004	19:02 hr	0.89	1.02

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004580	SWRMH-001648	SWRMH-001647	Q49137	Q49138	188	0.016	8	0.04	0.003	19:01 hr	0.86	1.11
SWRGM-004581	SWRMH-006484	SWRMH-001643	Q50123	Q49142	262	0.016	8	0.09	0.014	19:04 hr	1.43	1.24
SWRGM-004582	SWRMH-001654	SWRMH-001653	Q49131	Q49132	302	0.005	8	0.05	0.002	19:03 hr	0.54	0.63
SWRGM-004583	SWRMH-001652	SWRMH-001654	Q49133	Q49131	288	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004584	SWRMH-001664	SWRMH-001665	Q49121	Q49120	305	0.015	8	0.09	0.012	19:04 hr	1.33	1.19
SWRGM-004585	SWRMH-003721	SWRMH-003720	U46148	U46149	346	0.011	8	0.12	0.021	19:07 hr	1.40	1.07
SWRGM-004586	SWRMH-003720	SWRMH-003722	U46149	U46147	350	0.011	8	0.13	0.026	19:08 hr	1.48	1.07
SWRGM-004587	SWRMH-003722	SWRMH-003723	U46147	U46146	350	0.011	8	0.14	0.028	19:10 hr	1.52	1.08
SWRGM-004588	SWRMH-003723	SWRMH-003765	U46146	U46104	274	0.011	8	0.14	0.029	19:11 hr	1.54	1.07
SWRGM-004589	SWRMH-003713	SWRNJ-000307	U46156	U46129	177	0.004	8	0.08	0.005	19:01 hr	0.64	0.60
SWRGM-004590	SWRNJ-000306	SWRMH-003719	U46128	U46150	86	0.004	8	0.08	0.005	19:01 hr	0.66	0.63
SWRGM-004591	SWRMH-003717	SWRNJ-000305	U46152	U46127	177	0.006	8	0.06	0.004	19:01 hr	0.70	0.74
SWRGM-004592	SWRNJ-000305	SWRMH-003716	U46127	U46153	86	0.006	8	0.06	0.004	19:01 hr	0.72	0.75
SWRGM-004593	SWRMH-005134	SWRMH-005135	X41141	X41140	239	0.01	8	0.02	0.001	10:01 hr	0.47	0.81
SWRGM-004594	SWRMH-005920	SWRMH-005921	X47107	X47106	36	0.012	8	0.08	0.01	10:10 hr	1.17	1.08
SWRGM-004595	SWRMH-005921	SWRMH-005922	X47106	X47105	335	0.01	8	0.09	0.011	10:12 hr	1.10	0.98
SWRGM-004596	SWRMH-005922	SWRMH-005919	X47105	X47108	283	0.009	8	0.09	0.011	10:14 hr	1.08	0.95
SWRGM-004597	SWRMH-005345	SWRMH-005649	X42117	X41114	340	0.015	8	0.12	0.026	10:03 hr	1.67	1.25
SWRGM-004598	SWRMH-006740	SWRMH-006334	AA48109	AA48114	267	0.004	8	0.13	0.015	19:05 hr	0.89	0.64
SWRGM-004599	SWRMH-006739	SWRMH-006738	AA48110	AA48111	276	0.02	8	0.05	0.005	19:01 hr	1.13	1.29
SWRGM-004600	SWRMH-006738	SWRMH-006737	AA48111	AA48112	276	0.014	8	0.08	0.009	19:02 hr	1.18	1.13
SWRGM-004601	SWRMH-006737	SWRMH-006740	AA48112	AA48109	285	0.015	8	0.09	0.013	19:03 hr	1.35	1.20
SWRGM-004602	SWRMH-006791	SWRMH-006334	AA48106	AA48114	290	0.009	8	0.15	0.033	10:09 hr	1.52	1.02
SWRGM-004604	SWRMH-002185	SWRMH-002188	R46134	R46131	219	0.01	8	0.06	0.004	19:03 hr	0.82	0.91
SWRGM-004605	SWRMH-002154	SWRMH-002156	R46165	R46163	150	0.033	8	0.05	0.007	19:02 hr	1.46	1.66
SWRGM-004606	SWRMH-002158	SWRMH-002157	R46161	R46162	325	0.006	8	0.07	0.005	19:03 hr	0.76	0.75
SWRGM-004607	SWRMH-002159	SWRMH-002160	R46160	R46159	320	0.014	8	0.07	0.008	19:03 hr	1.12	1.11
SWRGM-004608	SWRMH-002163	SWRMH-002159	R46156	R46160	250	0.014	8	0.05	0.004	19:01 hr	0.94	1.07
SWRGM-004609	SWRCO-000340	SWRMH-002151	R46101	R46168	50	0.006	8	0.03	0.001	19:00 hr	0.45	0.66
SWRGM-004610	SWRMH-006510	SWRMH-006511	Q50113	Q50112	350	0.024	8	0.04	0.003	19:01 hr	0.99	1.34
SWRGM-004611	SWRMH-006487	SWRMH-006481	Q50120	Q50126	108	0.011	8	0.03	0.001	19:00 hr	0.57	0.86
SWRGM-004612	SWRMH-006486	SWRMH-006485	Q50121	Q50122	219	0.008	8	0.05	0.003	19:01 hr	0.71	0.83
SWRGM-004613	SWRMH-006485	SWRMH-006484	Q50122	Q50123	267	0.008	8	0.06	0.004	19:03 hr	0.80	0.85
SWRGM-004614	SWRMH-006517	SWRMH-006516	Q50106	Q50107	195	0.012	8	0.06	0.005	19:02 hr	0.94	1.02
SWRGM-004615	SWRMH-006519	SWRMH-006516	Q50104	Q50107	164	0.008	8	0.06	0.004	19:03 hr	0.76	0.84
SWRGM-004616	SWRMH-006483	SWRMH-006482	Q50124	Q50125	219	0.01	8	0.05	0.003	19:01 hr	0.75	0.90
SWRGM-004617	SWRMH-006482	SWRMH-006481	Q50125	Q50126	266	0.01	8	0.06	0.004	19:02 hr	0.86	0.94
SWRGM-004618	SWRMH-006507	SWRMH-001639	Q50116	Q49146	188	0.019	8	0.04	0.003	19:01 hr	0.92	1.20
SWRGM-004619	SWRMH-001590	SWRMH-001577	R43135	R43148	292	0.021	8	0.13	0.033	19:06 hr	2.02	1.48
SWRGM-004620	SWRMH-006993	SWRMH-006994	R41106	R41105	330	0.004	8	0.31	0.09	10:28 hr	1.50	0.68
SWRGM-004621	SWRMH-001637	SWRMH-001636	R39108	R39109	311	0.005	8	0.06	0.004	19:03 hr	0.63	0.67
SWRGM-004622	SWRMH-001636	SWRMH-001635	R39109	R39110	311	0.006	8	0.08	0.007	19:06 hr	0.80	0.74
SWRGM-004623	SWRMH-001605	SWRMH-008996	SDMH001605	SP572MH015	260	0.007	8	0.12	0.017	19:06 hr	1.13	0.85
SWRGM-004624	SWRMH-001609	SWRMH-001608	R39123	R39124	270	0.011	8	0.05	0.003	19:01 hr	0.80	0.94
SWRGM-004625	SWRMH-001608	SWRMH-001633	R39124	R39112	260	0.005	8	0.07	0.005	19:03 hr	0.70	0.67
SWRGM-004626	SWRMH-001611	SWRMH-001610	R39121	R39122	302	0.007	8	0.05	0.003	19:02 hr	0.66	0.76
SWRGM-004627	SWRMH-006707	SWRMH-006988	P45122	P44161	274	0.015	8	0.04	0.002	19:05 hr	0.78	1.06
SWRGM-004628	SWRMH-006711	SWRMH-006710	P45118	P45119	245	0.004	8	0.06	0.002	19:02 hr	0.51	0.58
SWRGM-004629	SWRMH-006720	SWRMH-006719	P45109	P45110	336	0.005	8	0.17	0.029	19:12 hr	1.17	0.74
SWRGM-004630	SWRMH-006719	SWRMH-006973	P45110	P45108	271	0.005	8	0.18	0.032	19:14 hr	1.21	0.74
SWRGM-004631	SWRMH-000624	SWRMH-000623	V48103	V48104	279	0.007	8	0.21	0.058	19:11 hr	1.64	0.91
SWRGM-004632	SWRMH-006727	SWRMH-006722	AA36111	AA36116	197	0.016	8	0.03	0.001	19:01 hr	0.63	1.03
SWRGM-004634	SWRMH-006726	SWRMH-006724	AA36112	AA36114	300	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004635	SWRCO-000441	SWRNJ-000811	AB36101	AA36172	194	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004636	SWRMH-008583	SWRMH-008581	V45106	V45108	330	0.022	8	0.06	0.008	19:06 hr	1.34	1.40
SWRGM-004637	SWRMH-003879	SWRMH-000626	V48117	V48101	325	0.004	8	0.17	0.028	19:06 hr	1.07	0.66
SWRGM-004638	SWRMH-003890	SWRMH-003891	V48106	V48105	350	0.004	8	0.12	0.013	19:06 hr	0.85	0.64
SWRGM-004639	SWRMH-005391	SWRMH-005390	AC44116	AC44117	158	0.044	8	0.03	0.003	19:00 hr	1.25	1.80
SWRGM-004640	SWRMH-003434	SWRMH-003437	V39121	V39118	139	0.004	8	0.07	0.004	19:01 hr	0.60	0.61
SWRGM-004641	SWRMH-003437	SWRMH-003445	V39118	V39110	97	0.003	8	0.07	0.004	19:01 hr	0.55	0.54
SWRGM-004642	SWRMH-003438	SWRMH-003443	V39117	V39112	43	0.011	8	0.03	0.001	19:00 hr	0.58	0.88
SWRGM-004643	SWRMH-003443	SWRMH-003439	V39112	V39116	290	0.016	8	0.13	0.032	19:07 hr	1.81	1.29
SWRGM-004644	SWRMH-003439	SWRMH-003441	V39116	V39114	295	0.008	8	0.17	0.037	19:09 hr	1.48	0.94
SWRGM-004645	SWRMH-003441	SWRMH-003440	V39114	V39115	189	0.008	8	0.17	0.038	19:10 hr	1.48	0.93
SWRGM-004646	SWRMH-003433	SWRMH-003436	V39122	V39119	266	0.017	8	0.04	0.002	19:01 hr	0.84	1.13
SWRGM-004647	SWRMH-003446	SWRMH-003445	V39109	V39110	275	0.008	8	0.13	0.021	19:05 hr	1.26	0.93
SWRGM-004648	SWRMH-006205	SWRMH-006206	Y39102	Y39101	300	0.005	8	0.06	0.004	19:02 hr	0.65	0.68
SWRGM-004649	SWRNJ-000141	SWRMH-002159	R46498	R46160	135	0.004	8	0.04	0.001	19:01 hr	0.43	0.58
SWRGM-004650	SWRMH-002173	SWRMH-002181	R46146	R46138	242	0.019	8	0.11	0.026	19:08 hr	1.83	1.41
SWRGM-004651	SWRMH-003718	SWRNJ-000306	U46151	U46128	177	0.004	8	0.08	0.005	19:01 hr	0.67	0.64
SWRGM-004652	SWRMH-003738	SWRMH-003737	U46131	U46132	300	0.017	8	0.06	0.007	19:03 hr	1.16	1.22
SWRGM-004653	SWRMH-003711	SWRMH-003712	U46158	U46157	272	0.009	8	0.07	0.006	19:02 hr	0.90	0.90
SWRGM-004654	SWRMH-003737	SWRMH-003736	U46132	U46133	205	0.017	8	0.07	0.009	19:04 hr	1.27	1.26
SWRGM-004655	SWRMH-003739	SWRMH-003738	U46130	U46131	275	0.008	8	0.06	0.004	19:02 hr	0.74	0.83
SWRGM-004656	SWRMH-003730	SWRMH-003728	U46139	U46141	323	0.006	8	0.10	0.011	19:07 hr	0.92	0.75
SWRGM-004657	SWRMH-003729	SWRMH-003728	U46140	U46141	350	0.011	8	0.06	0.005	19:02 hr	0.92	0.99
SWRGM-004658	SWRCO-000780	SWRMH-003729	U46101	U46140	66	0.006	8	0.05	0.003	19:00 hr	0.64	0.73
SWRGM-004659	SWRMH-003736	SWRMH-003757	U46133	U46112	310	0.005	8	0.11	0.012	19:06 hr	0.91	0.71
SWRGM-004660	SWRNJ-000288	SWRMH-003759	U46126	U46110	10	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004661	SWRNJ-000261	SWRMH-003763	U46125	U46106	10	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004662	SWRMH-003458	SWRMH-003457	V38150	V38151	353	0.005	8	0.08	0.005	19:03 hr	0.71	0.68
SWRGM-004663	SWRMH-003326	SWRMH-003325	V40154	V40155	70	0.012	8	0.10	0.015	19:04 hr	1.31	1.08
SWRGM-004664	SWRMH-003330	SWRMH-003331	V40150	V40149	120	0.012	8	0.04	0.002	19:00 hr	0.75	0.95
SWRGM-004665	SWRMH-003346	SWRMH-003347	V40134	V40133	51	0.012	8	0.04	0.002	19:00 hr	0.74	0.97
SWRGM-004666	SWRMH-003357	SWRMH-003358	V40123	V40122	308	0.008	8	0.08	0.008	19:05 hr	0.94	0.86
SWRGM-004667	SWRMH-003360	SWRMH-003361	V40120	V40119	319	0.005	8	0.08	0.006	19:04 hr	0.71	0.68
SWRGM-004668	SWRMH-003325	SWRMH-003324	V40155	V40156	271	0.014	8	0.12	0.026	19:05 hr	1.64	1.23
SWRGM-004669	SWRMH-003328	SWRMH-003327	V40152	V40153	270	0.007	8	0.08	0.007	19:02 hr	0.84	0.79
SWRGM-004670	SWRMH-003327	SWRMH-003329	V40153	V40151	267	0.013	8	0.09	0.012	19:03 hr	1.25	1.12
SWRGM-004671	SWRMH-003318	SWRMH-003313	V40162	V40167	260	0.004	8	0.21	0.043	19:15 hr	1.24	0.70
SWRGM-004672	SWRMH-003332	SWRMH-003316	V40148	V40164	260	0.004	8	0.18	0.03	19:08 hr	1.09	0.67

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004673	SWRMH-003316	SWRMH-003313	V40164	V40167	260	0.005	8	0.19	0.037	19:09 hr	1.25	0.74
SWRGM-004674	SWRMH-003447	SWRMH-003448	V39108	V39107	245	0.012	8	0.07	0.007	19:03 hr	1.04	1.04
SWRGM-004675	SWRMH-003452	SWRMH-003451	V39103	V39104	271	0.026	8	0.18	0.074	19:14 hr	2.77	1.71
SWRGM-004676	SWRMH-003451	SWRMH-003450	V39104	V39105	109	0.004	8	0.31	0.086	19:13 hr	1.47	0.67
SWRGM-004677	SWRMH-003401	SWRMH-004135	V39154	W39148	214	0.013	8	0.12	0.024	19:10 hr	1.55	1.17
SWRGM-004678	SWRMH-003386	SWRMH-003385	V39169	V39170	324	0.008	8	0.33	0.145	19:28 hr	2.20	0.96
SWRGM-004679	SWRMH-003392	SWRMH-003391	V39163	V39164	112	0.004	8	0.24	0.053	19:11 hr	1.27	0.67
SWRGM-004680	SWRMH-007718	SWRNJ-000312	U38161	V38103	86	0.004	8	0.27	0.069	19:12 hr	1.39	0.68
SWRGM-004681	SWRMH-001470	SWRMH-001459	W35109	W35120	270	0.002	8	0.12	0.011	19:08 hr	0.68	0.51
SWRGM-004682	SWRMH-001453	SWRMH-001469	W35126	W35110	364	0.027	8	0.05	0.004	19:01 hr	1.18	1.46
SWRGM-004683	SWRMH-004415	SWRMH-004414	W46157	W46158	230	0.009	8	0.05	0.003	19:01 hr	0.70	0.86
SWRGM-004684	SWRMH-005969	SWRMH-005974	W46108	W46103	146	0.005	8	0.27	0.077	19:11 hr	1.56	0.77
SWRGM-004685	SWRNJ-000399	SWRMH-005947	W46106	W46147	120	0.014	8	0.11	0.018	19:06 hr	1.46	1.18
SWRGM-004686	SWRMH-005950	SWRNJ-000399	W46144	W46106	165	0.014	8	0.11	0.018	19:06 hr	1.46	1.18
SWRGM-004687	SWRMH-003290	SWRMH-003291	V46117	V46116	350	0.01	8	0.11	0.016	19:05 hr	1.24	1.00
SWRGM-004688	SWRMH-003297	SWRMH-003280	V46110	V46127	203	0.004	8	0.25	0.057	19:12 hr	1.32	0.68
SWRGM-004689	SWRMH-003298	SWRMH-003297	V46109	V46110	320	0.004	8	0.24	0.052	19:10 hr	1.28	0.68
SWRGM-004690	SWRMH-006397	SWRMH-006396	V44107	V44108	336	0.009	8	0.48	0.302	19:42 hr	2.80	1.03
SWRGM-004691	SWRMH-006398	SWRMH-006397	V44106	V44107	314	0.004	8	0.58	0.271	19:41 hr	2.00	0.68
SWRGM-004693	SWRMH-004563	SWRMH-005500	X38135	X38122	346	0.004	8	0.09	0.007	19:10 hr	0.70	0.61
SWRGM-004694	SWRMH-005500	SWRMH-005499	X38122	X38123	363	0.004	8	0.09	0.007	19:13 hr	0.69	0.59
SWRGM-004695	SWRMH-004564	SWRMH-004130	X38134	X38137	299	0.018	8	0.02	0	19:01 hr	0.48	1.01
SWRGM-004702	SWRMH-005864	SWRMH-008907	Z45120	Z45116	274	0.008	8	0.06	0.004	19:05 hr	0.76	0.83
SWRGM-004703	SWRMH-006311	SWRMH-006310	Y45131	Y45132	153	0.008	8	0.05	0.003	19:02 hr	0.73	0.83
SWRGM-004704	SWRMH-006310	SWRMH-006313	Y45132	Y45129	114	0.006	8	0.06	0.004	19:03 hr	0.72	0.75
SWRGM-004705	SWRMH-006336	SWRMH-006310	Y45120	Y45132	123	0.008	8	0.02	0.001	19:01 hr	0.42	0.72
SWRGM-004706	SWRMH-006337	SWRMH-006311	Y45119	Y45131	174	0.017	8	0.03	0.001	19:01 hr	0.69	1.08
SWRGM-004707	SWRMH-006338	SWRMH-006340	Y45118	Y45116	271	0.008	8	0.03	0.001	19:02 hr	0.44	0.73
SWRGM-004708	SWRMH-006339	SWRMH-006340	Y45117	Y45116	305	0.008	8	0.03	0.001	19:02 hr	0.50	0.75
SWRGM-004709	SWRMH-006342	SWRMH-006340	Y45114	Y45116	305	0.01	8	0.05	0.004	19:03 hr	0.80	0.91
SWRGM-004710	SWRMH-005695	SWRMH-006289	Y46103	Y45153	287	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004711	SWRMH-005694	SWRMH-006292	Y46104	Y45150	274	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004712	SWRMH-005042	SWRMH-005043	X36141	X36140	195	0.007	8	0.09	0.009	19:16 hr	0.90	0.80
SWRGM-004713	SWRMH-004265	SWRMH-005202	X36176	X36138	200	0.003	8	0.15	0.019	19:15 hr	0.92	0.61
SWRGM-004714	SWRMH-004995	SWRMH-004993	Z41123	Z41125	198	0.004	8	0.14	0.018	19:10 hr	0.94	0.65
SWRGM-004715	SWRMH-004999	SWRMH-004998	Y43131	Y43132	191	0.027	8	0.05	0.005	19:03 hr	1.28	1.50
SWRGM-004716	SWRNJ-000566	SWRMH-005173	Y41112	Y41122	236	0.006	8	0.04	0.002	19:02 hr	0.54	0.69
SWRGM-004717	SWRMH-005173	SWRMH-005171	Y41122	Y41124	310	0.005	8	0.21	0.046	10:23 hr	1.38	0.78
SWRGM-004718	SWRMH-001534	SWRMH-001533	U40152	U40153	39	0.01	8	0.21	0.064	19:10 hr	1.87	1.05
SWRGM-004719	SWRMH-001533	SWRMH-001532	U40153	U40154	168	0.011	8	0.23	0.079	19:10 hr	2.09	1.13
SWRGM-004720	SWRMH-001532	SWRMH-001531	U40154	U40155	199	0.011	8	0.22	0.079	19:11 hr	2.11	1.15
SWRGM-004721	SWRMH-001496	SWRMH-001881	U40190	U40128	116	0.006	8	0.11	0.013	19:04 hr	0.99	0.79
SWRGM-004722	SWRMH-001488	SWRMH-001533	U40198	U40153	190	0.009	8	0.10	0.014	19:05 hr	1.17	0.96
SWRGM-004723	SWRMH-006022	SWRMH-006021	x40106	x40107	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004724	SWRMH-006021	SWRMH-006025	x40107	x40103	350	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004725	SWRMH-004404	SWRMH-004622	Y40127	Y40120	265	0.003	8	0.10	0.007	10:09 hr	0.66	0.56
SWRGM-004726	SWRMH-004405	SWRMH-004406	Y40126	Y40125	326	0.003	8	0.09	0.005	10:07 hr	0.59	0.53
SWRGM-004727	SWRMH-004407	SWRMH-004405	Y40124	Y40126	322	0.003	8	0.05	0.002	10:03 hr	0.43	0.49
SWRGM-004728	SWRMH-005380	SWRMH-005379	W40125	W40126	263	0.007	8	0.04	0.002	19:02 hr	0.58	0.74
SWRGM-004729	SWRMH-005378	SWRMH-005379	W40127	W40126	236	0.016	8	0.03	0.001	19:01 hr	0.71	1.06
SWRGM-004730	SWRMH-005377	SWRMH-005593	W40128	W40115	294	0.008	8	0.11	0.015	19:07 hr	1.14	0.91
SWRGM-004731	SWRMH-005399	SWRMH-005397	X37113	X37115	123	0.007	8	0.03	0.001	19:01 hr	0.48	0.72
SWRGM-004732	SWRMH-003900	SWRMH-003901	Z36135	Z36134	167	0.007	8	0.05	0.002	19:02 hr	0.62	0.76
SWRGM-004733	SWRMH-005790	SWRMH-005623	Z36101	Z36108	147	0.044	8	0.06	0.009	19:01 hr	1.78	1.94
SWRGM-004734	SWRMH-005984	SWRMH-004724	AB41128	AB41142	173	0.004	8	0.02	0	19:01 hr	0.30	0.52
SWRGM-004735	SWRNJ-000627	SWRMH-005688	Z45101	Z45105	48	0.021	8	0.03	0.001	19:01 hr	0.71	1.18
SWRGM-004737	SWRMH-004734	SWRMH-004559	W37131	W37145	109	0.013	8	0.02	0	19:00 hr	0.45	0.90
SWRGM-004738	SWRMH-001038	SWRMH-001039	Z46116	Z46115	121	0.015	8	0.07	0.008	19:02 hr	1.16	1.16
SWRGM-004739	SWRMH-001031	SWRMH-001030	Z46123	Z46124	285	0.022	8	0.10	0.019	19:04 hr	1.75	1.49
SWRGM-004740	SWRMH-001033	SWRMH-001031	Z46121	Z46123	282	0.007	8	0.10	0.011	19:03 hr	1.02	0.86
SWRGM-004741	SWRMH-005684	SWRMH-005685	Z45109	Z45108	298	0.004	8	0.07	0.004	19:04 hr	0.58	0.59
SWRGM-004746	SWRMH-005006	SWRMH-005005	Y41116	Y41117	329	0.006	8	0.10	0.01	10:07 hr	0.90	0.77
SWRGM-004747	SWRMH-005763	SWRMH-005825	Y43104	Y43101	205	0.011	8	0.06	0.006	19:02 hr	0.94	0.98
SWRGM-004748	SWRMH-005764	SWRMH-005168	Y43103	Y43137	229	0.006	8	0.06	0.004	19:02 hr	0.68	0.75
SWRGM-004750	SWRMH-001010	SWRMH-001013	Z47138	Z47135	278	0.01	8	0.09	0.011	19:04 hr	1.11	0.97
SWRGM-004751	SWRMH-001205	SWRMH-001204	Z47113	Z47114	152	0.004	8	0.08	0.006	19:03 hr	0.66	0.61
SWRGM-004752	SWRMH-001206	SWRMH-001205	Z47112	Z47113	327	0.035	8	0.05	0.005	19:02 hr	1.36	1.67
SWRGM-004753	SWRMH-001207	SWRMH-001206	Z47111	Z47112	320	0.021	8	0.04	0.003	19:01 hr	0.93	1.27
SWRGM-004754	SWRMH-004826	SWRMH-004827	AA42129	AA42128	34	0.011	8	0.02	0	19:00 hr	0.40	0.81
SWRGM-004755	SWRCO-000424	SWRMH-005332	Y42101	Y42110	170	0.076	8	0.02	0.001	19:00 hr	1.01	2.11
SWRGM-004756	SWRMH-005332	SWRMH-004397	Y42110	Y41137	270	0.017	8	0.04	0.002	19:01 hr	0.79	1.11
SWRGM-004757	SWRMH-006206	SWRMH-004766	Y39101	Y39124	304	0.005	8	0.07	0.005	19:05 hr	0.72	0.70
SWRGM-004758	SWRMH-005605	SWRMH-005606	AC44106	AC44105	185	0.045	8	0.05	0.006	19:01 hr	1.57	1.91
SWRGM-004759	SWRMH-005606	SWRMH-005603	AC44105	AC44108	170	0.045	8	0.06	0.008	19:01 hr	1.75	1.96
SWRGM-004760	SWRMH-005603	SWRMH-005602	AC44108	AC44109	78	0.036	8	0.06	0.008	19:01 hr	1.61	1.76
SWRGM-004761	SWRMH-005388	SWRMH-005385	AC44119	AC44122	101	0.03	8	0.07	0.01	19:02 hr	1.59	1.63
SWRGM-004762	SWRMH-005996	SWRMH-006046	X38121	X38102	269	0.005	8	0.06	0.003	19:02 hr	0.61	0.66
SWRGM-004763	SWRNJ-000458	SWRMH-005999	X38106	X38118	108	0.004	8	0.09	0.008	19:11 hr	0.77	0.66
SWRGM-004764	SWRMH-004019	SWRMH-004018	W38170	W38171	104	0.004	8	0.57	0.257	19:34 hr	1.94	0.67
SWRGM-004765	SWRMH-004018	SWRMH-004017	W38171	W38172	268	0.004	8	0.57	0.263	19:36 hr	1.98	0.68
SWRGM-004766	SWRCO-000403	SWRMH-004020	W38105	W38169	144	0.007	8	0.04	0.002	19:01 hr	0.55	0.72
SWRGM-004767	SWRMH-004085	SWRMH-004084	AA39137	AA39138	214	0.043	8	0.22	0.147	19:16 hr	4.03	2.22
SWRGM-004768	SWRMH-003787	SWRMH-003790	U45147	U45144	300	0.013	8	0.09	0.013	19:05 hr	1.30	1.14
SWRGM-004769	SWRMH-003790	SWRMH-003789	U45144	U45145	350	0.018	8	0.11	0.023	19:07 hr	1.70	1.34
SWRGM-004770	SWRMH-003808	SWRMH-003807	U45126	U45127	348	0.018	8	0.04	0.003	19:02 hr	0.96	1.21
SWRGM-004771	SWRMH-003805	SWRMH-003803	U45129	U45131	318	0.015	8	0.06	0.006	19:02 hr	1.09	1.14
SWRGM-004772	SWRMH-003833	SWRMH-003781	U45101	U45153	231	0.021	8	0.04	0.004	19:02 hr	1.04	1.30
SWRGM-004773	SWRMH-003781	SWRMH-003832	U45153	U45102	311	0.008	8	0.21	0.057	19:15 hr	1.65	0.93
SWRGM-004774	SWRMH-002542	SWRMH-002541	U40111	U40112	100	0.038	8	0.10	0.03	19:06 hr	2.42	1.96
SWRGM-004775	SWRMH-001479	SWRMH-001478	U40207	U40208	195	0.012	8	0.05	0.004	19:01 hr	0.87	0.99
SWRGM-004776	SWRMH-001531	SWRMH-001528	U40155	U40158	168	0.005	8	0.27	0.081	19:12 hr	1.61	0.79

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004777	SWRMH-001875	SWRMH-001523	U40134	U40163	132	0.005	8	0.05	0.003	19:02 hr	0.59	0.68
SWRGM-004778	SWRMH-001484	SWRMH-001499	U40202	U40187	348	0.005	8	0.12	0.015	19:06 hr	0.95	0.71
SWRGM-004779	SWRMH-001483	SWRMH-001484	U40203	U40202	275	0.011	8	0.08	0.009	19:03 hr	1.09	1.03
SWRGM-004780	SWRMH-001482	SWRMH-001483	U40204	U40203	215	0.029	8	0.03	0.002	19:01 hr	1.02	1.45
SWRGM-004781	SWRMH-001524	SWRMH-001523	U40162	U40163	135	0.007	8	0.04	0.002	19:01 hr	0.56	0.72
SWRGM-004782	SWRMH-001527	SWRMH-001526	U40159	U40160	196	0.004	8	0.30	0.087	19:15 hr	1.53	0.71
SWRGM-004783	SWRMH-001542	SWRMH-001535	U40144	U40151	85	0.019	8	0.12	0.027	19:09 hr	1.83	1.40
SWRGM-004786	SWRMH-005262	SWRMH-006357	Y41112	Y41101	287	0.008	8	0.22	0.063	10:22 hr	1.74	0.96
SWRGM-004787	SWRMH-004936	SWRMH-004467	W40138	W39139	93	0.022	8	0.03	0.001	19:00 hr	0.76	1.22
SWRGM-004788	SWRMH-004469	SWRMH-005513	W39137	W39102	178	0.005	8	0.09	0.009	19:03 hr	0.81	0.69
SWRGM-004789	SWRMH-005521	SWRMH-004279	W38112	W38152	110	0.004	8	0.58	0.263	19:45 hr	1.94	0.66
SWRGM-004790	SWRMH-004279	SWRMH-004278	W38152	W38153	55	0.004	8	0.61	0.289	19:45 hr	2.01	0.67
SWRGM-004791	SWRCO-000407	SWRMH-004868	W38101	W38131	100	0.005	8	0.04	0.001	19:00 hr	0.48	0.63
SWRGM-004792	SWRCO-000413	SWRMH-005638	W37101	W37104	138	0.014	8	0.02	0	19:00 hr	0.43	0.90
SWRGM-004793	SWRMH-005639	SWRMH-004604	W37103	W37140	123	0.005	8	0.07	0.004	19:04 hr	0.65	0.66
SWRGM-004794	SWRMH-004394	SWRMH-004393	Y44126	Y44127	93	0.021	8	0.11	0.026	19:16 hr	1.88	1.47
SWRGM-004795	SWRMH-005143	SWRMH-005142	X38128	X38129	350	0.008	8	0.22	0.064	19:35 hr	1.75	0.96
SWRGM-004796	SWRMH-005144	SWRMH-005143	X38127	X38128	350	0.012	8	0.20	0.064	19:32 hr	2.02	1.17
SWRGM-004797	SWRMH-004904	SWRMH-005258	Y43142	Y43126	332	0.013	8	0.09	0.012	19:05 hr	1.28	1.13
SWRGM-004798	SWRMH-004651	SWRMH-005258	Z43161	Y43126	188	0.006	8	0.18	0.037	19:19 hr	1.34	0.82
SWRGM-004799	SWRMH-005258	SWRMH-004906	Y43126	Y43140	299	0.007	8	0.22	0.06	19:14 hr	1.64	0.90
SWRGM-004800	SWRNJ-000622	SWRMH-005258	Y43397	Y43126	273	0.006	8	0.09	0.008	19:05 hr	0.87	0.78
SWRGM-004801	SWRMH-004093	SWRMH-004094	AA39129	AA39128	291	0.034	8	0.05	0.006	19:02 hr	1.40	1.66
SWRGM-004802	SWRMH-004041	SWRMH-004033	Z40135	Z40143	278	0.004	8	0.31	0.087	10:19 hr	1.48	0.68
SWRGM-004804	SWRMH-001059	SWRMH-001060	AB45119	AB45118	40	0.009	8	0.07	0.006	10:06 hr	0.89	0.90
SWRGM-004807	SWRMH-006447	SWRMH-006445	X45105	X45107	98	0.014	8	0.03	0.001	19:00 hr	0.63	0.97
SWRGM-004809	SWRMH-002613	SWRMH-000697	Y45171	Y45170	333	0.01	8	0.04	0.002	19:08 hr	0.63	0.86
SWRGM-004811	SWRMH-001268	SWRNJ-000739	AA46129	AA46103	161	0.006	8	0.14	0.021	19:14 hr	1.14	0.80
SWRGM-004812	SWRMH-002599	SWRMH-004943	W36102	X36150	272	0.03	8	0.03	0.002	19:02 hr	1.05	1.50
SWRGM-004813	SWRMH-002487	SWRMH-005642	W36111	X36120	279	0.023	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004814	SWRMH-005643	SWRMH-005841	X36119	X36112	268	0.029	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004815	SWRMH-004943	SWRMH-005841	X36150	X36112	266	0.014	8	0.07	0.007	19:03 hr	1.10	1.10
SWRGM-004816	SWRMH-005841	SWRMH-005840	X36112	X36113	266	0.012	8	0.08	0.009	19:04 hr	1.11	1.06
SWRGM-004817	SWRMH-005840	SWRMH-005839	X36113	X36114	266	0.006	8	0.11	0.014	19:06 hr	1.01	0.78
SWRGM-004818	SWRMH-005832	SWRMH-006082	W48125	W47111	332	0.01	8	0.07	0.006	10:13 hr	0.93	0.94
SWRGM-004819	SWRMH-005577	SWRMH-005578	Z42125	Z42124	299	0.006	8	0.13	0.019	19:02 hr	1.09	0.79
SWRGM-004820	SWRMH-005578	SWRMH-004848	Z42124	Z42160	294	0.024	8	0.13	0.039	19:04 hr	2.22	1.60
SWRGM-004821	SWRMH-004848	SWRMH-004849	Z42160	Z42159	300	0.066	8	0.11	0.04	19:05 hr	3.19	2.57
SWRGM-004822	SWRMH-005658	SWRMH-005664	AB48128	AB48122	346	0.015	8	0.06	0.005	10:02 hr	1.00	1.12
SWRGM-004823	SWRMH-005668	SWRMH-005667	AB47104	AB47105	306	0.017	8	0.15	0.042	10:05 hr	2.02	1.36
SWRGM-004824	SWRMH-001280	SWRMH-001281	AA46117	AA46116	299	0.012	8	0.10	0.015	19:03 hr	1.31	1.10
SWRGM-004825	SWRMH-000972	SWRMH-001285	AA46185	AA46112	240	0.059	8	0.04	0.006	19:00 hr	1.74	2.17
SWRGM-004826	SWRMH-000976	SWRMH-001238	AA46181	AA46159	119	0.025	8	0.10	0.022	19:04 hr	1.90	1.57
SWRGM-004827	SWRMH-000977	SWRMH-000976	AA46180	AA46181	334	0.035	8	0.09	0.022	19:04 hr	2.14	1.85
SWRGM-004828	SWRMH-000978	SWRMH-000977	AA46179	AA46180	359	0.026	8	0.09	0.016	19:03 hr	1.76	1.58
SWRGM-004829	SWRMH-002486	SWRMH-002485	W36112	W36113	92	0.127	8	0.00	0	19:04 hr	0.00	0.00
SWRGM-004830	SWRMH-002489	SWRMH-001137	W36109	W36124	242	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004831	SWRMH-004765	SWRMH-006360	Z38138	Z38105	165	0.007	8	0.02	0.001	19:01 hr	0.41	0.70
SWRGM-004832	SWRMH-004764	SWRMH-004763	Z38139	Z38140	297	0.006	8	0.04	0.001	19:02 hr	0.49	0.65
SWRGM-004833	SWRCO-000655	SWRMH-003902	Z36110	Z36133	212	0.042	8	0.02	0.001	19:00 hr	0.93	1.64
SWRGM-004834	SWRMH-006952	SWRMH-004911	Y40105	Y41133	348	0.003	8	0.11	0.009	10:12 hr	0.69	0.55
SWRGM-004835	SWRMH-004047	SWRMH-006358	X41154	X41104	183	0.006	8	0.03	0.001	10:09 hr	0.45	0.67
SWRGM-004836	SWRMH-006358	SWRMH-006359	X41104	X41103	173	0.009	8	0.05	0.004	10:10 hr	0.78	0.88
SWRGM-004837	SWRMH-004352	SWRMH-005995	Y42135	Z42101	220	0.044	8	0.07	0.014	19:04 hr	2.03	2.01
SWRGM-004838	SWRNJ-000615	SWRMH-005326	Y42351	Y42116	77	0.038	8	0.04	0.005	19:01 hr	1.38	1.74
SWRGM-004839	SWRNJ-000609	SWRNJ-000615	Y42353	Y42351	74	0.061	8	0.04	0.005	19:01 hr	1.63	2.16
SWRGM-004840	SWRCO-000528	SWRMH-005877	X43104	X43111	141	0.032	8	0.03	0.002	19:00 hr	0.97	1.50
SWRGM-004841	SWRMH-005882	SWRMH-005883	X43106	X43105	326	0.004	8	0.07	0.004	19:03 hr	0.57	0.57
SWRGM-004842	SWRMH-006042	SWRMH-006044	X38106	X38104	216	0.013	8	0.04	0.003	19:03 hr	0.80	1.02
SWRGM-004843	SWRMH-006044	SWRMH-006043	X38104	X38105	286	0.01	8	0.07	0.006	19:02 hr	0.96	0.97
SWRGM-004844	SWRMH-004124	SWRMH-004522	X38143	X37143	300	0.004	8	0.66	0.32	20:09 hr	2.01	0.66
SWRGM-004845	SWRMH-006045	SWRMH-004124	X38103	X38143	372	0.003	8	0.68	0.32	20:07 hr	1.97	0.64
SWRGM-004846	SWRMH-004125	SWRMH-004126	X38142	X38141	249	0.004	8	0.67	0.32	20:01 hr	2.00	0.65
SWRGM-004847	SWRMH-004126	SWRMH-006045	X38141	X38103	322	0.004	8	0.66	0.32	20:04 hr	2.04	0.67
SWRGM-004848	SWRMH-004850	SWRMH-004847	Z42158	Z42161	325	0.006	8	0.19	0.043	19:09 hr	1.40	0.82
SWRGM-004851	SWRMH-005086	SWRMH-005262	Y41111	Y41112	49	0.131	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004852	SWRMH-004916	SWRMH-004917	Y41128	Y41127	280	0.003	8	0.05	0.002	10:02 hr	0.45	0.52
SWRGM-004853	SWRMH-004917	SWRMH-005175	Y41127	Y41120	128	0.004	8	0.05	0.002	10:04 hr	0.49	0.60
SWRGM-004854	SWRMH-004602	SWRMH-005847	Z43162	Z42118	154	0.009	8	0.21	0.063	19:11 hr	1.83	1.03
SWRGM-004855	SWRMH-005115	SWRMH-005116	Z42141	Z42140	187	0.051	8	0.03	0.003	19:00 hr	1.29	1.92
SWRGM-004856	SWRMH-005847	SWRMH-005848	Z42118	Z42117	203	0.01	8	0.21	0.064	19:12 hr	1.86	1.05
SWRGM-004857	SWRMH-004863	SWRMH-004796	W38136	W38141	348	0.005	8	0.08	0.007	19:06 hr	0.77	0.70
SWRGM-004858	SWRMH-004862	SWRMH-004796	W38137	W38141	200	0.009	8	0.04	0.002	19:01 hr	0.63	0.83
SWRGM-004859	SWRMH-004389	SWRMH-004388	W38145	W38146	239	0.004	8	0.05	0.002	19:02 hr	0.50	0.58
SWRGM-004860	SWRMH-004135	SWRMH-005501	W39148	W39114	210	0.014	8	0.12	0.024	19:11 hr	1.58	1.19
SWRGM-004861	SWRMH-005508	SWRMH-005507	W39107	W39108	57	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004862	SWRMH-005509	SWRMH-005508	W39106	W39107	127	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004863	SWRMH-004677	SWRMH-005509	W40141	W39106	348	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004864	SWRMH-005511	SWRMH-004463	W39104	W39143	231	0.019	8	0.15	0.046	19:21 hr	2.14	1.42
SWRGM-004865	SWRMH-005512	SWRMH-005511	W39103	W39104	248	0.01	8	0.18	0.046	19:20 hr	1.72	1.06
SWRGM-004866	SWRMH-005510	SWRMH-005512	W39105	W39103	231	0.01	8	0.18	0.046	19:18 hr	1.70	1.04
SWRGM-004867	SWRMH-004853	SWRMH-004852	W39122	W39123	102	0.011	8	0.08	0.009	19:03 hr	1.09	1.03
SWRGM-004868	SWRMH-004708	SWRMH-006640	Y36146	Y36107	222	0.025	8	0.04	0.004	19:04 hr	1.11	1.41
SWRGM-004870	SWRMH-005142	SWRMH-005221	X38129	Y38129	350	0.008	8	0.22	0.064	19:38 hr	1.75	0.97
SWRGM-004871	SWRMH-005514	SWRMH-004468	W39101	W39138	208	0.007	8	0.05	0.003	19:01 hr	0.64	0.76
SWRGM-004872	SWRMH-003990	SWRMH-004397	Y42147	Y41137	576	0.009	8	0.57	0.392	10:50 hr	2.98	1.02
SWRGM-004873	SWRMH-005320	SWRMH-003990	Y42122	Y42147	644	0.015	8	0.48	0.386	10:46 hr	3.59	1.32
SWRGM-004874	SWRMH-001147	SWRMH-006793	AA47160	AA48104	329	0.002	8	0.07	0.003	19:07 hr	0.47	0.46
SWRGM-004875	SWRMH-006223	SWRMH-006222	AB44102	AB44103	133	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004876	SWRMH-006224	SWRNJ-000896	AB44101	AB44120	256	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004878	SWRMH-006227	SWRMH-001177	Z48141	Z47123	165	0.026	8	0.04	0.003	19:00 hr	1.08	1.42

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004879	SWRMH-006250	SWRMH-006252	Z48118	Z48116	142	0.017	8	0.16	0.051	19:08 hr	2.11	1.35
SWRGM-004880	SWRMH-005935	SWRMH-006251	Z48105	Z48117	144	0.017	8	0.16	0.05	19:07 hr	2.11	1.37
SWRGM-004881	SWRMH-000999	SWRMH-000992	Z47149	Z47156	49	0.017	8	0.07	0.008	19:04 hr	1.22	1.24
SWRGM-004883	SWRMH-005856	SWRMH-005857	W47132	W47131	99	0.006	8	0.06	0.004	19:01 hr	0.66	0.71
SWRGM-004884	SWRMH-003162	SWRMH-005857	V47168	W47131	215	0.011	8	0.10	0.016	19:04 hr	1.30	1.05
SWRGM-004885	SWRMH-001196	SWRMH-001195	AC46118	AC46119	103	0.009	8	0.21	0.066	19:14 hr	1.87	1.04
SWRGM-004886	SWRMH-006656	SWRMH-006654	AC45114	AC45116	154	0.004	8	0.33	0.1	19:22 hr	1.54	0.68
SWRGM-004887	SWRMH-006662	SWRMH-006667	AC45108	AC45103	344	0.046	8	0.13	0.052	10:12 hr	3.04	2.20
SWRGM-004888	SWRMH-005857	SWRMH-005858	W47131	W47130	184	0.007	8	0.13	0.021	19:05 hr	1.21	0.87
SWRGM-004889	SWRMH-006126	SWRMH-005950	W46143	W46144	110	0.014	8	0.05	0.003	19:00 hr	0.88	1.06
SWRGM-004890	SWRNJ-000669	SWRMH-005846	Z42116	Z42119	44	0.017	8	0.06	0.006	19:01 hr	1.12	1.21
SWRGM-004891	SWRNJ-000656	SWRNJ-000658	Z42115	Z42114	98	0.029	8	0.09	0.018	19:04 hr	1.87	1.66
SWRGM-004892	SWRNJ-000666	SWRNJ-000669	Z42117	Z42116	100	0.042	8	0.05	0.006	19:01 hr	1.50	1.85
SWRGM-004893	SWRNJ-000658	SWRMH-005114	Z42114	Z42142	152	0.018	8	0.10	0.019	19:04 hr	1.60	1.33
SWRGM-004894	SWRCO-000522	SWRMH-005114	Z42105	Z42142	185	0.07	8	0.03	0.003	19:00 hr	1.40	2.21
SWRGM-004895	SWRMH-005113	SWRMH-004974	Z42143	Z42156	145	0.045	8	0.18	0.098	19:18 hr	3.63	2.23
SWRGM-004896	SWRNJ-000649	SWRMH-005113	Z42107	Z42143	12	0.049	8	0.09	0.023	19:06 hr	2.42	2.17
SWRGM-004897	SWRMH-004020	SWRMH-004019	W38169	W38170	94	0.004	8	0.56	0.256	19:33 hr	1.96	0.67
SWRGM-004898	SWRMH-004868	SWRMH-004867	W38131	W38132	274	0.004	8	0.15	0.021	19:10 hr	0.99	0.66
SWRGM-004899	SWRMH-004867	SWRMH-004279	W38132	W38152	152	0.006	8	0.16	0.027	19:11 hr	1.19	0.78
SWRGM-004900	SWRMH-004869	SWRMH-004868	W38130	W38131	247	0.004	8	0.14	0.018	19:08 hr	0.94	0.65
SWRGM-004901	SWRMH-004870	SWRMH-004869	W38129	W38130	250	0.004	8	0.14	0.017	19:06 hr	0.92	0.65
SWRGM-004902	SWRMH-004559	SWRMH-004879	W37145	W37124	252	0.015	8	0.12	0.025	19:08 hr	1.65	1.24
SWRGM-004903	SWRMH-004545	SWRMH-004238	Y37129	Y37150	357	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004904	SWRMH-004544	SWRMH-004545	Y37130	Y37129	259	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004905	SWRMH-004533	SWRMH-004534	Y37141	Y37140	335	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004906	SWRMH-004534	SWRMH-004535	Y37140	Y37139	302	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004907	SWRMH-001011	SWRMH-001015	Z47137	Z47133	332	0.008	8	0.05	0.003	19:03 hr	0.70	0.80
SWRGM-004908	SWRNJ-000686	SWRMH-004526	Z36358	Z36113	55	0.044	8	0.06	0.01	19:09 hr	1.81	1.95
SWRGM-004909	SWRMH-004527	SWRNJ-000685	Z36112	Z36362	259	0.004	8	0.11	0.01	19:09 hr	0.76	0.61
SWRGM-004910	SWRMH-004529	SWRMH-004527	Z36110	Z36112	363	0.004	8	0.10	0.009	19:07 hr	0.75	0.61
SWRGM-004911	SWRMH-002490	SWRMH-004944	W36108	X36149	282	0.021	8	0.04	0.002	19:01 hr	0.88	1.25
SWRGM-004912	SWRMH-004937	SWRMH-004163	AC43115	AC44146	178	0.055	8	0.13	0.057	19:07 hr	3.32	2.40
SWRGM-004913	SWRMH-004118	SWRMH-004117	U44127	U44128	226	0.016	8	0.06	0.006	19:03 hr	1.07	1.17
SWRGM-004914	SWRMH-004117	SWRMH-005450	U44128	U44121	292	0.029	8	0.07	0.013	19:02 hr	1.69	1.64
SWRGM-004915	SWRMH-004067	SWRMH-005450	U44137	U44121	293	0.016	8	0.16	0.049	19:07 hr	2.05	1.32
SWRGM-004916	SWRMH-004083	SWRMH-006190	U43114	U43101	312	0.006	8	0.28	0.092	19:16 hr	1.76	0.85
SWRGM-004917	SWRMH-005452	SWRMH-004083	U43113	U43114	236	0.015	8	0.21	0.082	19:13 hr	2.33	1.30
SWRGM-004918	SWRMH-005411	SWRMH-005408	Z37130	Z37133	300	0.042	8	0.03	0.002	19:02 hr	1.16	1.74
SWRGM-004919	SWRMH-005408	SWRMH-004206	Z37133	Z37147	270	0.046	8	0.04	0.005	19:03 hr	1.51	1.91
SWRGM-004920	SWRMH-006362	SWRMH-004762	Z38103	Z38141	300	0.003	8	0.11	0.009	19:10 hr	0.72	0.58
SWRGM-004921	SWRMH-004113	SWRMH-004112	Z39121	Z39122	299	0.004	8	0.04	0.001	10:02 hr	0.45	0.58
SWRGM-004922	SWRMH-006621	SWRMH-006622	Z39105	Z39104	306	0.027	8	0.14	0.046	10:16 hr	2.44	1.71
SWRGM-004923	SWRMH-006620	SWRMH-006621	Z39106	Z39105	274	0.036	8	0.13	0.045	10:14 hr	2.68	1.95
SWRGM-004924	SWRMH-004070	SWRMH-004074	U44134	U44130	290	0.011	8	0.27	0.109	19:23 hr	2.29	1.14
SWRGM-004925	SWRMH-004064	SWRMH-005206	X36179	X36134	350	0.011	8	0.09	0.012	19:11 hr	1.20	1.04
SWRGM-004926	SWRMH-005204	SWRMH-005203	X36136	X36137	339	0.023	8	0.09	0.016	19:12 hr	1.67	1.48
SWRGM-004927	SWRMH-005212	SWRMH-005213	AB38104	AB38103	230	0.004	8	0.02	0	10:02 hr	0.26	0.49
SWRGM-004928	SWRMH-005213	SWRMH-005214	AB38103	AB38102	230	0.004	8	0.04	0.001	10:04 hr	0.39	0.54
SWRGM-004929	SWRNJ-000591	SWRMH-006357	Y41138	Y41101	15	0.005	8	0.08	0.006	10:01 hr	0.74	0.70
SWRGM-004930	SWRNJ-000590	SWRMH-006357	Y41137	Y41101	12	0.005	8	0.12	0.015	10:12 hr	0.98	0.74
SWRGM-004931	SWRMH-005088	SWRMH-005261	Y41109	Y41113	255	0.004	8	0.17	0.027	10:17 hr	1.06	0.66
SWRGM-004932	SWRMH-004094	SWRMH-004085	AA39128	AA39137	209	0.029	8	0.24	0.144	19:16 hr	3.48	1.83
SWRGM-004933	SWRMH-005014	SWRMH-004693	Z38131	Z38153	195	0.002	8	0.15	0.015	19:09 hr	0.72	0.48
SWRGM-004934	SWRMH-004693	SWRMH-004694	Z38153	Z38152	256	0.032	8	0.08	0.017	19:10 hr	1.92	1.75
SWRGM-004935	SWRMH-004694	SWRMH-006198	Z38152	Z38106	236	0.012	8	0.11	0.018	19:10 hr	1.39	1.10
SWRGM-004936	SWRMH-005224	SWRMH-005223	Z38128	Z38129	87	0.055	8	0.02	0.001	19:02 hr	1.07	1.89
SWRGM-004937	SWRMH-005223	SWRMH-005225	Z38129	Z38127	160	0.003	8	0.12	0.011	19:06 hr	0.72	0.54
SWRGM-004938	SWRMH-006147	SWRMH-006148	U44117	U44116	350	0.016	8	0.05	0.004	19:03 hr	0.94	1.15
SWRGM-004939	SWRMH-005441	SWRMH-005447	Z39116	Z39110	290	0.041	8	0.12	0.044	19:06 hr	2.77	2.06
SWRGM-004940	SWRCO-000530	SWRMH-005883	X43102	X43105	58	0.012	8	0.02	0	19:00 hr	0.45	0.87
SWRGM-004941	SWRMH-006176	SWRMH-003952	X37104	X37155	350	0.009	8	0.50	0.328	20:13 hr	2.88	1.03
SWRGM-004942	SWRMH-004960	SWRMH-004802	Y38133	Y38146	153	0.009	8	0.26	0.096	19:09 hr	2.06	1.03
SWRGM-004943	SWRMH-005805	SWRMH-005804	Z43104	Z43105	246	0.006	8	0.09	0.008	19:05 hr	0.89	0.79
SWRGM-004944	SWRMH-005807	SWRMH-005805	Z43102	Z43104	266	0.006	8	0.07	0.006	19:03 hr	0.76	0.74
SWRGM-004945	SWRMH-005002	SWRMH-004890	Y43128	Z43132	310	0.01	8	0.06	0.005	19:04 hr	0.89	0.93
SWRGM-004946	SWRCO-000307	SWRMH-004907	Y43103	Y43139	120	0.004	8	0.04	0.001	19:01 hr	0.42	0.55
SWRGM-004947	SWRCO-000486	SWRMH-004910	Z41102	Y41134	178	0.005	8	0.12	0.015	19:01 hr	0.99	0.75
SWRGM-004948	SWRMH-004910	SWRMH-004911	Y41134	Y41133	350	0.006	8	0.12	0.016	19:04 hr	1.02	0.77
SWRGM-004949	SWRMH-004723	SWRMH-004724	AB41143	AB41142	320	0.023	8	0.09	0.016	19:07 hr	1.69	1.50
SWRGM-004950	SWRMH-004871	SWRMH-004870	W38128	W38129	200	0.004	8	0.03	0	19:02 hr	0.31	0.52
SWRGM-004951	SWRMH-004388	SWRMH-004870	W38146	W38129	300	0.004	8	0.13	0.015	19:04 hr	0.88	0.64
SWRGM-004952	SWRMH-004872	SWRMH-004871	W38127	W38128	175	0.004	8	0.03	0	19:01 hr	0.32	0.53
SWRGM-004953	SWRMH-004010	SWRMH-004004	AB42120	AB42125	380	0.027	8	0.04	0.004	19:03 hr	1.16	1.47
SWRGM-004954	SWRMH-005342	SWRMH-005343	X42120	X42119	275	0.021	8	0.26	0.14	10:37 hr	3.09	1.57
SWRGM-004955	SWRMH-001117	SWRMH-001116	AB45107	AB45108	255	0.017	8	0.16	0.052	10:04 hr	2.15	1.38
SWRGM-004956	SWRMH-001119	SWRMH-001117	AB45105	AB45107	176	0.009	8	0.19	0.052	10:03 hr	1.73	1.03
SWRGM-004957	SWRMH-001054	SWRMH-001052	AB45124	AB45126	240	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004958	SWRMH-006103	SWRMH-006104	AC48103	AC48102	350	0.009	8	0.15	0.032	10:08 hr	1.47	0.97
SWRGM-004959	SWRMH-005929	SWRMH-000996	Z48111	Z47152	230	0.004	8	0.07	0.004	19:02 hr	0.57	0.59
SWRGM-004960	SWRMH-000996	SWRMH-000997	Z47152	Z47151	228	0.004	8	0.08	0.006	19:04 hr	0.69	0.64
SWRGM-004961	SWRMH-005858	SWRMH-005859	W47130	W47129	266	0.008	8	0.22	0.067	19:07 hr	1.76	0.95
SWRGM-004962	SWRMH-003702	SWRMH-003701	U48109	U48110	110	0.027	8	0.04	0.003	19:00 hr	1.11	1.46
SWRGM-004963	SWRMH-003707	SWRMH-003708	U48104	U48103	149	0.004	8	0.08	0.005	10:07 hr	0.65	0.60
SWRGM-004964	SWRMH-003710	SWRMH-003706	U48101	U48105	351	0.01	8	0.06	0.004	10:03 hr	0.82	0.92
SWRGM-004965	SWRMH-008450	SWRMH-008451	AB40106	AB40105	342	0.026	8	0.12	0.035	19:15 hr	2.20	1.64
SWRGM-004966	SWRMH-005091	SWRMH-005090	AA41117	AA41118	72	0.038	8	0.09	0.022	19:01 hr	2.21	1.92
SWRGM-004967	SWRCO-000483	SWRMH-004660	Z43103	Z43152	89	0.036	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004968	SWRMH-004660	SWRMH-004661	Z43152	Z43151	225	0.024	8	0.00	0	19:01 hr	0.00	0.00
SWRGM-004969	SWRMH-004661	SWRMH-005722	Z43151	Z44107	217	0.038	8	0.00	0	19:01 hr	0.00	0.00
SWRGM-004970	SWRMH-005813	SWRMH-005814	Z41113	Z41112	270	0.01	8	0.72	0.585	19:19 hr	3.38	1.08

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-004971	SWRMH-005814	SWRMH-005815	Z41112	Z41111	275	0.014	8	0.65	0.603	19:20 hr	3.87	1.27
SWRGM-004972	SWRMH-004301	SWRMH-005823	Z41164	Z41103	120	0.011	8	0.31	0.148	19:23 hr	2.46	1.12
SWRGM-004973	SWRMH-004302	SWRMH-004301	Z41163	Z41164	210	0.042	8	0.22	0.147	19:22 hr	4.01	2.20
SWRGM-004974	SWRMH-001193	SWRMH-001198	AC46121	AC46116	270	0.005	8	0.08	0.006	19:02 hr	0.73	0.69
SWRGM-004975	SWRMH-004782	SWRMH-004783	AA42131	AA42130	350	0.022	8	0.25	0.142	19:13 hr	3.14	1.59
SWRGM-004976	SWRMH-000654	SWRMH-004121	T44128	U44124	244	0.012	8	0.05	0.003	19:01 hr	0.80	0.99
SWRGM-004977	SWRMH-004121	SWRMH-004120	U44124	U44125	241	0.016	8	0.06	0.007	19:02 hr	1.16	1.20
SWRGM-004978	SWRCO-000432	SWRMH-004357	X42103	X42134	115	0.023	8	0.03	0.001	10:00 hr	0.78	1.27
SWRGM-004979	SWRMH-003897	SWRMH-003895	Z36138	Z36140	236	0.002	8	0.19	0.024	19:21 hr	0.83	0.49
SWRGM-004980	SWRMH-003896	SWRMH-003897	Z36139	Z36138	281	0.002	8	0.18	0.024	19:19 hr	0.84	0.51
SWRGM-004981	SWRMH-003901	SWRMH-003899	Z36134	Z36136	320	0.027	8	0.04	0.003	19:03 hr	1.11	1.46
SWRGM-004982	SWRMH-006171	SWRMH-006172	AC43102	AC43101	196	0.025	8	0.12	0.032	19:08 hr	2.11	1.60
SWRGM-004983	SWRMH-006170	SWRMH-006171	AC43103	AC43102	157	0.004	8	0.18	0.028	19:08 hr	1.07	0.66
SWRGM-004984	SWRMH-004253	SWRMH-004938	AC43126	AC43114	65	0.038	8	0.07	0.015	19:02 hr	1.93	1.86
SWRGM-004985	SWRMH-004254	SWRMH-004938	AC43125	AC43114	55	0.009	8	0.07	0.006	19:01 hr	0.86	0.88
SWRGM-004986	SWRMH-005434	SWRMH-005433	Z38121	Z38122	128	0.013	8	0.14	0.032	19:06 hr	1.67	1.16
SWRGM-004987	SWRMH-000612	SWRMH-003892	Z38168	Z38167	50	0.046	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-004989	SWRMH-003962	SWRMH-002916	X36184	X35139	305	0.003	8	0.11	0.009	19:13 hr	0.73	0.58
SWRGM-004990	SWRMH-001186	SWRMH-002486	W36120	W36112	338	0.034	8	0.01	0	19:04 hr	0.60	1.37
SWRGM-004991	SWRMH-005431	SWRMH-005412	Z37110	Z37129	353	0.013	8	0.15	0.037	19:29 hr	1.75	1.17
SWRGM-004992	SWRMH-005011	SWRMH-005012	AA38133	AA38132	250	0.018	8	0.24	0.118	10:28 hr	2.78	1.45
SWRGM-004993	SWRMH-004023	SWRMH-004022	AA37158	AA37159	315	0.064	8	0.03	0.003	19:07 hr	1.40	2.14
SWRGM-004994	SWRMH-005063	SWRMH-004023	AA37147	AA37158	614	0.031	8	0.04	0.003	19:06 hr	1.08	1.52
SWRGM-004995	SWRMH-001015	SWRMH-001016	Z47133	Z47132	196	0.004	8	0.18	0.03	19:07 hr	1.09	0.66
SWRGM-004996	SWRMH-005430	SWRMH-005429	Z37111	Z37112	300	0.043	8	0.03	0.002	19:04 hr	1.09	1.72
SWRGM-004997	SWRCO-000457	SWRMH-005430	Z37102	Z37111	125	0.033	8	0.02	0	19:00 hr	0.65	1.37
SWRGM-004998	SWRMH-006214	SWRMH-005052	Y36101	Y36130	303	0.009	8	0.05	0.003	19:02 hr	0.73	0.87
SWRGM-004999	SWRMH-005905	SWRMH-005906	AB48113	AB48112	350	0.031	8	0.13	0.046	10:04 hr	2.56	1.82
SWRGM-005000	SWRMH-001079	SWRMH-001095	AB46138	AB46121	76	0.064	8	0.22	0.177	19:42 hr	4.90	2.71
SWRGM-005001	SWRMH-004104	SWRMH-004103	AA38156	AA38157	360	0.027	8	0.12	0.035	19:20 hr	2.26	1.68
SWRGM-005002	SWRMH-005146	SWRMH-005148	Z40117	Z40115	215	0.055	8	0.06	0.01	19:01 hr	1.94	2.16
SWRGM-005003	SWRMH-004024	SWRMH-004115	Z40152	Z39119	376	0.004	8	0.12	0.014	10:06 hr	0.87	0.65
SWRGM-005004	SWRCO-000430	SWRMH-004357	X42105	X42134	141	0.004	8	0.04	0.001	10:01 hr	0.42	0.54
SWRGM-005005	SWRMH-001022	SWRMH-001021	Z46132	Z46133	188	0.048	8	0.06	0.011	19:11 hr	1.93	2.04
SWRGM-005006	SWRMH-001025	SWRMH-001024	Z46129	Z46130	153	0.006	8	0.13	0.02	19:14 hr	1.11	0.79
SWRGM-005007	SWRMH-005687	SWRMH-005686	Z45106	Z45107	193	0.005	8	0.12	0.013	19:11 hr	0.92	0.71
SWRGM-005009	SWRMH-001201	SWRMH-001200	AC46113	AC46114	130	0.005	8	0.19	0.036	19:11 hr	1.24	0.75
SWRGM-005010	SWRMH-001200	SWRMH-001199	AC46114	AC46115	151	0.004	8	0.19	0.037	19:12 hr	1.21	0.71
SWRGM-005011	SWRMH-001171	SWRMH-001168	AA46167	AA46168	197	0.005	8	0.18	0.033	19:07 hr	1.21	0.74
SWRGM-005016	SWRMH-006444	SWRMH-006443	X45108	X45109	94	0.008	8	0.05	0.003	19:03 hr	0.71	0.81
SWRGM-005020	SWRMH-004152	SWRMH-004151	W42115	W42116	340	0.008	8	0.11	0.015	10:17 hr	1.12	0.88
SWRGM-005021	SWRMH-004288	SWRMH-005736	AA43124	AA43106	355	0.039	8	0.04	0.003	10:01 hr	1.26	1.71
SWRGM-005022	SWRMH-004289	SWRMH-004288	AA43123	AA43124	212	0.039	8	0.01	0	19:01 hr	0.64	1.46
SWRGM-005025	SWRMH-004365	SWRMH-004438	AA41158	AA41149	219	0.022	8	0.27	0.165	19:17 hr	3.29	1.60
SWRGM-005026	SWRMH-006637	SWRMH-004458	Y36110	Y36160	239	0.013	8	0.03	0.001	10:04 hr	0.57	0.94
SWRGM-005027	SWRMH-005736	SWRMH-004927	AA43106	AB43105	246	0.04	8	0.04	0.003	10:02 hr	1.27	1.74
SWRGM-005028	SWRMH-000990	SWRMH-000970	Z47158	Z47161	190	0.004	8	0.04	0.002	19:01 hr	0.46	0.57
SWRGM-005029	SWRMH-000993	SWRMH-000992	Z47155	Z47156	155	0.034	8	0.03	0.002	19:00 hr	0.94	1.53
SWRGM-005030	SWRMH-005322	SWRMH-005323	Y42120	Y42119	516	0.006	8	0.11	0.014	10:05 hr	0.98	0.76
SWRGM-005031	SWRMH-005323	SWRMH-005324	Y42119	Y42118	417	0.006	8	0.11	0.014	10:09 hr	1.00	0.78
SWRGM-005032	SWRMH-001138	SWRMH-001137	W36123	W36124	293	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005033	SWRMH-001139	SWRMH-001138	W36122	W36123	200	0.033	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005035	SWRMH-004303	SWRMH-004302	Z41162	Z41163	330	0.042	8	0.22	0.145	19:22 hr	3.98	2.19
SWRGM-005036	SWRMH-004304	SWRMH-004303	Z41161	Z41162	260	0.037	8	0.22	0.138	19:21 hr	3.76	2.06
SWRGM-005037	SWRMH-005760	SWRMH-005763	Y43107	Y43104	220	0.013	8	0.06	0.005	19:01 hr	0.93	1.04
SWRGM-005038	SWRMH-005760	SWRMH-005761	Y43107	Y43106	364	0.005	8	0.03	0.001	19:03 hr	0.34	0.56
SWRGM-005039	SWRMH-005112	SWRMH-005111	Y43120	Y43121	228	0.037	8	0.06	0.01	19:02 hr	1.69	1.80
SWRGM-005040	SWRMH-004392	SWRMH-004576	Y44128	Y44118	350	0.004	8	0.06	0.003	19:03 hr	0.55	0.59
SWRGM-005041	SWRMH-005732	SWRMH-004740	Y44104	Y44112	216	0.005	8	0.03	0.001	19:07 hr	0.39	0.59
SWRGM-005042	SWRMH-005710	SWRMH-005735	AA43103	AA43107	351	0.078	8	0.00	0	18:59 hr	0.00	0.00
SWRGM-005043	SWRMH-005711	SWRMH-005712	AA43102	AA43101	160	0.059	8	0.02	0.001	19:00 hr	0.97	1.90
SWRGM-005044	SWRMH-004287	SWRMH-005737	AA43125	AA43105	239	0.063	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005045	SWRMH-004982	SWRMH-004983	Z42148	Z42147	250	0.044	8	0.06	0.009	19:03 hr	1.74	1.93
SWRGM-005046	SWRMH-004980	SWRMH-004981	Z42150	Z42149	288	0.014	8	0.05	0.003	19:01 hr	0.90	1.08
SWRGM-005047	SWRMH-004981	SWRMH-004982	Z42149	Z42148	249	0.043	8	0.05	0.007	19:02 hr	1.61	1.88
SWRGM-005048	SWRMH-005631	SWRMH-004792	W37110	W37129	226	0.009	8	0.15	0.033	19:13 hr	1.51	1.00
SWRGM-005049	SWRMH-005725	SWRMH-005631	W37112	W37110	74	0.012	8	0.13	0.028	19:13 hr	1.57	1.13
SWRGM-005050	SWRMH-004733	SWRMH-005726	W37132	W37111	153	0.024	8	0.13	0.037	19:15 hr	2.17	1.57
SWRGM-005051	SWRMH-004396	SWRMH-004654	Z43168	Z43158	102	0.012	8	0.14	0.03	19:08 hr	1.62	1.14
SWRGM-005052	SWRMH-004681	SWRMH-004680	X36168	X36169	271	0.009	8	0.09	0.01	19:05 hr	1.05	0.93
SWRGM-005053	SWRMH-005402	SWRMH-004680	X36132	X36169	115	0.018	8	0.04	0.002	19:01 hr	0.83	1.15
SWRGM-005054	SWRMH-005404	SWRMH-005405	X36130	X36129	139	0.012	8	0.03	0.001	19:01 hr	0.61	0.91
SWRGM-005055	SWRMH-005406	SWRMH-004681	X36128	X36168	285	0.004	8	0.09	0.007	19:04 hr	0.69	0.62
SWRGM-005056	SWRMH-005845	SWRNJ-000633	Z42120	Z41367	302	0.047	8	0.04	0.004	19:04 hr	1.36	1.87
SWRGM-005057	SWRMH-001018	SWRMH-001019	Z47130	Z47129	303	0.013	8	0.07	0.007	19:02 hr	1.04	1.06
SWRGM-005058	SWRMH-001019	SWRMH-001020	Z47129	Z47128	302	0.004	8	0.11	0.011	19:05 hr	0.80	0.64
SWRGM-005059	SWRMH-005167	SWRMH-005764	Y43138	Y43103	150	0.049	8	0.02	0.001	19:00 hr	1.03	1.79
SWRGM-005060	SWRMH-005825	SWRMH-005169	Y43101	Y43136	155	0.011	8	0.07	0.007	19:04 hr	1.01	1.00
SWRGM-005061	SWRMH-005461	SWRMH-005462	Z43124	Z43123	295	0.004	8	0.23	0.048	19:07 hr	1.25	0.68
SWRGM-005062	SWRMH-005462	SWRMH-005463	Z43123	Z43122	262	0.018	8	0.16	0.052	19:08 hr	2.19	1.41
SWRGM-005063	SWRMH-005806	SWRMH-005807	Z43103	Z43102	240	0.011	8	0.05	0.003	19:01 hr	0.76	0.93
SWRGM-005065	SWRMH-005549	SWRMH-004429	Y38111	Z38161	300	0.005	8	0.24	0.058	10:54 hr	1.43	0.76
SWRGM-005066	SWRMH-005550	SWRNJ-000612	Y38110	Y38233	21	0.001	8	0.33	0.058	10:49 hr	0.92	0.41
SWRGM-005067	SWRMH-005644	SWRMH-005339	X43117	X42123	271	0.029	8	0.17	0.071	10:36 hr	2.84	1.79
SWRGM-005068	SWRMH-005127	SWRMH-005128	X43120	X43119	350	0.007	8	0.04	0.002	10:20 hr	0.58	0.73
SWRGM-005069	SWRMH-001101	SWRMH-001071	AB46115	AB46147	270	0.02	8	0.07	0.008	19:02 hr	1.31	1.35
SWRGM-005070	SWRMH-001071	SWRMH-001109	AB46147	AB46107	265	0.054	8	0.06	0.01	19:02 hr	1.97	2.16
SWRGM-005071	SWRNJ-000826	SWRMH-001083	AB46102	AB46133	10	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005072	SWRMH-001083	SWRMH-001075	AB46133	AB46143	260	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005073	SWRMH-005860	SWRMH-001076	AB47103	AB46142	248	0.004	8	0.43	0.166	19:33 hr	1.77	0.68
SWRGM-005074	SWRMH-001109	SWRMH-001111	AB46107	AB46105	283	0.004	8	0.28	0.075	19:09 hr	1.47	0.71

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005075	SWRMH-001111	SWRMH-001114	AB46105	AB46102	267	0.013	8	0.23	0.092	19:08 hr	2.28	1.21
SWRGM-005076	SWRMH-001285	SWRMH-001107	AA46112	AB46109	240	0.005	8	0.20	0.042	19:04 hr	1.34	0.79
SWRGM-005077	SWRMH-005161	SWRMH-004635	Z41137	Z41154	225	0.053	8	0.03	0.003	19:00 hr	1.39	1.98
SWRGM-005078	SWRMH-005467	SWRMH-004632	Z41119	Z41157	220	0.027	8	0.06	0.007	10:01 hr	1.39	1.52
SWRGM-005079	SWRMH-005819	SWRMH-005820	Z41107	Z41106	182	0.037	8	0.04	0.003	19:00 hr	1.19	1.67
SWRGM-005080	SWRMH-005820	SWRMH-005821	Z41106	Z41105	229	0.008	8	0.14	0.027	19:01 hr	1.38	0.95
SWRGM-005081	SWRMH-005821	SWRMH-005822	Z41105	Z41104	229	0.01	8	0.14	0.03	19:03 hr	1.49	1.02
SWRGM-005082	SWRCO-000827	SWRMH-005933	Z48108	Z48107	310	0.014	8	0.05	0.004	19:02 hr	0.94	1.08
SWRGM-005083	SWRMH-005939	SWRMH-005937	Z48101	Z48103	300	0.008	8	0.10	0.013	19:04 hr	1.08	0.88
SWRGM-005084	SWRCO-000828	SWRMH-005934	Z48107	Z48106	288	0.012	8	0.04	0.003	19:01 hr	0.77	0.98
SWRGM-005085	SWRCO-000832	SWRMH-005936	Z48103	Z48104	252	0.012	8	0.04	0.002	19:01 hr	0.75	0.98
SWRGM-005086	SWRMH-005936	SWRMH-005935	Z48104	Z48105	330	0.007	8	0.13	0.021	19:07 hr	1.23	0.88
SWRGM-005087	SWRMH-005937	SWRMH-005936	Z48103	Z48104	196	0.01	8	0.10	0.015	19:05 hr	1.25	1.02
SWRGM-005088	SWRMH-005938	SWRMH-005939	Z48102	Z48101	300	0.007	8	0.09	0.01	19:02 hr	0.98	0.84
SWRGM-005090	SWRMH-006675	SWRMH-006674	X46104	X46105	115	0.004	8	0.02	0	19:03 hr	0.28	0.52
SWRGM-005091	SWRMH-000987	SWRMH-000988	AA46170	AA46169	315	0.005	8	0.15	0.024	19:05 hr	1.10	0.73
SWRGM-005092	SWRMH-000982	SWRMH-001168	AA46175	AA46168	140	0.063	8	0.03	0.004	19:01 hr	1.51	2.15
SWRGM-005093	SWRMH-006357	SWRMH-004313	Y41101	Y41147	138	0.007	8	0.27	0.084	10:24 hr	1.76	0.87
SWRGM-005094	SWRNJ-000793	SWRMH-005987	AA42105	AA42107	30	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005095	SWRNJ-000787	SWRMH-004782	AA42104	AA42131	20	0.035	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005096	SWRMH-005913	SWRMH-005914	AB48105	AB48104	192	0.004	8	0.10	0.009	10:03 hr	0.75	0.62
SWRGM-005097	SWRMH-005912	SWRMH-005913	AB48106	AB48105	162	0.004	8	0.09	0.006	10:01 hr	0.68	0.61
SWRGM-005098	SWRNJ-000440	SWRMH-004132	W39103	W39151	145	0.004	8	0.01	0	19:01 hr	0.19	0.45
SWRGM-005099	SWRCO-000469	SWRMH-004131	X39101	W39152	151	0.004	8	0.06	0.003	19:01 hr	0.52	0.56
SWRGM-005100	SWRMH-005792	SWRMH-004581	Y37112	Y36156	165	0.006	8	0.10	0.012	19:03 hr	0.94	0.76
SWRGM-005101	SWRMH-004582	SWRMH-005791	Y36155	Y37113	191	0.004	8	0.08	0.006	19:01 hr	0.67	0.61
SWRGM-005102	SWRNJ-000519	SWRMH-003917	X40159	x40119	165	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005103	SWRMH-003917	SWRMH-003916	x40119	x40120	300	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005104	SWRMH-005552	SWRMH-005568	AB47124	AB47108	59	0.004	8	0.21	0.044	10:10 hr	1.27	0.71
SWRGM-005105	SWRNJ-000846	SWRMH-005559	AB47101	AB47117	11	0.015	8	0.08	0.011	10:00 hr	1.28	1.18
SWRGM-005106	SWRMH-001052	SWRMH-001118	AB45126	AB45106	135	0.036	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005107	SWRMH-001053	SWRMH-001054	AB45125	AB45124	235	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005108	SWRMH-001118	SWRMH-001119	AB45106	AB45105	252	0.01	8	0.19	0.052	10:01 hr	1.77	1.05
SWRGM-005109	SWRMH-001115	SWRMH-006662	AB45109	AC45108	347	0.006	8	0.21	0.052	10:10 hr	1.51	0.85
SWRGM-005110	SWRMH-006354	SWRMH-004729	AA42103	AA42139	142	0.004	8	0.36	0.11	19:15 hr	1.52	0.64
SWRGM-005111	SWRMH-005290	SWRMH-006356	AA42116	AA42101	284	0.004	8	0.36	0.11	19:09 hr	1.54	0.65
SWRGM-005112	SWRMH-004752	SWRMH-004728	AA42136	AA42140	138	0.003	8	0.22	0.04	19:10 hr	1.10	0.61
SWRGM-005113	SWRMH-004751	SWRMH-004752	AA42137	AA42136	281	0.002	8	0.25	0.04	19:09 hr	0.90	0.46
SWRGM-005114	SWRMH-005815	SWRMH-005157	Z41111	Z41141	280	0.022	8	0.56	0.604	19:21 hr	4.69	1.62
SWRGM-005115	SWRMH-005990	SWRMH-005266	AA42104	AA41122	248	0.008	8	0.08	0.009	19:02 hr	0.97	0.87
SWRGM-005116	SWRMH-003904	SWRMH-003905	Z38165	Z38164	300	0.005	8	0.11	0.012	19:16 hr	0.87	0.69
SWRGM-005117	SWRMH-004761	SWRMH-003904	Z38142	Z38165	229	0.003	8	0.12	0.011	19:14 hr	0.74	0.57
SWRGM-005118	SWRMH-005044	SWRMH-005146	Z40124	Z40117	216	0.067	8	0.05	0.01	19:00 hr	2.08	2.38
SWRGM-005119	SWRMH-005132	SWRMH-005133	X41143	X41142	148	0.015	8	0.03	0.001	10:05 hr	0.68	1.04
SWRGM-005120	SWRMH-003998	SWRMH-005132	X42152	X41143	215	0.004	8	0.04	0.001	10:04 hr	0.43	0.55
SWRGM-005121	SWRMH-005068	SWRMH-005133	X41147	X41142	226	0.004	8	0.02	0	10:02 hr	0.27	0.48
SWRGM-005122	SWRMH-004143	SWRMH-004142	W38161	W38162	270	0.006	8	0.02	0.001	19:02 hr	0.37	0.62
SWRGM-005123	SWRMH-004141	SWRMH-004140	W38163	W38164	265	0.017	8	0.04	0.003	19:03 hr	0.92	1.17
SWRGM-005124	SWRMH-004796	SWRMH-005308	W38141	W38121	300	0.005	8	0.10	0.011	19:08 hr	0.87	0.71
SWRGM-005125	SWRMH-005309	SWRMH-005308	W38120	W38121	364	0.004	8	0.13	0.015	19:08 hr	0.91	0.66
SWRGM-005126	SWRMH-004385	SWRMH-004384	W38149	W38150	181	0.028	8	0.05	0.006	19:01 hr	1.31	1.53
SWRGM-005127	SWRMH-005437	SWRMH-006643	X37111	X37101	142	0.011	8	0.03	0.001	19:01 hr	0.55	0.86
SWRGM-005128	SWRMH-005933	SWRMH-005934	Z48107	Z48106	209	0.009	8	0.13	0.022	19:05 hr	1.30	0.95
SWRGM-005129	SWRMH-005932	SWRMH-005933	Z48108	Z48107	203	0.013	8	0.10	0.016	19:04 hr	1.36	1.14
SWRGM-005130	SWRMH-005930	SWRMH-005932	Z48110	Z48108	196	0.009	8	0.09	0.01	19:03 hr	1.04	0.93
SWRGM-005131	SWRMH-005685	SWRMH-004567	Z45108	Z44119	161	0.034	8	0.05	0.007	19:09 hr	1.47	1.69
SWRGM-005132	SWRMH-006451	SWRMH-006450	X45101	X45102	260	0.008	8	0.02	0.001	19:02 hr	0.43	0.73
SWRGM-005133	SWRMH-006449	SWRMH-006448	X45103	X45104	220	0.017	8	0.03	0.002	19:01 hr	0.75	1.10
SWRGM-005134	SWRMH-006451	SWRMH-006449	X45101	X45103	210	0.007	8	0.02	0.001	19:01 hr	0.39	0.66
SWRGM-005135	SWRMH-006343	SWRMH-006342	Y45113	Y45114	136	0.006	8	0.02	0	19:00 hr	0.27	0.58
SWRGM-005136	SWRMH-006798	SWRMH-006294	Y45102	Y45148	350	0.01	8	0.01	0	19:02 hr	0.30	0.72
SWRGM-005137	SWRMH-006294	SWRMH-006293	Y45148	Y45149	274	0.019	8	0.01	0	19:03 hr	0.39	0.98
SWRGM-005138	SWRMH-005128	SWRMH-005129	X43119	X43118	348	0.005	8	0.05	0.002	10:24 hr	0.54	0.66
SWRGM-005139	SWRMH-005130	SWRMH-005184	X41145	X41127	245	0.004	8	0.18	0.031	10:25 hr	1.14	0.70
SWRGM-005140	SWRNJ-000463	SWRMH-004597	X37358	X37135	99	0.012	8	0.11	0.02	19:06 hr	1.41	1.10
SWRGM-005141	SWRMH-006293	SWRMH-000327	Y45149	Y45183	58	0.007	8	0.01	0	19:04 hr	0.27	0.60
SWRGM-005142	SWRMH-005312	SWRMH-004285	AA43112	AA43127	262	0.088	8	0.01	0	19:00 hr	0.81	2.10
SWRGM-005143	SWRMH-005528	SWRMH-004606	W37116	W37139	184	0.004	8	0.03	0.001	19:01 hr	0.39	0.57
SWRGM-005144	SWRMH-006011	SWRMH-004607	W38108	W37138	233	0.006	8	0.07	0.005	19:03 hr	0.74	0.73
SWRGM-005145	SWRMH-005634	SWRMH-005723	W37107	W37114	210	0.005	8	0.08	0.006	19:04 hr	0.71	0.68
SWRGM-005146	SWRMH-005636	SWRMH-005634	W37105	W37107	209	0.006	8	0.06	0.004	19:03 hr	0.67	0.71
SWRGM-005148	SWRMH-004611	SWRMH-005291	AA43116	AA42115	201	0.007	8	0.09	0.01	19:05 hr	0.97	0.82
SWRGM-005149	SWRMH-006943	SWRMH-006934	Y42108	Y42104	350	0.006	8	0.60	0.354	10:50 hr	2.53	0.85
SWRGM-005150	SWRMH-006937	SWRMH-005320	Y42101	Y42122	150	0.012	8	0.18	0.051	19:15 hr	1.91	1.18
SWRGM-005151	SWRMH-006936	SWRMH-006937	Y42102	Y42101	226	0.04	8	0.13	0.05	19:14 hr	2.86	2.05
SWRGM-005152	SWRMH-004371	SWRMH-004372	AA42145	AA42144	210	0.024	8	0.09	0.015	19:06 hr	1.67	1.50
SWRGM-005153	SWRMH-000699	SWRMH-005990	AA42119	AA42104	40	0.013	8	0.06	0.006	19:01 hr	1.01	1.06
SWRGM-005154	SWRMH-003165	SWRMH-003163	V47165	V47167	281	0.005	8	0.07	0.005	19:02 hr	0.69	0.67
SWRGM-005155	SWRMH-004765	SWRMH-004764	Z38138	Z38139	166	0.003	8	0.02	0	19:01 hr	0.25	0.43
SWRGM-005157	SWRMH-004731	SWRMH-005027	AA37152	AA37132	180	0.044	8	0.05	0.007	10:01 hr	1.60	1.90
SWRGM-005158	SWRMH-005447	SWRMH-004114	Z39110	Z39120	282	0.034	8	0.13	0.045	19:07 hr	2.64	1.90
SWRGM-005159	SWRMH-005171	SWRMH-004914	Y41124	Y41130	174	0.005	8	0.22	0.048	10:23 hr	1.34	0.75
SWRGM-005160	SWRMH-005483	SWRMH-005482	AA42110	AA42111	198	0.018	8	0.10	0.018	19:02 hr	1.59	1.32
SWRGM-005161	SWRMH-005988	SWRNJ-000800	AA42106	AA42194	275	0.033	8	0.07	0.013	19:03 hr	1.78	1.74
SWRGM-005162	SWRMH-004745	SWRMH-005988	AB42118	AA42106	282	0.012	8	0.06	0.005	19:01 hr	0.94	1.04
SWRGM-005163	SWRMH-004402	SWRMH-004375	AA43120	AA42141	344	0.005	8	0.14	0.019	19:04 hr	1.04	0.74
SWRGM-005164	SWRCO-000513	SWRMH-004750	AA42108	AA42138	54	0.005	8	0.03	0.001	19:00 hr	0.35	0.57
SWRGM-005165	SWRMH-004750	SWRMH-005315	AA42138	AA43110	355	0.004	8	0.05	0.002	19:03 hr	0.49	0.59
SWRGM-005166	SWRMH-004375	SWRMH-004373	AA42141	AA42143	277	0.018	8	0.11	0.025	19:05 hr	1.75	1.35
SWRGM-005167	SWRMH-004374	SWRMH-004373	AA42142	AA42143	153	0.019	8	0.09	0.015	19:06 hr	1.56	1.37
SWRGM-005168	SWRNJ-000495	SWRMH-005129	X43102	X43118	85	0.005	8	0.02	0	19:01 hr	0.31	0.56

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005169	SWRMH-005416	SWRMH-005622	Z37125	Z37101	350	0.039	8	0.02	0.001	19:01 hr	0.85	1.57
SWRGM-005170	SWRMH-005621	SWRMH-005620	Z37102	Z37103	350	0.003	8	0.06	0.002	19:05 hr	0.43	0.47
SWRGM-005171	SWRMH-005620	SWRMH-004483	Z37103	Z36129	300	0.002	8	0.16	0.017	19:14 hr	0.77	0.51
SWRGM-005172	SWRCO-000452	SWRMH-005418	Z37107	Z37123	190	0.008	8	0.02	0.001	19:01 hr	0.43	0.73
SWRGM-005173	SWRCO-000480	SWRMH-005800	Z43106	Z43109	132	0.012	8	0.03	0.001	19:00 hr	0.58	0.91
SWRGM-005174	SWRMH-003178	SWRMH-003177	V47152	V47153	350	0.009	8	0.07	0.007	19:02 hr	0.94	0.91
SWRGM-005175	SWRMH-003190	SWRMH-003245	V47140	V46162	249	0.019	8	0.31	0.189	19:30 hr	3.25	1.49
SWRGM-005176	SWRMH-003204	SWRMH-003202	V47126	V47128	350	0.009	8	0.08	0.007	19:05 hr	0.97	0.93
SWRGM-005177	SWRMH-003200	SWRMH-003199	V47130	V47131	214	0.007	8	0.06	0.004	19:01 hr	0.75	0.79
SWRGM-005178	SWRNJ-000349	SWRMH-003298	V46544	V46109	139	0.004	8	0.17	0.027	19:10 hr	1.06	0.67
SWRGM-005179	SWRMH-003245	SWRMH-003278	V46162	V46129	300	0.012	8	0.41	0.26	19:28 hr	2.99	1.18
SWRGM-005180	SWRNJ-000356	SWRMH-003278	V46106	V46129	151	0.009	8	0.16	0.036	19:10 hr	1.56	1.02
SWRGM-005181	SWRMH-005375	SWRMH-005593	W40130	W40115	355	0.008	8	0.11	0.014	19:06 hr	1.10	0.88
SWRGM-005182	SWRMH-004155	SWRMH-004154	AC44154	AC44155	350	0.053	8	0.03	0.003	19:01 hr	1.38	1.98
SWRGM-005183	SWRMH-004630	SWRMH-005160	Z41159	Z41138	179	0.012	8	0.36	0.209	19:11 hr	2.85	1.20
SWRGM-005184	SWRMH-004986	SWRNJ-000650	Z42144	Z42106	98	0.002	8	0.19	0.023	19:05 hr	0.73	0.43
SWRGM-005185	SWRNJ-000650	SWRNJ-000648	Z42106	Z42110	101	0.007	8	0.14	0.023	19:05 hr	1.25	0.89
SWRGM-005186	SWRMH-005114	SWRNJ-000659	Z42142	Z42113	97	0.019	8	0.10	0.021	19:04 hr	1.69	1.36
SWRGM-005187	SWRNJ-000659	SWRNJ-000655	Z42113	Z42112	100	0.027	8	0.10	0.021	19:05 hr	1.91	1.62
SWRGM-005188	SWRNJ-000655	SWRNJ-000653	Z42112	Z42111	50	0.034	8	0.09	0.022	19:05 hr	2.11	1.83
SWRGM-005189	SWRMH-005116	SWRNJ-000656	Z42140	Z42115	108	0.036	8	0.08	0.017	19:04 hr	2.01	1.85
SWRGM-005190	SWRNJ-000651	SWRNJ-000652	Z42118	Z42121	46	0.014	8	0.09	0.013	19:04 hr	1.34	1.18
SWRGM-005191	SWRNJ-000588	SWRNJ-000590	Y41136	Y41137	100	0.037	8	0.08	0.015	10:12 hr	1.94	1.84
SWRGM-005192	SWRMH-004280	SWRMH-004866	W38151	W38133	150	0.004	8	0.08	0.005	19:01 hr	0.64	0.60
SWRGM-005193	SWRMH-004344	SWRMH-003960	W37150	X37147	280	0	8	0.24	0.016	19:08 hr	0.39	0.20
SWRGM-005194	SWRMH-004606	SWRMH-004344	W37139	W37150	285	0.004	8	0.12	0.013	19:06 hr	0.88	0.66
SWRGM-005195	SWRMH-005638	SWRMH-005640	W37104	W37102	138	0.017	8	0.03	0.001	19:00 hr	0.67	1.07
SWRGM-005196	SWRMH-005640	SWRMH-005639	W37102	W37103	106	0.005	8	0.06	0.004	19:03 hr	0.61	0.64
SWRGM-005197	SWRMH-004604	SWRMH-004606	W37140	W37139	341	0.007	8	0.09	0.009	19:05 hr	0.93	0.82
SWRGM-005198	SWRNJ-000598	SWRMH-005731	Y44219	Y44105	55	0.025	8	0.05	0.004	19:03 hr	1.15	1.42
SWRGM-005199	SWRNJ-000625	SWRMH-004395	Y44220	Y44125	55	0.015	8	0.06	0.005	19:04 hr	0.99	1.11
SWRGM-005200	SWRMH-004575	SWRMH-004874	Y44119	Z44108	295	0.004	8	0.05	0.002	19:05 hr	0.47	0.56
SWRGM-005201	SWRMH-004573	SWRMH-004574	Y44121	Y44120	175	0.004	8	0.02	0	19:01 hr	0.22	0.47
SWRGM-005202	SWRMH-004576	SWRMH-004739	Y44118	Y44113	343	0.004	8	0.08	0.006	19:06 hr	0.68	0.62
SWRGM-005203	SWRMH-004656	SWRMH-005799	Z43156	Z43110	166	0.006	8	0.11	0.012	19:06 hr	0.95	0.77
SWRGM-005204	SWRCO-000479	SWRMH-004656	Z43107	Z43156	145	0.021	8	0.04	0.003	19:00 hr	0.99	1.28
SWRGM-005205	SWRMH-005795	SWRMH-005532	Z43114	Z43115	321	0.015	8	0.03	0.001	19:02 hr	0.61	1.00
SWRGM-005206	SWRMH-005802	SWRMH-005797	Z43107	Z43112	127	0.005	8	0.07	0.004	19:04 hr	0.66	0.67
SWRGM-005207	SWRMH-004885	SWRMH-005799	Z43137	Z43110	137	0.009	8	0.03	0.001	19:01 hr	0.54	0.80
SWRGM-005208	SWRMH-004886	SWRMH-004885	Z43136	Z43137	241	0.009	8	0.00	0	19:01 hr	0.00	0.00
SWRGM-005209	SWRMH-005801	SWRNJ-000675	Z43108	Z43398	55	0.069	8	0.04	0.005	19:01 hr	1.77	2.32
SWRGM-005210	SWRMH-005881	SWRMH-003982	X43107	Y43156	349	0.031	8	0.06	0.007	19:05 hr	1.48	1.64
SWRGM-005211	SWRCO-000487	SWRMH-005824	Y43106	Y43102	87	0.041	8	0.02	0.001	19:00 hr	0.85	1.60
SWRGM-005212	SWRMH-005000	SWRMH-004999	Y43130	Y43131	350	0.028	8	0.05	0.005	19:02 hr	1.29	1.51
SWRGM-005213	SWRMH-005824	SWRMH-005000	Y43102	Y43130	350	0.024	8	0.04	0.003	19:01 hr	1.05	1.36
SWRGM-005214	SWRMH-005259	SWRMH-004408	AA41126	AA41152	281	0.019	8	0.12	0.029	19:02 hr	1.89	1.42
SWRGM-005215	SWRMH-004011	SWRMH-004012	AA41164	AA41163	271	0.024	8	0.05	0.004	19:02 hr	1.13	1.38
SWRGM-005216	SWRMH-004283	SWRMH-004570	Z44124	Z44116	299	0.004	8	0.11	0.01	19:12 hr	0.80	0.64
SWRGM-005217	SWRCO-000408	SWRMH-004281	Z44101	Z44126	124	0.004	8	0.03	0.001	19:01 hr	0.34	0.51
SWRGM-005218	SWRNJ-000419	SWRMH-006015	W38380	W38104	186	0.004	8	0.06	0.003	19:03 hr	0.57	0.60
SWRGM-005219	SWRMH-004138	SWRNJ-000419	W38166	W38380	22	0.005	8	0.05	0.002	19:02 hr	0.54	0.62
SWRGM-005220	SWRMH-004719	SWRMH-004720	Z41144	Z41143	200	0.054	8	0.03	0.002	19:00 hr	1.27	1.95
SWRGM-005221	SWRMH-004632	SWRMH-005817	Z41157	Z41109	241	0.003	8	0.10	0.008	10:03 hr	0.65	0.54
SWRGM-005222	SWRMH-004134	SWRMH-005303	W39149	W38126	366	0.004	8	0.12	0.013	19:07 hr	0.86	0.64
SWRGM-005223	SWRNJ-000443	SWRMH-005507	W39102	W39108	100	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005224	SWRMH-005501	SWRMH-004845	W39114	W38139	215	0.009	8	0.13	0.024	19:12 hr	1.36	0.97
SWRGM-005225	SWRMH-006005	SWRMH-006004	X38112	X38113	350	0.004	8	0.06	0.002	19:03 hr	0.50	0.56
SWRGM-005226	SWRMH-004127	SWRMH-006006	X38140	X38111	366	0.003	8	0.03	0.001	19:05 hr	0.35	0.49
SWRGM-005227	SWRMH-004128	SWRMH-004127	X38139	X38140	195	0.004	8	0.03	0.001	19:02 hr	0.37	0.53
SWRGM-005228	SWRMH-004129	SWRMH-004128	X38138	X38139	211	0.018	8	0.02	0.001	19:01 hr	0.63	1.10
SWRGM-005229	SWRMH-005498	SWRMH-005497	X38124	X38125	350	0.003	8	0.10	0.008	19:17 hr	0.69	0.58
SWRGM-005230	SWRMH-005497	SWRMH-004130	X38125	X38137	273	0.004	8	0.10	0.008	19:19 hr	0.70	0.59
SWRGM-005231	SWRMH-005499	SWRMH-005498	X38123	X38124	184	0.004	8	0.10	0.008	19:14 hr	0.70	0.59
SWRGM-005232	SWRMH-004476	SWRMH-004474	W39130	W39132	260	0.01	8	0.15	0.033	19:16 hr	1.57	1.06
SWRGM-005233	SWRMH-004474	SWRMH-004472	W39132	W39134	136	0.026	8	0.13	0.037	19:16 hr	2.26	1.66
SWRGM-005234	SWRMH-005303	SWRMH-005304	W38126	W38125	287	0.004	8	0.14	0.019	19:08 hr	0.95	0.65
SWRGM-005235	SWRCO-000402	SWRMH-005305	W38106	W38124	141	0.01	8	0.04	0.002	19:01 hr	0.61	0.86
SWRGM-005236	SWRCO-000524	SWRMH-005577	Z42103	Z42125	66	0.006	8	0.03	0.001	19:00 hr	0.40	0.64
SWRGM-005237	SWRMH-005872	SWRMH-004979	Z42109	Z42151	263	0.006	8	0.09	0.008	19:04 hr	0.86	0.77
SWRGM-005238	SWRMH-004979	SWRMH-005871	Z42151	Z42110	173	0.006	8	0.11	0.014	19:04 hr	1.02	0.79
SWRGM-005239	SWRNJ-000672	SWRMH-005870	Z42105	Z42111	149	0.039	8	0.08	0.02	19:04 hr	2.15	1.94
SWRGM-005240	SWRMH-004977	SWRMH-004978	Z42152	Z42153	166	0.036	8	0.04	0.003	19:00 hr	1.19	1.64
SWRGM-005241	SWRMH-005874	SWRMH-004977	Z42153	Z42107	179	0.02	8	0.02	0.001	19:01 hr	0.67	1.14
SWRGM-005242	SWRMH-005869	SWRMH-005868	Z42112	Z42113	328	0.007	8	0.08	0.007	19:06 hr	0.84	0.79
SWRGM-005243	SWRMH-005868	SWRMH-005867	Z42113	Z42114	324	0.006	8	0.10	0.011	19:06 hr	0.95	0.80
SWRGM-005244	SWRMH-005646	SWRMH-005644	X43115	X43117	211	0.011	8	0.20	0.062	10:34 hr	1.95	1.13
SWRGM-005245	SWRMH-005645	SWRMH-005646	X43116	X43115	241	0.012	8	0.18	0.053	10:33 hr	1.89	1.14
SWRGM-005246	SWRMH-005647	SWRMH-005645	X43114	X43116	241	0.012	8	0.18	0.049	10:31 hr	1.84	1.14
SWRGM-005247	SWRCO-000527	SWRMH-005647	X43105	X43114	50	0.011	8	0.16	0.04	10:30 hr	1.72	1.12
SWRGM-005248	SWRMH-005118	SWRMH-005647	X43129	X43114	132	0.017	8	0.06	0.006	10:04 hr	1.10	1.20
SWRGM-005249	SWRMH-005648	SWRMH-005118	X43113	X43129	287	0.011	8	0.06	0.006	10:03 hr	0.95	0.98
SWRGM-005250	SWRMH-005119	SWRMH-005648	X43128	X43113	286	0.01	8	0.06	0.005	10:01 hr	0.87	0.95
SWRGM-005251	SWRNJ-000491	SWRMH-005124	X43101	X43123	20	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005252	SWRCO-000854	SWRMH-004307	Y43102	Y43147	153	0.004	8	0.03	0	19:01 hr	0.31	0.51
SWRGM-005253	SWRMH-004321	SWRMH-004723	AB41145	AB41143	349	0.045	8	0.05	0.007	19:06 hr	1.68	1.94
SWRGM-005254	SWRMH-005155	SWRNJ-000663	Z43140	Z43397	56	0.072	8	0.02	0.001	19:00 hr	1.12	2.12
SWRGM-005255	SWRMH-005478	SWRMH-004007	AB42110	AB42123	301	0.056	8	0.02	0.001	19:00 hr	0.88	1.81
SWRGM-005256	SWRMH-004323	SWRMH-004322	AA42147	AA42148	215	0.095	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005257	SWRMH-004145	SWRMH-004125	W38159	X38142	323	0.004	8	0.66	0.32	19:58 hr	2.02	0.66
SWRGM-005258	SWRMH-005632	SWRMH-003968	W37109	W37157	209	0.005	8	0.05	0.002	19:02 hr	0.56	0.65
SWRGM-005259	SWRMH-003968	SWRMH-005524	W37157	W37120	209	0.004	8	0.07	0.004	19:04 hr	0.64	0.64

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005260	SWRMH-003969	SWRMH-005526	W37156	W37118	222	0.004	8	0.05	0.002	19:02 hr	0.52	0.60
SWRGM-005261	SWRMH-005874	SWRMH-004981	Z42107	Z42149	240	0.029	8	0.02	0.001	19:01 hr	0.82	1.39
SWRGM-005262	SWRCO-000523	SWRMH-005873	Z42104	Z42108	104	0.07	8	0.03	0.002	19:00 hr	1.35	2.18
SWRGM-005263	SWRMH-004330	SWRMH-004331	Z42164	Z42163	213	0.041	8	0.03	0.002	19:00 hr	1.15	1.72
SWRGM-005264	SWRMH-006185	SWRMH-004420	U44101	V44115	350	0.021	8	0.32	0.221	19:25 hr	3.55	1.59
SWRGM-005265	SWRMH-003940	SWRMH-005201	X37156	X36139	350	0.014	8	0.07	0.009	19:11 hr	1.17	1.13
SWRGM-005266	SWRMH-006008	SWRMH-004549	X38109	X37142	283	0.005	8	0.04	0.002	19:03 hr	0.48	0.61
SWRGM-005267	SWRMH-005366	SWRMH-004147	W42102	W42120	285	0.008	8	0.27	0.095	19:46 hr	1.99	0.99
SWRGM-005268	SWRMH-005369	SWRMH-005368	W40136	W40137	268	0.004	8	0.13	0.016	19:09 hr	0.90	0.64
SWRGM-005269	SWRMH-005370	SWRMH-005369	W40135	W40136	342	0.008	8	0.11	0.015	19:07 hr	1.13	0.89
SWRGM-005270	SWRMH-005371	SWRMH-005370	W40134	W40135	350	0.01	8	0.10	0.013	19:04 hr	1.18	0.99
SWRGM-005271	SWRMH-005372	SWRMH-005371	W40133	W40134	220	0.006	8	0.09	0.009	19:03 hr	0.89	0.78
SWRGM-005272	SWRMH-005599	SWRMH-005372	W40109	W40133	215	0.004	8	0.07	0.004	19:02 hr	0.60	0.62
SWRGM-005273	SWRMH-005373	SWRMH-005374	W40132	W40131	290	0.008	8	0.06	0.005	19:02 hr	0.82	0.86
SWRGM-005274	SWRCO-000429	SWRMH-006958	X42106	X42106	117	0.018	8	0.07	0.008	10:00 hr	1.26	1.28
SWRGM-005275	SWRMH-005188	SWRMH-005187	X42126	X42127	228	0.004	8	0.14	0.017	10:08 hr	0.94	0.66
SWRGM-005276	SWRMH-006942	SWRMH-005188	X42108	X42126	235	0.004	8	0.14	0.017	10:06 hr	0.93	0.65
SWRGM-005277	SWRMH-006957	SWRMH-006942	X42107	X42108	200	0.018	8	0.10	0.017	10:04 hr	1.57	1.32
SWRGM-005278	SWRMH-006958	SWRMH-006957	X42106	X42107	200	0.018	8	0.07	0.008	10:02 hr	1.24	1.26
SWRGM-005279	SWRMH-006959	SWRMH-005337	X42105	X42125	323	0.014	8	0.07	0.007	10:02 hr	1.09	1.13
SWRGM-005280	SWRMH-005238	SWRMH-004708	Y36117	Y36146	245	0.031	8	0.03	0.003	19:04 hr	1.05	1.50
SWRGM-005281	SWRNJ-000517	SWRMH-005131	X41110	X41144	85	0.002	8	0.05	0.002	10:09 hr	0.37	0.42
SWRGM-005282	SWRMH-006642	SWRMH-006643	X37102	X37101	285	0.019	8	0.06	0.006	19:02 hr	1.15	1.27
SWRGM-005283	SWRMH-006177	SWRMH-006642	X37103	X37102	97	0.018	8	0.04	0.003	19:00 hr	0.91	1.17
SWRGM-005285	SWRCO-000499	SWRMH-006295	Y45101	Y45147	85	0.004	8	0.02	0	19:00 hr	0.28	0.51
SWRGM-005286	SWRMH-006278	SWRMH-006279	Y45164	Y45163	134	0.023	8	0.03	0.002	19:04 hr	0.88	1.29
SWRGM-005287	SWRMH-006279	SWRMH-006280	Y45163	Y45162	148	0.004	8	0.09	0.007	19:06 hr	0.70	0.62
SWRGM-005288	SWRMH-005686	SWRMH-004794	Z45107	Z44110	177	0.004	8	0.12	0.014	19:12 hr	0.90	0.67
SWRGM-005289	SWRMH-003958	SWRMH-004716	X37149	W37133	188	0.019	8	0.11	0.022	19:10 hr	1.72	1.37
SWRGM-005290	SWRMH-004603	SWRMH-003974	W37141	W37151	186	0.007	8	0.04	0.001	19:01 hr	0.54	0.73
SWRGM-005291	SWRMH-003974	SWRMH-003958	W37151	X37149	102	0.011	8	0.04	0.002	19:01 hr	0.65	0.90
SWRGM-005292	SWRMH-004308	SWRMH-004309	Y43146	Y43145	285	0.01	8	0.06	0.004	19:02 hr	0.81	0.91
SWRGM-005293	SWRCO-000489	SWRMH-004904	Y43104	Y43142	45	0.007	8	0.09	0.009	19:04 hr	0.93	0.82
SWRGM-005294	SWRNJ-000675	SWRMH-004447	Z43398	Z43163	200	0.041	8	0.05	0.007	19:01 hr	1.59	1.84
SWRGM-005295	SWRMH-004635	SWRMH-004634	Z41154	Z41155	345	0.035	8	0.05	0.007	19:01 hr	1.50	1.71
SWRGM-005296	SWRCO-000829	SWRMH-005938	Z48106	Z48102	298	0.007	8	0.08	0.007	19:02 hr	0.86	0.81
SWRGM-005297	SWRMH-001176	SWRMH-001175	Z47124	Z47125	342	0.015	8	0.09	0.012	19:04 hr	1.33	1.18
SWRGM-005298	SWRMH-005419	SWRMH-005620	Z37122	Z37103	350	0.002	8	0.14	0.014	19:13 hr	0.73	0.51
SWRGM-005299	SWRMH-005622	SWRMH-005621	Z37101	Z37102	300	0.012	8	0.04	0.002	19:02 hr	0.69	0.96
SWRGM-005300	SWRMH-004080	SWRMH-004081	U43117	U43116	290	0.018	8	0.04	0.003	19:01 hr	0.89	1.17
SWRGM-005301	SWRMH-004081	SWRMH-005453	U43116	U43112	288	0.015	8	0.08	0.011	19:03 hr	1.26	1.17
SWRGM-005302	SWRMH-004082	SWRMH-004081	U43115	U43116	301	0.013	8	0.06	0.005	19:02 hr	0.94	1.04
SWRGM-005303	SWRMH-004073	SWRMH-004070	U44131	U44134	60	0.01	8	0.08	0.008	19:03 hr	1.03	0.97
SWRGM-005304	SWRMH-008183	SWRMH-004071	T44155	U44133	350	0.01	8	0.04	0.002	19:02 hr	0.65	0.87
SWRGM-005305	SWRMH-004071	SWRMH-004072	U44133	U44132	350	0.015	8	0.05	0.003	19:04 hr	0.89	1.10
SWRGM-005306	SWRMH-001135	SWRNJ-000753	AA40143	AA40144	291	0.012	8	0.37	0.22	19:36 hr	2.86	1.18
SWRGM-005307	SWRMH-001136	SWRMH-001135	AA40142	AA40143	300	0.011	8	0.38	0.22	19:34 hr	2.79	1.14
SWRGM-005308	SWRMH-004266	SWRMH-004267	X36175	X36174	290	0.005	8	0.04	0.001	19:02 hr	0.45	0.62
SWRGM-005309	SWRMH-006051	SWRMH-004268	X36104	X36173	271	0.029	8	0.03	0.001	19:01 hr	0.86	1.41
SWRGM-005310	SWRMH-004268	SWRMH-004267	X36173	X36174	150	0.018	8	0.04	0.003	19:02 hr	0.94	1.18
SWRGM-005311	SWRMH-002295	SWRMH-002296	Q44106	Q44105	266	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005312	SWRMH-002528	SWRMH-001172	AA46105	AA46166	37	0.001	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005313	SWRMH-000974	SWRMH-001104	AA46183	AB46112	136	0.037	8	0.06	0.009	19:01 hr	1.63	1.78
SWRGM-005314	SWRMH-001251	SWRMH-001269	AA46146	AA46128	332	0.03	8	0.06	0.007	19:01 hr	1.44	1.60
SWRGM-005315	SWRMH-001271	SWRMH-001270	AA46126	AA46127	325	0.009	8	0.07	0.006	19:02 hr	0.87	0.89
SWRGM-005316	SWRMH-001273	SWRNJ-000802	AA46124	AA46102	106	0.004	8	0.18	0.03	19:05 hr	1.10	0.67
SWRGM-005317	SWRMH-006050	SWRMH-006049	X36105	X36106	307	0.004	8	0.04	0.001	19:05 hr	0.40	0.53
SWRGM-005319	SWRMH-005400	SWRNJ-000463	X37112	X37358	28	0.013	8	0.11	0.02	19:06 hr	1.46	1.15
SWRGM-005320	SWRMH-005838	SWRMH-002923	X36115	X35132	146	0.056	8	0.07	0.017	19:09 hr	2.32	2.27
SWRGM-005321	SWRMH-007872	SWRMH-007873	AB41125	AB41124	182	0.037	8	0.07	0.013	19:04 hr	1.83	1.83
SWRGM-005322	SWRMH-007902	SWRMH-007903	AB41118	AB41117	217	0.005	8	0.05	0.003	19:03 hr	0.59	0.68
SWRGM-005323	SWRNJ-000862	SWRNJ-000867	AB41271	AB41270	100	0.037	8	0.04	0.004	19:04 hr	1.31	1.69
SWRGM-005324	SWRMH-008443	SWRNJ-000862	AB41109	AB41271	126	0.077	8	0.03	0.004	19:04 hr	1.68	2.38
SWRGM-005325	SWRMH-007904	SWRMH-008447	AB41116	AB41106	65	0.036	8	0.04	0.005	19:05 hr	1.34	1.69
SWRGM-005326	SWRMH-008568	SWRMH-005461	Z43101	Z43124	158	0.005	8	0.18	0.034	19:06 hr	1.24	0.75
SWRGM-005327	SWRCO-000446	SWRMH-003964	X36103	X36182	55	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005328	SWRMH-003965	SWRMH-003964	X36181	X36182	231	0.031	8	0.03	0.002	19:01 hr	0.95	1.47
SWRGM-005329	SWRMH-006047	SWRMH-003965	X36108	X36181	233	0.02	8	0.03	0.001	19:01 hr	0.70	1.15
SWRGM-005330	SWRMH-006049	SWRMH-004812	X36106	X36151	200	0.007	8	0.04	0.002	19:05 hr	0.55	0.75
SWRGM-005331	SWRMH-006048	SWRMH-004812	X36107	X36151	252	0.01	8	0.03	0.001	19:01 hr	0.59	0.85
SWRGM-005332	SWRMH-005043	SWRMH-005201	X36140	X36139	216	0.007	8	0.09	0.009	19:17 hr	0.91	0.80
SWRGM-005333	SWRMH-005215	SWRMH-005075	AB38101	AA38135	345	0.111	8	0.02	0.001	10:07 hr	1.39	2.62
SWRGM-005334	SWRMH-005074	SWRMH-005073	AA38136	AA38137	90	0.108	8	0.02	0.001	10:07 hr	1.37	2.59
SWRGM-005335	SWRMH-002600	SWRMH-004944	W36101	X36149	288	0.038	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005336	SWRMH-005421	SWRMH-005431	Z37120	Z37110	319	0.016	8	0.13	0.032	19:28 hr	1.82	1.31
SWRGM-005337	SWRMH-005427	SWRMH-005431	Z37114	Z37110	352	0.017	8	0.04	0.002	19:03 hr	0.87	1.16
SWRGM-005338	SWRMH-004314	SWRMH-004312	Y41146	Y41148	195	0.032	8	0.06	0.008	19:00 hr	1.52	1.67
SWRGM-005339	SWRMH-004829	SWRMH-004010	AA42126	AB42120	280	0.03	8	0.02	0.001	19:01 hr	0.81	1.40
SWRGM-005340	SWRCO-000517	SWRMH-004826	AA42104	AA42129	176	0.048	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005341	SWRMH-006023	SWRMH-006026	x40105	x40102	367	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005342	SWRMH-006024	SWRMH-006023	x40104	x40105	369	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005343	SWRMH-006025	SWRMH-006024	x40103	x40104	367	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005344	SWRMH-004846	SWRMH-004133	W38138	W39150	233	0.004	8	0.04	0.001	19:02 hr	0.41	0.55
SWRGM-005345	SWRMH-001078	SWRNJ-000839	AB46139	AB46106	163	0.029	8	0.27	0.177	19:41 hr	3.69	1.83
SWRGM-005346	SWRMH-006335	SWRMH-006312	Y45121	Y45130	114	0.033	8	0.02	0.001	19:00 hr	0.82	1.46
SWRGM-005347	SWRMH-006314	SWRMH-006335	Y45128	Y45121	104	0.037	8	0.02	0.001	19:00 hr	0.78	1.50
SWRGM-005348	SWRMH-006429	SWRMH-004418	W46102	W46155	287	0.01	8	0.28	0.115	19:14 hr	2.25	1.09
SWRGM-005349	SWRMH-004418	SWRMH-004416	W46155	W46156	204	0.005	8	0.33	0.116	19:15 hr	1.80	0.80
SWRGM-005350	SWRMH-005957	SWRMH-005956	W46120	W46121	206	0.008	8	0.09	0.01	19:05 hr	1.00	0.89
SWRGM-005351	SWRMH-005328	SWRMH-003990	Y42114	Y42147	262	0.054	8	0.05	0.007	19:01 hr	1.78	2.11
SWRGM-005352	SWRMH-005327	SWRMH-005328	Y42115	Y42114	250	0.049	8	0.04	0.005	19:00 hr	1.52	1.96

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005353	SWRCO-000421	SWRMH-005327	Y42104	Y42115	100	0.005	8	0.04	0.001	19:01 hr	0.47	0.62
SWRGM-005354	SWRMH-003991	SWRMH-003990	Y42146	Y42147	332	0.051	8	0.04	0.005	19:01 hr	1.53	1.99
SWRGM-005355	SWRMH-004990	SWRMH-004310	Z41128	Y41150	180	0.007	8	0.06	0.004	19:01 hr	0.74	0.79
SWRGM-005356	SWRMH-004310	SWRNJ-000623	Y41150	Y41142	100	0.055	8	0.04	0.006	19:01 hr	1.66	2.10
SWRGM-005357	SWRNJ-000623	SWRNJ-000619	Y41142	Y41141	100	0.039	8	0.05	0.006	19:01 hr	1.53	1.79
SWRGM-005358	SWRNJ-000619	SWRMH-004311	Y41141	Y41149	60	0.02	8	0.06	0.007	19:01 hr	1.24	1.33
SWRGM-005359	SWRMH-004313	SWRMH-004312	Y41147	Y41148	260	0.006	8	0.38	0.157	10:25 hr	1.98	0.81
SWRGM-005360	SWRMH-004746	SWRMH-007880	AB42117	AB42104	182	0.051	8	0.03	0.003	19:01 hr	1.27	1.91
SWRGM-005361	SWRCO-000615	SWRMH-007879	AB42102	AB42105	77	0.046	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-005362	SWRMH-007879	SWRMH-007880	AB42105	AB42104	346	0.048	8	0.01	0	19:01 hr	0.74	1.63
SWRGM-005363	SWRCO-000373	SWRMH-001149	AA47101	AA47158	92	0.006	8	0.04	0.002	19:01 hr	0.53	0.68
SWRGM-005364	SWRMH-001220	SWRMH-001221	AA47137	AA47136	255	0.007	8	0.30	0.108	19:21 hr	1.92	0.90
SWRGM-005365	SWRMH-002475	SWRMH-002506	AA40123	AA40118	337	0.005	8	0.10	0.011	19:05 hr	0.88	0.71
SWRGM-005366	SWRMH-002507	SWRMH-001142	AA40116	AA40139	59	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005367	SWRNJ-000744	SWRMH-002507	AA40144	AA40116	25	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005368	SWRMH-005780	SWRMH-005550	Y38109	Y38110	115	0.013	8	0.19	0.058	10:48 hr	2.00	1.20
SWRGM-005369	SWRMH-005781	SWRMH-005780	Y38108	Y38109	115	0.004	8	0.25	0.058	10:48 hr	1.31	0.67
SWRGM-005370	SWRMH-005782	SWRMH-005781	Y38107	Y38108	115	0.004	8	0.25	0.058	10:47 hr	1.31	0.67
SWRGM-005371	SWRMH-004957	SWRMH-005782	Y38136	Y38107	115	0.004	8	0.25	0.058	10:47 hr	1.31	0.67
SWRGM-005372	SWRMH-005315	SWRMH-005314	AA43110	AA43111	201	0.017	8	0.03	0.002	19:04 hr	0.78	1.13
SWRGM-005373	SWRMH-000464	SWRMH-004402	AA43129	AA43120	222	0	8	0.18	0.006	19:08 hr	0.23	0.14
SWRGM-005374	SWRMH-004236	SWRMH-004238	Y37152	Y37150	233	0.031	8	0.07	0.012	19:07 hr	1.69	1.69
SWRGM-005375	SWRMH-004692	SWRMH-004690	Y38151	Y38153	349	0.014	8	0.06	0.006	19:07 hr	1.05	1.10
SWRGM-005376	SWRMH-004690	SWRMH-004691	Y38153	Y38152	315	0.006	8	0.08	0.006	19:10 hr	0.78	0.74
SWRGM-005377	SWRMH-004760	SWRMH-004759	Z38143	Z38144	227	0.022	8	0.04	0.002	19:01 hr	0.91	1.28
SWRGM-005378	SWRMH-004759	SWRMH-004961	Z38144	Z38137	220	0.011	8	0.05	0.003	19:02 hr	0.78	0.95
SWRGM-005379	SWRMH-004427	SWRMH-004961	Z38163	Z38137	273	0.005	8	0.09	0.009	19:05 hr	0.84	0.72
SWRGM-005380	SWRMH-006281	SWRMH-006282	Y45161	Y45160	259	0.022	8	0.09	0.015	19:10 hr	1.61	1.44
SWRGM-005381	SWRMH-005983	SWRMH-005984	AB41129	AB41128	267	0.024	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005382	SWRMH-001384	SWRMH-001405	Q44136	Q44115	269	0.015	8	0.47	0.371	19:37 hr	3.60	1.34
SWRGM-005383	SWRMH-001379	SWRMH-001402	Q44141	Q44118	85	0.018	8	0.32	0.195	19:40 hr	3.19	1.44
SWRGM-005384	SWRMH-001158	SWRMH-001226	AA47149	AA47131	198	0.008	8	0.19	0.048	19:13 hr	1.62	0.96
SWRGM-005385	SWRMH-002512	SWRMH-002510	AA47115	AA47117	180	0.007	8	0.04	0.002	19:01 hr	0.59	0.76
SWRGM-005386	SWRMH-005333	SWRMH-004617	Y42109	Y42127	149	0.015	8	0.43	0.311	10:47 hr	3.40	1.32
SWRGM-005387	SWRMH-001172	SWRMH-001236	AA46166	AA46161	351	0.004	8	0.58	0.268	19:34 hr	1.98	0.67
SWRGM-005388	SWRMH-002527	SWRMH-002528	AA46106	AA46105	150	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005389	SWRMH-003780	SWRNJ-000267	U45154	U45106	147	0.008	8	0.19	0.049	19:13 hr	1.60	0.93
SWRGM-005390	SWRMH-003821	SWRMH-003831	U45113	U45103	40	0.004	8	0.26	0.066	19:18 hr	1.44	0.73
SWRGM-005391	SWRNJ-000280	SWRMH-003825	U45102	U45109	25	0.009	8	0.10	0.014	19:05 hr	1.14	0.94
SWRGM-005392	SWRMH-005445	SWRMH-005444	Z39112	Z39113	307	0.004	8	0.34	0.105	10:25 hr	1.56	0.68
SWRGM-005393	SWRMH-005446	SWRMH-005445	Z39111	Z39112	298	0.005	8	0.29	0.082	10:21 hr	1.53	0.73
SWRGM-005394	SWRMH-003768	SWRMH-003757	U46101	U46112	245	0.012	8	0.07	0.008	19:03 hr	1.10	1.06
SWRGM-005395	SWRMH-007747	SWRMH-007743	T38150	T38154	186	0.011	8	0.06	0.005	19:02 hr	0.92	0.98
SWRGM-005396	SWRMH-007026	SWRMH-007027	T38184	T38183	247	0.01	8	0.18	0.049	19:18 hr	1.73	1.04
SWRGM-005397	SWRMH-008209	SWRMH-007734	T38104	T38163	182	0.011	8	0.07	0.007	19:08 hr	1.02	1.00
SWRGM-005398	SWRMH-007385	SWRMH-007383	T38134	T38136	257	0.006	8	0.26	0.077	19:15 hr	1.64	0.82
SWRGM-005399	SWRMH-006717	SWRMH-006718	P45112	P45111	343	0.008	8	0.12	0.018	19:08 hr	1.19	0.90
SWRGM-005400	SWRMH-006973	SWRNJ-000048	P45108	P44519	213	0.005	8	0.18	0.034	19:16 hr	1.22	0.75
SWRGM-005401	SWRCO-000734	SWRMH-006713	P45106	P45116	120	0.006	8	0.04	0.001	19:01 hr	0.50	0.67
SWRGM-005402	SWRCO-000737	SWRMH-006980	P45103	P45101	85	0.01	8	0.04	0.002	19:00 hr	0.66	0.89
SWRGM-005403	SWRCO-000736	SWRNJ-000050	P45104	P45365	115	0.006	8	0.03	0.001	19:01 hr	0.48	0.68
SWRGM-005404	SWRMH-006978	SWRMH-006708	P45103	P45121	277	0.007	8	0.10	0.013	19:06 hr	1.06	0.87
SWRGM-005405	SWRCO-000739	SWRMH-006978	P45101	P45103	334	0.014	8	0.04	0.002	19:02 hr	0.80	1.05
SWRGM-005406	SWRMH-006701	SWRMH-006707	P45128	P45122	258	0.006	8	0.03	0.001	19:04 hr	0.46	0.67
SWRGM-005407	SWRMH-002024	SWRMH-002025	S43125	S43124	305	0.03	8	0.07	0.011	19:04 hr	1.64	1.65
SWRGM-005408	SWRNJ-000164	SWRMH-002022	S43102	S43127	111	0.004	8	0.08	0.005	19:06 hr	0.60	0.57
SWRGM-005409	SWRMH-002025	SWRMH-002026	S43124	S43123	298	0.004	8	0.20	0.036	19:11 hr	1.15	0.67
SWRGM-005410	SWRMH-002031	SWRMH-002029	S43118	S43120	355	0.019	8	0.08	0.012	19:07 hr	1.45	1.34
SWRGM-005411	SWRMH-001851	SWRMH-001850	S43143	S43144	318	0.006	8	0.06	0.003	19:03 hr	0.65	0.72
SWRGM-005412	SWRMH-006531	SWRMH-006529	Z35106	Z35108	222	0.004	8	0.06	0.003	19:08 hr	0.57	0.61
SWRGM-005413	SWRMH-006529	SWRMH-006530	Z35108	Z35107	233	0.035	8	0.04	0.004	19:08 hr	1.25	1.64
SWRGM-005414	SWRMH-003542	SWRMH-003541	V36125	V36126	282	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005415	SWRMH-003540	SWRMH-003536	V36127	V36131	278	0.015	8	0.03	0.002	19:01 hr	0.73	1.04
SWRGM-005416	SWRCO-000770	SWRMH-003533	V36103	V36134	111	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005417	SWRMH-002874	SWRMH-002873	Y33113	Y33114	182	0.029	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005418	SWRMH-002881	SWRMH-002882	Y33106	Y33105	147	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005419	SWRMH-002869	SWRMH-002868	Y33118	Y33119	335	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005420	SWRMH-002870	SWRMH-002880	Y33117	Y33107	188	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005421	SWRMH-002862	SWRMH-002883	Y33125	Y33104	303	0.035	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005422	SWRMH-002861	SWRMH-002862	Y33126	Y33125	298	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005423	SWRMH-002861	SWRMH-002877	Y33126	Y33110	351	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005424	SWRMH-002884	SWRMH-002883	Y33103	Y33104	204	0.035	8	0.05	0.006	19:01 hr	1.45	1.70
SWRGM-005425	SWRNJ-000522	SWRMH-002934	X35106	X35121	26	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005426	SWRMH-008531	SWRMH-008532	AA38102	AA38101	172	0.215	8	0.02	0.002	19:00 hr	1.95	3.66
SWRGM-005428	SWRMH-008513	SWRMH-008514	AA38121	AA38120	338	0.061	8	0.06	0.012	19:01 hr	2.17	2.30
SWRGM-005429	SWRMH-008516	SWRMH-008518	AA38118	AA38116	335	0.018	8	0.27	0.139	10:26 hr	2.91	1.44
SWRGM-005430	SWRMH-006407	SWRMH-006406	V45142	V45143	300	0.012	8	0.04	0.002	19:01 hr	0.74	0.96
SWRGM-005431	SWRMH-006408	SWRMH-006407	V45141	V45142	300	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005432	SWRMH-006410	SWRMH-006411	V45139	V45138	300	0.007	8	0.07	0.005	19:04 hr	0.79	0.80
SWRGM-005433	SWRMH-008576	SWRMH-006401	V45113	V44103	314	0.016	8	0.13	0.03	19:09 hr	1.79	1.30
SWRGM-005434	SWRMH-006404	SWRMH-006403	V45145	V44101	281	0.015	8	0.10	0.017	19:07 hr	1.46	1.20
SWRGM-005435	SWRMH-001229	SWRMH-002514	AA47128	AA47113	331	0.024	8	0.11	0.026	19:06 hr	1.98	1.56
SWRGM-005436	SWRMH-001230	SWRMH-001229	AA47127	AA47128	185	0.008	8	0.13	0.023	19:05 hr	1.28	0.92
SWRGM-005437	SWRMH-001257	SWRMH-001258	AA46140	AA46139	332	0.007	8	0.09	0.01	19:05 hr	0.96	0.84
SWRGM-005438	SWRMH-001256	SWRMH-001257	AA46141	AA46140	353	0.01	8	0.07	0.007	19:02 hr	0.96	0.96
SWRGM-005439	SWRMH-001254	SWRMH-001261	AA46143	AA46136	246	0.01	8	0.10	0.014	19:04 hr	1.21	1.01
SWRGM-005440	SWRMH-001263	SWRMH-001254	AA46134	AA46143	246	0.016	8	0.08	0.011	19:03 hr	1.33	1.22
SWRGM-005441	SWRMH-001265	SWRMH-001264	AA46132	AA46133	263	0.016	8	0.05	0.004	19:01 hr	0.96	1.14
SWRGM-005442	SWRMH-001261	SWRMH-001260	AA46136	AA46137	24	0.016	8	0.09	0.014	19:05 hr	1.41	1.24
SWRGM-005443	SWRMH-001260	SWRMH-001255	AA46137	AA46142	258	0.005	8	0.17	0.028	19:08 hr	1.13	0.72
SWRGM-005445	SWRMH-005706	SWRMH-005707	X48107	X48106	257	0.01	8	0.08	0.009	10:01 hr	1.04	0.96

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005446	SWRMH-005698	SWRMH-005713	X48115	X48103	134	0.009	8	0.09	0.01	10:04 hr	1.03	0.93
SWRGM-005447	SWRCO-000658	SWRMH-005785	Z36107	Z36106	128	0.006	8	0.03	0.001	19:01 hr	0.38	0.63
SWRGM-005448	SWRCO-000663	SWRMH-004494	Z36102	Z36118	158	0.055	8	0.02	0.001	19:00 hr	1.00	1.86
SWRGM-005449	SWRMH-004486	SWRMH-004480	Z36126	Z36132	324	0.002	8	0.20	0.028	19:25 hr	0.90	0.52
SWRGM-005450	SWRMH-004395	SWRMH-005730	Y44125	Y44106	284	0.004	8	0.15	0.02	19:14 hr	0.97	0.65
SWRGM-005451	SWRMH-005730	SWRMH-005731	Y44106	Y44105	283	0.004	8	0.15	0.021	19:16 hr	0.98	0.66
SWRGM-005452	SWRMH-004741	SWRMH-004742	Y44111	Y44110	202	0.005	8	0.03	0.001	19:04 hr	0.36	0.58
SWRGM-005453	SWRMH-004744	SWRMH-005311	Y44108	Y44107	200	0.004	8	0.08	0.006	19:07 hr	0.67	0.61
SWRGM-005454	SWRMH-004743	SWRMH-004744	Y44109	Y44108	235	0.004	8	0.08	0.005	19:05 hr	0.64	0.61
SWRGM-005455	SWRMH-004574	SWRMH-004575	Y44120	Y44119	360	0.004	8	0.04	0.001	19:03 hr	0.39	0.54
SWRGM-005456	SWRMH-005316	SWRMH-004403	AA43109	AA43117	211	0.01	8	0.04	0.002	19:02 hr	0.68	0.89
SWRGM-005457	SWRMH-001267	SWRMH-001268	AA46130	AA46129	172	0.014	8	0.11	0.02	19:13 hr	1.49	1.18
SWRGM-005458	SWRMH-001266	SWRMH-001267	AA46131	AA46130	350	0.006	8	0.13	0.019	19:13 hr	1.07	0.77
SWRGM-005459	SWRMH-006334	SWRMH-002521	AA48114	AA47106	298	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005460	SWRMH-004865	SWRMH-006015	W38134	W38104	272	0.004	8	0.21	0.041	19:19 hr	1.24	0.71
SWRGM-005461	SWRMH-005575	SWRMH-005574	Z42127	Z42128	160	0.01	8	0.04	0.002	19:01 hr	0.68	0.88
SWRGM-005462	SWRMH-005117	SWRMH-005574	Z42139	Z42128	143	0.005	8	0.11	0.014	19:09 hr	0.96	0.74
SWRGM-005463	SWRMH-005574	SWRMH-005576	Z42128	Z42126	187	0.014	8	0.10	0.018	19:10 hr	1.48	1.20
SWRGM-005464	SWRMH-005576	SWRMH-005578	Z42126	Z42124	188	0.014	8	0.11	0.019	19:10 hr	1.50	1.20
SWRGM-005465	SWRMH-005573	SWRMH-005577	Z42129	Z42125	160	0.024	8	0.03	0.002	19:00 hr	0.94	1.34
SWRGM-005466	SWRNJ-000927	SWRMH-005037	AC44104	AC44132	55	0.037	8	0.03	0.003	19:01 hr	1.12	1.63
SWRGM-005467	SWRMH-005607	SWRNJ-000927	AC44104	AC44104	118	0.037	8	0.03	0.003	19:00 hr	1.13	1.65
SWRGM-005468	SWRMH-007874	SWRMH-008458	AB41123	AB41101	89	0.035	8	0.07	0.013	19:05 hr	1.82	1.78
SWRGM-005469	SWRMH-000684	SWRMH-000683	AB32102	AB32103	93	0.031	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005470	SWRMH-008400	SWRMH-007861	AB32121	AB32122	129	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005471	SWRMH-006312	SWRMH-006311	Y45130	Y45131	242	0.022	8	0.03	0.002	19:01 hr	0.88	1.27
SWRGM-005472	SWRMH-005489	SWRMH-005488	X41122	X41123	230	0.004	8	0.04	0.001	10:02 hr	0.38	0.52
SWRGM-005473	SWRMH-006340	SWRMH-006341	Y45116	Y45115	265	0.006	8	0.08	0.006	19:05 hr	0.77	0.74
SWRGM-005474	SWRMH-004464	SWRMH-004463	W39142	W39143	281	0.004	8	0.15	0.02	19:06 hr	0.96	0.65
SWRGM-005475	SWRMH-008388	SWRMH-006351	Y45101	Y45105	190	0.006	8	0.02	0	19:03 hr	0.34	0.63
SWRGM-005476	SWRMH-006616	SWRMH-005998	X39106	X38119	246	0.004	8	0.08	0.005	19:07 hr	0.65	0.61
SWRGM-005477	SWRMH-004516	SWRMH-006616	X39111	X39106	325	0.004	8	0.07	0.004	19:05 hr	0.61	0.60
SWRGM-005478	SWRCO-000469	SWRMH-004517	X39101	X39110	254	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005479	SWRMH-003905	SWRMH-003903	Z38164	Z38166	300	0.021	8	0.08	0.013	19:17 hr	1.53	1.42
SWRGM-005480	SWRMH-004148	SWRMH-004149	W42119	W42118	329	0.006	8	0.08	0.006	10:03 hr	0.78	0.74
SWRGM-005481	SWRMH-004036	SWRMH-004035	Z40140	Z40141	350	0.007	8	0.09	0.01	19:03 hr	0.95	0.81
SWRGM-005482	SWRMH-003321	SWRMH-003320	V40159	V40160	200	0.006	8	0.18	0.037	19:11 hr	1.35	0.83
SWRGM-005483	SWRMH-003397	SWRMH-003310	V39158	V40170	202	0.004	8	0.08	0.005	19:02 hr	0.65	0.61
SWRGM-005484	SWRMH-003359	SWRMH-003360	V40121	V40120	260	0.006	8	0.05	0.002	19:02 hr	0.56	0.67
SWRGM-005485	SWRMH-003378	SWRMH-003384	V40102	V39171	138	0.006	8	0.03	0.001	19:01 hr	0.41	0.63
SWRGM-005486	SWRMH-003356	SWRMH-003357	V40124	V40123	283	0.008	8	0.07	0.006	19:04 hr	0.87	0.85
SWRGM-005487	SWRMH-005994	SWRNJ-000642	Z42102	Z42119	126	0.059	8	0.09	0.028	19:08 hr	2.76	2.39
SWRGM-005488	SWRMH-005995	SWRMH-005842	Z42101	Z42123	231	0.005	8	0.15	0.023	19:06 hr	1.10	0.75
SWRGM-005489	SWRMH-005083	SWRMH-005082	AC44126	AC44127	112	0.008	8	0.03	0.001	19:02 hr	0.52	0.78
SWRGM-005490	SWRMH-003767	SWRMH-003766	U46102	U46103	250	0.012	8	0.04	0.002	19:01 hr	0.72	0.97
SWRGM-005491	SWRMH-003766	SWRMH-003768	U46103	U46101	250	0.012	8	0.07	0.007	19:01 hr	1.05	1.05
SWRGM-005492	SWRMH-003455	SWRMH-003454	V38153	V38154	258	0.005	8	0.13	0.017	19:07 hr	0.99	0.73
SWRGM-005493	SWRMH-003454	SWRMH-003460	V38154	V38148	46	0.005	8	0.12	0.017	19:08 hr	1.03	0.76
SWRGM-005494	SWRMH-004712	SWRMH-004879	W37137	W37124	250	0.014	8	0.06	0.005	19:03 hr	0.98	1.08
SWRGM-005495	SWRMH-004713	SWRMH-004712	W37136	W37137	243	0.011	8	0.05	0.004	19:03 hr	0.84	0.96
SWRGM-005496	SWRMH-004880	SWRMH-004713	W37123	W37136	242	0.015	8	0.04	0.002	19:01 hr	0.78	1.07
SWRGM-005497	SWRMH-004881	SWRMH-004880	W37122	W37123	244	0.009	8	0.03	0.001	19:01 hr	0.49	0.77
SWRGM-005498	SWRMH-004714	SWRMH-004733	W37135	W37132	188	0.013	8	0.05	0.003	19:03 hr	0.83	1.02
SWRGM-005499	SWRMH-004715	SWRMH-004714	W37134	W37135	210	0.006	8	0.05	0.003	19:02 hr	0.64	0.73
SWRGM-005500	SWRMH-005136	SWRMH-005181	X41139	X41130	259	0.004	8	0.18	0.029	10:17 hr	1.09	0.68
SWRGM-005501	SWRCO-000544	SWRMH-005134	X41112	X41141	105	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005502	SWRCO-000638	SWRMH-002041	S43103	S43108	110	0.008	8	0.02	0	19:00 hr	0.39	0.72
SWRGM-005507	SWRMH-000702	SWRMH-005091	AA41116	AA41117	210	0.024	8	0.10	0.022	19:01 hr	1.86	1.53
SWRGM-005508	SWRMH-005092	SWRMH-000702	AA41115	AA41116	108	0.023	8	0.06	0.007	19:02 hr	1.31	1.42
SWRGM-005509	SWRMH-004725	SWRMH-005092	AA41139	AA41115	305	0.016	8	0.06	0.006	19:01 hr	1.06	1.17
SWRGM-005510	SWRMH-004016	SWRMH-004725	AA41159	AA41139	298	0.044	8	0.03	0.002	19:01 hr	1.15	1.76
SWRGM-005511	SWRMH-004647	SWRMH-004317	AA41143	AB41149	190	0.03	8	0.02	0.001	19:00 hr	0.77	1.38
SWRGM-005512	SWRMH-005095	SWRMH-005096	AA41112	AA41111	270	0.015	8	0.04	0.002	19:01 hr	0.81	1.07
SWRGM-005513	SWRMH-005096	SWRMH-004440	AA41111	AA41147	450	0.022	8	0.04	0.004	19:03 hr	1.05	1.33
SWRGM-005514	SWRMH-005041	SWRMH-006173	X37121	X37107	340	0.012	8	0.03	0.001	19:02 hr	0.61	0.92
SWRGM-005515	SWRMH-006173	SWRMH-006174	X37107	X37106	250	0.013	8	0.03	0.001	19:03 hr	0.63	0.96
SWRGM-005516	SWRMH-006175	SWRMH-003954	X37105	X37153	190	0.02	8	0.04	0.002	19:06 hr	0.87	1.22
SWRGM-005517	SWRMH-003954	SWRMH-003953	X37153	X37154	304	0.029	8	0.37	0.33	20:17 hr	4.44	1.86
SWRGM-005518	SWRMH-003955	SWRMH-004688	X37152	X36161	235	0.012	8	0.50	0.371	20:16 hr	3.31	1.19
SWRGM-005519	SWRMH-003957	SWRMH-003955	X37150	X37152	205	0.006	8	0.63	0.371	20:14 hr	2.48	0.82
SWRGM-005520	SWRMH-005397	SWRMH-005400	X37115	X37112	128	0.009	8	0.12	0.019	19:06 hr	1.29	0.99
SWRGM-005521	SWRCO-000442	SWRMH-004596	X37105	X37136	135	0.013	8	0.03	0.001	19:00 hr	0.67	0.98
SWRGM-005522	SWRMH-004595	SWRMH-004597	X37137	X37135	243	0.012	8	0.11	0.019	19:08 hr	1.39	1.09
SWRGM-005523	SWRMH-006150	SWRMH-004079	U44114	U43118	315	0.017	8	0.07	0.008	19:05 hr	1.20	1.23
SWRGM-005524	SWRNJ-000678	SWRMH-003873	Z41374	Z41168	170	0.03	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005525	SWRMH-003874	SWRMH-005817	Z41167	Z41109	70	0.024	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005528	SWRCO-000493	SWRMH-006277	Y45102	Y45165	170	0.015	8	0.02	0	19:01 hr	0.46	0.95
SWRGM-005529	SWRCO-000495	SWRMH-006417	V45102	V45132	130	0.005	8	0.03	0.001	19:01 hr	0.39	0.61
SWRGM-005530	SWRMH-003481	SWRMH-003479	V38127	V38129	127	0.007	8	0.08	0.007	19:04 hr	0.88	0.82
SWRGM-005531	SWRMH-004204	SWRMH-003480	V38101	V38128	85	0.02	8	0.05	0.004	19:02 hr	1.07	1.27
SWRGM-005532	SWRMH-005278	SWRMH-004258	AB41139	AB41152	162	0.02	8	0.04	0.003	19:02 hr	0.92	1.23
SWRGM-005534	SWRCO-000571	SWRMH-005060	AA37108	AA37150	376	0.134	8	0.02	0.002	19:01 hr	1.70	2.96
SWRGM-005535	SWRMH-005060	SWRMH-005061	AA37150	AA37149	228	0.038	8	0.03	0.003	19:02 hr	1.17	1.67
SWRGM-005536	SWRMH-005061	SWRMH-006372	AA37149	AA37122	236	0.008	8	0.05	0.003	19:03 hr	0.70	0.82
SWRGM-005541	SWRMH-004467	SWRMH-004468	W39139	W39138	222	0.013	8	0.05	0.003	19:01 hr	0.86	1.04
SWRGM-005542	SWRMH-004472	SWRMH-004865	W39134	W38134	149	0.004	8	0.21	0.038	19:17 hr	1.15	0.65
SWRGM-005543	SWRMH-005047	SWRMH-005046	Y36135	Y36136	238	0.004	8	0.16	0.022	19:22 hr	1.00	0.66
SWRGM-005544	SWRMH-004710	SWRMH-005236	Y36144	Y36119	348	0.024	8	0.03	0.001	19:01 hr	0.80	1.27
SWRGM-005545	SWRMH-004455	SWRMH-004776	Y36163	Y36139	194	0.051	8	0.08	0.019	19:10 hr	2.32	2.18
SWRGM-005546	SWRMH-003986	SWRMH-005087	Y41156	Y41110	277	0.004	8	0.10	0.009	10:04 hr	0.74	0.60
SWRGM-005547	SWRMH-004634	SWRMH-004633	Z41155	Z41156	310	0.028	8	0.07	0.009	19:02 hr	1.53	1.58

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005548	SWRMH-004633	SWRMH-005166	Z41156	Z41132	350	0.02	8	0.08	0.012	19:03 hr	1.47	1.36
SWRGM-005549	SWRMH-004762	SWRMH-004761	Z38141	Z38142	224	0.003	8	0.11	0.01	19:12 hr	0.73	0.57
SWRGM-005550	SWRMH-004740	SWRMH-006461	Y44112	Y45126	192	0.011	8	0.03	0.001	19:07 hr	0.53	0.86
SWRGM-005551	SWRMH-006151	SWRMH-006154	X42104	X42101	300	0.004	8	0.18	0.029	10:38 hr	1.07	0.66
SWRGM-005552	SWRMH-002541	SWRMH-001535	U40112	U40151	138	0.012	8	0.14	0.03	19:07 hr	1.60	1.12
SWRGM-005553	SWRMH-001516	SWRMH-001501	U40170	U40185	155	0.01	8	0.06	0.004	19:03 hr	0.83	0.92
SWRGM-005554	SWRMH-001517	SWRMH-001516	U40169	U40170	240	0.006	8	0.06	0.003	19:02 hr	0.63	0.71
SWRGM-005555	SWRMH-001519	SWRMH-001518	U40167	U40168	155	0.006	8	0.04	0.002	19:01 hr	0.56	0.71
SWRGM-005556	SWRMH-002549	SWRMH-002548	U40104	U40105	194	0.016	8	0.03	0.002	19:01 hr	0.75	1.08
SWRGM-005557	SWRMH-002551	SWRMH-002552	U40102	U40101	194	0.004	8	0.05	0.002	19:01 hr	0.51	0.57
SWRGM-005558	SWRMH-001148	SWRMH-001147	AA47159	AA47160	35	0.006	8	0.06	0.003	19:04 hr	0.66	0.74
SWRGM-005559	SWRCO-000371	SWRCO-000372	AA47103	AA47102	100	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005560	SWRCO-000372	SWRMH-001148	AA47102	AA47159	100	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005561	SWRCO-000370	SWRMH-001147	AA47104	AA47160	92	0.031	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005562	SWRCO-000369	SWRCO-000370	AA47105	AA47104	92	0.031	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005563	SWRCO-000368	SWRCO-000369	AA47106	AA47105	92	0.031	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005564	SWRMH-001149	SWRMH-001148	AA47158	AA47159	318	0.006	8	0.06	0.003	19:04 hr	0.63	0.69
SWRGM-005565	SWRNJ-000594	SWRNJ-000591	Y41139	Y41138	100	0.044	8	0.05	0.006	10:01 hr	1.55	1.88
SWRGM-005566	SWRCO-000491	SWRMH-005007	Y41101	Y41115	64	0.006	8	0.06	0.003	10:00 hr	0.65	0.71
SWRGM-005567	SWRMH-005007	SWRMH-005006	Y41115	Y41116	350	0.006	8	0.07	0.005	10:04 hr	0.75	0.74
SWRGM-005568	SWRMH-005004	SWRNJ-000588	Y41118	Y41136	164	0.006	8	0.12	0.015	10:11 hr	1.03	0.78
SWRGM-005569	SWRNJ-000892	SWRMH-006224	AB44119	AB44101	10	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005570	SWRMH-006191	SWRNJ-000647	Z38113	Z38399	195	0.046	8	0.03	0.002	19:00 hr	1.08	1.77
SWRGM-005571	SWRMH-004696	SWRMH-004695	Z38150	Z38151	303	0.029	8	0.16	0.06	10:52 hr	2.71	1.78
SWRGM-005572	SWRMH-004697	SWRMH-004696	Z38149	Z38150	301	0.014	8	0.05	0.004	19:03 hr	0.95	1.09
SWRGM-005573	SWRMH-006193	SWRMH-006363	Z38111	Z38102	301	0.003	8	0.07	0.004	19:05 hr	0.58	0.55
SWRGM-005574	SWRCO-000464	SWRMH-006195	Z38102	Z38109	130	0.002	8	0.03	0	19:01 hr	0.25	0.41
SWRGM-005575	SWRMH-004487	SWRMH-004486	Z36125	Z36126	316	0.042	8	0.03	0.002	19:01 hr	1.00	1.67
SWRGM-005576	SWRMH-005367	SWRMH-004146	W42101	W42121	252	0.015	8	0.05	0.005	10:01 hr	0.98	1.11
SWRGM-005577	SWRMH-004631	SWRMH-004988	Z41158	Z41130	362	0.035	8	0.06	0.01	19:03 hr	1.68	1.75
SWRGM-005578	SWRMH-005810	SWRMH-004630	Z41116	Z41159	345	0.04	8	0.24	0.17	19:11 hr	4.10	2.15
SWRGM-005579	SWRMH-004666	SWRMH-004668	Z41152	Z41150	331	0.007	8	0.11	0.015	19:05 hr	1.11	0.87
SWRGM-005580	SWRMH-004669	SWRMH-004666	Z41149	Z41152	257	0.005	8	0.12	0.014	19:02 hr	0.96	0.73
SWRGM-005581	SWRMH-003966	SWRMH-004145	W38174	W38159	325	0.004	8	0.64	0.32	19:55 hr	2.09	0.69
SWRGM-005582	SWRMH-005519	SWRMH-003967	W38114	W38173	325	0.008	8	0.49	0.29	19:51 hr	2.67	0.97
SWRGM-005583	SWRMH-005520	SWRMH-005519	W38113	W38114	325	0.004	8	0.60	0.289	19:49 hr	2.03	0.68
SWRGM-005584	SWRMH-005563	SWRMH-005860	AB47113	AB47103	45	0.004	8	0.44	0.164	19:31 hr	1.70	0.65
SWRGM-005585	SWRMH-001077	SWRMH-001078	AB46140	AB46139	350	0.027	8	0.27	0.177	19:40 hr	3.60	1.77
SWRGM-005586	SWRMH-001108	SWRMH-001109	AB46108	AB46107	251	0.011	8	0.20	0.063	19:07 hr	1.94	1.11
SWRGM-005587	SWRMH-001107	SWRMH-001108	AB46109	AB46108	238	0.005	8	0.20	0.045	19:06 hr	1.38	0.79
SWRGM-005588	SWRMH-001097	SWRMH-001098	AB46119	AB46118	325	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005589	SWRMH-001098	SWRMH-001099	AB46118	AB46117	325	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005590	SWRMH-001102	SWRMH-001101	AB46114	AB46115	230	0.021	8	0.06	0.006	19:01 hr	1.21	1.34
SWRGM-005591	SWRMH-001072	SWRMH-001283	AB46146	AA46114	355	0.022	8	0.09	0.017	19:01 hr	1.68	1.45
SWRGM-005592	SWRMH-001106	SWRMH-001105	AB46110	AB46111	190	0.026	8	0.06	0.009	19:00 hr	1.46	1.51
SWRGM-005593	SWRMH-005201	SWRMH-004265	X36139	X36176	210	0.003	8	0.15	0.019	19:14 hr	0.91	0.61
SWRGM-005594	SWRMH-005202	SWRMH-006632	X36138	Y36115	149	0.015	8	0.11	0.02	19:15 hr	1.54	1.23
SWRGM-005595	SWRMH-004401	SWRMH-004396	AA43121	Z43168	355	0.025	8	0.05	0.004	19:01 hr	1.17	1.43
SWRGM-005596	SWRMH-008507	SWRMH-004920	AA39102	AA39122	71	0.008	8	0.34	0.155	19:17 hr	2.25	0.97
SWRGM-005597	SWRMH-004084	SWRMH-008507	AA39138	AA39102	29	0.014	8	0.29	0.147	19:17 hr	2.73	1.30
SWRGM-005598	SWRMH-008514	SWRMH-008524	AA38120	AA38110	281	0.034	8	0.07	0.013	19:02 hr	1.80	1.76
SWRGM-005599	SWRMH-002863	SWRNJ-000532	Y33124	X33101	281	0.005	8	0.10	0.009	19:06 hr	0.83	0.70
SWRGM-005600	SWRMH-006768	SWRMH-001407	P44111	Q44113	180	0.014	8	0.12	0.025	19:08 hr	1.61	1.21
SWRGM-005601	SWRMH-005486	SWRMH-005488	X41125	X41123	183	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005602	SWRMH-006411	SWRMH-006412	V45138	V45137	300	0.008	8	0.08	0.008	19:05 hr	0.92	0.85
SWRGM-005603	SWRMH-006426	SWRMH-006425	V45123	V45124	231	0.006	8	0.07	0.006	19:05 hr	0.78	0.76
SWRGM-005604	SWRMH-003813	SWRMH-006426	U45121	V45123	235	0.005	8	0.06	0.003	19:03 hr	0.63	0.68
SWRGM-005605	SWRMH-006414	SWRMH-006415	V45135	V45134	280	0.01	8	0.15	0.032	19:19 hr	1.54	1.04
SWRGM-005606	SWRMH-006418	SWRMH-006417	V45131	V45132	350	0.01	8	0.04	0.002	19:02 hr	0.70	0.90
SWRGM-005607	SWRMH-006420	SWRMH-006413	V45129	V45136	300	0.01	8	0.15	0.032	19:14 hr	1.53	1.02
SWRGM-005608	SWRMH-006413	SWRMH-006414	V45136	V45135	293	0.01	8	0.15	0.032	19:17 hr	1.52	1.02
SWRGM-005609	SWRMH-003676	SWRMH-003675	U48135	U48136	300	0.014	8	0.07	0.007	19:03 hr	1.09	1.11
SWRGM-005610	SWRNJ-000291	SWRMH-003695	U48102	U48116	6	0.011	8	0.05	0.003	10:00 hr	0.79	0.94
SWRGM-005611	SWRMH-006573	SWRMH-006572	R47202	R47203	162	0.004	8	0.26	0.068	19:11 hr	1.43	0.71
SWRGM-005612	SWRMH-001183	SWRMH-001182	Z47117	Z47118	300	0.006	8	0.08	0.007	19:02 hr	0.80	0.75
SWRGM-005613	SWRMH-001182	SWRMH-001181	Z47118	Z47119	299	0.011	8	0.08	0.01	19:04 hr	1.10	1.01
SWRGM-005614	SWRCO-000661	SWRMH-005789	Z36104	Z36102	138	0.024	8	0.01	0	19:00 hr	0.52	1.15
SWRGM-005615	SWRMH-004027	SWRMH-004028	Z40149	Z40148	239	0.004	8	0.16	0.023	10:09 hr	0.97	0.62
SWRGM-005616	SWRMH-005077	SWRMH-004644	AA37143	AA37155	125	0.087	8	0.11	0.048	19:32 hr	3.71	2.96
SWRGM-005617	SWRMH-005080	SWRNJ-000706	AA37140	AA37107	130	0.045	8	0.12	0.047	19:32 hr	2.95	2.18
SWRGM-005618	SWRNJ-000734	SWRMH-005081	AA37106	AA37139	154	0.034	8	0.15	0.063	19:29 hr	2.89	1.92
SWRGM-005619	SWRMH-005079	SWRNJ-000734	AA37141	AA37106	87	0.068	8	0.13	0.063	19:29 hr	3.69	2.67
SWRGM-005620	SWRMH-005352	SWRMH-005749	X44112	X44104	192	0.005	8	0.02	0	19:03 hr	0.33	0.57
SWRGM-005621	SWRNJ-000861	SWRMH-005668	AB47104	AB47104	47	0.02	8	0.10	0.018	10:00 hr	1.66	1.40
SWRGM-005622	SWRNJ-000758	SWRMH-004439	AA41412	AA41148	36	0.023	8	0.08	0.015	19:04 hr	1.64	1.49
SWRGM-005623	SWRMH-008441	SWRMH-007905	AB41111	AB41115	134	0.009	8	0.02	0	19:01 hr	0.36	0.74
SWRGM-005624	SWRCO-000673	SWRMH-007874	AB41102	AB41123	130	0.022	8	0.01	0	19:00 hr	0.45	1.08
SWRGM-005625	SWRMH-007769	SWRMH-008979	SDMH007769	SP570MH04	305	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005626	SWRMH-003703	SWRMH-003704	U48108	U48107	165	0.004	8	0.12	0.013	19:03 hr	0.85	0.64
SWRGM-005627	SWRMH-006450	SWRMH-006277	X45102	Y45165	258	0.009	8	0.03	0.001	19:03 hr	0.55	0.81
SWRGM-005628	SWRMH-006341	SWRMH-005691	Y45115	Z45102	270	0.016	8	0.07	0.008	19:06 hr	1.23	1.22
SWRGM-005629	SWRMH-005697	SWRMH-006460	Y46101	Y45127	190	0.014	8	0.01	0	19:03 hr	0.38	0.87
SWRGM-005630	SWRMH-005623	SWRMH-006272	Z36108	AA36120	306	0.061	8	0.06	0.014	19:02 hr	2.24	2.32
SWRGM-005631	SWRMH-005311	SWRMH-006285	Y44107	Y45157	249	0.004	8	0.08	0.006	19:09 hr	0.68	0.62
SWRGM-005632	SWRMH-006502	SWRMH-004062	V42109	W42122	314	0.006	8	0.26	0.078	19:29 hr	1.64	0.82
SWRGM-005633	SWRMH-004022	SWRMH-006116	AA37159	AA36154	305	0.064	8	0.03	0.003	19:08 hr	1.42	2.14
SWRGM-005634	SWRMH-004096	SWRMH-005779	AA39126	AA39110	248	0.017	8	0.25	0.123	19:11 hr	2.78	1.42
SWRGM-005635	SWRMH-004098	SWRMH-004096	AA39124	AA39126	172	0.006	8	0.32	0.117	19:10 hr	1.86	0.83
SWRGM-005636	SWRMH-004091	SWRMH-004094	AA39131	AA39128	333	0.006	8	0.35	0.136	19:15 hr	1.95	0.83
SWRGM-005637	SWRMH-001224	SWRMH-001221	AA47133	AA47136	242	0.004	8	0.13	0.015	19:04 hr	0.88	0.64
SWRGM-005638	SWRMH-001259	SWRMH-001260	AA46138	AA46137	236	0.025	8	0.08	0.013	19:08 hr	1.60	1.52

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005639	SWRMH-001256	SWRMH-001265	AA46141	AA46132	260	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005641	SWRMH-004149	SWRMH-004150	W42118	W42117	329	0.006	8	0.08	0.006	10:07 hr	0.78	0.74
SWRGM-005642	SWRMH-006106	SWRMH-006108	AC45123	AC45121	130	0.004	8	0.28	0.073	19:16 hr	1.40	0.67
SWRGM-005643	SWRMH-006107	SWRMH-006111	AC45122	AC45118	140	0.006	8	0.06	0.003	19:01 hr	0.65	0.72
SWRGM-005644	SWRMH-007905	SWRMH-007904	AB41115	AB41116	218	0.024	8	0.05	0.005	19:05 hr	1.17	1.40
SWRGM-005645	SWRMH-007878	SWRNJ-000881	AB42106	AB42198	111	0.079	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-005646	SWRMH-007881	SWRMH-007870	AB42103	AB41127	273	0.068	8	0.02	0.002	19:01 hr	1.21	2.11
SWRGM-005647	SWRMH-008456	SWRMH-008450	AB41103	AB40106	338	0.03	8	0.12	0.035	19:13 hr	2.33	1.77
SWRGM-005648	SWRMH-005713	SWRMH-005709	X48103	X48104	228	0.01	8	0.08	0.01	10:05 hr	1.06	0.97
SWRGM-005649	SWRMH-001243	SWRMH-001242	AA46154	AA46155	200	0.004	8	0.20	0.035	19:06 hr	1.14	0.67
SWRGM-005650	SWRNJ-000802	SWRMH-001243	AA46102	AA46154	28	0.004	8	0.19	0.03	19:05 hr	1.06	0.64
SWRGM-005656	SWRMH-002282	SWRMH-002281	Q45103	Q45104	310	0.014	8	0.09	0.012	19:05 hr	1.30	1.17
SWRGM-005657	SWRMH-002283	SWRMH-002282	Q45102	Q45103	310	0.014	8	0.05	0.004	19:03 hr	0.91	1.09
SWRGM-005658	SWRMH-002287	SWRMH-002291	AA40131	AA40127	41	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005659	SWRMH-002286	SWRMH-002287	AA40132	AA40131	105	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005660	SWRMH-002289	SWRMH-002292	AA40129	AA40126	296	0.025	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005661	SWRMH-005379	SWRMH-005375	W40126	W40130	355	0.007	8	0.10	0.013	19:03 hr	1.04	0.85
SWRGM-005662	SWRMH-005592	SWRMH-005377	W40116	W40128	350	0.007	8	0.10	0.012	19:06 hr	1.00	0.83
SWRGM-005663	SWRMH-004351	SWRNJ-000595	Y42136	Y42352	76	0.023	8	0.04	0.003	19:01 hr	1.05	1.35
SWRGM-005664	SWRCO-000505	SWRMH-005694	Y46104	Y46104	110	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005665	SWRMH-008581	SWRMH-008582	V45108	V45107	275	0.009	8	0.10	0.014	19:07 hr	1.19	0.97
SWRGM-005666	SWRMH-008584	SWRMH-008583	V45105	V45106	330	0.012	8	0.06	0.005	19:05 hr	0.95	1.02
SWRGM-005667	SWRMH-006406	SWRMH-006405	V45143	V45144	299	0.008	8	0.06	0.004	19:03 hr	0.74	0.82
SWRGM-005668	SWRMH-005082	SWRNJ-000929	AC44127	AC44105	209	0.005	8	0.07	0.005	19:03 hr	0.67	0.67
SWRGM-005669	SWRMH-006372	SWRMH-006371	AA37122	AA37123	174	0.051	8	0.04	0.004	19:03 hr	1.42	1.96
SWRGM-005671	SWRMH-001212	SWRMH-001213	Z47106	Z47105	197	0.002	8	0.50	0.149	19:15 hr	1.33	0.48
SWRGM-005672	SWRMH-001014	SWRMH-001007	Z47134	Z47141	113	0.004	8	0.14	0.019	19:05 hr	0.95	0.65
SWRGM-005674	SWRMH-006054	SWRMH-006055	W48120	W48119	240	0.01	8	0.19	0.052	10:04 hr	1.77	1.05
SWRGM-005675	SWRMH-006055	SWRMH-006056	W48119	W48118	314	0.01	8	0.22	0.069	10:07 hr	1.93	1.07
SWRGM-005679	SWRMH-001006	SWRMH-001015	Z47142	Z47133	196	0.004	8	0.17	0.026	19:06 hr	1.04	0.66
SWRGM-005680	SWRMH-006058	SWRMH-006057	W48116	W48117	323	0.012	8	0.21	0.07	10:14 hr	2.09	1.19
SWRGM-005681	SWRMH-006057	SWRMH-006063	W48117	W48111	323	0.012	8	0.21	0.07	10:16 hr	2.09	1.19
SWRGM-005682	SWRMH-004552	SWRMH-004638	X37139	X37133	312	0.005	8	0.08	0.006	19:12 hr	0.72	0.69
SWRGM-005684	SWRMH-005502	SWRMH-004475	W39113	W39131	212	0.004	8	0.25	0.056	19:18 hr	1.31	0.68
SWRGM-005685	SWRMH-004477	SWRMH-004476	W39129	W39130	269	0.011	8	0.06	0.005	19:18 hr	0.89	0.96
SWRGM-005686	SWRMH-008573	SWRMH-008574	V45116	V45115	350	0.008	8	0.05	0.003	19:03 hr	0.68	0.82
SWRGM-005687	SWRMH-008574	SWRMH-008575	V45115	V45114	350	0.008	8	0.06	0.004	19:06 hr	0.76	0.83
SWRGM-005688	SWRMH-008577	SWRMH-008576	V45112	V45113	321	0.008	8	0.13	0.023	19:09 hr	1.29	0.92
SWRGM-005689	SWRMH-008582	SWRMH-008577	V45107	V45112	235	0.019	8	0.09	0.015	19:08 hr	1.53	1.34
SWRGM-005690	SWRMH-005652	SWRMH-005651	X41111	X41112	235	0.006	8	0.03	0.001	10:04 hr	0.44	0.64
SWRGM-005691	SWRMH-005340	SWRMH-005344	X42122	X42118	250	0.004	8	0.31	0.085	10:40 hr	1.42	0.65
SWRGM-005692	SWRMH-005339	SWRMH-005340	X42123	X42122	248	0.007	8	0.26	0.085	10:38 hr	1.82	0.91
SWRGM-005693	SWRMH-004355	SWRMH-004356	X42136	X42135	277	0.017	8	0.15	0.041	10:06 hr	1.98	1.35
SWRGM-005694	SWRMH-007033	SWRMH-007032	T38177	T38178	250	0.008	8	0.07	0.006	19:02 hr	0.89	0.88
SWRGM-005695	SWRMH-008470	SWRMH-008471	AA32106	AA32105	334	0.022	8	0.16	0.056	19:20 hr	2.41	1.57
SWRGM-005696	SWRMH-008473	SWRMH-008475	AA32103	AA32101	234	0.026	8	0.15	0.056	19:22 hr	2.53	1.67
SWRGM-005697	SWRMH-008471	SWRMH-008473	AA32105	AA32103	147	0.027	8	0.15	0.056	19:21 hr	2.56	1.70
SWRGM-005698	SWRMH-008475	SWRMH-007856	AA32101	AA32112	316	0.016	8	0.17	0.056	19:23 hr	2.14	1.33
SWRGM-005699	SWRMH-007884	SWRMH-007886	V46104	V46102	350	0.01	8	0.04	0.002	19:02 hr	0.70	0.88
SWRGM-005700	SWRMH-003286	SWRMH-003285	V46121	V46122	300	0.007	8	0.07	0.006	19:02 hr	0.82	0.82
SWRGM-005701	SWRNJ-000347	SWRMH-007886	V46102	V46522	14	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005702	SWRMH-001276	SWRMH-001273	AA46121	AA46124	322	0.002	8	0.17	0.019	19:04 hr	0.76	0.48
SWRGM-005703	SWRMH-008557	SWRCO-000497	AA36101	AA36104	465	0.085	8	0.03	0.002	19:01 hr	1.45	2.39
SWRGM-005704	SWRMH-005873	SWRMH-005872	Z42108	Z42109	263	0.006	8	0.07	0.005	19:02 hr	0.73	0.74
SWRGM-005705	SWRMH-004704	SWRMH-004451	Y36150	Y36167	236	0.024	8	0.12	0.03	19:21 hr	2.05	1.56
SWRGM-005706	SWRMH-004451	SWRMH-004452	Y36167	Y36166	254	0.024	8	0.12	0.031	19:22 hr	2.06	1.56
SWRGM-005708	SWRMH-004326	SWRMH-004332	Z42168	Z42162	291	0.017	8	0.06	0.006	19:02 hr	1.13	1.21
SWRGM-005709	SWRMH-005239	SWRMH-005240	X44114	X44113	270	0.008	8	0.04	0.002	10:15 hr	0.56	0.77
SWRGM-005710	SWRMH-005748	SWRMH-005239	X44105	X44114	349	0.008	8	0.04	0.002	10:14 hr	0.56	0.77
SWRGM-005711	SWRMH-005360	SWRMH-005362	W42108	W42106	292	0.005	8	0.27	0.079	19:39 hr	1.57	0.76
SWRGM-005712	SWRMH-004787	SWRMH-004788	AA38145	AA38144	271	0.006	8	0.05	0.003	19:02 hr	0.60	0.68
SWRGM-005713	SWRMH-004790	SWRMH-004789	AA38142	AA38143	279	0.004	8	0.08	0.005	19:02 hr	0.61	0.58
SWRGM-005715	SWRNJ-000611	SWRMH-004048	Y40108	Y40137	79	0.004	8	0.06	0.003	10:00 hr	0.56	0.61
SWRGM-005716	SWRMH-004698	SWRMH-005013	Z38148	Z38132	229	0.019	8	0.03	0.002	19:01 hr	0.84	1.20
SWRGM-005717	SWRMH-002605	SWRMH-004099	AA40109	AA39123	331	0.006	8	0.22	0.054	19:06 hr	1.49	0.82
SWRGM-005719	SWRMH-003934	SWRMH-006215	X39121	X39105	326	0.006	8	0.10	0.01	10:05 hr	0.89	0.76
SWRGM-005720	SWRNJ-000679	SWRNJ-000678	Z41373	Z41374	78	0.026	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005721	SWRMH-004815	SWRMH-003907	Y37118	Y37164	125	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005725	SWRMH-006797	SWRMH-005064	AA37120	AA37146	219	0.027	8	0.14	0.048	19:33 hr	2.48	1.71
SWRGM-005726	SWRMH-005064	SWRMH-006368	AA37146	AA37126	395	0.018	8	0.16	0.048	19:35 hr	2.15	1.42
SWRGM-005727	SWRMH-006368	SWRMH-006369	AA37126	AA37125	310	0.056	8	0.12	0.05	19:35 hr	3.22	2.41
SWRGM-005728	SWRMH-005788	SWRMH-004492	Z36103	Z36120	218	0.033	8	0.04	0.003	19:02 hr	1.20	1.60
SWRGM-005729	SWRNJ-000683	SWRMH-005788	Z36361	Z36103	18	0.005	8	0.03	0.001	19:00 hr	0.43	0.61
SWRGM-005730	SWRNJ-000011	SWRMH-003586	K47102	K47130	10	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005731	SWRNJ-000003	SWRMH-003614	K47103	K47110	28	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005732	SWRNJ-000001	SWRMH-003614	K47104	K47110	65	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005733	SWRMH-003728	SWRMH-003793	U46141	U45141	323	0.006	8	0.13	0.018	19:08 hr	1.08	0.79
SWRGM-005734	SWRMH-003734	SWRMH-003798	U46135	U45136	335	0.005	8	0.07	0.005	19:03 hr	0.68	0.67
SWRGM-005735	SWRMH-003815	SWRMH-006424	U45119	V45125	350	0.007	8	0.04	0.002	19:03 hr	0.55	0.72
SWRGM-005736	SWRMH-003776	SWRMH-003777	U45158	U45157	250	0.011	8	0.08	0.008	19:02 hr	1.04	1.00
SWRGM-005737	SWRMH-003775	SWRMH-003776	U45159	U45158	250	0.011	8	0.06	0.004	19:01 hr	0.86	0.96
SWRGM-005738	SWRMH-003806	SWRMH-003809	U45128	U45125	292	0.013	8	0.08	0.01	19:05 hr	1.19	1.12
SWRGM-005739	SWRMH-003809	SWRMH-003803	U45125	U45131	289	0.011	8	0.11	0.017	19:05 hr	1.30	1.04
SWRGM-005740	SWRMH-003803	SWRMH-003812	U45131	U45122	284	0.009	8	0.14	0.026	19:06 hr	1.40	0.98
SWRGM-005741	SWRMH-003810	SWRMH-003809	U45124	U45125	350	0.019	8	0.05	0.004	19:01 hr	1.06	1.26
SWRGM-005742	SWRCO-000784	SWRMH-003810	U45102	U45124	70	0.007	8	0.04	0.002	19:00 hr	0.57	0.75
SWRGM-005743	SWRMH-003802	SWRMH-003801	U45132	U45133	271	0.008	8	0.04	0.002	19:02 hr	0.65	0.82
SWRGM-005744	SWRMH-003811	SWRMH-003812	U45123	U45122	356	0.015	8	0.08	0.012	19:07 hr	1.33	1.20
SWRGM-005745	SWRMH-003799	SWRMH-003811	U45135	U45123	356	0.011	8	0.08	0.008	19:06 hr	1.05	1.01
SWRGM-005746	SWRCO-000783	SWRMH-003814	U45103	U45120	180	0.037	8	0.01	0	19:00 hr	0.54	1.37
SWRGM-005747	SWRMH-003814	SWRMH-003813	U45120	U45121	290	0.017	8	0.04	0.003	19:01 hr	0.89	1.15

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005748	SWRCO-000782	SWRMH-003815	U45104	U45119	180	0.018	8	0.02	0	19:01 hr	0.50	1.03
SWRGM-005749	SWRMH-002256	SWRMH-002254	Q49104	Q49106	350	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005750	SWRMH-002256	SWRMH-000778	Q49104	P49115	281	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005751	SWRMH-002257	SWRMH-002256	Q49103	Q49104	124	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005752	SWRMH-002249	SWRMH-002250	Q49111	Q49110	250	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005753	SWRMH-002270	SWRMH-002271	Q46108	Q46107	280	0.015	8	0.03	0.002	19:01 hr	0.71	1.05
SWRGM-005754	SWRMH-002272	SWRMH-002273	Q46106	Q46105	290	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005755	SWRCO-000509	SWRMH-004006	AB42106	AB42124	95	0.008	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-005756	SWRMH-004004	SWRMH-005089	AB42125	AB41136	320	0.02	8	0.06	0.006	19:04 hr	1.17	1.30
SWRGM-005757	SWRMH-004376	SWRNJ-000454	SPMH004376	SP0600MH02	29	0.003	8	0.02	0	10:11 hr	0.24	0.46
SWRGM-005758	SWRMH-005894	SWRMH-005891	AA45103	AA45106	244	0.007	8	0.06	0.004	19:02 hr	0.72	0.76
SWRGM-005759	SWRMH-005891	SWRMH-001045	AA45106	AB45130	293	0.044	8	0.06	0.009	19:03 hr	1.79	1.95
SWRGM-005760	SWRMH-005895	SWRMH-005894	AA45102	AA45103	200	0.007	8	0.04	0.002	19:01 hr	0.56	0.71
SWRGM-005761	SWRMH-005896	SWRMH-001065	AA45101	AB45113	264	0.009	8	0.06	0.005	19:03 hr	0.84	0.89
SWRGM-005762	SWRMH-005906	SWRMH-005903	AB48112	AB48115	295	0.045	8	0.12	0.046	10:07 hr	2.92	2.17
SWRGM-005763	SWRMH-005103	SWRMH-004012	AA41104	AA41163	257	0.036	8	0.08	0.016	19:05 hr	1.96	1.83
SWRGM-005764	SWRMH-004012	SWRMH-005196	AA41163	AA41131	83	0.036	8	0.09	0.02	19:04 hr	2.11	1.86
SWRGM-005765	SWRMH-005529	SWRMH-005768	Z43118	Z43119	351	0.005	8	0.16	0.025	19:03 hr	1.11	0.73
SWRGM-005766	SWRCO-000387	SWRMH-004013	AA41106	AA41162	115	0.048	8	0.02	0.001	19:00 hr	0.91	1.73
SWRGM-005767	SWRMH-005198	SWRMH-005197	AA41129	AA41130	129	0.004	8	0.21	0.04	19:06 hr	1.14	0.64
SWRGM-005768	SWRMH-005197	SWRMH-005196	AA41130	AA41131	152	0.002	8	0.24	0.04	19:08 hr	0.96	0.50
SWRGM-005769	SWRNJ-000389	SWRMH-003214	V47112	V47116	29	0.02	8	0.07	0.009	19:02 hr	1.35	1.35
SWRGM-005770	SWRMH-007883	SWRMH-007884	V46105	V46104	210	0.01	8	0.02	0.001	19:01 hr	0.46	0.80
SWRGM-005771	SWRMH-007886	SWRMH-007885	V46102	V46103	250	0.01	8	0.05	0.003	19:03 hr	0.74	0.90
SWRGM-005772	SWRCO-000611	SWRMH-008365	AB33101	AB33110	120	0.001	8	0.14	0.01	19:01 hr	0.52	0.37
SWRGM-005773	SWRNJ-000840	SWRMH-008364	AB33138	AB33111	270	0.032	8	0.06	0.01	19:03 hr	1.60	1.67
SWRGM-005774	SWRMH-008010	SWRMH-008009	AB33118	AB33119	310	0.025	8	0.07	0.009	19:04 hr	1.45	1.49
SWRGM-005775	SWRMH-008364	SWRMH-008363	AB33111	AB33112	351	0.015	8	0.10	0.017	19:04 hr	1.47	1.21
SWRGM-005776	SWRMH-008363	SWRMH-008361	AB33112	AB33114	125	0.179	8	0.06	0.017	19:04 hr	3.49	3.90
SWRGM-005784	SWRMH-005564	SWRMH-005563	AB47112	AB47113	350	0.005	8	0.39	0.158	19:31 hr	1.94	0.79
SWRGM-005785	SWRMH-005565	SWRMH-005564	AB47111	AB47112	350	0.004	8	0.41	0.149	19:29 hr	1.72	0.68
SWRGM-005786	SWRMH-005567	SWRMH-005565	AB47109	AB47111	132	0.004	8	0.40	0.144	19:26 hr	1.69	0.67
SWRGM-005787	SWRMH-001076	SWRMH-001075	AB46142	AB46143	240	0.004	8	0.44	0.171	19:35 hr	1.78	0.68
SWRGM-005788	SWRMH-001075	SWRMH-001074	AB46143	AB46144	280	0.004	8	0.44	0.173	19:37 hr	1.79	0.68
SWRGM-005789	SWRMH-001074	SWRMH-001073	AB46144	AB46145	285	0.004	8	0.45	0.177	19:39 hr	1.79	0.67
SWRGM-005790	SWRMH-001073	SWRMH-001077	AB46145	AB46140	46	0.009	8	0.36	0.177	19:39 hr	2.39	1.00
SWRGM-005791	SWRMH-001112	SWRMH-001113	AB46104	AB46103	250	0.019	8	0.08	0.012	19:01 hr	1.42	1.33
SWRGM-005792	SWRMH-001110	SWRMH-001112	AB46106	AB46104	200	0.006	8	0.06	0.004	19:01 hr	0.71	0.76
SWRGM-005793	SWRMH-001057	SWRMH-001058	AB45121	AB45120	350	0.013	8	0.06	0.005	10:04 hr	0.95	1.06
SWRGM-005794	SWRMH-001058	SWRMH-001059	AB45120	AB45119	350	0.014	8	0.06	0.006	10:06 hr	1.03	1.10
SWRGM-005795	SWRMH-001046	SWRMH-001045	AB45129	AB45130	186	0.012	8	0.04	0.002	19:01 hr	0.75	0.98
SWRGM-005796	SWRMH-001044	SWRMH-001046	AB45131	AB45129	116	0.009	8	0.04	0.001	19:00 hr	0.57	0.80
SWRGM-005797	SWRMH-001066	SWRMH-001067	AB45112	AB45111	185	0.004	8	0.03	0.001	19:01 hr	0.35	0.53
SWRGM-005798	SWRMH-001065	SWRMH-001067	AB45113	AB45111	132	0.004	8	0.09	0.008	19:03 hr	0.72	0.62
SWRGM-005799	SWRMH-003935	SWRMH-003936	X37161	X37160	287	0.006	8	0.04	0.001	19:02 hr	0.47	0.66
SWRGM-005800	SWRCO-000510	SWRMH-004009	AB42105	AB42121	168	0.011	8	0.02	0	19:01 hr	0.41	0.80
SWRGM-005801	SWRMH-004779	SWRMH-004778	AA42134	AA42135	323	0.006	8	0.05	0.002	10:03 hr	0.58	0.70
SWRGM-005802	SWRMH-005871	SWRNJ-000672	Z42110	Z42105	192	0.024	8	0.09	0.018	19:04 hr	1.75	1.52
SWRGM-005803	SWRCO-000531	SWRMH-005882	X43101	X43106	75	0.003	8	0.03	0	19:00 hr	0.26	0.43
SWRGM-005804	SWRMH-004122	SWRMH-004123	X43133	X43132	300	0.013	8	0.11	0.02	10:19 hr	1.48	1.16
SWRGM-005805	SWRMH-004833	SWRMH-004122	X43130	X43133	265	0.01	8	0.12	0.02	10:16 hr	1.33	1.01
SWRGM-005806	SWRMH-002499	SWRMH-002500	AC47103	AC47102	300	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005807	SWRCO-000382	SWRMH-004913	Y41104	Y41131	170	0.006	8	0.05	0.002	19:01 hr	0.57	0.69
SWRGM-005808	SWRNJ-000630	SWRMH-004671	Z41366	Z41147	202	0.055	8	0.08	0.018	19:06 hr	2.35	2.25
SWRGM-005809	SWRMH-004766	SWRMH-004754	Y39124	Y38149	224	0.006	8	0.08	0.006	19:07 hr	0.77	0.73
SWRGM-005810	SWRMH-004390	SWRMH-004388	W38144	W38146	200	0.004	8	0.11	0.01	19:02 hr	0.78	0.63
SWRGM-005811	SWRMH-004391	SWRMH-004390	W38143	W38144	175	0.004	8	0.08	0.006	19:01 hr	0.68	0.62
SWRGM-005812	SWRMH-005001	SWRNJ-000622	Y43129	Y43397	34	0.009	8	0.06	0.005	19:03 hr	0.86	0.89
SWRGM-005813	SWRMH-004317	SWRMH-005089	AB41149	AB41136	190	0.03	8	0.02	0.001	19:01 hr	0.82	1.40
SWRGM-005814	SWRMH-008447	SWRMH-008448	AB41106	AB41105	338	0.033	8	0.05	0.005	19:06 hr	1.30	1.62
SWRGM-005815	SWRCO-000567	SWRMH-004136	W38108	W38168	50	0.004	8	0.03	0.001	19:00 hr	0.33	0.52
SWRGM-005816	SWRCO-000405	SWRMH-004019	W38103	W38170	135	0.009	8	0.02	0	19:01 hr	0.40	0.74
SWRGM-005817	SWRMH-006594	SWRMH-009216	SDMH006594	SP634MH44	156	0.019	8	0.02	0.001	19:00 hr	0.65	1.12
SWRGM-005818	SWRMH-000900	SWRMH-006692	P46137	P46106	188	0.012	8	0.11	0.018	19:06 hr	1.38	1.10
SWRGM-005819	SWRMH-006438	SWRMH-000900	P46121	P46137	157	0.012	8	0.07	0.008	19:04 hr	1.06	1.03
SWRGM-005820	SWRMH-004889	SWRMH-004659	Z43133	Z43153	341	0.004	8	0.19	0.034	19:18 hr	1.14	0.67
SWRGM-005821	SWRMH-004907	SWRMH-005001	Y43139	Y43129	336	0.004	8	0.08	0.005	19:03 hr	0.65	0.61
SWRGM-005822	SWRMH-005003	SWRMH-005002	Y43127	Y43128	325	0.01	8	0.06	0.005	19:02 hr	0.85	0.93
SWRGM-005824	SWRMH-005688	SWRMH-005687	Z45105	Z45106	300	0.005	8	0.11	0.013	19:10 hr	0.91	0.71
SWRGM-005825	SWRMH-005689	SWRMH-005688	Z45104	Z45105	157	0.01	8	0.09	0.011	19:09 hr	1.09	0.96
SWRGM-005826	SWRMH-005691	SWRMH-005689	Z45102	Z45104	318	0.01	8	0.09	0.01	19:08 hr	1.09	0.97
SWRGM-005827	SWRMH-005690	SWRMH-005691	Z45103	Z45102	225	0.014	8	0.02	0.001	19:01 hr	0.56	0.95
SWRGM-005828	SWRMH-001264	SWRMH-001263	AA46133	AA46134	262	0.016	8	0.07	0.007	19:02 hr	1.16	1.18
SWRGM-005829	SWRMH-001258	SWRMH-001259	AA46139	AA46138	332	0.015	8	0.08	0.011	19:07 hr	1.29	1.18
SWRGM-005830	SWRMH-001270	SWRNJ-000747	AA46127	AA46101	146	0.027	8	0.06	0.008	19:02 hr	1.41	1.53
SWRGM-005831	SWRMH-004726	SWRMH-004410	AA41138	AA41150	330	0.046	8	0.03	0.002	19:01 hr	1.12	1.78
SWRGM-005832	SWRMH-004727	SWRMH-004410	AA41137	AA41150	361	0.049	8	0.02	0.001	19:01 hr	0.84	1.70
SWRGM-005833	SWRMH-005169	SWRMH-005757	Y43136	Y43110	88	0.067	8	0.05	0.008	19:03 hr	1.97	2.34
SWRGM-005834	SWRMH-004293	SWRMH-004294	Y42139	Y42138	176	0.027	8	0.03	0.002	19:00 hr	0.92	1.39
SWRGM-005835	SWRCO-000417	SWRMH-004294	Y42108	Y42138	273	0.035	8	0.03	0.002	19:01 hr	1.04	1.58
SWRGM-005836	SWRMH-005866	SWRNJ-000661	Z42115	Z42109	117	0.024	8	0.18	0.074	19:16 hr	2.68	1.63
SWRGM-005837	SWRMH-005020	SWRMH-005773	AA39117	AA39116	158	0.003	8	0.13	0.014	19:03 hr	0.83	0.60
SWRGM-005838	SWRMH-005249	SWRMH-004115	Z40108	Z39119	341	0.005	8	0.06	0.003	10:07 hr	0.61	0.64
SWRGM-005839	SWRMH-005253	SWRMH-005252	Z40104	Z40105	351	0.047	8	0.08	0.018	19:02 hr	2.24	2.10
SWRGM-005840	SWRMH-005254	SWRMH-005253	Z40103	Z40104	405	0.042	8	0.05	0.008	19:01 hr	1.67	1.88
SWRGM-005841	SWRMH-005252	SWRMH-005251	Z40105	Z40106	226	0.026	8	0.11	0.027	19:02 hr	2.07	1.64
SWRGM-005842	SWRMH-004103	SWRMH-004102	AA38157	AA38158	277	0.041	8	0.11	0.036	19:22 hr	2.60	2.04
SWRGM-005843	SWRMH-004886	SWRMH-004326	Z43136	Z42168	288	0.017	8	0.05	0.004	19:01 hr	1.00	1.19
SWRGM-005844	SWRCO-000478	SWRMH-004652	Z43108	Z43160	47	0.01	8	0.02	0	19:00 hr	0.40	0.77
SWRGM-005845	SWRMH-005318	SWRMH-005319	Y42124	Y42123	228	0.004	8	0.10	0.009	19:03 hr	0.75	0.63
SWRGM-005846	SWRMH-004292	SWRMH-005318	Y42140	Y42124	153	0.004	8	0.05	0.002	19:01 hr	0.50	0.57

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005847	SWRMH-004578	SWRMH-004579	Y42132	Y42131	228	0.011	8	0.16	0.038	19:09 hr	1.68	1.11
SWRGM-005848	SWRMH-004072	SWRMH-006183	U44132	U44103	252	0.011	8	0.06	0.006	19:03 hr	0.95	0.99
SWRGM-005849	SWRMH-005443	SWRMH-005016	Z39114	AA39121	244	0.036	8	0.20	0.111	10:26 hr	3.50	2.03
SWRGM-005850	SWRMH-005016	SWRMH-005011	AA39121	AA38133	251	0.036	8	0.20	0.111	10:27 hr	3.51	2.03
SWRGM-005851	SWRMH-006624	SWRMH-004096	Z39102	AA39126	220	0.052	8	0.04	0.004	10:00 hr	1.43	1.97
SWRGM-005852	SWRNJ-000628	SWRMH-004695	Z38151	Z38262	10	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005853	SWRMH-005604	SWRMH-005605	AC44107	AC44106	228	0.038	8	0.04	0.004	19:00 hr	1.26	1.70
SWRGM-005854	SWRMH-008579	SWRMH-008578	V45110	V45111	185	0.005	8	0.07	0.005	19:04 hr	0.70	0.67
SWRGM-005859	SWRMH-005284	SWRMH-005084	AC44128	AC44125	81	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005860	SWRMH-005084	SWRMH-005083	AC44125	AC44126	116	0.005	8	0.03	0.001	19:02 hr	0.38	0.58
SWRGM-005861	SWRMH-005385	SWRMH-004156	AC44122	AC44153	180	0.009	8	0.17	0.037	19:04 hr	1.53	0.98
SWRGM-005862	SWRMH-004157	SWRMH-005385	AC44152	AC44122	166	0.013	8	0.12	0.023	19:04 hr	1.54	1.16
SWRGM-005871	SWRMH-005297	SWRMH-005296	Z42135	Z42136	305	0.009	8	0.24	0.082	19:16 hr	1.94	1.01
SWRGM-005872	SWRMH-005298	SWRMH-005299	Z42134	Z42133	259	0.006	8	0.28	0.088	19:20 hr	1.75	0.85
SWRGM-005873	SWRMH-005302	SWRMH-005301	Z42130	Z42131	222	0.021	8	0.03	0.002	19:01 hr	0.84	1.23
SWRGM-005874	SWRMH-006204	SWRMH-006205	Y39103	Y39102	272	0.005	8	0.04	0.001	19:02 hr	0.47	0.63
SWRGM-005875	SWRMH-004809	SWRMH-004810	X36154	X36153	251	0.005	8	0.07	0.005	19:06 hr	0.68	0.68
SWRGM-005876	SWRMH-004810	SWRMH-004811	X36153	X36152	220	0.019	8	0.05	0.005	19:07 hr	1.09	1.26
SWRGM-005877	SWRMH-001040	SWRMH-001236	Z46114	AA46161	364	0.005	8	0.18	0.033	19:19 hr	1.21	0.75
SWRGM-005878	SWRMH-001883	SWRMH-001040	Z46113	Z46114	365	0.005	8	0.17	0.031	19:17 hr	1.20	0.74
SWRGM-005879	SWRCO-000438	SWRMH-005594	W40102	W40114	153	0.01	8	0.04	0.002	19:01 hr	0.72	0.91
SWRGM-005880	SWRMH-005597	SWRMH-005595	W40111	W40113	286	0.007	8	0.21	0.054	19:10 hr	1.58	0.89
SWRGM-005881	SWRMH-005596	SWRMH-005597	W40112	W40111	350	0.007	8	0.06	0.004	19:03 hr	0.72	0.78
SWRGM-005882	SWRMH-005033	SWRMH-005032	AC44136	AC44137	98	0.017	8	0.04	0.002	19:00 hr	0.79	1.12
SWRGM-005883	SWRMH-004220	SWRMH-004218	AB36112	AB36114	272	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005884	SWRMH-002480	SWRMH-002481	AA44116	AA44115	228	0.004	8	0.04	0.001	19:02 hr	0.39	0.54
SWRGM-005885	SWRMH-002479	SWRMH-002480	AA44117	AA44116	160	0.055	8	0.01	0	19:00 hr	0.68	1.69
SWRGM-005886	SWRNJ-000799	SWRMH-002479	AA44101	AA44117	10	0.013	8	0.00	0	18:59 hr	0.00	0.00
SWRGM-005887	SWRMH-005423	SWRMH-005422	Z37118	Z37119	350	0.005	8	0.05	0.003	19:04 hr	0.58	0.66
SWRGM-005888	SWRMH-005424	SWRMH-005423	Z37117	Z37118	300	0.019	8	0.03	0.002	19:01 hr	0.82	1.19
SWRGM-005889	SWRCO-000455	SWRMH-005424	Z37104	Z37117	140	0.033	8	0.02	0.001	19:00 hr	0.77	1.44
SWRGM-005890	SWRMH-005428	SWRMH-005429	Z37113	Z37112	306	0.002	8	0.04	0.001	19:03 hr	0.30	0.42
SWRGM-005891	SWRNJ-000212	SWRMH-007434	T47649	T47181	35	0.01	8	0.07	0.006	19:03 hr	0.93	0.96
SWRGM-005892	SWRMH-008476	SWRNJ-000212	S47101	T47649	212	0.01	8	0.07	0.006	19:02 hr	0.92	0.95
SWRGM-005893	SWRCO-000603	SWRMH-007618	S47101	R47108	96	0.004	8	0.07	0.004	19:00 hr	0.61	0.61
SWRGM-005895	SWRMH-003936	SWRMH-003937	X37160	X37159	350	0.006	8	0.06	0.004	19:03 hr	0.68	0.73
SWRGM-005896	SWRMH-004028	SWRMH-004029	Z40148	Z40147	346	0.004	8	0.17	0.025	10:12 hr	1.04	0.66
SWRGM-005897	SWRCO-000578	SWRMH-005249	Z40104	Z40108	338	0.005	8	0.06	0.003	10:03 hr	0.61	0.65
SWRGM-005898	SWRMH-005444	SWRMH-005443	Z39113	Z39114	281	0.043	8	0.19	0.106	10:25 hr	3.67	2.21
SWRGM-005899	SWRMH-005448	SWRMH-008167	U44123	T44171	225	0.004	8	0.06	0.003	19:02 hr	0.54	0.59
SWRGM-005900	SWRMH-006686	SWRMH-006684	U44111	U44113	294	0.015	8	0.08	0.012	19:03 hr	1.31	1.19
SWRGM-005901	SWRMH-006684	SWRMH-004069	U44113	U44135	295	0.01	8	0.12	0.02	19:05 hr	1.35	1.03
SWRGM-005902	SWRMH-004074	SWRMH-004075	U44130	U44129	350	0.005	8	0.33	0.111	19:26 hr	1.72	0.76
SWRGM-005903	SWRMH-006625	SWRMH-006184	U44119	U44102	339	0.028	8	0.21	0.113	19:30 hr	3.21	1.79
SWRGM-005904	SWRMH-006331	SWRMH-006332	AA48117	AA48116	350	0.007	8	0.06	0.004	19:03 hr	0.71	0.77
SWRGM-005905	SWRMH-006796	SWRMH-006331	AA48101	AA48117	239	0.009	8	0.03	0.001	19:01 hr	0.56	0.80
SWRGM-005906	SWRMH-006332	SWRMH-006333	AA48116	AA48115	230	0.027	8	0.06	0.006	19:04 hr	1.34	1.50
SWRGM-005907	SWRMH-002519	SWRMH-001246	AA47108	AA46151	333	0.006	8	0.07	0.005	10:03 hr	0.72	0.73
SWRGM-005908	SWRMH-001156	SWRMH-001157	AA47151	AA47150	242	0.004	8	0.07	0.004	19:02 hr	0.61	0.60
SWRGM-005909	SWRMH-001157	SWRMH-001160	AA47150	AA47147	219	0.01	8	0.07	0.007	19:03 hr	0.97	0.96
SWRGM-005910	SWRMH-001271	SWRMH-001272	AA46126	AA46125	320	0.011	8	0.07	0.006	19:02 hr	0.97	0.98
SWRGM-005911	SWRMH-001272	SWRMH-001273	AA46125	AA46124	305	0.028	8	0.07	0.01	19:03 hr	1.55	1.59
SWRGM-005912	SWRMH-001275	SWRMH-001276	AA46122	AA46121	267	0.024	8	0.07	0.01	19:02 hr	1.48	1.48
SWRGM-005913	SWRMH-001274	SWRMH-001275	AA46123	AA46122	254	0.014	8	0.06	0.006	19:01 hr	1.08	1.13
SWRGM-005915	SWRMH-001007	SWRMH-001006	Z47141	Z47142	116	0.004	8	0.15	0.02	19:06 hr	0.96	0.65
SWRGM-005916	SWRMH-005337	SWRMH-005338	X42125	X42124	323	0.007	8	0.09	0.009	10:05 hr	0.94	0.83
SWRGM-005917	SWRMH-005338	SWRMH-005339	X42124	X42123	323	0.022	8	0.07	0.011	10:07 hr	1.45	1.42
SWRGM-005923	SWRMH-000613	SWRMH-002484	AA43128	AA44112	178	0.06	8	0.01	0	19:01 hr	0.76	1.79
SWRGM-005924	SWRCO-000376	SWRMH-002557	AA44102	AA44107	175	0.031	8	0.01	0	19:00 hr	0.59	1.32
SWRGM-005925	SWRMH-004596	SWRMH-004595	X37136	X37137	244	0.01	8	0.11	0.017	19:07 hr	1.25	0.99
SWRGM-005926	SWRMH-005237	SWRMH-004709	Y36118	Y36145	189	0.066	8	0.02	0.002	19:02 hr	1.20	2.07
SWRGM-005927	SWRMH-004709	SWRMH-005238	Y36145	Y36117	271	0.017	8	0.04	0.002	19:03 hr	0.85	1.14
SWRGM-005928	SWRNJ-000416	SWRMH-002330	W36119	W36101	23	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005929	SWRMH-000836	SWRMH-004889	Z43170	Z43133	135	0.004	8	0.18	0.03	19:15 hr	1.08	0.66
SWRGM-005930	SWRMH-004890	SWRMH-000836	Z43132	Z43133	219	0.004	8	0.09	0.007	19:06 hr	0.71	0.63
SWRGM-005931	SWRMH-000622	SWRMH-001763	P47135	Q47106	158	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005932	SWRMH-006914	SWRMH-000622	P47103	P47135	192	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005933	SWRMH-000608	SWRMH-004994	AA41165	Z41124	138	0.002	8	0.16	0.018	19:06 hr	0.79	0.51
SWRGM-005934	SWRMH-005266	SWRMH-000608	AA41122	AA41165	214	0.004	8	0.13	0.017	19:04 hr	0.93	0.67
SWRGM-005935	SWRMH-008564	SWRCO-000527	X43101	X43105	180	0.014	8	0.15	0.04	10:30 hr	1.84	1.22
SWRGM-005936	SWRCO-000378	SWRMH-002477	AA40102	AA40121	126	0.004	8	0.07	0.004	19:01 hr	0.61	0.60
SWRGM-005937	SWRMH-004032	SWRMH-004056	Z40144	Z40132	360	0.029	8	0.22	0.118	19:03 hr	3.28	1.81
SWRGM-005938	SWRCO-000577	SWRMH-005248	Z40105	Z40109	61	0.002	8	0.09	0.005	19:00 hr	0.54	0.47
SWRGM-005939	SWRMH-000652	SWRMH-000650	U47102	U47104	310	0.011	8	0.05	0.003	19:02 hr	0.80	0.96
SWRGM-005940	SWRMH-000692	SWRMH-008001	AB35102	AB35106	323	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005941	SWRMH-003706	SWRMH-003707	U48105	U48104	313	0.004	8	0.08	0.005	10:06 hr	0.64	0.61
SWRGM-005942	SWRCO-000776	SWRMH-003683	U48103	U48128	78	0.005	8	0.04	0.001	19:00 hr	0.47	0.62
SWRGM-005943	SWRMH-003704	SWRMH-003705	U48107	U48106	194	0.004	8	0.13	0.016	19:04 hr	0.90	0.64
SWRGM-005944	SWRMH-003698	SWRMH-003699	U48113	U48112	121	0.046	8	0.06	0.012	19:01 hr	1.93	2.01
SWRGM-005945	SWRMH-003696	SWRMH-003697	U48115	U48114	353	0.012	8	0.08	0.01	10:03 hr	1.14	1.05
SWRGM-005946	SWRMH-003695	SWRMH-003696	U48116	U48115	162	0.012	8	0.05	0.004	10:01 hr	0.85	0.99
SWRGM-005947	SWRMH-003682	SWRMH-003683	U48129	U48128	159	0.011	8	0.05	0.003	19:01 hr	0.76	0.95
SWRGM-005948	SWRMH-003683	SWRMH-003681	U48128	U48130	146	0.025	8	0.05	0.006	19:01 hr	1.27	1.46
SWRGM-005949	SWRCO-000696	SWRMH-003710	T48101	U48101	161	0.01	8	0.05	0.003	10:01 hr	0.75	0.90
SWRGM-005950	SWRMH-003592	SWRMH-003593	K47124	K47123	300	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005951	SWRMH-003593	SWRMH-008148	K47123	K47101	300	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005952	SWRMH-003697	SWRMH-003698	U48114	U48113	179	0.01	8	0.09	0.01	10:04 hr	1.10	0.99
SWRGM-005953	SWRMH-003700	SWRMH-003703	U48111	U48108	43	0.003	8	0.13	0.013	19:02 hr	0.82	0.60
SWRGM-005954	SWRMH-003677	SWRMH-003676	U48134	U48135	280	0.012	8	0.06	0.004	19:01 hr	0.91	1.02
SWRGM-005955	SWRNJ-000007	SWRMH-003590	K47113	K47126	28	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005956	SWRNJ-000009	SWRMH-003592	K47107	K47124	35	0.007	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-005957	SWRNJ-000006	SWRMH-003591	K47110	K47125	28	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005958	SWRNJ-000010	SWRMH-003587	K47108	K47129	28	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005959	SWRMH-003333	SWRMH-003325	V40147	V40155	260	0.006	8	0.08	0.006	19:03 hr	0.80	0.76
SWRGM-005960	SWRMH-002847	SWRMH-002846	Y34101	Y34102	137	0.029	8	0.05	0.005	19:03 hr	1.25	1.53
SWRGM-005961	SWRMH-002844	SWRMH-002978	Y34104	X34114	216	0.01	8	0.20	0.058	19:08 hr	1.83	1.06
SWRGM-005962	SWRMH-002837	SWRMH-002833	Y34111	Y34115	224	0.029	8	0.10	0.025	19:04 hr	2.08	1.70
SWRGM-005963	SWRMH-002833	SWRMH-002838	Y34115	Y34110	244	0.023	8	0.12	0.034	19:04 hr	2.11	1.56
SWRGM-005964	SWRMH-002830	SWRMH-002832	Y34118	Y34116	337	0.054	8	0.05	0.008	19:02 hr	1.80	2.11
SWRGM-005965	SWRMH-002836	SWRMH-002837	Y34112	Y34111	150	0.058	8	0.05	0.008	19:01 hr	1.89	2.20
SWRGM-005966	SWRMH-005289	SWRMH-005287	Y41106	Y41108	300	0.003	8	0.19	0.03	10:14 hr	1.03	0.61
SWRGM-005967	SWRMH-003989	SWRMH-005289	Y41153	Y41106	300	0.003	8	0.18	0.028	10:11 hr	1.01	0.62
SWRGM-005968	SWRMH-003988	SWRMH-003989	Y41154	Y41153	300	0.004	8	0.16	0.022	10:10 hr	0.96	0.63
SWRGM-005969	SWRMH-005168	SWRMH-005759	Y43137	Y43108	54	0.048	8	0.04	0.004	19:02 hr	1.38	1.90
SWRGM-005970	SWRCO-000771	SWRMH-003559	V36102	V36108	104	0.007	8	0.02	0	19:00 hr	0.39	0.69
SWRGM-005971	SWRMH-003559	SWRMH-003558	V36108	V36109	273	0.007	8	0.05	0.003	19:02 hr	0.63	0.74
SWRGM-005972	SWRNJ-000344	SWRMH-003575	V35104	V35104	47	0.005	8	0.13	0.018	19:11 hr	1.03	0.74
SWRGM-005973	SWRMH-003573	SWRNJ-000344	V35106	V35104	154	0.005	8	0.13	0.018	19:11 hr	1.02	0.72
SWRGM-005974	SWRNJ-000319	SWRMH-003568	V35103	V35111	37	0.008	8	0.13	0.022	19:06 hr	1.28	0.93
SWRGM-005975	SWRMH-003563	SWRNJ-000319	V35116	V35103	122	0.013	8	0.12	0.022	19:05 hr	1.51	1.16
SWRGM-005976	SWRMH-003547	SWRMH-003565	V36120	V35114	216	0.006	8	0.10	0.011	19:04 hr	0.94	0.78
SWRGM-005977	SWRMH-003565	SWRMH-003564	V35114	V35115	211	0.007	8	0.13	0.019	19:04 hr	1.14	0.83
SWRGM-005978	SWRMH-003564	SWRMH-003563	V35115	V35116	130	0.006	8	0.14	0.021	19:05 hr	1.14	0.80
SWRGM-005979	SWRMH-003566	SWRMH-003565	V35113	V35114	86	0.029	8	0.05	0.006	19:02 hr	1.34	1.56
SWRGM-005980	SWRMH-008588	SWRMH-008581	V45101	V45108	305	0.007	8	0.07	0.005	19:05 hr	0.78	0.79
SWRGM-005981	SWRMH-008585	SWRMH-008576	V45104	V45113	223	0.019	8	0.05	0.005	19:03 hr	1.13	1.28
SWRGM-005982	SWRCO-000451	SWRMH-005408	Z37108	Z37133	115	0.007	8	0.02	0	19:01 hr	0.35	0.64
SWRGM-005983	SWRCO-000450	SWRMH-004208	Z37109	Z37145	119	0.011	8	0.02	0	19:00 hr	0.38	0.80
SWRGM-005984	SWRMH-000988	SWRMH-001171	AA46169	AA46167	161	0.005	8	0.17	0.03	19:06 hr	1.17	0.74
SWRGM-005985	SWRMH-006301	SWRMH-006282	Y45141	Y45160	219	0.017	8	0.02	0.001	19:03 hr	0.57	1.05
SWRGM-005986	SWRMH-006280	SWRMH-006281	Y45162	Y45161	211	0.02	8	0.06	0.007	19:07 hr	1.23	1.31
SWRGM-005987	SWRMH-006323	SWRMH-006322	Y44102	Y44101	340	0.02	8	0.04	0.003	19:05 hr	0.98	1.24
SWRGM-005988	SWRMH-006273	SWRMH-006274	AA36119	AA36118	305	0.005	8	0.12	0.014	19:08 hr	0.96	0.73
SWRGM-005989	SWRMH-005220	SWRMH-005222	Y38130	Y38128	234	0.005	8	0.25	0.068	19:46 hr	1.53	0.79
SWRGM-005990	SWRNJ-000794	SWRMH-004781	AA42106	AA42132	30	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005991	SWRMH-004549	SWRMH-004550	X37142	X37141	313	0.005	8	0.06	0.003	19:05 hr	0.56	0.62
SWRGM-005992	SWRMH-004550	SWRMH-004551	X37141	X37140	310	0.005	8	0.06	0.004	19:08 hr	0.60	0.63
SWRGM-005993	SWRMH-004551	SWRMH-004552	X37140	X37139	308	0.005	8	0.07	0.005	19:10 hr	0.68	0.67
SWRGM-005994	SWRNJ-000775	SWRMH-003863	AA39244	AA39141	50	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-005995	SWRMH-005124	SWRMH-005123	X43123	X43124	238	0.013	8	0.02	0.001	10:01 hr	0.50	0.91
SWRGM-005996	SWRMH-005876	SWRNJ-000495	X43112	X43102	166	0.005	8	0.02	0	19:01 hr	0.30	0.56
SWRGM-005997	SWRMH-005883	SWRMH-005881	X43105	X43107	193	0.01	8	0.07	0.007	19:04 hr	0.97	0.97
SWRGM-005998	SWRMH-004106	SWRMH-004105	AA38154	AA38155	304	0.036	8	0.21	0.122	10:29 hr	3.59	2.03
SWRGM-005999	SWRMH-005010	SWRMH-004106	AA38134	AA38154	305	0.044	8	0.20	0.12	10:29 hr	3.84	2.24
SWRGM-006000	SWRMH-005012	SWRMH-005010	AA38132	AA38134	167	0.025	8	0.22	0.118	10:28 hr	3.14	1.71
SWRGM-006001	SWRMH-004794	SWRMH-004395	Z44110	Y44125	275	0.004	8	0.13	0.015	19:14 hr	0.90	0.65
SWRGM-006002	SWRMH-004318	SWRMH-004722	AB41148	AB41144	242	0.025	8	0.02	0.001	19:02 hr	0.68	1.25
SWRGM-006003	SWRMH-004435	SWRMH-004436	Y38157	Y38156	210	0.025	8	0.04	0.002	19:01 hr	0.95	1.35
SWRGM-006004	SWRCO-000460	SWRMH-004691	Y38102	Y38152	108	0.002	8	0.06	0.002	10:01 hr	0.39	0.40
SWRGM-006005	SWRMH-005451	SWRMH-006178	U44120	U44108	92	0.009	8	0.06	0.004	19:03 hr	0.81	0.87
SWRGM-006006	SWRMH-004078	SWRMH-004082	U43119	U43115	225	0.012	8	0.03	0.001	19:01 hr	0.62	0.93
SWRGM-006007	SWRMH-004079	SWRMH-004083	U43118	U43114	342	0.008	8	0.09	0.01	19:07 hr	1.02	0.89
SWRGM-006008	SWRMH-004480	SWRMH-005421	Z36132	Z37120	324	0.002	8	0.20	0.03	19:27 hr	0.91	0.52
SWRGM-006009	SWRMH-005615	SWRMH-005619	Z37108	Z37104	355	0.017	8	0.02	0.001	19:02 hr	0.62	1.07
SWRGM-006010	SWRMH-004678	SWRMH-004679	W40140	W40139	325	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006011	SWRMH-005301	SWRMH-005298	Z42131	Z42134	211	0.016	8	0.04	0.003	19:02 hr	0.88	1.12
SWRGM-006012	SWRCO-000526	SWRMH-005301	Z42101	Z42131	48	0.07	8	0.01	0	18:59 hr	0.75	1.89
SWRGM-006014	SWRMH-002517	SWRMH-002516	AA47110	AA47111	312	0.005	8	0.10	0.009	19:06 hr	0.80	0.67
SWRGM-006015	SWRMH-002524	SWRMH-002522	AA47103	AA47105	292	0.017	8	0.06	0.006	19:01 hr	1.09	1.20
SWRGM-006016	SWRMH-003337	SWRMH-003335	V40143	V40145	200	0.012	8	0.06	0.005	19:01 hr	0.92	1.00
SWRGM-006017	SWRMH-003306	SWRMH-003305	V40174	V40175	227	0.005	8	0.11	0.013	19:04 hr	0.93	0.72
SWRGM-006018	SWRMH-003308	SWRMH-003307	V40172	V40173	250	0.017	8	0.06	0.007	19:01 hr	1.15	1.21
SWRGM-006019	SWRMH-003336	SWRMH-003335	V40144	V40145	260	0.004	8	0.13	0.016	19:05 hr	0.90	0.65
SWRGM-006020	SWRMH-003341	SWRMH-003338	V40139	V40142	260	0.005	8	0.07	0.004	19:02 hr	0.63	0.65
SWRGM-006021	SWRMH-003354	SWRMH-003356	V40126	V40124	212	0.018	8	0.05	0.004	19:02 hr	1.03	1.22
SWRGM-006022	SWRMH-004444	SWRMH-005798	Z43166	Z43111	279	0.004	8	0.02	0	19:02 hr	0.25	0.51
SWRGM-006023	SWRMH-005767	SWRMH-000412	Z43120	Z43166	225	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006024	SWRMH-000412	SWRMH-004444	Z43120	Z43166	141	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006025	SWRMH-005260	SWRMH-004658	Z43131	Z43154	54	0.009	8	0.12	0.021	19:06 hr	1.32	0.98
SWRGM-006026	SWRMH-002597	SWRMH-002598	W36104	W36103	270	0.016	8	0.01	0	19:01 hr	0.40	0.93
SWRGM-006027	SWRMH-002596	SWRMH-002597	W36105	W36104	270	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006028	SWRMH-003699	SWRMH-003700	U48112	U48111	156	0.023	8	0.08	0.013	19:01 hr	1.57	1.46
SWRGM-006029	SWRMH-003701	SWRMH-003705	U48110	U48106	344	0.02	8	0.06	0.008	19:01 hr	1.29	1.33
SWRGM-006030	SWRMH-003319	SWRMH-003316	V40161	V40164	220	0.004	8	0.08	0.006	19:04 hr	0.68	0.61
SWRGM-006031	SWRMH-003324	SWRMH-003323	V40156	V40157	270	0.005	8	0.17	0.028	19:07 hr	1.16	0.74
SWRGM-006032	SWRMH-003323	SWRMH-003322	V40157	V40158	270	0.005	8	0.17	0.032	19:09 hr	1.22	0.76
SWRGM-006033	SWRMH-003320	SWRMH-003318	V40160	V40162	220	0.004	8	0.21	0.041	19:13 hr	1.19	0.67
SWRGM-006034	SWRMH-003322	SWRMH-003321	V40158	V40159	109	0.004	8	0.19	0.033	19:10 hr	1.12	0.67
SWRGM-006035	SWRMH-004827	SWRMH-004289	AA42128	AA43123	260	0.03	8	0.01	0	19:01 hr	0.58	1.29
SWRGM-006036	SWRMH-006961	SWRMH-006963	AC48116	AC48114	47	0.176	8	0.04	0.009	10:02 hr	2.90	3.71
SWRGM-006037	SWRCO-000418	SWRMH-004351	Y42107	Y42136	100	0.01	8	0.03	0.001	19:00 hr	0.50	0.82
SWRGM-006038	SWRMH-006112	SWRMH-006656	AC45117	AC45114	300	0.01	8	0.09	0.011	19:04 hr	1.12	0.98
SWRGM-006039	SWRMH-006111	SWRMH-006112	AC45118	AC45117	300	0.007	8	0.08	0.008	19:02 hr	0.87	0.80
SWRGM-006040	SWRMH-006655	SWRMH-006657	AC45115	AC45113	84	0.005	8	0.32	0.103	19:23 hr	1.68	0.76
SWRGM-006041	SWRMH-005888	SWRMH-005889	AC45125	AC45124	275	0.038	8	0.04	0.005	19:01 hr	1.36	1.74
SWRGM-006042	SWRNJ-000798	SWRMH-005890	AA45101	AA45107	10	0.003	8	0.01	0	18:59 hr	0.17	0.40
SWRGM-006043	SWRMH-004281	SWRMH-004282	Z44126	Z44125	209	0.004	8	0.11	0.01	19:09 hr	0.80	0.64
SWRGM-006044	SWRMH-004282	SWRMH-004283	Z44125	Z44124	176	0.004	8	0.11	0.01	19:10 hr	0.77	0.61
SWRGM-006045	SWRMH-005629	SWRMH-004284	Z44103	Z44123	350	0.004	8	0.01	0	19:10 hr	0.21	0.47
SWRGM-006046	SWRMH-004561	SWRMH-004560	W37143	W37144	205	0.024	8	0.07	0.01	19:04 hr	1.45	1.46
SWRGM-006047	SWRMH-006017	SWRMH-004066	X36111	X36177	252	0.003	8	0.09	0.006	19:06 hr	0.63	0.55
SWRGM-006048	SWRMH-004267	SWRMH-006017	X36174	X36111	255	0.004	8	0.08	0.005	19:04 hr	0.62	0.58

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006049	SWRMH-006018	SWRMH-002920	X36110	X35135	261	0.01	8	0.04	0.002	19:01 hr	0.66	0.89
SWRGM-006050	SWRMH-005432	SWRMH-005431	Z37109	Z37110	354	0.06	8	0.02	0.001	19:01 hr	1.09	1.95
SWRGM-006051	SWRMH-001245	SWRMH-000975	AA46152	AA46182	300	0.011	8	0.13	0.026	19:16 hr	1.51	1.10
SWRGM-006052	SWRNJ-000739	SWRMH-001245	AA46103	AA46152	16	0.013	8	0.11	0.021	19:14 hr	1.49	1.16
SWRGM-006053	SWRMH-000979	SWRMH-001237	AA46178	AA46160	324	0.032	8	0.12	0.037	19:14 hr	2.43	1.83
SWRGM-006054	SWRMH-000980	SWRMH-000979	AA46177	AA46178	350	0.024	8	0.13	0.035	19:12 hr	2.14	1.58
SWRGM-006055	SWRMH-002523	SWRMH-002522	AA47104	AA47105	250	0.01	8	0.08	0.008	19:02 hr	1.00	0.95
SWRGM-006056	SWRMH-002526	SWRMH-002520	AA47101	AA47107	350	0.006	8	0.17	0.033	19:10 hr	1.31	0.82
SWRGM-006057	SWRMH-006333	SWRMH-002526	AA48115	AA47101	166	0.022	8	0.12	0.031	19:06 hr	2.00	1.50
SWRGM-006058	SWRMH-007871	SWRMH-007872	AB41126	AB41125	183	0.037	8	0.07	0.012	19:04 hr	1.80	1.82
SWRGM-006059	SWRMH-007900	SWRMH-007871	AB41120	AB41126	232	0.035	8	0.06	0.008	19:04 hr	1.56	1.73
SWRGM-006060	SWRMH-008437	SWRMH-007870	AB42102	AB41127	126	0.012	8	0.05	0.004	19:03 hr	0.85	0.99
SWRGM-006062	SWRMH-006963	SWRMH-002498	AC48114	AC47104	375	0.005	8	0.13	0.016	10:05 hr	0.98	0.72
SWRGM-006063	SWRMH-007899	SWRMH-005353	AC40102	AC40107	303	0.017	8	0.14	0.035	19:23 hr	1.89	1.34
SWRGM-006064	SWRMH-008460	SWRMH-007899	AC40101	AC40102	303	0.062	8	0.10	0.035	19:21 hr	2.99	2.48
SWRGM-006065	SWRMH-008458	SWRMH-008449	AB41101	AB41104	343	0.021	8	0.09	0.018	19:07 hr	1.69	1.44
SWRGM-006066	SWRMH-008457	SWRMH-008456	AB41102	AB41103	340	0.03	8	0.12	0.035	19:12 hr	2.32	1.76
SWRGM-006067	SWRMH-005755	SWRMH-008457	AB41131	AB41102	340	0.023	8	0.13	0.034	19:10 hr	2.09	1.54
SWRGM-006068	SWRMH-005468	SWRMH-005469	Y43117	Y43116	349	0.031	8	0.05	0.006	19:07 hr	1.41	1.62
SWRGM-006069	SWRMH-004309	SWRCO-000489	Y43145	Y43104	355	0.017	8	0.07	0.008	19:04 hr	1.22	1.22
SWRGM-006070	SWRMH-004259	SWRMH-004258	AB41151	AB41152	180	0.04	8	0.06	0.01	19:05 hr	1.75	1.88
SWRGM-006071	SWRMH-001122	SWRMH-001185	W36125	W36121	311	0.006	8	0.02	0	19:03 hr	0.30	0.59
SWRGM-006072	SWRCO-000648	SWRMH-002486	W36102	W36112	111	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006073	SWRMH-002488	SWRMH-005643	W36110	X36119	270	0.052	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006074	SWRMH-005275	SWRMH-004478	Z38123	Z38156	210	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006075	SWRMH-004433	SWRMH-000612	Z38157	Z38168	300	0.062	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006077	SWRMH-005035	SWRMH-005034	AC44134	AC44135	113	0.019	8	0.03	0.002	19:00 hr	0.81	1.18
SWRGM-006078	SWRMH-008148	SWRMH-007882	K47101	L47101	310	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006079	SWRMH-002559	SWRMH-002560	W36107	W36106	89	0.004	8	0.20	0.037	19:09 hr	1.14	0.66
SWRGM-006080	SWRMH-006181	SWRMH-004068	U44105	U44136	222	0.007	8	0.06	0.004	19:02 hr	0.69	0.76
SWRGM-006081	SWRMH-006180	SWRMH-006181	U44106	U44105	200	0.006	8	0.04	0.002	19:01 hr	0.53	0.68
SWRGM-006082	SWRMH-006184	SWRMH-006185	U44102	U44101	296	0.021	8	0.32	0.22	19:24 hr	3.50	1.56
SWRGM-006083	SWRMH-005022	SWRMH-005023	AA38130	AA38129	300	0.052	8	0.04	0.005	19:01 hr	1.54	2.00
SWRGM-006084	SWRMH-004116	SWRMH-006617	Z39118	Z39109	102	0.01	8	0.20	0.057	10:17 hr	1.80	1.04
SWRGM-006086	SWRMH-005540	SWRMH-004755	Y38120	Y38148	205	0.031	8	0.03	0.002	19:03 hr	1.05	1.51
SWRGM-006087	SWRMH-004754	SWRMH-004753	Y38149	Y38150	241	0.042	8	0.06	0.009	19:07 hr	1.75	1.91
SWRGM-006088	SWRMH-004753	SWRMH-004883	Y38150	Y38141	290	0.041	8	0.06	0.01	19:08 hr	1.78	1.89
SWRGM-006089	SWRMH-005191	SWRMH-005743	X44115	X44110	296	0.015	8	0.08	0.01	10:08 hr	1.24	1.18
SWRGM-006090	SWRMH-006160	SWRMH-006161	W40107	W40106	350	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006091	SWRMH-005193	SWRMH-005194	AB40111	AB40110	200	0.019	8	0.01	0	19:00 hr	0.42	1.00
SWRGM-006092	SWRMH-005454	SWRMH-005453	U43111	U43112	309	0.006	8	0.25	0.07	19:13 hr	1.60	0.82
SWRGM-006093	SWRMH-005425	SWRMH-005430	Z37116	Z37111	330	0.004	8	0.04	0.001	19:03 hr	0.40	0.55
SWRGM-006094	SWRMH-005426	SWRMH-005427	Z37115	Z37114	350	0.041	8	0.03	0.002	19:01 hr	1.03	1.67
SWRGM-006095	SWRCO-000456	SWRMH-005426	Z37103	Z37115	200	0.032	8	0.02	0	19:00 hr	0.65	1.37
SWRGM-006096	SWRMH-004680	SWRMH-005401	X36169	X36133	283	0.022	8	0.08	0.015	19:06 hr	1.62	1.46
SWRGM-006097	SWRMH-005403	SWRMH-005402	X36131	X36132	113	0.017	8	0.03	0.002	19:00 hr	0.76	1.12
SWRGM-006098	SWRMH-004500	SWRMH-004499	Y37143	Y37144	229	0.014	8	0.11	0.022	19:06 hr	1.54	1.19
SWRGM-006099	SWRMH-006627	SWRMH-004232	Y37109	Y37156	329	0.044	8	0.04	0.004	19:03 hr	1.33	1.82
SWRGM-006100	SWRMH-004546	SWRMH-004547	Y37128	Y37127	235	0.004	8	0.08	0.005	19:07 hr	0.63	0.60
SWRGM-006101	SWRMH-006628	SWRMH-006627	Y37108	Y37109	342	0.009	8	0.05	0.002	19:02 hr	0.67	0.83
SWRGM-006102	SWRMH-004232	SWRMH-004233	Y37156	Y37155	191	0.054	8	0.04	0.004	19:03 hr	1.46	2.02
SWRGM-006104	SWRMH-008362	SWRMH-008394	AB33113	AB33106	125	0.141	8	0.02	0.002	19:01 hr	1.57	2.95
SWRGM-006105	SWRMH-008005	SWRMH-008366	AB33123	AB33109	300	0.012	8	0.08	0.009	19:10 hr	1.11	1.05
SWRGM-006106	SWRMH-008402	SWRMH-008400	AB32119	AB32121	56	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006107	SWRMH-008403	SWRMH-008402	AB32118	AB32119	126	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006108	SWRMH-007416	SWRMH-008165	AB31125	AB31101	56	0.021	8	0.15	0.047	19:06 hr	2.24	1.52
SWRGM-006109	SWRMH-007868	SWRMH-007865	AB31111	AB31114	305	0.037	8	0.06	0.01	19:04 hr	1.70	1.80
SWRGM-006110	SWRMH-008138	SWRMH-008137	AB31106	AB31107	353	0.012	8	0.09	0.014	19:03 hr	1.30	1.11
SWRGM-006111	SWRMH-004985	SWRMH-005113	Z42145	Z42143	233	0.007	8	0.25	0.076	19:20 hr	1.74	0.90
SWRGM-006112	SWRMH-006043	SWRMH-005439	X38105	X37109	289	0.009	8	0.09	0.01	19:04 hr	1.05	0.93
SWRGM-006113	SWRMH-005439	SWRNJ-000459	X37109	X37357	84	0.012	8	0.08	0.01	19:04 hr	1.17	1.07
SWRGM-006114	SWRNJ-000459	SWRMH-005440	X37357	X37108	144	0.007	8	0.10	0.011	19:05 hr	0.99	0.82
SWRGM-006115	SWRCO-000470	SWRMH-005440	X37102	X37108	130	0.015	8	0.02	0.001	19:00 hr	0.59	1.00
SWRGM-006116	SWRMH-005246	SWRMH-005245	Z40111	Z40112	291	0.003	8	0.11	0.01	10:05 hr	0.67	0.52
SWRGM-006117	SWRMH-005247	SWRMH-005246	Z40110	Z40111	268	0.002	8	0.09	0.006	10:02 hr	0.56	0.48
SWRGM-006118	SWRMH-004119	SWRMH-004118	U44126	U44127	115	0.01	8	0.06	0.004	19:02 hr	0.84	0.92
SWRGM-006119	SWRMH-005453	SWRMH-005452	U43112	U43113	74	0.018	8	0.20	0.08	19:12 hr	2.46	1.41
SWRGM-006120	SWRMH-005410	SWRMH-005411	Z37131	Z37130	193	0.016	8	0.03	0.001	19:01 hr	0.71	1.06
SWRGM-006121	SWRMH-006645	SWRMH-006644	X36102	X36103	22	0.004	8	0.15	0.022	19:12 hr	1.04	0.70
SWRGM-006122	SWRMH-006646	SWRMH-006645	X36101	X36102	161	0.005	8	0.15	0.022	19:11 hr	1.08	0.73
SWRGM-006123	SWRMH-002922	SWRMH-006646	X35133	X36101	139	0.004	8	0.15	0.022	19:10 hr	0.99	0.66
SWRGM-006124	SWRMH-006360	SWRMH-005224	Z38105	Z38128	300	0.019	8	0.02	0.001	19:02 hr	0.67	1.13
SWRGM-006125	SWRMH-001140	SWRMH-001136	AA40141	AA40142	310	0.021	8	0.32	0.22	19:32 hr	3.51	1.57
SWRGM-006126	SWRMH-005848	SWRMH-005865	Z42117	Z42116	217	0.005	8	0.26	0.072	19:14 hr	1.54	0.77
SWRGM-006127	SWRMH-005865	SWRMH-005866	Z42116	Z42115	238	0.005	8	0.26	0.073	19:16 hr	1.56	0.78
SWRGM-006128	SWRNJ-000660	SWRMH-004985	Z42108	Z42145	113	0.005	8	0.27	0.075	19:18 hr	1.56	0.77
SWRGM-006129	SWRMH-000627	SWRMH-003163	U47127	V47167	202	0.005	8	0.09	0.007	19:03 hr	0.76	0.68
SWRGM-006130	SWRMH-006364	SWRMH-004335	Z38101	Z39117	263	0.032	8	0.11	0.029	19:13 hr	2.25	1.80
SWRGM-006131	SWRMH-003903	SWRMH-006364	Z38166	Z38101	187	0.042	8	0.10	0.027	19:12 hr	2.41	2.03
SWRGM-006132	SWRMH-004112	SWRMH-005833	Z39122	Z38116	184	0.004	8	0.05	0.002	10:03 hr	0.45	0.56
SWRGM-006133	SWRMH-003659	SWRMH-008387	U48152	U47128	253	0.012	8	0.24	0.089	19:12 hr	2.21	1.17
SWRGM-006134	SWRMH-008386	SWRMH-000630	U47129	U47124	60	0.009	8	0.27	0.097	19:14 hr	2.02	1.00
SWRGM-006135	SWRMH-000630	SWRMH-008385	U47124	U47130	246	0.008	8	0.29	0.115	19:14 hr	2.08	0.98
SWRGM-006136	SWRMH-005058	SWRMH-005057	X37123	X37124	294	0.021	8	0.07	0.009	19:07 hr	1.35	1.37
SWRGM-006137	SWRMH-005069	SWRMH-005026	AA38141	AA38126	286	0.021	8	0.08	0.012	19:10 hr	1.47	1.39
SWRGM-006138	SWRMH-005021	SWRMH-005069	AA38131	AA38141	290	0.02	8	0.08	0.011	19:08 hr	1.44	1.37
SWRGM-006139	SWRMH-006371	SWRMH-006370	AA37123	AA37124	234	0.049	8	0.04	0.004	19:04 hr	1.45	1.93
SWRGM-006140	SWRCO-000454	SWRMH-005420	Z37105	Z37121	180	0.039	8	0.02	0.001	19:00 hr	0.77	1.53
SWRGM-006141	SWRMH-005217	SWRMH-004952	AB36106	AB36108	345	0.022	8	0.12	0.034	19:30 hr	2.08	1.53
SWRGM-006142	SWRMH-005383	SWRMH-005280	AB40107	AB41137	225	0.04	8	0.02	0.001	19:00 hr	0.76	1.53
SWRGM-006143	SWRMH-006369	SWRMH-004342	AA37125	AB37119	305	0.056	8	0.12	0.052	19:35 hr	3.26	2.42

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006144	SWRMH-004554	SWRMH-004061	Z40126	Z40127	365	0.017	8	0.09	0.013	19:03 hr	1.40	1.26
SWRGM-006145	SWRMH-004061	SWRMH-004060	Z40127	Z40128	323	0.045	8	0.07	0.015	19:04 hr	2.08	2.03
SWRGM-006149	SWRMH-002293	SWRMH-002294	AA40125	AA40124	105	0.019	8	0.02	0.001	19:01 hr	0.61	1.10
SWRGM-006150	SWRMH-008572	SWRMH-006428	V45117	V45121	250	0.015	8	0.03	0.001	19:01 hr	0.65	1.01
SWRGM-006151	SWRMH-005972	SWRMH-005973	W46105	W46104	190	0.01	8	0.15	0.033	19:08 hr	1.56	1.04
SWRGM-006152	SWRMH-005516	SWRMH-005515	W38117	W38118	333	0.016	8	0.05	0.005	19:05 hr	1.02	1.17
SWRGM-006153	SWRMH-005517	SWRMH-005516	W38116	W38117	358	0.008	8	0.05	0.003	19:03 hr	0.70	0.81
SWRGM-006154	SWRMH-005518	SWRMH-003966	W38115	W38174	267	0.004	8	0.65	0.319	19:52 hr	2.06	0.68
SWRGM-006155	SWRMH-003967	SWRMH-005518	W38173	W38115	58	0.002	8	0.72	0.29	19:51 hr	1.67	0.53
SWRGM-006156	SWRMH-005308	SWRMH-004795	W38121	W38142	100	0.005	8	0.17	0.028	19:08 hr	1.15	0.74
SWRGM-006157	SWRMH-004797	SWRMH-005308	W38140	W38121	98	0.004	8	0.05	0.002	19:02 hr	0.48	0.57
SWRGM-006158	SWRMH-004908	SWRMH-004313	Y41136	Y41147	210	0.038	8	0.09	0.024	19:06 hr	2.27	1.94
SWRGM-006159	SWRMH-004911	SWRMH-004908	Y41133	Y41136	260	0.006	8	0.14	0.023	19:06 hr	1.20	0.83
SWRGM-006160	SWRMH-004621	SWRMH-005088	Y40121	Y41109	350	0.004	8	0.13	0.016	10:14 hr	0.90	0.65
SWRGM-006161	SWRMH-004619	SWRMH-004532	Y40123	Y39125	264	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006164	SWRMH-004816	SWRMH-004817	Y37117	Y37116	285	0.01	8	0.26	0.096	19:14 hr	2.11	1.07
SWRGM-006165	SWRMH-005356	SWRMH-005357	AB41134	AB41133	102	0.014	8	0.05	0.003	19:03 hr	0.86	1.05
SWRGM-006166	SWRMH-004963	SWRMH-004964	Z38135	Z38134	300	0.02	8	0.06	0.007	19:01 hr	1.25	1.32
SWRGM-006167	SWRMH-004964	SWRMH-004965	Z38134	Z38133	300	0.031	8	0.07	0.011	19:03 hr	1.66	1.67
SWRGM-006168	SWRMH-005013	SWRMH-004697	Z38132	Z38149	214	0.019	8	0.04	0.003	19:02 hr	0.91	1.21
SWRGM-006170	SWRMH-005584	SWRMH-005510	W40124	W39105	347	0.014	8	0.16	0.046	19:17 hr	1.94	1.25
SWRGM-006171	SWRMH-005368	SWRMH-005585	W40137	W40123	269	0.005	8	0.21	0.046	19:12 hr	1.31	0.73
SWRGM-006172	SWRMH-005034	SWRNJ-000926	AC44135	AC44103	100	0.01	8	0.05	0.003	19:00 hr	0.71	0.88
SWRGM-006173	SWRMH-005085	SWRNJ-000919	AC44124	AC44101	108	0.051	8	0.06	0.01	19:02 hr	1.89	2.09
SWRGM-006174	SWRNJ-000919	SWRMH-004588	AC44101	AC44142	50	0.052	8	0.06	0.01	19:02 hr	1.91	2.11
SWRGM-006175	SWRMH-004153	SWRMH-005084	AC44156	AC44125	119	0.005	8	0.03	0.001	19:01 hr	0.38	0.59
SWRGM-006176	SWRMH-005601	SWRMH-005600	AC44110	AC44111	322	0.046	8	0.05	0.008	19:02 hr	1.70	1.97
SWRGM-006177	SWRMH-004925	SWRMH-006797	AA37133	AA37120	311	0.027	8	0.14	0.048	19:32 hr	2.47	1.71
SWRGM-006178	SWRMH-005413	SWRNJ-000701	Z37128	AA37105	167	0.047	8	0.12	0.046	19:32 hr	2.96	2.22
SWRGM-006179	SWRMH-004334	SWRMH-004104	AA38148	AA38156	472	0.022	8	0.13	0.035	19:19 hr	2.08	1.51
SWRGM-006180	SWRMH-004929	SWRMH-004928	W42113	W42114	303	0.005	8	0.14	0.021	10:24 hr	1.06	0.73
SWRGM-006181	SWRMH-004151	SWRMH-004929	W42116	W42113	335	0.005	8	0.13	0.017	10:21 hr	1.00	0.72
SWRGM-006183	SWRMH-005474	SWRMH-005473	Y43111	Y43112	90	0.012	8	0.02	0.001	19:00 hr	0.48	0.86
SWRGM-006184	SWRMH-006618	SWRMH-006619	Z39108	Z39107	260	0.006	8	0.18	0.037	10:12 hr	1.34	0.82
SWRGM-006185	SWRMH-004947	SWRMH-002902	X36146	X35153	135	0.004	8	0.76	0.392	20:27 hr	2.14	0.68
SWRGM-006186	SWRMH-005548	SWRMH-004692	Y38112	Y38151	320	0.032	8	0.03	0.002	19:01 hr	0.92	1.47
SWRGM-006187	SWRNJ-000602	SWRNJ-000596	Y36312	Y37312	45	0	6	0.53	0.005	19:04 hr	0.08	0.03
SWRGM-006188	SWRNJ-000603	SWRNJ-000597	Y36311	Y37311	45	0	8	0.37	0.006	19:04 hr	0.08	0.03
SWRGM-006189	SWRMH-005490	SWRMH-004502	X41121	x40115	347	0.018	8	0.01	0	10:13 hr	0.43	0.99
SWRGM-006190	SWRMH-005250	SWRMH-002604	Z40107	AA40110	258	0.05	8	0.05	0.006	19:00 hr	1.65	2.01
SWRGM-006191	SWRMH-002604	SWRMH-002603	AA40110	AA40111	257	0.055	8	0.06	0.011	19:01 hr	2.03	2.18
SWRGM-006192	SWRMH-002603	SWRMH-002605	AA40111	AA40109	241	0.004	8	0.13	0.014	19:03 hr	0.89	0.66
SWRGM-006194	SWRMH-006104	SWRMH-006096	AC48102	AC48110	349	0.016	8	0.13	0.032	10:10 hr	1.82	1.30
SWRGM-006195	SWRNJ-000925	SWRMH-001188	AC46101	AC46126	60	0.01	8	0.22	0.068	19:14 hr	1.90	1.06
SWRGM-006196	SWRMH-001195	SWRNJ-000925	AC46119	AC46101	66	0.019	8	0.18	0.068	19:14 hr	2.43	1.47
SWRGM-006197	SWRMH-001000	SWRMH-000970	Z47148	Z47161	111	0.03	8	0.10	0.023	19:05 hr	2.05	1.71
SWRGM-006198	SWRMH-001012	SWRMH-000970	Z47136	Z47161	161	0.004	8	0.19	0.035	19:10 hr	1.13	0.66
SWRGM-006199	SWRMH-001009	SWRMH-001010	Z47139	Z47138	149	0.013	8	0.07	0.008	19:02 hr	1.10	1.08
SWRGM-006200	SWRMH-004691	SWRMH-005542	Y38152	Y38118	57	0.006	8	0.08	0.008	19:09 hr	0.86	0.78
SWRGM-006201	SWRMH-004430	SWRMH-004431	Z38160	Z38159	250	0.001	8	0.27	0.031	19:15 hr	0.62	0.31
SWRGM-006202	SWRMH-005960	SWRMH-005959	W46117	W46118	160	0.004	8	0.07	0.005	19:03 hr	0.62	0.60
SWRGM-006203	SWRMH-005963	SWRMH-005962	W46114	W46115	228	0.012	8	0.02	0.001	19:01 hr	0.49	0.88
SWRGM-006204	SWRMH-003705	SWRMH-003879	U48106	V48117	67	0.004	8	0.16	0.024	19:03 hr	1.00	0.64
SWRGM-006205	SWRMH-004414	SWRMH-000614	W46158	W46162	270	0.004	8	0.36	0.124	19:20 hr	1.71	0.72
SWRGM-006206	SWRCO-000501	SWRMH-005943	W46103	W46151	114	0.006	8	0.05	0.002	19:01 hr	0.57	0.70
SWRGM-006207	SWRMH-004525	SWRCO-000492	Z36114	AA36105	288	0.086	8	0.06	0.016	19:09 hr	2.66	2.76
SWRGM-006208	SWRMH-004417	SWRMH-004570	Z44120	Z44116	252	0.006	8	0.08	0.006	19:20 hr	0.79	0.74
SWRGM-006209	SWRCO-000367	SWRCO-000366	AA47107	AA47108	75	0.006	8	0.03	0.001	19:00 hr	0.41	0.64
SWRGM-006213	SWRMH-006222	SWRMH-006221	AB44103	AC44102	162	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006214	SWRMH-006251	SWRMH-006250	Z48117	Z48118	75	0.019	8	0.16	0.05	19:08 hr	2.19	1.44
SWRGM-006215	SWRMH-001013	SWRMH-001014	Z47135	Z47134	88	0.004	8	0.14	0.017	19:04 hr	0.89	0.62
SWRGM-006216	SWRMH-000997	SWRMH-001000	Z47151	Z47148	99	0.004	8	0.09	0.006	19:04 hr	0.67	0.60
SWRGM-006217	SWRMH-001175	SWRMH-001214	Z47125	Z47104	153	0.033	8	0.08	0.015	19:04 hr	1.85	1.75
SWRGM-006218	SWRMH-001213	SWRMH-001214	Z47105	Z47104	196	0.003	8	0.44	0.15	19:16 hr	1.55	0.59
SWRGM-006219	SWRMH-001214	SWRMH-001210	Z47104	Z47108	165	0.004	8	0.43	0.166	19:17 hr	1.78	0.69
SWRGM-006224	SWRMH-001063	SWRMH-001062	AB45115	AB45116	364	0.012	8	0.10	0.016	19:09 hr	1.35	1.12
SWRGM-006225	SWRMH-001062	SWRMH-001064	AB45116	AB45114	200	0.02	8	0.09	0.016	19:10 hr	1.58	1.38
SWRGM-006226	SWRMH-001064	SWRMH-001068	AB45114	AB45110	204	0.019	8	0.09	0.016	19:11 hr	1.57	1.37
SWRGM-006227	SWRMH-004068	SWRMH-006178	U44136	U44108	272	0.024	8	0.05	0.006	19:03 hr	1.25	1.42
SWRGM-006228	SWRMH-005065	SWRMH-004925	AA37145	AA37133	293	0.005	8	0.20	0.045	19:31 hr	1.38	0.79
SWRGM-006229	SWRMH-004896	SWRMH-004894	Z40119	Z40121	203	0.029	8	0.04	0.004	19:01 hr	1.15	1.49
SWRGM-006230	SWRMH-004892	SWRMH-004895	Z40123	Z40120	223	0.028	8	0.10	0.025	19:05 hr	2.07	1.69
SWRGM-006231	SWRMH-004895	SWRMH-004893	Z40120	Z40122	250	0.017	8	0.13	0.029	19:04 hr	1.81	1.34
SWRGM-006232	SWRMH-005959	SWRMH-005962	W46118	W46115	169	0.005	8	0.08	0.006	19:04 hr	0.70	0.66
SWRGM-006233	SWRMH-005941	SWRMH-006429	W46153	W46102	145	0.017	8	0.24	0.112	19:12 hr	2.66	1.39
SWRGM-006234	SWRMH-005966	SWRMH-005967	W46111	W46110	180	0.019	8	0.08	0.011	19:04 hr	1.40	1.34
SWRGM-006235	SWRMH-005965	SWRMH-005964	W46112	W46113	238	0.013	8	0.10	0.016	19:07 hr	1.37	1.12
SWRGM-006236	SWRMH-005986	SWRMH-004365	AA42108	AA41158	277	0.017	8	0.27	0.146	19:16 hr	2.92	1.43
SWRGM-006237	SWRMH-003861	SWRMH-004026	Y40143	Z40150	220	0.004	8	0.11	0.012	10:02 hr	0.83	0.64
SWRGM-006238	SWRNJ-000701	SWRMH-005080	AA37105	AA37140	124	0.027	8	0.14	0.046	19:32 hr	2.45	1.71
SWRGM-006239	SWRCO-000575	SWRNJ-000722	AA37104	AA37130	146	0.071	8	0.02	0.001	19:00 hr	0.97	2.03
SWRGM-006240	SWRMH-004642	SWRMH-004644	AA37157	AA37155	186	0.004	8	0.13	0.014	19:07 hr	0.87	0.65
SWRGM-006241	SWRCO-000574	SWRMH-004643	AA37105	AA37156	216	0.08	8	0.02	0.001	19:00 hr	1.20	2.24
SWRGM-006242	SWRMH-004038	SWRMH-004039	Z40138	Z40137	350	0.004	8	0.08	0.006	19:06 hr	0.67	0.61
SWRGM-006243	SWRMH-004897	SWRMH-004038	Z40118	Z40138	350	0.004	8	0.07	0.004	19:03 hr	0.60	0.60
SWRGM-006244	SWRMH-002477	SWRMH-002476	AA40121	AA40122	281	0.039	8	0.06	0.008	19:02 hr	1.65	1.82
SWRGM-006245	SWRMH-003875	SWRMH-003874	Z41166	Z41167	350	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006246	SWRMH-005226	SWRMH-004696	Z38126	Z38150	32	0.015	8	0.18	0.058	10:56 hr	2.10	1.28
SWRGM-006247	SWRMH-004429	SWRMH-004428	Z38161	Z38162	80	0.005	8	0.24	0.058	10:54 hr	1.42	0.75
SWRGM-006248	SWRMH-004428	SWRMH-005226	Z38162	Z38126	97	0.021	8	0.17	0.058	10:56 hr	2.40	1.53
SWRGM-006249	SWRMH-005626	SWRMH-005625	W48123	W48124	231	0.013	8	0.05	0.004	10:03 hr	0.87	1.03

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006250	SWRMH-005625	SWRMH-005830	W48124	W48127	333	0.01	8	0.07	0.006	10:06 hr	0.93	0.94
SWRGM-006251	SWRNJ-000447	SWRMH-005831	W48112	W48126	313	0.01	8	0.07	0.006	10:08 hr	0.93	0.94
SWRGM-006252	SWRMH-005831	SWRMH-005832	W48126	W48125	332	0.015	8	0.06	0.006	10:11 hr	1.07	1.14
SWRGM-006254	SWRMH-008578	SWRMH-008577	V45111	V45112	185	0.007	8	0.07	0.006	19:05 hr	0.81	0.78
SWRGM-006255	SWRMH-008580	SWRMH-008579	V45109	V45110	200	0.009	8	0.03	0.001	19:01 hr	0.57	0.83
SWRGM-006256	SWRMH-006424	SWRMH-006423	V45125	V45126	205	0.025	8	0.04	0.003	19:04 hr	1.01	1.37
SWRGM-006257	SWRMH-006425	SWRMH-006421	V45124	V45128	330	0.005	8	0.08	0.007	19:08 hr	0.79	0.72
SWRGM-006258	SWRMH-006428	SWRMH-008569	V45121	V45120	350	0.005	8	0.14	0.019	19:11 hr	1.04	0.73
SWRGM-006259	SWRMH-008569	SWRMH-008570	V45120	V45119	250	0.007	8	0.13	0.021	19:13 hr	1.19	0.85
SWRGM-006260	SWRMH-008570	SWRMH-008571	V45119	V45118	223	0.009	8	0.13	0.022	19:14 hr	1.30	0.95
SWRGM-006261	SWRMH-002292	SWRMH-002293	AA40126	AA40125	106	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006262	SWRMH-005440	SWRMH-004596	X37108	X37136	300	0.021	8	0.08	0.014	19:06 hr	1.54	1.41
SWRGM-006263	SWRMH-004598	SWRMH-003956	X37134	X37151	360	0.008	8	0.18	0.044	19:13 hr	1.59	0.97
SWRGM-006264	SWRMH-004597	SWRMH-004598	X37135	X37134	360	0.008	8	0.18	0.041	19:10 hr	1.56	0.97
SWRGM-006265	SWRMH-003956	SWRMH-003957	X37151	X37150	216	0.006	8	0.20	0.045	19:15 hr	1.40	0.81
SWRGM-006266	SWRMH-006643	SWRMH-004946	X37101	X36147	275	0.039	8	0.06	0.009	19:02 hr	1.69	1.84
SWRGM-006267	SWRMH-004828	SWRMH-004005	AA42127	AA42149	230	0.013	8	0.02	0.001	19:01 hr	0.54	0.92
SWRGM-006268	SWRMH-004580	SWRMH-004291	Y42130	Y42141	245	0.006	8	0.20	0.044	19:12 hr	1.37	0.80
SWRGM-006269	SWRMH-004579	SWRMH-004580	Y42131	Y42130	300	0.012	8	0.16	0.042	19:10 hr	1.75	1.13
SWRGM-006270	SWRMH-004294	SWRMH-003978	Y42138	Y43160	339	0.012	8	0.07	0.007	19:03 hr	1.06	1.06
SWRGM-006271	SWRMH-005754	SWRMH-005755	AB41132	AB41131	196	0.02	8	0.04	0.004	19:06 hr	1.02	1.27
SWRGM-006272	SWRMH-005357	SWRMH-005754	AB41133	AB41132	211	0.004	8	0.06	0.003	19:05 hr	0.57	0.59
SWRGM-006273	SWRCO-000435	SWRMH-005279	AB41103	AB41138	138	0.011	8	0.02	0	19:01 hr	0.44	0.83
SWRGM-006274	SWRMH-005756	SWRMH-004260	AB41130	AB41150	247	0.053	8	0.04	0.005	19:06 hr	1.58	2.03
SWRGM-006275	SWRMH-005276	SWRMH-005277	AB41141	AB41140	239	0.048	8	0.02	0.001	19:01 hr	1.02	1.77
SWRGM-006276	SWRMH-005539	SWRMH-005540	Y38121	Y38120	290	0.007	8	0.05	0.002	19:02 hr	0.62	0.74
SWRGM-006277	SWRMH-004805	SWRMH-004816	Y38143	Y37117	215	0.009	8	0.26	0.096	19:12 hr	2.04	1.02
SWRGM-006278	SWRMH-004804	SWRMH-004805	Y38144	Y38143	185	0.008	8	0.27	0.096	19:11 hr	1.95	0.96
SWRGM-006279	SWRMH-005183	SWRMH-003914	X41128	x40122	254	0.004	8	0.19	0.032	10:30 hr	1.11	0.67
SWRGM-006280	SWRMH-004983	SWRMH-004984	Z42147	Z42146	273	0.05	8	0.10	0.031	19:04 hr	2.68	2.23
SWRGM-006281	SWRMH-004791	SWRMH-004733	W37130	W37132	47	0.03	8	0.12	0.034	19:15 hr	2.31	1.76
SWRGM-006282	SWRMH-005633	SWRMH-004607	W37108	W37138	222	0.005	8	0.06	0.004	19:04 hr	0.62	0.66
SWRGM-006283	SWRMH-005635	SWRMH-005633	W37106	W37108	243	0.005	8	0.05	0.002	19:02 hr	0.51	0.63
SWRGM-006284	SWRMH-005635	SWRMH-005636	W37106	W37105	283	0.005	8	0.05	0.002	19:02 hr	0.51	0.63
SWRGM-006285	SWRMH-005398	SWRMH-005399	X37114	X37113	120	0.011	8	0.03	0.001	19:00 hr	0.51	0.85
SWRGM-006286	SWRMH-003963	SWRMH-003962	X36183	X36184	306	0.004	8	0.10	0.009	19:10 hr	0.73	0.60
SWRGM-006287	SWRMH-004234	SWRMH-004235	Y37154	Y37153	305	0.032	8	0.06	0.008	19:06 hr	1.50	1.65
SWRGM-006288	SWRMH-007672	SWRMH-001973	S45127	S44173	305	0.033	8	0.04	0.004	19:01 hr	1.26	1.61
SWRGM-006289	SWRMH-005268	SWRMH-005269	AA41120	AA41119	348	0.038	8	0.08	0.018	19:02 hr	2.07	1.89
SWRGM-006290	SWRMH-004370	SWRMH-004442	AA41153	AA41145	330	0.022	8	0.30	0.199	19:23 hr	3.50	1.62
SWRGM-006291	SWRMH-004442	SWRMH-001120	AA41145	AA40146	330	0.022	8	0.30	0.202	19:24 hr	3.50	1.61
SWRGM-006292	SWRMH-004369	SWRMH-004370	AA41154	AA41153	342	0.028	8	0.28	0.193	19:22 hr	3.74	1.80
SWRGM-006293	SWRMH-006015	SWRMH-006016	W38104	W38103	170	0.004	8	0.56	0.253	19:31 hr	1.96	0.68
SWRGM-006294	SWRNJ-000417	SWRMH-006015	W38379	W38104	55	0.004	8	0.50	0.208	19:32 hr	1.86	0.67
SWRGM-006295	SWRCO-000404	SWRMH-005627	W38104	W38110	166	0.006	8	0.03	0.001	19:01 hr	0.43	0.63
SWRGM-006296	SWRMH-005627	SWRMH-004018	W38110	W38171	300	0.005	8	0.08	0.006	19:05 hr	0.71	0.66
SWRGM-006297	SWRCO-000389	SWRMH-005104	AA41104	AA41103	140	0.013	8	0.03	0.001	19:00 hr	0.57	0.95
SWRGM-006298	SWRMH-007978	SWRMH-004205	V37102	V37105	65	0.004	8	0.08	0.006	19:03 hr	0.67	0.61
SWRGM-006300	SWRMH-006053	SWRMH-006054	W48121	W48120	292	0.01	8	0.16	0.037	10:02 hr	1.60	1.04
SWRGM-006304	SWRMH-001089	SWRMH-001088	AB46127	AB46128	284	0.022	8	0.24	0.123	19:08 hr	3.04	1.61
SWRGM-006305	SWRMH-001104	SWRMH-001100	AB46112	AB46116	350	0.009	8	0.12	0.021	19:03 hr	1.34	0.99
SWRGM-006306	SWRMH-001103	SWRMH-001104	AB46113	AB46112	271	0.017	8	0.05	0.005	19:01 hr	1.02	1.18
SWRGM-006307	SWRNJ-000824	SWRMH-001060	AB45105	AB45118	32	0.005	8	0.10	0.011	19:06 hr	0.85	0.69
SWRGM-006308	SWRMH-001043	SWRNJ-000824	AB45132	AB45105	103	0.005	8	0.10	0.011	19:05 hr	0.88	0.72
SWRGM-006309	SWRMH-001199	SWRMH-001198	AC46115	AC46116	300	0.006	8	0.20	0.046	19:13 hr	1.42	0.81
SWRGM-006310	SWRMH-001198	SWRMH-001197	AC46116	AC46117	321	0.005	8	0.23	0.056	19:15 hr	1.43	0.76
SWRGM-006311	SWRMH-001197	SWRMH-001196	AC46117	AC46118	159	0.005	8	0.25	0.064	19:14 hr	1.48	0.77
SWRGM-006312	SWRMH-006109	SWRMH-006110	AC45120	AC45119	341	0.004	8	0.30	0.085	19:20 hr	1.48	0.68
SWRGM-006313	SWRMH-006108	SWRMH-006109	AC45121	AC45120	340	0.004	8	0.29	0.079	19:18 hr	1.44	0.68
SWRGM-006314	SWRMH-006110	SWRMH-006656	AC45119	AC45114	280	0.004	8	0.31	0.088	19:22 hr	1.49	0.68
SWRGM-006315	SWRMH-005098	SWRMH-005097	AA41109	AA41110	300	0.021	8	0.07	0.009	19:02 hr	1.35	1.38
SWRGM-006316	SWRMH-005099	SWRMH-005098	AA41108	AA41109	235	0.02	8	0.05	0.004	19:01 hr	1.08	1.29
SWRGM-006317	SWRMH-005100	SWRMH-004368	AA41107	AA41155	293	0.054	8	0.04	0.005	19:01 hr	1.61	2.06
SWRGM-006318	SWRMH-004368	SWRMH-004369	AA41155	AA41154	300	0.014	8	0.07	0.007	19:02 hr	1.11	1.14
SWRGM-006319	SWRMH-005101	SWRMH-004370	AA41106	AA41153	180	0.036	8	0.04	0.004	19:00 hr	1.26	1.67
SWRGM-006320	SWRMH-005102	SWRMH-005103	AA41105	AA41104	321	0.028	8	0.08	0.015	19:04 hr	1.77	1.62
SWRGM-006321	SWRNJ-000631	SWRNJ-000632	Z41368	Z41369	50	0.092	8	0.07	0.019	19:07 hr	2.84	2.88
SWRGM-006322	SWRMH-005200	SWRMH-005802	Z43138	Z43107	316	0.006	8	0.06	0.004	19:03 hr	0.65	0.70
SWRGM-006323	SWRMH-004654	SWRMH-004653	Z43158	Z43159	294	0.009	8	0.18	0.045	19:10 hr	1.64	1.00
SWRGM-006324	SWRMH-004653	SWRMH-005295	Z43159	Z42137	292	0.008	8	0.19	0.048	19:12 hr	1.63	0.97
SWRGM-006325	SWRMH-005797	SWRMH-004656	Z43112	Z43156	150	0.006	8	0.09	0.008	19:05 hr	0.85	0.75
SWRGM-006326	SWRMH-002147	SWRMH-002146	R46172	R46173	204	0.017	8	0.05	0.004	19:01 hr	0.95	1.18
SWRGM-006327	SWRMH-005032	SWRMH-005031	AC44137	AC44138	267	0.041	8	0.05	0.006	19:01 hr	1.49	1.82
SWRGM-006328	SWRMH-004939	SWRMH-004161	AC43113	AC44148	231	0.005	8	0.06	0.003	19:02 hr	0.59	0.65
SWRGM-006329	SWRMH-005522	SWRMH-005521	W38111	W38112	220	0.004	8	0.57	0.263	19:44 hr	2.00	0.69
SWRGM-006330	SWRMH-004277	SWRMH-005522	W38154	W38111	220	0.004	8	0.57	0.263	19:42 hr	1.97	0.67
SWRGM-006331	SWRMH-003832	SWRMH-003826	U45102	U45108	309	0.007	8	0.22	0.061	19:17 hr	1.67	0.92
SWRGM-006332	SWRMH-003826	SWRMH-003825	U45108	U45109	296	0.009	8	0.22	0.064	19:18 hr	1.79	1.00
SWRGM-006333	SWRMH-003824	SWRMH-003823	U45110	U45111	296	0.005	8	0.29	0.087	19:21 hr	1.62	0.77
SWRGM-006334	SWRMH-007474	SWRMH-003833	T45146	U45101	268	0.021	8	0.03	0.002	19:01 hr	0.87	1.25
SWRGM-006335	SWRMH-003788	SWRMH-003795	U45146	U45139	321	0.007	8	0.21	0.055	19:11 hr	1.63	0.92
SWRGM-006336	SWRMH-003825	SWRMH-003824	U45109	U45110	289	0.011	8	0.23	0.08	19:19 hr	2.06	1.11
SWRGM-006337	SWRNJ-000267	SWRMH-003781	U45106	U45153	153	0.008	8	0.20	0.05	19:13 hr	1.62	0.95
SWRGM-006338	SWRMH-007896	SWRMH-007895	AC41103	AC41104	250	0.038	8	0.08	0.018	19:13 hr	2.07	1.90
SWRGM-006339	SWRMH-000670	SWRMH-000655	T44112	T44127	172	0.026	8	0.09	0.019	19:05 hr	1.86	1.60
SWRGM-006340	SWRMH-003779	SWRMH-003780	U45155	U45154	246	0.02	8	0.07	0.01	19:08 hr	1.37	1.35
SWRGM-006341	SWRMH-007471	SWRMH-003779	T45149	U45155	244	0.02	8	0.06	0.007	19:07 hr	1.24	1.32
SWRGM-006342	SWRMH-007407	SWRMH-007406	T45101	T45102	216	0.006	8	0.25	0.074	19:23 hr	1.64	0.84
SWRGM-006343	SWRMH-005593	SWRMH-005597	W40115	W40111	287	0.006	8	0.20	0.046	19:08 hr	1.40	0.80
SWRGM-006344	SWRMH-005598	SWRMH-005599	W40110	W40109	210	0.004	8	0.04	0.001	19:02 hr	0.42	0.55
SWRGM-006345	SWRCO-000412	SWRMH-003972	W37102	W37153	49	0.005	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006346	SWRMH-004792	SWRMH-004791	W37129	W37130	205	0.015	8	0.14	0.034	19:15 hr	1.79	1.25
SWRGM-006347	SWRMH-005724	SWRMH-005725	W37113	W37112	314	0.005	8	0.16	0.027	19:12 hr	1.18	0.77
SWRGM-006348	SWRMH-005830	SWRNJ-000447	W48127	W48112	19	0.009	8	0.07	0.006	10:06 hr	0.91	0.92
SWRGM-006350	SWRCO-000790	SWRMH-005920	X47103	X47107	49	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006351	SWRMH-004946	SWRMH-004945	X36147	X36148	229	0.004	8	0.12	0.013	19:05 hr	0.84	0.64
SWRGM-006352	SWRMH-005744	SWRMH-005191	X44109	X44115	129	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006353	SWRCO-000862	SWRMH-003960	X37101	X37147	175	0.018	8	0.03	0.001	19:01 hr	0.69	1.10
SWRGM-006354	SWRCO-000582	SWRMH-007663	S45104	S45136	170	0.014	8	0.04	0.002	19:01 hr	0.77	1.04
SWRGM-006355	SWRCO-000583	SWRMH-007674	S45103	S45125	175	0.018	8	0.03	0.002	19:01 hr	0.75	1.14
SWRGM-006356	SWRNJ-000122	SWRMH-006546	R50140	R50107	21	0.005	8	0.03	0.001	19:00 hr	0.36	0.57
SWRGM-006357	SWRNJ-000813	SWRMH-004927	AA43195	AB43105	144	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006358	SWRMH-001639	SWRMH-006566	Q49146	R49101	198	0.035	8	0.04	0.004	19:01 hr	1.23	1.63
SWRGM-006359	SWRMH-008344	SWRMH-008162	T44130	T44174	139	0.017	8	0.10	0.019	19:05 hr	1.58	1.29
SWRGM-006360	SWRMH-004007	SWRMH-004746	AB42123	AB42117	230	0.059	8	0.03	0.002	19:01 hr	1.31	2.03
SWRGM-006361	SWRMH-008438	SWRMH-007881	AB42101	AB42103	274	0.068	8	0.02	0.001	19:00 hr	1.11	2.06
SWRGM-006362	SWRMH-004519	SWRMH-004518	X39108	X39109	280	0.004	8	0.06	0.003	19:02 hr	0.52	0.58
SWRGM-006363	SWRMH-004492	SWRMH-004526	Z36120	Z36113	231	0.013	8	0.06	0.005	19:03 hr	0.96	1.05
SWRGM-006364	SWRMH-004493	SWRMH-004529	Z36119	Z36110	303	0.004	8	0.07	0.003	19:08 hr	0.56	0.57
SWRGM-006365	SWRMH-006356	SWRMH-006355	AA42101	AA42102	295	0.003	8	0.36	0.11	19:11 hr	1.49	0.63
SWRGM-006366	SWRMH-006355	SWRMH-006354	AA42102	AA42103	275	0.003	8	0.37	0.11	19:13 hr	1.48	0.62
SWRGM-006367	SWRMH-004373	SWRMH-004751	AA42143	AA42137	141	0.033	8	0.12	0.04	19:06 hr	2.51	1.86
SWRGM-006368	SWRMH-004912	SWRMH-005088	Y41132	Y41109	75	0.007	8	0.07	0.006	10:04 hr	0.82	0.78
SWRGM-006369	SWRMH-005947	SWRNJ-000401	W46147	W46107	123	0.005	8	0.17	0.03	19:06 hr	1.19	0.75
SWRGM-006370	SWRMH-005943	SWRMH-005946	W46151	W46148	285	0.007	8	0.07	0.005	19:02 hr	0.77	0.78
SWRGM-006371	SWRMH-005967	SWRMH-005968	W46110	W46109	169	0.02	8	0.08	0.012	19:04 hr	1.47	1.37
SWRGM-006372	SWRMH-005971	SWRMH-005970	W46106	W46107	59	0.009	8	0.23	0.076	19:09 hr	1.94	1.04
SWRGM-006373	SWRMH-005942	SWRMH-005940	W46152	W46154	168	0.006	8	0.03	0.001	19:01 hr	0.39	0.64
SWRGM-006374	SWRMH-004987	SWRMH-005812	Z41131	Z41114	280	0.047	8	0.22	0.155	19:08 hr	4.23	2.32
SWRGM-006375	SWRMH-005809	SWRMH-005811	Z41117	Z41115	214	0.04	8	0.23	0.164	19:08 hr	4.08	2.17
SWRGM-006376	SWRMH-004988	SWRMH-004987	Z41130	Z41131	310	0.061	8	0.07	0.015	19:03 hr	2.29	2.34
SWRGM-006377	SWRNJ-000694	SWRMH-005822			170	0.036	8	0.18	0.091	19:22 hr	3.30	2.02
SWRGM-006378	SWRMH-005822	SWRMH-004305	Z41104	Z41160	325	0.026	8	0.22	0.12	19:21 hr	3.20	1.74
SWRGM-006379	SWRMH-005466	SWRMH-004717	Z41120	Z41146	213	0.026	8	0.11	0.026	19:04 hr	2.04	1.63
SWRGM-006380	SWRMH-005465	SWRMH-005466	Z41121	Z41120	345	0.075	8	0.08	0.024	19:04 hr	2.88	2.66
SWRGM-006381	SWRMH-005162	SWRMH-005163	Z41136	Z41135	255	0.014	8	0.05	0.004	19:01 hr	0.91	1.08
SWRGM-006382	SWRMH-005165	SWRMH-005464	Z41133	Z41122	210	0.019	8	0.09	0.014	19:03 hr	1.51	1.34
SWRGM-006383	SWRMH-004991	SWRMH-004992	Z41127	Z41126	334	0.042	8	0.09	0.023	19:04 hr	2.29	2.01
SWRGM-006384	SWRMH-004583	SWRMH-004453	Y36154	Y36165	253	0.025	8	0.05	0.005	19:04 hr	1.22	1.43
SWRGM-006385	SWRMH-004453	SWRMH-004454	Y36165	Y36164	253	0.022	8	0.06	0.007	19:04 hr	1.25	1.37
SWRGM-006386	SWRMH-004411	SWRMH-000614	W46161	W46162	338	0.008	8	0.12	0.017	19:11 hr	1.17	0.89
SWRGM-006387	SWRMH-005970	SWRMH-005969	W46107	W46108	101	0.007	8	0.25	0.076	19:10 hr	1.75	0.90
SWRGM-006388	SWRCO-000503	SWRMH-005961	W46101	W46116	95	0.004	8	0.04	0.002	19:00 hr	0.44	0.56
SWRGM-006389	SWRMH-005961	SWRMH-005960	W46116	W46117	208	0.004	8	0.06	0.003	19:02 hr	0.53	0.58
SWRGM-006390	SWRNJ-000400	SWRMH-005944	W46108	W46150	160	0.005	8	0.15	0.022	19:08 hr	1.08	0.73
SWRGM-006391	SWRMH-004747	SWRMH-005477	AB42116	AB42111	161	0.055	8	0.01	0	19:00 hr	0.78	1.74
SWRGM-006392	SWRNJ-000653	SWRMH-004986	Z42111	Z42144	73	0.024	8	0.10	0.022	19:05 hr	1.87	1.54
SWRGM-006393	SWRNJ-000652	SWRMH-005116	Z42121	Z42140	119	0.038	8	0.07	0.014	19:04 hr	1.93	1.87
SWRGM-006394	SWRMH-004386	SWRMH-005309	W38148	W38120	206	0.035	8	0.02	0.001	19:00 hr	0.88	1.52
SWRGM-006395	SWRMH-004387	SWRMH-004864	W38147	W38135	172	0.004	8	0.04	0.001	19:01 hr	0.44	0.56
SWRGM-006396	SWRMH-004864	SWRMH-004863	W38135	W38136	369	0.005	8	0.07	0.004	19:03 hr	0.68	0.69
SWRGM-006398	SWRMH-006200	SWRMH-004768	Y39122	Y39107	220	0.033	8	0.03	0.002	19:01 hr	1.01	1.53
SWRGM-006399	SWRMH-006207	SWRMH-004500	Y37104	Y37143	346	0.004	8	0.03	0.001	19:03 hr	0.34	0.52
SWRGM-006400	SWRMH-004819	SWRMH-004818	Y37114	Y37115	351	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006401	SWRMH-004756	SWRMH-004819	Y38147	Y37114	292	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006402	SWRCO-000662	SWRMH-004491	Z36103	Z36121	123	0.006	8	0.02	0	19:01 hr	0.36	0.62
SWRGM-006403	SWRCO-000656	SWRMH-005786	Z36109	Z36105	53	0.015	8	0.01	0	19:00 hr	0.35	0.88
SWRGM-006404	SWRCO-000657	SWRMH-005786	Z36108	Z36105	128	0.006	8	0.03	0.001	19:01 hr	0.43	0.65
SWRGM-006405	SWRMH-005449	SWRMH-006684	U44122	U44113	220	0.01	8	0.07	0.006	19:02 hr	0.95	0.94
SWRGM-006406	SWRMH-000687	SWRMH-005449	T44102	U44122	270	0.022	8	0.05	0.005	19:01 hr	1.13	1.34
SWRGM-006407	SWRMH-001143	SWRMH-001142	AA40138	AA40139	64	0.012	8	0.37	0.22	19:27 hr	2.86	1.18
SWRGM-006408	SWRMH-001144	SWRMH-001143	AA40137	AA40138	235	0.038	8	0.08	0.016	19:04 hr	1.98	1.87
SWRGM-006409	SWRMH-005374	SWRMH-005594	W40131	W40114	350	0.008	8	0.09	0.011	19:05 hr	1.05	0.90
SWRGM-006410	SWRMH-002426	SWRMH-002430	S44120	S44116	188	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006411	SWRMH-002428	SWRMH-002434	S44118	S44112	337	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006412	SWRMH-002429	SWRMH-002428	S44117	S44118	337	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006413	SWRMH-002430	SWRMH-002429	S44116	S44117	299	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006414	SWRMH-002432	SWRMH-002433	S44114	S44113	205	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006415	SWRMH-002431	SWRMH-002432	S44115	S44114	205	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006416	SWRMH-008350	SWRMH-007619	R47101	R47107	280	0.004	8	0.15	0.02	19:11 hr	0.97	0.65
SWRGM-006417	SWRMH-008356	SWRMH-008357	AB34103	AB34102	275	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006418	SWRMH-008358	SWRMH-008356	AB34101	AB34103	333	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006419	SWRMH-008001	SWRMH-008358	AB35106	AB34101	316	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006420	SWRMH-008410	SWRMH-008411	AB32111	AB32110	350	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006421	SWRMH-008412	SWRMH-008414	AB32109	AB32107	400	0.026	8	0.05	0.006	19:01 hr	1.30	1.48
SWRGM-006422	SWRCO-000586	SWRCO-000719	AA36101	AA35102	335	0.077	8	0.07	0.016	19:11 hr	2.55	2.61
SWRGM-006423	SWRCO-000492	SWRCO-000586	AA36105	AA36101	336	0.077	8	0.07	0.016	19:10 hr	2.55	2.61
SWRGM-006424	SWRCO-000637	SWRMH-002045	S43104	S43104	112	0.005	8	0.04	0.001	19:01 hr	0.49	0.64
SWRGM-006425	SWRMH-007880	SWRMH-008437	AB42104	AB42102	260	0.015	8	0.05	0.003	19:03 hr	0.90	1.11
SWRGM-006426	SWRCO-000672	SWRMH-007877	AB42101	AB42107	140	0.042	8	0.02	0.001	19:00 hr	0.74	1.56
SWRGM-006427	SWRMH-007877	SWRMH-007900	AB42107	AB41120	307	0.039	8	0.03	0.002	19:01 hr	1.05	1.64
SWRGM-006428	SWRMH-000650	SWRMH-000649	U47104	U47105	330	0.012	8	0.08	0.009	19:02 hr	1.13	1.07
SWRGM-006429	SWRMH-008389	SWRMH-008390	AA37118	AA37117	275	0.032	8	0.02	0.001	19:01 hr	0.76	1.41
SWRGM-006430	SWRMH-007873	SWRMH-007874	AB41124	AB41123	110	0.037	8	0.07	0.013	19:05 hr	1.84	1.82
SWRGM-006431	SWRMH-007875	SWRMH-007876	AB41122	AB41121	350	0.04	8	0.02	0.001	19:01 hr	0.88	1.59
SWRGM-006432	SWRNJ-000867	SWRMH-007905	AB41270	AB41115	25	0.022	8	0.05	0.004	19:04 hr	1.10	1.34
SWRGM-006433	SWRMH-008452	SWRMH-008460	AB40104	AC40101	300	0.068	8	0.10	0.035	19:20 hr	3.09	2.59
SWRGM-006434	SWRMH-008453	SWRMH-008452	AB40103	AB40104	300	0.01	8	0.15	0.035	19:20 hr	1.57	1.04
SWRGM-006435	SWRMH-008454	SWRMH-008453	AB40102	AB40103	300	0.02	8	0.13	0.035	19:17 hr	2.02	1.46
SWRGM-006436	SWRCO-000674	SWRMH-008442	AB41101	AB41110	155	0.006	8	0.03	0.001	19:01 hr	0.38	0.63
SWRGM-006437	SWRNJ-000682	SWRNJ-000683	Z36365	Z36361	40	0.059	8	0.02	0.001	19:00 hr	1.01	1.91
SWRGM-006438	SWRCO-000660	SWRNJ-000682	Z36105	Z36365	70	0.088	8	0.02	0.001	19:00 hr	1.15	2.30

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006439	SWRMH-004822	SWRMH-006199	Y39115	Y39108	313	0.004	8	0.25	0.058	10:30 hr	1.32	0.68
SWRGM-006440	SWRMH-003908	SWRMH-004236	Y37163	Y37152	255	0.006	8	0.05	0.002	19:02 hr	0.57	0.70
SWRGM-006441	SWRCO-000670	SWRMH-003908	Y37101	Y37163	119	0.006	8	0.03	0.001	19:01 hr	0.44	0.64
SWRGM-006442	SWRMH-005799	SWRMH-004888	Z43110	Z43134	55	0.004	8	0.12	0.014	19:06 hr	0.89	0.67
SWRGM-006443	SWRMH-004671	SWRNJ-000631	Z41147	Z41368	48	0.102	8	0.07	0.019	19:07 hr	2.95	3.02
SWRGM-006444	SWRNJ-000633	SWRMH-004670	Z41367	Z41148	35	0.01	8	0.05	0.004	19:04 hr	0.80	0.92
SWRGM-006445	SWRMH-004993	SWRMH-004304	Z41125	Z41161	154	0.026	8	0.24	0.138	19:20 hr	3.32	1.74
SWRGM-006446	SWRMH-004994	SWRMH-004995	Z41124	Z41123	350	0.004	8	0.14	0.018	19:09 hr	0.95	0.66
SWRGM-006447	SWRMH-003910	SWRMH-004235	Y37161	Y37153	278	0.012	8	0.03	0.001	19:02 hr	0.56	0.90
SWRGM-006448	SWRMH-005618	SWRMH-005619	Z37105	Z37104	252	0.01	8	0.02	0.001	19:01 hr	0.45	0.79
SWRGM-006449	SWRMH-005422	SWRMH-004223	Z37119	Z37136	290	0.012	8	0.07	0.007	19:06 hr	1.05	1.05
SWRGM-006450	SWRMH-005619	SWRMH-005422	Z37104	Z37119	355	0.014	8	0.05	0.004	19:05 hr	0.90	1.08
SWRGM-006451	SWRMH-004223	SWRMH-005429	Z37136	Z37112	327	0.002	8	0.12	0.009	19:09 hr	0.64	0.49
SWRGM-006452	SWRMH-005251	SWRMH-002605	Z40106	AA40109	226	0.049	8	0.10	0.032	19:02 hr	2.68	2.20
SWRGM-006453	SWRMH-002476	SWRMH-002475	AA40122	AA40123	282	0.029	8	0.07	0.011	19:02 hr	1.63	1.62
SWRGM-006454	SWRMH-000701	SWRCO-000860	AA37151	AA37102	148	0.006	8	0.03	0.001	19:01 hr	0.43	0.66
SWRGM-006455	SWRMH-004097	SWRMH-004098	AA39125	AA39124	336	0.041	8	0.15	0.065	19:08 hr	3.12	2.10
SWRGM-006456	SWRMH-004099	SWRMH-004097	AA39123	AA39125	349	0.044	8	0.14	0.059	19:07 hr	3.10	2.16
SWRGM-006457	SWRMH-006359	SWRMH-006041	X41103	X41105	193	0.006	8	0.06	0.004	10:11 hr	0.66	0.71
SWRGM-006458	SWRMH-006685	SWRMH-006686	U44112	U44111	350	0.02	8	0.06	0.008	19:02 hr	1.28	1.34
SWRGM-006459	SWRMH-004383	SWRMH-006615	W39144	X39107	365	0.004	8	0.13	0.016	19:03 hr	0.91	0.65
SWRGM-006460	SWRMH-004431	SWRMH-004334	Z38159	AA38148	300	0.005	8	0.18	0.035	19:17 hr	1.27	0.77
SWRGM-006461	SWRMH-005319	SWRMH-004577	Y42123	Y42133	227	0.004	8	0.11	0.01	19:05 hr	0.79	0.63
SWRGM-006462	SWRMH-005317	SWRMH-005318	Y42125	Y42124	303	0.015	8	0.05	0.004	19:01 hr	0.96	1.11
SWRGM-006463	SWRMH-006947	SWRMH-006948	Y40112	Y40111	300	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006464	SWRMH-006948	SWRMH-003919	Y40111	x40117	237	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006465	SWRMH-005008	SWRMH-004407	Y41114	Y40124	275	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006466	SWRNJ-000589	SWRMH-003997	Y40165	Y40140	110	0.005	8	0.09	0.008	10:20 hr	0.82	0.72
SWRGM-006467	SWRMH-005184	SWRMH-005183	X41127	X41128	284	0.007	8	0.16	0.031	10:29 hr	1.32	0.85
SWRGM-006468	SWRMH-005179	SWRMH-005180	X41132	X41131	350	0.01	8	0.14	0.03	10:23 hr	1.52	1.06
SWRGM-006469	SWRMH-005182	SWRMH-005179	X41129	X41132	335	0.01	8	0.14	0.029	10:21 hr	1.50	1.04
SWRGM-006470	SWRMH-005181	SWRMH-005182	X41130	X41129	186	0.01	8	0.14	0.029	10:18 hr	1.50	1.04
SWRGM-006471	SWRMH-005649	SWRMH-005137	X41114	X41138	213	0.004	8	0.18	0.028	10:13 hr	1.03	0.63
SWRGM-006472	SWRMH-006197	SWRMH-006193	Z38107	Z38111	230	0	8	0.10	0.002	19:04 hr	0.20	0.17
SWRGM-006473	SWRMH-005779	SWRMH-004091	AA39110	AA39131	258	0.022	8	0.24	0.125	19:12 hr	3.06	1.62
SWRGM-006474	SWRMH-005336	SWRMH-004297	Y40113	Y40131	319	0.004	8	0.09	0.008	10:03 hr	0.76	0.66
SWRGM-006475	SWRCO-000546	SWRMH-004044	X41110	X41157	79	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006476	SWRNJ-000074	SWRMH-001650	Q49250	Q49135	10	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006477	SWRMH-001743	SWRMH-008350	Q47126	R47101	292	0.004	8	0.15	0.02	19:09 hr	0.98	0.67
SWRGM-006478	SWRMH-003931	SWRMH-003933	X39124	X39122	350	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006479	SWRMH-006027	SWRMH-003933	x40101	X39122	335	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006480	SWRMH-005225	SWRMH-003941	Z38127	Z39127	173	0.003	8	0.13	0.012	19:07 hr	0.73	0.54
SWRGM-006481	SWRMH-003415	SWRMH-003414	V39140	V39141	221	0.011	8	0.04	0.002	19:01 hr	0.65	0.92
SWRGM-006482	SWRMH-003381	SWRMH-003379	V39174	V39176	190	0.018	8	0.04	0.002	19:01 hr	0.81	1.15
SWRGM-006483	SWRMH-003383	SWRMH-003382	V39172	V39173	228	0.005	8	0.07	0.004	19:02 hr	0.68	0.69
SWRGM-006484	SWRMH-003384	SWRMH-003383	V39171	V39172	137	0.006	8	0.04	0.002	19:01 hr	0.53	0.67
SWRGM-006485	SWRMH-003399	SWRMH-003406	V39156	V39149	221	0.008	8	0.05	0.003	19:02 hr	0.70	0.82
SWRGM-006486	SWRCO-000767	SWRMH-003400	V39101	V39155	89	0.011	8	0.03	0.001	19:00 hr	0.58	0.88
SWRGM-006487	SWRMH-003448	SWRMH-003446	V39107	V39109	300	0.012	8	0.10	0.016	19:03 hr	1.33	1.09
SWRGM-006488	SWRMH-003300	SWRMH-003291	V46107	V46116	245	0.014	8	0.04	0.003	19:01 hr	0.85	1.07
SWRGM-006489	SWRMH-004332	SWRMH-005875	Z42162	Z42106	267	0.012	8	0.14	0.029	19:05 hr	1.58	1.12
SWRGM-006490	SWRMH-005878	SWRMH-005879	X43110	X43109	296	0.015	8	0.08	0.01	10:12 hr	1.24	1.18
SWRGM-006491	SWRNJ-000523	SWRMH-005880	X43150	X43108	232	0.02	8	0.07	0.01	10:14 hr	1.38	1.36
SWRGM-006492	SWRMH-005880	SWRMH-004832	X43108	X43131	226	0.025	8	0.07	0.01	10:15 hr	1.49	1.50
SWRGM-006493	SWRMH-005137	SWRMH-005136	X41138	X41139	329	0.004	8	0.17	0.028	10:15 hr	1.06	0.66
SWRGM-006494	SWRCO-000543	SWRMH-004966	X41113	X41146	138	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006495	SWRCO-000541	SWRMH-005068	X41115	X41147	145	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006496	SWRCO-000542	SWRMH-004966	X41114	X41146	128	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006497	SWRMH-005180	SWRMH-005130	X41131	X41145	105	0.005	8	0.17	0.03	10:23 hr	1.16	0.73
SWRGM-006498	SWRMH-004290	SWRMH-005641	AA43122	AA43104	300	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006499	SWRMH-004518	SWRMH-004134	X39109	W39149	145	0.003	8	0.06	0.003	19:03 hr	0.52	0.54
SWRGM-006500	SWRMH-004131	SWRMH-004134	W39152	W39149	282	0.004	8	0.10	0.008	19:04 hr	0.73	0.62
SWRGM-006501	SWRMH-004133	SWRMH-004132	W39150	W39151	350	0.004	8	0.05	0.002	19:05 hr	0.50	0.57
SWRGM-006502	SWRMH-004132	SWRMH-004131	W39151	W39152	254	0.004	8	0.06	0.003	19:06 hr	0.57	0.59
SWRGM-006503	SWRMH-000623	SWRMH-003176	V48104	V47154	326	0.007	8	0.25	0.075	19:13 hr	1.76	0.91
SWRGM-006504	SWRMH-001253	SWRMH-001268	AA46144	AA46129	171	0.024	8	0.02	0.001	19:00 hr	0.59	1.19
SWRGM-006505	SWRMH-001262	SWRMH-001263	AA46135	AA46134	220	0.036	8	0.03	0.001	19:00 hr	0.95	1.56
SWRGM-006506	SWRMH-006225	SWRMH-006242	Z48143	Z48126	220	0.004	8	0.06	0.003	19:02 hr	0.51	0.55
SWRGM-006507	SWRMH-006239	SWRMH-006237	Z48129	Z48131	296	0.013	8	0.04	0.003	10:01 hr	0.79	1.01
SWRGM-006508	SWRMH-006237	SWRMH-006241	Z48131	Z48127	54	0.01	8	0.05	0.003	10:02 hr	0.73	0.91
SWRGM-006509	SWRMH-006240	SWRMH-006243	Z48128	Z48125	280	0.006	8	0.05	0.003	10:06 hr	0.62	0.71
SWRGM-006510	SWRMH-006241	SWRMH-006240	Z48127	Z48128	310	0.011	8	0.05	0.003	10:04 hr	0.76	0.94
SWRGM-006511	SWRMH-006243	SWRMH-006238	Z48125	Z48130	350	0.01	8	0.08	0.008	19:05 hr	1.04	0.98
SWRGM-006512	SWRMH-005934	SWRMH-005935	Z48106	Z48105	252	0.006	8	0.16	0.027	19:07 hr	1.22	0.80
SWRGM-006513	SWRMH-004950	SWRMH-004949	X36143	X36144	349	0.013	8	0.50	0.392	20:24 hr	3.48	1.26
SWRGM-006514	SWRMH-004951	SWRMH-004950	X36142	X36143	330	0.012	8	0.52	0.39	20:22 hr	3.32	1.18
SWRGM-006515	SWRMH-005055	SWRMH-004798	X37126	X36160	306	0.028	8	0.07	0.011	19:11 hr	1.59	1.59
SWRGM-006516	SWRMH-005394	SWRMH-005396	X37118	X37116	117	0.011	8	0.03	0.001	19:00 hr	0.58	0.88
SWRGM-006517	SWRNJ-000404	SWRMH-004476	W39104	W39130	140	0.004	8	0.17	0.027	19:14 hr	1.05	0.66
SWRGM-006518	SWRNJ-000663	SWRMH-005462	Z43397	Z43123	200	0.05	8	0.03	0.003	19:00 hr	1.27	1.89
SWRGM-006519	SWRCO-000485	SWRMH-005463	Z43101	Z43122	90	0.004	8	0.03	0.001	19:00 hr	0.38	0.54
SWRGM-006520	SWRMH-006046	SWRMH-005303	X38102	W38126	131	0.004	8	0.06	0.004	19:03 hr	0.57	0.59
SWRGM-006521	SWRCO-000859	SWRMH-004459	Y36101	Y36159	191	0.064	8	0.00	0	18:59 hr	0.00	0.00
SWRGM-006522	SWRCO-000380	SWRMH-006631	Y36107	Y36116	86	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006523	SWRCO-000381	SWRMH-004710	Y36106	Y36144	110	0.023	8	0.01	0	19:00 hr	0.42	1.08
SWRGM-006524	SWRMH-003970	SWRMH-003969	W37155	W37156	223	0.011	8	0.03	0.001	19:01 hr	0.57	0.89
SWRGM-006525	SWRMH-005051	SWRMH-004777	Y36131	Y36138	123	0.025	8	0.03	0.001	19:03 hr	0.83	1.32
SWRGM-006526	SWRMH-005723	SWRMH-006014	W37114	W38105	294	0.005	8	0.14	0.02	19:07 hr	1.04	0.73
SWRGM-006527	SWRMH-006012	SWRMH-006011	W38107	W38108	225	0.007	8	0.05	0.002	19:01 hr	0.64	0.78
SWRGM-006528	SWRMH-006013	SWRMH-005723	W38106	W37114	330	0.011	8	0.05	0.004	19:02 hr	0.82	0.94
SWRGM-006529	SWRMH-004142	SWRMH-004141	W38162	W38163	265	0.005	8	0.05	0.002	19:02 hr	0.53	0.65

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006530	SWRMH-004400	SWRMH-004153	AC44143	AC44156	129	0.054	8	0.02	0.001	19:00 hr	0.87	1.78
SWRGM-006531	SWRMH-004901	SWRMH-004409	AA41133	AA41151	120	0.039	8	0.03	0.002	19:00 hr	1.13	1.67
SWRGM-006532	SWRMH-004440	SWRMH-004441	AA41147	AA41146	322	0.021	8	0.29	0.186	19:20 hr	3.36	1.57
SWRGM-006533	SWRMH-004439	SWRMH-004440	AA41148	AA41147	224	0.013	8	0.33	0.18	19:19 hr	2.76	1.22
SWRGM-006534	SWRMH-004438	SWRMH-004439	AA41149	AA41148	279	0.017	8	0.29	0.165	19:18 hr	3.02	1.42
SWRGM-006535	SWRMH-005359	SWRMH-005360	W42109	W42108	292	0.005	8	0.28	0.079	19:37 hr	1.56	0.76
SWRGM-006536	SWRMH-004432	SWRMH-004433	Z38158	Z38157	300	0.079	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006537	SWRMH-002435	SWRMH-002001	S44111	S44145	150	0.018	8	0.03	0.001	19:00 hr	0.69	1.11
SWRGM-006538	SWRCO-000643	SWRMH-002009	S44106	S44137	144	0.005	8	0.05	0.003	19:01 hr	0.57	0.65
SWRGM-006539	SWRCO-000644	SWRMH-002017	S44105	S44129	107	0.008	8	0.03	0.001	19:00 hr	0.53	0.77
SWRGM-006540	SWRMH-005111	SWRNJ-000610	Y43121	Y43398	123	0.017	8	0.08	0.011	19:02 hr	1.36	1.26
SWRGM-006541	SWRMH-004158	SWRMH-004159	AC44151	AC44150	135	0.019	8	0.05	0.005	19:02 hr	1.07	1.24
SWRGM-006542	SWRMH-004159	SWRMH-005600	AC44150	AC44111	85	0.03	8	0.05	0.005	19:03 hr	1.27	1.57
SWRGM-006543	SWRMH-004984	SWRMH-004974	Z42146	Z42156	339	0.006	8	0.17	0.031	19:07 hr	1.27	0.81
SWRGM-006544	SWRMH-008195	SWRMH-008345	T44143	T43103	300	0.016	8	0.19	0.067	19:14 hr	2.24	1.33
SWRGM-006545	SWRMH-006290	SWRMH-006287	Y45152	Y45155	263	0.01	8	0.04	0.002	19:03 hr	0.68	0.88
SWRGM-006546	SWRMH-006292	SWRMH-006291	Y45150	Y45151	300	0.008	8	0.02	0	19:02 hr	0.31	0.67
SWRGM-006547	SWRMH-006201	SWRMH-005547	Y39106	Y38113	292	0.037	8	0.03	0.001	19:01 hr	0.94	1.57
SWRGM-006548	SWRMH-006179	SWRMH-005451	U44107	U44120	335	0.005	8	0.06	0.004	19:03 hr	0.64	0.68
SWRGM-006549	SWRCO-000458	SWRMH-005432	Z37101	Z37109	137	0.053	8	0.02	0.001	19:00 hr	0.83	1.75
SWRGM-006550	SWRMH-004607	SWRMH-005723	W37138	W37114	286	0.005	8	0.10	0.009	19:05 hr	0.83	0.70
SWRGM-006551	SWRMH-004137	SWRMH-004138	W38167	W38166	22	0.022	8	0.04	0.002	19:02 hr	0.92	1.28
SWRGM-006552	SWRMH-004136	SWRMH-004137	W38168	W38167	300	0.005	8	0.05	0.002	19:02 hr	0.54	0.66
SWRGM-006553	SWRMH-004643	SWRMH-004642	AA37156	AA37157	274	0.031	8	0.08	0.013	19:06 hr	1.76	1.69
SWRGM-006554	SWRNJ-000831	SWRMH-005564	AB47105	AB47112	20	0.02	8	0.06	0.006	10:00 hr	1.21	1.31
SWRGM-006555	SWRMH-005561	SWRMH-005668	AB47115	AB47104	114	0.064	8	0.08	0.021	10:03 hr	2.59	2.45
SWRGM-006556	SWRMH-001105	SWRMH-001108	AB46111	AB46108	271	0.042	8	0.07	0.015	19:01 hr	2.01	1.97
SWRGM-006557	SWRMH-005324	SWRMH-004350	Y42118	Y42137	246	0.005	8	0.18	0.034	10:15 hr	1.25	0.76
SWRGM-006558	SWRCO-000520	SWRMH-004780	AA42101	AA42133	215	0.004	8	0.07	0.004	19:02 hr	0.60	0.59
SWRGM-006559	SWRMH-004780	SWRMH-005988	AA42133	AA42106	265	0.009	8	0.07	0.006	19:03 hr	0.93	0.92
SWRGM-006560	SWRMH-004856	SWRMH-004855	W39119	W39120	190	0.004	8	0.39	0.139	19:23 hr	1.73	0.70
SWRGM-006561	SWRMH-005267	SWRMH-005268	AA41121	AA41120	112	0.083	8	0.04	0.007	19:02 hr	2.04	2.57
SWRGM-006562	SWRMH-005300	SWRNJ-000694	Z42132	Z41104	175	0.028	8	0.19	0.09	19:21 hr	3.00	1.78
SWRGM-006563	SWRMH-000640	SWRMH-000639	U47114	U47115	360	0.011	8	0.07	0.007	19:02 hr	1.01	1.00
SWRGM-006564	SWRMH-000642	SWRMH-000643	U47112	U47111	361	0.01	8	0.14	0.027	19:05 hr	1.45	1.03
SWRGM-006565	SWRMH-003888	SWRMH-003887	V48108	V48109	301	0.004	8	0.10	0.009	10:03 hr	0.77	0.65
SWRGM-006566	SWRMH-005438	SWRMH-006176	X37110	X37104	270	0.016	8	0.07	0.008	19:21 hr	1.21	1.19
SWRGM-006567	SWRMH-005392	SWRMH-004594	X37120	X37138	141	0.01	8	0.03	0.001	19:01 hr	0.56	0.85
SWRGM-006568	SWRMH-001180	SWRMH-001179	Z47120	Z47121	300	0.012	8	0.08	0.01	19:03 hr	1.16	1.06
SWRGM-006569	SWRMH-001034	SWRMH-001035	Z46120	Z46119	272	0.009	8	0.06	0.005	10:02 hr	0.87	0.90
SWRGM-006570	SWRMH-001036	SWRMH-001037	Z46118	Z46117	355	0.007	8	0.08	0.007	10:07 hr	0.84	0.80
SWRGM-006571	SWRMH-001037	SWRMH-001038	Z46117	Z46116	298	0.038	8	0.06	0.008	19:01 hr	1.61	1.80
SWRGM-006574	SWRMH-006303	SWRNJ-000598	Y45139	Y44219	280	0.025	8	0.05	0.004	19:03 hr	1.14	1.41
SWRGM-006575	SWRMH-006304	SWRMH-006303	Y45138	Y45139	335	0.024	8	0.04	0.003	19:02 hr	1.03	1.37
SWRGM-006576	SWRMH-007290	SWRMH-007294	T48149	T48145	156	0.007	8	0.04	0.002	19:01 hr	0.60	0.76
SWRGM-006577	SWRMH-007845	SWRMH-007844	T48111	T48112	260	0.01	8	0.08	0.009	19:04 hr	1.05	0.98
SWRGM-006578	SWRMH-001340	SWRMH-001339	Q45124	Q45125	280	0.005	8	0.06	0.003	19:02 hr	0.59	0.66
SWRGM-006579	SWRMH-003214	SWRMH-003212	V47116	V47118	154	0.015	8	0.08	0.012	19:01 hr	1.31	1.20
SWRGM-006580	SWRMH-008423	SWRMH-000689	T38101	U38101	300	0.005	8	0.07	0.005	19:02 hr	0.67	0.66
SWRGM-006581	SWRMH-007080	SWRMH-007088	T43122	T43114	249	0.005	8	0.15	0.025	19:09 hr	1.11	0.73
SWRGM-006582	SWRCO-000606	SWRMH-008302	S48105	S48104	128	0.008	8	0.05	0.003	19:01 hr	0.70	0.83
SWRGM-006583	SWRMH-007090	SWRMH-008347	T43112	T43101	317	0.01	8	0.06	0.005	19:05 hr	0.89	0.94
SWRGM-006584	SWRNJ-000279	SWRMH-003824	U45105	U45110	25	0.022	8	0.05	0.005	19:02 hr	1.13	1.33
SWRGM-006585	SWRMH-005999	SWRMH-006003	X38118	X38114	152	0.004	8	0.20	0.036	19:14 hr	1.15	0.67
SWRGM-006586	SWRMH-002288	SWRMH-002291	AA40130	AA40127	164	0.025	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006587	SWRMH-004042	SWRMH-004041	Z40134	Z40135	216	0.004	8	0.28	0.071	10:20 hr	1.38	0.66
SWRGM-006588	SWRMH-008190	SWRMH-008344	T44148	T44130	151	0.013	8	0.11	0.019	19:05 hr	1.43	1.13
SWRGM-006589	SWRMH-008346	SWRMH-008347	T43102	T43101	329	0.012	8	0.21	0.072	19:18 hr	2.11	1.19
SWRGM-006590	SWRMH-008345	SWRMH-008346	T43103	T43102	250	0.016	8	0.19	0.069	19:15 hr	2.27	1.33
SWRGM-006591	SWRMH-001742	SWRMH-001743	Q47127	Q47126	311	0.006	8	0.07	0.006	19:03 hr	0.78	0.75
SWRGM-006592	SWRMH-001741	SWRMH-001742	Q47128	Q47127	168	0.013	8	0.04	0.002	19:01 hr	0.77	1.01
SWRGM-006593	SWRMH-008162	SWRMH-008195	T44174	T44143	300	0.018	8	0.18	0.065	19:13 hr	2.32	1.41
SWRGM-006594	SWRMH-004624	SWRMH-004626	X42132	X42130	288	0.004	8	0.16	0.024	10:35 hr	1.02	0.66
SWRGM-006595	SWRMH-004600	SWRMH-004599	X36171	X36172	176	0.016	8	0.03	0.002	19:01 hr	0.72	1.07
SWRGM-006596	SWRMH-004707	SWRMH-005227	Y36147	Y36128	205	0.006	8	0.08	0.007	19:06 hr	0.82	0.75
SWRGM-006597	SWRMH-004706	SWRMH-004707	Y36148	Y36147	166	0.024	8	0.06	0.007	19:05 hr	1.31	1.44
SWRGM-006598	SWRMH-005229	SWRMH-005230	Y36126	Y36125	131	0.01	8	0.05	0.003	19:04 hr	0.76	0.89
SWRGM-006599	SWRMH-005417	SWRMH-004480	Z37124	Z36132	310	0.042	8	0.02	0.001	19:01 hr	0.93	1.65
SWRGM-006600	SWRMH-005420	SWRMH-005421	Z37121	Z37120	350	0.039	8	0.03	0.002	19:01 hr	1.01	1.64
SWRGM-006601	SWRMH-004215	SWRMH-004212	Z37138	Z37141	305	0.002	8	0.09	0.006	19:07 hr	0.56	0.48
SWRGM-006602	SWRMH-004213	SWRMH-004211	Z37140	Z37142	215	0.004	8	0.06	0.003	19:02 hr	0.56	0.60
SWRGM-006603	SWRMH-004434	SWRMH-004223	Z37135	Z37136	346	0.009	8	0.04	0.002	19:02 hr	0.60	0.82
SWRGM-006604	SWRCO-000518	SWRMH-004005	AA42103	AA42149	75	0.016	8	0.02	0	19:00 hr	0.47	0.96
SWRGM-006605	SWRMH-004005	SWRMH-004010	AA42149	AB42120	360	0.016	8	0.03	0.002	19:03 hr	0.75	1.09
SWRGM-006606	SWRMH-005269	SWRMH-004365	AA41119	AA41158	313	0.012	8	0.11	0.019	19:04 hr	1.40	1.11
SWRGM-006607	SWRMH-005946	SWRMH-005945	W46148	W46149	197	0.006	8	0.18	0.038	19:07 hr	1.35	0.82
SWRGM-006608	SWRNJ-000401	SWRMH-005946	W46107	W46148	122	0.005	8	0.17	0.031	19:07 hr	1.20	0.75
SWRGM-006609	SWRMH-004150	SWRMH-004930	W42117	W42112	333	0.006	8	0.08	0.006	10:10 hr	0.78	0.74
SWRGM-006610	SWRMH-004930	SWRMH-004152	W42112	W42115	345	0.008	8	0.09	0.01	10:14 hr	0.99	0.87
SWRGM-006611	SWRMH-006629	SWRMH-006630	Y37107	Y37106	350	0.045	8	0.02	0.001	19:01 hr	0.95	1.70
SWRGM-006612	SWRMH-006630	SWRMH-004547	Y37106	Y37127	253	0.043	8	0.03	0.002	19:01 hr	1.10	1.73
SWRGM-006613	SWRMH-004541	SWRMH-004772	Y37133	Y37121	217	0.004	8	0.08	0.005	19:06 hr	0.63	0.60
SWRGM-006614	SWRMH-004436	SWRMH-004541	Y38156	Y37133	242	0.009	8	0.06	0.005	19:04 hr	0.83	0.88
SWRGM-006615	SWRMH-004893	SWRMH-005441	Z40122	Z39116	290	0.051	8	0.11	0.039	19:05 hr	2.89	2.28
SWRGM-006616	SWRMH-004035	SWRMH-004892	Z40141	Z40123	350	0.018	8	0.09	0.015	19:05 hr	1.51	1.31
SWRGM-006617	SWRMH-005844	SWRMH-005843	Z42121	Z42122	356	0.02	8	0.04	0.003	19:01 hr	0.92	1.25
SWRGM-006618	SWRMH-005842	SWRMH-005843	Z42123	Z42122	199	0.007	8	0.14	0.024	19:07 hr	1.22	0.84
SWRGM-006619	SWRMH-005843	SWRMH-005994	Z42122	Z42102	175	0.011	8	0.13	0.028	19:08 hr	1.54	1.10
SWRGM-006620	SWRNJ-000644	SWRMH-004975	Z42120	Z42155	41	0.016	8	0.12	0.028	19:09 hr	1.76	1.30
SWRGM-006621	SWRMH-004700	SWRMH-004701	Y37125	Y37124	325	0.004	8	0.04	0.001	19:03 hr	0.42	0.57
SWRGM-006622	SWRCO-000669	SWRMH-004815	Y37102	Y37118	75	0.007	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006623	SWRMH-004501	SWRMH-004500	Y37142	Y37143	225	0.052	8	0.08	0.021	19:04 hr	2.40	2.21
SWRGM-006624	SWRMH-004540	SWRMH-004501	Y37134	Y37142	296	0.035	8	0.09	0.02	19:04 hr	2.08	1.84
SWRGM-006625	SWRMH-003911	SWRMH-004501	Y37160	Y37142	202	0.043	8	0.02	0.001	19:00 hr	0.79	1.59
SWRGM-006626	SWRMH-003906	SWRMH-004500	Y37165	Y37143	214	0.005	8	0.01	0	10:02 hr	0.21	0.51
SWRGM-006627	SWRMH-003909	SWRMH-003910	Y37162	Y37161	192	0.013	8	0.02	0.001	19:01 hr	0.54	0.91
SWRGM-006628	SWRMH-004887	SWRMH-004328	Z43135	Z42166	334	0.012	8	0.08	0.01	19:05 hr	1.15	1.07
SWRGM-006629	SWRMH-005804	SWRNJ-000651	Z43105	Z42118	78	0.026	8	0.08	0.013	19:04 hr	1.63	1.56
SWRGM-006630	SWRMH-003893	SWRMH-004209	Z36142	Z37144	310	0.047	8	0.03	0.002	19:04 hr	1.17	1.81
SWRGM-006631	SWRMH-004445	SWRMH-005767	Z43165	Z43120	314	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006632	SWRMH-000409	SWRMH-004445	Z43164	Z43165	290	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006633	SWRNJ-000596	SWRMH-004538	Y37312	Y37136	35	-0.168	6	1.00	0.005	19:04 hr	0.04	0.01
SWRGM-006634	SWRMH-002488	SWRMH-002487	W36110	W36111	305	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006635	SWRMH-006634	SWRMH-004775	Y36113	Y36140	313	0.027	8	0.07	0.011	19:12 hr	1.59	1.56
SWRGM-006636	SWRCO-000490	SWRMH-005475	Y41103	Y41103	126	0.058	8	0.03	0.002	19:00 hr	1.23	1.99
SWRGM-006637	SWRMH-005515	SWRMH-004563	W38118	X38135	358	0.016	8	0.06	0.005	19:07 hr	1.06	1.17
SWRGM-006638	SWRMH-005834	SWRMH-005835	Z38115	Z38114	139	0.005	8	0.06	0.003	19:01 hr	0.60	0.63
SWRGM-006639	SWRMH-004859	SWRMH-004858	W39116	W39117	142	0.004	8	0.27	0.064	19:33 hr	1.33	0.66
SWRGM-006640	SWRMH-004470	SWRMH-004859	W39136	W39116	217	0.004	8	0.26	0.064	19:31 hr	1.38	0.69
SWRGM-006641	SWRMH-004860	SWRMH-004471	W39115	W39135	150	0.023	8	0.16	0.059	19:26 hr	2.49	1.60
SWRGM-006642	SWRMH-002424	SWRMH-001972	S44122	S44174	22	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006643	SWRMH-002420	SWRMH-002424	S44126	S44122	301	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006644	SWRMH-002423	SWRMH-002424	S44123	S44122	355	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006645	SWRMH-002422	SWRMH-002423	S44124	S44123	337	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006646	SWRMH-002421	SWRMH-002422	S44125	S44124	238	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006647	SWRMH-002427	SWRMH-002430	S44119	S44116	360	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006649	SWRMH-007120	SWRMH-007119	T39164	T39165	137	0.012	8	0.06	0.005	19:03 hr	0.94	1.01
SWRGM-006650	SWRMH-007114	SWRMH-007120	T39170	T39164	348	0.005	8	0.07	0.004	19:03 hr	0.66	0.67
SWRGM-006651	SWRMH-006584	SWRMH-006583	S39126	S39127	266	0.029	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006652	SWRMH-008167	SWRMH-000655	T44171	T44127	222	0.005	8	0.08	0.006	19:04 hr	0.72	0.65
SWRGM-006654	SWRMH-004354	SWRMH-004355	X42137	X42136	275	0.011	8	0.15	0.037	10:04 hr	1.67	1.10
SWRGM-006655	SWRMH-005341	SWRMH-004354	X42121	X42137	285	0.008	8	0.16	0.032	10:02 hr	1.40	0.91
SWRGM-006656	SWRCO-000431	SWRMH-005341	X42104	X42121	120	0.007	8	0.04	0.002	10:01 hr	0.57	0.73
SWRGM-006657	SWRMH-005837	SWRMH-005839	X36116	X36114	272	0.017	8	0.03	0.002	19:01 hr	0.77	1.12
SWRGM-006658	SWRCO-000445	SWRMH-004684	X36104	X36165	56	0.032	8	0.02	0	19:00 hr	0.62	1.35
SWRGM-006659	SWRMH-004684	SWRMH-004683	X36165	X36166	350	0.034	8	0.03	0.002	19:01 hr	0.99	1.53
SWRGM-006660	SWRMH-004683	SWRMH-002918	X36166	X35137	350	0.004	8	0.08	0.006	19:03 hr	0.65	0.60
SWRGM-006661	SWRMH-006090	SWRMH-005669	W47103	W47144	325	0.01	8	0.27	0.107	10:27 hr	2.19	1.08
SWRGM-006662	SWRMH-005670	SWRMH-006090	W47143	W47103	337	0.01	8	0.27	0.107	10:25 hr	2.18	1.08
SWRGM-006665	SWRMH-004255	SWRMH-004254	AC43124	AC43125	176	0.009	8	0.06	0.005	19:01 hr	0.86	0.89
SWRGM-006667	SWRMH-001248	SWRNJ-000783	AA46149	AA46104	164	0.035	8	0.06	0.008	19:00 hr	1.56	1.73
SWRGM-006668	SWRMH-008446	SWRMH-007898	AB41107	AC41101	338	0.041	8	0.08	0.018	19:10 hr	2.12	1.96
SWRGM-006669	SWRMH-008449	SWRMH-008446	AB41104	AB41107	337	0.034	8	0.08	0.018	19:09 hr	1.98	1.79
SWRGM-006670	SWRMH-007876	SWRMH-008376	AB41121	AB41112	350	0.086	8	0.02	0.002	19:01 hr	1.41	2.38
SWRGM-006671	SWRMH-008376	SWRMH-007906	AB41112	AB41114	217	0.063	8	0.03	0.003	19:02 hr	1.35	2.10
SWRGM-006672	SWRMH-007901	SWRMH-007902	AB41119	AB41118	254	0.005	8	0.03	0.001	19:02 hr	0.37	0.59
SWRGM-006673	SWRMH-007903	SWRMH-008443	AB41117	AB41109	307	0.056	8	0.03	0.003	19:03 hr	1.42	2.03
SWRGM-006674	SWRMH-008442	SWRMH-007902	AB41110	AB41118	156	0.058	8	0.02	0.001	19:01 hr	0.92	1.86
SWRGM-006675	SWRNJ-000881	SWRMH-007877	AB42198	AB42107	100	0.043	8	0.01	0	19:00 hr	0.63	1.51
SWRGM-006676	SWRMH-008390	SWRMH-008377	AA37117	AA37119	265	0.046	8	0.03	0.002	19:01 hr	1.05	1.76
SWRGM-006677	SWRMH-008007	SWRMH-008006	AB33121	AB33122	352	0.028	8	0.06	0.009	19:08 hr	1.50	1.56
SWRGM-006678	SWRMH-008365	SWRNJ-000840	AB33110	AB33138	75	0.034	8	0.06	0.01	19:01 hr	1.64	1.72
SWRGM-006679	SWRMH-001221	SWRMH-005566	AA47136	AB47110	858	0.015	8	0.26	0.125	19:25 hr	2.67	1.33
SWRGM-006680	SWRMH-008506	SWRMH-008507	AA39103	AA39102	152	0.027	8	0.06	0.008	19:02 hr	1.43	1.54
SWRGM-006681	SWRMH-006000	SWRMH-005999	X38117	X38118	324	0.004	8	0.17	0.027	19:14 hr	1.05	0.66
SWRGM-006682	SWRMH-005304	SWRMH-006000	W38125	X38117	355	0.004	8	0.16	0.025	19:11 hr	1.03	0.66
SWRGM-006683	SWRMH-006001	SWRMH-005304	X38116	W38125	272	0.005	8	0.06	0.003	19:02 hr	0.58	0.65
SWRGM-006684	SWRMH-004380	SWRMH-004381	W39147	W39146	207	0.012	8	0.19	0.056	19:23 hr	1.93	1.15
SWRGM-006685	SWRMH-005506	SWRMH-004380	W39109	W39147	330	0.007	8	0.21	0.056	19:22 hr	1.60	0.90
SWRGM-006686	SWRMH-005505	SWRMH-005506	W39110	W39109	300	0.006	8	0.22	0.056	19:19 hr	1.55	0.85
SWRGM-006687	SWRNJ-000446	SWRMH-003932	W39105	X39123	150	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006688	SWRMH-005507	SWRNJ-000446	W39108	W39105	97	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006689	SWRMH-005235	SWRMH-004456	Y36120	Y36162	198	0.05	8	0.04	0.004	19:02 hr	1.41	1.94
SWRGM-006690	SWRMH-005236	SWRMH-005237	Y36119	Y36118	202	0.059	8	0.02	0.001	19:02 hr	1.09	1.94
SWRGM-006691	SWRMH-004857	SWRMH-004856	W39118	W39119	350	0.016	8	0.19	0.069	19:22 hr	2.27	1.33
SWRGM-006692	SWRMH-005291	SWRMH-005292	AA42115	AA42114	27	0.019	8	0.07	0.01	19:05 hr	1.38	1.33
SWRGM-006693	SWRMH-005292	SWRMH-005293	AA42114	AA42113	91	0.007	8	0.10	0.011	19:05 hr	0.97	0.80
SWRGM-006694	SWRNJ-000796	SWRMH-005987	AA42195	AA42107	38	0.01	8	0.10	0.013	19:04 hr	1.17	0.98
SWRGM-006695	SWRNJ-000800	SWRNJ-000796	AA42194	AA42195	36	0.01	8	0.10	0.013	19:04 hr	1.18	0.99
SWRGM-006696	SWRMH-008409	SWRMH-008408	AB32112	AB32113	176	0.009	8	0.20	0.055	19:11 hr	1.75	1.02
SWRGM-006697	SWRMH-000680	SWRMH-008409	AB32106	AB32112	350	0.024	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006698	SWRMH-008414	SWRMH-008413	AB32107	AB32108	44	0.036	8	0.05	0.006	19:02 hr	1.46	1.73
SWRGM-006699	SWRCO-000612	SWRMH-008410	AB32101	AB32111	188	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006700	SWRMH-008404	SWRMH-008470	AB32117	AA32106	350	0.022	8	0.16	0.056	19:19 hr	2.38	1.54
SWRGM-006701	SWRMH-008444	SWRMH-008443	AB41108	AB41109	180	0.031	8	0.02	0.001	19:00 hr	0.70	1.36
SWRGM-006702	SWRMH-007898	SWRMH-007897	AC41101	AC41102	322	0.046	8	0.08	0.018	19:11 hr	2.21	2.08
SWRGM-006703	SWRMH-008451	SWRMH-008455	AB40105	AB40101	88	0.029	8	0.12	0.035	19:15 hr	2.28	1.72
SWRGM-006704	SWRMH-005405	SWRMH-004681	X36129	X36168	236	0.012	8	0.04	0.002	19:02 hr	0.67	0.93
SWRGM-006705	SWRMH-005487	SWRMH-006358	X41124	X41104	315	0.009	8	0.05	0.002	10:08 hr	0.68	0.85
SWRGM-006706	SWRMH-004623	SWRMH-004241	X42133	X42144	218	0.01	8	0.10	0.015	10:09 hr	1.26	1.02
SWRGM-006707	SWRMH-005131	SWRMH-005649	X41144	X41114	131	0.003	8	0.05	0.002	10:09 hr	0.41	0.49
SWRGM-006708	SWRNJ-000691	SWRMH-004525	Z36363	Z36114	120	0.089	8	0.06	0.016	19:08 hr	2.69	2.80
SWRGM-006709	SWRNJ-000685	SWRNJ-000686	Z36362	Z36358	40	0.023	8	0.07	0.01	19:09 hr	1.45	1.45
SWRGM-006710	SWRMH-005418	SWRMH-004483	Z37123	Z36129	350	0.024	8	0.03	0.001	19:02 hr	0.80	1.29
SWRGM-006711	SWRMH-004490	SWRMH-004491	Z36122	Z36121	173	0.072	8	0.02	0.001	19:00 hr	1.02	2.07
SWRGM-006712	SWRMH-004491	SWRMH-004492	Z36121	Z36120	145	0.033	8	0.03	0.002	19:01 hr	0.94	1.50
SWRGM-006713	SWRMH-004808	SWRMH-004809	X36155	X36154	250	0.021	8	0.05	0.004	19:04 hr	1.09	1.31
SWRGM-006714	SWRMH-005839	SWRMH-005838	X36114	X36115	303	0.006	8	0.12	0.017	19:08 hr	1.06	0.79
SWRGM-006715	SWRMH-002601	SWRMH-004898	AA40113	AA41136	277	0.003	8	0.05	0.002	19:02 hr	0.42	0.51
SWRGM-006716	SWRMH-004884	SWRMH-004630	Z40125	Z41159	326	0.036	8	0.12	0.038	19:04 hr	2.54	1.93
SWRGM-006717	SWRMH-005989	SWRMH-005990	AA42105	AA42104	310	0.033	8	0.03	0.002	19:01 hr	1.03	1.54
SWRGM-006718	SWRMH-004968	SWRMH-004969	AA42118	AA42117	190	0.04	8	0.04	0.004	19:00 hr	1.30	1.75

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006719	SWRNJ-000454	SWRMH-008936	SPMH004376	SP0600MH02	215	0.015	8	0.01	0	10:11 hr	0.40	0.91
SWRGM-006720	SWRMH-008936	SWRMH-005490	SP0600MH02	SDMH005490	108	0.016	8	0.01	0	10:12 hr	0.41	0.93
SWRGM-006721	SWRMH-004969	SWRMH-000699	AA42117	AA42119	150	0.014	8	0.05	0.005	19:01 hr	0.97	1.10
SWRGM-006725	SWRMH-003916	SWRMH-003915	x40120	x40121	300	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006726	SWRMH-005280	SWRMH-005382	AB41137	AB40108	91	0.114	8	0.03	0.003	19:02 hr	1.71	2.79
SWRGM-006727	SWRMH-005358	SWRMH-005359	W42110	W42109	291	0.005	8	0.28	0.079	19:35 hr	1.56	0.76
SWRGM-006728	SWRMH-004721	SWRMH-004224	Z41142	Z41165	350	0.049	8	0.07	0.013	19:02 hr	2.03	2.10
SWRGM-006729	SWRMH-004720	SWRMH-004721	Z41143	Z41142	290	0.037	8	0.05	0.006	19:01 hr	1.47	1.74
SWRGM-006730	SWRMH-004307	SWRMH-005470	Y43147	Y43115	349	0.007	8	0.05	0.003	19:03 hr	0.62	0.74
SWRGM-006731	SWRMH-005470	SWRMH-005468	Y43115	Y43117	327	0.005	8	0.07	0.005	19:06 hr	0.67	0.67
SWRGM-006732	SWRMH-001174	SWRMH-001173	Z47126	Z47127	250	0.02	8	0.16	0.055	19:11 hr	2.32	1.50
SWRGM-006733	SWRMH-006252	SWRMH-001174	Z48116	Z47126	246	0.016	8	0.17	0.053	19:10 hr	2.10	1.33
SWRGM-006734	SWRMH-001178	SWRMH-001181	Z47122	Z47119	263	0.009	8	0.11	0.017	19:06 hr	1.21	0.94
SWRGM-006735	SWRMH-001179	SWRMH-001178	Z47121	Z47122	249	0.012	8	0.09	0.013	19:04 hr	1.25	1.08
SWRGM-006736	SWRMH-000994	SWRMH-001215	Z47154	Z47103	260	0.004	8	0.38	0.132	19:12 hr	1.67	0.69
SWRGM-006737	SWRMH-001203	SWRMH-000994	Z47115	Z47154	209	0.003	8	0.05	0.002	19:02 hr	0.44	0.51
SWRGM-006738	SWRMH-001211	SWRMH-001215	Z47107	Z47103	169	0.041	8	0.06	0.01	19:02 hr	1.75	1.88
SWRGM-006739	SWRMH-001215	SWRMH-001212	Z47103	Z47106	185	0.002	8	0.50	0.143	19:13 hr	1.28	0.47
SWRGM-006740	SWRMH-004702	SWRMH-004703	Y37123	Y37122	330	0.004	8	0.07	0.004	19:06 hr	0.61	0.60
SWRGM-006741	SWRMH-004147	SWRMH-006152	W42120	X42103	273	0.008	8	0.27	0.098	19:48 hr	1.97	0.96
SWRGM-006742	SWRMH-006152	SWRMH-006153	X42103	X42102	280	0.008	8	0.28	0.1	19:50 hr	1.98	0.96
SWRGM-006743	SWRMH-006153	SWRMH-006154	X42102	X42101	274	0.006	8	0.30	0.1	19:52 hr	1.76	0.82
SWRGM-006744	SWRMH-005263	SWRMH-005276	AA41125	AB41141	328	0.043	8	0.02	0.001	19:01 hr	0.95	1.67
SWRGM-006745	SWRMH-005156	SWRNJ-000666	Z43139	Z42117	98	0.067	8	0.04	0.004	19:01 hr	1.61	2.23
SWRGM-006746	SWRMH-005766	SWRMH-005869	Z43121	Z42112	344	0.005	8	0.06	0.003	19:03 hr	0.62	0.67
SWRGM-006747	SWRNJ-000647	SWRMH-005835	Z38399	Z38114	90	0.018	8	0.03	0.002	19:01 hr	0.78	1.15
SWRGM-006748	SWRMH-005835	SWRMH-004427	Z38114	Z38163	220	0.003	8	0.09	0.006	19:03 hr	0.63	0.56
SWRGM-006749	SWRMH-004844	SWRMH-004843	W39124	W39125	350	0.023	8	0.05	0.005	19:01 hr	1.18	1.39
SWRGM-006750	SWRMH-004843	SWRMH-004842	W39125	W39126	131	0.012	8	0.21	0.069	19:19 hr	2.06	1.17
SWRGM-006751	SWRMH-004841	SWRMH-004843	W39127	W39125	278	0.018	8	0.18	0.064	19:20 hr	2.32	1.42
SWRGM-006752	SWRMH-004842	SWRMH-004856	W39126	W39119	142	0.022	8	0.18	0.069	19:20 hr	2.54	1.55
SWRGM-006753	SWRMH-004471	SWRMH-004470	W39135	W39136	350	0.008	8	0.22	0.063	19:29 hr	1.73	0.96
SWRGM-006754	SWRMH-005683	SWRMH-005684	Z45110	Z45109	290	0.007	8	0.05	0.002	19:02 hr	0.64	0.77
SWRGM-006755	SWRMH-005693	SWRMH-006798	Y46105	Y45102	349	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006756	SWRMH-006350	SWRMH-006352	Y45106	Y45104	300	0.017	8	0.00	0	19:01 hr	0.00	0.00
SWRGM-006757	SWRMH-006352	SWRMH-008388	Y45104	Y45101	300	0.017	8	0.02	0	19:01 hr	0.45	0.98
SWRGM-006758	SWRMH-006347	SWRMH-006342	Y45109	Y45114	200	0.004	8	0.05	0.002	19:01 hr	0.48	0.56
SWRGM-006759	SWRMH-006941	SWRMH-004296	Y40101	Y40132	46	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006760	SWRMH-004296	SWRMH-004619	Y40132	Y40123	185	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006761	SWRMH-004295	SWRMH-004296	Y40133	Y40132	201	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006762	SWRMH-006105	SWRMH-006961	AC48101	AC48116	257	0.012	8	0.08	0.009	10:01 hr	1.13	1.05
SWRGM-006763	SWRMH-006094	SWRMH-006963	AC48112	AC48114	273	0.027	8	0.06	0.007	10:02 hr	1.37	1.53
SWRGM-006764	SWRMH-006962	SWRMH-006094	AC48115	AC48112	280	0.039	8	0.05	0.007	10:01 hr	1.56	1.81
SWRGM-006765	SWRMH-004315	SWRMH-005172	Y41145	Y41123	274	0.005	8	0.18	0.036	10:19 hr	1.28	0.77
SWRGM-006766	SWRMH-005172	SWRMH-005173	Y41123	Y41122	270	0.005	8	0.20	0.043	10:20 hr	1.34	0.77
SWRGM-006767	SWRMH-005174	SWRMH-005172	Y41121	Y41123	319	0.006	8	0.07	0.005	10:03 hr	0.73	0.72
SWRGM-006768	SWRMH-004622	SWRMH-004621	Y40120	Y40121	139	0.003	8	0.12	0.011	10:12 hr	0.72	0.55
SWRGM-006769	SWRMH-005846	SWRMH-005848	Z42119	Z42117	146	0.02	8	0.06	0.007	19:01 hr	1.23	1.31
SWRGM-006770	SWRCO-000525	SWRMH-005294	Z42102	Z42138	125	0.051	8	0.02	0.001	19:00 hr	0.93	1.77
SWRGM-006771	SWRCO-000406	SWRMH-005628	W38102	W38109	84	0.004	8	0.04	0.002	19:00 hr	0.45	0.57
SWRGM-006772	SWRMH-005628	SWRMH-005627	W38109	W38110	350	0.004	8	0.06	0.003	19:03 hr	0.57	0.59
SWRGM-006773	SWRMH-004017	SWRMH-004144	W38172	W38160	265	0.004	8	0.57	0.263	19:38 hr	1.99	0.68
SWRGM-006774	SWRMH-004144	SWRMH-004277	W38160	W38154	230	0.005	8	0.54	0.263	19:40 hr	2.10	0.73
SWRGM-006775	SWRMH-005026	SWRMH-005073	AA38126	AA38137	45	0.016	8	0.08	0.012	19:10 hr	1.34	1.22
SWRGM-006776	SWRMH-004054	SWRMH-004053	AA38162	AA38163	303	0.012	8	0.09	0.014	19:13 hr	1.28	1.09
SWRGM-006777	SWRMH-004730	SWRMH-004731	AA37153	AA37152	199	0.015	8	0.06	0.006	10:01 hr	1.09	1.15
SWRGM-006778	SWRMH-001188	SWRMH-006106	AC46126	AC45123	120	0.004	8	0.27	0.07	19:15 hr	1.39	0.68
SWRGM-006779	SWRMH-005654	SWRMH-005655	AB48132	AB48131	152	0.008	8	0.06	0.005	10:03 hr	0.79	0.83
SWRGM-006780	SWRMH-004948	SWRMH-004947	X36145	X36146	152	0.012	8	0.51	0.392	20:26 hr	3.38	1.21
SWRGM-006781	SWRMH-005178	SWRMH-005177	X41133	X41134	240	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006782	SWRMH-005177	SWRMH-006037	X41134	X41109	250	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006783	SWRMH-004162	SWRMH-006170	AC44147	AC43103	157	0.004	8	0.17	0.026	19:07 hr	1.04	0.66
SWRGM-006784	SWRMH-002291	SWRMH-002294	AA40127	AA40124	254	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006785	SWRMH-002285	SWRMH-002286	AA40133	AA40132	253	0.027	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006787	SWRMH-008135	SWRMH-007869	AB31109	AB31110	327	0.035	8	0.05	0.007	19:02 hr	1.50	1.72
SWRGM-006788	SWRMH-008141	SWRMH-008140	AB31103	AB31104	169	0.029	8	0.03	0.002	19:00 hr	0.93	1.42
SWRGM-006789	SWRCO-000422	SWRMH-003991	Y42103	Y42146	87	0.045	8	0.03	0.002	19:00 hr	1.04	1.73
SWRGM-006790	SWRMH-003992	SWRMH-003993	Y42145	Y42144	350	0.01	8	0.06	0.005	19:02 hr	0.88	0.93
SWRGM-006791	SWRMH-003993	SWRMH-005995	Y42144	Z42101	257	0.046	8	0.05	0.007	19:03 hr	1.67	1.96
SWRGM-006792	SWRMH-005194	SWRMH-005279	AB40110	AB41138	268	0.035	8	0.02	0.001	19:01 hr	0.88	1.52
SWRGM-006793	SWRNJ-000928	SWRMH-005036	AC44102	AC44133	50	0.009	8	0.05	0.003	19:01 hr	0.74	0.86
SWRGM-006794	SWRMH-008165	SWRMH-007866	AB31101	AB31113	250	0.021	8	0.16	0.055	19:06 hr	2.33	1.51
SWRGM-006795	SWRMH-007422	SWRMH-000684	AB31119	AB32102	119	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006796	SWRMH-007867	SWRMH-008409	AB31112	AB32112	204	0.004	8	0.24	0.055	19:10 hr	1.29	0.67
SWRGM-006797	SWRMH-007865	SWRMH-007416	AB31114	AB31125	158	0.021	8	0.14	0.039	19:05 hr	2.11	1.49
SWRGM-006798	SWRMH-004581	SWRNJ-000602	Y36156	Y36312	52	0.147	6	0.05	0.005	19:04 hr	2.40	3.30
SWRGM-006799	SWRMH-004305	SWRMH-004993	Z41160	Z41125	80	0.028	8	0.22	0.12	19:21 hr	3.25	1.78
SWRGM-006800	SWRMH-004123	SWRMH-004996	X43132	Y43134	300	0.017	8	0.10	0.02	10:20 hr	1.63	1.32
SWRGM-006801	SWRMH-005154	SWRMH-005461	Z43141	Z43124	354	0.04	8	0.06	0.011	19:01 hr	1.81	1.88
SWRGM-006802	SWRMH-005153	SWRMH-005154	Z43142	Z43141	227	0.016	8	0.06	0.007	19:01 hr	1.13	1.20
SWRGM-006803	SWRMH-005811	SWRMH-005810	Z41115	Z41116	321	0.021	8	0.28	0.169	19:10 hr	3.27	1.58
SWRGM-006804	SWRMH-005812	SWRMH-005809	Z41114	Z41117	130	0.028	8	0.25	0.156	19:08 hr	3.55	1.82
SWRGM-006805	SWRMH-005464	SWRMH-005465	Z41122	Z41121	300	0.031	8	0.09	0.019	19:03 hr	1.96	1.72
SWRGM-006806	SWRMH-005808	SWRMH-004631	Z41118	Z41158	336	0.014	8	0.06	0.005	19:02 hr	1.01	1.11
SWRGM-006807	SWRNJ-000839	SWRMH-001079	AB46106	AB46138	187	0.02	8	0.29	0.177	19:42 hr	3.24	1.52
SWRGM-006808	SWRMH-002453	SWRMH-002461	R46106	R45105	300	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006809	SWRMH-002451	SWRMH-002460	R46108	R45106	350	0.014	8	0.04	0.003	19:02 hr	0.83	1.05
SWRGM-006810	SWRMH-003941	SWRMH-006361	Z39127	Z38104	294	0.003	8	0.13	0.013	19:09 hr	0.82	0.60
SWRGM-006811	SWRMH-000688	SWRMH-004119	T44101	U44126	279	0.01	8	0.04	0.002	19:02 hr	0.69	0.88
SWRGM-006812	SWRCO-000366	SWRMH-001149	AA47108	AA47158	75	0.006	8	0.04	0.002	19:00 hr	0.52	0.68
SWRGM-006813	SWRMH-004026	SWRMH-004027	Z40150	Z40149	304	0.004	8	0.14	0.018	10:06 hr	0.90	0.62

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006814	SWRMH-004894	SWRMH-004893	Z40121	Z40122	142	0.048	8	0.04	0.005	19:01 hr	1.50	1.93
SWRGM-006815	SWRMH-005228	SWRMH-005229	Y36127	Y36126	137	0.01	8	0.04	0.002	19:03 hr	0.70	0.88
SWRGM-006816	SWRMH-006091	SWRMH-006092	W47102	W47101	170	0.046	8	0.15	0.07	19:08 hr	3.32	2.23
SWRGM-006817	SWRMH-005859	SWRMH-006091	W47129	W47102	155	0.035	8	0.16	0.068	19:07 hr	2.98	1.95
SWRGM-006818	SWRMH-004795	SWRMH-005518	W38142	W38115	127	0.008	8	0.15	0.029	19:09 hr	1.39	0.93
SWRGM-006819	SWRMH-005306	SWRMH-004797	W38123	W38140	289	0.015	8	0.04	0.002	19:01 hr	0.77	1.07
SWRGM-006820	SWRNJ-000661	SWRNJ-000660	Z42109	Z42108	100	0.015	8	0.20	0.074	19:17 hr	2.27	1.30
SWRGM-006821	SWRMH-004034	SWRMH-004032	Z40142	Z40144	269	0.031	8	0.19	0.096	19:05 hr	3.16	1.86
SWRGM-006822	SWRMH-005482	SWRMH-004781	AA42111	AA42132	151	0.02	8	0.10	0.018	19:02 hr	1.66	1.40
SWRGM-006823	SWRMH-004494	SWRMH-004493	Z36118	Z36119	347	0.005	8	0.06	0.003	19:06 hr	0.61	0.68
SWRGM-006824	SWRMH-007752	SWRMH-008208	T38145	T38105	211	0.037	8	0.15	0.059	19:14 hr	2.91	1.99
SWRGM-006825	SWRMH-008544	SWRMH-008546	AA37110	AA37108	267	0.004	8	0.15	0.02	19:18 hr	0.99	0.67
SWRGM-006826	SWRMH-008545	SWRMH-008544	AA37109	AA37110	170	0.111	8	0.03	0.003	19:00 hr	1.76	2.78
SWRGM-006827	SWRMH-008543	SWRMH-008545	AA37111	AA37109	151	0.095	8	0.02	0.002	19:00 hr	1.40	2.48
SWRGM-006828	SWRMH-004051	SWRMH-008544	AA38165	AA37110	339	0.014	8	0.10	0.017	19:17 hr	1.43	1.19
SWRGM-006829	SWRMH-008552	SWRMH-008551	AA37102	AA37103	308	0.005	8	0.08	0.006	10:06 hr	0.71	0.66
SWRGM-006830	SWRMH-008541	SWRMH-008552	AA37113	AA37102	349	0.004	8	0.08	0.005	10:03 hr	0.64	0.61
SWRGM-006831	SWRMH-008510	SWRMH-008550	AA38124	AA37104	151	0.028	8	0.12	0.037	19:25 hr	2.32	1.72
SWRGM-006832	SWRMH-008553	SWRMH-005076	AA37101	AA37144	193	0.026	8	0.06	0.007	10:03 hr	1.37	1.49
SWRGM-006833	SWRMH-005027	SWRMH-008553	AA37132	AA37101	304	0.033	8	0.06	0.007	10:03 hr	1.48	1.66
SWRGM-006834	SWRMH-008554	SWRMH-006618	Z39101	Z39108	120	0.004	8	0.14	0.019	10:10 hr	0.94	0.64
SWRGM-006835	SWRMH-004115	SWRMH-008554	Z39119	Z39101	240	0.005	8	0.13	0.019	10:09 hr	1.05	0.74
SWRGM-006836	SWRMH-004788	SWRMH-005072	AA38144	AA38138	26	0.088	8	0.08	0.029	19:04 hr	3.21	2.90
SWRGM-006837	SWRMH-004817	SWRMH-006020	Y37116	Y37105	236	0.01	8	0.26	0.096	19:16 hr	2.12	1.08
SWRGM-006838	SWRMH-004406	SWRMH-004404	Y40125	Y40127	32	0.003	8	0.09	0.005	10:07 hr	0.58	0.52
SWRGM-006839	SWRMH-006950	SWRMH-006951	Y40107	Y40106	350	0.003	8	0.06	0.003	10:06 hr	0.48	0.51
SWRGM-006841	SWRMH-004965	SWRMH-005434	Z38133	Z38121	128	0.03	8	0.07	0.011	19:03 hr	1.65	1.64
SWRGM-006842	SWRMH-004918	SWRMH-005008	Y41126	Y41114	149	0.002	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006843	SWRMH-004008	SWRMH-004321	AB42122	AB41145	128	0.035	8	0.05	0.007	19:05 hr	1.49	1.70
SWRGM-006845	SWRMH-006052	SWRMH-005626	W48122	W48123	232	0.013	8	0.05	0.004	10:01 hr	0.87	1.03
SWRGM-006846	SWRMH-008713	SWRMH-006382	SP721MH1	SDMH006382	141	0.005	8	0.18	0.034	19:13 hr	1.20	0.72
SWRGM-006847	SWRMH-005081	SWRMH-006732	AA37139	AA36106	387	0.035	8	0.15	0.064	19:30 hr	2.94	1.95
SWRGM-006848	SWRCO-000607	SWRMH-008303	S48104	S48103	128	0.009	8	0.05	0.002	19:01 hr	0.68	0.85
SWRGM-006849	SWRCO-000608	SWRMH-008301	S48103	S48105	60	0.017	8	0.02	0	19:00 hr	0.49	1.01
SWRGM-006850	SWRCO-000609	SWRMH-008304	S48102	S48102	48	0.015	8	0.04	0.002	19:00 hr	0.75	1.06
SWRGM-006851	SWRNJ-000163	SWRMH-002335	S51101	S51107	16	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006852	SWRMH-003995	SWRNJ-000537	Y42142	Y42354	46	0.048	8	0.12	0.044	19:12 hr	2.93	2.22
SWRGM-006853	SWRNJ-000537	SWRMH-006945	Y42354	Y42106	134	0.05	8	0.12	0.045	19:12 hr	3.00	2.27
SWRGM-006854	SWRMH-003994	SWRMH-003995	Y42143	Y42142	317	0.004	8	0.22	0.043	19:12 hr	1.17	0.64
SWRGM-006855	SWRMH-004397	SWRMH-004670	Y41137	Z41148	608	0.015	8	0.61	0.568	10:50 hr	3.93	1.31
SWRGM-006856	SWRMH-005784	SWRMH-005833	Z38117	Z38116	211	0.032	8	0.06	0.008	19:03 hr	1.53	1.67
SWRGM-006857	SWRMH-005833	SWRMH-005223	Z38116	Z38129	193	0.001	8	0.14	0.01	19:05 hr	0.51	0.36
SWRGM-006858	SWRNJ-000634	SWRMH-005433	Z38263	Z38122	54	0.03	8	0.01	0	19:00 hr	0.51	1.25
SWRGM-006859	SWRMH-004699	SWRMH-005784	Z38147	Z38117	197	0.001	8	0.06	0.002	19:02 hr	0.34	0.36
SWRGM-006860	SWRMH-002498	SWRMH-002501	AC47104	AC47101	373	0.005	8	0.13	0.016	10:09 hr	0.99	0.72
SWRGM-006861	SWRMH-004913	SWRMH-004909	Y41131	Y41135	198	0.006	8	0.22	0.053	10:27 hr	1.48	0.82
SWRGM-006862	SWRMH-004914	SWRMH-004913	Y41130	Y41131	344	0.006	8	0.21	0.051	10:26 hr	1.45	0.81
SWRGM-006864	SWRMH-004006	SWRMH-004008	AB42124	AB42122	283	0.036	8	0.03	0.003	19:03 hr	1.12	1.62
SWRGM-006865	SWRMH-004732	SWRMH-004008	AB42119	AB42122	409	0.014	8	0.05	0.004	19:05 hr	0.94	1.09
SWRGM-006868	SWRMH-006658	SWRMH-005886	AC45112	AC45127	227	0.069	8	0.19	0.142	19:23 hr	4.71	2.79
SWRGM-006869	SWRMH-006659	SWRMH-006658	AC45111	AC45112	240	0.072	8	0.19	0.142	19:22 hr	4.78	2.84
SWRGM-006870	SWRMH-005889	SWRMH-005887	AC45124	AC45126	206	0.006	8	0.17	0.034	19:06 hr	1.33	0.83
SWRGM-006871	SWRMH-005908	SWRMH-005909	AB48110	AB48109	79	0.01	8	0.05	0.003	10:02 hr	0.75	0.89
SWRGM-006872	SWRMH-005907	SWRMH-005908	AB48111	AB48110	220	0.01	8	0.05	0.003	10:01 hr	0.76	0.90
SWRGM-006873	SWRMH-004942	SWRMH-004252	AC43110	AC43127	184	0.043	8	0.06	0.011	19:01 hr	1.86	1.95
SWRGM-006874	SWRMH-007565	SWRMH-007860	T46133	T46101	245	0.009	8	0.22	0.069	19:14 hr	1.89	1.04
SWRGM-006875	SWRMH-004748	SWRMH-004835	AB42115	AB42112	275	0.019	8	0.02	0.001	19:01 hr	0.59	1.08
SWRGM-006876	SWRMH-005479	SWRMH-005480	AB42109	AB42108	262	0.012	8	0.02	0	19:01 hr	0.44	0.86
SWRGM-006877	SWRMH-004701	SWRMH-004702	Y37124	Y37123	350	0.004	8	0.06	0.003	19:03 hr	0.58	0.61
SWRGM-006878	SWRMH-002497	SWRMH-002496	AC47105	AC47106	350	0.006	8	0.12	0.016	10:15 hr	1.05	0.79
SWRGM-006879	SWRMH-002501	SWRMH-002497	AC47101	AC47105	401	0.011	8	0.11	0.016	10:12 hr	1.30	1.05
SWRGM-006880	SWRMH-007859	SWRMH-000690	AB35108	AB35104	274	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006881	SWRMH-005305	SWRMH-006042	W38124	X38106	216	0.01	8	0.04	0.002	19:02 hr	0.67	0.87
SWRGM-006882	SWRCO-000401	SWRMH-007894	W38107	W38102	133	0.017	8	0.04	0.002	19:00 hr	0.80	1.12
SWRGM-006883	SWRMH-007894	SWRMH-003973	W38102	W37152	132	0.014	8	0.06	0.005	19:01 hr	0.99	1.09
SWRGM-006884	SWRMH-005909	SWRMH-005910	AB48109	AB48108	257	0.01	8	0.05	0.003	10:04 hr	0.76	0.90
SWRGM-006886	SWRMH-004320	SWRMH-004319	AB41146	AB41147	260	0.032	8	0.08	0.018	19:09 hr	1.94	1.75
SWRGM-006887	SWRMH-004724	SWRMH-004320	AB41142	AB41146	260	0.032	8	0.08	0.017	19:08 hr	1.91	1.74
SWRGM-006888	SWRMH-004260	SWRMH-004259	AB41150	AB41151	181	0.04	8	0.06	0.01	19:04 hr	1.74	1.87
SWRGM-006889	SWRMH-002472	SWRMH-002471	R44103	R44104	267	0.005	8	0.06	0.003	19:04 hr	0.61	0.66
SWRGM-006890	SWRMH-002468	SWRMH-002471	R44107	R44104	144	0.01	8	0.04	0.002	19:01 hr	0.63	0.86
SWRGM-006892	SWRMH-004211	SWRMH-004212	Z37142	Z37141	215	0.008	8	0.06	0.005	19:03 hr	0.80	0.84
SWRGM-006893	SWRMH-004216	SWRMH-004215	Z37137	Z37138	215	0.002	8	0.09	0.005	19:04 hr	0.52	0.45
SWRGM-006894	SWRMH-004214	SWRMH-004216	Z37139	Z37137	215	0.002	8	0.08	0.004	19:02 hr	0.49	0.45
SWRGM-006895	SWRMH-004763	SWRMH-006363	Z38140	Z38102	300	0.004	8	0.06	0.003	19:05 hr	0.53	0.59
SWRGM-006896	SWRMH-004919	SWRNJ-000594	Y41125	Y41139	77	0.007	8	0.07	0.006	10:00 hr	0.80	0.78
SWRGM-006897	SWRMH-006289	SWRMH-006288	Y45153	Y45154	287	0.01	8	0.02	0	19:02 hr	0.36	0.76
SWRGM-006898	SWRMH-005057	SWRMH-005056	X37124	X37125	297	0.019	8	0.07	0.009	19:08 hr	1.33	1.32
SWRGM-006899	SWRMH-004855	SWRMH-004858	W39120	W39117	174	0.01	8	0.31	0.14	19:24 hr	2.35	1.07
SWRGM-006900	SWRMH-004858	SWRMH-004854	W39117	W39121	295	0.008	8	0.40	0.206	19:29 hr	2.46	0.98
SWRGM-006901	SWRMH-005735	SWRMH-004286	AA43107	AA43126	13	0.042	8	0.02	0.001	19:01 hr	0.89	1.62
SWRGM-006902	SWRMH-005712	SWRMH-005735	AA43101	AA43107	288	0.062	8	0.02	0.001	19:00 hr	1.02	1.95
SWRGM-006903	SWRMH-002455	SWRMH-002462	R46104	R45104	350	0.012	8	0.07	0.007	19:04 hr	1.03	1.03
SWRGM-006904	SWRMH-005023	SWRMH-005024	AA38129	AA38128	286	0.049	8	0.05	0.008	19:01 hr	1.79	2.04
SWRGM-006905	SWRMH-005148	SWRMH-005147	Z40115	Z40116	183	0.04	8	0.10	0.029	19:02 hr	2.45	2.01
SWRGM-006906	SWRCO-000506	SWRMH-005693	Y46103	Y46105	216	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006907	SWRMH-008011	SWRMH-008010	AB33117	AB33118	187	0.029	8	0.06	0.009	19:02 hr	1.52	1.59
SWRGM-006908	SWRMH-008009	SWRMH-008008	AB33119	AB33120	257	0.018	8	0.07	0.009	19:05 hr	1.30	1.29
SWRGM-006909	SWRMH-008008	SWRMH-008007	AB33120	AB33121	300	0.02	8	0.07	0.009	19:06 hr	1.33	1.33
SWRGM-006910	SWRMH-008366	SWRMH-008004	AB33109	AB34109	296	0.011	8	0.08	0.009	19:12 hr	1.09	1.01
SWRGM-006911	SWRMH-008413	SWRMH-008011	AB32108	AB33117	202	0.046	8	0.06	0.009	19:02 hr	1.79	1.99

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-006912	SWRMH-006309	SWRMH-006323	Y45133	Y44101	334	0.018	8	0.04	0.003	19:05 hr	0.88	1.17
SWRGM-006913	SWRMH-006308	SWRMH-006307	Y45134	Y45135	328	0.016	8	0.02	0.001	19:02 hr	0.58	1.01
SWRGM-006914	SWRMH-001246	SWRMH-001276	AA46151	AA46121	176	0.059	8	0.05	0.006	19:00 hr	1.76	2.17
SWRGM-006915	SWRMH-008448	SWRMH-008458	AB41105	AB41101	307	0.024	8	0.05	0.005	19:07 hr	1.19	1.40
SWRGM-006916	SWRMH-004652	SWRMH-004887	Z43160	Z43135	332	0.006	8	0.08	0.006	19:06 hr	0.75	0.71
SWRGM-006917	SWRMH-008522	SWRMH-008520	AA38112	AA38114	361	0.01	8	0.08	0.01	10:03 hr	1.08	0.98
SWRGM-006918	SWRNJ-000158	SWRMH-008284	S49101	S49101	15	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006919	SWRNJ-000161	SWRMH-007177	S48330	S48138	23	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006920	SWRNJ-000156	SWRMH-008282	S49102	S49103	15	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006921	SWRNJ-000157	SWRMH-008280	S49103	S49105	15	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006922	SWRMH-008512	SWRMH-008513	AA38122	AA38121	225	0.01	8	0.06	0.005	19:01 hr	0.86	0.92
SWRGM-006923	SWRMH-008357	SWRMH-008355	AB34102	AB34104	238	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006924	SWRMH-005768	SWRMH-008568	Z43119	Z43101	238	0.009	8	0.14	0.026	19:04 hr	1.37	0.95
SWRGM-006925	SWRMH-004029	SWRMH-005245	Z40147	Z40112	64	0.002	8	0.25	0.046	10:13 hr	1.05	0.54
SWRGM-006926	SWRMH-004060	SWRMH-004056	Z40128	Z40132	277	0.034	8	0.08	0.017	19:05 hr	1.95	1.78
SWRGM-006934	SWRMH-006014	SWRMH-005724	W38105	W37113	306	0.005	8	0.16	0.026	19:09 hr	1.13	0.74
SWRGM-006936	SWRMH-005381	SWRMH-005382	AB40109	AB40108	290	0.005	8	0.02	0	19:02 hr	0.29	0.54
SWRGM-006937	SWRMH-005579	SWRMH-005582	AB44108	AB44105	377	0.04	8	0.08	0.017	19:10 hr	2.06	1.94
SWRGM-006938	SWRMH-004050	SWRMH-005579	AB44111	AB44108	210	0.018	8	0.09	0.017	19:09 hr	1.54	1.31
SWRGM-006939	SWRMH-005376	SWRMH-005592	W40129	W40116	350	0.007	8	0.07	0.005	19:03 hr	0.79	0.79
SWRGM-006940	SWRMH-004781	SWRMH-005987	AA42132	AA42107	352	0.011	8	0.11	0.018	19:05 hr	1.34	1.05
SWRGM-006941	SWRMH-005107	SWRNJ-000546	Y43125	Y43399	136	0.013	8	0.12	0.022	19:05 hr	1.50	1.14
SWRGM-006942	SWRMH-004992	SWRMH-005818	Z41126	Z41108	191	0.025	8	0.10	0.024	19:04 hr	1.95	1.59
SWRGM-006943	SWRMH-004958	SWRMH-004957	Y38135	Y38136	119	0.004	8	0.25	0.058	10:46 hr	1.31	0.67
SWRGM-006944	SWRNJ-000613	SWRNJ-000612	Y38236	Y38233	76	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006945	SWRMH-004959	SWRMH-004960	Y38134	Y38133	191	0.016	8	0.23	0.096	19:08 hr	2.49	1.34
SWRGM-006946	SWRMH-008139	SWRMH-008138	AB31105	AB31106	240	0.039	8	0.06	0.009	19:02 hr	1.66	1.83
SWRGM-006947	SWRMH-008140	SWRMH-008139	AB31104	AB31105	209	0.026	8	0.05	0.005	19:01 hr	1.24	1.47
SWRGM-006948	SWRMH-008137	SWRMH-007862	AB31107	AB31117	163	0.03	8	0.08	0.016	19:03 hr	1.84	1.68
SWRGM-006949	SWRMH-007866	SWRMH-007867	AB31113	AB31112	208	0.01	8	0.19	0.055	19:07 hr	1.83	1.09
SWRGM-006950	SWRMH-002281	SWRMH-002463	Q45104	R45103	282	0.008	8	0.12	0.02	19:06 hr	1.24	0.92
SWRGM-006951	SWRMH-003253	SWRMH-005966	V46154	W46111	180	0.019	8	0.07	0.009	19:03 hr	1.34	1.33
SWRGM-006952	SWRMH-002462	SWRMH-002465	R45104	R45101	290	0.011	8	0.08	0.009	19:05 hr	1.08	1.00
SWRGM-006953	SWRMH-002465	SWRMH-002459	R45101	R45107	184	0.005	8	0.20	0.038	19:12 hr	1.23	0.72
SWRGM-006954	SWRMH-002464	SWRMH-002465	R45102	R45101	310	0.005	8	0.16	0.028	19:12 hr	1.19	0.77
SWRGM-006955	SWRMH-002463	SWRMH-002464	R45103	R45102	310	0.005	8	0.14	0.021	19:09 hr	1.08	0.75
SWRGM-006956	SWRMH-002466	SWRMH-002467	R44109	R44108	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006957	SWRMH-002470	SWRMH-002473	R44105	R44102	261	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006958	SWRMH-002471	SWRMH-001572	R44104	R44171	255	0.031	8	0.05	0.006	19:03 hr	1.39	1.60
SWRGM-006959	SWRNJ-000180	SWRMH-006604	S39249	S39106	10	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006960	SWRMH-004978	SWRMH-004979	Z42151	Z42152	87	0.023	8	0.05	0.005	19:01 hr	1.19	1.38
SWRGM-006961	SWRMH-004478	SWRMH-004479	Z38156	Z38155	301	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006962	SWRMH-004479	SWRMH-004432	Z38155	Z38158	295	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006963	SWRMH-005274	SWRMH-004961	Z38125	Z38137	192	0.037	8	0.02	0.001	19:00 hr	0.74	1.49
SWRGM-006964	SWRMH-004961	SWRMH-005436	Z38137	Z38119	136	0.023	8	0.08	0.013	19:05 hr	1.57	1.47
SWRGM-006965	SWRMH-005203	SWRMH-002897	X36137	X35158	240	0.03	8	0.08	0.017	19:13 hr	1.85	1.67
SWRGM-006966	SWRMH-005642	SWRMH-002929	X36120	X35126	330	0.026	8	0.02	0	19:01 hr	0.58	1.23
SWRGM-006967	SWRMH-005836	SWRMH-005840	X36117	X36113	276	0.036	8	0.04	0.003	19:01 hr	1.20	1.65
SWRGM-006968	SWRMH-004944	SWRMH-004943	X36149	X36150	266	0.018	8	0.05	0.004	19:02 hr	0.98	1.20
SWRGM-006969	SWRNJ-000751	SWRMH-008502	AA39115	AA39107	283	0.014	8	0.03	0.001	19:01 hr	0.62	0.98
SWRGM-006970	SWRMH-008502	SWRMH-008516	AA39107	AA38118	322	0.014	8	0.12	0.024	19:08 hr	1.60	1.20
SWRGM-006971	SWRMH-000681	SWRMH-000680	AB32105	AB32106	350	0.038	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006972	SWRNJ-000546	SWRMH-004577	Y43399	Y42133	103	0.008	8	0.13	0.023	19:05 hr	1.31	0.95
SWRGM-006973	SWRMH-006288	SWRMH-006287	Y45154	Y45155	300	0.01	8	0.03	0.001	19:02 hr	0.54	0.83
SWRGM-006974	SWRMH-004625	SWRMH-004624	X42131	X42132	259	0.004	8	0.16	0.024	10:31 hr	1.03	0.67
SWRGM-006975	SWRMH-004931	SWRMH-004625	W42111	X42131	294	0.004	8	0.15	0.021	10:29 hr	0.98	0.66
SWRGM-006976	SWRMH-004002	SWRMH-004623	X42148	X42133	318	0.015	8	0.08	0.012	10:08 hr	1.31	1.19
SWRGM-006977	SWRMH-008518	SWRMH-005024	AA38116	AA38128	320	0.004	8	0.41	0.147	10:28 hr	1.66	0.65
SWRGM-006978	SWRMH-005024	SWRMH-008521	AA38128	AA38113	175	0.006	8	0.38	0.152	19:07 hr	1.96	0.81
SWRGM-006979	SWRMH-008527	SWRMH-004102	AA38107	AA38158	191	0.014	8	0.03	0.001	10:04 hr	0.67	1.01
SWRGM-006980	SWRMH-004100	SWRMH-008510	AA38160	AA38124	100	0.038	8	0.12	0.037	19:25 hr	2.58	1.98
SWRGM-006981	SWRMH-008551	SWRMH-005071	AA37103	AA38139	433	0.002	8	0.13	0.012	19:04 hr	0.71	0.51
SWRGM-006982	SWRMH-008006	SWRMH-008005	AB33122	AB33123	63	0.034	8	0.06	0.009	19:09 hr	1.60	1.71
SWRGM-006983	SWRMH-008408	SWRMH-008407	AB32113	AB32114	270	0.01	8	0.19	0.055	19:12 hr	1.78	1.04
SWRGM-006984	SWRMH-008407	SWRMH-008405	AB32114	AB32116	315	0.009	8	0.20	0.055	19:14 hr	1.76	1.02
SWRGM-006985	SWRMH-007468	SWRMH-000681	AB32123	AB32105	281	0.032	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006986	SWRMH-000683	SWRMH-000682	AB32103	AB32104	220	0.042	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006987	SWRMH-000998	SWRMH-000991	Z47150	Z47157	135	0.011	8	0.06	0.006	19:03 hr	0.95	1.00
SWRGM-006988	SWRMH-005737	SWRNJ-000813	AA43105	AA43195	92	0.033	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006989	SWRCO-000420	SWRMH-004353	Y42105	Y42134	104	0.005	8	0.04	0.002	19:01 hr	0.49	0.63
SWRGM-006990	SWRMH-004729	SWRMH-004782	AA42139	AA42131	181	0.027	8	0.24	0.142	19:11 hr	3.37	1.76
SWRGM-006991	SWRCO-000788	SWRMH-005707	X48103	X48106	143	0.005	8	0.04	0.001	19:01 hr	0.45	0.62
SWRGM-006992	SWRMH-000682	SWRMH-007468	AB32104	AB32123	69	0.047	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006995	SWRMH-002452	SWRMH-002451	R46107	R46108	290	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006996	SWRMH-002454	SWRMH-002453	R46105	R46106	280	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-006997	SWRMH-002456	SWRMH-002455	R46103	R46104	350	0.011	8	0.05	0.003	19:02 hr	0.80	0.95
SWRGM-006998	SWRMH-002457	SWRMH-002456	R46102	R46103	259	0.017	8	0.02	0	19:01 hr	0.51	1.02
SWRGM-006999	SWRMH-002458	SWRMH-002457	R46101	R46102	212	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007000	SWRMH-002274	SWRMH-002458	Q46104	R46101	350	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007005	SWRMH-005853	SWRMH-005854	W47135	W47134	240	0.022	8	0.08	0.013	19:06 hr	1.56	1.43
SWRGM-007006	SWRMH-004786	SWRMH-004788	AA38146	AA38144	115	0.009	8	0.14	0.026	19:04 hr	1.42	1.00
SWRGM-007007	SWRMH-006149	SWRMH-004078	U44115	U43119	111	0.02	8	0.01	0	19:00 hr	0.38	1.00
SWRGM-007008	SWRMH-006178	SWRMH-006688	U44108	U44109	149	0.022	8	0.07	0.01	19:03 hr	1.45	1.42
SWRGM-007009	SWRMH-006688	SWRMH-006687	U44109	U44110	138	0.015	8	0.08	0.011	19:04 hr	1.30	1.20
SWRGM-007010	SWRNJ-000722	SWRMH-005079	AA37142	AA37141	232	0.028	8	0.16	0.063	19:28 hr	2.69	1.74
SWRGM-007011	SWRMH-004644	SWRMH-005078	AA37155	AA37142	183	0.038	8	0.15	0.062	19:28 hr	2.99	2.02
SWRGM-007012	SWRMH-005288	SWRMH-005261	Y41107	Y41113	294	0.005	8	0.18	0.034	10:20 hr	1.20	0.73
SWRGM-007013	SWRMH-007031	SWRMH-007752	T38179	T38145	135	0.004	8	0.21	0.041	19:14 hr	1.19	0.67
SWRGM-007014	SWRMH-008524	SWRMH-005025	AA38110	AA38127	12	0.007	8	0.12	0.019	19:02 hr	1.19	0.89
SWRGM-007015	SWRMH-005025	SWRMH-008511	AA38127	AA38123	26	0.009	8	0.13	0.022	19:02 hr	1.34	0.99
SWRGM-007016	SWRMH-008511	SWRMH-004786	AA38123	AA38146	272	0.01	8	0.14	0.026	19:03 hr	1.45	1.03

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007017	SWRMH-008519	SWRMH-008521	AA38115	AA38113	12	0.01	8	0.09	0.01	10:05 hr	1.08	0.97
SWRGM-007018	SWRMH-008520	SWRMH-008519	AA38114	AA38115	251	0.01	8	0.09	0.01	10:04 hr	1.09	0.97
SWRGM-007019	SWRNJ-000128	SWRMH-001577	R43225	R43148	10	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007021	SWRMH-008515	SWRMH-008516	AA38119	AA38118	314	0.01	8	0.29	0.126	10:31 hr	2.29	1.08
SWRGM-007022	SWRMH-004105	SWRMH-008515	AA38155	AA38119	259	0.01	8	0.29	0.124	10:29 hr	2.28	1.08
SWRGM-007023	SWRMH-008517	SWRMH-008518	AA38117	AA38116	371	0.01	8	0.10	0.013	19:03 hr	1.17	0.99
SWRGM-007024	SWRMH-004789	SWRMH-008517	AA38143	AA38117	284	0.046	8	0.06	0.009	19:03 hr	1.77	1.98
SWRGM-007028	SWRNJ-000113	SWRMH-007000	R40101	R40101	45	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007040	SWRMH-008004	SWRMH-008003	AB34109	AB34110	240	0.034	8	0.06	0.009	19:13 hr	1.63	1.73
SWRGM-007041	SWRMH-006291	SWRMH-006290	Y45151	Y45152	300	0.01	8	0.03	0.001	19:02 hr	0.56	0.84
SWRGM-007042	SWRMH-006499	SWRMH-006500	V42112	V42111	325	0.009	8	0.23	0.072	19:23 hr	1.86	1.00
SWRGM-007043	SWRMH-006500	SWRMH-006501	V42111	V42110	309	0.009	8	0.23	0.073	19:25 hr	1.86	1.00
SWRGM-007044	SWRMH-006401	SWRMH-006400	V44103	V44104	275	0.004	8	0.56	0.253	19:31 hr	1.96	0.68
SWRGM-007047	SWRMH-004941	SWRMH-004942	AC43111	AC43110	252	0.016	8	0.07	0.008	19:01 hr	1.18	1.18
SWRGM-007048	SWRMH-002258	SWRMH-002259	Q49102	Q49101	179	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007049	SWRMH-002255	SWRMH-002258	Q49105	Q49102	263	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007050	SWRMH-002247	SWRMH-000745	Q49113	P49131	249	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007051	SWRMH-002248	SWRMH-002247	Q49112	Q49113	264	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007052	SWRMH-002250	SWRMH-000746	Q49110	P49130	243	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007053	SWRMH-006321	SWRMH-004741	Y45122	Y44111	202	0.005	8	0.02	0	19:02 hr	0.31	0.56
SWRGM-007054	SWRCO-000447	SWRMH-005206	X36102	X36134	164	0.021	8	0.03	0.001	19:00 hr	0.73	1.19
SWRGM-007055	SWRCO-000448	SWRMH-004685	X36101	X36164	147	0.011	8	0.02	0.001	19:01 hr	0.50	0.84
SWRGM-007056	SWRMH-004686	SWRMH-004687	X36163	X36162	266	0.015	8	0.02	0	19:01 hr	0.49	0.94
SWRGM-007058	SWRMH-005796	SWRMH-008568	Z43113	Z43101	197	0.03	8	0.06	0.007	19:01 hr	1.45	1.60
SWRGM-007059	SWRMH-005532	SWRMH-005797	Z43115	Z43112	280	0.01	8	0.05	0.003	19:02 hr	0.78	0.91
SWRGM-007060	SWRMH-005524	SWRMH-005525	W37120	W37119	117	0.007	8	0.07	0.005	19:05 hr	0.77	0.79
SWRGM-007061	SWRMH-004555	SWRMH-004556	W37149	W37148	124	0.01	8	0.05	0.003	19:01 hr	0.73	0.89
SWRGM-007062	SWRMH-004556	SWRMH-004557	W37148	W37147	171	0.01	8	0.09	0.012	19:07 hr	1.14	0.98
SWRGM-007063	SWRMH-004557	SWRMH-004560	W37147	W37144	284	0.03	8	0.08	0.014	19:06 hr	1.77	1.66
SWRGM-007064	SWRMH-004875	SWRMH-004558	W37128	W37146	124	0.025	8	0.12	0.031	19:08 hr	2.09	1.59
SWRGM-007065	SWRMH-004039	SWRMH-004040	Z40137	Z40136	354	0.004	8	0.13	0.016	19:06 hr	0.90	0.64
SWRGM-007066	SWRMH-004742	SWRMH-005732	Y44110	Y44104	312	0.023	8	0.02	0.001	19:05 hr	0.64	1.19
SWRGM-007067	SWRMH-001194	SWRMH-001199	AC46120	AC46115	248	0.005	8	0.08	0.005	19:02 hr	0.71	0.68
SWRGM-007068	SWRMH-001191	SWRMH-001197	AC46123	AC46117	88	0.031	8	0.05	0.006	19:01 hr	1.39	1.60
SWRGM-007069	SWRMH-001192	SWRMH-001191	AC46122	AC46123	126	0.031	8	0.05	0.006	19:00 hr	1.36	1.59
SWRGM-007070	SWRMH-003796	SWRMH-003797	U45138	U45137	93	0.016	8	0.18	0.062	19:13 hr	2.22	1.34
SWRGM-007071	SWRMH-003485	SWRMH-003487	V38123	V38121	342	0.004	8	0.43	0.166	19:19 hr	1.77	0.68
SWRGM-007072	SWRMH-003486	SWRMH-003485	V38122	V38123	251	0.004	8	0.27	0.069	19:15 hr	1.39	0.68
SWRGM-007073	SWRNJ-000350	SWRMH-004192	V38102	V38114	32	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007074	SWRNJ-000509	SWRMH-005921	X47101	X47106	115	0.005	8	0.02	0	19:01 hr	0.26	0.54
SWRGM-007075	SWRMH-003873	SWRMH-003875	Z41168	Z41166	342	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007076	SWRMH-005294	SWRMH-004851	Z42138	Z42157	252	0.046	8	0.08	0.017	19:01 hr	2.18	2.06
SWRGM-007077	SWRNJ-000768	SWRMH-004365	AA41104	AA41158	28	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007078	SWRMH-004014	SWRMH-004725	AA41161	AA41139	134	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007079	SWRMH-004366	SWRMH-004367	AA41157	AA41156	197	0.005	8	0.05	0.002	19:01 hr	0.55	0.64
SWRGM-007080	SWRMH-004367	SWRMH-005257	AA41156	AA41127	201	0.07	8	0.04	0.006	19:01 hr	1.86	2.35
SWRGM-007081	SWRMH-001002	SWRMH-001003	Z47146	Z47145	212	0.017	8	0.06	0.005	19:03 hr	1.08	1.21
SWRGM-007082	SWRMH-001001	SWRMH-001002	Z47147	Z47146	210	0.004	8	0.06	0.003	19:02 hr	0.55	0.59
SWRGM-007083	SWRMH-001003	SWRMH-001013	Z47145	Z47135	69	0.05	8	0.04	0.005	19:03 hr	1.56	1.98
SWRGM-007084	SWRMH-000989	SWRMH-001026	Z47159	Z46128	193	0.041	8	0.03	0.003	19:00 hr	1.18	1.73
SWRGM-007085	SWRMH-001202	SWRMH-000971	Z47116	Z47160	91	0.08	8	0.06	0.012	19:06 hr	2.34	2.61
SWRGM-007086	SWRMH-001226	SWRMH-001223	AA47131	AA47134	272	0.006	8	0.23	0.063	19:14 hr	1.56	0.83
SWRGM-007087	SWRMH-001223	SWRMH-001222	AA47134	AA47135	349	0.007	8	0.25	0.076	19:16 hr	1.71	0.87
SWRGM-007094	SWRMH-007861	SWRMH-008365	AB32122	AB33110	253	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007095	SWRMH-002290	SWRMH-002293	AA40128	AA40125	207	0.024	8	0.02	0.001	19:01 hr	0.66	1.22
SWRGM-007096	SWRMH-005663	SWRMH-005664	AB48123	AB48122	305	0.04	8	0.09	0.022	10:08 hr	2.22	1.96
SWRGM-007097	SWRMH-005073	SWRMH-004054	AA38137	AA38162	164	0.007	8	0.10	0.013	19:11 hr	1.06	0.87
SWRGM-007098	SWRMH-004154	SWRMH-004158	AC44155	AC44151	218	0.018	8	0.05	0.004	19:02 hr	1.01	1.21
SWRGM-007099	SWRMH-004687	SWRMH-004685	X36162	X36164	259	0.005	8	0.05	0.002	19:02 hr	0.53	0.64
SWRGM-007100	SWRMH-004688	SWRMH-004798	X36161	X36160	196	0.006	8	0.63	0.372	20:17 hr	2.50	0.83
SWRGM-007101	SWRMH-000691	SWRMH-000692	AB35103	AB35102	325	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007102	SWRMH-000690	SWRMH-000691	AB35104	AB35103	323	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007103	SWRMH-007858	SWRMH-007859	AB35109	AB35108	330	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007104	SWRMH-000693	SWRMH-007858	AB35101	AB35109	333	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007105	SWRMH-008391	SWRMH-007449	T47101	T47134	350	0.013	8	0.37	0.222	19:35 hr	2.93	1.22
SWRGM-007106	SWRMH-007315	SWRMH-008391	T47189	T47101	257	0.017	8	0.34	0.219	19:33 hr	3.29	1.43
SWRGM-007107	SWRMH-008392	SWRMH-008362	AB33108	AB33113	281	0.03	8	0.03	0.002	19:01 hr	0.91	1.43
SWRGM-007108	SWRMH-005299	SWRMH-005300	Z42133	Z42132	292	0.02	8	0.21	0.089	19:21 hr	2.68	1.52
SWRGM-007109	SWRMH-005256	SWRMH-005255	Z40101	Z40102	292	0.066	8	0.06	0.011	19:00 hr	2.19	2.39
SWRGM-007110	SWRMH-005255	SWRMH-005148	Z40102	Z40115	332	0.055	8	0.07	0.016	19:02 hr	2.25	2.23
SWRGM-007111	SWRMH-004462	SWRMH-005145	X38136	X38126	350	0.006	8	0.24	0.064	19:26 hr	1.55	0.81
SWRGM-007112	SWRMH-006002	SWRMH-004462	X38115	X38136	350	0.006	8	0.24	0.064	19:23 hr	1.55	0.82
SWRGM-007113	SWRMH-006007	SWRMH-004566	X38110	X38132	270	0.004	8	0.04	0.001	19:02 hr	0.45	0.58
SWRGM-007114	SWRMH-004565	SWRMH-004566	X38133	X38132	270	0.021	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-007115	SWRMH-004140	SWRMH-006014	W38164	W38105	324	0.009	8	0.06	0.004	19:05 hr	0.78	0.86
SWRGM-007116	SWRMH-004532	SWRMH-004531	Y39125	Y39126	79	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007117	SWRMH-004049	SWRMH-004821	Y40136	Y39117	300	0.004	8	0.16	0.023	10:22 hr	1.00	0.66
SWRGM-007118	SWRMH-002473	SWRMH-002472	R44102	R44103	264	0.005	8	0.04	0.001	19:02 hr	0.47	0.62
SWRGM-007119	SWRMH-002469	SWRMH-002472	R44106	R44103	144	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007121	SWRMH-005855	SWRMH-005856	W47133	W47132	181	0.007	8	0.05	0.003	19:01 hr	0.64	0.77
SWRGM-007122	SWRMH-004599	SWRMH-005406	X36172	X36128	320	0.016	8	0.05	0.004	19:02 hr	0.93	1.14
SWRGM-007123	SWRMH-005608	SWRMH-004946	X36127	X36147	371	0.004	8	0.05	0.002	19:03 hr	0.49	0.57
SWRGM-007124	SWRMH-004945	SWRMH-002559	X36148	W36107	190	0.004	8	0.12	0.013	19:06 hr	0.85	0.64
SWRGM-007125	SWRMH-004208	SWRMH-005407	Z37145	Z37134	300	0.052	8	0.03	0.002	19:01 hr	1.13	1.87
SWRGM-007126	SWRMH-004830	SWRMH-004004	AA42125	AB42125	310	0.041	8	0.03	0.001	19:01 hr	0.99	1.66
SWRGM-007127	SWRMH-004834	SWRMH-004732	AB42113	AB42119	276	0.036	8	0.04	0.003	19:03 hr	1.20	1.64
SWRGM-007128	SWRMH-004835	SWRMH-004834	AB42112	AB42113	277	0.017	8	0.04	0.002	19:01 hr	0.83	1.12
SWRGM-007129	SWRMH-008455	SWRMH-008454	AB40101	AB40102	262	0.02	8	0.13	0.035	19:16 hr	2.01	1.45
SWRGM-007130	SWRMH-007907	SWRMH-007906	AB41113	AB41114	174	0.011	8	0.02	0.001	19:01 hr	0.47	0.84
SWRGM-007131	SWRMH-008441	SWRMH-007907	AB41111	AB41113	201	0.011	8	0.02	0	19:01 hr	0.40	0.81
SWRGM-007132	SWRMH-001222	SWRMH-002514	AA47135	AA47113	160	0.006	8	0.25	0.076	19:17 hr	1.70	0.86

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007133	SWRMH-001155	SWRMH-001154	AA47152	AA47153	261	0.019	8	0.18	0.067	19:11 hr	2.39	1.45
SWRGM-007134	SWRMH-000983	SWRMH-000988	AA46174	AA46169	250	0.023	8	0.05	0.005	19:01 hr	1.17	1.38
SWRGM-007135	SWRMH-006741	SWRMH-006742	AA48108	AA48107	300	0.02	8	0.10	0.022	10:04 hr	1.75	1.43
SWRGM-007136	SWRMH-001252	SWRMH-000978	AA46145	AA46179	186	0.028	8	0.07	0.011	19:02 hr	1.60	1.59
SWRGM-007137	SWRMH-004235	SWRMH-004236	Y37153	Y37152	200	0.009	8	0.08	0.009	19:07 hr	1.04	0.94
SWRGM-007138	SWRMH-004459	SWRMH-006638	Y36159	Y36109	334	0.005	8	0.02	0	19:03 hr	0.27	0.53
SWRGM-007139	SWRMH-005429	SWRMH-005419	Z37112	Z37122	260	0.002	8	0.13	0.012	19:10 hr	0.68	0.49
SWRGM-007140	SWRMH-005526	SWRMH-004562	W37118	W37142	292	0.006	8	0.06	0.004	19:04 hr	0.69	0.72
SWRGM-007141	SWRMH-004662	SWRMH-004663	Z43150	Z43149	198	0.003	8	0.07	0.004	19:01 hr	0.53	0.52
SWRGM-007142	SWRMH-000628	SWRMH-003164	U47126	V47166	200	0.008	8	0.08	0.008	19:02 hr	0.92	0.86
SWRGM-007143	SWRMH-007897	SWRMH-007896	AC41102	AC41103	254	0.038	8	0.08	0.018	19:12 hr	2.06	1.88
SWRGM-007144	SWRMH-000649	SWRMH-000648	U47105	U47106	331	0.01	8	0.09	0.01	19:04 hr	1.11	0.99
SWRGM-007150	SWRCO-000581	SWRMH-004896	Z40101	Z40119	212	0.025	8	0.03	0.002	19:01 hr	0.90	1.34
SWRGM-007151	SWRMH-005230	SWRMH-004706	Y36125	Y36148	161	0.02	8	0.06	0.007	19:04 hr	1.22	1.31
SWRGM-007152	SWRCO-000853	SWRMH-005227	Y36105	Y36128	224	0.005	8	0.03	0.001	19:02 hr	0.36	0.59
SWRGM-007153	SWRMH-006632	SWRMH-006633	Y36115	Y36114	340	0.004	8	0.15	0.021	19:19 hr	0.98	0.65
SWRGM-007154	SWRMH-006638	SWRMH-004456	Y36109	Y36162	175	0.004	8	0.02	0	19:04 hr	0.25	0.48
SWRGM-007155	SWRMH-006631	SWRMH-004581	Y36116	Y36156	306	0.016	8	0.01	0	19:01 hr	0.39	0.94
SWRGM-007156	SWRMH-006635	SWRMH-006636	Y36112	Y36111	245	0.032	8	0.03	0.002	19:01 hr	0.98	1.51
SWRGM-007157	SWRMH-006636	SWRMH-004583	Y36111	Y36154	247	0.004	8	0.06	0.003	19:03 hr	0.55	0.58
SWRGM-007158	SWRMH-004119	SWRMH-006149	U44126	U44115	197	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007159	SWRMH-006626	SWRMH-006147	U44118	U44117	225	0.01	8	0.04	0.002	19:01 hr	0.67	0.87
SWRGM-007160	SWRMH-001061	SWRMH-001063	AB45117	AB45115	94	0.011	8	0.10	0.016	19:07 hr	1.29	1.04
SWRGM-007161	SWRMH-001030	SWRMH-001172	Z46124	AA46166	173	0.005	8	0.53	0.267	19:31 hr	2.22	0.78
SWRGM-007162	SWRMH-001039	SWRMH-001884	Z46115	Z46112	220	0.014	8	0.13	0.029	19:13 hr	1.69	1.23
SWRGM-007163	SWRMH-001024	SWRMH-001039	Z46130	Z46115	100	0.017	8	0.11	0.02	19:14 hr	1.60	1.29
SWRGM-007164	SWRMH-001023	SWRMH-001026	Z46131	Z46128	125	0.015	8	0.04	0.003	19:00 hr	0.85	1.09
SWRGM-007165	SWRMH-001029	SWRMH-001033	Z46125	Z46121	262	0.021	8	0.05	0.005	19:01 hr	1.11	1.30
SWRGM-007170	SWRMH-005243	SWRMH-005244	Z40114	Z40113	232	0.002	8	0.32	0.068	10:19 hr	1.10	0.49
SWRGM-007171	SWRMH-005244	SWRMH-004042	Z40113	Z40134	269	0.003	8	0.29	0.069	10:19 hr	1.25	0.59
SWRGM-007172	SWRCO-000434	SWRMH-004000	X42101	X42150	65	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007173	SWRMH-004001	SWRMH-005491	X42149	X41120	351	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007174	SWRMH-003964	SWRMH-004811	X36182	X36152	195	0.007	8	0.04	0.002	19:03 hr	0.58	0.74
SWRGM-007175	SWRMH-004807	SWRMH-006050	X36156	X36105	307	0.004	8	0.03	0.001	19:03 hr	0.31	0.50
SWRGM-007176	SWRMH-005362	SWRMH-005361	W42106	W42107	296	0.008	8	0.25	0.083	19:40 hr	1.91	0.98
SWRGM-007177	SWRMH-005363	SWRMH-005364	W42105	W42104	330	0.008	8	0.25	0.083	19:45 hr	1.88	0.96
SWRGM-007178	SWRMH-005364	SWRMH-005365	W42104	W42103	330	0.006	8	0.27	0.085	19:47 hr	1.71	0.83
SWRGM-007179	SWRMH-005365	SWRMH-005366	W42103	W42102	330	0.006	8	0.28	0.089	19:48 hr	1.73	0.83
SWRGM-007180	SWRMH-004062	SWRMH-005358	W42122	W42110	315	0.004	8	0.29	0.078	19:33 hr	1.44	0.68
SWRGM-007181	SWRMH-005361	SWRMH-005363	W42107	W42105	326	0.009	8	0.24	0.083	19:43 hr	1.96	1.02
SWRGM-007182	SWRMH-006159	SWRMH-006160	W40108	W40107	313	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007183	SWRMH-006161	SWRMH-006022	W40106	x40106	300	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007184	SWRNJ-000926	SWRMH-004160	AC44103	AC44149	50	0.011	8	0.04	0.003	19:01 hr	0.73	0.92
SWRGM-007185	SWRMH-004560	SWRMH-004559	W37144	W37145	214	0.003	8	0.18	0.025	19:07 hr	0.90	0.55
SWRGM-007186	SWRMH-004562	SWRMH-004792	W37142	W37129	264	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007187	SWRMH-003863	SWRMH-003864	AA39141	AA39140	350	0.007	8	0.02	0	19:03 hr	0.30	0.64
SWRGM-007188	SWRMH-003864	SWRMH-003877	AA39140	AA39139	350	0.008	8	0.09	0.01	19:03 hr	0.99	0.86
SWRGM-007189	SWRMH-005386	SWRMH-005387	AC44121	AC44120	124	0.021	8	0.04	0.002	19:00 hr	0.90	1.26
SWRGM-007190	SWRMH-006041	SWRMH-006040	X41105	X41106	193	0.006	8	0.06	0.004	10:12 hr	0.67	0.72
SWRGM-007191	SWRMH-004468	SWRMH-004469	W39138	W39137	127	0.012	8	0.07	0.007	19:02 hr	1.05	1.04
SWRGM-007192	SWRMH-005050	SWRMH-005201	Y36132	X36139	270	0.018	8	0.03	0.001	19:01 hr	0.67	1.10
SWRGM-007193	SWRMH-004866	SWRMH-004867	W38133	W38132	67	0.004	8	0.08	0.005	19:01 hr	0.63	0.59
SWRGM-007197	SWRMH-002976	SWRMH-002977	X34116	X34115	166	0.02	8	0.03	0.002	19:00 hr	0.83	1.20
SWRGM-007198	SWRMH-008445	SWRMH-007894	X38101	W38102	140	0.01	8	0.04	0.002	19:01 hr	0.63	0.88
SWRGM-007199	SWRMH-002330	SWRMH-001468	W36119	W35111	355	0.015	8	0.07	0.007	19:02 hr	1.12	1.15
SWRGM-007200	SWRMH-009103	SWRMH-002330	SP686MH12	SDMH002330	152	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007201	SWRMH-002074	SWRMH-002073	U36128	U36129	99	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007202	SWRMH-007453	SWRMH-007452	T47130	T47131	336	0.009	8	0.05	0.003	19:02 hr	0.74	0.86
SWRGM-007203	SWRCO-000284	SWRMH-007453	T47103	T47130	100	0.01	8	0.03	0.001	19:00 hr	0.53	0.83
SWRGM-007204	SWRMH-003261	SWRMH-005950	V46146	W46144	193	0.01	8	0.10	0.013	19:05 hr	1.20	1.01
SWRGM-007206	SWRMH-005484	SWRMH-005483	AA42109	AA42110	251	0.035	8	0.08	0.018	19:01 hr	2.03	1.84
SWRGM-007207	SWRMH-002602	SWRMH-005194	AA40112	AB40110	343	0.033	8	0.02	0.001	19:01 hr	0.71	1.41
SWRGM-007208	SWRMH-004898	SWRMH-004648	AA41136	AA41142	278	0.003	8	0.05	0.002	19:04 hr	0.45	0.52
SWRGM-007209	SWRCO-000439	SWRMH-005596	W40101	W40112	96	0.007	8	0.03	0.001	19:00 hr	0.48	0.72
SWRGM-007211	SWRMH-006382	SWRMH-006498	V42101	V42113	331	0.005	8	0.25	0.065	19:15 hr	1.48	0.76
SWRGM-007212	SWRMH-005205	SWRMH-005204	X36135	X36136	236	0.02	8	0.09	0.014	19:12 hr	1.55	1.39
SWRGM-007213	SWRMH-004524	SWRMH-004529	Z36115	Z36110	79	0.067	8	0.03	0.002	19:03 hr	1.28	2.13
SWRGM-007214	SWRMH-006199	SWRMH-004229	Y39108	Y39127	96	0.004	8	0.24	0.058	10:30 hr	1.37	0.71
SWRGM-007215	SWRMH-006009	SWRMH-006008	X38108	X38109	240	0.013	8	0.03	0.001	19:01 hr	0.57	0.95
SWRGM-007216	SWRMH-006010	SWRMH-004435	X38107	Y38157	199	0.018	8	0.02	0.001	19:01 hr	0.58	1.06
SWRGM-007217	SWRMH-005503	SWRMH-005502	W39112	W39113	216	0.011	8	0.19	0.056	19:15 hr	1.85	1.09
SWRGM-007219	SWRMH-005560	SWRMH-005561	AB47116	AB47115	199	0.04	8	0.09	0.021	10:02 hr	2.19	1.96
SWRGM-007220	SWRMH-005566	SWRMH-005567	AB47110	AB47109	306	0.022	8	0.24	0.128	19:26 hr	3.07	1.60
SWRGM-007221	SWRMH-007011	SWRMH-006444	X45112	X45108	195	0.008	8	0.02	0	19:01 hr	0.40	0.72
SWRGM-007222	SWRMH-006446	SWRMH-006447	X45106	X45105	64	0.009	8	0.02	0	19:00 hr	0.35	0.74
SWRGM-007223	SWRCO-000848	SWRMH-006448	X45101	X45104	120	0.004	8	0.02	0	19:01 hr	0.28	0.51
SWRGM-007224	SWRCO-000459	SWRMH-005539	Y38103	Y38121	136	0.026	8	0.03	0.002	19:00 hr	0.85	1.35
SWRGM-007227	SWRMH-008013	SWRMH-007566	T46102	T46132	54	0.009	8	0.25	0.086	19:16 hr	2.01	1.04
SWRGM-007228	SWRMH-002302	SWRMH-008403	AB32124	AB32118	316	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007229	SWRMH-008405	SWRMH-008406	AB32116	AB32115	282	0.016	8	0.17	0.055	19:16 hr	2.14	1.34
SWRGM-007230	SWRMH-008406	SWRMH-008404	AB32115	AB32117	360	0.028	8	0.15	0.055	19:17 hr	2.59	1.73
SWRGM-007231	SWRMH-008411	SWRMH-008412	AB32110	AB32109	341	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007232	SWRMH-002252	SWRMH-000747	Q49108	P49129	264	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007233	SWRMH-002251	SWRMH-002252	Q49109	Q49108	264	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007234	SWRMH-002253	SWRMH-000751	Q49107	P49125	190	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007235	SWRMH-002253	SWRMH-002255	Q49107	Q49105	189	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007236	SWRMH-002275	SWRMH-002274	Q46103	Q46104	350	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007237	SWRMH-002277	SWRMH-002275	Q46101	Q46103	350	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007238	SWRMH-002277	SWRMH-002276	Q46101	Q46102	350	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007239	SWRMH-002284	SWRMH-002283	Q45101	Q45102	215	0.007	8	0.04	0.002	19:01 hr	0.55	0.73
SWRGM-007240	SWRMH-002271	SWRMH-002278	Q46107	Q45107	300	0.015	8	0.05	0.005	19:01 hr	0.99	1.11

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007241	SWRMH-002278	SWRMH-002281	Q45107	Q45104	350	0.021	8	0.06	0.007	19:03 hr	1.29	1.36
SWRGM-007242	SWRMH-002273	SWRMH-002279	Q46105	Q45106	350	0.014	8	0.05	0.003	19:02 hr	0.87	1.07
SWRGM-007243	SWRMH-002279	SWRMH-002282	Q45106	Q45103	290	0.015	8	0.06	0.006	19:03 hr	1.05	1.13
SWRGM-007244	SWRMH-002280	SWRMH-002283	Q45105	Q45102	290	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007245	SWRMH-002276	SWRMH-002280	Q46102	Q45105	350	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007247	SWRMH-005017	SWRMH-005018	AA39120	AA39119	260	0.044	8	0.04	0.004	19:01 hr	1.40	1.84
SWRGM-007248	SWRMH-005018	SWRMH-005019	AA39119	AA39118	250	0.043	8	0.06	0.008	19:01 hr	1.71	1.92
SWRGM-007249	SWRMH-005019	SWRMH-005020	AA39118	AA39117	250	0.039	8	0.07	0.012	19:02 hr	1.86	1.88
SWRGM-007250	SWRMH-002425	SWRMH-002429	S44121	S44117	321	0.023	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007251	SWRMH-002437	SWRMH-002436	S44109	S44110	140	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007252	SWRCO-000349	SWRMH-002445	S44101	S44101	136	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007253	SWRMH-002444	SWRMH-002442	S44102	S44104	160	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007254	SWRMH-002445	SWRMH-002444	S44101	S44102	140	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007255	SWRMH-003996	SWRNJ-000589	Y40141	Y40165	165	0.004	8	0.09	0.008	10:18 hr	0.74	0.63
SWRGM-007256	SWRMH-003953	SWRMH-003957	X37154	X37150	328	0.02	8	0.41	0.33	20:18 hr	3.85	1.53
SWRGM-007257	SWRMH-003952	SWRMH-003954	X37155	X37153	343	0.004	8	0.63	0.328	20:16 hr	2.18	0.72
SWRGM-007259	SWRMH-005667	SWRMH-005568	AB47105	AB47108	300	0.017	8	0.15	0.042	10:07 hr	2.02	1.36
SWRGM-007260	SWRMH-005862	SWRMH-005551	AB47101	AB47125	298	0.03	8	0.08	0.015	10:03 hr	1.79	1.68
SWRGM-007261	SWRMH-005861	SWRMH-005862	AB47102	AB47101	300	0.013	8	0.09	0.012	10:01 hr	1.25	1.11
SWRGM-007262	SWRMH-005551	SWRMH-005552	AB47125	AB47124	296	0.058	8	0.11	0.044	10:09 hr	3.13	2.43
SWRGM-007263	SWRMH-005553	SWRMH-005554	AB47123	AB47122	340	0.01	8	0.11	0.015	10:02 hr	1.23	1.00
SWRGM-007264	SWRMH-005562	SWRMH-005567	AB47114	AB47109	217	0.004	8	0.16	0.024	10:03 hr	1.02	0.67
SWRGM-007265	SWRMH-005557	SWRMH-002493	AB47119	AC47109	300	0.004	8	0.30	0.086	10:17 hr	1.53	0.71
SWRGM-007266	SWRMH-005558	SWRMH-005557	AB47118	AB47119	300	0.004	8	0.30	0.086	10:15 hr	1.53	0.71
SWRGM-007267	SWRMH-005568	SWRMH-005558	AB47108	AB47118	299	0.006	8	0.27	0.086	10:12 hr	1.76	0.86
SWRGM-007268	SWRMH-001884	SWRMH-001883	Z46112	Z46113	364	0.005	8	0.17	0.029	19:16 hr	1.16	0.74
SWRGM-007269	SWRCO-000440	SWRMH-005381	AB40101	AB40109	47	0.003	8	0.01	0	18:59 hr	0.17	0.40
SWRGM-007270	SWRMH-005594	SWRMH-005593	W40114	W40115	290	0.01	8	0.10	0.015	19:06 hr	1.20	0.98
SWRGM-007271	SWRMH-006061	SWRMH-006062	W48113	W48112	232	0.01	8	0.09	0.011	10:04 hr	1.12	0.98
SWRGM-007272	SWRMH-006062	SWRMH-006063	W48112	W48111	351	0.01	8	0.09	0.011	10:07 hr	1.12	0.98
SWRGM-007273	SWRMH-006064	SWRMH-006065	W48110	W48109	328	0.01	8	0.27	0.107	10:21 hr	2.18	1.08
SWRGM-007274	SWRMH-006063	SWRMH-006064	W48111	W48110	329	0.01	8	0.23	0.081	10:19 hr	2.02	1.07
SWRGM-007275	SWRMH-006066	SWRMH-005670	W47128	W47143	56	0.009	8	0.28	0.107	10:23 hr	2.07	1.00
SWRGM-007276	SWRMH-006065	SWRMH-006066	W48109	W47128	262	0.01	8	0.27	0.107	10:22 hr	2.20	1.08
SWRGM-007277	SWRMH-006448	SWRMH-006444	X45104	X45108	244	0.009	8	0.04	0.002	19:02 hr	0.68	0.85
SWRGM-007278	SWRNJ-000422	SWRMH-006061	W48111	W48113	209	0.01	8	0.09	0.011	10:02 hr	1.13	1.00
SWRGM-007279	SWRMH-006060	SWRNJ-000422	W48114	W48111	23	0.006	8	0.10	0.011	10:00 hr	0.94	0.77
SWRGM-007280	SWRMH-001113	SWRMH-001111	AB46103	AB46105	248	0.033	8	0.08	0.016	19:02 hr	1.89	1.76
SWRGM-007281	SWRMH-004252	SWRMH-004253	AC43127	AC43126	229	0.046	8	0.07	0.014	19:02 hr	2.04	2.05
SWRGM-007282	SWRMH-000645	SWRMH-003166	U47109	V47164	326	0.007	8	0.11	0.015	19:10 hr	1.06	0.82
SWRGM-007283	SWRMH-000653	SWRMH-000652	U47101	U47102	202	0.01	8	0.02	0.001	19:01 hr	0.48	0.81
SWRGM-007284	SWRMH-000636	SWRMH-000631	U47118	U47123	290	0.013	8	0.08	0.009	19:03 hr	1.14	1.09
SWRGM-007285	SWRMH-000639	SWRMH-000638	U47115	U47116	260	0.038	8	0.06	0.009	19:03 hr	1.70	1.82
SWRGM-007286	SWRMH-000643	SWRMH-000637	U47111	U47117	254	0.036	8	0.10	0.029	19:06 hr	2.33	1.89
SWRGM-007287	SWRMH-005924	SWRMH-005925	X47103	X47102	346	0.017	8	0.08	0.011	10:18 hr	1.33	1.26
SWRGM-007288	SWRMH-006102	SWRMH-006103	AC48104	AC48103	250	0.006	8	0.15	0.028	10:04 hr	1.26	0.84
SWRGM-007289	SWRMH-006101	SWRMH-006102	AC48105	AC48104	130	0.006	8	0.13	0.02	10:02 hr	1.14	0.82
SWRGM-007290	SWRMH-006100	SWRMH-006101	AC48106	AC48105	171	0.038	8	0.07	0.014	10:00 hr	1.93	1.88
SWRGM-007291	SWRMH-003983	SWRMH-003984	Y43155	Y43154	208	0.014	8	0.04	0.002	19:01 hr	0.79	1.03
SWRGM-007292	SWRMH-002511	SWRMH-001151	AA47116	AA47156	233	0.005	8	0.10	0.011	19:05 hr	0.87	0.70
SWRGM-007293	SWRMH-001163	SWRMH-001152	AA47144	AA47155	363	0.004	8	0.14	0.019	19:06 hr	0.95	0.65
SWRGM-007294	SWRMH-005145	SWRMH-005144	X38126	X38127	350	0.006	8	0.24	0.064	19:30 hr	1.55	0.82
SWRGM-007296	SWRMH-004475	SWRMH-004841	W39131	W39127	305	0.015	8	0.18	0.058	19:19 hr	2.14	1.31
SWRGM-007297	SWRMH-004840	SWRMH-004477	W39128	W39129	167	0.011	8	0.04	0.003	19:19 hr	0.73	0.91
SWRGM-007298	SWRMH-004841	SWRMH-004840	W39127	W39128	281	0.011	8	0.03	0.001	19:19 hr	0.55	0.85
SWRGM-007299	SWRMH-004845	SWRNJ-000404	W38139	W39104	130	0.004	8	0.16	0.024	19:13 hr	1.02	0.66
SWRGM-007300	SWRMH-006270	SWRMH-006273	AA36122	AA36119	180	0.076	8	0.06	0.014	19:05 hr	2.45	2.58
SWRGM-007301	SWRMH-004903	SWRMH-005110	Y43143	Y43122	278	0.009	8	0.09	0.011	19:04 hr	1.07	0.92
SWRGM-007302	SWRMH-005286	SWRMH-004902	Y43118	Y43144	227	0.012	8	0.04	0.002	19:01 hr	0.74	0.97
SWRGM-007303	SWRMH-005879	SWRNJ-000523	X43109	X43150	14	0.014	8	0.08	0.01	10:14 hr	1.20	1.12
SWRGM-007304	SWRMH-005480	SWRMH-004009	AB42108	AB42121	210	0.013	8	0.03	0.001	19:02 hr	0.57	0.95
SWRGM-007305	SWRMH-004902	SWRMH-004903	Y43144	Y43143	267	0.024	8	0.05	0.004	19:02 hr	1.14	1.39
SWRGM-007310	SWRMH-002320	SWRMH-002299	Q44101	Q44102	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007311	SWRMH-002299	SWRMH-002466	Q44102	R44109	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007315	SWRMH-004614	SWRMH-005313	AA43113	Z43126	308	0.031	8	0.04	0.003	10:01 hr	1.11	1.52
SWRGM-007316	SWRCO-000414	SWRMH-004614	AA43102	AA43113	100	0.031	8	0.02	0.001	19:00 hr	0.77	1.40
SWRGM-007317	SWRMH-005314	SWRMH-004402	AA43111	AA43120	167	0.021	8	0.03	0.002	19:04 hr	0.83	1.22
SWRGM-007318	SWRMH-006286	SWRMH-006285	Y45156	Y45157	212	0.03	8	0.02	0	19:00 hr	0.64	1.33
SWRGM-007319	SWRMH-006284	SWRMH-006281	Y45158	Y45161	175	0.035	8	0.02	0.001	19:00 hr	0.79	1.48
SWRGM-007320	SWRMH-006276	SWRMH-006300	Y45166	Y45142	242	0.042	8	0.02	0.001	19:02 hr	0.89	1.63
SWRGM-007321	SWRMH-006275	SWRMH-006276	Y45167	Y45166	200	0.008	8	0.03	0.001	19:01 hr	0.45	0.74
SWRGM-007322	SWRCO-000484	SWRMH-004665	Z43102	Z43147	33	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007323	SWRMH-005463	SWRMH-004447	Z43122	Z43163	157	0.004	8	0.24	0.054	19:10 hr	1.26	0.66
SWRGM-007324	SWRMH-005630	SWRMH-005629	Z44102	Z44103	350	0.004	8	0.01	0	19:07 hr	0.21	0.47
SWRGM-007325	SWRMH-004793	SWRMH-004874	Z44111	Z44108	226	0.004	8	0.03	0.001	19:02 hr	0.38	0.54
SWRGM-007326	SWRMH-003973	SWRMH-004594	W37152	X37138	246	0.013	8	0.06	0.006	19:02 hr	1.05	1.09
SWRGM-007327	SWRCO-000409	SWRMH-004557	W37105	W37147	156	0.008	8	0.03	0.001	19:01 hr	0.51	0.75
SWRGM-007328	SWRCO-000410	SWRMH-004555	W37104	W37149	143	0.006	8	0.05	0.002	19:01 hr	0.55	0.67
SWRGM-007329	SWRMH-005245	SWRMH-005243	Z40112	Z40114	268	0.003	8	0.28	0.058	10:16 hr	1.15	0.56
SWRGM-007330	SWRMH-002460	SWRMH-002464	R45106	R45102	290	0.02	8	0.05	0.005	19:03 hr	1.15	1.31
SWRGM-007331	SWRMH-002461	SWRMH-002463	R45105	R45103	350	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007332	SWRMH-004928	SWRMH-004931	W42114	W42111	262	0.004	8	0.15	0.021	10:26 hr	0.98	0.66
SWRGM-007333	SWRMH-005054	SWRMH-005059	X37127	X37122	330	0.024	8	0.03	0.002	19:02 hr	0.94	1.34
SWRGM-007334	SWRMH-005335	SWRMH-005334	Y40114	Y40115	358	0.004	8	0.14	0.019	10:03 hr	0.94	0.65
SWRGM-007335	SWRMH-005185	SWRMH-005186	X42129	X42128	187	0.01	8	0.46	0.293	10:44 hr	2.89	1.08
SWRGM-007336	SWRMH-004210	SWRMH-005618	Z37143	Z37105	181	0.005	8	0.01	0	19:01 hr	0.22	0.53
SWRGM-007337	SWRMH-004206	SWRMH-004891	Z37147	AA37138	225	0.02	8	0.07	0.009	19:04 hr	1.31	1.32
SWRGM-007338	SWRCO-000449	SWRMH-004207	Z37110	Z37146	315	0.03	8	0.03	0.002	19:01 hr	0.93	1.46
SWRGM-007339	SWRMH-004207	SWRMH-004206	Z37146	Z37147	300	0.013	8	0.04	0.003	19:02 hr	0.78	1.00
SWRGM-007340	SWRMH-003899	SWRMH-005415	Z36136	Z37126	328	0.006	8	0.06	0.004	19:06 hr	0.70	0.73
SWRGM-007341	SWRMH-004548	SWRMH-004230	Y37126	Y37158	327	0.003	8	0.05	0.001	19:03 hr	0.42	0.52

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007342	SWRMH-004230	SWRMH-004231	Y37158	Y37157	325	0.003	8	0.06	0.002	19:06 hr	0.47	0.53
SWRGM-007343	SWRMH-004231	SWRMH-006634	Y37157	Y36113	312	0.019	8	0.04	0.003	19:07 hr	0.93	1.21
SWRGM-007348	SWRMH-005133	SWRNJ-000517	X41142	X41110	208	0.004	8	0.05	0.002	10:07 hr	0.46	0.57
SWRGM-007349	SWRMH-006183	SWRMH-004073	U44103	U44131	98	0.01	8	0.08	0.008	19:03 hr	1.04	0.98
SWRGM-007350	SWRMH-004812	SWRMH-004808	X36151	X36155	252	0.021	8	0.04	0.003	19:04 hr	1.02	1.29
SWRGM-007351	SWRNJ-000689	SWRNJ-000690	Z36364	Z36360	40	0.044	8	0.05	0.006	19:01 hr	1.55	1.88
SWRGM-007352	SWRMH-004489	SWRNJ-000689	Z36123	Z36364	268	0.087	8	0.04	0.006	19:00 hr	1.96	2.59
SWRGM-007353	SWRNJ-000688	SWRNJ-000691	Z36359	Z36363	40	0.068	8	0.07	0.016	19:08 hr	2.45	2.47
SWRGM-007354	SWRMH-004526	SWRNJ-000688	Z36113	Z36359	175	0.042	8	0.08	0.016	19:08 hr	2.07	1.97
SWRGM-007355	SWRMH-006203	SWRMH-004771	Y39104	Y39119	110	0.046	8	0.01	0	19:00 hr	0.67	1.57
SWRGM-007356	SWRMH-006202	SWRMH-004769	Y39105	Y39121	140	0.025	8	0.02	0.001	19:00 hr	0.74	1.28
SWRGM-007357	SWRMH-004040	SWRMH-004041	Z40136	Z40135	346	0.004	8	0.16	0.025	19:06 hr	1.04	0.66
SWRGM-007358	SWRMH-005401	SWRMH-005614	X36133	X36121	283	0.013	8	0.10	0.016	19:07 hr	1.36	1.12
SWRGM-007359	SWRMH-004514	SWRMH-004513	X39113	X39114	350	0.006	8	0.11	0.012	10:06 hr	0.95	0.76
SWRGM-007360	SWRMH-004513	SWRMH-004512	X39114	X39115	338	0.006	8	0.11	0.012	10:09 hr	0.95	0.76
SWRGM-007361	SWRCO-000614	SWRMH-007864	AB31101	AB31115	141	0.038	8	0.03	0.002	19:00 hr	1.01	1.61
SWRGM-007362	SWRMH-007862	SWRMH-008164	AB31117	AB31102	165	0.034	8	0.10	0.026	19:03 hr	2.23	1.84
SWRGM-007363	SWRMH-007863	SWRMH-007862	AB31116	AB31117	169	0.037	8	0.06	0.009	19:01 hr	1.66	1.79
SWRGM-007364	SWRMH-007864	SWRMH-007863	AB31115	AB31116	354	0.039	8	0.06	0.008	19:01 hr	1.63	1.83
SWRGM-007365	SWRMH-008164	SWRMH-007865	AB31102	AB31114	299	0.024	8	0.11	0.028	19:04 hr	2.01	1.56
SWRGM-007366	SWRMH-007869	SWRMH-007868	AB31110	AB31111	206	0.047	8	0.06	0.009	19:02 hr	1.79	1.99
SWRGM-007367	SWRMH-000686	SWRMH-006685	T44103	U44112	140	0.009	8	0.05	0.004	19:01 hr	0.78	0.88
SWRGM-007368	SWRMH-004117	SWRMH-004082	U44128	U43115	311	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007369	SWRMH-005450	SWRMH-005454	U44121	U43111	300	0.006	8	0.23	0.064	19:10 hr	1.61	0.86
SWRGM-007370	SWRMH-006182	SWRMH-006183	U44104	U44103	194	0.004	8	0.06	0.003	19:01 hr	0.53	0.59
SWRGM-007371	SWRMH-008374	SWRMH-000648	U47135	U47106	211	0.006	8	0.07	0.005	19:02 hr	0.70	0.71
SWRGM-007373	SWRMH-004331	SWRMH-004325	Z42163	Z42169	197	0.009	8	0.08	0.007	19:01 hr	0.94	0.89
SWRGM-007374	SWRMH-005286	SWRMH-005285	Y43118	Y43119	295	0.03	8	0.04	0.003	19:01 hr	1.16	1.52
SWRGM-007375	SWRMH-005433	SWRMH-006198	Z38122	Z38106	128	0.008	8	0.16	0.032	19:07 hr	1.41	0.93
SWRGM-007376	SWRMH-004319	SWRMH-005346	AB41147	AB41135	142	0.027	8	0.09	0.018	19:09 hr	1.81	1.60
SWRGM-007377	SWRMH-007048	SWRMH-007563	S46134	T46135	250	0.007	8	0.08	0.008	19:04 hr	0.90	0.83
SWRGM-007378	SWRMH-004837	SWRMH-000699	AA42122	AA42119	129	0.006	8	0.04	0.001	19:01 hr	0.48	0.65
SWRGM-007379	SWRNJ-000690	SWRMH-005790	Z36360	Z36101	42	0.027	8	0.05	0.006	19:01 hr	1.30	1.49
SWRGM-007380	SWRMH-004496	SWRMH-004524	Z36116	Z36115	346	0.03	8	0.03	0.002	19:02 hr	0.97	1.45
SWRGM-007381	SWRMH-004495	SWRMH-004496	Z36117	Z36116	352	0.032	8	0.02	0.001	19:01 hr	0.85	1.46
SWRGM-007382	SWRMH-004530	SWRMH-004529	Z36109	Z36110	249	0.044	8	0.04	0.003	19:02 hr	1.32	1.82
SWRGM-007383	SWRMH-004528	SWRMH-004530	Z36111	Z36109	367	0.052	8	0.02	0.001	19:01 hr	1.07	1.85
SWRGM-007384	SWRMH-005682	SWRMH-004417	Z45111	Z44120	300	0.006	8	0.08	0.006	19:18 hr	0.78	0.74
SWRGM-007385	SWRMH-004419	SWRMH-005889	AC45130	AC45124	301	0.007	8	0.15	0.027	19:05 hr	1.27	0.85
SWRGM-007386	SWRMH-006661	SWRMH-004419	AC45109	AC45130	276	0.07	8	0.04	0.006	19:00 hr	1.81	2.34
SWRGM-007387	SWRMH-006735	SWRMH-004419	AC44101	AC45130	303	0.007	8	0.12	0.018	19:05 hr	1.12	0.84
SWRGM-007388	SWRMH-005733	SWRMH-006301	Y44103	Y45141	350	0.004	8	0.02	0	19:03 hr	0.27	0.50
SWRGM-007389	SWRMH-004420	SWRMH-006402	V44115	V44102	350	0.01	8	0.40	0.222	19:28 hr	2.68	1.08
SWRGM-007390	SWRMH-005094	SWRNJ-000758	AA41113	AA41412	213	0.012	8	0.10	0.015	19:04 hr	1.30	1.09
SWRGM-007391	SWRMH-005257	SWRMH-005094	AA41127	AA41113	274	0.014	8	0.08	0.011	19:03 hr	1.26	1.15
SWRGM-007392	SWRMH-005093	SWRMH-005257	AA41114	AA41127	272	0.005	8	0.07	0.005	19:02 hr	0.67	0.67
SWRGM-007393	SWRMH-006956	SWRMH-005185	X42113	X42129	259	0.01	8	0.47	0.293	10:43 hr	2.85	1.06
SWRGM-007394	SWRMH-005344	SWRMH-006956	X42118	X42113	341	0.022	8	0.36	0.278	10:41 hr	3.80	1.60
SWRGM-007395	SWRMH-005187	SWRMH-005333	X42127	Y42109	249	0.011	8	0.47	0.311	10:46 hr	3.00	1.11
SWRGM-007396	SWRMH-005214	SWRMH-005215	AB38102	AB38101	140	0.004	8	0.04	0.001	10:05 hr	0.40	0.54
SWRGM-007398	SWRMH-004052	SWRMH-004051	AA38164	AA38165	170	0.029	8	0.08	0.014	19:14 hr	1.75	1.65
SWRGM-007399	SWRMH-004053	SWRMH-004052	AA38163	AA38164	217	0.029	8	0.08	0.014	19:14 hr	1.74	1.64
SWRGM-007400	SWRMH-004849	SWRMH-004850	Z42159	Z42158	300	0.05	8	0.11	0.042	19:06 hr	2.93	2.27
SWRGM-007401	SWRMH-005414	SWRMH-005413	Z37127	Z37128	270	0.035	8	0.13	0.045	19:31 hr	2.66	1.92
SWRGM-007402	SWRMH-004209	SWRMH-005412	Z37144	Z37129	304	0.011	8	0.05	0.003	19:06 hr	0.77	0.95
SWRGM-007403	SWRMH-002434	SWRMH-002435	S44112	S44111	139	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007404	SWRMH-002433	SWRMH-002434	S44113	S44112	301	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007405	SWRMH-002440	SWRMH-002433	S44106	S44113	300	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007406	SWRMH-002436	SWRMH-002440	S44110	S44106	283	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007407	SWRMH-002441	SWRMH-002440	S44105	S44106	370	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007408	SWRMH-002442	SWRMH-002441	S44104	S44105	300	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007409	SWRMH-002438	SWRMH-002441	S44108	S44105	302	0.033	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007410	SWRMH-002439	SWRMH-002442	S44107	S44104	302	0.035	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007411	SWRMH-002443	SWRMH-002445	S44103	S44101	233	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007412	SWRNJ-000530	SWRMH-003929	X39166	X39126	35	0.005	8	0.11	0.012	10:16 hr	0.88	0.68
SWRGM-007413	SWRMH-000426	SWRNJ-000530	X39127	X39166	180	0.006	8	0.10	0.012	10:16 hr	0.98	0.79
SWRGM-007414	SWRMH-003928	SWRMH-000426	X39127	X39166	67	0.008	8	0.10	0.012	10:15 hr	1.08	0.91
SWRGM-007415	SWRMH-003927	SWRMH-003928	X39128	X39127	308	0.016	8	0.08	0.012	10:14 hr	1.35	1.22
SWRGM-007416	SWRMH-004953	SWRMH-004954	Y38140	Y38139	229	0.007	8	0.23	0.068	19:48 hr	1.71	0.91
SWRGM-007417	SWRMH-004954	SWRMH-005542	Y38139	Y38118	230	0.008	8	0.25	0.078	19:48 hr	1.82	0.94
SWRGM-007418	SWRMH-004956	SWRMH-004955	Y38137	Y38138	128	0.028	8	0.02	0	19:00 hr	0.61	1.28
SWRGM-007419	SWRMH-004613	SWRMH-004611	AA43114	AA43116	211	0.007	8	0.09	0.008	19:03 hr	0.89	0.80
SWRGM-007420	SWRMH-004612	SWRMH-004613	AA43115	AA43114	245	0.006	8	0.09	0.008	19:02 hr	0.86	0.76
SWRGM-007421	SWRMH-004335	SWRMH-004430	Z39117	Z38160	194	0.048	8	0.10	0.029	19:13 hr	2.59	2.18
SWRGM-007422	SWRMH-004237	SWRMH-004813	Y37151	Y37120	333	0.004	8	0.05	0.002	19:03 hr	0.45	0.56
SWRGM-007425	SWRNJ-000763	SWRMH-004438	AA41103	AA41149	28	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007428	SWRMH-005221	SWRMH-005219	Y38129	Y38131	334	0.006	8	0.24	0.064	19:41 hr	1.55	0.81
SWRGM-007429	SWRMH-005219	SWRMH-005220	Y38131	Y38130	329	0.006	8	0.24	0.064	19:44 hr	1.55	0.82
SWRGM-007430	SWRCO-000855	SWRMH-004225	Y43101	Y43152	73	0.042	8	0.02	0.001	19:00 hr	0.95	1.66
SWRGM-007431	SWRMH-004025	SWRMH-004029	Z40151	Z40147	22	0.004	8	0.15	0.02	10:08 hr	0.95	0.63
SWRGM-007432	SWRMH-005334	SWRMH-004025	Y40115	Z40151	323	0.004	8	0.15	0.02	10:07 hr	0.97	0.65
SWRGM-007433	SWRMH-005234	SWRMH-004705	Y36121	Y36149	282	0.024	8	0.04	0.003	19:04 hr	1.03	1.37
SWRGM-007434	SWRNJ-000788	SWRMH-004782	AA42103	AA42131	40	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007435	SWRNJ-000780	SWRMH-004783	AA42102	AA42130	35	0.008	8	0.04	0.002	10:00 hr	0.58	0.78
SWRGM-007436	SWRNJ-000776	SWRMH-005986	AA42101	AA42108	30	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007438	SWRCO-000468	SWRMH-006025	X40101	x40103	59	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007439	SWRMH-005125	SWRMH-008564	X43122	X43101	328	0.018	8	0.14	0.038	10:29 hr	1.99	1.38
SWRGM-007440	SWRMH-008478	SWRMH-008479	X43104	X43103	195	0.01	8	0.08	0.009	10:01 hr	1.04	0.96
SWRGM-007441	SWRMH-008480	SWRMH-005125	X43102	X43122	207	0.01	8	0.15	0.033	10:04 hr	1.55	1.04
SWRGM-007442	SWRMH-008479	SWRMH-008480	X43103	X43102	147	0.01	8	0.08	0.009	10:03 hr	1.04	0.96
SWRGM-007443	SWRMH-004989	SWRMH-005157	Z41129	Z41141	220	0.01	8	0.04	0.002	19:01 hr	0.66	0.87

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007444	SWRMH-007870	SWRMH-007900	AB41127	AB41120	310	0.045	8	0.05	0.006	19:04 hr	1.54	1.90
SWRGM-007445	SWRMH-007906	SWRMH-007871	AB41114	AB41126	197	0.009	8	0.05	0.003	19:03 hr	0.74	0.86
SWRGM-007450	SWRMH-008496	SWRMH-008497	AB37105	AB37104	363	0.026	8	0.03	0.001	19:02 hr	0.82	1.32
SWRGM-007451	SWRMH-005772	SWRMH-008494	AB37114	AB37107	238	0.02	8	0.05	0.004	19:03 hr	1.02	1.26
SWRGM-007452	SWRMH-008492	SWRMH-008498	AB37109	AB37103	179	0.096	8	0.02	0.001	19:01 hr	1.18	2.39
SWRGM-007453	SWRMH-008499	SWRMH-008492	AB37102	AB37109	319	0.085	8	0.01	0.001	19:00 hr	0.96	2.17
SWRGM-007454	SWRMH-008497	SWRMH-005772	AB37104	AB37114	19	0.026	8	0.04	0.003	19:02 hr	1.06	1.41
SWRGM-007455	SWRCO-000462	SWRMH-005224	Z38104	Z38128	128	0.046	8	0.01	0	19:00 hr	0.69	1.59
SWRGM-007456	SWRMH-003785	SWRNJ-000279	U45149	U45105	200	0.026	8	0.05	0.005	19:01 hr	1.20	1.46
SWRGM-007457	SWRMH-003786	SWRMH-003785	U45148	U45149	239	0.008	8	0.05	0.003	19:01 hr	0.66	0.80
SWRGM-007458	SWRNJ-000278	SWRMH-003823	U45104	U45111	25	0.007	8	0.10	0.011	19:04 hr	0.99	0.84
SWRGM-007459	SWRMH-003828	SWRNJ-000278	U45106	U45104	237	0.009	8	0.09	0.011	19:03 hr	1.06	0.92
SWRGM-007460	SWRMH-003827	SWRMH-003828	U45107	U45106	259	0.014	8	0.07	0.008	19:02 hr	1.16	1.13
SWRGM-007461	SWRMH-004327	SWRMH-004329	Z42167	Z42165	160	0.051	8	0.03	0.002	19:00 hr	1.15	1.86
SWRGM-007462	SWRMH-004331	SWRMH-005302	Z42163	Z42130	343	0.024	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007463	SWRMH-005743	SWRMH-005878	X44110	X43110	291	0.016	8	0.08	0.01	10:10 hr	1.26	1.20
SWRGM-007465	SWRMH-005997	SWRNJ-000458	X38120	X38106	213	0.004	8	0.09	0.008	19:10 hr	0.73	0.62
SWRGM-007466	SWRMH-005998	SWRMH-005997	X38119	X38120	254	0.004	8	0.09	0.007	19:08 hr	0.70	0.62
SWRGM-007471	SWRMH-008012	SWRMH-008013	T46103	T46102	125	0.009	8	0.25	0.086	19:16 hr	1.97	1.01
SWRGM-007472	SWRMH-007860	SWRMH-008012	T46101	T46103	293	0.017	8	0.21	0.084	19:14 hr	2.47	1.40
SWRGM-007473	SWRMH-004409	SWRMH-005198	AA41151	AA41129	266	0.011	8	0.16	0.039	19:05 hr	1.68	1.09
SWRGM-007474	SWRMH-005407	SWRMH-005408	Z37134	Z37133	161	0.016	8	0.03	0.002	19:02 hr	0.77	1.09
SWRGM-007475	SWRNJ-000536	SWRMH-004953	Y38234	Y38140	143	0.007	8	0.23	0.068	19:47 hr	1.72	0.92
SWRGM-007476	SWRMH-004221	SWRMH-004222	AB36111	AB36110	112	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007477	SWRMH-005412	SWRMH-005415	Z37129	Z37126	305	0.004	8	0.21	0.04	19:31 hr	1.19	0.67
SWRGM-007478	SWRMH-005415	SWRMH-005414	Z37126	Z37127	315	0.007	8	0.19	0.045	19:31 hr	1.54	0.92
SWRGM-007479	SWRMH-008136	SWRMH-008135	AB31108	AB31109	310	0.033	8	0.04	0.004	19:01 hr	1.27	1.61
SWRGM-007480	SWRMH-008508	SWRMH-004086	AA39101	AA39136	191	0.009	8	0.33	0.159	19:19 hr	2.40	1.05
SWRGM-007481	SWRMH-004920	SWRMH-008508	AA39122	AA39101	385	0.047	8	0.22	0.158	19:18 hr	4.27	2.34
SWRGM-007482	SWRMH-008526	SWRMH-008525	AA38108	AA38109	156	0.01	8	0.04	0.003	19:01 hr	0.72	0.89
SWRGM-007483	SWRMH-004891	SWRMH-004645	AA37138	AA37154	188	0.022	8	0.07	0.011	19:04 hr	1.45	1.41
SWRGM-007484	SWRMH-004645	SWRMH-004643	AA37154	AA37156	200	0.022	8	0.07	0.011	19:05 hr	1.45	1.41
SWRGM-007485	SWRMH-008525	SWRMH-005071	AA38109	AA38139	270	0.01	8	0.07	0.006	19:01 hr	0.92	0.94
SWRGM-007489	SWRMH-004577	SWRMH-004578	Y42133	Y42132	299	0.011	8	0.15	0.035	19:08 hr	1.64	1.11
SWRGM-007490	SWRCO-000416	SWRMH-005317	Y42109	Y42125	90	0.014	8	0.02	0.001	19:00 hr	0.56	0.96
SWRGM-007491	SWRNJ-000740	SWRMH-001253	AA46108	AA46144	12	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007493	SWRMH-008498	SWRMH-008497	AB37103	AB37104	406	0.023	8	0.03	0.002	19:02 hr	0.86	1.28
SWRGM-007494	SWRMH-008494	SWRMH-004333	AB37107	AB37126	362	0.06	8	0.04	0.004	19:04 hr	1.55	2.13
SWRGM-007495	SWRMH-008495	SWRMH-008496	AB37106	AB37105	200	0.074	8	0.02	0.001	19:00 hr	1.12	2.13
SWRGM-007496	SWRMH-008505	SWRMH-008506	AA39104	AA39103	296	0.01	8	0.08	0.008	19:02 hr	1.00	0.95
SWRGM-007497	SWRMH-005773	SWRMH-008501	AA39116	AA39108	272	0.01	8	0.11	0.018	19:04 hr	1.30	1.01
SWRGM-007498	SWRMH-008501	SWRMH-008502	AA39108	AA39107	312	0.01	8	0.13	0.022	19:06 hr	1.38	1.02
SWRGM-007501	SWRMH-008503	SWRMH-008504	AA39106	AA39105	318	0.044	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007502	SWRMH-008532	SWRMH-004051	AA38101	AA38165	229	0.01	8	0.04	0.002	19:01 hr	0.70	0.88
SWRGM-007503	SWRMH-008509	SWRNJ-000767	AA38125	AA38110	170	0.009	8	0.03	0.001	19:01 hr	0.58	0.83
SWRGM-007504	SWRNJ-000767	SWRMH-008524	AA38125	AA38110	165	0.008	8	0.07	0.006	19:02 hr	0.87	0.85
SWRGM-007505	SWRNJ-000142	SWRMH-006550	R50137	R50103	15	0.039	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007506	SWRNJ-000136	SWRMH-006548	R50138	R50105	10	0.032	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007507	SWRNJ-000219	SWRMH-007118	T39470	T39166	12	0.127	8	0.01	0.001	19:00 hr	1.10	2.61
SWRGM-007508	SWRNJ-000108	SWRMH-002569	R39197	R39104	46	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007509	SWRMH-008523	SWRMH-008522	AA38111	AA38112	139	0.01	8	0.08	0.008	10:01 hr	0.99	0.95
SWRGM-007510	SWRMH-008529	SWRMH-008528	AA38105	AA38106	376	0.01	8	0.02	0	10:03 hr	0.41	0.78
SWRGM-007511	SWRMH-008528	SWRMH-008527	AA38106	AA38107	166	0.01	8	0.03	0.001	10:04 hr	0.58	0.84
SWRGM-007512	SWRNJ-000149	SWRMH-006608	S39245	S39102	10	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007513	SWRNJ-000175	SWRMH-006605	S39247	S39105	10	0.018	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007515	SWRMH-004403	SWRMH-000455	AA43117	AA43143	123	0.01	8	0.04	0.002	19:03 hr	0.69	0.90
SWRGM-007518	SWRMH-006127	SWRMH-009146	SDMH006127	SP720MH32	231	0.011	10	0.20	0.113	10:50 hr	2.24	1.15
SWRGM-007519	SWRMH-000096	SWRMH-000099	T27136	T27135	41	0.04	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007520	SWRNJ-000247	SWRMH-000099	T27000	T27135	190	0.007	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007521	SWRMH-000099	SWRMH-000103	T27135	T27134	140	0.006	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007522	SWRNJ-000244	SWRMH-000103	T27000	T27134	228	0.007	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007523	SWRNJ-000250	SWRMH-000102	T27000	T27132	214	0.007	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007524	SWRMH-000104	SWRMH-000107	T27133	T27131	338	0.007	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007525	SWRMH-000103	SWRMH-000104	T27134	T27133	361	0.007	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007526	SWRMH-000105	SWRMH-000108	T27129	T27128	39	0.007	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007527	SWRMH-000106	SWRMH-000105	T27130	T27129	84	0.007	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007528	SWRMH-000107	SWRMH-000106	T27131	T27130	66	0.007	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007529	SWRMH-000108	SWRMH-000098	T27128	T27126	184	0.007	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007530	SWRMH-000102	SWRMH-000109	T27132	T27127	415	0.003	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007531	SWRMH-000109	SWRMH-000110	T27127	T27125	261	0.005	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007532	SWRMH-000111	SWRMH-009170	T26117	T26108	201	0.005	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007533	SWRMH-000112	SWRMH-008249	T26118	T26110	364	0.004	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007534	SWRMH-000113	SWRMH-000112	T27121	T26118	364	0.004	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007535	SWRMH-000114	SWRMH-000113	T27122	T26121	78	0.004	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007536	SWRMH-000110	SWRMH-000114	T27125	T27122	281	0.006	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007537	SWRMH-000100	SWRMH-000111	T26119	T26117	315	0.003	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007538	SWRMH-000101	SWRMH-000100	T27120	T26119	72	0.003	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007539	SWRMH-000097	SWRMH-000337	T27124	T27123	76	0.003	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007540	SWRMH-000098	SWRMH-000097	T27126	T27124	339	0.007	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007541	SWRMH-000876	SWRMH-000877	T37173	T37160	228	0.024	27	0.20	2.384	20:30 hr	6.47	2.03
SWRGM-007543	SWRMH-000298	SWRMH-000297	SDMH000298	SDMH000297	12	0.008	27	0.27	2.384	20:32 hr	4.33	1.17
SWRGM-007545	SWRMH-008217	SWRMH-000298	SDMH008217	SDMH000298	49	0.011	27	0.24	2.384	20:32 hr	4.94	1.40
SWRGM-007547	SWRMH-000297	SWRMH-000296	SDMH000297	SDMH000296	33	0.004	27	0.32	2.384	20:32 hr	3.40	0.83
SWRGM-007548	SWRMH-000337	SWRMH-009166	T27121	T27100	125	0.006	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007549	SWRMH-000311	SWRMH-000312	W37161	W37160	305	0.01	21	0.38	2.714	20:59 hr	5.00	1.26
SWRGM-007550	SWRMH-008565	SWRMH-000308	W38101	W38174	357	0.005	21	0.46	2.686	20:55 hr	3.86	0.89
SWRGM-007551	SWRMH-000308	SWRMH-000309	W38174	W37163	428	0.007	21	0.42	2.686	20:57 hr	4.41	1.07
SWRGM-007552	SWRMH-000309	SWRMH-000310	W37163	W37162	300	0.01	21	0.38	2.688	20:58 hr	5.01	1.27
SWRGM-007553	SWRMH-000310	SWRMH-005726	W37162	W37111	166	0.018	21	0.32	2.688	20:59 hr	6.22	1.71
SWRGM-007554	SWRMH-005726	SWRMH-000311	W37111	W37161	140	0.021	21	0.31	2.713	20:58 hr	6.62	1.87
SWRGM-007555	SWRMH-000312	SWRMH-000313	W37160	W37159	324	0.01	21	0.38	2.715	21:00 hr	5.00	1.27

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007556	SWRMH-000313	SWRMH-004558	W37159	W37146	284	0.01	21	0.38	2.715	21:01 hr	5.01	1.27
SWRGM-007557	SWRMH-004558	SWRMH-000307	W37146	W37158	192	0.013	21	0.35	2.735	21:00 hr	5.60	1.47
SWRGM-007558	SWRMH-000307	SWRMH-000314	W37158	W37157	240	0.027	21	0.29	2.736	21:01 hr	7.18	2.08
SWRGM-007559	SWRMH-000314	SWRMH-002485	W36113	W37157	300	0.021	21	0.31	2.736	21:01 hr	6.59	1.85
SWRGM-007560	SWRMH-000315	SWRMH-003041	X31108	X30104	62	0.02	18	0.49	4.089	21:30 hr	7.27	1.76
SWRGM-007561	SWRMH-003027	SWRMH-000318	X31107	X31109	17	0.029	18	0.44	4.089	21:27 hr	8.39	2.13
SWRGM-007562	SWRMH-000316	SWRMH-000315	X30114	X30113	8	0.024	18	0.47	4.089	21:30 hr	7.73	1.90
SWRGM-007563	SWRMH-000317	SWRMH-000316	X31108	X30114	660	0.015	18	0.54	4.089	21:29 hr	6.55	1.53
SWRGM-007564	SWRMH-000318	SWRMH-000317	X31109	X30108	7	0.029	18	0.44	4.089	21:27 hr	8.40	2.13
SWRGM-007565	SWRMH-004506	SWRMH-000322	X40111	X40127	50	0.094	15	0.14	0.444	21:07 hr	6.83	3.52
SWRGM-007566	SWRMH-000319	SWRMH-003920	X40124	X40116	300	0.006	15	0.28	0.448	21:12 hr	2.53	0.90
SWRGM-007567	SWRMH-000320	SWRMH-000319	X40125	X40124	299	0.005	15	0.28	0.448	21:11 hr	2.42	0.85
SWRGM-007568	SWRMH-000321	SWRMH-000320	X40126	X40125	301	0.005	15	0.28	0.444	21:10 hr	2.41	0.84
SWRGM-007569	SWRMH-000322	SWRMH-000321	X40127	X40126	132	0.016	15	0.21	0.444	21:07 hr	3.67	1.51
SWRGM-007570	SWRMH-000353	SWRMH-000352	U35116	U35115	350	0.004	10	0.24	0.098	19:23 hr	1.51	0.71
SWRGM-007571	SWRNJ-000315	SWRMH-000353	V35125	U35116	253	0.004	10	0.24	0.098	19:20 hr	1.54	0.73
SWRGM-007572	SWRMH-000362	SWRNJ-000315	V35125	U36116	100	0.004	10	0.24	0.098	19:18 hr	1.51	0.71
SWRGM-007573	SWRMH-000379	SWRMH-000394	T46189	T46188	40	0.011	12	0.29	0.38	19:42 hr	3.16	1.23
SWRGM-007574	SWRMH-000406	SWRMH-000405	T44186	T44185	113	0.015	12	0.38	0.748	19:51 hr	4.24	1.42
SWRGM-007575	SWRMH-000403	SWRMH-000404	T45152	T45151	360	0.017	12	0.33	0.59	19:51 hr	4.12	1.49
SWRGM-007576	SWRMH-000402	SWRMH-000403	T45153	T45152	350	0.007	12	0.41	0.59	19:50 hr	3.03	0.98
SWRGM-007577	SWRMH-000401	SWRMH-000402	T45154	T45153	349	0.004	12	0.48	0.59	19:48 hr	2.45	0.73
SWRGM-007578	SWRMH-000400	SWRMH-000401	T45155	T45154	351	0.015	12	0.34	0.587	19:44 hr	3.93	1.40
SWRGM-007579	SWRMH-000399	SWRMH-000400	T45156	T45155	351	0.004	12	0.48	0.585	19:43 hr	2.43	0.73
SWRGM-007580	SWRMH-000398	SWRMH-000399	T46184	T45156	161	0.01	12	0.37	0.583	19:40 hr	3.47	1.19
SWRGM-007581	SWRMH-000397	SWRMH-000398	T46185	T46184	350	0.004	12	0.48	0.583	19:39 hr	2.43	0.73
SWRGM-007582	SWRMH-000395	SWRMH-000396	T46187	T46186	279	0.015	12	0.26	0.38	19:44 hr	3.54	1.44
SWRGM-007583	SWRMH-000394	SWRMH-000395	T46188	T46187	279	0.012	12	0.28	0.38	19:43 hr	3.24	1.27
SWRGM-007584	SWRMH-000393	SWRMH-000379	T46190	T46189	229	0.012	12	0.28	0.38	19:42 hr	3.20	1.25
SWRGM-007585	SWRMH-000392	SWRMH-000393	T46191	T46190	345	0.012	12	0.28	0.38	19:40 hr	3.26	1.28
SWRGM-007586	SWRMH-000391	SWRMH-000392	T47192	T46191	349	0.011	12	0.29	0.38	19:39 hr	3.11	1.20
SWRGM-007587	SWRMH-000382	SWRMH-000391	T47193	T47192	201	0.01	12	0.30	0.38	19:37 hr	3.03	1.16
SWRGM-007588	SWRMH-000390	SWRMH-000382	T47194	T47193	46	0.003	12	0.39	0.38	19:36 hr	2.07	0.68
SWRGM-007589	SWRMH-000389	SWRMH-000390	T47195	T47194	255	0.005	12	0.36	0.38	19:35 hr	2.33	0.80
SWRGM-007590	SWRMH-000388	SWRMH-000389	T47196	T47195	257	0.005	12	0.36	0.38	19:33 hr	2.34	0.81
SWRGM-007591	SWRMH-000386	SWRMH-000387	T47200	T47199	300	0.012	12	0.06	0.017	10:17 hr	1.28	1.10
SWRGM-007592	SWRMH-000385	SWRMH-000386	T48171	T47200	350	0.018	12	0.06	0.017	10:16 hr	1.48	1.33
SWRGM-007593	SWRMH-000384	SWRMH-000385	T48172	T48171	210	0.018	12	0.06	0.017	10:15 hr	1.46	1.32
SWRGM-007594	SWRMH-000383	SWRMH-000384	T48173	T48172	252	0.018	12	0.06	0.016	10:14 hr	1.45	1.31
SWRGM-007596	SWRMH-000472	SWRMH-003157	V49122	V49112	219	0.005	10	0.06	0.006	10:10 hr	0.72	0.68
SWRGM-007597	SWRMH-000473	SWRMH-000472	V49123	V49122	290	0.009	10	0.05	0.006	10:08 hr	0.87	0.92
SWRGM-007598	SWRMH-002615	SWRMH-000473	V49118	V49123	199	0.009	10	0.05	0.006	10:07 hr	0.86	0.90
SWRGM-007599	SWRMH-000521	SWRMH-000518	Y35146	Y35149	201	0.004	10	0.19	0.062	19:22 hr	1.31	0.69
SWRGM-007600	SWRMH-000527	SWRMH-000526	Y35140	Y35141	81	0.004	18	0.30	0.777	20:26 hr	2.68	0.83
SWRGM-007601	SWRMH-007394	SWRMH-008202	T38125	T38114	237	0.006	12	0.26	0.218	19:27 hr	2.11	0.87
SWRGM-007602	SWRMH-000524	SWRMH-000525	Y35143	Y35142	350	0.01	15	0.32	0.819	20:19 hr	3.73	1.22
SWRGM-007603	SWRMH-000518	SWRMH-000519	Y35149	Y35148	133	0.004	10	0.19	0.062	19:24 hr	1.33	0.70
SWRGM-007604	SWRMH-008968	SWRMH-006164	SP569MH05	SDMH006164	187	0.008	8	0.57	0.364	20:32 hr	2.77	0.95
SWRGM-007605	SWRMH-006165	SWRMH-008968	SDMH006165	SP569MH05	163	0.006	8	0.61	0.363	20:31 hr	2.53	0.85
SWRGM-007606	SWRMH-000605	SWRMH-002825	Y35171	Y34123	294	0.011	15	0.32	0.837	20:16 hr	3.89	1.28
SWRGM-007607	SWRMH-000528	SWRMH-000558	Y35139	Y35150	313	0.004	10	0.04	0.002	19:06 hr	0.50	0.58
SWRGM-007608	SWRMH-002825	SWRMH-002826	Y34123	Y34122	350	0.011	15	0.32	0.837	20:17 hr	3.84	1.26
SWRGM-007609	SWRMH-008710	SWRMH-008477	AA48105	AB48102	964	0.004	10	0.26	0.117	10:25 hr	1.59	0.71
SWRGM-007610	SWRMH-000570	SWRMH-000569	Y35167	Y35168	369	0.01	15	0.30	0.715	20:38 hr	3.61	1.23
SWRGM-007611	SWRMH-000502	SWRMH-000575	S38115	S38126	48	0.01	10	0.29	0.213	19:23 hr	2.58	1.10
SWRGM-007612	SWRMH-000579	SWRMH-000502	S38122	S38115	307	0.009	10	0.25	0.168	19:31 hr	2.39	1.09
SWRGM-007613	SWRMH-000498	SWRMH-000580	S38119	S38121	325	0.01	10	0.15	0.059	19:34 hr	1.79	1.08
SWRGM-007614	SWRMH-000560	SWRMH-000559	Y35123	Y35124	85	0.005	10	0.18	0.064	19:26 hr	1.48	0.80
SWRGM-007615	SWRMH-000559	SWRMH-000484	Y35124	Y35125	178	0.004	10	0.19	0.064	19:28 hr	1.38	0.73
SWRGM-007616	SWRMH-000499	SWRMH-000498	S38118	S38119	325	0.01	10	0.15	0.057	19:32 hr	1.77	1.07
SWRGM-007617	SWRMH-007043	SWRMH-007044	T38167	T38166	301	0.005	10	0.18	0.055	19:29 hr	1.34	0.74
SWRGM-007618	SWRMH-000596	SWRMH-001050	AA43129	AA44124	186	0.048	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007619	SWRMH-000508	SWRMH-000527	Y35112	Y35140	20	0.37	15	0.12	0.72	20:39 hr	12.76	6.90
SWRGM-007620	SWRMH-000526	SWRMH-000523	Y35141	Y35144	330	0.011	15	0.32	0.819	20:16 hr	3.76	1.23
SWRGM-007621	SWRMH-000523	SWRMH-000524	Y35144	Y35143	350	0.011	15	0.32	0.819	20:18 hr	3.77	1.24
SWRGM-007622	SWRMH-000525	SWRMH-000605	Y35142	Y35171	56	0.003	15	0.43	0.819	20:20 hr	2.49	0.70
SWRGM-007623	SWRMH-000558	SWRMH-000521	Y35150	Y35146	23	0.002	10	0.23	0.061	19:22 hr	0.98	0.47
SWRGM-007624	SWRMH-000519	SWRMH-000483	Y35148	Y35126	270	0.004	10	0.19	0.063	19:25 hr	1.32	0.70
SWRGM-007625	SWRMH-000606	SWRMH-002829	Y34154	Y34119	229	0.013	15	0.31	0.842	20:20 hr	4.09	1.37
SWRGM-007626	SWRMH-002828	SWRMH-000606	Y34120	Y34154	121	0.011	15	0.32	0.837	20:21 hr	3.81	1.25
SWRGM-007627	SWRMH-000615	SWRMH-005953	W46163	W46124	333	0.015	10	0.14	0.065	10:49 hr	2.13	1.32
SWRGM-007628	SWRMH-007044	SWRMH-007253	T38166	T38117	650	0.003	10	0.19	0.057	19:35 hr	1.19	0.63
SWRGM-007629	SWRMH-007253	SWRMH-008208	T38117	T38105	376	0.004	10	0.32	0.186	19:24 hr	1.89	0.75
SWRGM-007630	SWRMH-000569	SWRMH-000508	Y35168	Y35112	335	0.011	15	0.30	0.72	20:38 hr	3.68	1.26
SWRGM-007631	SWRMH-003765	SWRMH-003758	U46104	U46111	83	0.009	12	0.24	0.224	19:40 hr	2.47	1.07
SWRGM-007632	SWRMH-003747	SWRMH-003765	U46122	U46104	147	0.01	12	0.21	0.196	19:41 hr	2.52	1.15
SWRGM-007633	SWRMH-003754	SWRMH-003749	U46115	U46120	197	0.004	10	0.33	0.183	19:27 hr	1.79	0.70
SWRGM-007634	SWRMH-003755	SWRMH-003754	U46114	U46115	197	0.004	10	0.33	0.183	19:26 hr	1.79	0.70
SWRGM-007635	SWRMH-003756	SWRMH-003755	U46113	U46114	149	0.004	10	0.33	0.183	19:25 hr	1.79	0.70
SWRGM-007636	SWRMH-003752	SWRMH-003753	U46117	U46116	280	0.011	10	0.26	0.184	19:32 hr	2.60	1.18
SWRGM-007637	SWRMH-003751	SWRMH-003752	U46118	U46117	247	0.013	10	0.25	0.184	19:31 hr	2.75	1.28
SWRGM-007638	SWRMH-002178	SWRMH-007330	R46141	S46107	163	0.005	10	0.58	0.547	19:44 hr	2.59	0.79
SWRGM-007639	SWRMH-007330	SWRMH-001774	S46107	R46186	166	0.005	10	0.58	0.549	19:45 hr	2.59	0.79
SWRGM-007640	SWRMH-001976	SWRMH-008189	S44170	T44149	322	0.004	15	0.43	0.921	20:04 hr	2.83	0.80
SWRGM-007641	SWRMH-001547	SWRMH-001968	R44196	S44178	320	0.005	15	0.36	0.731	19:55 hr	2.88	0.89
SWRGM-007642	SWRMH-001975	SWRMH-001976	S44171	S44170	350	0.004	15	0.43	0.918	20:02 hr	2.83	0.80
SWRGM-007643	SWRMH-001967	SWRMH-001969	S44179	S44177	324	0.004	15	0.39	0.733	19:58 hr	2.58	0.77
SWRGM-007644	SWRMH-001969	SWRMH-001970	S44177	S44176	201	0.004	15	0.39	0.734	19:59 hr	2.57	0.76
SWRGM-007645	SWRMH-001970	SWRMH-001971	S44176	S44175	203	0.004	15	0.39	0.735	20:00 hr	2.56	0.76
SWRGM-007646	SWRMH-001049	SWRMH-000596	AA44125	AA43129	403	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007647	SWRMH-003064	SWRMH-003065	L45111	L45110	330	0.018	18	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007648	SWRMH-003063	SWRMH-003064	L45112	L45111	330	0.018	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007649	SWRMH-003062	SWRMH-003063	L45113	L45112	330	0.018	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007650	SWRMH-003580	SWRMH-003581	V34104	V34103	284	0.014	27	0.07	0.228	19:38 hr	2.67	1.40
SWRGM-007651	SWRNJ-000342	SWRMH-003581	V34101	V34103	10	0.01	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007652	SWRMH-003576	SWRMH-003577	V35103	V34107	437	0.01	27	0.08	0.228	19:34 hr	2.34	1.17
SWRGM-007653	SWRMH-003583	SWRMH-003600	V34101	V33105	281	0.012	27	0.08	0.228	19:41 hr	2.50	1.28
SWRGM-007654	SWRMH-003582	SWRMH-003583	V34102	V34101	376	0.012	27	0.08	0.228	19:41 hr	2.50	1.28
SWRGM-007655	SWRMH-003581	SWRMH-003582	V34103	V34102	365	0.012	27	0.08	0.228	19:40 hr	2.53	1.30
SWRGM-007656	SWRMH-003579	SWRMH-003580	V34105	V34104	351	0.016	27	0.07	0.228	19:38 hr	2.80	1.49
SWRGM-007657	SWRMH-003585	SWRMH-003584	K47131	K47132	238	0.008	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007659	SWRMH-002801	SWRMH-002794	M43104	M43111	137	0.006	15	0.07	0.024	19:18 hr	1.06	0.79
SWRGM-007660	SWRMH-002798	SWRMH-002799	M43107	M43106	333	0.002	15	0.08	0.024	19:14 hr	0.79	0.53
SWRGM-007661	SWRMH-002797	SWRMH-002798	M43108	M43107	333	0.002	15	0.08	0.024	19:11 hr	0.79	0.53
SWRGM-007662	SWRMH-002784	SWRMH-002797	M43121	M43108	106	0.002	15	0.08	0.024	19:08 hr	0.78	0.52
SWRGM-007663	SWRMH-002796	SWRMH-002795	M43109	M43110	333	0.002	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007664	SWRMH-002802	SWRMH-002784	M43103	M43121	222	0.002	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007665	SWRMH-002800	SWRMH-002803	M43105	M43102	323	0.007	18	0.08	0.057	19:17 hr	1.43	0.91
SWRGM-007666	SWRMH-002799	SWRMH-002801	M43106	M43104	333	0.002	15	0.08	0.024	19:17 hr	0.79	0.53
SWRGM-007667	SWRMH-002899	SWRMH-002896	X35156	X35159	37	0.003	21	0.52	2.787	21:12 hr	3.43	0.75
SWRGM-007668	SWRMH-002898	SWRMH-002900	X35157	X35155	267	0.004	21	0.50	2.787	21:10 hr	3.59	0.80
SWRGM-007669	SWRMH-002900	SWRMH-002899	X35155	X35156	266	0.004	21	0.50	2.787	21:12 hr	3.59	0.80
SWRGM-007670	SWRMH-002921	SWRMH-002893	X35134	X35162	60	0.011	15	0.70	3.178	21:07 hr	5.34	1.25
SWRGM-007671	SWRMH-002894	SWRMH-002895	X35161	X35160	328	0.012	15	0.68	3.171	21:06 hr	5.49	1.30
SWRGM-007672	SWRMH-002895	SWRMH-002921	X35160	X35134	300	0.012	15	0.68	3.171	21:08 hr	5.55	1.31
SWRGM-007673	SWRMH-002893	SWRMH-002892	X35162	X35163	360	0.023	15	0.54	3.179	21:09 hr	7.21	1.83
SWRGM-007674	SWRMH-002896	SWRMH-002894	X35159	X35161	282	0.011	15	0.70	3.171	21:05 hr	5.38	1.26
SWRGM-007676	SWRMH-002902	SWRMH-002908	X35153	X35147	354	0.004	10	0.50	0.406	20:27 hr	2.30	0.74
SWRGM-007677	SWRMH-002908	SWRMH-002904	X35147	X35151	211	0.008	10	0.42	0.406	20:28 hr	2.91	1.02
SWRGM-007678	SWRMH-007977	SWRMH-002990	X34101	X34102	137	0.011	15	0.34	0.971	20:05 hr	4.05	1.28
SWRGM-007679	SWRMH-002989	SWRMH-007977	X34103	X34101	213	0.012	15	0.31	0.843	20:21 hr	3.95	1.31
SWRGM-007680	SWRMH-002829	SWRMH-002989	Y34119	X34103	322	0.013	15	0.31	0.843	20:20 hr	4.12	1.38
SWRGM-007681	SWRMH-002892	SWRMH-002983	X35163	X34109	360	0.023	15	0.54	3.179	21:10 hr	7.21	1.83
SWRGM-007682	SWRMH-002987	SWRMH-002988	X34105	X34104	375	0.013	15	0.66	3.179	21:16 hr	5.74	1.37
SWRGM-007683	SWRMH-002986	SWRMH-002987	X34106	X34105	375	0.013	15	0.66	3.179	21:15 hr	5.74	1.37
SWRGM-007684	SWRMH-002985	SWRMH-002986	X34107	X34106	367	0.013	15	0.66	3.179	21:13 hr	5.78	1.38
SWRGM-007685	SWRMH-003161	SWRMH-002615	V49101	V49116	310	0.012	10	0.05	0.006	10:05 hr	0.95	1.03
SWRGM-007686	SWRMH-001960	SWRMH-002623	R44113	R44101	267	0.002	18	0.35	0.747	19:59 hr	2.07	0.59
SWRGM-007687	SWRMH-002623	SWRMH-001572	R44101	R44171	390	0.002	18	0.35	0.748	20:01 hr	2.08	0.59
SWRGM-007688	SWRMH-002686	SWRMH-002685	P42109	P42110	343	0.003	18	0.09	0.057	20:25 hr	1.10	0.64
SWRGM-007689	SWRMH-002699	SWRMH-002700	O45103	O45102	169	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007690	SWRMH-007643	SWRMH-007646	S29105	S29102	252	0.004	10	0.07	0.008	19:17 hr	0.71	0.62
SWRGM-007691	SWRMH-007645	SWRMH-007644	S29103	S29104	352	0.004	10	0.07	0.008	19:11 hr	0.72	0.62
SWRGM-007692	SWRMH-007646	SWRMH-007642	S29102	S29106	242	0.004	10	0.07	0.008	19:19 hr	0.72	0.63
SWRGM-007693	SWRMH-008944	SWRMH-007975	S28104	S27101	318	0.004	12	0.06	0.008	19:39 hr	0.69	0.61
SWRGM-007694	SWRMH-003421	SWRMH-003425	V39134	V39130	233	0.02	18	0.33	1.967	20:56 hr	6.01	1.77
SWRGM-007695	SWRMH-003425	SWRMH-003432	V39130	V39123	300	0.018	18	0.34	1.97	20:57 hr	5.75	1.66
SWRGM-007696	SWRMH-003432	SWRMH-003418	V39123	V39137	116	0.016	18	0.35	1.973	20:57 hr	5.46	1.55
SWRGM-007697	SWRMH-003418	SWRMH-003435	V39137	V39120	226	0.016	18	0.35	1.974	20:57 hr	5.45	1.55
SWRGM-007698	SWRMH-003435	SWRMH-003440	V39120	V39115	288	0.014	18	0.36	1.978	20:58 hr	5.29	1.48
SWRGM-007699	SWRMH-003440	SWRMH-003417	V39115	V39138	157	0.007	18	0.45	2.004	20:57 hr	4.03	1.02
SWRGM-007700	SWRMH-003379	SWRMH-003419	V39176	V39136	334	0.005	18	0.48	1.963	20:55 hr	3.66	0.90
SWRGM-007701	SWRMH-003614	SWRMH-003610	K47110	K47111	320	0.007	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007702	SWRMH-003740	SWRMH-003741	U46129	U46128	350	0.012	10	0.04	0.004	19:05 hr	0.84	1.00
SWRGM-007703	SWRMH-003745	SWRMH-003746	U46124	U46123	350	0.012	12	0.20	0.195	19:38 hr	2.68	1.26
SWRGM-007704	SWRMH-003762	SWRMH-003740	U46107	U46129	206	0.012	10	0.04	0.003	19:03 hr	0.81	1.00
SWRGM-007706	SWRMH-003625	SWRMH-003624	V31101	V31102	349	0.01	27	0.11	0.412	19:55 hr	2.81	1.23
SWRGM-007707	SWRMH-003624	SWRMH-003623	V31102	V31103	190	0.012	27	0.10	0.412	19:55 hr	3.02	1.35
SWRGM-007708	SWRMH-003623	SWRMH-003622	V31103	V31104	349	0.01	27	0.11	0.412	19:56 hr	2.81	1.22
SWRGM-007709	SWRMH-003622	SWRMH-003621	V31104	V31105	340	0.011	27	0.10	0.412	19:57 hr	2.95	1.31
SWRGM-007713	SWRMH-002794	SWRMH-002800	M43111	M43105	197	0.006	15	0.09	0.045	19:17 hr	1.34	0.87
SWRGM-007714	SWRMH-002795	SWRMH-002802	M43110	M43103	333	0.011	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007721	SWRMH-002807	SWRMH-002806	Z34110	Z34111	303	0.079	10	0.05	0.016	19:07 hr	2.50	2.64
SWRGM-007722	SWRMH-002808	SWRMH-002809	Z34109	Z34108	350	0.059	10	0.05	0.016	19:09 hr	2.26	2.30
SWRGM-007726	SWRMH-000577	SWRMH-007394	S38124	T38125	128	0.006	12	0.26	0.217	19:26 hr	2.09	0.86
SWRGM-007727	SWRMH-000580	SWRMH-009249	SDMH000580	SP634MH9	327	0.009	10	0.15	0.061	19:36 hr	1.77	1.05
SWRGM-007728	SWRMH-000575	SWRMH-000578	S38126	S38123	345	0.01	10	0.28	0.217	19:24 hr	2.64	1.13
SWRGM-007729	SWRMH-000497	SWRMH-000499	S38120	S38118	334	0.01	10	0.15	0.057	19:30 hr	1.78	1.07
SWRGM-007730	SWRMH-006779	SWRMH-006788	R47185	R47176	129	0.005	10	0.28	0.153	19:19 hr	1.91	0.83
SWRGM-007731	SWRMH-006775	SWRMH-006776	R47189	R47188	149	0.005	10	0.27	0.145	19:17 hr	1.88	0.82
SWRGM-007732	SWRMH-006780	SWRMH-006778	R47184	R47186	180	0.019	10	0.16	0.098	19:20 hr	2.64	1.52
SWRGM-007733	SWRMH-006785	SWRMH-006789	R47179	R47175	192	0.011	10	0.26	0.189	19:20 hr	2.58	1.16
SWRGM-007734	SWRMH-006787	SWRMH-006785	R47177	R47179	170	0.005	10	0.31	0.184	19:19 hr	2.00	0.82
SWRGM-007735	SWRMH-006856	SWRMH-006860	R47140	R47136	300	0.016	10	0.11	0.038	19:23 hr	1.85	1.31
SWRGM-007736	SWRMH-006789	SWRMH-006856	R47175	R47140	300	0.011	10	0.12	0.038	19:21 hr	1.64	1.11
SWRGM-007737	SWRMH-006788	SWRMH-006787	R47176	R47177	170	0.005	10	0.31	0.183	19:18 hr	2.00	0.82
SWRGM-007738	SWRMH-006778	SWRMH-006775	R47186	R47189	134	0.01	10	0.23	0.139	19:17 hr	2.29	1.10
SWRGM-007739	SWRMH-006860	SWRMH-006859	R47136	R47137	300	0.013	10	0.14	0.058	19:22 hr	1.98	1.24
SWRGM-007740	SWRMH-006859	SWRMH-006858	R47137	R47138	92	0.014	10	0.14	0.058	19:23 hr	2.00	1.26
SWRGM-007741	SWRMH-006858	SWRMH-006857	R47138	R47139	211	0.01	10	0.16	0.071	19:23 hr	1.93	1.11
SWRGM-007742	SWRMH-008273	SWRMH-008272	AA33106	AA33107	431	0.001	24	0.10	0.08	10:28 hr	0.78	0.37
SWRGM-007743	SWRMH-008276	SWRMH-008275	AA33103	AA33104	427	0.003	24	0.08	0.08	10:15 hr	1.09	0.59
SWRGM-007744	SWRMH-008275	SWRMH-008274	AA33104	AA33105	419	0.002	24	0.09	0.08	10:19 hr	0.94	0.48
SWRGM-007745	SWRMH-008274	SWRMH-008273	AA33105	AA33106	416	0.002	24	0.09	0.08	10:23 hr	0.93	0.48
SWRGM-007746	SWRMH-002130	SWRMH-002129	R48112	R48113	350	0.011	10	0.02	0.001	19:02 hr	0.51	0.87
SWRGM-007747	SWRMH-002093	SWRMH-002094	R48149	R48148	320	0.002	12	0.37	0.268	20:00 hr	1.59	0.54
SWRGM-007748	SWRMH-002094	SWRMH-001708	R48148	Q48116	320	0.002	12	0.37	0.268	20:03 hr	1.60	0.55
SWRGM-007749	SWRMH-002125	SWRMH-002086	R48117	R48156	204	0.008	10	0.18	0.081	19:21 hr	1.86	1.01
SWRGM-007750	SWRMH-006525	SWRMH-007171	Z35112	Z35102	300	0.036	10	0.04	0.006	19:02 hr	1.39	1.71
SWRGM-007751	SWRMH-006528	SWRMH-006527	Z35109	Z35110	220	0.019	12	0.02	0.002	19:01 hr	0.74	1.16
SWRGM-007752	SWRMH-006776	SWRMH-006779	R47188	R47185	303	0.005	10	0.28	0.152	19:18 hr	1.85	0.79
SWRGM-007753	SWRMH-003598	SWRMH-003604	V33107	V33101	295	0.011	27	0.08	0.228	19:43 hr	2.48	1.27

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007754	SWRMH-003597	SWRMH-003607	V33108	V32106	342	0.01	27	0.11	0.412	19:47 hr	2.81	1.22
SWRGM-007755	SWRMH-003595	SWRMH-003601	V33110	V33104	368	0.023	15	0.11	0.15	19:47 hr	2.99	1.69
SWRGM-007756	SWRMH-003594	SWRMH-003595	V33111	V33110	386	0.021	15	0.12	0.149	19:45 hr	2.93	1.64
SWRGM-007757	SWRMH-003600	SWRMH-003599	V33105	V33106	280	0.012	27	0.08	0.228	19:41 hr	2.50	1.28
SWRGM-007758	SWRMH-003599	SWRMH-003598	V33106	V33107	163	0.011	27	0.08	0.228	19:42 hr	2.43	1.24
SWRGM-007759	SWRMH-003607	SWRMH-003611	V32106	V32103	337	0.01	27	0.11	0.412	19:48 hr	2.81	1.22
SWRGM-007760	SWRMH-003608	SWRMH-003613	V32105	V32101	294	0.01	27	0.11	0.412	19:51 hr	2.81	1.22
SWRGM-007761	SWRMH-003621	SWRMH-003119	V31105	W31104	102	0.014	27	0.10	0.412	19:57 hr	3.19	1.45
SWRGM-007762	SWRMH-003122	SWRMH-003130	W31101	W30107	350	0.023	27	0.14	1.029	10:02 hr	4.95	1.91
SWRGM-007763	SWRMH-003129	SWRMH-003128	W30108	W30109	350	0.052	27	0.11	1.029	10:04 hr	6.60	2.82
SWRGM-007764	SWRMH-003128	SWRMH-003127	W30109	W30110	350	0.028	27	0.13	1.029	10:04 hr	5.30	2.10
SWRGM-007765	SWRMH-003127	SWRMH-003126	W30110	W30111	351	0.02	27	0.14	1.029	10:06 hr	4.70	1.78
SWRGM-007766	SWRMH-003126	SWRMH-003125	W30111	W30112	105	0.017	27	0.14	1.029	10:06 hr	4.51	1.68
SWRGM-007767	SWRMH-003125	SWRMH-003124	W30112	W30113	114	0.021	27	0.14	1.029	10:06 hr	4.78	1.82
SWRGM-007768	SWRMH-003124	SWRMH-003123	W30113	W30114	243	0.01	27	0.16	1.029	10:06 hr	3.74	1.31
SWRGM-007769	SWRMH-003130	SWRMH-003129	W30107	W30108	350	0.039	27	0.12	1.029	10:03 hr	5.96	2.45
SWRGM-007771	SWRMH-009078	SWRMH-001508	SP656MH7	SDMH001508	352	0.023	15	0.41	1.904	20:46 hr	6.27	1.81
SWRGM-007772	SWRMH-001507	SWRMH-001506	U40179	U40180	29	0.014	15	0.47	1.904	20:48 hr	5.23	1.42
SWRGM-007778	SWRMH-003043	SWRMH-003036	X30102	X30109	329	0.027	21	0.36	4.089	21:32 hr	8.03	2.08
SWRGM-007779	SWRMH-006991	SWRMH-006990	R41108	R41109	306	0.013	24	0.22	1.574	20:05 hr	4.62	1.45
SWRGM-007780	SWRMH-009063	SWRMH-006991	SP637MH6	SDMH006991	350	0.012	24	0.23	1.574	20:05 hr	4.59	1.44
SWRGM-007781	SWRMH-007639	SWRMH-007638	R41103	R41104	225	0.012	24	0.23	1.632	20:07 hr	4.59	1.42
SWRGM-007782	SWRMH-007641	SWRMH-007640	R41101	R41102	350	0.012	24	0.23	1.632	20:06 hr	4.63	1.43
SWRGM-007783	SWRMH-006990	SWRMH-007641	R41109	R41101	393	0.012	24	0.23	1.632	20:05 hr	4.64	1.44
SWRGM-007784	SWRNJ-000103	SWRMH-006990	R41104	R41109	35	0.004	10	0.23	0.09	10:30 hr	1.47	0.71
SWRGM-007785	SWRMH-007000	SWRMH-006996	R40101	R40105	202	0.012	24	0.23	1.632	20:12 hr	4.65	1.44
SWRGM-007786	SWRMH-007638	SWRMH-006999	R41104	R40102	474	0.013	24	0.23	1.632	20:09 hr	4.68	1.45
SWRGM-007787	SWRMH-006996	SWRMH-006995	R40105	R40106	350	0.013	24	0.23	1.632	20:14 hr	4.67	1.45
SWRGM-007788	SWRMH-006999	SWRMH-006998	R40102	R40103	350	0.012	24	0.23	1.632	20:10 hr	4.63	1.43
SWRGM-007789	SWRMH-006998	SWRMH-006997	R40103	R40104	250	0.012	24	0.23	1.632	20:10 hr	4.62	1.43
SWRGM-007790	SWRMH-006997	SWRMH-007000	R40104	R40101	248	0.012	24	0.23	1.632	20:11 hr	4.57	1.41
SWRGM-007791	SWRMH-002569	SWRMH-002570	R39104	R39103	280	0.007	24	0.27	1.632	20:17 hr	3.75	1.07
SWRGM-007792	SWRMH-002570	SWRMH-002571	R39103	R39102	350	0.007	24	0.27	1.632	20:18 hr	3.76	1.08
SWRGM-007793	SWRMH-002571	SWRMH-002572	R39102	R39101	350	0.007	24	0.27	1.632	20:20 hr	3.76	1.08
SWRGM-007794	SWRMH-002572	SWRMH-001626	R39101	R39119	350	0.007	24	0.27	1.632	20:21 hr	3.76	1.08
SWRGM-007795	SWRMH-001626	SWRMH-001627	R39119	R39118	350	0.003	24	0.32	1.632	20:24 hr	2.94	0.76
SWRGM-007796	SWRMH-001627	SWRMH-001628	R39118	R39117	350	0.003	24	0.32	1.632	20:26 hr	2.94	0.76
SWRGM-007797	SWRMH-006995	SWRMH-001629	R40106	R39116	385	0.011	24	0.23	1.632	20:15 hr	4.51	1.38
SWRGM-007798	SWRMH-001628	SWRMH-006609	R39117	S39101	350	0.003	24	0.32	1.632	20:28 hr	2.94	0.76
SWRGM-007799	SWRMH-001629	SWRMH-002569	R39116	R39104	385	0.011	24	0.23	1.632	20:16 hr	4.51	1.38
SWRGM-007800	SWRMH-006477	SWRMH-006478	Q51104	Q51103	350	0.009	12	0.02	0.001	19:41 hr	0.46	0.77
SWRGM-007801	SWRMH-006476	SWRMH-006477	Q51105	Q51104	350	0.012	12	0.02	0.001	19:38 hr	0.51	0.89
SWRGM-007802	SWRMH-006475	SWRMH-006476	Q51106	Q51105	350	0.005	12	0.02	0.001	19:37 hr	0.38	0.59
SWRGM-007803	SWRMH-006474	SWRMH-006475	Q51107	Q51106	350	0.005	12	0.02	0.001	19:34 hr	0.38	0.59
SWRGM-007804	SWRMH-006473	SWRMH-006474	Q51108	Q51107	272	0.005	12	0.02	0.001	19:31 hr	0.38	0.59
SWRGM-007805	SWRMH-006522	SWRMH-006552	Q50101	R50101	290	0.04	10	0.07	0.025	19:06 hr	2.26	1.98
SWRGM-007806	SWRMH-002990	SWRMH-003000	X34102	X33111	352	0.012	15	0.34	0.974	20:06 hr	4.15	1.32
SWRGM-007807	SWRMH-003587	SWRMH-003586	K47129	K47130	271	0.006	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007808	SWRMH-001408	SWRMH-001412	Q43120	Q43116	267	0.013	12	0.17	0.143	19:13 hr	2.49	1.28
SWRGM-007809	SWRMH-003416	SWRMH-003471	V39139	V38137	53	0.004	18	0.52	2.006	20:58 hr	3.31	0.78
SWRGM-007810	SWRMH-004196	SWRMH-004273	V38109	W38158	376	0.004	21	0.49	2.684	20:45 hr	3.57	0.80
SWRGM-007811	SWRMH-004189	SWRMH-004187	V38117	V38119	350	0.003	12	0.42	0.424	19:47 hr	2.08	0.66
SWRGM-007812	SWRMH-007651	SWRMH-007648	S28105	S28108	280	0.005	12	0.06	0.008	19:34 hr	0.76	0.69
SWRGM-007813	SWRMH-007973	SWRMH-007651	S28102	S28105	278	0.005	12	0.06	0.008	19:31 hr	0.76	0.69
SWRGM-007814	SWRMH-003584	SWRMH-003013	K47132	L47102	242	0.008	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007815	SWRMH-003002	SWRMH-003008	X33109	X33103	378	0.011	15	0.69	3.179	21:24 hr	5.42	1.28
SWRGM-007816	SWRMH-003009	SWRMH-003005	X33102	X33106	350	0.012	15	0.34	0.976	20:12 hr	4.18	1.34
SWRGM-007817	SWRMH-002988	SWRMH-003001	X34104	X33110	372	0.013	15	0.65	3.179	21:18 hr	5.80	1.39
SWRGM-007818	SWRNJ-000418	SWRMH-006134	W46102	W46130	10	0.008	15	0.01	0.001	18:59 hr	0.37	0.71
SWRGM-007819	SWRNJ-000398	SWRMH-006131	W46101	W46133	10	0.008	12	0.01	0	19:00 hr	0.38	0.71
SWRGM-007820	SWRMH-003123	SWRNJ-000411	W30114	W30101	10	0.192	27	0.08	1.029	10:07 hr	10.43	5.22
SWRGM-007821	SWRNJ-000708	SWRMH-001049	AA44102	AA44125	5	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007823	SWRNJ-000133	SWRMH-001626	R39196	R39119	35	0.004	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-007824	SWRNJ-000024	SWRMH-000671	L47104	L47108	11	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-007825	SWRMH-000671	SWRMH-002993	L47108	L47107	350	0.034	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007826	SWRMH-002991	SWRMH-000671	L47110	L47108	60	0.006	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007827	SWRMH-000879	SWRMH-000880	T36115	T36114	27	0.004	18	0.07	0.031	19:05 hr	1.00	0.69
SWRGM-007828	SWRMH-000878	SWRMH-000879	T36116	T36115	214	0.004	18	0.06	0.031	19:04 hr	1.01	0.70
SWRGM-007829	SWRMH-000880	SWRMH-009257	T36114	T36113	135	0.005	18	0.06	0.031	19:05 hr	1.06	0.74
SWRGM-007830	SWRMH-002127	SWRMH-002126	R48115	R48116	107	0.006	10	0.19	0.073	19:17 hr	1.57	0.83
SWRGM-007831	SWRMH-002128	SWRMH-002127	R48114	R48115	193	0.012	10	0.16	0.072	19:18 hr	2.06	1.21
SWRGM-007833	SWRMH-002136	SWRMH-002093	R48106	R48149	290	0.003	12	0.35	0.268	19:57 hr	1.71	0.60
SWRGM-007834	SWRMH-002101	SWRMH-002132	R48141	R48110	90	0.004	10	0.21	0.07	19:16 hr	1.32	0.66
SWRGM-007835	SWRMH-002708	SWRMH-002714	O43112	O43106	326	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007836	SWRMH-002711	SWRMH-002712	O43109	O43108	330	0.014	18	0.06	0.057	19:57 hr	1.85	1.28
SWRGM-007837	SWRMH-002710	SWRMH-002711	O43110	O43109	330	0.014	18	0.06	0.057	19:56 hr	1.85	1.28
SWRGM-007838	SWRMH-002129	SWRMH-002128	R48113	R48114	315	0.011	10	0.02	0.001	19:04 hr	0.51	0.87
SWRGM-007839	SWRMH-003588	SWRMH-003587	K47128	K47129	273	0.012	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007847	SWRMH-003589	SWRMH-003588	K47127	K47128	260	0.012	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007850	SWRMH-003761	SWRMH-003745	U46108	U46124	247	0.009	12	0.21	0.194	19:37 hr	2.44	1.11
SWRGM-007851	SWRMH-003758	SWRMH-003748	U46111	U46121	350	0.005	12	0.27	0.226	19:43 hr	2.02	0.81
SWRGM-007852	SWRMH-006857	SWRMH-002201	R47139	R46118	267	0.011	10	0.16	0.074	19:24 hr	1.95	1.12
SWRGM-007853	SWRMH-002086	SWRMH-006780	R48156	R47184	190	0.02	10	0.16	0.093	19:20 hr	2.60	1.52
SWRGM-007854	SWRMH-005948	SWRMH-006130	W46146	W46135	137	0.021	15	0.27	0.852	19:44 hr	4.89	1.75
SWRGM-007855	SWRMH-006300	SWRMH-006302	Y45142	Y45140	96	0.003	12	0.59	0.723	20:11 hr	2.34	0.65
SWRGM-007857	SWRMH-006220	SWRMH-005569	AC44103	AC44115	293	0.01	15	0.44	1.448	19:54 hr	4.29	1.19
SWRGM-007858	SWRMH-004589	SWRMH-006220	AC44141	AC44103	57	0.009	15	0.45	1.448	19:53 hr	4.22	1.17
SWRGM-007859	SWRMH-005992	SWRMH-005991	Z42104	Z42105	340	0.014	10	0.49	0.706	20:16 hr	4.08	1.32
SWRGM-007860	SWRMH-005991	SWRMH-004976	Z42105	Z42154	300	0.014	10	0.49	0.708	20:17 hr	4.08	1.32
SWRGM-007861	SWRMH-002610	SWRMH-005778	AA40104	AA39111	303	0.023	12	0.44	1.217	20:08 hr	5.69	1.77
SWRGM-007862	SWRMH-009249	SWRMH-000579	SP634MH9	SDMH000579	348	0.011	10	0.24	0.166	19:29 hr	2.52	1.17

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007863	SWRMH-000578	SWRMH-000577	S38123	S38124	135	0.01	10	0.29	0.217	19:25 hr	2.60	1.11
SWRGM-007864	SWRMH-007042	SWRMH-007043	T38168	T38167	335	0.004	10	0.18	0.055	19:26 hr	1.27	0.69
SWRGM-007866	SWRMH-003753	SWRMH-003742	U46116	U46127	273	0.011	10	0.25	0.185	19:33 hr	2.63	1.20
SWRGM-007867	SWRMH-003742	SWRMH-003743	U46127	U46126	201	0.01	12	0.21	0.189	19:35 hr	2.44	1.12
SWRGM-007868	SWRMH-003749	SWRMH-003750	U46120	U46119	250	0.006	10	0.30	0.184	19:28 hr	2.09	0.87
SWRGM-007869	SWRMH-001506	SWRMH-001505	U40180	U40181	141	0.018	15	0.44	1.905	20:48 hr	5.73	1.60
SWRGM-007870	SWRMH-001502	SWRMH-001501	U40184	U40185	280	0.005	15	0.65	1.947	20:49 hr	3.56	0.85
SWRGM-007871	SWRMH-001504	SWRMH-001503	U40182	U40183	203	0.024	15	0.40	1.908	20:49 hr	6.40	1.86
SWRGM-007872	SWRMH-001503	SWRMH-001502	U40183	U40184	219	0.014	15	0.47	1.909	20:50 hr	5.28	1.43
SWRGM-007873	SWRMH-001508	SWRMH-001507	U40178	U40179	330	0.012	15	0.49	1.904	20:47 hr	5.00	1.33
SWRGM-007878	SWRMH-003049	SWRMH-003062	L46102	L45113	330	0.018	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007879	SWRMH-003073	SWRMH-003074	L45102	L45101	330	0.008	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007880	SWRMH-003072	SWRMH-003073	L45103	L45102	330	0.008	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007881	SWRMH-003071	SWRMH-003072	L45104	L45103	330	0.008	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007882	SWRMH-003070	SWRMH-003071	L45105	L45104	330	0.002	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007883	SWRMH-003069	SWRMH-003070	L45106	L45105	309	0.002	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007884	SWRMH-003068	SWRMH-003069	L45107	L45106	309	0.004	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007885	SWRMH-003067	SWRMH-003068	L45108	L45107	310	0.004	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007886	SWRMH-003066	SWRMH-003067	L45109	L45108	331	0.013	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007887	SWRMH-003065	SWRMH-003066	L45110	L45109	330	0.013	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007888	SWRMH-003586	SWRMH-003585	K47130	K47131	254	0.008	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007892	SWRMH-008477	SWRMH-005903	AB48102	AB48115	110	0.01	10	0.21	0.117	10:25 hr	2.17	1.09
SWRGM-007893	SWRMH-003578	SWRMH-003579	V34106	V34105	350	0.016	27	0.07	0.228	19:37 hr	2.77	1.47
SWRGM-007894	SWRMH-003577	SWRMH-003578	V34107	V34106	427	0.011	27	0.08	0.228	19:36 hr	2.44	1.24
SWRGM-007896	SWRMH-003604	SWRMH-003603	V33101	V33102	350	0.011	27	0.08	0.228	19:44 hr	2.43	1.23
SWRGM-007897	SWRMH-003603	SWRMH-003602	V33102	V33103	285	0.01	27	0.08	0.228	19:45 hr	2.36	1.19
SWRGM-007898	SWRMH-003602	SWRMH-003601	V33103	V33104	242	0.01	27	0.08	0.228	19:45 hr	2.32	1.16
SWRGM-007899	SWRMH-002733	SWRMH-002734	N43106	N43105	333	0.002	18	0.10	0.057	19:30 hr	0.93	0.51
SWRGM-007900	SWRMH-002732	SWRMH-002733	N43107	N43106	333	0.012	18	0.07	0.057	19:27 hr	1.74	1.17
SWRGM-007901	SWRMH-002731	SWRMH-002732	N43108	N43107	333	0.005	18	0.08	0.057	19:26 hr	1.31	0.80
SWRGM-007904	SWRNJ-000922	SWRMH-006097	AC48101	AC48109	10	0.003	10	0.11	0.018	10:00 hr	0.83	0.58
SWRGM-007905	SWRMH-005898	SWRMH-008491	AB48101	AB48120	142	0.002	10	0.50	0.282	10:41 hr	1.61	0.52
SWRGM-007906	SWRMH-008491	SWRMH-005897	AB48121	AB48101	158	0.005	10	0.40	0.289	10:42 hr	2.17	0.77
SWRGM-007907	SWRMH-008482	SWRMH-008483	AA36102	AA35108	268	0.001	14	0.10	0.023	19:17 hr	0.60	0.37
SWRGM-007908	SWRMH-008489	SWRMH-007701	AA35102	AA35131	298	0.003	14	0.11	0.045	19:20 hr	1.03	0.60
SWRGM-007909	SWRMH-008487	SWRMH-008535	AA35104	AA34103	315	0.01	14	0.02	0.002	10:01 hr	0.63	0.87
SWRGM-007910	SWRMH-006121	SWRMH-008481	AA36149	AA36103	277	0.001	14	0.10	0.023	19:13 hr	0.66	0.42
SWRGM-007916	SWRNJ-000366	SWRMH-004193	V38304	V38113	129	0.022	18	0.34	2.146	20:57 hr	6.31	1.83
SWRGM-007917	SWRMH-003611	SWRMH-003609	V32103	V32104	337	0.01	27	0.11	0.412	19:49 hr	2.81	1.22
SWRGM-007918	SWRMH-003046	SWRMH-003047	L46105	L46104	334	0.014	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007919	SWRMH-003045	SWRMH-003046	L46106	L46105	334	0.014	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007920	SWRMH-003052	SWRMH-003051	W34110	W34111	161	0.027	15	0.09	0.1	19:34 hr	2.83	1.80
SWRGM-007921	SWRMH-003060	SWRMH-003058	W34102	W34104	201	0.027	15	0.11	0.147	19:38 hr	3.16	1.82
SWRGM-007922	SWRMH-003058	SWRMH-003086	W34104	W33109	258	0.004	15	0.17	0.148	19:40 hr	1.62	0.74
SWRGM-007923	SWRMH-003055	SWRMH-003056	W34107	W34106	350	0.017	15	0.12	0.146	19:35 hr	2.67	1.46
SWRGM-007924	SWRMH-003054	SWRMH-003055	W34108	W34107	189	0.031	15	0.10	0.146	19:34 hr	3.33	1.97
SWRGM-007925	SWRMH-003061	SWRMH-003060	W34101	W34102	211	0.009	15	0.14	0.147	19:38 hr	2.14	1.08
SWRGM-007926	SWRMH-003042	SWRMH-003043	X30103	X30102	350	0.025	21	0.37	4.089	21:32 hr	7.79	2.00
SWRGM-007927	SWRMH-003041	SWRMH-003040	X30104	X30105	350	0.028	18	0.45	4.089	21:30 hr	8.20	2.06
SWRGM-007931	SWRMH-007021	SWRMH-008489	AA35129	AA35102	153	0.01	14	0.08	0.039	19:18 hr	1.51	1.05
SWRGM-007932	SWRMH-008483	SWRMH-007021	AA35108	AA35129	222	0.001	14	0.10	0.023	19:19 hr	0.64	0.40
SWRGM-007933	SWRMH-002730	SWRMH-002731	N43109	N43108	333	0.002	18	0.10	0.057	19:24 hr	1.01	0.57
SWRGM-007934	SWRMH-002747	SWRMH-002720	M45101	N45110	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007935	SWRMH-005746	SWRMH-004738	X44107	X44115	148	0.018	15	0.21	0.469	20:06 hr	3.85	1.58
SWRGM-007936	SWRMH-001603	SWRMH-002622	R43122	R43101	266	0.015	18	0.22	0.78	19:56 hr	4.09	1.48
SWRGM-007937	SWRMH-002622	SWRMH-001604	R43101	R43121	352	0.014	18	0.23	0.784	19:56 hr	4.01	1.44
SWRGM-007938	SWRMH-001613	SWRMH-001603	R43120	R43122	232	0.015	18	0.22	0.779	19:55 hr	4.18	1.53
SWRGM-007939	SWRMH-009288	SWRMH-001614	R43102	R43119	39	0.002	18	0.36	0.779	19:54 hr	2.11	0.59
SWRGM-007940	SWRMH-001572	SWRMH-009288	R44171	R43102	302	0.002	18	0.35	0.755	20:01 hr	2.10	0.60
SWRGM-007941	SWRMH-001434	SWRMH-001435	Q42111	Q42110	302	0.003	18	0.31	0.677	19:47 hr	2.23	0.68
SWRGM-007942	SWRMH-001429	SWRMH-001434	Q42116	Q42111	17	0.004	18	0.29	0.677	19:45 hr	2.49	0.79
SWRGM-007943	SWRMH-001431	SWRMH-001424	Q42114	Q42121	44	0.013	15	0.26	0.626	19:33 hr	3.79	1.38
SWRGM-007944	SWRMH-001428	SWRMH-001429	Q42117	Q42116	289	0.008	15	0.30	0.626	19:39 hr	3.09	1.04
SWRGM-007945	SWRMH-001427	SWRMH-001428	Q42118	Q42117	330	0.008	15	0.30	0.626	19:38 hr	3.12	1.06
SWRGM-007946	SWRMH-001426	SWRMH-001427	Q42119	Q42118	262	0.008	15	0.30	0.626	19:36 hr	3.16	1.07
SWRGM-007947	SWRMH-001425	SWRMH-001426	Q42120	Q42119	156	0.015	15	0.25	0.626	19:35 hr	3.94	1.46
SWRGM-007948	SWRMH-001424	SWRMH-001425	Q42121	Q42120	300	0.015	15	0.25	0.626	19:34 hr	3.96	1.47
SWRGM-007949	SWRMH-002689	SWRMH-002688	P42106	P42107	335	0.004	18	0.09	0.057	20:19 hr	1.15	0.67
SWRGM-007950	SWRMH-003380	SWRMH-003379	V39175	V39176	113	0.008	18	0.43	1.957	20:53 hr	4.18	1.08
SWRGM-007951	SWRMH-003419	SWRMH-003420	V39136	V39135	28	0.011	18	0.39	1.963	20:55 hr	4.74	1.28
SWRGM-007952	SWRMH-007705	SWRMH-004189	U38174	V38117	348	0.003	12	0.43	0.423	19:44 hr	2.02	0.63
SWRGM-007953	SWRMH-002709	SWRMH-002710	O43111	O43110	330	0.014	18	0.06	0.057	19:55 hr	1.85	1.28
SWRGM-007954	SWRMH-000734	SWRMH-000794	P49142	P48120	164	0.015	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007955	SWRMH-000797	SWRMH-000796	P48117	P48118	350	0.002	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007957	SWRMH-003867	SWRMH-003869	AB44115	AB44113	77	0.12	10	0.06	0.033	19:23 hr	3.58	3.36
SWRGM-007958	SWRMH-008277	SWRNS-000009	AA32110	AA32101	25	0.077	15	0.06	0.083	19:29 hr	3.85	2.90
SWRGM-007959	SWRMH-008278	SWRMH-008277	AA32109	AA32110	43	0.038	15	0.05	0.027	19:18 hr	2.15	1.94
SWRGM-007960	SWRMH-000796	SWRMH-000795	P48118	P48119	350	0.002	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007961	SWRMH-002079	SWRMH-000878	T36111	T36116	128	0.018	18	0.05	0.031	19:03 hr	1.69	1.39
SWRGM-007962	SWRMH-008472	SWRMH-008278	AA32104	AA32109	216	0.003	12	0.11	0.027	19:18 hr	0.86	0.54
SWRGM-007963	SWRMH-008560	SWRMH-005537	Y38104	Y38123	228	0.007	8	0.72	0.495	21:27 hr	2.83	0.90
SWRGM-007964	SWRMH-004682	SWRMH-006644	X36167	X36103	231	0.004	21	0.51	2.774	21:08 hr	3.53	0.78
SWRGM-007965	SWRMH-003075	SWRMH-003076	L44109	L44108	331	0.012	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007966	SWRMH-003067	SWRMH-003075	L45108	L44109	329	0.011	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007967	SWRMH-003081	SWRMH-003082	L44103	L44102	340	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007968	SWRMH-003082	SWRMH-003083	L44102	L44101	295	0.014	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-007969	SWRMH-003088	SWRMH-003594	W33107	V33111	386	0.012	15	0.13	0.149	19:44 hr	2.41	1.26
SWRGM-007970	SWRMH-003087	SWRMH-003088	W33108	W33107	386	0.012	15	0.13	0.148	19:42 hr	2.40	1.26
SWRGM-007971	SWRMH-003086	SWRMH-003087	W33109	W33108	258	0.014	15	0.13	0.148	19:41 hr	2.51	1.34
SWRGM-007972	SWRMH-003076	SWRMH-003077	L44108	L44107	331	0.012	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007973	SWRMH-003079	SWRMH-003080	L44105	L44104	330	0.028	18	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-007974	SWRMH-003078	SWRMH-003079	L44106	L44105	331	0.017	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007975	SWRMH-003077	SWRMH-003078	L44107	L44106	331	0.012	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-007976	SWRMH-007072	SWRMH-007071	T43130	T43131	308	0.007	10	0.39	0.327	19:22 hr	2.58	0.94
SWRGM-007977	SWRMH-007096	SWRMH-007095	T43106	T43107	350	0.008	10	0.19	0.082	19:19 hr	1.80	0.96
SWRGM-007978	SWRMH-007086	SWRMH-007096	T43116	T43106	350	0.008	10	0.19	0.082	19:17 hr	1.82	0.98
SWRGM-007979	SWRMH-007073	SWRMH-007072	T43129	T43130	46	0.003	10	0.51	0.327	19:20 hr	1.80	0.57
SWRGM-007980	SWRMH-007095	SWRMH-007094	T43107	T43108	272	0.008	10	0.19	0.082	19:20 hr	1.82	0.97
SWRGM-007981	SWRMH-007105	SWRMH-007111	T42101	T41101	350	0.024	12	0.23	0.35	19:33 hr	4.04	1.78
SWRGM-007982	SWRMH-007104	SWRMH-007105	T42102	T42101	280	0.01	12	0.28	0.35	19:32 hr	2.95	1.15
SWRGM-007983	SWRMH-007103	SWRMH-007104	T42103	T42102	133	0.01	10	0.36	0.35	19:30 hr	3.02	1.13
SWRGM-007984	SWRMH-007101	SWRMH-007102	T42105	T42104	286	0.014	10	0.33	0.341	19:29 hr	3.36	1.32
SWRGM-007985	SWRMH-007100	SWRMH-007101	T42106	T42105	319	0.01	10	0.36	0.341	19:28 hr	2.97	1.12
SWRGM-007986	SWRMH-007099	SWRMH-007100	T42107	T42106	341	0.01	10	0.35	0.327	19:26 hr	2.94	1.12
SWRGM-007990	SWRNJ-000816	SWRNJ-000815	AB36152	AB36153	37	0.002	10	0.14	0.024	19:38 hr	0.80	0.50
SWRGM-007991	SWRNJ-000698	SWRMH-004873	Z44102	Z44109	10	0.001	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007992	SWRMH-002557	SWRMH-004873	AA44107	Z44109	206	0.025	15	0.25	0.789	20:44 hr	5.07	1.89
SWRGM-007993	SWRMH-004333	SWRMH-006367	AB37126	AB37110	162	0.061	10	0.07	0.033	19:27 hr	2.85	2.46
SWRGM-007994	SWRNJ-000367	SWRMH-007890	V37101	V37104	13	0.025	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-007995	SWRMH-004976	SWRMH-004975	Z42154	Z42155	300	0.012	10	0.51	0.708	20:18 hr	3.93	1.26
SWRGM-007998	SWRMH-004806	SWRNJ-000816	AB36109	AB36152	21	0.001	10	0.17	0.024	19:38 hr	0.61	0.34
SWRGM-007999	SWRMH-006366	SWRMH-005216	AB37111	AB36107	137	0.027	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008000	SWRMH-005747	SWRMH-005746	X44106	X44107	343	0.004	15	0.32	0.469	20:05 hr	2.17	0.71
SWRGM-008001	SWRMH-006644	SWRMH-005609	X36103	X36126	54	0.012	21	0.37	2.788	21:08 hr	5.42	1.40
SWRGM-008002	SWRMH-006134	SWRMH-006135	W46130	W46128	240	0.002	15	0.49	0.714	19:50 hr	1.85	0.49
SWRGM-008003	SWRMH-006135	SWRMH-005948	W46128	W46146	180	0.01	15	0.30	0.714	19:50 hr	3.52	1.19
SWRGM-008004	SWRMH-003040	SWRMH-003042	X30105	X30103	350	0.066	18	0.36	4.089	21:31 hr	11.26	3.19
SWRGM-008010	SWRMH-007067	SWRMH-007069	AA35128	AA35125	41	0.002	12	0.19	0.068	20:09 hr	0.99	0.47
SWRGM-008014	SWRNJ-000022	SWRMH-002991	L47105	L47110	10	0.002	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008015	SWRNJ-000100	SWRMH-002569	R39193	R39104	35	0.004	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008017	SWRMH-008247	SWRMH-008248	T27105	T27104	273	0.003	15	0.05	0.009	19:57 hr	0.65	0.57
SWRGM-008018	SWRMH-008246	SWRMH-008247	T27106	T27105	256	0.003	15	0.05	0.009	19:55 hr	0.67	0.59
SWRGM-008019	SWRMH-006505	SWRMH-006504	Q50118	Q50119	304	0.011	10	0.04	0.004	19:01 hr	0.84	0.96
SWRGM-008020	SWRMH-006504	SWRMH-006521	Q50119	Q50102	240	0.011	10	0.05	0.006	19:03 hr	0.95	1.00
SWRGM-008021	SWRMH-006521	SWRMH-006522	Q50102	Q50101	50	0.017	10	0.09	0.024	19:06 hr	1.66	1.33
SWRGM-008022	SWRMH-006506	SWRMH-006505	Q50117	Q50118	293	0.011	10	0.02	0.001	19:01 hr	0.57	0.88
SWRGM-008023	SWRNJ-000075	SWRMH-006506	Q50225	Q50117	40	0.003	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008024	SWRNJ-000073	SWRMH-006506	Q50226	Q50117	11	0.009	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008025	SWRMH-001660	SWRMH-001657	Q49125	Q49128	325	0.016	12	0.06	0.021	19:49 hr	1.51	1.27
SWRGM-008026	SWRMH-001707	SWRMH-001726	Q48117	Q47143	300	0.011	18	0.14	0.272	20:14 hr	2.71	1.25
SWRGM-008027	SWRMH-001733	SWRMH-001325	Q47136	Q46111	217	0.018	18	0.13	0.273	20:22 hr	3.26	1.59
SWRGM-008028	SWRMH-001729	SWRMH-001730	Q47140	Q47139	168	0.005	18	0.17	0.273	20:18 hr	2.12	0.89
SWRGM-008029	SWRMH-001730	SWRMH-001731	Q47139	Q47138	177	0.005	18	0.17	0.273	20:19 hr	2.09	0.87
SWRGM-008030	SWRMH-001728	SWRMH-001729	Q47141	Q47140	300	0.011	18	0.14	0.273	20:17 hr	2.72	1.25
SWRGM-008031	SWRNJ-000730	SWRNJ-000731	AA34101	AA34101	40	0.005	21	0.47	2.841	20:20 hr	3.94	0.90
SWRGM-008032	SWRNJ-000055	SWRMH-002684	P42142	P42111	15	0.004	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008036	SWRMH-000568	SWRMH-001167	AA41166	AA40136	308	0.015	12	0.68	1.999	19:57 hr	5.42	1.43
SWRGM-008037	SWRMH-000609	SWRMH-001773	S46149	R46187	258	0.004	10	0.50	0.394	19:48 hr	2.26	0.73
SWRGM-008038	SWRMH-007329	SWRMH-000609	S46108	S46149	71	0.004	10	0.51	0.393	19:45 hr	2.17	0.69
SWRGM-008039	SWRMH-006639	SWRMH-000570	Y36108	Y35167	347	0.011	15	0.30	0.715	20:36 hr	3.62	1.23
SWRGM-008040	SWRMH-004015	SWRMH-000568	AA41160	AA41166	234	0.006	12	1.00	1.941	19:56 hr	3.82	0.91
SWRGM-008041	SWRNJ-000420	SWRMH-000615	W47115	W46163	250	0.014	10	0.14	0.065	10:48 hr	2.10	1.29
SWRGM-008042	SWRMH-008504	SWRMH-005775	AA39105	AA39114	150	0.02	12	0.46	1.219	20:12 hr	5.36	1.64
SWRGM-008043	SWRMH-005776	SWRMH-008504	AA39113	AA39105	160	0.018	12	0.47	1.219	20:12 hr	5.16	1.56
SWRGM-008044	SWRMH-007544	SWRMH-003762	T46154	U46107	144	0.011	10	0.03	0.002	19:01 hr	0.64	0.91
SWRGM-008045	SWRMH-003744	SWRMH-003761	U46125	U46108	103	0.009	12	0.21	0.189	19:36 hr	2.41	1.10
SWRGM-008046	SWRMH-004339	SWRMH-004337	AB37122	AB37124	8	0.011	18	0.45	2.581	20:20 hr	5.22	1.32
SWRGM-008051	SWRNJ-000041	SWRMH-002705	O44101	O44103	15	0.001	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008055	SWRNJ-000909	SWRMH-005570	AC44106	AC44114	10	0.008	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008056	SWRMH-002617	SWRMH-008232	T37120	T36107	109	0.006	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008058	SWRMH-002695	SWRMH-002696	O45107	O45106	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008059	SWRMH-002701	SWRMH-002695	O45101	O45107	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008060	SWRMH-002700	SWRMH-002702	O45102	O44106	339	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008061	SWRMH-002706	SWRMH-002707	O44102	O44101	330	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008062	SWRMH-002705	SWRMH-002706	O44103	O44102	330	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008063	SWRMH-002704	SWRMH-002705	O44104	O44103	330	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008064	SWRMH-002703	SWRMH-002704	O44105	O44104	330	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008065	SWRMH-002702	SWRMH-002703	O44106	O44105	330	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008066	SWRMH-002707	SWRMH-002708	O44101	O43112	330	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008067	SWRMH-002736	SWRMH-002719	N43103	O43101	335	0.008	18	0.07	0.057	19:43 hr	1.49	0.96
SWRGM-008068	SWRMH-003057	SWRMH-003061	W34105	W34101	147	0.004	15	0.17	0.147	19:37 hr	1.61	0.73
SWRGM-008069	SWRMH-003056	SWRMH-003057	W34106	W34105	276	0.032	15	0.10	0.147	19:36 hr	3.37	1.99
SWRGM-008070	SWRMH-003053	SWRMH-003054	W34109	W34108	191	0.004	15	0.17	0.144	19:34 hr	1.60	0.73
SWRGM-008071	SWRMH-003051	SWRMH-003053	W34111	W34109	200	0.004	15	0.17	0.144	19:32 hr	1.60	0.73
SWRGM-008072	SWRMH-003012	SWRMH-003010	L47103	L47104	227	0.024	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008073	SWRMH-002995	SWRMH-003010	L47105	L47104	302	0.014	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008074	SWRMH-002994	SWRMH-002995	L47106	L47105	302	0.014	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008075	SWRMH-002993	SWRMH-002994	L47107	L47106	302	0.014	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008076	SWRMH-003032	SWRMH-003031	X31102	X31103	358	0.007	21	0.53	4.089	21:23 hr	4.95	1.08
SWRGM-008077	SWRMH-003031	SWRMH-003030	X31103	X31104	350	0.007	21	0.53	4.089	21:25 hr	4.95	1.08
SWRGM-008078	SWRMH-003028	SWRMH-003027	X31106	X31107	300	0.03	18	0.44	4.089	21:27 hr	8.42	2.14
SWRGM-008079	SWRMH-003030	SWRMH-003028	X31104	X31106	338	0.021	18	0.49	4.089	21:27 hr	7.36	1.79
SWRGM-008080	SWRMH-003420	SWRMH-003421	V39135	V39134	297	0.018	18	0.34	1.965	20:56 hr	5.73	1.66
SWRGM-008081	SWRMH-006540	SWRMH-006552	R50113	R50101	24	0.003	12	0.24	0.137	19:42 hr	1.46	0.62
SWRGM-008082	SWRMH-006566	SWRMH-006564	R49101	R49103	263	0.004	12	0.25	0.173	19:46 hr	1.74	0.73
SWRGM-008083	SWRMH-006564	SWRMH-006565	R49103	R49102	272	0.004	12	0.25	0.179	19:48 hr	1.76	0.73
SWRGM-008084	SWRMH-001657	SWRMH-006561	Q49128	R49106	290	0.006	12	0.12	0.046	19:43 hr	1.38	0.85
SWRGM-008085	SWRMH-006555	SWRMH-002136	R49112	R48106	249	0.015	12	0.22	0.268	19:55 hr	3.18	1.42
SWRGM-008086	SWRMH-002665	SWRMH-001408	P43129	Q43120	270	0.006	12	0.18	0.104	19:12 hr	1.72	0.87
SWRGM-008087	SWRMH-001417	SWRMH-001412	Q43111	Q43116	263	0.005	10	0.12	0.024	19:08 hr	1.07	0.74
SWRGM-008088	SWRMH-001422	SWRMH-001423	Q43106	Q43105	220	0.015	15	0.24	0.544	19:36 hr	3.81	1.47
SWRGM-008089	SWRMH-001414	SWRMH-001422	Q43114	Q43106	326	0.015	15	0.24	0.544	19:35 hr	3.81	1.47

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-008090	SWRMH-001423	SWRMH-001431	Q43105	Q42114	275	0.015	15	0.24	0.544	19:37 hr	3.82	1.48
SWRGM-008091	SWRMH-001436	SWRMH-001437	Q42109	Q42108	229	0.007	18	0.25	0.678	19:50 hr	3.09	1.06
SWRGM-008092	SWRMH-001443	SWRMH-001444	Q42102	Q42101	323	0.007	18	0.26	0.681	20:00 hr	2.96	1.00
SWRGM-008093	SWRMH-001442	SWRMH-001443	Q42103	Q42102	243	0.006	18	0.26	0.681	19:59 hr	2.83	0.94
SWRGM-008094	SWRMH-001441	SWRMH-001442	Q42104	Q42103	278	0.006	18	0.26	0.681	19:58 hr	2.95	1.00
SWRGM-008095	SWRMH-001440	SWRMH-001441	Q42105	Q42104	310	0.004	18	0.29	0.681	19:57 hr	2.53	0.80
SWRGM-008096	SWRMH-001439	SWRMH-001440	Q42106	Q42105	310	0.003	18	0.31	0.68	19:55 hr	2.30	0.71
SWRGM-008097	SWRMH-001438	SWRMH-001439	Q42107	Q42106	205	0.003	18	0.32	0.68	19:52 hr	2.19	0.66
SWRGM-008098	SWRMH-001435	SWRMH-001436	Q42110	Q42109	283	0.003	18	0.31	0.677	19:49 hr	2.29	0.70
SWRGM-008100	SWRMH-006545	SWRMH-006544	R50108	R50109	350	0.007	12	0.18	0.125	19:35 hr	1.98	0.98
SWRGM-008101	SWRMH-006543	SWRMH-006542	R50110	R50111	297	0.003	12	0.24	0.137	19:38 hr	1.43	0.61
SWRGM-008102	SWRMH-006542	SWRMH-006541	R50111	R50112	256	0.003	12	0.24	0.137	19:40 hr	1.43	0.60
SWRGM-008103	SWRMH-006534	SWRMH-006545	R50119	R50108	250	0.016	12	0.15	0.125	19:33 hr	2.59	1.41
SWRGM-008104	SWRMH-002126	SWRMH-002125	R48116	R48117	318	0.005	10	0.20	0.078	19:20 hr	1.53	0.79
SWRGM-008105	SWRMH-003015	SWRMH-003016	X32112	X32111	293	0.012	15	0.34	0.976	20:16 hr	4.12	1.31
SWRGM-008106	SWRMH-003014	SWRMH-003026	X32113	X32101	300	0.016	15	0.62	3.179	21:28 hr	6.19	1.51
SWRGM-008107	SWRMH-003016	SWRMH-003017	X32111	X32110	350	0.012	15	0.34	0.976	20:17 hr	4.16	1.33
SWRGM-008108	SWRMH-003025	SWRMH-003024	X32102	X32103	150	0.015	15	0.63	3.179	21:29 hr	6.09	1.47
SWRGM-008109	SWRMH-003023	SWRMH-003022	X32104	X32105	307	0.013	21	0.44	4.089	21:17 hr	6.19	1.46
SWRGM-008110	SWRMH-003022	SWRMH-003021	X32105	X32106	350	0.014	21	0.44	4.089	21:18 hr	6.30	1.49
SWRGM-008111	SWRMH-006130	SWRMH-009154	W46135	W46136	281	0.039	15	0.23	0.852	19:45 hr	6.07	2.36
SWRGM-008112	SWRMH-006137	SWRMH-006136	AA36143	AA36144	163	0.014	14	0.37	1.063	20:24 hr	4.51	1.41
SWRGM-008113	SWRMH-006136	SWRMH-006125	AA36144	AA36145	173	0.014	14	0.38	1.067	20:24 hr	4.51	1.41
SWRGM-008114	SWRMH-006125	SWRMH-006261	AA36145	AA36131	61	0.014	14	0.38	1.067	20:25 hr	4.51	1.40
SWRGM-008115	SWRMH-000795	SWRMH-000794	P48119	P48120	348	0.002	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008116	SWRMH-000798	SWRMH-000797	P48116	P48117	310	0.002	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008118	SWRMH-003281	SWRMH-003243	V46126	V46164	171	0.011	12	0.38	0.639	19:42 hr	3.63	1.22
SWRGM-008119	SWRMH-001501	SWRMH-003342	U40185	V40138	285	0.011	18	0.38	1.951	20:50 hr	4.87	1.33
SWRGM-008120	SWRMH-003343	SWRMH-006165	V40137	W40102	350	0.007	10	0.41	0.362	20:30 hr	2.69	0.95
SWRGM-008121	SWRMH-003345	SWRMH-003344	V40135	V40136	377	0.005	10	0.45	0.362	20:25 hr	2.34	0.79
SWRGM-008122	SWRMH-003344	SWRMH-003343	V40136	V40137	350	0.007	10	0.41	0.362	20:28 hr	2.70	0.96
SWRGM-008123	SWRMH-003342	SWRMH-007888	V40138	V40101	277	0.006	18	0.47	1.955	20:51 hr	3.73	0.92
SWRGM-008124	SWRMH-003417	SWRMH-003416	V39138	V39139	70	0.004	18	0.53	2.005	20:57 hr	3.24	0.76
SWRGM-008125	SWRMH-007889	SWRMH-003380	V39101	V39175	152	0.008	18	0.42	1.957	20:52 hr	4.25	1.10
SWRGM-008128	SWRMH-008849	SWRMH-003143	SP726MH5	SDMH003143	56	0.014	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008130	SWRMH-003143	SWRMH-003145	V50104	V50102	221	0.011	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008131	SWRMH-003145	SWRMH-003160	V50102	V49102	265	0.01	10	0.05	0.006	10:01 hr	0.90	0.95
SWRGM-008132	SWRMH-000698	SWRNJ-000366	V38112	V38304	133	0.02	18	0.35	2.146	20:56 hr	6.15	1.77
SWRGM-008133	SWRMH-003473	SWRMH-000698	V38135	V38306	268	0.005	18	0.51	2.146	20:56 hr	3.66	0.87
SWRGM-008135	SWRNJ-000039	SWRMH-002718	O43101	O43102	15	0.005	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008136	SWRNJ-000040	SWRMH-002717	O43102	O43103	15	0.005	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008137	SWRMH-008254	SWRMH-008257	AA34118	AA34115	54	0.004	15	0.06	0.018	19:10 hr	0.84	0.64
SWRGM-008138	SWRMH-008262	SWRMH-008257	AA34110	AA34115	10	0.003	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008139	SWRNJ-000731	SWRNJ-000733	AA34101	AA34118	10	0.005	21	0.47	2.828	20:21 hr	3.94	0.90
SWRGM-008140	SWRMH-002179	SWRMH-002189	R46140	R46130	298	0.004	10	0.15	0.035	19:36 hr	1.11	0.68
SWRGM-008141	SWRMH-002201	SWRMH-002202	R46118	R46117	320	0.011	12	0.15	0.098	19:23 hr	2.11	1.16
SWRGM-008142	SWRMH-002177	SWRMH-001773	R46142	R46187	318	0.015	10	0.21	0.138	19:24 hr	2.66	1.35
SWRGM-008143	SWRMH-002174	SWRMH-002175	R46145	R46144	299	0.004	10	0.23	0.092	19:25 hr	1.48	0.71
SWRGM-008144	SWRMH-002189	SWRMH-002174	R46130	R46145	314	0.004	10	0.23	0.091	19:23 hr	1.47	0.70
SWRGM-008145	SWRMH-002210	SWRMH-002209	R46109	R46110	191	0.007	18	0.19	0.404	20:07 hr	2.60	1.02
SWRGM-008146	SWRMH-002203	SWRMH-002204	R46116	R46115	244	0.007	12	0.16	0.099	19:25 hr	1.84	0.97
SWRGM-008147	SWRMH-002202	SWRMH-002203	R46117	R46116	243	0.011	12	0.15	0.098	19:24 hr	2.11	1.16
SWRGM-008148	SWRMH-008188	SWRMH-008187	T44150	T44151	350	0.005	15	0.42	0.942	20:07 hr	2.95	0.84
SWRGM-008149	SWRMH-001325	SWRMH-001324	Q46111	Q46112	336	0.01	18	0.15	0.273	20:23 hr	2.64	1.20
SWRGM-008150	SWRMH-001324	SWRMH-001323	Q46112	Q46113	335	0.014	18	0.13	0.274	20:24 hr	2.99	1.41
SWRGM-008151	SWRMH-001412	SWRMH-001413	Q43116	Q43115	325	0.015	15	0.24	0.544	19:32 hr	3.79	1.46
SWRGM-008152	SWRMH-001413	SWRMH-001414	Q43115	Q43114	335	0.015	15	0.24	0.544	19:34 hr	3.82	1.48
SWRGM-008153	SWRMH-002176	SWRMH-002177	R46143	R46142	148	0.004	10	0.29	0.136	19:22 hr	1.65	0.70
SWRGM-008154	SWRMH-001546	SWRMH-001547	R44197	R44196	145	0.007	15	0.33	0.731	19:52 hr	3.18	1.02
SWRGM-008155	SWRMH-001545	SWRMH-001546	R44198	R44197	248	0.007	15	0.15	0.14	19:32 hr	1.90	0.93
SWRGM-008156	SWRMH-001548	SWRMH-001544	R44195	R44199	166	0.008	15	0.13	0.123	19:31 hr	1.96	1.02
SWRGM-008157	SWRMH-001933	SWRMH-001960	R44140	R44113	183	0.007	10	0.10	0.022	19:19 hr	1.16	0.84
SWRGM-008158	SWRMH-001556	SWRMH-001557	R44187	R44186	193	0.013	18	0.21	0.658	20:02 hr	3.74	1.40
SWRGM-008159	SWRMH-001557	SWRMH-001558	R44186	R44185	276	0.013	18	0.21	0.665	20:03 hr	3.79	1.42
SWRGM-008160	SWRNJ-000090	SWRMH-001443	Q42108	Q42102	15	0.004	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008164	SWRMH-003612	SWRMH-003625	V32102	V31101	350	0.01	27	0.11	0.412	19:54 hr	2.81	1.22
SWRGM-008165	SWRMH-003613	SWRMH-003612	V32101	V32102	350	0.01	27	0.11	0.412	19:52 hr	2.81	1.22
SWRGM-008166	SWRMH-003609	SWRMH-003608	V32104	V32105	337	0.01	27	0.11	0.412	19:50 hr	2.81	1.23
SWRGM-008167	SWRMH-002746	SWRMH-002747	M45102	M45101	165	0.004	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008168	SWRMH-002745	SWRMH-002746	M45103	M45102	335	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008169	SWRMH-002744	SWRMH-002745	M45104	M45103	330	0.009	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008170	SWRMH-002743	SWRMH-002744	M45105	M45104	330	0.009	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008171	SWRMH-002742	SWRMH-002743	M45106	M45105	330	0.002	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008172	SWRMH-002741	SWRMH-002742	M45107	M45106	345	0.002	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008173	SWRMH-002740	SWRMH-002741	M45108	M45107	330	0.002	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008174	SWRMH-002739	SWRMH-002740	M45109	M45108	330	0.002	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008175	SWRMH-003074	SWRMH-002739	L45101	M45109	330	0.008	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008176	SWRMH-003501	SWRMH-002796	L43108	M43109	331	0.002	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008177	SWRMH-002803	SWRMH-002730	M43102	N43109	333	0.002	18	0.10	0.057	19:20 hr	1.01	0.56
SWRGM-008178	SWRMH-002809	SWRMH-002805	Z34108	Z34112	350	0.102	10	0.05	0.016	19:09 hr	2.75	2.98
SWRGM-008179	SWRMH-002806	SWRMH-002808	Z34111	Z34109	335	0.078	10	0.05	0.016	19:08 hr	2.50	2.63
SWRGM-008180	SWRMH-003119	SWRMH-003120	W31104	W31103	238	0.014	27	0.15	1.029	10:00 hr	4.17	1.51
SWRGM-008181	SWRMH-003120	SWRMH-003121	W31103	W31102	340	0.03	27	0.13	1.029	10:01 hr	5.42	2.16
SWRGM-008186	SWRMH-001558	SWRMH-001570	R44185	R44173	42	0.01	18	0.24	0.695	20:02 hr	3.41	1.20
SWRGM-008187	SWRMH-002078	SWRMH-007308	T49111	T48131	280	0.005	12	0.06	0.01	10:02 hr	0.79	0.70
SWRGM-008189	SWRNJ-000095	SWRMH-006554	R49158	R49113	152	0.004	12	0.14	0.052	19:41 hr	1.27	0.73
SWRGM-008190	SWRMH-006561	SWRNJ-000095	R49106	R49158	140	0.005	12	0.13	0.051	19:40 hr	1.27	0.74
SWRGM-008191	SWRMH-007172	SWRMH-006524	Z35101	Z35113	207	0.067	10	0.05	0.016	19:06 hr	2.36	2.44
SWRGM-008192	SWRMH-006524	SWRMH-002807	Z35113	Z34110	370	0.067	10	0.05	0.016	19:07 hr	2.37	2.45
SWRGM-008193	SWRMH-006601	SWRNJ-000204	S39109	T39471	364	0.021	24	0.20	1.635	20:39 hr	5.64	1.88
SWRGM-008194	SWRMH-006602	SWRMH-006601	S39108	S39109	400	0.026	24	0.19	1.635	20:38 hr	6.02	2.05

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-008195	SWRMH-006604	SWRMH-006603	S39106	S39107	186	0.003	24	0.34	1.635	20:36 hr	2.69	0.68
SWRGM-008196	SWRMH-006607	SWRMH-006606	S39103	S39104	246	0.003	24	0.32	1.633	20:31 hr	2.88	0.74
SWRGM-008197	SWRMH-008210	SWRMH-007919	T38102	T38115	264	0.009	27	0.25	2.384	20:28 hr	4.65	1.29
SWRGM-008198	SWRMH-007257	SWRMH-007256	AA35120	AA35121	277	0.001	12	0.21	0.067	20:04 hr	0.87	0.40
SWRGM-008199	SWRMH-007700	SWRMH-007701	AA35132	AA35131	521	0.002	18	0.46	1.072	20:44 hr	2.11	0.53
SWRGM-008200	SWRMH-007699	SWRMH-007700	AA35133	AA35132	445	0.002	18	0.48	1.072	20:40 hr	1.99	0.49
SWRGM-008201	SWRMH-008204	SWRMH-008208	T38112	T38105	470	0.009	27	0.24	1.974	20:40 hr	4.28	1.23
SWRGM-008202	SWRMH-008203	SWRMH-008208	T38113	T38105	350	0.006	12	0.26	0.221	19:31 hr	2.12	0.87
SWRGM-008203	SWRMH-008202	SWRMH-008203	T38114	T38113	350	0.006	12	0.26	0.22	19:29 hr	2.12	0.87
SWRGM-008204	SWRMH-003741	SWRMH-003742	U46128	U46127	205	0.007	10	0.05	0.004	19:06 hr	0.72	0.79
SWRGM-008205	SWRNJ-000002	SWRMH-003606	K47106	K47117	55	0.009	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008206	SWRNJ-000005	SWRMH-003592	K47112	K47124	27	0.007	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008207	SWRNJ-000008	SWRMH-003587	K47114	K47129	26	0.007	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008209	SWRMH-006551	SWRMH-006566	R50102	R49101	263	0.012	12	0.19	0.168	19:44 hr	2.54	1.24
SWRGM-008210	SWRMH-007171	SWRMH-007172	Z35102	Z35101	233	0.051	10	0.04	0.006	19:03 hr	1.58	2.01
SWRGM-008211	SWRMH-006544	SWRMH-006543	R50109	R50110	225	0.007	12	0.18	0.125	19:36 hr	1.95	0.96
SWRGM-008213	SWRMH-007304	SWRMH-000383	T48145	T48173	357	0.015	12	0.06	0.016	10:13 hr	1.37	1.23
SWRGM-008218	SWRNJ-000028	SWRMH-003074	L45103	L45101	10	0.002	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008219	SWRMH-007585	SWRMH-007586	T46113	T46112	300	0.013	10	0.20	0.127	19:28 hr	2.49	1.28
SWRGM-008220	SWRNJ-000243	SWRMH-007585	T46454	T46113	112	0.013	10	0.20	0.12	19:27 hr	2.42	1.26
SWRGM-008221	SWRMH-007584	SWRNJ-000243	T46114	T46454	181	0.013	10	0.20	0.119	19:27 hr	2.45	1.28
SWRGM-008222	SWRMH-007583	SWRMH-007584	T46115	T46114	238	0.013	10	0.17	0.091	19:27 hr	2.23	1.24
SWRGM-008224	SWRMH-003590	SWRMH-003589	K47126	K47127	260	0.017	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008225	SWRMH-003591	SWRMH-003590	K47125	K47126	260	0.022	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008234	SWRMH-002722	SWRMH-002721	N45108	N45109	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008235	SWRMH-002723	SWRMH-002722	N45107	N45108	156	0.004	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008236	SWRMH-002724	SWRMH-002723	N45106	N45107	174	0.004	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008237	SWRMH-002725	SWRMH-002724	N45105	N45106	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008238	SWRMH-002719	SWRMH-002718	O43101	O43102	333	0.008	18	0.07	0.057	19:45 hr	1.49	0.96
SWRGM-008239	SWRMH-002718	SWRMH-002716	O43102	O43104	333	0.003	18	0.09	0.057	19:47 hr	1.10	0.63
SWRGM-008240	SWRMH-002716	SWRMH-002717	O43104	O43103	333	0.003	18	0.09	0.057	19:49 hr	1.10	0.63
SWRGM-008241	SWRMH-002717	SWRMH-002715	O43103	O43105	333	0.008	18	0.07	0.057	19:50 hr	1.48	0.95
SWRGM-008242	SWRMH-002715	SWRMH-002714	O43105	O43106	302	0.008	18	0.07	0.057	19:52 hr	1.51	0.98
SWRGM-008243	SWRMH-007307	SWRMH-007306	T48132	T48133	90	0.01	12	0.05	0.01	10:05 hr	1.02	0.98
SWRGM-008244	SWRMH-007287	SWRMH-007849	T48152	T48107	295	0.016	10	0.13	0.058	19:11 hr	2.10	1.34
SWRGM-008247	SWRMH-008110	SWRMH-008096	T47137	T47151	288	0.014	10	0.17	0.088	19:14 hr	2.27	1.29
SWRGM-008248	SWRMH-007775	SWRMH-006546	R51104	R50107	350	0.016	12	0.14	0.114	19:30 hr	2.53	1.42
SWRGM-008249	SWRMH-007776	SWRMH-008976	SDMH007776	SP570MH028	234	0.012	12	0.02	0.001	19:45 hr	0.52	0.90
SWRGM-008250	SWRMH-002729	SWRMH-002728	N45101	N45102	330	0.002	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008251	SWRMH-002720	SWRMH-002729	N45110	N45101	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008252	SWRMH-002735	SWRMH-002736	N43104	N43103	335	0.002	18	0.10	0.057	19:42 hr	0.93	0.51
SWRGM-008253	SWRMH-006609	SWRMH-006608	S39101	S39102	281	0.003	24	0.32	1.632	20:29 hr	2.87	0.74
SWRGM-008255	SWRMH-001971	SWRMH-001972	S44175	S44174	287	0.004	15	0.40	0.796	20:00 hr	2.67	0.78
SWRGM-008256	SWRMH-001974	SWRMH-001975	S44172	S44171	300	0.004	15	0.41	0.811	20:05 hr	2.64	0.76
SWRGM-008257	SWRMH-001973	SWRMH-001974	S44173	S44172	341	0.004	15	0.41	0.806	20:03 hr	2.66	0.77
SWRGM-008258	SWRMH-002028	SWRMH-002029	S43121	S43120	351	0.003	10	0.17	0.041	19:14 hr	1.08	0.61
SWRGM-008259	SWRMH-002029	SWRMH-002030	S43120	S43119	305	0.003	10	0.20	0.056	19:16 hr	1.15	0.60
SWRGM-008260	SWRNJ-000191	SWRMH-002028	S43437	S43121	46	0.003	10	0.16	0.034	19:12 hr	0.98	0.58
SWRGM-008261	SWRMH-007777	SWRMH-007776	R51101	R51102	350	0.008	12	0.02	0.001	19:44 hr	0.46	0.76
SWRGM-008262	SWRMH-006552	SWRMH-006551	R50101	R50102	273	0.004	12	0.24	0.163	19:43 hr	1.71	0.73
SWRGM-008263	SWRMH-006550	SWRMH-002347	R50103	S50108	424	0.012	10	0.09	0.021	19:04 hr	1.38	1.09
SWRGM-008264	SWRMH-006541	SWRMH-006540	R50112	R50113	257	0.003	12	0.24	0.137	19:42 hr	1.42	0.60
SWRGM-008265	SWRMH-006546	SWRMH-006547	R50107	R50106	350	0.016	12	0.15	0.118	19:31 hr	2.55	1.41
SWRGM-008266	SWRMH-006548	SWRMH-006549	R50105	R50104	245	0.028	10	0.05	0.01	19:01 hr	1.50	1.57
SWRGM-008267	SWRMH-006549	SWRMH-006550	R50104	R50103	250	0.012	10	0.06	0.01	19:02 hr	1.12	1.06
SWRGM-008268	SWRMH-008257	SWRMH-008256	AA34115	AA34116	109	0.006	21	0.27	1.12	20:56 hr	3.25	0.98
SWRGM-008269	SWRMH-008263	SWRMH-008264	AA34109	AA34108	430	0.002	24	0.08	0.08	10:10 hr	0.98	0.51
SWRGM-008270	SWRMH-002340	SWRMH-008263	AA34123	AA34109	394	0.002	24	0.08	0.08	10:05 hr	1.07	0.57
SWRGM-008271	SWRMH-002805	SWRMH-008254	Z34112	AA34118	242	0.052	10	0.06	0.016	19:10 hr	2.17	2.17
SWRGM-008272	SWRMH-003024	SWRMH-003023	X32103	X32104	328	0.016	15	0.61	3.179	21:30 hr	6.28	1.53
SWRGM-008273	SWRMH-003020	SWRMH-003023	X32107	X32104	150	0.003	18	0.36	0.976	20:21 hr	2.59	0.72
SWRGM-008274	SWRMH-003019	SWRMH-003020	X32108	X32107	180	0.003	18	0.36	0.976	20:20 hr	2.61	0.73
SWRGM-008275	SWRMH-003018	SWRMH-003019	X32109	X32108	140	0.002	18	0.42	0.976	20:19 hr	2.16	0.57
SWRGM-008276	SWRMH-003017	SWRMH-003018	X32110	X32109	150	0.004	18	0.35	0.976	20:18 hr	2.78	0.80
SWRGM-008277	SWRMH-001780	SWRMH-001779	R45164	R45165	330	0.014	18	0.20	0.608	20:05 hr	3.74	1.44
SWRGM-008278	SWRNJ-000114	SWRMH-001556	R44606	R44187	178	0.018	18	0.19	0.658	20:02 hr	4.22	1.65
SWRGM-008279	SWRMH-008942	SWRNJ-000114	R44191	R44606	24	0.02	18	0.19	0.658	20:02 hr	4.32	1.71
SWRGM-008280	SWRNJ-000135	SWRMH-001936	R44605	R44137	117	0.003	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008281	SWRMH-001543	SWRNJ-000135	R44203	R44605	115	0.003	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008282	SWRMH-001936	SWRMH-001935	R44137	R44138	256	0.003	10	0.12	0.022	19:11 hr	0.89	0.59
SWRGM-008283	SWRMH-001935	SWRMH-001934	R44138	R44139	261	0.003	10	0.12	0.022	19:14 hr	0.89	0.59
SWRGM-008284	SWRMH-001934	SWRMH-001937	R44139	R44136	261	0.003	10	0.12	0.022	19:16 hr	0.89	0.59
SWRGM-008285	SWRMH-001570	SWRMH-001571	R44173	R44172	189	0.03	18	0.18	0.696	20:02 hr	5.09	2.09
SWRGM-008286	SWRMH-001571	SWRMH-001960	R44172	R44113	302	0.053	18	0.15	0.697	20:02 hr	6.25	2.76
SWRGM-008287	SWRMH-001937	SWRMH-001933	R44136	R44140	256	0.003	10	0.12	0.022	19:18 hr	0.89	0.59
SWRGM-008288	SWRMH-001925	SWRMH-001926	R44147	R44146	250	0.003	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008289	SWRMH-001926	SWRMH-001543	R44146	R44203	228	0.003	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008290	SWRMH-001544	SWRMH-001545	R44199	R44198	260	0.008	15	0.14	0.139	19:31 hr	2.02	1.02
SWRGM-008291	SWRMH-002337	SWRMH-002336	S51105	S51106	260	0.018	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008295	SWRMH-008258	SWRNJ-000730	AA34114	AA34101	272	0.005	21	0.29	1.185	20:55 hr	3.10	0.90
SWRGM-008297	SWRNJ-000037	SWRMH-002723	N45101	N45107	10	0.002	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008298	SWRNJ-000034	SWRMH-002728	N45104	N45102	10	0.002	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008299	SWRMH-008549	SWRMH-004341	AA37105	AB37120	356	0.012	10	0.03	0.003	19:02 hr	0.76	0.96
SWRGM-008300	SWRMH-008542	SWRMH-008549	AA37112	AA37105	410	0.011	10	0.02	0.001	19:02 hr	0.51	0.86
SWRGM-008301	SWRMH-008481	SWRMH-008482	AA36103	AA36102	127	0.002	14	0.10	0.023	19:14 hr	0.68	0.43
SWRGM-008302	SWRNJ-000035	SWRMH-002732	N43102	N43107	10	0.008	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008303	SWRMH-001437	SWRMH-001438	Q42108	Q42107	116	0.003	18	0.32	0.678	19:51 hr	2.18	0.65
SWRGM-008304	SWRMH-002684	SWRMH-001429	P42111	Q42116	317	0.005	18	0.08	0.057	20:29 hr	1.24	0.75
SWRGM-008305	SWRNJ-000064	SWRMH-001437	Q42106	Q42108	15	0.004	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008306	SWRMH-006985	SWRMH-006769	P44164	P44110	266	0.004	10	0.12	0.023	19:07 hr	0.99	0.67
SWRGM-008307	SWRMH-002338	SWRMH-002337	S51104	S51105	269	0.017	12	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-008308	SWRMH-007256	SWRMH-007255	AA35121	AA35122	89	0.001	12	0.20	0.067	20:05 hr	0.90	0.42
SWRGM-008309	SWRMH-008264	SWRMH-008276	AA34108	AA33103	316	0.003	24	0.08	0.08	10:12 hr	1.11	0.61
SWRGM-008310	SWRMH-007266	SWRMH-008250	AA35111	AA34122	350	0.001	12	0.21	0.068	20:15 hr	0.90	0.42
SWRGM-008311	SWRMH-008252	SWRMH-008255	AA34120	AA34119	127	0.001	12	0.21	0.068	20:22 hr	0.88	0.41
SWRGM-008312	SWRMH-008256	SWRMH-008255	AA34116	AA34117	81	0.004	21	0.30	1.12	20:56 hr	2.90	0.84
SWRGM-008313	SWRMH-008250	SWRMH-008251	AA34122	AA34121	350	0.001	12	0.22	0.068	20:18 hr	0.82	0.37
SWRGM-008314	SWRMH-002344	SWRMH-002345	S50111	S50110	328	0.004	12	0.03	0.002	19:06 hr	0.41	0.54
SWRGM-008315	SWRMH-002343	SWRMH-002344	S50112	S50111	352	0.014	12	0.02	0.001	19:03 hr	0.59	0.96
SWRGM-008316	SWRMH-003750	SWRMH-003751	U46119	U46118	190	0.012	10	0.25	0.184	19:30 hr	2.69	1.23
SWRGM-008319	SWRMH-001773	SWRMH-002178	R46187	R46141	113	0.008	10	0.49	0.546	19:43 hr	3.16	1.02
SWRGM-008320	SWRMH-002180	SWRMH-002179	R46139	R46140	304	0.004	10	0.14	0.035	19:33 hr	1.12	0.68
SWRGM-008321	SWRMH-002209	SWRMH-002198	R46110	R46121	318	0.018	18	0.17	0.468	20:05 hr	3.78	1.61
SWRGM-008322	SWRMH-002198	SWRMH-001782	R46121	R45162	330	0.012	18	0.19	0.522	20:01 hr	3.39	1.33
SWRGM-008323	SWRMH-001774	SWRMH-001820	R46186	R45124	330	0.011	10	0.46	0.552	19:47 hr	3.47	1.16
SWRGM-008324	SWRMH-001776	SWRMH-001775	R46184	R46185	304	0.013	18	0.16	0.37	20:08 hr	3.20	1.39
SWRGM-008325	SWRMH-001775	SWRMH-002210	R46185	R46109	301	0.011	18	0.17	0.376	20:08 hr	2.95	1.24
SWRGM-008326	SWRMH-002204	SWRMH-002205	R46115	R46114	249	0.007	12	0.16	0.101	19:27 hr	1.85	0.97
SWRGM-008332	SWRMH-001966	SWRMH-007205	AA32124	AA32113	284	0.002	24	0.08	0.08	10:33 hr	1.01	0.53
SWRGM-008333	SWRMH-003571	SWRMH-003570	V35108	V35109	225	0.007	15	0.12	0.097	19:27 hr	1.74	0.95
SWRGM-008334	SWRMH-003572	SWRMH-003571	V35107	V35108	223	0.004	15	0.14	0.097	19:26 hr	1.44	0.73
SWRGM-008335	SWRMH-001653	SWRMH-001660	Q49132	Q49125	333	0.014	12	0.06	0.019	19:48 hr	1.39	1.19
SWRGM-008336	SWRNJ-000093	SWRMH-001653	Q49249	Q49132	20	0.011	12	0.21	0.208	19:47 hr	2.62	1.19
SWRGM-008337	SWRMH-001649	SWRNJ-000093	Q49136	Q49249	63	0.005	12	0.26	0.208	19:47 hr	1.96	0.80
SWRGM-008338	SWRMH-001708	SWRMH-001700	Q48116	Q48124	320	0.002	12	0.37	0.268	20:06 hr	1.59	0.54
SWRGM-008339	SWRMH-001702	SWRMH-001703	Q48122	Q48121	284	0.011	18	0.14	0.27	20:10 hr	2.70	1.24
SWRGM-008340	SWRMH-003160	SWRMH-003161	V49102	V49101	300	0.01	10	0.05	0.006	10:03 hr	0.89	0.94
SWRGM-008341	SWRMH-003155	SWRMH-003154	V49107	V49108	98	0.005	10	0.11	0.022	10:13 hr	1.04	0.73
SWRGM-008342	SWRMH-003156	SWRMH-003155	V49106	V49107	127	0.004	10	0.11	0.022	10:13 hr	1.01	0.70
SWRGM-008343	SWRMH-003240	SWRMH-006131	V46167	W46133	268	0.013	12	0.36	0.645	19:46 hr	3.92	1.35
SWRGM-008344	SWRMH-003272	SWRMH-003237	V46135	V46170	62	0.006	12	0.29	0.276	19:45 hr	2.28	0.89
SWRGM-008345	SWRMH-003280	SWRMH-003244	V46127	V46163	207	0.01	12	0.27	0.337	19:51 hr	2.98	1.19
SWRGM-008346	SWRMH-003242	SWRMH-003280	V46165	V46127	154	0.011	12	0.25	0.282	19:51 hr	2.90	1.22
SWRGM-008347	SWRMH-003236	SWRMH-003272	V46171	V46135	288	0.01	12	0.23	0.226	19:46 hr	2.62	1.15
SWRGM-008351	SWRMH-002826	SWRMH-002827	Y34122	Y34121	350	0.011	15	0.32	0.837	20:19 hr	3.84	1.26
SWRGM-008352	SWRMH-002827	SWRMH-002828	Y34121	Y34120	350	0.011	15	0.32	0.837	20:20 hr	3.87	1.27
SWRGM-008353	SWRMH-003592	SWRMH-003591	K47124	K47125	260	0.022	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008354	SWRMH-003605	SWRNJ-000008	K47118	K47114	289	0.007	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008355	SWRMH-003606	SWRMH-003605	K47117	K47118	317	0.007	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008356	SWRMH-003610	SWRNJ-000005	K47111	K47112	290	0.007	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008357	SWRMH-003008	SWRMH-003007	X33103	X33104	208	0.026	15	0.53	3.179	21:25 hr	7.53	1.94
SWRGM-008358	SWRMH-003005	SWRMH-003006	X33106	X33105	280	0.012	15	0.34	0.976	20:13 hr	4.15	1.32
SWRGM-008360	SWRMH-001782	SWRMH-001784	R45162	R45160	330	0.012	18	0.19	0.522	20:02 hr	3.44	1.36
SWRGM-008361	SWRMH-001781	SWRMH-001778	R45163	R45166	112	0.013	18	0.19	0.559	20:04 hr	3.60	1.41
SWRGM-008362	SWRMH-001783	SWRMH-001781	R45161	R45163	330	0.012	18	0.20	0.559	20:04 hr	3.45	1.33
SWRGM-008363	SWRMH-001778	SWRMH-001780	R45166	R45164	218	0.014	18	0.20	0.607	20:04 hr	3.72	1.43
SWRGM-008364	SWRMH-001820	SWRMH-007694	R45124	S45105	150	0.013	10	0.44	0.554	19:48 hr	3.72	1.27
SWRGM-008365	SWRMH-001505	SWRMH-001504	U40181	U40182	142	0.025	15	0.40	1.906	20:48 hr	6.53	1.92
SWRGM-008366	SWRMH-007974	SWRMH-007973	S28101	S28102	267	0.005	12	0.06	0.008	19:29 hr	0.75	0.69
SWRGM-008367	SWRMH-007649	SWRMH-007974	S28107	S28101	204	0.005	12	0.06	0.008	19:27 hr	0.76	0.69
SWRGM-008368	SWRMH-008186	SWRMH-008185	T44152	T44153	245	0.013	15	0.32	0.942	20:09 hr	4.28	1.40
SWRGM-008369	SWRMH-008179	SWRMH-008178	T44159	T44160	350	0.003	18	0.37	0.944	20:13 hr	2.50	0.70
SWRGM-008370	SWRMH-008180	SWRMH-008179	T44158	T44159	260	0.003	18	0.37	0.943	20:10 hr	2.48	0.69
SWRGM-008371	SWRMH-004190	SWRMH-004191	V38116	V38115	340	0.003	12	0.52	0.588	19:48 hr	2.19	0.63
SWRGM-008372	SWRMH-004187	SWRMH-004190	V38119	V38116	333	0.003	12	0.53	0.588	19:45 hr	2.18	0.63
SWRGM-008373	SWRMH-003461	SWRMH-004199	V38147	V38106	168	0.003	18	0.57	2.032	20:59 hr	3.00	0.68
SWRGM-008374	SWRMH-003472	SWRMH-003461	V38136	V38147	37	0.004	18	0.52	2.008	21:00 hr	3.33	0.79
SWRGM-008375	SWRMH-003471	SWRMH-003470	V38137	V38138	183	0.004	18	0.53	2.007	20:58 hr	3.27	0.77
SWRGM-008376	SWRMH-004199	SWRMH-003473	V38106	V38135	372	0.014	18	0.38	2.146	20:54 hr	5.36	1.46
SWRGM-008377	SWRMH-003470	SWRMH-003472	V38138	V38136	230	0.004	18	0.53	2.008	20:59 hr	3.30	0.78
SWRGM-008378	SWRMH-003080	SWRMH-003499	L44104	L43110	330	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008379	SWRMH-003083	SWRMH-003500	L44101	L43109	340	0.012	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008380	SWRMH-009027	SWRMH-001702	SP574MH09	SDMH001702	336	0.01	18	0.15	0.27	20:08 hr	2.64	1.20
SWRGM-008381	SWRMH-001700	SWRMH-009027	SDMH001700	SP574MH09	100	0.004	12	0.32	0.268	20:07 hr	1.92	0.70
SWRGM-008383	SWRMH-001706	SWRMH-001707	Q48118	Q48117	214	0.011	18	0.14	0.272	20:13 hr	2.70	1.24
SWRGM-008384	SWRMH-001705	SWRMH-001706	Q48119	Q48118	262	0.011	18	0.14	0.272	20:12 hr	2.71	1.24
SWRGM-008385	SWRMH-001704	SWRMH-001705	Q48120	Q48119	308	0.011	18	0.14	0.272	20:11 hr	2.72	1.25
SWRGM-008386	SWRMH-001703	SWRMH-001704	Q48121	Q48120	344	0.011	18	0.14	0.27	20:10 hr	2.74	1.26
SWRGM-008387	SWRMH-003764	SWRMH-003747	U46105	U46122	327	0.014	12	0.20	0.196	19:40 hr	2.81	1.34
SWRGM-008388	SWRMH-003746	SWRMH-003764	U46123	U46105	23	0.011	12	0.20	0.195	19:39 hr	2.62	1.22
SWRGM-008389	SWRMH-003743	SWRMH-003744	U46126	U46125	158	0.008	12	0.22	0.189	19:36 hr	2.32	1.04
SWRGM-008391	SWRMH-008226	SWRMH-008225	T37103	T37104	120	0.017	27	0.22	2.384	20:29 hr	5.76	1.73
SWRGM-008392	SWRMH-008225	SWRMH-008224	T37104	T37105	122	0.017	27	0.22	2.384	20:30 hr	5.74	1.72
SWRGM-008393	SWRMH-008220	SWRMH-008235	T37110	T36104	339	0.007	27	0.03	0.031	19:14 hr	1.13	0.87
SWRGM-008394	SWRMH-008232	SWRMH-008229	T36107	T36110	42	0.006	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008395	SWRMH-008235	SWRMH-008236	T36104	T36103	330	0.007	27	0.03	0.031	19:15 hr	1.13	0.87
SWRGM-008396	SWRMH-004192	SWRMH-004193	V38114	V38113	290	0.003	12	0.52	0.588	19:53 hr	2.19	0.63
SWRGM-008397	SWRMH-004191	SWRMH-004192	V38115	V38114	350	0.003	12	0.52	0.588	19:51 hr	2.19	0.63
SWRGM-008398	SWRMH-002726	SWRMH-002725	N45104	N45105	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008399	SWRMH-002727	SWRMH-002726	N45103	N45104	330	0.002	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008400	SWRMH-002728	SWRMH-002727	N45102	N45103	330	0.002	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008403	SWRMH-007606	SWRMH-007702	U38179	U38177	350	0.006	10	0.42	0.353	19:36 hr	2.52	0.88
SWRGM-008404	SWRMH-007703	SWRMH-007704	U38176	U38175	349	0.003	12	0.39	0.353	19:40 hr	1.92	0.63
SWRGM-008406	SWRMH-007605	SWRMH-007606	U38180	U38179	350	0.005	10	0.44	0.351	19:33 hr	2.36	0.80
SWRGM-008407	SWRMH-007704	SWRMH-007705	U38175	U38174	351	0.003	12	0.43	0.422	19:41 hr	2.01	0.63
SWRGM-008408	SWRMH-008189	SWRMH-008188	T44149	T44150	350	0.004	15	0.43	0.941	20:05 hr	2.86	0.80
SWRGM-008409	SWRMH-000655	SWRMH-000656	T44127	T44126	350	0.01	12	0.71	1.71	20:08 hr	4.43	1.16
SWRGM-008410	SWRMH-000660	SWRMH-000655	T44122	T44127	197	0.018	12	0.57	1.686	20:07 hr	5.62	1.57
SWRGM-008411	SWRMH-000656	SWRMH-000657	T44126	T44125	350	0.01	12	0.71	1.71	20:10 hr	4.43	1.16
SWRGM-008412	SWRMH-008187	SWRMH-008186	T44151	T44152	350	0.016	15	0.31	0.942	20:08 hr	4.58	1.54
SWRGM-008413	SWRMH-000661	SWRMH-000405	T44121	T44122	129	0.014	12	0.44	0.946	20:16 hr	4.36	1.35
SWRGM-008414	SWRMH-000405	SWRMH-000660	T44121	T44122	136	0.015	12	0.61	1.686	20:07 hr	5.21	1.42

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-008415	SWRNJ-000292	SWRMH-007803	U35129	U35109	20	0.04	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008418	SWRMH-007808	SWRMH-007809	U35104	U35103	350	0.008	27	0.09	0.228	19:29 hr	2.17	1.06
SWRGM-008419	SWRMH-007809	SWRMH-007810	U35103	U35102	268	0.008	27	0.09	0.228	19:30 hr	2.17	1.06
SWRGM-008420	SWRMH-007803	SWRMH-007804	U35109	U35108	147	0.008	27	0.03	0.031	19:27 hr	1.18	0.92
SWRGM-008421	SWRNJ-000294	SWRMH-007810	U35128	U35102	10	0.01	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008422	SWRMH-007811	SWRMH-003576	U35101	V35103	407	0.008	27	0.09	0.228	19:33 hr	2.18	1.07
SWRGM-008423	SWRMH-007810	SWRMH-007811	U35102	U35101	348	0.009	27	0.08	0.228	19:31 hr	2.24	1.10
SWRGM-008424	SWRMH-007805	SWRMH-007808	U35107	U35104	350	0.008	27	0.09	0.228	19:28 hr	2.17	1.06
SWRGM-008425	SWRMH-007804	SWRMH-007805	U35108	U35107	350	0.008	27	0.09	0.228	19:27 hr	2.17	1.06
SWRGM-008426	SWRMH-000352	SWRMH-007804	U35115	U35108	187	0.055	12	0.10	0.098	19:23 hr	3.72	2.50
SWRGM-008427	SWRMH-007807	SWRMH-007803	U35105	U35109	350	0.016	27	0.03	0.031	19:26 hr	1.53	1.31
SWRGM-008449	SWRMH-007642	SWRMH-007972	S29106	S28103	236	0.004	10	0.07	0.008	19:21 hr	0.72	0.62
SWRGM-008450	SWRMH-007644	SWRMH-007643	S29104	S29105	349	0.004	10	0.07	0.008	19:15 hr	0.72	0.62
SWRGM-008451	SWRMH-008178	SWRMH-008177	T44160	T44161	345	0.003	18	0.36	0.944	20:15 hr	2.51	0.70
SWRGM-008452	SWRMH-008177	SWRMH-008176	T44161	T44162	257	0.02	15	0.29	0.946	20:15 hr	4.98	1.72
SWRGM-008453	SWRMH-007648	SWRMH-008944	S28108	S28104	270	0.004	12	0.06	0.008	19:36 hr	0.70	0.62
SWRGM-008455	SWRMH-001467	SWRMH-003052	W35112	W34110	379	0.01	15	0.12	0.1	19:33 hr	1.98	1.11
SWRGM-008456	SWRMH-001466	SWRMH-001467	W35113	W35112	375	0.012	15	0.11	0.099	19:32 hr	2.13	1.23
SWRGM-008457	SWRMH-003010	SWRMH-003045	L47104	L46106	334	0.014	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008458	SWRMH-003048	SWRMH-003049	L46103	L46102	330	0.018	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008459	SWRMH-003050	SWRMH-003048	L46101	L46103	330	0.017	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008460	SWRMH-008236	SWRMH-008237	T36103	T36102	330	0.007	27	0.03	0.031	19:16 hr	1.13	0.87
SWRGM-008461	SWRMH-008237	SWRMH-008238	T36102	T36101	330	0.007	27	0.03	0.031	19:17 hr	1.13	0.87
SWRGM-008462	SWRMH-008231	SWRMH-002079	T36108	T36111	360	0.012	18	0.05	0.031	19:02 hr	1.45	1.13
SWRGM-008463	SWRMH-008238	SWRMH-008233	T36101	T36106	278	0.007	27	0.03	0.031	19:19 hr	1.15	0.89
SWRGM-008465	SWRMH-008229	SWRMH-008230	T36110	T36109	344	0.006	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008466	SWRMH-008230	SWRMH-008231	T36109	T36108	300	0.011	18	0.05	0.031	19:01 hr	1.43	1.12
SWRGM-008467	SWRMH-008244	SWRMH-007920	T27108	T27116	108	0.003	15	0.05	0.009	20:07 hr	0.64	0.56
SWRGM-008468	SWRMH-008240	SWRMH-008239	T27112	T27113	300	0.003	21	0.03	0.009	20:10 hr	0.60	0.54
SWRGM-008469	SWRMH-008248	SWRMH-008241	T27104	T27111	313	0.003	15	0.05	0.009	20:00 hr	0.65	0.57
SWRGM-008470	SWRMH-003601	SWRMH-003597	V33104	V33108	225	0.01	27	0.10	0.378	19:46 hr	2.73	1.21
SWRGM-008471	SWRNJ-000385	SWRMH-003597	V33101	V33108	10	0.01	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008472	SWRMH-003148	SWRMH-003147	V49114	V49115	200	0.005	10	0.14	0.034	10:18 hr	1.19	0.75
SWRGM-008473	SWRMH-003149	SWRMH-003148	V49113	V49114	183	0.005	10	0.14	0.034	10:17 hr	1.19	0.76
SWRGM-008474	SWRMH-003157	SWRMH-003156	V49105	V49106	208	0.005	10	0.11	0.022	10:11 hr	1.06	0.75
SWRGM-008475	SWRMH-003154	SWRMH-003149	V49108	V49113	375	0.009	10	0.11	0.028	10:16 hr	1.40	1.00
SWRGM-008477	SWRMH-004193	SWRMH-004194	V38113	V38111	70	0.013	18	0.44	2.684	20:39 hr	5.54	1.41
SWRGM-008478	SWRMH-004195	SWRMH-004196	V38110	V38109	376	0.004	21	0.49	2.684	20:43 hr	3.57	0.80
SWRGM-008479	SWRMH-007102	SWRMH-007103	T42104	T42103	309	0.038	10	0.25	0.341	19:30 hr	4.84	2.20
SWRGM-008480	SWRMH-007109	SWRMH-007110	T41103	T41102	350	0.013	12	0.27	0.35	19:40 hr	3.24	1.31
SWRGM-008481	SWRMH-003006	SWRMH-003015	X33105	X32112	376	0.011	15	0.35	0.976	20:14 hr	4.03	1.27
SWRGM-008482	SWRMH-003026	SWRMH-003025	X32101	X32102	300	0.017	15	0.60	3.179	21:29 hr	6.39	1.57
SWRGM-008483	SWRMH-001602	SWRMH-001625	R43123	R42113	364	0.017	18	0.23	0.865	19:50 hr	4.44	1.60
SWRGM-008484	SWRMH-001614	SWRMH-001613	R43119	R43120	225	0.009	18	0.25	0.779	19:54 hr	3.40	1.15
SWRGM-008485	SWRMH-007702	SWRMH-007703	U38177	U38176	350	0.015	10	0.33	0.353	19:37 hr	3.52	1.40
SWRGM-008486	SWRMH-007603	SWRMH-007605	U38182	U38180	203	0.005	10	0.44	0.35	19:30 hr	2.32	0.79
SWRGM-008487	SWRMH-002306	SWRMH-002307	U36122	U36121	281	0.007	27	0.03	0.031	19:21 hr	1.15	0.89
SWRGM-008488	SWRMH-002307	SWRMH-002308	U36121	U36120	396	0.011	27	0.03	0.031	19:22 hr	1.35	1.10
SWRGM-008489	SWRMH-001732	SWRMH-001733	Q47137	Q47136	300	0.005	18	0.17	0.273	20:21 hr	2.06	0.85
SWRGM-008490	SWRMH-001731	SWRMH-001732	Q47138	Q47137	300	0.006	18	0.16	0.273	20:20 hr	2.24	0.96
SWRGM-008491	SWRMH-001727	SWRMH-001728	Q47142	Q47141	300	0.011	18	0.14	0.273	20:16 hr	2.72	1.25
SWRGM-008492	SWRMH-001726	SWRMH-001727	Q47143	Q47142	300	0.011	18	0.14	0.273	20:15 hr	2.72	1.25
SWRGM-008493	SWRMH-001320	SWRMH-001776	Q46116	R46184	300	0.005	18	0.19	0.303	20:10 hr	2.08	0.83
SWRGM-008494	SWRMH-001323	SWRMH-001322	Q46113	Q46114	335	0.016	18	0.13	0.274	20:25 hr	3.07	1.47
SWRGM-008495	SWRMH-001321	SWRMH-001319	Q46115	Q46117	217	0.005	18	0.18	0.275	20:27 hr	2.06	0.85
SWRGM-008496	SWRMH-001312	SWRMH-001320	Q46124	Q46116	307	0.005	18	0.19	0.303	20:09 hr	2.08	0.83
SWRGM-008497	SWRMH-001319	SWRMH-001312	Q46117	Q46124	295	0.005	18	0.18	0.275	20:28 hr	2.03	0.83
SWRGM-008498	SWRMH-001322	SWRMH-001321	Q46114	Q46115	332	0.013	18	0.14	0.274	20:26 hr	2.92	1.37
SWRGM-008499	SWRNJ-000076	SWRMH-001321	Q46289	Q46115	20	0.009	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008500	SWRMH-002984	SWRMH-002985	X34108	X34107	378	0.015	15	0.62	3.179	21:12 hr	6.17	1.50
SWRGM-008501	SWRMH-002983	SWRMH-002984	X34109	X34108	348	0.017	15	0.61	3.179	21:11 hr	6.33	1.55
SWRGM-008502	SWRMH-002698	SWRMH-002699	O45104	O45103	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008503	SWRMH-002697	SWRMH-002698	O45105	O45104	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008504	SWRMH-002696	SWRMH-002697	O45106	O45105	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008505	SWRMH-001816	SWRMH-001546	R45128	R44197	281	0.011	10	0.48	0.593	19:56 hr	3.56	1.17
SWRGM-008506	SWRMH-001817	SWRMH-001816	R45127	R45128	270	0.013	10	0.45	0.581	19:56 hr	3.74	1.26
SWRGM-008507	SWRMH-001818	SWRMH-001817	R45126	R45127	135	0.013	10	0.45	0.578	19:54 hr	3.74	1.26
SWRGM-008508	SWRMH-005475	SWRMH-004316	Y41103	Y41142	359	0.005	10	0.30	0.172	10:31 hr	1.97	0.83
SWRGM-008509	SWRMH-006669	SWRMH-006667	AC45101	AC45103	119	0.01	15	0.44	1.414	19:50 hr	4.24	1.18
SWRGM-008514	SWRMH-002309	SWRMH-002310	U36119	U36118	350	0.017	27	0.03	0.031	19:24 hr	1.54	1.32
SWRGM-008515	SWRMH-002062	SWRMH-002061	U36140	U36141	301	0.003	10	0.12	0.019	19:09 hr	0.83	0.57
SWRGM-008516	SWRMH-002061	SWRMH-002053	U36141	U36149	286	0.003	10	0.13	0.024	19:10 hr	0.89	0.58
SWRGM-008517	SWRMH-002048	SWRMH-002063	U36154	U36139	285	0.003	10	0.08	0.009	19:05 hr	0.67	0.55
SWRGM-008518	SWRMH-002063	SWRMH-002062	U36139	U36140	300	0.003	10	0.10	0.014	19:06 hr	0.76	0.56
SWRGM-008519	SWRMH-002308	SWRMH-002309	U36120	U36119	350	0.017	27	0.03	0.031	19:23 hr	1.54	1.32
SWRGM-008520	SWRMH-008233	SWRMH-002306	T36106	U36122	281	0.007	27	0.03	0.031	19:20 hr	1.14	0.88
SWRGM-008521	SWRMH-007806	SWRMH-007807	U35106	U35105	350	0.017	27	0.03	0.031	19:25 hr	1.54	1.32
SWRGM-008522	SWRMH-002310	SWRMH-007806	U36118	U35106	350	0.017	27	0.03	0.031	19:25 hr	1.54	1.32
SWRGM-008523	SWRMH-007915	SWRMH-007817	U27101	U26106	350	0.003	21	0.03	0.009	20:14 hr	0.60	0.54
SWRGM-008524	SWRMH-007814	SWRMH-007813	U26109	U26110	342	0.068	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008526	SWRMH-003121	SWRMH-003122	W31102	W31101	149	0.029	27	0.13	1.029	10:02 hr	5.38	2.14
SWRGM-008527	SWRMH-007068	SWRMH-000703	AA35126	AA35127	41	0.004	12	0.16	0.068	20:11 hr	1.29	0.68
SWRGM-008528	SWRMH-007069	SWRMH-007068	AA35125	AA35126	149	0.001	12	0.25	0.068	20:11 hr	0.71	0.30
SWRGM-008529	SWRMH-007071	SWRMH-007099	T43131	T42107	330	0.007	10	0.39	0.327	19:24 hr	2.58	0.94
SWRGM-008530	SWRMH-007097	SWRMH-007074	T43105	T43128	79	0.009	10	0.24	0.155	19:18 hr	2.33	1.08
SWRGM-008531	SWRMH-007098	SWRMH-007073	T43104	T43129	117	0.035	10	0.25	0.327	19:19 hr	4.64	2.11
SWRGM-008532	SWRMH-007074	SWRMH-007098	T43128	T43104	185	0.036	10	0.18	0.156	19:18 hr	3.77	2.09
SWRGM-008536	SWRMH-002904	SWRMH-002896	X35151	X35159	15	0.009	15	0.24	0.413	20:28 hr	2.89	1.11
SWRGM-008537	SWRMH-003237	SWRMH-003238	V46170	V46169	350	0.006	12	0.28	0.278	19:47 hr	2.34	0.92
SWRGM-008538	SWRMH-003748	SWRMH-003236	U46121	V46171	342	0.008	12	0.24	0.226	19:45 hr	2.40	1.03
SWRGM-008539	SWRMH-003244	SWRMH-003281	V46163	V46126	95	0.01	12	0.28	0.337	19:52 hr	2.96	1.17

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-008540	SWRMH-003243	SWRMH-003241	V46164	V46166	275	0.012	12	0.37	0.641	19:44 hr	3.74	1.27
SWRGM-008541	SWRMH-000877	SWRMH-008216	T37150	T37114	71	0.009	27	0.26	2.384	20:31 hr	4.58	1.26
SWRGM-008542	SWRMH-002619	SWRMH-002505	AA40101	AA40119	34	0.016	12	0.67	2	19:57 hr	5.54	1.47
SWRGM-008543	SWRMH-001167	SWRMH-002619	AA40136	AA40101	78	0.008	12	1.00	1.999	19:57 hr	3.94	1.06
SWRGM-008544	SWRMH-002670	SWRMH-002653	P43124	P43141	207	0.005	12	0.04	0.003	19:04 hr	0.57	0.65
SWRGM-008545	SWRMH-002672	SWRMH-002671	P43122	P43123	311	0.005	12	0.03	0.002	19:02 hr	0.46	0.62
SWRGM-008546	SWRMH-002650	SWRMH-002661	P43144	P43133	270	0.007	12	0.10	0.035	19:08 hr	1.31	0.88
SWRGM-008547	SWRMH-002653	SWRMH-002652	P43141	P43142	295	0.005	12	0.05	0.006	19:04 hr	0.68	0.68
SWRGM-008548	SWRMH-002661	SWRMH-002665	P43133	P43129	270	0.005	12	0.14	0.058	19:11 hr	1.36	0.77
SWRGM-008549	SWRMH-002692	SWRMH-002691	P42103	P42104	338	0.003	18	0.09	0.057	20:13 hr	1.11	0.64
SWRGM-008550	SWRMH-002691	SWRMH-002690	P42104	P42105	344	0.003	18	0.09	0.057	20:15 hr	1.13	0.66
SWRGM-008551	SWRMH-002690	SWRMH-002689	P42105	P42106	353	0.003	18	0.09	0.057	20:17 hr	1.13	0.66
SWRGM-008552	SWRMH-002688	SWRMH-002687	P42107	P42108	359	0.003	18	0.09	0.057	20:21 hr	1.12	0.65
SWRGM-008553	SWRMH-006665	SWRMH-006666	AC45105	AC45104	350	0.026	15	0.32	1.276	19:53 hr	5.90	1.94
SWRGM-008554	SWRMH-006156	SWRMH-005353	AC40105	AC40107	100	0.027	15	0.44	2.344	20:46 hr	7.06	1.97
SWRGM-008555	SWRMH-005353	SWRMH-006157	AC40107	AC40104	250	0.028	15	0.44	2.372	20:43 hr	7.14	2.00
SWRGM-008556	SWRMH-006157	SWRMH-006158	AC40104	AC40103	350	0.008	21	0.37	2.372	20:45 hr	4.50	1.15
SWRGM-008557	SWRMH-005569	SWRMH-005570	AC44115	AC44114	330	0.031	15	0.32	1.448	19:55 hr	6.49	2.11
SWRGM-008558	SWRMH-007134	SWRMH-007245	T39150	T39103	134	0.01	27	0.23	1.967	20:32 hr	4.41	1.29
SWRGM-008559	SWRMH-007251	SWRMH-007250	T38120	T38121	224	0.005	27	0.27	1.972	20:38 hr	3.50	0.93
SWRGM-008560	SWRMH-007252	SWRMH-007251	T38119	T38120	114	0.024	27	0.18	1.972	20:37 hr	6.14	2.02
SWRGM-008561	SWRMH-008205	SWRMH-007252	T38108	T38119	115	0.017	27	0.20	1.972	20:37 hr	5.39	1.69
SWRGM-008562	SWRMH-007248	SWRMH-008204	T38123	T38112	83	0.005	27	0.27	1.973	20:39 hr	3.46	0.92
SWRGM-008563	SWRMH-007260	SWRMH-007259	AA35117	AA35118	41	0.001	10	0.30	0.063	19:58 hr	0.72	0.30
SWRGM-008564	SWRMH-008208	SWRMH-008210	T38105	T38102	212	0.009	27	0.25	2.384	20:26 hr	4.64	1.28
SWRGM-008565	SWRMH-007919	SWRMH-007918	T38115	T38116	260	0.01	27	0.25	2.384	20:28 hr	4.72	1.31
SWRGM-008566	SWRMH-008219	SWRMH-008218	T37111	T37112	318	0.007	27	0.03	0.031	19:10 hr	1.14	0.88
SWRGM-008567	SWRMH-008218	SWRMH-008227	T37112	T37102	320	0.007	27	0.03	0.031	19:11 hr	1.13	0.87
SWRGM-008568	SWRMH-008227	SWRMH-008220	T37102	T37110	330	0.007	27	0.04	0.031	19:12 hr	1.12	0.86
SWRGM-008569	SWRMH-009256	SWRMH-008219	SP711MH61	SDMH008219	333	0.008	27	0.03	0.031	19:08 hr	1.19	0.93
SWRGM-008570	SWRMH-007918	SWRMH-008226	T38116	T37103	262	0.017	27	0.22	2.384	20:29 hr	5.68	1.69
SWRGM-008581	SWRMH-007570	SWRMH-007583	T46128	T46115	272	0.012	10	0.18	0.091	19:26 hr	2.16	1.18
SWRGM-008582	SWRMH-006553	SWRMH-006555	R49114	R49112	350	0.014	12	0.23	0.268	19:54 hr	3.11	1.37
SWRGM-008583	SWRMH-006554	SWRMH-006553	R49113	R49114	282	0.005	12	0.29	0.254	19:54 hr	2.09	0.81
SWRGM-008584	SWRMH-002687	SWRMH-002686	P42108	P42109	361	0.004	18	0.09	0.057	20:23 hr	1.15	0.67
SWRGM-008585	SWRMH-002685	SWRMH-002684	P42110	P42111	349	0.003	18	0.09	0.057	20:27 hr	1.10	0.63
SWRGM-008586	SWRNJ-000043	SWRMH-002692	P42143	P42103	10	0.002	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008587	SWRMH-002738	SWRMH-002735	N43101	N43104	323	0.002	18	0.10	0.057	19:39 hr	0.93	0.51
SWRGM-008588	SWRMH-002737	SWRMH-002738	N43102	N43101	343	0.002	18	0.10	0.057	19:36 hr	0.94	0.51
SWRGM-008589	SWRMH-002734	SWRMH-002737	N43105	N43102	333	0.002	18	0.10	0.057	19:33 hr	0.94	0.51
SWRGM-008593	SWRMH-004194	SWRMH-004195	V38111	V38110	344	0.004	21	0.49	2.684	20:41 hr	3.56	0.80
SWRGM-008596	SWRMH-006143	SWRMH-006799	AA36137	AA36104	186	0.002	10	0.15	0.027	19:40 hr	0.83	0.50
SWRGM-008597	SWRMH-006799	SWRMH-006137	AA36104	AA36143	197	0.014	14	0.37	1.063	20:24 hr	4.54	1.42
SWRGM-008598	SWRMH-006296	SWRMH-006300	Y45146	Y45142	219	0.01	12	0.42	0.722	20:11 hr	3.59	1.14
SWRGM-008599	SWRMH-003029	SWRMH-003033	X31105	X31101	350	0.007	21	0.53	4.089	21:21 hr	4.89	1.06
SWRGM-008600	SWRMH-008224	SWRMH-000876	T37105	T37153	201	0.028	27	0.19	2.384	20:30 hr	6.85	2.19
SWRGM-008606	SWRMH-003004	SWRMH-003009	X33107	X33102	350	0.012	15	0.34	0.976	20:10 hr	4.16	1.33
SWRGM-008607	SWRMH-002999	SWRMH-003004	X33112	X33107	369	0.012	15	0.34	0.976	20:09 hr	4.16	1.33
SWRGM-008608	SWRMH-003000	SWRMH-002999	X33111	X33112	329	0.012	15	0.34	0.975	20:07 hr	4.16	1.32
SWRGM-008609	SWRMH-001604	SWRMH-001602	R43121	R43123	342	0.015	18	0.22	0.786	19:57 hr	4.15	1.51
SWRGM-008610	SWRMH-000657	SWRMH-000658	T44125	T44124	194	0.01	12	0.70	1.71	20:11 hr	4.49	1.18
SWRGM-008611	SWRMH-000659	SWRMH-008375	T44123	T44129	204	0.01	12	0.70	1.71	20:14 hr	4.48	1.18
SWRGM-008612	SWRMH-000658	SWRMH-000659	T44124	T44123	350	0.01	12	0.71	1.71	20:13 hr	4.43	1.16
SWRGM-008613	SWRMH-008185	SWRMH-008180	T44153	T44158	89	0.003	18	0.36	0.942	20:09 hr	2.56	0.72
SWRGM-008614	SWRMH-008116	SWRMH-008117	T40114	T40113	329	0.014	12	0.26	0.35	19:49 hr	3.33	1.36
SWRGM-008615	SWRMH-008115	SWRMH-008116	T40115	T40114	331	0.014	12	0.26	0.35	19:47 hr	3.33	1.36
SWRGM-008616	SWRMH-008114	SWRMH-008115	T40116	T40115	330	0.014	12	0.26	0.35	19:46 hr	3.33	1.36
SWRGM-008617	SWRMH-008590	SWRMH-008114	T40101	T40116	328	0.014	12	0.26	0.35	19:44 hr	3.33	1.36
SWRGM-008618	SWRMH-008589	SWRMH-008590	T40102	T40101	275	0.01	12	0.29	0.35	19:43 hr	2.94	1.15
SWRGM-008619	SWRMH-000695	SWRMH-008589	T40103	T40102	63	0.009	12	0.29	0.35	19:42 hr	2.90	1.12
SWRGM-008620	SWRMH-008422	SWRMH-007134	T39101	T39150	328	0.016	12	0.25	0.35	19:53 hr	3.49	1.45
SWRGM-008621	SWRMH-007113	SWRMH-007118	T39171	T39166	353	0.008	27	0.24	1.97	20:35 hr	4.20	1.20
SWRGM-008622	SWRMH-007118	SWRMH-007117	T39166	T39167	159	0.008	27	0.24	1.971	20:35 hr	4.15	1.18
SWRGM-008623	SWRMH-007117	SWRMH-007116	T39167	T39168	152	0.008	27	0.24	1.972	20:36 hr	4.23	1.21
SWRGM-008624	SWRMH-007116	SWRMH-008205	T39168	T38108	163	0.015	27	0.21	1.972	20:36 hr	5.18	1.60
SWRGM-008625	SWRMH-008118	SWRMH-008422	T40112	T39101	332	0.017	12	0.25	0.35	19:52 hr	3.56	1.50
SWRGM-008626	SWRMH-007245	SWRMH-007246	T39103	T39102	350	0.01	27	0.23	1.967	20:34 hr	4.46	1.31
SWRGM-008627	SWRMH-008255	SWRMH-008258	AA34117	AA34114	334	0.005	21	0.29	1.185	20:54 hr	3.15	0.92
SWRGM-008630	SWRMH-002342	SWRMH-002343	S50113	S50112	330	0.013	12	0.01	0.001	19:02 hr	0.52	0.93
SWRGM-008631	SWRMH-002341	SWRMH-002342	S50114	S50113	316	0.013	12	0.01	0	19:02 hr	0.42	0.88
SWRGM-008632	SWRMH-001964	SWRMH-002341	S50115	S50114	135	0.013	12	0.01	0	19:00 hr	0.41	0.86
SWRGM-008633	SWRMH-008251	SWRMH-008252	AA34121	AA34120	275	0.002	12	0.20	0.068	20:21 hr	0.96	0.46
SWRGM-008634	SWRMH-003977	SWRMH-003976	AC42104	AC42105	434	0.015	18	0.39	2.33	20:26 hr	5.70	1.54
SWRGM-008635	SWRMH-004629	SWRMH-004628	AC42101	AC42102	372	0.004	21	0.45	2.33	20:33 hr	3.46	0.81
SWRGM-008636	SWRMH-004361	SWRMH-004360	AC41109	AC41110	300	0.008	18	0.46	2.344	20:44 hr	4.55	1.13
SWRGM-008637	SWRMH-003241	SWRMH-003240	V46166	V46167	275	0.012	12	0.37	0.643	19:45 hr	3.74	1.26
SWRGM-008638	SWRMH-003239	SWRMH-003242	V46168	V46165	345	0.006	12	0.29	0.282	19:51 hr	2.35	0.92
SWRGM-008639	SWRMH-003238	SWRMH-003239	V46169	V46168	350	0.006	12	0.28	0.279	19:49 hr	2.35	0.92
SWRGM-008640	SWRMH-005777	SWRMH-005776	AA39112	AA39113	310	0.009	12	0.59	1.219	20:11 hr	3.91	1.08
SWRGM-008641	SWRMH-005778	SWRMH-005777	AA39111	AA39112	310	0.014	12	0.51	1.219	20:09 hr	4.73	1.38
SWRGM-008645	SWRMH-007226	SWRMH-007921	S27102	T27115	282	0.003	15	0.05	0.009	19:48 hr	0.65	0.57
SWRGM-008646	SWRMH-007652	SWRMH-007653	S27104	S27103	284	0.004	12	0.06	0.008	19:43 hr	0.70	0.62
SWRGM-008647	SWRMH-007975	SWRMH-007652	S27101	S27104	276	0.004	12	0.06	0.008	19:41 hr	0.71	0.63
SWRGM-008648	SWRMH-007653	SWRMH-007226	S27103	S27102	285	0.003	15	0.05	0.008	19:46 hr	0.63	0.57
SWRGM-008649	SWRMH-006478	SWRMH-007777	Q51103	R51101	347	0.012	12	0.02	0.001	19:42 hr	0.51	0.88
SWRGM-008650	SWRMH-008976	SWRMH-007775	SP570MH028	SDMH007775	349	0.014	12	0.15	0.114	19:28 hr	2.40	1.32
SWRGM-008651	SWRMH-006547	SWRMH-006534	R50106	R50119	105	0.012	12	0.16	0.118	19:32 hr	2.29	1.22
SWRGM-008652	SWRMH-003033	SWRMH-003032	X31101	X31102	368	0.012	21	0.46	4.089	21:22 hr	5.94	1.38
SWRGM-008653	SWRMH-003013	SWRMH-003012	L47102	L47103	240	0.008	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008654	SWRMH-002175	SWRMH-002176	R46144	R46143	154	0.004	10	0.23	0.092	19:27 hr	1.47	0.70
SWRGM-008657	SWRMH-002651	SWRMH-002650	P43143	P43144	295	0.005	12	0.08	0.018	19:06 hr	0.96	0.73

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-008658	SWRMH-003499	SWRMH-003502	L43110	L43107	331	0.014	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008659	SWRMH-003569	SWRMH-001466	V35110	W35113	375	0.014	15	0.11	0.099	19:30 hr	2.23	1.32
SWRGM-008660	SWRMH-003570	SWRMH-003569	V35109	V35110	376	0.007	15	0.12	0.098	19:29 hr	1.76	0.96
SWRGM-008661	SWRMH-002563	SWRMH-002564	AA44103	AA44102	116	0.043	8	0.01	0	19:00 hr	0.63	1.51
SWRGM-008662	SWRNJ-000036	SWRMH-002738	N43101	N43101	10	0.008	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008663	SWRMH-008567	SWRMH-007816	U26101	U26107	199	0.063	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008664	SWRNJ-000346	SWRMH-003885	V48103	V48111	10	0.008	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-008665	SWRMH-008245	SWRMH-008246	T27107	T27106	294	0.003	15	0.05	0.009	19:53 hr	0.63	0.55
SWRGM-008666	SWRMH-008249	SWRMH-009169	SDMH008249	S0674ABG6MH	90	0.03	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008668	SWRMH-002331	SWRMH-001964	S51110	S50115	195	0.013	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008669	SWRMH-002333	SWRMH-002331	S51109	S51110	330	0.013	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008670	SWRMH-002334	SWRMH-002333	S51108	S51109	330	0.013	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008671	SWRMH-002335	SWRMH-002334	S51107	S51108	338	0.017	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008673	SWRMH-003047	SWRMH-003050	L46104	L46101	334	0.014	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-008674	SWRMH-007108	SWRMH-007109	T41104	T41103	325	0.018	12	0.25	0.35	19:38 hr	3.64	1.54
SWRGM-008675	SWRMH-007110	SWRMH-000695	T41102	T40103	309	0.01	12	0.28	0.35	19:41 hr	2.95	1.15
SWRGM-008677	SWRMH-003500	SWRMH-003501	L43109	L43108	350	0.025	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008678	SWRMH-003505	SWRMH-003506	L43104	L43103	322	0.003	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008679	SWRMH-003508	SWRMH-003501	L43101	L43108	344	0.002	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008680	SWRMH-003507	SWRMH-003508	L43102	L43101	322	0.009	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008681	SWRMH-003506	SWRMH-003507	L43103	L43102	322	0.003	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008682	SWRMH-003504	SWRMH-003505	L43105	L43104	322	0.003	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008683	SWRMH-003503	SWRMH-003504	L43106	L43105	322	0.003	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008684	SWRMH-003502	SWRMH-003503	L43107	L43106	298	0.012	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008686	SWRMH-002714	SWRMH-002709	O43106	O43111	334	0.014	18	0.06	0.057	19:54 hr	1.84	1.28
SWRGM-008687	SWRMH-002712	SWRMH-002713	O43108	O43107	48	0.01	18	0.07	0.057	19:57 hr	1.62	1.07
SWRGM-008688	SWRMH-001448	SWRMH-002692	O42110	P42103	317	0.003	18	0.09	0.057	20:10 hr	1.13	0.66
SWRGM-008689	SWRMH-002713	SWRMH-001447	O43107	O42111	290	0.011	18	0.07	0.057	19:59 hr	1.71	1.16
SWRGM-008690	SWRMH-001449	SWRMH-001448	O42109	O42110	317	0.003	18	0.09	0.057	20:08 hr	1.13	0.66
SWRGM-008691	SWRMH-001450	SWRMH-001449	O42108	O42109	317	0.003	18	0.09	0.057	20:06 hr	1.13	0.66
SWRGM-008692	SWRMH-002303	SWRMH-001450	O42107	O42108	318	0.003	18	0.10	0.057	20:04 hr	1.02	0.58
SWRGM-008693	SWRMH-002325	SWRMH-002303	O42101	O42107	80	0.004	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008694	SWRMH-001447	SWRMH-001446	O42111	O42112	320	0.01	18	0.07	0.057	20:00 hr	1.66	1.11
SWRGM-008695	SWRMH-001446	SWRMH-001445	O42112	O42113	320	0.01	18	0.07	0.057	20:01 hr	1.66	1.11
SWRGM-008696	SWRMH-001445	SWRMH-002303	O42113	O42107	311	0.01	18	0.07	0.057	20:02 hr	1.66	1.11
SWRGM-008697	SWRMH-002721	SWRMH-002701	N45109	O45101	330	0.005	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008698	SWRMH-001625	SWRMH-001624	R42113	R42114	382	0.001	18	0.43	0.865	19:53 hr	1.85	0.48
SWRGM-008699	SWRMH-001444	SWRMH-001620	Q42101	R42118	284	0.006	18	0.26	0.685	20:01 hr	2.93	0.99
SWRGM-008700	SWRMH-001620	SWRMH-001619	R42118	R42119	355	0.006	18	0.26	0.685	20:04 hr	2.96	1.00
SWRGM-008701	SWRMH-001619	SWRMH-001618	R42119	R42120	306	0.007	18	0.26	0.685	20:05 hr	2.97	1.00
SWRGM-008702	SWRMH-001616	SWRMH-009063	SDMH001616	SP637MH6	350	0.011	24	0.23	1.574	20:04 hr	4.41	1.36
SWRGM-008703	SWRMH-001621	SWRMH-001618	R42117	R42120	44	0.009	18	0.27	0.89	19:55 hr	3.56	1.16
SWRGM-008704	SWRMH-001618	SWRMH-001617	R42120	R42121	94	0.011	24	0.23	1.574	20:02 hr	4.36	1.34
SWRGM-008705	SWRMH-001622	SWRMH-001621	R42116	R42117	400	0.013	18	0.25	0.89	19:54 hr	4.08	1.41
SWRGM-008706	SWRMH-001623	SWRMH-001622	R42115	R42116	388	0.012	18	0.25	0.89	19:53 hr	3.92	1.33
SWRGM-008707	SWRMH-001624	SWRMH-001623	R42114	R42115	74	0.011	18	0.25	0.865	19:53 hr	3.80	1.29
SWRGM-008708	SWRMH-001617	SWRMH-001616	R42121	R42122	253	0.011	24	0.23	1.574	20:02 hr	4.41	1.36
SWRGM-008709	SWRMH-007640	SWRMH-007639	R41102	R41103	350	0.013	24	0.23	1.632	20:07 hr	4.67	1.45
SWRGM-008710	SWRMH-006994	SWRNJ-000103	R41105	R41104	294	0.004	10	0.23	0.09	10:29 hr	1.47	0.71
SWRGM-008711	SWRMH-002336	SWRMH-002335	S51106	S51107	267	0.018	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008712	SWRMH-007107	SWRMH-007108	T41105	T41104	305	0.019	12	0.24	0.35	19:37 hr	3.72	1.59
SWRGM-008713	SWRMH-007106	SWRMH-007107	T41106	T41105	335	0.018	12	0.25	0.35	19:36 hr	3.64	1.54
SWRGM-008714	SWRMH-007249	SWRMH-007248	T38122	T38123	81	0.005	27	0.27	1.973	20:39 hr	3.46	0.92
SWRGM-008715	SWRMH-007247	SWRMH-007249	T38124	T38122	117	0.005	27	0.27	1.973	20:38 hr	3.46	0.92
SWRGM-008716	SWRMH-007250	SWRMH-007247	T38121	T38124	144	0.005	27	0.27	1.972	20:38 hr	3.48	0.93
SWRGM-008718	SWRMH-007254	SWRMH-007067	AA35123	AA35128	350	0.001	12	0.22	0.068	20:09 hr	0.82	0.37
SWRGM-008719	SWRMH-007255	SWRMH-007254	AA35122	AA35123	347	0.001	12	0.22	0.068	20:06 hr	0.83	0.37
SWRGM-008720	SWRMH-007259	SWRMH-007258	AA35118	AA35119	354	0.004	10	0.20	0.064	20:01 hr	1.29	0.66
SWRGM-008721	SWRMH-007258	SWRMH-007257	AA35119	AA35120	344	0.004	10	0.20	0.066	20:03 hr	1.33	0.69
SWRGM-008722	SWRMH-004536	SWRMH-004537	Y37138	Y37137	301	0.007	15	0.32	0.674	20:27 hr	3.13	1.03
SWRGM-008723	SWRMH-004915	SWRMH-005476	Y41129	Y41102	342	0.028	10	0.19	0.167	10:26 hr	3.51	1.85
SWRGM-008725	SWRMH-003001	SWRMH-003011	X33110	X33101	383	0.011	15	0.70	3.179	21:20 hr	5.40	1.27
SWRGM-008726	SWRMH-003007	SWRMH-003014	X33104	X32113	306	0.016	15	0.61	3.179	21:26 hr	6.23	1.52
SWRGM-008727	SWRMH-007111	SWRMH-007106	T41101	T41106	325	0.018	12	0.25	0.35	19:35 hr	3.64	1.54
SWRGM-008728	SWRMH-008117	SWRMH-008118	T40113	T40112	329	0.032	12	0.21	0.35	19:51 hr	4.46	2.04
SWRGM-008729	SWRMH-005718	SWRMH-005716	U43106	U43108	350	0.005	15	0.62	1.816	20:16 hr	3.55	0.86
SWRGM-008730	SWRMH-006190	SWRMH-005715	U43101	U43109	340	0.027	15	0.39	1.901	20:17 hr	6.69	1.98
SWRGM-008731	SWRMH-005070	SWRMH-005071	AA38140	AA38139	357	0.014	21	0.33	2.53	20:12 hr	5.63	1.53
SWRGM-008732	SWRMH-001189	SWRMH-001190	AC46125	AC46124	295	0.023	10	0.50	0.94	19:57 hr	5.34	1.72
SWRGM-008733	SWRNJ-000920	SWRMH-005886	AC45101	AC45127	10	0.003	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008734	SWRMH-006666	SWRMH-006669	AC45104	AC45101	181	0.017	15	0.36	1.276	19:53 hr	5.05	1.56
SWRGM-008735	SWRMH-005886	SWRMH-005885	AC45127	AC45128	250	0.004	12	0.22	0.142	19:25 hr	1.68	0.75
SWRGM-008736	SWRMH-006667	SWRMH-006668	AC45103	AC45102	305	0.013	15	0.41	1.448	19:50 hr	4.77	1.38
SWRGM-008737	SWRMH-001099	SWRMH-001092	AB46117	AB46124	206	0.011	10	0.66	0.94	19:52 hr	3.80	1.11
SWRGM-008738	SWRMH-002564	SWRMH-001051	AA44102	AA44123	89	0.052	8	0.01	0	19:00 hr	0.67	1.64
SWRGM-008739	SWRMH-004861	SWRMH-003865	AB44110	AB44116	177	0.006	10	0.13	0.033	19:19 hr	1.25	0.82
SWRGM-008740	SWRMH-003003	SWRMH-003002	X33108	X33109	380	0.011	15	0.70	3.179	21:23 hr	5.37	1.26
SWRGM-008741	SWRMH-003011	SWRMH-003003	X33101	X33108	380	0.011	15	0.70	3.179	21:21 hr	5.37	1.26
SWRGM-008742	SWRMH-006608	SWRMH-006607	S39102	S39103	449	0.021	24	0.20	1.632	20:30 hr	5.57	1.85
SWRGM-008743	SWRMH-008176	SWRMH-000661	T44162	T44121	34	0.094	12	0.27	0.946	20:16 hr	8.78	3.56
SWRGM-008748	SWRMH-006606	SWRMH-006605	S39104	S39105	265	0.003	24	0.32	1.633	20:33 hr	2.93	0.76
SWRGM-008749	SWRMH-006605	SWRMH-006604	S39105	S39106	336	0.004	24	0.32	1.635	20:35 hr	2.98	0.78
SWRGM-008750	SWRMH-006603	SWRMH-006602	S39107	S39108	350	0.009	24	0.25	1.635	20:37 hr	4.22	1.26
SWRGM-008753	SWRMH-005717	SWRMH-006190	U43107	U43101	207	0.028	15	0.37	1.818	20:18 hr	6.73	2.03
SWRGM-008754	SWRMH-005716	SWRMH-005717	U43108	U43107	350	0.005	15	0.62	1.818	20:18 hr	3.55	0.86
SWRGM-008755	SWRMH-007895	SWRMH-004361	AC41104	AC41109	169	0.007	18	0.49	2.344	20:43 hr	4.22	1.02
SWRGM-008758	SWRMH-004262	SWRMH-004263	AC43120	AC43119	250	0.017	15	0.40	1.581	19:56 hr	5.39	1.58
SWRGM-008759	SWRMH-004257	SWRMH-005039	AC43122	AC43108	356	0.009	18	0.45	2.33	20:22 hr	4.64	1.16
SWRGM-008760	SWRMH-006158	SWRMH-005189	AC40103	AC40109	351	0.004	21	0.46	2.372	20:47 hr	3.45	0.80
SWRGM-008761	SWRMH-005189	SWRMH-005190	AC40109	AC40108	208	0.009	15	0.60	2.372	20:48 hr	4.76	1.17
SWRGM-008763	SWRMH-004360	SWRMH-006156	AC41110	AC40105	350	0.023	15	0.45	2.344	20:46 hr	6.71	1.84

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-008765	SWRMH-006723	SWRMH-007260	AA36115	AA35117	336	0.004	10	0.19	0.063	19:57 hr	1.38	0.74
SWRGM-008766	SWRCO-000377	SWRMH-002565	AA44101	AA44101	93	0.088	8	0.00	0	18:59 hr	0.00	0.00
SWRGM-008767	SWRMH-001972	SWRMH-001973	S44174	S44173	300	0.004	15	0.41	0.801	20:02 hr	2.64	0.76
SWRGM-008768	SWRMH-002565	SWRMH-008953	AA44101	AA44120	102	0.079	8	0.00	0	18:59 hr	0.00	0.00
SWRGM-008769	SWRNJ-000912	SWRNJ-000907	AC43102	AC43101	162	0.068	12	0.11	0.12	19:08 hr	4.26	2.80
SWRGM-008770	SWRMH-006167	SWRMH-004592	AC43106	AC43117	82	0.18	12	0.08	0.12	19:08 hr	5.97	4.42
SWRGM-008773	SWRMH-006664	SWRMH-006665	AC45106	AC45105	330	0.007	15	0.45	1.276	19:52 hr	3.64	1.00
SWRGM-008774	SWRMH-006663	SWRMH-006664	AC45107	AC45106	350	0.006	15	0.46	1.276	19:50 hr	3.55	0.97
SWRGM-008775	SWRMH-001187	SWRMH-006663	AC46127	AC45107	369	0.014	15	0.37	1.276	19:47 hr	4.72	1.43
SWRGM-008776	SWRMH-008375	SWRMH-006186	T44129	U43105	200	0.01	12	0.71	1.71	20:15 hr	4.43	1.16
SWRGM-008777	SWRMH-006186	SWRMH-004077	U43105	U43120	239	0.02	12	0.57	1.737	20:14 hr	5.82	1.63
SWRGM-008778	SWRNJ-000111	SWRMH-001625	R42113	R42103	10	0.008	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-008779	SWRMH-004777	SWRMH-006210	Y36138	Y36105	80	0.014	15	0.27	0.705	20:31 hr	4.04	1.44
SWRGM-008784	SWRMH-004905	SWRMH-004227	Y43141	Y43150	629	0.014	10	0.49	0.682	20:13 hr	4.01	1.31
SWRGM-008785	SWRMH-005072	SWRMH-004921	AA38138	AA37137	588	0.012	18	0.44	2.576	20:13 hr	5.35	1.36
SWRGM-008786	SWRMH-006462	SWRMH-006463	Y45125	Y45124	315	0.014	12	0.38	0.738	20:15 hr	4.17	1.40
SWRGM-008787	SWRMH-008348	SWRMH-008472	AA33102	AA32104	241	0.002	12	0.12	0.027	19:16 hr	0.77	0.47
SWRGM-008788	SWRMH-006081	SWRMH-006080	W47112	W47113	330	0.01	10	0.21	0.113	10:43 hr	2.18	1.11
SWRGM-008789	SWRMH-006069	SWRMH-006070	W47124	W47123	350	0.014	10	0.14	0.062	10:39 hr	2.07	1.28
SWRGM-008790	SWRMH-006070	SWRMH-006071	W47123	W47122	350	0.014	10	0.14	0.065	10:41 hr	2.09	1.29
SWRGM-008791	SWRMH-006071	SWRMH-006072	W47122	W47121	350	0.016	10	0.14	0.065	10:41 hr	2.17	1.36
SWRGM-008792	SWRMH-006072	SWRMH-006073	W47121	W47120	350	0.013	10	0.15	0.065	10:44 hr	2.00	1.21
SWRGM-008793	SWRMH-006073	SWRMH-006074	W47120	W47119	350	0.014	10	0.14	0.065	10:47 hr	2.09	1.29
SWRGM-008794	SWRMH-004572	SWRMH-004571	Y44122	Y44123	246	0.01	15	0.27	0.591	20:05 hr	3.37	1.20
SWRGM-008795	SWRMH-004735	SWRMH-004572	Y44117	Y44122	246	0.01	15	0.27	0.591	20:04 hr	3.37	1.20
SWRGM-008796	SWRMH-004737	SWRMH-004736	Y44115	Y44116	360	0.012	15	0.25	0.549	20:02 hr	3.53	1.32
SWRGM-008797	SWRMH-004736	SWRMH-004735	Y44116	Y44117	249	0.014	15	0.25	0.591	20:02 hr	3.78	1.41
SWRGM-008798	SWRMH-001132	SWRMH-001130	AA44119	AA44121	218	0.021	15	0.26	0.789	20:48 hr	4.76	1.74
SWRGM-008799	SWRMH-004767	SWRMH-005547	Y39123	Y38113	298	0.007	15	0.06	0.023	19:03 hr	1.14	0.89
SWRGM-008800	SWRMH-004768	SWRMH-004767	Y39122	Y39123	290	0.008	15	0.06	0.021	19:02 hr	1.16	0.94
SWRGM-008801	SWRMH-004769	SWRMH-004768	Y39121	Y39122	232	0.027	15	0.04	0.014	19:01 hr	1.53	1.57
SWRGM-008802	SWRMH-004770	SWRMH-004771	Y39120	Y39119	344	0.007	15	0.04	0.01	10:03 hr	0.85	0.80
SWRGM-008803	SWRMH-003556	SWRMH-007893	V36111	V36106	87	0.008	15	0.10	0.075	19:17 hr	1.72	1.02
SWRGM-008804	SWRMH-002606	SWRMH-002607	AA40108	AA40107	245	0.007	12	1.00	2.01	20:05 hr	3.96	0.96
SWRGM-008805	SWRMH-002505	SWRMH-002504	AA40119	AA40120	216	0.008	12	1.00	2.01	19:58 hr	3.96	1.05
SWRGM-008806	SWRMH-004217	SWRMH-004218	AB36115	AB36114	351	0.004	10	0.19	0.061	19:39 hr	1.31	0.69
SWRGM-008807	SWRMH-003926	SWRNJ-000531	X39129	X39132	250	0.009	15	0.25	0.451	21:21 hr	2.99	1.13
SWRGM-008808	SWRNJ-000531	SWRMH-003923	X39129	X39132	50	0.011	15	0.23	0.451	21:21 hr	3.25	1.27
SWRGM-008809	SWRMH-005038	SWRMH-004261	AC43109	AC43121	228	0.015	15	0.41	1.585	19:59 hr	5.12	1.47
SWRGM-008810	SWRMH-006387	SWRMH-006386	V43103	V43104	300	0.009	10	0.35	0.302	19:57 hr	2.80	1.08
SWRGM-008811	SWRMH-006390	SWRMH-006391	V44114	V44113	33	0.011	10	0.33	0.302	19:47 hr	3.03	1.20
SWRGM-008812	SWRMH-006392	SWRMH-006393	V44112	V44111	28	0.011	10	0.33	0.302	19:49 hr	3.02	1.20
SWRGM-008813	SWRMH-005542	SWRMH-005543	Y38118	Y38117	313	0.005	18	0.25	0.567	20:54 hr	2.54	0.87
SWRGM-008814	SWRMH-006724	SWRMH-006723	AA36114	AA36115	360	0.004	10	0.20	0.063	19:54 hr	1.29	0.67
SWRGM-008815	SWRMH-006722	SWRMH-006724	AA36116	AA36114	366	0.004	10	0.20	0.063	19:51 hr	1.28	0.66
SWRGM-008816	SWRMH-006721	SWRMH-006722	AA36117	AA36116	360	0.004	10	0.20	0.062	19:49 hr	1.28	0.67
SWRGM-008817	SWRMH-003885	SWRMH-003884	V48111	V48112	303	0.016	10	0.11	0.042	10:22 hr	1.92	1.33
SWRGM-008818	SWRMH-009149	SWRMH-006611	W46164	X46113	209	0.005	15	0.43	0.972	19:52 hr	2.95	0.83
SWRGM-008819	SWRMH-003886	SWRMH-006453	V48110	W48107	295	0.017	10	0.13	0.056	10:33 hr	2.13	1.39
SWRGM-008821	SWRMH-003921	SWRMH-008558	X39134	Y38106	283	0.001	15	0.41	0.458	21:26 hr	1.49	0.43
SWRGM-008822	SWRMH-005541	SWRMH-005542	Y38119	Y38118	178	0.004	18	0.25	0.497	21:31 hr	2.20	0.75
SWRGM-008823	SWRMH-005192	SWRMH-004770	Y39111	Y39120	258	0.009	15	0.04	0.008	10:01 hr	0.87	0.89
SWRGM-008824	SWRMH-006154	SWRMH-005738	X42101	X42112	165	0.004	10	0.27	0.119	19:52 hr	1.56	0.69
SWRGM-008825	SWRMH-004242	SWRMH-004241	X42143	X42144	226	0.004	10	0.27	0.119	19:56 hr	1.56	0.69
SWRGM-008826	SWRMH-005738	SWRMH-004242	X42112	X42143	215	0.004	10	0.27	0.119	19:54 hr	1.58	0.70
SWRGM-008827	SWRMH-006794	SWRMH-006793	AA48103	AA48104	350	0.004	10	0.16	0.044	19:08 hr	1.19	0.69
SWRGM-008828	SWRMH-002531	SWRMH-000984	AA46102	AA46173	189	0.005	10	0.42	0.313	19:44 hr	2.21	0.77
SWRGM-008829	SWRMH-005141	SWRMH-006003	X38130	X38114	350	0.009	10	0.11	0.027	19:19 hr	1.37	0.98
SWRGM-008830	SWRMH-006219	SWRMH-005141	X39101	X38130	289	0.005	10	0.12	0.027	19:16 hr	1.08	0.72
SWRGM-008831	SWRMH-005714	SWRMH-006189	U43110	U43102	332	0.008	15	0.55	1.901	20:18 hr	4.28	1.09
SWRGM-008832	SWRMH-007009	SWRMH-007010	X45114	X45113	312	0.01	10	0.15	0.062	10:04 hr	1.81	1.08
SWRGM-008833	SWRMH-007010	SWRMH-007007	X45113	X45116	328	0.01	12	0.12	0.062	10:07 hr	1.75	1.07
SWRGM-008834	SWRMH-006681	SWRMH-006029	X45128	X45145	172	0.008	15	0.40	1.101	20:03 hr	3.68	1.07
SWRGM-008835	SWRMH-007007	SWRMH-006681	X45116	X45128	330	0.01	12	0.12	0.062	10:09 hr	1.76	1.07
SWRGM-008836	SWRMH-006679	SWRMH-007004	X45130	X45119	278	0.008	15	0.24	0.412	20:04 hr	2.75	1.05
SWRGM-008837	SWRMH-007005	SWRMH-007006	X45118	X45117	352	0.027	15	0.18	0.412	20:08 hr	4.32	1.94
SWRGM-008838	SWRMH-007004	SWRMH-007005	X45119	X45118	350	0.008	15	0.24	0.412	20:07 hr	2.77	1.05
SWRGM-008846	SWRMH-005241	SWRMH-004424	AB43104	AB43109	335	0.013	12	0.42	0.816	21:17 hr	4.08	1.30
SWRGM-008847	SWRMH-004426	SWRMH-004425	AB43107	AB43108	354	0.012	12	0.42	0.816	21:14 hr	4.03	1.28
SWRGM-008848	SWRMH-005354	SWRMH-004426	AB43102	AB43107	350	0.013	12	0.41	0.817	21:13 hr	4.16	1.34
SWRGM-008849	SWRMH-005242	SWRMH-004256	AB43103	AC43123	293	0.017	12	0.39	0.816	21:23 hr	4.52	1.50
SWRGM-008850	SWRMH-006668	SWRMH-004590	AC45102	AC44140	300	0.014	15	0.40	1.448	19:51 hr	4.91	1.43
SWRGM-008851	SWRMH-004256	SWRMH-004261	AC43123	AC43121	280	0.029	12	0.33	0.816	21:24 hr	5.50	1.97
SWRGM-008852	SWRMH-006298	SWRMH-006297	Y45144	Y45145	311	0.005	12	0.52	0.717	20:09 hr	2.70	0.78
SWRGM-008853	SWRMH-006320	SWRMH-006679	X45120	X45130	350	0.017	15	0.33	1.101	20:05 hr	4.82	1.55
SWRGM-008854	SWRMH-006769	SWRMH-007016	P44110	P44101	260	0.004	10	0.14	0.034	19:10 hr	1.10	0.68
SWRGM-008855	SWRMH-007016	SWRMH-007013	P44101	P44104	213	0.005	10	0.16	0.047	19:11 hr	1.31	0.77
SWRGM-008856	SWRMH-006981	SWRMH-006821	P44168	P44138	79	0.005	10	0.17	0.051	19:11 hr	1.31	0.74
SWRGM-008857	SWRMH-007013	SWRMH-006981	P44104	P44168	57	0.005	10	0.16	0.047	19:11 hr	1.32	0.77
SWRGM-008858	SWRMH-002671	SWRMH-002670	P43123	P43124	155	0.005	12	0.03	0.003	19:03 hr	0.53	0.63
SWRGM-008859	SWRMH-002652	SWRMH-002651	P43142	P43143	314	0.005	12	0.07	0.012	19:05 hr	0.85	0.72
SWRGM-008861	SWRMH-007305	SWRMH-007304	T48134	T48135	357	0.005	12	0.08	0.016	10:11 hr	0.92	0.72
SWRGM-008862	SWRMH-007308	SWRMH-007307	T48131	T48132	187	0.005	12	0.06	0.01	10:04 hr	0.79	0.70
SWRGM-008863	SWRMH-007306	SWRMH-007305	T48133	T48134	350	0.005	12	0.07	0.016	10:08 hr	0.92	0.72
SWRGM-008864	SWRNJ-000258	SWRMH-007308	T48413	T48131	10	0.002	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008865	SWRMH-004240	SWRMH-004239	X42145	X42146	72	0.004	10	0.28	0.134	10:35 hr	1.64	0.70
SWRGM-008866	SWRMH-003880	SWRMH-003886	V48116	V48110	363	0.016	10	0.13	0.055	10:32 hr	2.09	1.36
SWRGM-008867	SWRMH-006080	SWRMH-006129	W47113	W46138	351	0.01	10	0.21	0.113	10:45 hr	2.17	1.10
SWRGM-008868	SWRMH-006129	SWRMH-006128	W46138	W46139	345	0.01	10	0.21	0.113	10:49 hr	2.17	1.10
SWRGM-008869	SWRMH-001093	SWRMH-001099	AB46123	AB46117	99	0.009	10	0.65	0.937	19:51 hr	3.87	1.14
SWRGM-008870	SWRMH-000984	SWRMH-002530	AA46173	AA46103	140	0.005	10	0.45	0.349	19:43 hr	2.28	0.77

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-008871	SWRMH-009064	SWRMH-002531	SP652MH27	SDMH002531	294	0.005	10	0.41	0.311	19:43 hr	2.31	0.82
SWRGM-008872	SWRMH-002530	SWRMH-002529	AA46103	AA46104	330	0.025	10	0.29	0.351	19:44 hr	4.22	1.80
SWRGM-008873	SWRMH-002529	SWRMH-001255	AA46104	AA46142	233	0.025	10	0.29	0.352	19:45 hr	4.17	1.77
SWRGM-008874	SWRMH-001255	SWRMH-001237	AA46142	AA46160	101	0.026	10	0.30	0.379	19:44 hr	4.32	1.80
SWRGM-008875	SWRMH-001237	SWRMH-001238	AA46160	AA46159	323	0.011	10	0.40	0.419	19:45 hr	3.23	1.16
SWRGM-008876	SWRMH-004924	SWRMH-004339	AA37134	AB37122	259	0.017	18	0.40	2.581	20:20 hr	6.11	1.63
SWRGM-008877	SWRMH-004341	SWRMH-004340	AB37120	AB37121	325	0.004	10	0.13	0.027	19:31 hr	1.01	0.65
SWRGM-008878	SWRMH-005030	SWRMH-004922	AA37129	AA37136	252	0.012	18	0.44	2.58	20:17 hr	5.31	1.35
SWRGM-008879	SWRMH-009054	SWRMH-003926	X39131	X39129	258	0.01	15	0.24	0.45	21:20 hr	3.10	1.19
SWRGM-008880	SWRMH-003923	SWRMH-003929	X39132	X39126	301	0.009	15	0.24	0.451	21:22 hr	3.03	1.15
SWRGM-008881	SWRMH-002609	SWRMH-002610	AA40105	AA40104	301	0.018	12	0.65	2.01	20:10 hr	5.80	1.55
SWRGM-008882	SWRMH-002608	SWRMH-002609	AA40106	AA40105	350	0.011	12	0.79	2.01	20:09 hr	4.68	1.21
SWRGM-008883	SWRMH-005543	SWRMH-005544	Y38117	Y38116	253	0.005	18	0.25	0.568	20:55 hr	2.52	0.86
SWRGM-008884	SWRMH-004241	SWRMH-004240	X42144	X42145	303	0.004	10	0.28	0.134	10:35 hr	1.65	0.71
SWRGM-008885	SWRMH-004628	SWRMH-004627	AC42102	AC42103	374	0.004	21	0.46	2.33	20:35 hr	3.36	0.78
SWRGM-008886	SWRMH-003976	SWRMH-003975	AC42105	AC42106	350	0.004	21	0.45	2.33	20:29 hr	3.39	0.79
SWRGM-008887	SWRMH-004975	SWRMH-004974	Z42155	Z42156	152	0.014	10	0.50	0.733	20:14 hr	4.11	1.32
SWRGM-008888	SWRMH-005331	SWRMH-005992	Y42111	Z42104	351	0.016	10	0.47	0.705	20:14 hr	4.30	1.42
SWRGM-008889	SWRMH-006169	SWRMH-006168	AC43104	AC43105	113	0.374	12	0.07	0.115	19:07 hr	7.61	6.22
SWRGM-008890	SWRMH-006168	SWRMH-006167	AC43105	AC43106	148	0.004	12	0.21	0.118	19:08 hr	1.52	0.70
SWRGM-008891	SWRMH-009192	SWRMH-008348	P0955MH1	SDMH008348	281	0.003	12	0.11	0.027	19:13 hr	0.87	0.55
SWRGM-008892	SWRMH-008360	SWRMH-009192	SDMH008360	P0955MH1	289	0.002	12	0.13	0.027	19:11 hr	0.73	0.43
SWRGM-008894	SWRMH-008272	SWRMH-001966	AA33107	AA32124	415	0.002	24	0.08	0.08	10:31 hr	1.07	0.57
SWRGM-008895	SWRMH-006679	SWRMH-006680	X45130	X45129	349	0.031	12	0.31	0.716	20:04 hr	5.46	2.05
SWRGM-008896	SWRMH-006299	SWRMH-000327	Y45143	Y45146	266	0.018	12	0.35	0.721	20:10 hr	4.49	1.56
SWRGM-008897	SWRMH-005457	SWRMH-006324	U42107	U41107	350	0.014	15	0.47	1.901	20:34 hr	5.25	1.42
SWRGM-008898	SWRMH-006082	SWRMH-006083	W47111	W47110	331	0.004	10	0.06	0.006	10:16 hr	0.68	0.65
SWRGM-008899	SWRMH-004771	SWRMH-004769	Y39119	Y39121	240	0.009	15	0.04	0.011	19:02 hr	1.00	0.94
SWRGM-008900	SWRMH-004590	SWRMH-004589	AC44140	AC44141	300	0.009	15	0.45	1.448	19:53 hr	4.20	1.16
SWRGM-008901	SWRMH-004163	SWRMH-006169	AC44146	AC43104	141	0.004	12	0.20	0.109	19:07 hr	1.51	0.71
SWRGM-008902	SWRNJ-000907	SWRMH-004593	AC43101	AC43116	8	0.05	12	0.11	0.12	19:08 hr	3.82	2.42
SWRGM-008903	SWRMH-006641	SWRMH-006640	Y36106	Y36107	347	0.01	15	0.30	0.706	20:34 hr	3.48	1.17
SWRGM-008907	SWRMH-005951	SWRMH-009150	SDMH005951	SP720MH26	205	0.08	10	0.10	0.065	10:55 hr	3.83	2.90
SWRGM-008909	SWRMH-004592	SWRNJ-000912	AC43117	AC43102	8	0.051	12	0.11	0.12	19:08 hr	3.85	2.45
SWRGM-008910	SWRMH-008378	SWRMH-005157	Z41102	Z41141	278	0.006	12	0.57	0.921	19:58 hr	3.11	0.87
SWRGM-008911	SWRMH-000969	SWRMH-008979	SDMH000969	SP570MH04	200	0.005	12	0.19	0.103	19:22 hr	1.58	0.77
SWRGM-008912	SWRMH-004738	SWRMH-004737	X44115	Y44115	346	0.014	15	0.24	0.549	20:01 hr	3.73	1.42
SWRGM-008913	SWRMH-002556	SWRMH-005734	AA44108	AA43108	231	0.014	15	0.29	0.79	20:54 hr	4.16	1.44
SWRGM-008914	SWRMH-005734	SWRMH-004286	AA43108	AA43126	252	0.016	15	0.28	0.79	20:54 hr	4.30	1.51
SWRGM-008915	SWRMH-003975	SWRMH-004629	AC42106	AC42101	350	0.004	21	0.46	2.33	20:31 hr	3.31	0.76
SWRGM-008916	SWRMH-008241	SWRMH-008242	T27111	T27110	336	0.003	15	0.05	0.009	20:03 hr	0.65	0.57
SWRGM-008917	SWRMH-006319	SWRMH-006681	X45121	X45128	259	0.008	15	0.40	1.062	20:02 hr	3.60	1.05
SWRGM-008918	SWRMH-006318	SWRMH-006319	X45122	X45121	147	0.007	15	0.41	1.062	20:01 hr	3.43	0.98
SWRGM-008919	SWRMH-006317	SWRMH-006318	X45123	X45122	143	0.007	15	0.42	1.062	20:00 hr	3.41	0.98
SWRGM-008920	SWRMH-006315	SWRMH-006316	X45125	X45124	151	0.007	15	0.40	0.984	20:02 hr	3.36	0.98
SWRGM-008921	SWRMH-007008	SWRMH-007009	X45115	X45114	300	0.01	10	0.15	0.062	10:01 hr	1.81	1.08
SWRGM-008922	SWRMH-006029	SWRMH-006320	X45145	X45120	144	0.005	15	0.45	1.101	20:04 hr	3.14	0.86
SWRGM-008923	SWRMH-006316	SWRMH-006317	X45124	X45123	147	0.007	15	0.41	1.062	20:00 hr	3.43	0.98
SWRGM-008924	SWRMH-006672	SWRMH-006315	X46107	X45125	154	0.007	15	0.40	0.984	20:01 hr	3.36	0.98
SWRGM-008925	SWRMH-006035	SWRMH-006679	X45139	X45130	356	0.009	10	0.11	0.028	19:02 hr	1.42	1.02
SWRGM-008926	SWRMH-006083	SWRMH-006085	W47110	W47108	332	0.004	10	0.06	0.006	10:19 hr	0.68	0.65
SWRGM-008927	SWRMH-008488	SWRMH-008487	AA35103	AA35104	223	0.01	14	0.00	0	10:01 hr	0.00	0.00
SWRGM-008928	SWRMH-008533	SWRMH-008257	AA34105	AA34115	349	0.002	18	0.49	1.108	20:58 hr	2.01	0.49
SWRGM-008929	SWRMH-006461	SWRMH-006464	Y45126	Y45123	354	0.01	12	0.42	0.739	20:19 hr	3.66	1.16
SWRGM-008930	SWRMH-006494	SWRMH-006495	V41102	V41101	350	0.005	10	0.45	0.362	20:18 hr	2.35	0.79
SWRGM-008931	SWRMH-006495	SWRMH-006492	V41101	V41104	350	0.013	10	0.35	0.362	20:20 hr	3.36	1.30
SWRGM-008932	SWRMH-006492	SWRMH-003345	V41104	V40135	344	0.013	10	0.34	0.362	20:22 hr	3.36	1.30
SWRGM-008933	SWRMH-006490	SWRMH-006491	V41106	V41105	314	0.014	10	0.34	0.362	20:11 hr	3.41	1.32
SWRGM-008934	SWRMH-006491	SWRMH-006493	V41105	V41103	310	0.014	10	0.34	0.362	20:13 hr	3.45	1.34
SWRGM-008935	SWRMH-006376	SWRNJ-000375	V42107	V42108	50	0.011	10	0.36	0.361	20:08 hr	3.12	1.17
SWRGM-008937	SWRNJ-000375	SWRMH-006503	V42107	V42108	246	0.014	10	0.34	0.362	20:09 hr	3.43	1.33
SWRGM-008938	SWRMH-006377	SWRMH-006376	V42106	V42107	210	0.021	10	0.31	0.359	20:08 hr	3.94	1.62
SWRGM-008939	SWRMH-006325	SWRMH-006326	U41106	U41105	200	0.019	15	0.43	1.901	20:36 hr	5.82	1.64
SWRGM-008940	SWRMH-005975	SWRMH-006261	AA36165	AA36131	42	0.026	15	0.35	1.548	20:28 hr	6.22	1.94
SWRGM-008941	SWRMH-006267	SWRMH-006115	AA36125	AA36155	358	0.006	12	0.60	1.032	20:25 hr	3.26	0.90
SWRGM-008942	SWRMH-006793	SWRMH-008710	AA48104	AA48105	350	0.004	10	0.17	0.047	19:11 hr	1.21	0.69
SWRGM-008943	SWRMH-006334	SWRMH-006795	AA48114	AA48102	350	0.002	10	0.20	0.042	10:10 hr	0.84	0.43
SWRGM-008944	SWRMH-006795	SWRMH-006794	AA48102	AA48103	260	0.036	10	0.10	0.044	19:05 hr	2.59	1.97
SWRGM-008946	SWRMH-002483	SWRMH-002484	AA44113	AA44112	205	0.015	15	0.28	0.79	20:52 hr	4.28	1.50
SWRGM-008947	SWRMH-005982	SWRMH-006117	AA36158	AA36153	305	0.003	24	0.32	1.608	20:32 hr	2.90	0.75
SWRGM-008948	SWRMH-006260	SWRMH-005981	AA36132	AA36159	328	0.003	24	0.32	1.608	20:28 hr	2.90	0.75
SWRGM-008949	SWRMH-006259	SWRMH-006146	AA36133	AA36134	145	0.002	18	0.44	1.072	20:27 hr	2.22	0.56
SWRGM-008950	SWRMH-006146	SWRMH-006145	AA36134	AA36135	351	0.002	18	0.44	1.072	20:29 hr	2.19	0.55
SWRGM-008951	SWRMH-006266	SWRMH-007699	AA36126	AA35133	613	0.002	18	0.46	1.072	20:36 hr	2.11	0.53
SWRGM-008952	SWRMH-006145	SWRMH-006266	AA36135	AA36126	56	0.002	18	0.43	1.072	20:30 hr	2.31	0.60
SWRGM-008953	SWRMH-005977	SWRMH-005976	AA36163	AA36164	455	0.008	15	0.48	1.549	20:27 hr	4.07	1.09
SWRGM-008954	SWRMH-005976	SWRMH-005975	AA36164	AA36165	219	0.015	15	0.41	1.549	20:27 hr	5.13	1.48
SWRGM-008955	SWRMH-000794	SWRMH-002260	P48120	Q48114	320	0.002	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-008956	SWRMH-002347	SWRMH-002345	S50108	S50110	418	0.01	10	0.09	0.021	19:07 hr	1.31	1.02
SWRGM-008957	SWRMH-005979	SWRMH-006267	AA36161	AA36125	177	0.005	12	0.65	1.032	20:23 hr	2.97	0.79
SWRGM-008958	SWRMH-006260	SWRMH-006259	AA36132	AA36133	16	0.017	24	0.17	1.072	20:26 hr	4.60	1.66
SWRGM-008959	SWRMH-004219	SWRMH-004222	AB36113	AB36110	61	0.004	10	0.19	0.061	19:43 hr	1.31	0.69
SWRGM-008960	SWRMH-005609	SWRMH-002898	X36126	X35157	271	0.004	21	0.50	2.787	21:09 hr	3.60	0.80
SWRGM-008962	SWRMH-004926	SWRNJ-000823	AB43106	AB43102	80	0.018	12	0.38	0.817	21:11 hr	4.64	1.56
SWRGM-008963	SWRMH-006128	SWRMH-006127	W46139	W46140	335	0.01	10	0.21	0.113	10:50 hr	2.17	1.10
SWRGM-008964	SWRMH-006640	SWRMH-006639	Y36107	Y36108	322	0.01	15	0.30	0.715	20:34 hr	3.60	1.22
SWRGM-008965	SWRMH-005186	SWRMH-005187	X42128	X42127	74	0.006	10	0.38	0.293	10:45 hr	2.43	0.90
SWRGM-008966	SWRMH-005039	SWRMH-005040	AC43108	AC43107	350	0.013	18	0.41	2.33	20:23 hr	5.31	1.40
SWRGM-008968	SWRMH-006096	SWRMH-001902	AC48110	AC47117	320	0.01	10	0.35	0.327	10:49 hr	3.00	1.15
SWRGM-008969	SWRMH-008534	SWRMH-008533	AA34104	AA34105	338	0.002	18	0.46	1.108	20:55 hr	2.15	0.54
SWRGM-008970	SWRMH-008490	SWRMH-008534	AA35101	AA34104	361	0.001	18	0.51	1.108	20:52 hr	1.91	0.46

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-008973	SWRMH-005469	SWRMH-004905	Y43116	Y43141	112	0.006	15	0.33	0.617	20:12 hr	2.76	0.89
SWRGM-008974	SWRMH-004997	SWRMH-005469	Y43133	Y43116	307	0.013	15	0.26	0.611	20:13 hr	3.71	1.36
SWRGM-008975	SWRMH-005547	SWRMH-005533	Y38113	Y38127	255	0.009	15	0.06	0.025	19:05 hr	1.28	0.99
SWRGM-008976	SWRMH-005769	SWRMH-005770	U42102	U42101	350	0.011	15	0.50	1.901	20:29 hr	4.77	1.25
SWRGM-008977	SWRMH-005720	SWRMH-005769	U42103	U42102	350	0.005	15	0.63	1.901	20:28 hr	3.58	0.86
SWRGM-008979	SWRMH-005981	SWRMH-005982	AA36159	AA36158	348	0.003	24	0.32	1.608	20:30 hr	2.90	0.75
SWRGM-008980	SWRMH-006680	SWRMH-006298	X45129	Y45144	348	0.004	12	0.53	0.716	20:07 hr	2.62	0.75
SWRGM-008981	SWRMH-006463	SWRMH-006461	Y45124	Y45126	274	0.01	12	0.42	0.738	20:17 hr	3.61	1.15
SWRGM-008982	SWRMH-002459	SWRMH-001783	R45107	R45161	136	0.012	18	0.20	0.558	20:03 hr	3.47	1.34
SWRGM-008983	SWRMH-001784	SWRMH-002459	R45160	R45107	194	0.012	18	0.19	0.522	20:02 hr	3.37	1.32
SWRGM-008984	SWRMH-004348	SWRMH-004349	Y44130	Y44129	220	0.01	12	0.42	0.739	20:21 hr	3.66	1.17
SWRGM-008985	SWRMH-008145	SWRMH-008146	V36102	V36101	351	0.008	15	0.11	0.078	19:22 hr	1.75	1.02
SWRGM-008986	SWRMH-007890	SWRMH-007892	V37104	V36107	295	0.007	15	0.10	0.067	19:16 hr	1.57	0.94
SWRGM-008987	SWRMH-007893	SWRMH-008142	V36106	V36105	203	0.01	15	0.10	0.075	19:18 hr	1.82	1.10
SWRGM-008988	SWRMH-008144	SWRMH-008145	V36103	V36102	274	0.012	15	0.10	0.075	19:21 hr	1.93	1.19
SWRGM-008989	SWRMH-008143	SWRMH-008144	V36104	V36103	264	0.01	15	0.10	0.075	19:20 hr	1.84	1.12
SWRGM-008990	SWRMH-008142	SWRMH-008143	V36105	V36104	257	0.01	15	0.10	0.075	19:19 hr	1.82	1.10
SWRGM-008991	SWRMH-003865	SWRMH-003867	AB44116	AB44115	389	0.006	10	0.13	0.033	19:22 hr	1.26	0.82
SWRGM-008993	SWRMH-005160	SWRMH-004650	Z41138	AA41140	209	0.007	12	1.00	1.938	19:53 hr	3.82	1.00
SWRGM-008994	SWRMH-005106	SWRMH-000305	AA41101	AA41160	139	0.006	12	1.00	1.938	19:54 hr	3.82	0.88
SWRGM-008995	SWRMH-000305	SWRMH-004015	AA41101	AA41160	113	0.006	12	1.00	1.939	19:54 hr	3.82	0.93
SWRGM-008996	SWRMH-005157	SWRMH-005158	Z41141	Z41140	328	0.009	12	0.69	1.519	19:44 hr	4.07	1.07
SWRGM-008997	SWRMH-004349	SWRMH-006322	Y44129	Y44102	318	0.005	12	0.52	0.739	20:23 hr	2.78	0.81
SWRGM-008998	SWRMH-004222	SWRMH-006721	AB36110	AA36117	345	0.004	10	0.19	0.062	19:46 hr	1.32	0.70
SWRGM-008999	SWRMH-005472	SWRMH-005170	Y43113	Y43135	309	0.01	15	0.28	0.606	20:11 hr	3.34	1.18
SWRGM-009000	SWRMH-005979	SWRMH-005978	AA36161	AA36162	169	0.02	15	0.38	1.548	20:22 hr	5.65	1.70
SWRGM-009001	SWRMH-005978	SWRMH-005977	AA36162	AA36163	456	0.011	15	0.44	1.548	20:24 hr	4.56	1.27
SWRGM-009002	SWRMH-006217	SWRMH-006218	X39103	X39102	289	0.005	10	0.12	0.024	19:12 hr	1.06	0.72
SWRGM-009003	SWRMH-006218	SWRMH-006219	X39102	X39101	289	0.005	10	0.12	0.025	19:14 hr	1.07	0.72
SWRGM-009004	SWRMH-008379	SWRMH-005650	X41102	X41113	260	0.011	12	0.03	0.003	10:11 hr	0.76	0.95
SWRGM-009005	SWRMH-008380	SWRMH-008379	X41101	X41102	260	0.012	12	0.03	0.003	10:10 hr	0.78	0.98
SWRGM-009006	SWRMH-007888	SWRMH-007889	V40101	V39101	264	0.007	18	0.44	1.957	20:52 hr	3.99	1.01
SWRGM-009007	SWRNJ-000058	SWRMH-009035	SDMH002260	SP574MH08	81	0.07	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009008	SWRMH-001216	SWRMH-001217	AC46112	AC46111	350	0.013	12	0.31	0.477	11:03 hr	3.58	1.34
SWRGM-009009	SWRMH-002503	SWRMH-001216	AC46103	AC46112	350	0.013	12	0.31	0.477	11:01 hr	3.55	1.32
SWRGM-009010	SWRMH-002502	SWRMH-002503	AC46104	AC46103	350	0.013	12	0.31	0.477	11:00 hr	3.55	1.32
SWRGM-009011	SWRMH-001190	SWRMH-001187	AC46124	AC46127	300	0.05	10	0.40	0.94	19:57 hr	7.08	2.52
SWRGM-009012	SWRMH-005885	SWRMH-005884	AC45128	AC45129	44	0.105	12	0.10	0.142	19:25 hr	5.19	3.46
SWRGM-009013	SWRMH-005884	SWRMH-006669	AC45129	AC45101	199	0.043	12	0.13	0.142	19:26 hr	3.81	2.28
SWRGM-009014	SWRMH-006464	SWRMH-004348	Y45123	Y44130	202	0.011	12	0.41	0.739	20:20 hr	3.75	1.21
SWRGM-009015	SWRMH-006326	SWRMH-006327	U41105	U41104	190	0.01	15	0.51	1.901	20:37 hr	4.63	1.20
SWRGM-009016	SWRMH-006327	SWRMH-006328	U41104	U41103	350	0.007	15	0.58	1.901	20:39 hr	4.01	1.00
SWRGM-009017	SWRMH-006328	SWRMH-006330	U41103	U41101	350	0.007	15	0.59	1.901	20:41 hr	3.94	0.98
SWRGM-009018	SWRMH-006330	SWRMH-006329	U41101	U41102	350	0.007	15	0.58	1.901	20:43 hr	4.01	1.00
SWRGM-009019	SWRMH-006329	SWRMH-009078	SDMH006329	SP656MH7	334	0.006	15	0.60	1.901	20:45 hr	3.83	0.94
SWRGM-009020	SWRMH-008382	SWRMH-008381	U47133	U47134	359	0.004	10	0.34	0.182	19:20 hr	1.73	0.67
SWRGM-009021	SWRMH-008381	SWRMH-003756	U47134	U46113	350	0.004	10	0.34	0.183	19:23 hr	1.75	0.68
SWRGM-009022	SWRMH-000638	SWRMH-000637	U47116	U47117	248	0.01	10	0.11	0.031	19:06 hr	1.47	1.04
SWRGM-009023	SWRMH-007313	SWRMH-000638	T47191	U47116	250	0.01	10	0.09	0.02	19:06 hr	1.31	1.03
SWRGM-009024	SWRMH-006493	SWRMH-006494	V41103	V41102	278	0.005	10	0.45	0.362	20:15 hr	2.34	0.79
SWRGM-009025	SWRMH-002493	SWRMH-002492	AC47109	AC47110	289	0.004	12	0.19	0.098	10:20 hr	1.53	0.75
SWRGM-009026	SWRMH-004952	SWRMH-004217	AB36108	AB36115	45	0.011	10	0.15	0.061	19:36 hr	1.88	1.14
SWRGM-009027	SWRMH-004806	SWRMH-004952	AB36109	AB36108	217	0.001	10	0.17	0.028	19:40 hr	0.70	0.39
SWRGM-009028	SWRMH-004346	SWRMH-004568	Y44132	Z44118	259	0.006	12	0.50	0.765	20:27 hr	3.05	0.90
SWRGM-009029	SWRMH-004393	SWRMH-004346	Y44127	Y44132	330	0.005	12	0.53	0.765	20:26 hr	2.78	0.80
SWRGM-009030	SWRMH-004502	SWRMH-005765	x40115	x40108	310	0.004	12	0.40	0.417	20:49 hr	2.18	0.71
SWRGM-009031	SWRMH-005765	SWRMH-004503	x40108	x40114	347	0.004	12	0.40	0.417	20:52 hr	2.17	0.71
SWRGM-009032	SWRMH-001894	SWRMH-001896	AC47125	AC47123	375	0.036	10	0.09	0.035	10:19 hr	2.40	1.92
SWRGM-009033	SWRMH-001893	SWRMH-001894	AC47126	AC47125	375	0.016	10	0.10	0.035	10:16 hr	1.84	1.34
SWRGM-009034	SWRMH-004263	SWRMH-004264	AC43119	AC43118	300	0.016	15	0.40	1.585	19:57 hr	5.31	1.54
SWRGM-009035	SWRMH-004264	SWRMH-005038	AC43118	AC43109	250	0.017	15	0.40	1.585	19:58 hr	5.40	1.58
SWRGM-009036	SWRMH-002611	SWRMH-002606	AA40103	AA40108	330	0.007	12	1.00	2.01	20:04 hr	3.96	0.96
SWRGM-009037	SWRMH-002504	SWRMH-002612	AA40120	AA40102	325	0.007	12	1.00	2.01	20:00 hr	3.96	0.96
SWRGM-009038	SWRMH-006383	SWRMH-006379	V43107	V42104	310	0.01	10	0.34	0.302	20:04 hr	2.87	1.11
SWRGM-009039	SWRMH-004227	SWRMH-005331	Y43150	Y42111	563	0.01	10	0.54	0.703	20:13 hr	3.65	1.14
SWRGM-009040	SWRMH-008559	SWRMH-008563	Y38105	Y38101	346	0.006	15	0.27	0.458	21:30 hr	2.66	0.96
SWRGM-009041	SWRMH-008558	SWRMH-008559	Y38106	Y38105	321	0.005	15	0.29	0.458	21:28 hr	2.44	0.85
SWRGM-009042	SWRMH-005496	SWRMH-006038	X41115	X41108	278	0.002	15	0.34	0.422	21:03 hr	1.80	0.57
SWRGM-009043	SWRMH-004284	SWRMH-001133	Z44123	AA44118	304	0.009	15	0.33	0.789	20:47 hr	3.50	1.13
SWRGM-009044	SWRMH-005660	SWRMH-005898	AB48120	AB48126	84	0.005	10	0.39	0.282	10:40 hr	2.22	0.81
SWRGM-009045	SWRMH-005899	SWRMH-005660	AB48119	AB48126	216	0.003	10	0.42	0.243	10:39 hr	1.74	0.61
SWRGM-009046	SWRMH-005657	SWRMH-005900	AB48129	AB48118	213	0.002	10	0.45	0.24	10:36 hr	1.58	0.53
SWRGM-009047	SWRMH-005901	SWRMH-005657	AB48117	AB48129	137	0.003	10	0.42	0.227	10:33 hr	1.63	0.57
SWRGM-009048	SWRMH-005897	SWRMH-006095	AC48111	AB48121	295	0.003	10	0.47	0.295	10:45 hr	1.82	0.60
SWRGM-009049	SWRMH-005492	SWRMH-004504	X41119	x40113	257	0.008	12	0.05	0.008	10:17 hr	0.87	0.86
SWRGM-009050	SWRMH-004922	SWRMH-004923	AA37136	AA37135	400	0.012	18	0.44	2.58	20:18 hr	5.34	1.36
SWRGM-009051	SWRMH-005349	SWRMH-004397	Y41104	Y41137	10	0.023	10	0.21	0.175	10:32 hr	3.30	1.67
SWRGM-009052	SWRMH-003951	SWRMH-004502	W40147	x40115	360	0.006	10	0.46	0.417	20:46 hr	2.61	0.87
SWRGM-009053	SWRMH-006187	SWRMH-005719	U43104	U42104	310	0.005	15	0.63	1.901	20:24 hr	3.59	0.86
SWRGM-009054	SWRMH-006188	SWRMH-006187	U43103	U43104	350	0.005	15	0.64	1.901	20:22 hr	3.58	0.86
SWRGM-009055	SWRMH-006189	SWRMH-006188	U43102	U43103	292	0.006	15	0.61	1.901	20:19 hr	3.76	0.92
SWRGM-009056	SWRMH-007094	SWRMH-005718	T43108	U43106	182	0.008	10	0.19	0.082	19:22 hr	1.82	0.98
SWRGM-009057	SWRMH-006302	SWRMH-006282	Y45140	Y45160	326	0.005	12	0.50	0.723	20:14 hr	2.88	0.85
SWRGM-009058	SWRMH-002494	SWRMH-001895	AC47108	AC47124	292	0.014	12	0.31	0.477	10:57 hr	3.62	1.36
SWRGM-009059	SWRMH-001896	SWRMH-002494	AC47123	AC47108	308	0.009	12	0.34	0.46	10:55 hr	3.05	1.08
SWRGM-009061	SWRMH-007006	SWRMH-005747	X45117	X44106	342	0.008	15	0.24	0.412	20:10 hr	2.79	1.07
SWRGM-009065	SWRMH-006039	SWRMH-005495	X41107	X41116	279	0.003	15	0.32	0.422	20:59 hr	1.89	0.62
SWRGM-009066	SWRMH-005650	SWRMH-005494	X41113	X41117	260	0.011	12	0.03	0.004	10:12 hr	0.80	0.97
SWRGM-009067	SWRMH-004044	SWRMH-008380	X41157	X41101	229	0.012	12	0.03	0.003	10:08 hr	0.76	0.96
SWRGM-009068	SWRMH-006038	SWRMH-006040	X41108	X41106	278	0.003	15	0.32	0.424	21:05 hr	1.90	0.62
SWRGM-009069	SWRMH-002562	SWRMH-002484	AA44104	AA44112	166	0.076	8	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-009070	SWRMH-001050	SWRMH-001051	AA44124	AA44123	341	0.013	8	0.01	0	19:02 hr	0.39	0.87
SWRGM-009071	SWRCO-000375	SWRMH-002563	AA44103	AA44103	164	0.16	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-009072	SWRNJ-000584	SWRMH-004997	Y43400	Y43133	96	0.013	15	0.26	0.606	20:12 hr	3.70	1.36
SWRGM-009073	SWRMH-004245	SWRMH-004246	AC41114	AC41113	310	0.01	18	0.44	2.33	20:42 hr	4.79	1.22
SWRGM-009074	SWRMH-004244	SWRMH-004245	AC41115	AC41114	350	0.003	21	0.47	2.33	20:41 hr	3.26	0.75
SWRGM-009075	SWRMH-004243	SWRMH-004244	AC41116	AC41115	350	0.003	21	0.47	2.33	20:39 hr	3.26	0.75
SWRGM-009076	SWRMH-004111	SWRMH-005070	AA38149	AA38140	311	0.005	21	0.43	2.528	20:11 hr	3.91	0.93
SWRGM-009077	SWRMH-004110	SWRMH-004111	AA38150	AA38149	295	0.011	18	0.43	2.378	20:14 hr	5.09	1.31
SWRGM-009078	SWRMH-004276	SWRMH-008565	W38155	W38101	334	0.004	21	0.49	2.686	20:53 hr	3.57	0.80
SWRGM-009079	SWRMH-004274	SWRMH-004275	W38157	W38156	376	0.004	21	0.49	2.686	20:49 hr	3.59	0.81
SWRGM-009080	SWRMH-004874	SWRMH-004568	Z44108	Z44118	169	0.015	12	0.03	0.003	19:03 hr	0.83	1.09
SWRGM-009081	SWRMH-003883	SWRMH-003882	V48113	V48114	382	0.016	10	0.13	0.053	10:26 hr	2.06	1.36
SWRGM-009082	SWRMH-002243	SWRMH-002242	Q49117	Q49118	309	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009083	SWRMH-002245	SWRMH-009035	SDMH002245	SP574MH08	350	0.027	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009084	SWRMH-002246	SWRMH-002245	Q49114	Q49115	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009085	SWRMH-002244	SWRMH-002246	Q49116	Q49114	349	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009086	SWRMH-002241	SWRMH-002244	Q49119	Q49116	213	0.015	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009087	SWRMH-002260	SWRNJ-000058	SDMH002260	SP574MH08	138	0.041	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009090	SWRMH-006565	SWRMH-001649	R49102	Q49136	183	0.01	12	0.22	0.208	19:47 hr	2.55	1.15
SWRGM-009091	SWRMH-002561	SWRMH-002562	AA44105	AA44104	244	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009092	SWRMH-004340	SWRMH-004637	AB37121	AB37117	272	0.004	10	0.14	0.029	19:32 hr	1.02	0.65
SWRGM-009093	SWRMH-002030	SWRMH-008347	S43119	T43101	282	0.003	10	0.22	0.073	19:16 hr	1.26	0.62
SWRGM-009094	SWRMH-000637	SWRMH-008384	U47117	U47131	412	0.01	10	0.15	0.063	19:09 hr	1.85	1.10
SWRGM-009095	SWRMH-006115	SWRMH-006799	AA36155	AA36104	259	0.023	12	0.40	1.037	20:25 hr	5.42	1.76
SWRGM-009096	SWRMH-006261	SWRMH-006262	AA36131	AA36130	126	0.002	24	0.46	2.615	20:27 hr	2.89	0.62
SWRGM-009097	SWRMH-006262	SWRMH-006260	AA36130	AA36132	165	0.002	24	0.47	2.68	20:26 hr	2.88	0.62
SWRGM-009098	SWRMH-007849	SWRMH-008110	T48107	T47137	313	0.014	10	0.14	0.058	19:12 hr	2.01	1.26
SWRGM-009102	SWRMH-003949	SWRMH-003950	W40149	W40148	306	0.005	10	0.46	0.364	20:49 hr	2.33	0.78
SWRGM-009103	SWRMH-005159	SWRMH-005166	Z41139	Z41132	325	0.007	12	0.75	1.519	19:47 hr	3.74	0.97
SWRGM-009104	SWRMH-004650	SWRMH-005106	AA41140	AA41101	77	0.026	12	0.56	1.938	19:53 hr	6.66	1.87
SWRGM-009105	SWRMH-005581	SWRMH-005580	AB44106	AB44107	195	0.005	10	0.13	0.033	19:15 hr	1.22	0.79
SWRGM-009106	SWRMH-004425	SWRMH-005241	AB43108	AB43104	339	0.013	12	0.42	0.816	21:16 hr	4.11	1.32
SWRGM-009107	SWRMH-005355	SWRMH-005354	AB43101	AB43102	358	0.038	12	0.31	0.817	21:12 hr	6.07	2.26
SWRGM-009108	SWRMH-004591	SWRMH-005572	AC44139	AC44112	250	0.015	15	0.40	1.456	19:58 hr	5.00	1.47
SWRGM-009109	SWRMH-005571	SWRMH-004591	AC44113	AC44139	200	0.013	15	0.41	1.448	19:57 hr	4.75	1.37
SWRGM-009110	SWRMH-005570	SWRMH-005571	AC44114	AC44113	350	0.008	15	0.46	1.448	19:56 hr	4.05	1.11
SWRGM-009111	SWRNJ-000823	SWRMH-005355	AB43102	AB43101	20	0.028	12	0.34	0.817	21:11 hr	5.45	1.94
SWRGM-009112	SWRMH-005040	SWRMH-003977	AC43107	AC42104	350	0.009	18	0.45	2.33	20:24 hr	4.64	1.16
SWRGM-009113	SWRMH-005582	SWRMH-005581	AB44105	AB44106	213	0.006	10	0.13	0.033	19:13 hr	1.24	0.81
SWRGM-009114	SWRMH-005580	SWRMH-004861	AB44107	AB44110	350	0.006	10	0.13	0.032	19:18 hr	1.25	0.82
SWRGM-009115	SWRMH-002607	SWRMH-002608	AA40107	AA40106	335	0.011	12	0.78	2.01	20:07 hr	4.72	1.22
SWRGM-009116	SWRMH-005493	SWRMH-005492	X41118	X41119	257	0.008	12	0.05	0.007	10:15 hr	0.83	0.84
SWRGM-009117	SWRMH-005494	SWRMH-005493	X41117	X41118	258	0.012	12	0.04	0.007	10:13 hr	0.95	1.02
SWRGM-009118	SWRMH-004847	SWRMH-008459	Z42161	Z41101	365	0.005	12	0.58	0.913	19:54 hr	3.00	0.84
SWRGM-009119	SWRMH-008459	SWRMH-008378	Z41101	Z41102	346	0.005	12	0.57	0.918	19:56 hr	3.08	0.86
SWRGM-009120	SWRMH-007921	SWRMH-008245	T27115	T27107	345	0.003	15	0.05	0.009	19:51 hr	0.65	0.57
SWRGM-009121	SWRMH-005351	SWRMH-007895	AC41105	AC41104	131	0.009	18	0.45	2.33	20:44 hr	4.64	1.16
SWRGM-009122	SWRMH-004627	SWRMH-004243	AC42103	AC41116	369	0.003	21	0.47	2.33	20:37 hr	3.27	0.75
SWRGM-009123	SWRMH-005719	SWRMH-005720	U42104	U42103	316	0.006	15	0.61	1.901	20:26 hr	3.73	0.91
SWRGM-009124	SWRMH-006216	SWRMH-006217	X39104	X39103	289	0.005	10	0.11	0.023	19:10 hr	1.04	0.72
SWRGM-009125	SWRMH-003882	SWRMH-003881	V48114	V48115	292	0.016	10	0.13	0.053	10:28 hr	2.04	1.33
SWRGM-009126	SWRMH-003881	SWRMH-003880	V48115	V48116	371	0.016	10	0.13	0.053	10:29 hr	2.06	1.36
SWRGM-009127	SWRMH-003948	SWRMH-006162	W40150	W40105	350	0.005	10	0.45	0.364	20:42 hr	2.35	0.79
SWRGM-009128	SWRMH-003947	SWRMH-003948	W40151	W40150	350	0.005	10	0.45	0.364	20:39 hr	2.35	0.79
SWRGM-009129	SWRMH-006163	SWRMH-003947	W40104	W40151	350	0.007	10	0.41	0.364	20:36 hr	2.70	0.96
SWRGM-009130	SWRMH-006164	SWRMH-006163	W40103	W40104	350	0.008	10	0.40	0.364	20:34 hr	2.75	0.98
SWRGM-009131	SWRMH-004755	SWRMH-005541	Y38148	Y38119	160	0.004	18	0.25	0.497	21:31 hr	2.22	0.76
SWRGM-009132	SWRMH-005544	SWRMH-004499	Y38116	Y37144	351	0.014	18	0.19	0.568	20:57 hr	3.69	1.45
SWRGM-009133	SWRMH-006132	SWRMH-006133	W46132	W46131	354	0.012	12	0.39	0.709	19:46 hr	3.84	1.27
SWRGM-009134	SWRMH-006133	SWRMH-006134	W46131	W46130	332	0.011	12	0.40	0.711	19:48 hr	3.75	1.22
SWRGM-009135	SWRMH-006131	SWRMH-005949	W46133	W46145	293	0.013	12	0.37	0.647	19:47 hr	3.87	1.32
SWRGM-009136	SWRMH-005949	SWRMH-006132	W46145	W46132	61	0.01	12	0.41	0.707	19:45 hr	3.67	1.19
SWRGM-009137	SWRMH-002612	SWRMH-002611	AA40102	AA40103	320	0.007	12	1.00	2.01	20:02 hr	3.96	0.98
SWRGM-009138	SWRMH-004921	SWRMH-005028	AA37137	AA37131	320	0.01	18	0.46	2.576	20:15 hr	4.99	1.24
SWRGM-009139	SWRMH-005028	SWRMH-005029	AA37131	AA37130	283	0.014	18	0.42	2.58	20:16 hr	5.63	1.46
SWRGM-009140	SWRMH-005029	SWRMH-005030	AA37130	AA37129	103	0.014	18	0.42	2.58	20:16 hr	5.60	1.45
SWRGM-009141	SWRMH-006282	SWRMH-006462	Y45160	Y45125	314	0.014	12	0.38	0.738	20:14 hr	4.12	1.37
SWRGM-009142	SWRMH-002482	SWRMH-002483	AA44114	AA44113	188	0.013	15	0.29	0.79	20:52 hr	4.07	1.40
SWRGM-009143	SWRMH-003933	SWRMH-003930	X39122	X39125	277	0.003	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009144	SWRMH-004218	SWRMH-004219	AB36114	AB36113	340	0.004	10	0.19	0.061	19:42 hr	1.33	0.71
SWRGM-009151	SWRMH-004077	SWRMH-004076	U43120	U43121	270	0.02	12	0.57	1.738	20:16 hr	5.81	1.62
SWRGM-009152	SWRMH-005458	SWRMH-005456	U42106	U42108	261	0.009	15	0.53	1.901	20:32 hr	4.49	1.16
SWRGM-009153	SWRMH-005456	SWRMH-005457	U42108	U42107	338	0.008	15	0.54	1.901	20:33 hr	4.31	1.10
SWRGM-009154	SWRMH-005459	SWRMH-005458	U42105	U42106	101	0.011	15	0.49	1.901	20:30 hr	4.87	1.29
SWRGM-009155	SWRMH-008561	SWRMH-008560	Y38103	Y38104	236	0.008	15	0.25	0.459	21:32 hr	2.91	1.08
SWRGM-009156	SWRMH-008562	SWRMH-008561	Y38102	Y38103	235	0.008	15	0.26	0.458	21:31 hr	2.85	1.05
SWRGM-009157	SWRMH-008563	SWRMH-008562	Y38101	Y38102	159	0.008	15	0.26	0.458	21:30 hr	2.86	1.06
SWRGM-009158	SWRMH-005455	SWRMH-005458	U42109	U42106	315	0.009	15	0.00	0	00:00 hr	0.00	0.00
SWRGM-009159	SWRMH-004347	SWRMH-004306	Y44131	Y43148	295	0.014	15	0.25	0.592	20:07 hr	3.78	1.41
SWRGM-009160	SWRMH-005158	SWRMH-005159	Z41140	Z41139	332	0.014	12	0.58	1.519	19:45 hr	4.97	1.38
SWRGM-009161	SWRMH-005758	SWRMH-005757	Y43109	Y43110	195	0.014	15	0.25	0.595	20:07 hr	3.76	1.40
SWRGM-009162	SWRMH-005757	SWRMH-005759	Y43110	Y43108	235	0.014	15	0.25	0.603	20:08 hr	3.79	1.41
SWRGM-009163	SWRMH-005759	SWRMH-005471	Y43108	Y43114	136	0.013	15	0.26	0.606	20:08 hr	3.74	1.38
SWRGM-009164	SWRMH-005170	SWRNJ-000584	Y43135	Y43400	54	0.008	15	0.30	0.606	20:12 hr	3.08	1.05
SWRGM-009165	SWRMH-008002	SWRMH-008003	AB34111	AB34110	258	0.003	10	0.00	0	10:05 hr	0.00	0.00
SWRGM-009166	SWRMH-008003	SWRMH-008359	AB34110	AB33116	86	0.002	10	0.10	0.009	19:13 hr	0.53	0.40
SWRGM-009167	SWRMH-008354	SWRMH-008002	AB34105	AB34111	157	0.002	10	0.00	0	10:03 hr	0.00	0.00
SWRGM-009168	SWRMH-008353	SWRMH-008354	AB34106	AB34105	63	0.003	10	0.00	0	10:00 hr	0.00	0.00
SWRGM-009169	SWRMH-008352	SWRMH-008353	AB34107	AB34106	51	0.003	10	0.00	0	10:00 hr	0.00	0.00
SWRGM-009170	SWRMH-008351	SWRMH-008352	AB34108	AB34107	223	0.003	10	0.00	0	10:00 hr	0.00	0.00
SWRGM-009171	SWRMH-008355	SWRMH-008351	AB34104	AB34108	312	0.004	10	0.00	0	00:00 hr	0.00	0.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-009172	SWRMH-008393	SWRMH-008361	AB33107	AB33114	280	0.002	12	0.08	0.011	19:32 hr	0.58	0.44
SWRGM-009173	SWRMH-008359	SWRMH-008399	AB33116	AB33101	216	0.006	10	0.07	0.009	19:15 hr	0.86	0.77
SWRGM-009174	SWRMH-007892	SWRMH-003556	V36107	V36111	213	0.006	15	0.11	0.067	19:17 hr	1.50	0.88
SWRGM-009175	SWRMH-008146	SWRMH-008147	V36101	V35102	350	0.01	15	0.10	0.078	19:23 hr	1.84	1.10
SWRGM-009177	SWRMH-001121	SWRMH-005613	W36126	X36122	279	0.004	21	0.50	2.761	21:02 hr	3.60	0.80
SWRGM-009178	SWRMH-008953	SWRMH-002558	AA44120	AA44106	370	0.015	15	0.29	0.79	20:51 hr	4.23	1.47
SWRGM-009179	SWRMH-001130	SWRMH-008953	AA44121	AA44120	235	0.019	15	0.27	0.789	20:49 hr	4.59	1.65
SWRGM-009180	SWRMH-006384	SWRMH-006383	V43106	V43107	353	0.009	10	0.34	0.302	20:02 hr	2.83	1.09
SWRGM-009181	SWRMH-006386	SWRMH-006384	V43104	V43106	313	0.01	10	0.34	0.302	19:59 hr	2.84	1.10
SWRGM-009182	SWRMH-006389	SWRMH-006388	V43101	V43102	320	0.01	10	0.34	0.302	19:53 hr	2.85	1.10
SWRGM-009183	SWRMH-007791	SWRMH-007329	S46142	S46108	181	0.004	10	0.46	0.338	19:48 hr	2.16	0.72
SWRGM-009184	SWRNJ-000181	SWRMH-006604	S39248	S39106	10	0.014	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009185	SWRMH-007815	SWRMH-007814	U26108	U26109	342	0.067	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009186	SWRMH-007916	SWRMH-007815	U26102	U26108	342	0.061	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009187	SWRMH-007816	SWRMH-007916	U26107	U26102	335	0.065	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009188	SWRMH-007820	SWRMH-007818	U26103	U26105	350	0.003	21	0.03	0.009	20:18 hr	0.60	0.54
SWRGM-009189	SWRMH-007817	SWRMH-007820	U26106	U26103	350	0.003	21	0.03	0.009	20:16 hr	0.60	0.54
SWRGM-009190	SWRMH-007818	SWRMH-008671	U26105	U26104	222	0.004	21	0.03	0.009	20:19 hr	0.67	0.62
SWRGM-009191	SWRMH-007822	SWRMH-007821	U25103	V25102	340	0.06	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009192	SWRMH-007823	SWRMH-007822	U25102	U25103	351	0.056	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009193	SWRMH-007813	SWRMH-007824	U26110	U25101	350	0.058	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009194	SWRMH-007824	SWRMH-007823	U25101	U25102	349	0.057	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009200	SWRMH-003866	SWRMH-003871	AB43115	AB43113	150	0.005	15	0.40	0.815	21:09 hr	2.79	0.82
SWRGM-009201	SWRMH-003870	SWRMH-003866	AB43114	AB43115	302	0.002	21	0.31	0.815	21:08 hr	2.00	0.56
SWRGM-009202	SWRMH-003872	SWRMH-003870	AB44112	AB43114	304	0.002	21	0.31	0.814	21:06 hr	1.98	0.56
SWRGM-009203	SWRMH-003869	SWRMH-003872	AB44113	AB44112	28	0.004	21	0.26	0.814	21:04 hr	2.55	0.79
SWRGM-009204	SWRMH-003868	SWRMH-003869	AB44114	AB44113	368	0.002	15	0.50	0.791	21:07 hr	2.01	0.53
SWRGM-009205	SWRMH-001123	SWRMH-003868	AA44122	AB44114	370	0.002	21	0.31	0.791	21:03 hr	1.89	0.53
SWRGM-009206	SWRMH-002553	SWRMH-001123	AA44111	AA44122	361	0.002	21	0.32	0.791	21:00 hr	1.89	0.53
SWRGM-009207	SWRNJ-000242	SWRNJ-000243	T46446	T46454	56	0.11	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009208	SWRNJ-000372	SWRMH-006490	V42108	V41106	162	0.014	10	0.34	0.362	20:09 hr	3.44	1.34
SWRGM-009209	SWRMH-006503	SWRNJ-000373	V42108	V41106	40	0.006	10	0.44	0.362	20:09 hr	2.44	0.83
SWRGM-009210	SWRNJ-000373	SWRNJ-000372	V42108	V41106	92	0.014	10	0.34	0.362	20:09 hr	3.42	1.33
SWRGM-009211	SWRMH-001238	SWRNJ-000756	AA46159	AA46107	163	0.005	10	0.50	0.442	19:46 hr	2.51	0.81
SWRGM-009212	SWRMH-001278	SWRMH-001247	AA46119	AA46150	116	0.002	10	0.57	0.475	19:50 hr	2.31	0.71
SWRGM-009213	SWRMH-001239	SWRMH-001277	AA46158	AA46120	321	0.004	10	0.61	0.529	19:53 hr	2.37	0.71
SWRGM-009214	SWRMH-001247	SWRMH-001239	AA46150	AA46158	202	0.004	10	0.57	0.477	19:51 hr	2.32	0.71
SWRGM-009215	SWRMH-001281	SWRMH-001278	AA46116	AA46119	316	0.004	10	0.55	0.461	19:50 hr	2.30	0.71
SWRGM-009216	SWRNJ-000756	SWRMH-001281	AA46107	AA46116	153	0.004	10	0.54	0.443	19:47 hr	2.26	0.70
SWRGM-009217	SWRMH-006613	SWRMH-009086	SDMH006613	SP653MH1	318	0.011	15	0.35	0.972	19:57 hr	3.97	1.24
SWRGM-009218	SWRMH-006612	SWRMH-006613	X46112	X46111	305	0.008	15	0.37	0.972	19:56 hr	3.63	1.10
SWRGM-009219	SWRMH-006611	SWRMH-006612	X46113	X46112	305	0.003	15	0.48	0.972	19:55 hr	2.60	0.70
SWRGM-009220	SWRMH-009088	SWRMH-006672	SP653MH03	SDMH006672	296	0.009	15	0.37	0.984	20:01 hr	3.72	1.13
SWRGM-009221	SWRMH-005927	SWRMH-006678	X46117	X46101	263	0.004	10	0.08	0.011	10:27 hr	0.80	0.65
SWRGM-009222	SWRMH-006677	SWRMH-005927	X46102	X46117	67	0.003	10	0.09	0.011	10:25 hr	0.75	0.59
SWRGM-009223	SWRMH-005928	SWRMH-006676	X46116	X46103	173	0.004	10	0.08	0.011	10:29 hr	0.82	0.66
SWRGM-009224	SWRMH-006678	SWRMH-005928	X46101	X46116	157	0.004	10	0.09	0.011	10:28 hr	0.77	0.61
SWRGM-009225	SWRMH-006676	SWRMH-009086	SDMH006676	SP653MH1	329	0.004	10	0.09	0.011	10:33 hr	0.79	0.64
SWRGM-009226	SWRMH-006674	SWRMH-006677	X46105	X46102	330	0.006	10	0.08	0.011	10:24 hr	0.89	0.75
SWRGM-009227	SWRMH-006074	SWRNJ-000420	W47119	W47115	100	0.014	10	0.14	0.065	10:46 hr	2.07	1.27
SWRGM-009228	SWRMH-006084	SWRMH-006081	W47109	W47112	323	0.01	10	0.21	0.113	10:42 hr	2.16	1.10
SWRGM-009229	SWRMH-006085	SWRMH-006084	W47108	W47109	320	0.01	10	0.21	0.113	10:38 hr	2.17	1.10
SWRGM-009230	SWRMH-006095	SWRMH-006096	AC48110	AC48111	294	0.004	10	0.42	0.295	10:47 hr	2.07	0.72
SWRGM-009231	SWRMH-002491	SWRMH-002492	AC47111	AC47110	293	0.023	12	0.22	0.327	10:52 hr	3.92	1.75
SWRGM-009232	SWRMH-007920	SWRMH-007922	T27116	T27114	23	0.003	21	0.03	0.009	20:07 hr	0.57	0.51
SWRGM-009233	SWRMH-007922	SWRMH-008240	T27114	T27112	277	0.003	21	0.03	0.009	20:08 hr	0.60	0.54
SWRGM-009234	SWRMH-008485	SWRMH-008490	AA35106	AA35101	456	0.001	18	0.53	1.108	20:49 hr	1.82	0.43
SWRGM-009235	SWRMH-008484	SWRMH-008485	AA35107	AA35106	357	0.003	18	0.39	1.108	20:45 hr	2.66	0.71
SWRGM-009236	SWRMH-007701	SWRMH-008484	AA35131	AA35107	326	0.001	18	0.53	1.108	20:43 hr	1.79	0.42
SWRGM-009237	SWRMH-005818	SWRMH-004636	Z41108	Z41153	237	0.007	12	0.75	1.565	19:52 hr	3.84	1.00
SWRGM-009238	SWRMH-005538	SWRMH-004755	Y38122	Y38148	129	0.003	18	0.26	0.496	21:30 hr	2.11	0.71
SWRGM-009239	SWRMH-006322	SWRMH-004393	Y44102	Y44127	336	0.005	12	0.53	0.742	20:26 hr	2.75	0.79
SWRGM-009240	SWRMH-006324	SWRMH-006325	U41107	U41106	350	0.019	15	0.43	1.901	20:36 hr	5.89	1.67
SWRGM-009241	SWRMH-005793	SWRMH-004498	Y37111	Y37145	223	0.005	18	0.26	0.582	20:56 hr	2.52	0.85
SWRGM-009242	SWRMH-004499	SWRMH-005793	Y37144	Y37111	239	0.007	18	0.24	0.582	20:55 hr	2.85	1.01
SWRGM-009243	SWRMH-004537	SWRMH-004538	Y37137	Y37136	301	0.007	15	0.32	0.675	20:29 hr	3.13	1.03
SWRGM-009244	SWRMH-005728	SWRMH-002478	Z44105	Z44127	331	0.005	12	0.54	0.782	20:37 hr	2.83	0.81
SWRGM-009245	SWRMH-002478	SWRMH-005729	Z44127	Z44104	339	0.027	12	0.33	0.782	20:38 hr	5.34	1.92
SWRGM-009246	SWRMH-005729	SWRMH-004608	Z44104	Z44114	342	0.027	18	0.19	0.788	20:38 hr	5.09	1.99
SWRGM-009247	SWRMH-004873	SWRMH-004284	Z44109	Z44123	200	0.009	15	0.33	0.789	20:46 hr	3.54	1.15
SWRGM-009248	SWRMH-006210	SWRMH-006641	Y36105	Y36106	302	0.009	15	0.31	0.705	20:32 hr	3.45	1.16
SWRGM-009249	SWRMH-006213	SWRMH-006211	Y36102	Y36104	271	0.009	15	0.31	0.704	20:31 hr	3.44	1.16
SWRGM-009250	SWRMH-004538	SWRMH-006212	Y37136	Y36103	294	0.007	15	0.32	0.684	20:29 hr	3.16	1.04
SWRGM-009251	SWRMH-006212	SWRMH-006213	Y36103	Y36102	300	0.007	15	0.32	0.684	20:31 hr	3.14	1.03
SWRGM-009252	SWRMH-005536	SWRMH-004882	Y38124	Y38142	193	0.008	15	0.09	0.054	19:04 hr	1.54	0.98
SWRGM-009253	SWRNJ-000618	SWRMH-005349	Y41142	Y41140	127	0.008	10	0.27	0.175	10:31 hr	2.27	1.00
SWRGM-009254	SWRMH-004316	SWRNJ-000618	Y41142	Y41140	21	0.025	10	0.20	0.172	10:32 hr	3.41	1.76
SWRGM-009257	SWRMH-006388	SWRMH-006385	V43102	V43105	350	0.009	10	0.35	0.302	19:55 hr	2.81	1.08
SWRGM-009258	SWRMH-006391	SWRMH-006392	V44113	V44112	289	0.013	10	0.32	0.302	19:48 hr	3.16	1.28
SWRGM-009259	SWRMH-006394	SWRMH-006390	V44110	V44114	276	0.01	10	0.34	0.302	19:47 hr	2.88	1.12
SWRGM-009260	SWRMH-006395	SWRMH-006394	V44109	V44110	351	0.013	10	0.31	0.302	19:46 hr	3.21	1.30
SWRGM-009261	SWRMH-005613	SWRMH-005611	X36122	X36124	325	0.004	21	0.50	2.761	21:04 hr	3.58	0.80
SWRGM-009262	SWRMH-008216	SWRMH-008217	T37114	T37143	295	0.008	27	0.27	2.384	20:32 hr	4.29	1.15
SWRGM-009265	SWRNJ-000101	SWRMH-007000	R40102	R40101	35	0.004	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009266	SWRMH-004337	SWRMH-005979	AB37124	AA36161	358	0.012	18	0.44	2.581	20:21 hr	5.33	1.36
SWRGM-009267	SWRMH-008383	SWRMH-008382	U47132	U47133	247	0.012	10	0.25	0.18	19:17 hr	2.63	1.21
SWRGM-009268	SWRMH-008384	SWRMH-008383	U47131	U47132	288	0.004	10	0.33	0.18	19:16 hr	1.76	0.69
SWRGM-009269	SWRMH-006378	SWRMH-006377	V42105	V42106	305	0.005	10	0.45	0.359	20:07 hr	2.33	0.79
SWRGM-009270	SWRMH-006379	SWRMH-006380	V42104	V42103	320	0.009	10	0.34	0.302	20:06 hr	2.83	1.09
SWRGM-009271	SWRMH-006381	SWRMH-006378	V42102	V42105	254	0.01	10	0.38	0.359	20:03 hr	2.97	1.10
SWRGM-009272	SWRMH-006380	SWRMH-006381	V42103	V42102	330	0.01	10	0.37	0.359	20:02 hr	3.00	1.11

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-009273	SWRMH-006385	SWRMH-006387	V43105	V43103	55	0.009	10	0.35	0.302	19:55 hr	2.79	1.07
SWRGM-009279	SWRMH-004839	SWRMH-004838	AA42120	AA42121	110	0.003	10	0.22	0.072	19:10 hr	1.23	0.60
SWRGM-009280	SWRMH-004728	SWRMH-004839	AA42140	AA42120	124	0.003	10	0.22	0.072	19:09 hr	1.23	0.60
SWRGM-009281	SWRMH-004571	SWRMH-004347	Y44123	Y44131	270	0.018	15	0.24	0.591	20:05 hr	4.16	1.61
SWRGM-009282	SWRMH-008243	SWRMH-008244	T27109	T27108	218	0.003	15	0.05	0.009	20:05 hr	0.65	0.57
SWRGM-009283	SWRMH-008242	SWRMH-008243	T27110	T27109	218	0.003	15	0.05	0.009	20:04 hr	0.65	0.57
SWRGM-009284	SWRMH-001891	SWRMH-001890	AC47128	AC47129	198	0.031	12	0.23	0.425	10:54 hr	4.70	2.04
SWRGM-009285	SWRMH-002492	SWRMH-001891	AC47110	AC47128	234	0.014	12	0.29	0.425	10:53 hr	3.57	1.39
SWRGM-009286	SWRMH-001895	SWRMH-000084	AC47124	AC46104	256	0.018	12	0.29	0.477	10:58 hr	4.00	1.56
SWRGM-009287	SWRMH-001218	SWRMH-001187	AC46110	AC46127	317	0.024	15	0.20	0.477	11:06 hr	4.31	1.83
SWRGM-009288	SWRMH-001217	SWRMH-001218	AC46111	AC46110	350	0.004	15	0.31	0.477	11:05 hr	2.32	0.78
SWRGM-009290	SWRMH-005350	SWRMH-005351	AC41106	AC41105	253	0.009	18	0.46	2.33	20:43 hr	4.59	1.15
SWRGM-009291	SWRMH-004246	SWRMH-005350	AC41113	AC41106	51	0.009	18	0.44	2.33	20:42 hr	4.75	1.20
SWRGM-009292	SWRMH-001892	SWRMH-001893	AC47127	AC47126	375	0.002	10	0.17	0.035	10:14 hr	0.92	0.52
SWRGM-009293	SWRMH-004593	SWRMH-004262	AC43116	AC43120	47	0.016	15	0.40	1.574	19:55 hr	5.24	1.52
SWRGM-009294	SWRMH-003930	SWRMH-003934	X39125	X39121	149	0.004	10	0.07	0.008	10:01 hr	0.71	0.63
SWRGM-009295	SWRMH-005572	SWRMH-004593	AC44112	AC43116	203	0.017	15	0.38	1.461	19:58 hr	5.21	1.55
SWRGM-009296	SWRMH-001087	SWRMH-001095	AB46129	AB46121	98	0.004	10	0.81	0.749	19:49 hr	2.45	0.69
SWRGM-009297	SWRMH-002558	SWRMH-002482	AA44106	AA44114	130	0.014	15	0.29	0.79	20:51 hr	4.14	1.43
SWRGM-009298	SWRMH-001133	SWRMH-001132	AA44118	AA44119	240	0.008	15	0.33	0.789	20:48 hr	3.43	1.10
SWRGM-009299	SWRMH-003929	SWRMH-003922	X39126	X39133	187	0.007	15	0.27	0.458	21:23 hr	2.69	0.97
SWRGM-009300	SWRMH-004109	SWRMH-004110	AA38151	AA38150	400	0.012	18	0.42	2.378	20:13 hr	5.21	1.35
SWRGM-009301	SWRMH-005900	SWRMH-005899	AB48118	AB48119	350	0.023	10	0.24	0.243	10:37 hr	3.66	1.70
SWRGM-009302	SWRMH-005902	SWRMH-005901	AB48116	AB48117	350	0.003	10	0.40	0.227	10:32 hr	1.71	0.61
SWRGM-009303	SWRMH-005903	SWRMH-005902	AB48115	AB48116	338	0.003	10	0.33	0.163	10:29 hr	1.64	0.65
SWRGM-009304	SWRMH-001095	SWRMH-001096	AB46121	AB46120	305	0.016	10	0.56	0.933	19:47 hr	4.59	1.41
SWRGM-009305	SWRMH-001094	SWRMH-001093	AB46122	AB46123	307	0.016	10	0.56	0.937	19:50 hr	4.61	1.42
SWRGM-009306	SWRMH-001096	SWRMH-001094	AB46120	AB46122	305	0.016	10	0.56	0.933	19:49 hr	4.62	1.42
SWRGM-009307	SWRMH-001085	SWRMH-009038	SDMH001085	SP576MH03	126	0.004	10	0.67	0.628	19:56 hr	2.49	0.72
SWRGM-009308	SWRMH-001084	SWRMH-001085	AB46132	AB46131	350	0.004	10	0.68	0.628	19:55 hr	2.45	0.71
SWRGM-009312	SWRMH-004503	SWRMH-004504	x40114	x40113	229	0.006	15	0.26	0.417	20:54 hr	2.53	0.93
SWRGM-009313	SWRMH-004504	SWRMH-004505	x40113	x40112	239	0.006	15	0.26	0.422	20:55 hr	2.55	0.93
SWRGM-009314	SWRMH-004505	SWRMH-006039	x40112	X41107	205	0.003	15	0.32	0.422	20:56 hr	1.97	0.65
SWRGM-009315	SWRMH-003914	SWRMH-004506	x40122	x40111	199	0.004	15	0.29	0.444	21:07 hr	2.33	0.81
SWRGM-009316	SWRMH-006040	SWRMH-003913	X41106	x40123	213	0.003	15	0.32	0.426	21:06 hr	1.99	0.66
SWRGM-009317	SWRMH-003913	SWRMH-003914	x40123	x40122	186	0.003	15	0.32	0.426	21:07 hr	1.99	0.66
SWRGM-009318	SWRMH-003920	SWRMH-003919	x40116	x40117	288	0.007	15	0.26	0.448	21:14 hr	2.79	1.03
SWRGM-009319	SWRMH-003919	SWRMH-003918	x40117	x40118	244	0.007	15	0.26	0.448	21:15 hr	2.69	0.98
SWRGM-009320	SWRMH-006215	SWRMH-006216	X39105	X39104	288	0.005	10	0.11	0.023	19:08 hr	1.04	0.72
SWRGM-009321	SWRMH-005471	SWRMH-005472	Y43114	Y43113	358	0.014	15	0.25	0.606	20:09 hr	3.81	1.41
SWRGM-009322	SWRMH-003946	SWRMH-003949	W40152	W40149	117	0.003	10	0.54	0.364	20:46 hr	1.88	0.59
SWRGM-009323	SWRMH-006166	SWRMH-003946	W40101	W40152	185	0.003	10	0.54	0.364	20:44 hr	1.89	0.59
SWRGM-009324	SWRMH-005533	SWRMH-005535	Y38127	Y38125	219	0.018	15	0.06	0.029	19:05 hr	1.66	1.36
SWRGM-009325	SWRMH-005535	SWRMH-005536	Y38125	Y38124	184	0.008	15	0.09	0.053	19:03 hr	1.52	0.97
SWRGM-009326	SWRMH-005537	SWRMH-005538	Y38123	Y38122	346	0.004	18	0.24	0.495	21:29 hr	2.35	0.82
SWRGM-009327	SWRMH-004273	SWRMH-004274	W38158	W38157	376	0.004	21	0.49	2.685	20:47 hr	3.57	0.80
SWRGM-009328	SWRMH-008721	SWRMH-004087	SP723MH6	SDMH004087	392	0.011	18	0.43	2.375	20:10 hr	5.06	1.30
SWRGM-009329	SWRMH-005495	SWRMH-005496	X41116	X41115	278	0.002	15	0.34	0.422	21:01 hr	1.81	0.58
SWRGM-009330	SWRMH-004967	SWRMH-006002	X38131	X38115	220	0.002	12	0.18	0.064	19:20 hr	1.05	0.53
SWRGM-009331	SWRMH-006003	SWRMH-004967	X38114	X38131	217	0.002	12	0.18	0.064	19:18 hr	1.05	0.53
SWRGM-009332	SWRMH-004087	SWRMH-004109	AA39135	AA38151	400	0.012	18	0.42	2.378	20:11 hr	5.21	1.35
SWRGM-009333	SWRMH-005071	SWRMH-005072	AA38139	AA38138	335	0.025	15	0.47	2.546	20:13 hr	7.00	1.90
SWRGM-009334	SWRMH-004923	SWRMH-004924	AA37135	AA37134	300	0.013	18	0.43	2.581	20:20 hr	5.52	1.42
SWRGM-009336	SWRNJ-000204	SWRMH-007134	T39471	T39150	31	0.006	30	0.20	1.635	20:39 hr	3.60	1.07
SWRGM-009338	SWRMH-001968	SWRMH-001967	S44178	S44179	200	0.004	15	0.39	0.731	19:56 hr	2.55	0.75
SWRGM-009339	SWRMH-003021	SWRMH-003029	X32106	X31105	350	0.007	21	0.53	4.089	21:19 hr	4.95	1.08
SWRGM-009340	SWRMH-008239	SWRMH-007915	T27113	U27101	289	0.003	21	0.03	0.009	20:12 hr	0.60	0.54
SWRGM-009341	SWRMH-005953	SWRMH-005952	W46124	W46125	350	0.014	10	0.14	0.065	10:51 hr	2.10	1.29
SWRGM-009342	SWRMH-005952	SWRMH-005951	W46125	W46126	350	0.014	10	0.14	0.065	10:53 hr	2.10	1.29
SWRGM-009343	SWRMH-008361	SWRMH-008360	AB33114	AB33115	288	0.002	12	0.12	0.027	19:09 hr	0.78	0.47
SWRGM-009344	SWRMH-000703	SWRMH-007266	AA35127	AA35111	150	0.002	12	0.20	0.068	20:12 hr	0.96	0.46
SWRGM-009347	SWRMH-008394	SWRMH-008393	AB33106	AB33107	255	0.001	12	0.08	0.011	19:30 hr	0.53	0.39
SWRGM-009348	SWRMH-008398	SWRMH-008397	AB33102	AB33103	308	0.002	12	0.08	0.009	19:20 hr	0.52	0.40
SWRGM-009349	SWRMH-008399	SWRMH-008398	AB33101	AB33102	283	0.002	12	0.07	0.009	19:17 hr	0.57	0.46
SWRGM-009350	SWRMH-008397	SWRMH-008396	AB33103	AB33104	339	0.002	12	0.07	0.009	19:23 hr	0.58	0.46
SWRGM-009351	SWRMH-008396	SWRMH-008395	AB33104	AB33105	289	0.002	12	0.07	0.009	19:26 hr	0.55	0.43
SWRGM-009352	SWRMH-008395	SWRMH-008394	AB33105	AB33106	245	0.002	12	0.07	0.009	19:28 hr	0.59	0.48
SWRGM-009353	SWRMH-002484	SWRMH-002556	AA44112	AA44108	12	0.013	15	0.30	0.79	20:53 hr	3.96	1.35
SWRGM-009354	SWRMH-004286	SWRMH-002555	AA43126	AA44109	343	0.015	15	0.28	0.791	20:56 hr	4.28	1.50
SWRGM-009355	SWRMH-004974	SWRMH-004847	Z42156	Z42161	588	0.017	10	0.52	0.853	20:06 hr	4.66	1.48
SWRGM-009356	SWRMH-006396	SWRMH-006395	V44108	V44109	335	0.013	10	0.32	0.302	19:44 hr	3.13	1.26
SWRGM-009357	SWRMH-006393	SWRMH-006389	V44111	V43101	352	0.014	10	0.31	0.302	19:51 hr	3.29	1.35
SWRGM-009358	SWRMH-003147	SWRMH-003885	V49115	V48111	329	0.023	10	0.10	0.038	10:21 hr	2.12	1.58
SWRGM-009359	SWRMH-005770	SWRMH-005459	U42101	U42105	238	0.043	15	0.34	1.901	20:30 hr	7.88	2.48
SWRGM-009360	SWRMH-003907	SWRMH-004536	Y37164	Y37138	313	0.007	15	0.32	0.674	20:26 hr	3.12	1.03
SWRGM-009361	SWRMH-004498	SWRMH-004818	Y37145	Y37115	54	0.003	18	0.28	0.582	20:56 hr	2.23	0.72
SWRGM-009362	SWRMH-005794	SWRMH-003907	Y37110	Y37164	299	0.008	15	0.30	0.664	20:25 hr	3.27	1.10
SWRGM-009363	SWRMH-006020	SWRMH-005794	Y37105	Y37110	297	0.008	15	0.30	0.663	20:24 hr	3.27	1.10
SWRGM-009364	SWRMH-005816	SWRMH-005817	Z41110	Z41109	232	0.016	12	0.56	1.532	19:49 hr	5.22	1.46
SWRGM-009365	SWRMH-005166	SWRMH-005816	Z41132	Z41110	224	0.007	12	0.77	1.531	19:48 hr	3.67	0.95
SWRGM-009366	SWRMH-004636	SWRMH-004717	Z41153	Z41146	341	0.005	12	1.00	1.566	19:55 hr	3.09	0.81
SWRGM-009367	SWRMH-004717	SWRMH-004718	Z41146	Z41145	230	0.006	12	0.82	1.593	19:55 hr	3.59	0.93
SWRGM-009368	SWRMH-004718	SWRMH-005823	Z41145	Z41103	218	0.013	12	0.61	1.595	19:56 hr	4.91	1.34
SWRGM-009369	SWRMH-003950	SWRMH-003951	W40148	W40147	385	0.006	10	0.47	0.417	20:43 hr	2.57	0.85
SWRGM-009370	SWRMH-006211	SWRMH-004777	Y36104	Y36138	191	0.016	15	0.27	0.704	20:31 hr	4.14	1.50
SWRGM-009371	SWRMH-004275	SWRMH-004276	W38156	W38155	376	0.004	21	0.49	2.686	20:51 hr	3.57	0.80
SWRGM-009372	SWRMH-001051	SWRMH-002482	AA44123	AA44114	42	0.048	8	0.02	0.001	19:02 hr	0.78	1.65
SWRGM-009373	SWRMH-004076	SWRMH-005718	U43121	U43106	84	0.02	12	0.56	1.738	20:16 hr	5.89	1.65
SWRGM-009374	SWRMH-004610	SWRMH-004609	Z44112	Z44113	288	0.006	12	0.51	0.788	20:43 hr	3.00	0.87
SWRGM-009375	SWRMH-004609	SWRMH-002557	Z44113	AA44107	330	0.018	12	0.37	0.789	20:44 hr	4.56	1.54
SWRGM-009376	SWRMH-004608	SWRMH-004610	Z44114	Z44112	341	0.005	12	0.53	0.788	20:41 hr	2.91	0.84

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-009377	SWRMH-004568	SWRMH-004569	Z44118	Z44117	404	0.004	12	0.56	0.768	20:31 hr	2.64	0.74
SWRGM-009378	SWRMH-004569	SWRMH-004570	Z44117	Z44116	21	0.004	12	0.55	0.768	20:31 hr	2.69	0.76
SWRGM-009379	SWRMH-004570	SWRMH-005727	Z44116	Z44106	304	0.004	12	0.58	0.782	20:33 hr	2.55	0.71
SWRGM-009380	SWRMH-005727	SWRMH-005728	Z44106	Z44105	322	0.006	12	0.51	0.782	20:35 hr	3.00	0.88
SWRGM-009381	SWRMH-004421	SWRMH-005242	AB43112	AB43103	280	0.017	12	0.38	0.816	21:22 hr	4.58	1.53
SWRGM-009382	SWRMH-004422	SWRMH-004421	AB43111	AB43112	280	0.013	12	0.41	0.816	21:21 hr	4.12	1.32
SWRGM-009383	SWRMH-004423	SWRMH-004422	AB43110	AB43111	220	0.012	12	0.42	0.816	21:20 hr	4.05	1.29
SWRGM-009384	SWRMH-004424	SWRMH-004423	AB43109	AB43110	218	0.012	12	0.42	0.816	21:19 hr	4.03	1.28
SWRGM-009385	SWRMH-006162	SWRMH-006166	W40105	W40101	165	0.007	10	0.41	0.364	20:43 hr	2.67	0.94
SWRGM-009386	SWRMH-004497	SWRMH-006020	Y37146	Y37105	331	0.008	15	0.29	0.582	20:59 hr	3.09	1.07
SWRGM-009387	SWRMH-004818	SWRMH-004497	Y37115	Y37146	278	0.003	18	0.28	0.582	20:58 hr	2.19	0.70
SWRGM-009388	SWRMH-008147	SWRMH-008566	V35102	V35101	347	0.01	15	0.10	0.078	19:25 hr	1.85	1.10
SWRGM-009389	SWRMH-008566	SWRMH-003572	V35101	V35107	148	0.011	15	0.11	0.097	19:24 hr	2.03	1.16
SWRGM-009390	SWRMH-003884	SWRMH-003883	V48112	V48113	368	0.016	10	0.11	0.042	10:24 hr	1.90	1.31
SWRGM-009391	SWRMH-004306	SWRMH-005758	Y43148	Y43109	193	0.014	15	0.25	0.594	20:07 hr	3.76	1.40
SWRGM-009393	SWRMH-008385	SWRMH-008384	U47130	U47131	219	0.004	10	0.26	0.117	19:17 hr	1.59	0.71
SWRGM-009394	SWRMH-006297	SWRMH-006299	Y45145	Y45143	49	0.027	12	0.32	0.717	20:09 hr	5.22	1.92
SWRGM-009395	SWRMH-004637	SWRMH-004333	AB37117	AB37126	63	0.004	10	0.14	0.029	19:33 hr	1.02	0.65
SWRGM-009396	SWRMH-005823	SWRMH-005160	Z41103	Z41138	149	0.007	12	1.00	1.737	19:55 hr	3.42	0.95
SWRGM-009397	SWRMH-005817	SWRMH-005818	Z41109	Z41108	321	0.007	12	0.76	1.542	19:51 hr	3.72	0.96
SWRGM-009398	SWRMH-005476	SWRMH-005475	Y41102	Y41103	356	0.007	10	0.28	0.169	10:29 hr	2.11	0.92
SWRGM-009399	SWRMH-005612	SWRMH-004682	X36123	X36167	325	0.018	21	0.33	2.764	21:07 hr	6.27	1.72
SWRGM-009400	SWRMH-005610	SWRMH-005612	X36125	X36123	325	0.018	21	0.33	2.763	21:06 hr	6.27	1.72
SWRGM-009401	SWRMH-005611	SWRMH-005610	X36124	X36125	325	0.014	21	0.35	2.762	21:06 hr	5.69	1.50
SWRGM-009402	SWRMH-003871	SWRMH-004926	AB43113	AB43106	200	0.005	15	0.40	0.815	21:10 hr	2.80	0.82
SWRGM-009403	SWRMH-004261	SWRMH-004257	AC43121	AC43122	23	0.024	18	0.34	2.33	20:21 hr	6.71	1.93
SWRGM-009405	SWRMH-002485	SWRMH-002560	W36113	W36106	79	0.003	21	0.53	2.736	21:02 hr	3.30	0.72
SWRGM-009406	SWRMH-002560	SWRMH-001121	W36106	W36126	39	0.004	21	0.51	2.76	21:01 hr	3.45	0.76
SWRGM-009407	SWRMH-002554	SWRMH-002553	AA44110	AA44111	189	0.007	15	0.35	0.791	20:57 hr	3.16	0.98
SWRGM-009408	SWRMH-005715	SWRMH-005714	U43109	U43110	69	0.007	15	0.57	1.901	20:17 hr	4.08	1.02
SWRGM-009409	SWRMH-001277	SWRMH-001084	AA46120	AB46132	350	0.004	10	0.69	0.628	19:52 hr	2.44	0.71
SWRGM-009410	SWRMH-009038	SWRMH-001087	SP576MH03	SDMH001087	224	0.004	10	0.76	0.749	19:49 hr	2.60	0.74
SWRGM-009411	SWRMH-001091	SWRMH-001090	AB46125	AB46126	300	0.01	10	0.65	0.94	19:54 hr	3.85	1.13
SWRGM-009412	SWRMH-001092	SWRMH-001091	AB46124	AB46125	288	0.01	10	0.65	0.94	19:53 hr	3.91	1.15
SWRGM-009413	SWRMH-001090	SWRMH-001189	AB46126	AC46125	296	0.01	10	0.65	0.94	19:56 hr	3.87	1.13
SWRGM-009414	SWRMH-006454	SWRMH-006069	W48106	W47124	350	0.014	10	0.14	0.062	10:36 hr	2.07	1.28
SWRGM-009415	SWRMH-006097	SWRMH-006098	AC48109	AC48108	305	0.005	10	0.11	0.022	10:04 hr	1.05	0.74
SWRGM-009416	SWRMH-006098	SWRMH-006093	AC48108	AC48113	375	0.005	10	0.14	0.035	10:07 hr	1.21	0.76
SWRGM-009417	SWRMH-001903	SWRMH-002491	AC47116	AC47111	330	0.023	12	0.22	0.327	10:51 hr	3.88	1.73
SWRGM-009418	SWRMH-001902	SWRMH-001903	AC47117	AC47116	300	0.039	10	0.25	0.327	10:50 hr	4.81	2.22
SWRGM-009419	SWRMH-006093	SWRMH-001892	AC48113	AC47127	375	0.005	10	0.14	0.035	10:11 hr	1.21	0.76
SWRGM-009420	SWRMH-001890	SWRMH-001896	AC47129	AC47123	59	0.035	12	0.23	0.425	10:54 hr	4.91	2.16
SWRGM-009421	SWRMH-002242	SWRMH-002241	Q49118	Q49119	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009423	SWRMH-008726	SWRMH-008567	U26104	U26101	218	0.017	21	0.00	0	00:00 hr	0.00	0.00
SWRGM-009424	SWRMH-008347	SWRMH-007097	T43101	T43105	266	0.01	10	0.24	0.15	19:18 hr	2.35	1.11
SWRGM-009426	SWRMH-004882	SWRMH-008560	Y38142	Y38104	5	0.004	8	0.26	0.064	19:05 hr	1.35	0.68
SWRGM-009427	SWRMH-008974	SWRMH-000969	SP570MH03	SDMH000969	161	0.005	12	0.18	0.099	19:21 hr	1.60	0.80
SWRGM-009428	SWRNJ-000134	SWRMH-006548	R50139	R50105	45	0.04	10	0.05	0.01	19:00 hr	1.71	1.87
SWRGM-009429	SWRMH-005775	SWRMH-004086	AA39114	AA39136	336	0.005	12	0.73	1.219	20:15 hr	3.08	0.80
SWRGM-009430	SWRNJ-000176	SWRMH-006605	S39246	S39105	10	0.014	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009431	SWRNJ-000150	SWRMH-006608	S39244	S39102	10	0.014	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009432	SWRMH-002555	SWRMH-002554	AA44109	AA44110	206	0.012	15	0.30	0.791	20:56 hr	3.94	1.34
SWRGM-009433	SWRMH-003922	SWRMH-003921	X39133	X39134	193	0.006	15	0.27	0.458	21:23 hr	2.68	0.97
SWRGM-009435	SWRMH-006453	SWRMH-006454	W48107	W48106	200	0.017	10	0.13	0.056	10:34 hr	2.12	1.38
SWRGM-009436	SWRMH-008669	SWRMH-008668	SP716MH23	SP716MH22	146	0.004	21	0.17	0.325	10:50 hr	1.89	0.74
SWRGM-009437	SWRMH-009127	SWRMH-009126	SP720MH6	SP720MH5	263	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009439	SWRMH-008869	SWRMH-008870	SP0582MH30	SP0582MH3	272	0.005	8	0.20	0.043	19:14 hr	1.31	0.75
SWRGM-009440	SWRMH-008649	SWRMH-008650	SP716MH18	SP716MH17	408	0.004	21	0.17	0.325	11:01 hr	1.91	0.75
SWRGM-009441	SWRMH-009337	SWRMH-000606			203	0.069	8	0.04	0.006	19:10 hr	1.82	2.33
SWRGM-009442	SWRFT-000032	SWRMH-008686	SP715MH49		10	0	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009443	SWRMH-008935	SWRMH-008934	SP0599MH3	SP0599MH6	267	0.016	8	0.03	0.001	19:01 hr	0.66	1.04
SWRGM-009444	SWRMH-008221	SWRMH-009256	SP711MH001	SP711MH61	33	0.025	18	0.04	0.031	19:07 hr	1.88	1.60
SWRGM-009446	SWRMH-009057	SWRMH-009056	SP680MH4	SP680MH3	207	0.01	15	0.24	0.448	21:17 hr	3.15	1.22
SWRGM-009448	SWRMH-008698	SWRMH-008697	SP715MH61	SP715MH60	497	0.002	27	0.40	2.383	22:42 hr	2.50	0.55
SWRGM-009450	SWRMH-008701	SWRMH-008700	SP715MH64	SP715MH63	809	0.001	27	0.44	2.383	22:31 hr	2.22	0.46
SWRGM-009451	SWRMH-009110	SWRMH-009109	SP686MH9	SP686MH8	173	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009452	SWRMH-008905	SWRMH-008906	SP0607MH11	SP0607MH8	226	0.015	8	0.02	0	19:01 hr	0.50	0.97
SWRGM-009453	SWRMH-008800	SWRMH-008798	SP712MH37	SP712MH36	500	0.003	27	0.33	2.383	23:32 hr	3.25	0.78
SWRGM-009454	SWRMH-008802	SWRMH-008800	SP712MH38	SP712MH37	500	0.003	27	0.33	2.383	23:29 hr	3.25	0.78
SWRGM-009455	SWRMH-009228	SWRMH-009235	SP634MH24	SP634MH22	299	0.02	8	0.06	0.007	19:02 hr	1.24	1.32
SWRGM-009456	SWRMH-008943	SWRMH-002209	SP0709MH11	SDMH002209	10	0.03	12	0.10	0.067	19:29 hr	2.68	1.84
SWRGM-009457	SWRFT-000001	SWRMH-008653		SP716MH26	10	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009458	SWRMH-008715	SWRMH-007103	SP722MH1	SDMH007103	203	0.008	10	0.08	0.014	10:04 hr	1.07	0.89
SWRGM-009459	SWRMH-009243	SWRMH-009244	SP634MH3	SP634MH04	300	0	8	0.62	0.015	19:05 hr	0.10	0.03
SWRGM-009460	SWRMH-008967	SWRMH-008966	SP568MH12	SP568MH13	291	0.013	10	0.03	0.001	19:01 hr	0.64	0.96
SWRGM-009461	SWRMH-008897	SWRMH-008896	SP0607MH3	SP0607MH2	300	0.005	8	0.06	0.003	19:08 hr	0.59	0.66
SWRGM-009462	SWRMH-008985	SWRMH-008982	SP572MH4	SP572MH5	294	0.006	8	0.22	0.057	19:16 hr	1.52	0.83
SWRGM-009463	SWRMH-009029	SWRMH-009028	SP574MH03	SP574MH02	300	0.005	12	0.04	0.003	10:07 hr	0.58	0.65
SWRGM-009464	SWRFT-000038	SWRMH-009119		SP689MH4	22	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009466	SWRMH-009194	SWRMH-009211	SP634MH35	SP634MH36	203	0.013	8	0.04	0.002	19:01 hr	0.72	0.98
SWRGM-009467	SWRMH-009170	SWRMH-009169	S0674ABG6MH	S0674ABG6MH	164	0.001	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-009469	SWRMH-008792	SWRMH-008790	SP712MH33	SP712MH32	500	0.005	27	0.29	2.383	23:41 hr	3.78	0.97
SWRGM-009471	SWRMH-009233	SWRMH-009210	SP634MH32	SP634MH15	129	0.008	8	0.13	0.021	19:07 hr	1.24	0.90
SWRGM-009472	SWRMH-008711	SWRMH-008712	SP721MH3	SP721MH2	271	0.005	8	0.18	0.034	19:11 hr	1.23	0.75
SWRGM-009473	SWRMH-008697	SWRMH-008696	SP715MH60	SP715MH59	401	0.003	27	0.35	2.383	22:45 hr	3.01	0.71
SWRGM-009474	SWRMH-008965	SWRMH-008964	SP568MH14	SP568MH15	280	0.013	10	0.04	0.004	19:03 hr	0.90	1.05
SWRGM-009475	SWRMH-009070	SWRMH-009069	SP652MH18	SP652MH19	350	0.005	12	0.00	0	19:18 hr	0.00	0.00
SWRGM-009476	SWRMH-008832	SWRMH-008833	SP726MH17	SP726MH16	230	0.018	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009477	SWRMH-008957	SWRMH-008963	SP568MH16	SP568MH7	257	0.006	8	0.05	0.002	19:02 hr	0.59	0.72
SWRGM-009478	SWRMH-009147	SWRMH-009145	SP720MH24	SP720MH23	176	0.002	24	0.27	0.896	19:51 hr	2.02	0.57
SWRGM-009479	SWRMH-009169	SWRMH-009171	S0674ABMH01	S0674ABG6MH	330	0.004	21	0.17	0.32	10:50 hr	1.91	0.75

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-009480	SWRFT-000017	SWRMH-009008	SP573MH013		10	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009481	SWRMH-008688	SWRMH-008687	SP715MH51	SP715MH50	397	0.002	27	0.37	2.383	23:06 hr	2.78	0.63
SWRGM-009482	SWRMH-009186	SWRMH-009183	S0674ABMH05	S0674ABMH06	375	0.006	18	0.18	0.32	10:15 hr	2.31	0.95
SWRGM-009483	SWRMH-008922	SWRMH-008924	SP0599MH11	SP0599MH17	265	0.005	8	0.13	0.017	19:08 hr	1.00	0.72
SWRGM-009484	SWRMH-009310	SWRMH-009318	SP615MH8	SP615MH9	57	0.004	8	0.15	0.022	19:07 hr	1.02	0.68
SWRGM-009486	SWRMH-008908	SWRMH-008909	SP557MH5	SP557MH4	265	0.008	8	0.07	0.005	19:09 hr	0.83	0.84
SWRGM-009489	SWRMH-009185	SWRMH-009186	S0674ABMH04	S0674ABMH05	395	0.006	18	0.18	0.32	10:12 hr	2.31	0.95
SWRGM-009490	SWRMH-008882	SWRMH-008883	SP0584MH8	SP0584MH7	300	0.014	8	0.03	0.002	19:01 hr	0.71	1.01
SWRGM-009492	SWRMH-009188	SWRMH-009187	S0674ABMH02	S0674ABMH03	380	0.004	18	0.20	0.32	10:08 hr	2.03	0.79
SWRGM-009493	SWRMH-008629	SWRMH-008628	SP705MH7	SP705MH6	500	0.002	27	0.38	2.384	21:59 hr	2.65	0.59
SWRGM-009494	SWRNJ-000640	SWRMH-008909		SP557MH4	10	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009496	SWRMH-008970	SWRMH-008969	SP569MH03	SP569MH04	325	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009497	SWRMH-009079	SWRMH-009078	SP656MH6	SP656MH7	252	0.005	8	0.05	0.003	19:15 hr	0.56	0.64
SWRGM-009498	SWRMH-008900	SWRMH-008897	SP0607MH4	SP0607MH3	174	0.005	8	0.06	0.003	19:05 hr	0.59	0.67
SWRGM-009499	SWRMH-009321	SWRMH-009320	SP615MH02	SP615MH03	113	0.017	8	0.06	0.006	19:01 hr	1.14	1.21
SWRGM-009500	SWRMH-008716	SWRMH-008719	SP723MH3	SP723MH4	333	0.01	18	0.28	1.007	20:10 hr	3.87	1.25
SWRGM-009501	SWRMH-008679	SWRMH-008682	SP730MH16A	SP730MH101	9	0.002	12	0.09	0.018	10:18 hr	0.73	0.51
SWRGM-009502	SWRMH-009094	SWRMH-009095	SP653MH7	SP653MH8	354	0.005	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009503	SWRMH-009300	SWRMH-009299	SP711MH35	SP711MH34	405	0.002	27	0.38	2.384	20:41 hr	2.65	0.59
SWRGM-009504	SWRMH-009142	SWRMH-009143	SP720MH20	SP720MH19	254	0.017	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009505	SWRMH-008837	SWRMH-008838	SP726MH12	SP726MH11	340	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009506	SWRMH-009333	SWRMH-009332			225	0.038	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009508	SWRMH-009180	SWRMH-009179	S0674ABMH11	S0674ABMH12	350	0.006	18	0.18	0.32	10:26 hr	2.32	0.95
SWRGM-009509	SWRMH-009227	SWRMH-009259	SP634MH19	SP634MH20	335	0.027	8	0.03	0.002	19:01 hr	0.96	1.39
SWRGM-009510	SWRMH-009289	SWRMH-008645	SP711MH24	SP705MH23	438	0.002	27	0.38	2.384	21:12 hr	2.64	0.59
SWRGM-009511	SWRMH-008672	SWRMH-008673	SP699MH3	SP699MH2	111	0.018	8	0.07	0.009	19:05 hr	1.29	1.29
SWRGM-009512	SWRMH-008778	SWRMH-008776	SP712MH26	SP712MH25	500	0.002	27	0.38	2.383	24:02 hr	2.65	0.59
SWRGM-009513	SWRMH-009067	SWRMH-009066	SP652MH21	SP652MH22	470	0.009	12	0.04	0.004	19:07 hr	0.75	0.86
SWRGM-009514	SWRMH-009175	SWRMH-009174	S0674ABMH16	S0674ABMH17	320	0.006	18	0.18	0.32	10:36 hr	2.31	0.94
SWRGM-009516	SWRMH-008962	SWRMH-008961	SP568MH8	SP568MH9	309	0.016	8	0.07	0.008	19:03 hr	1.18	1.20
SWRGM-009518	SWRMH-008632	SWRMH-008631	SP705MH10	SP705MH9	314	0.002	27	0.38	2.384	21:49 hr	2.65	0.59
SWRGM-009519	SWRMH-009179	SWRMH-009178	S0674ABMH12	S0674ABMH13	350	0.006	18	0.18	0.32	10:28 hr	2.31	0.94
SWRGM-009520	SWRMH-008788	SWRMH-008785	SP712MH31	SP712MH30	300	0.002	27	0.38	2.383	23:45 hr	2.65	0.59
SWRGM-009521	SWRMH-009263	SWRMH-009269	SP627MH10	SP627MH9	350	0.017	8	0.07	0.009	19:06 hr	1.27	1.25
SWRGM-009523	SWRNJ-000088	SWRMH-008811		SP712MH43	51	0	18	0.00	0	00:00 hr	0.00	0.00
SWRGM-009524	SWRMH-008739	SWRMH-008737	SP712MH7	SP712MH6	250	0.001	27	0.42	2.382	25:01 hr	2.36	0.50
SWRGM-009525	SWRMH-008909	SWRMH-008911	SP557MH4	SP557MH02	350	0.005	8	0.08	0.006	19:12 hr	0.73	0.70
SWRGM-009526	SWRMH-008767	SWRMH-008765	SP712MH21	SP712MH20	500	0.007	27	0.27	2.383	24:18 hr	4.22	1.13
SWRGM-009527	SWRMH-009219	SWRMH-009218	SP634MH41	SP634MH42	225	0	8	0.20	0.002	19:02 hr	0.06	0.03
SWRGM-009528	SWRMH-009074	SWRMH-009072	SP652MH25	SP652MH26	237	0.016	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009529	SWRMH-009130	SWRMH-009129	SP720MH9	SP720MH8	350	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009532	SWRMH-009131	SWRMH-009130	SP720MH10	SP720MH9	350	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009533	SWRMH-009111	SWRMH-008881	SP686MH10	SP0584MH9	173	0.049	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009535	SWRMH-009222	SWRMH-009228	SP634MH34	SP634MH24	223	0.019	8	0.04	0.002	19:01 hr	0.87	1.20
SWRGM-009536	SWRMH-002205	SWRMH-008943	SDMH002205	SP0709MH11	350	0.011	12	0.15	0.102	19:28 hr	2.17	1.19
SWRGM-009538	SWRFT-000031	SWRMH-008686	SP715MH49		10	0	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009539	SWRMH-008655	SWRMH-008656	SP716MH13	SP716MH12	307	0.004	21	0.17	0.325	11:12 hr	1.91	0.75
SWRGM-009542	SWRMH-008844	SWRMH-008845	SP726MH05	SP726MH4	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009543	SWRMH-009177	SWRMH-009176	S0674ABMH14	S0674ABMH15	350	0.006	18	0.18	0.32	10:33 hr	2.31	0.95
SWRGM-009545	SWRMH-008931	SWRMH-008932	SP0599MH1	SP0599MH2	321	0.005	8	0.02	0	19:03 hr	0.31	0.57
SWRGM-009546	SWRMH-000840	SWRMH-009336			203	0.01	8	0.07	0.006	19:05 hr	0.92	0.94
SWRGM-009547	SWRMH-008668	SWRMH-008646	SP716MH22	SP716MH21	308	0.004	21	0.17	0.325	10:52 hr	1.91	0.75
SWRGM-009548	SWRMH-009102	SWRMH-009077	SP653-MH15	SP652MH14	31	0.008	10	0.00	0	19:09 hr	0.00	0.00
SWRGM-009549	SWRMH-009092	SWRMH-009093	SP653MH5	SP653MH6	142	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009552	SWRMH-008751	SWRMH-008749	SP712MH13	SP712MH12	358	0.001	27	0.41	2.383	24:41 hr	2.39	0.51
SWRGM-009553	SWRMH-008910	SWRMH-005682	SP557MH01	SDMH005682	150	0.007	8	0.07	0.006	19:16 hr	0.81	0.80
SWRGM-009554	SWRMH-008810	SWRMH-008808	SP712MH42	SP712MH41	512	0.003	27	0.34	2.383	23:19 hr	3.11	0.74
SWRGM-009555	SWRMH-008718	SWRMH-008716	SP723MH2	SP723MH3	412	0.01	18	0.28	1.007	20:09 hr	3.85	1.24
SWRGM-009557	SWRMH-008719	SWRMH-008720	SP723MH4	SP723MH5	301	0.013	18	0.26	1.007	20:12 hr	4.23	1.41
SWRGM-009558	SWRMH-009053	SWRMH-009052	SP671MH1	SP671MH2	230	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009559	SWRMH-008860	SWRMH-008859	SP0582MH27	SP0582MH28	241	0.011	8	0.03	0.001	19:01 hr	0.50	0.84
SWRGM-009560	SWRMH-009137	SWRMH-009138	P0685MH1	P0685MH2	109	0.026	8	0.01	0	19:00 hr	0.48	1.17
SWRGM-009561	SWRMH-008973	SWRMH-008974	SP570MH2	SP570MH03	350	0.005	12	0.18	0.098	19:20 hr	1.60	0.80
SWRGM-009564	SWRMH-008997	SWRMH-008998	SP572MH016	SP572MH14	350	0.007	8	0.06	0.004	19:05 hr	0.75	0.80
SWRGM-009565	SWRMH-008663	SWRMH-008664	SP716MH5	SP716MH4	500	0.004	21	0.17	0.325	11:33 hr	1.91	0.75
SWRGM-009566	SWRMH-008833	SWRMH-008834	SP726MH16	SP726MH15	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009567	SWRMH-008963	SWRMH-008962	SP568MH7	SP568MH8	309	0.012	8	0.06	0.005	19:04 hr	0.94	1.01
SWRGM-009568	SWRMH-008638	SWRMH-008639	SP705MH14	SP705MH13	351	0.002	27	0.38	2.384	21:38 hr	2.65	0.59
SWRGM-009569	SWRMH-008896	SWRMH-008895	SP0607MH2	SP0607MH1	301	0.029	8	0.04	0.003	19:09 hr	1.07	1.47
SWRGM-009570	SWRMH-009207	SWRMH-009196	SP634MH10	SP634MH11	264	0.018	8	0.12	0.025	19:10 hr	1.78	1.37
SWRGM-009571	SWRMH-008644	SWRMH-008643	SP705MH22	SP705MH21	438	0.002	27	0.38	2.384	21:18 hr	2.64	0.59
SWRGM-009572	SWRMH-008794	SWRMH-008792	SP712MH34	SP712MH33	500	0.005	27	0.29	2.383	23:39 hr	3.82	0.98
SWRGM-009573	SWRMH-008961	SWRMH-008960	SP568MH9	SP568MH4	260	0.016	8	0.08	0.01	19:05 hr	1.30	1.23
SWRGM-009574	SWRMH-009017	SWRMH-009018	SP573MH018	SP573MH012	237	0.005	8	0.14	0.021	19:10 hr	1.06	0.73
SWRGM-009575	SWRMH-001779	SWRMH-008942	SDMH001779	SP0710MH9	330	0.014	18	0.20	0.609	20:06 hr	3.80	1.47
SWRGM-009576	SWRMH-008703	SWRMH-008702	SP715MH66	SP715MH65	82	0.002	27	0.37	2.383	22:21 hr	2.76	0.62
SWRGM-009577	SWRMH-008838	SWRMH-008839	SP726MH11	SP726MH10	300	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009578	SWRMH-009322	SWRMH-009321	SP615MH01	SP615MH02	145	0.016	8	0.05	0.005	19:00 hr	1.04	1.17
SWRGM-009579	SWRMH-008892	SWRMH-008891	SP0584MH1	SP0584MH001	70	0.07	8	0.05	0.008	19:04 hr	1.97	2.38
SWRGM-009580	SWRMH-008682	SWRMH-000388	SP730MH101	SDMH000388	247	0.005	12	0.35	0.379	19:31 hr	2.38	0.83
SWRGM-009581	SWRMH-009229	SWRMH-009228	SP634MH23	SP634MH24	337	0.015	8	0.04	0.002	19:02 hr	0.80	1.08
SWRGM-009583	SWRMH-009132	SWRMH-009133	SP720MH12	SP720MH11	350	0.019	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009585	SWRMH-008883	SWRMH-008884	SP0584MH7	SP0584MH111	300	0.055	8	0.03	0.003	19:02 hr	1.38	2.00
SWRGM-009587	SWRMH-008665	SWRMH-008666	SP716MH3	SP716MH2	500	0.01	21	0.13	0.325	11:37 hr	2.74	1.22
SWRGM-009591	SWRMH-008942	SWRMH-001551	SP0710MH9	SDMH001551	335	0.006	8	0.13	0.019	20:05 hr	1.12	0.81
SWRGM-009592	SWRMH-008747	SWRMH-008745	SP712MH11	SP712MH10	600	0.002	27	0.41	2.382	24:49 hr	2.40	0.51
SWRGM-009595	SWRMH-008971	SWRMH-008970	SP569MH02	SP569MH03	200	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009596	SWRMH-009217	SWRMH-009216	SP634MH43	SP634MH44	212	0.01	8	0.03	0.001	19:01 hr	0.59	0.84
SWRGM-009597	SWRMH-008796	SWRMH-008794	SP712MH35	SP712MH34	500	0.003	27	0.33	2.383	23:37 hr	3.25	0.78

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-009599	SWRMH-009073	SWRMH-009074	SP652MH24	SP652MH25	257	0.03	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009600	SWRMH-009306	SWRMH-009305	SP615MH16	SP615MH04	259	0.024	8	0.05	0.005	19:01 hr	1.20	1.42
SWRGM-009601	SWRMH-008521	SWRMH-004111			20	0.016	8	0.30	0.162	19:07 hr	2.89	1.35
SWRGM-009606	SWRMH-009030	SWRMH-009029	SP574MH04	SP574MH03	300	0.005	12	0.04	0.003	10:05 hr	0.58	0.65
SWRGM-009607	SWRMH-008836	SWRMH-008837	SP726MH13	SP726MH12	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009609	SWRMH-008667	SWRMH-008727	SP716MH1	SP712MH1	14	0.023	21	0.11	0.325	11:39 hr	3.61	1.78
SWRGM-009610	SWRMH-009096	SWRMH-009097	SP653MH9	SP653MH10	375	0.002	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009611	SWRMH-008876	SWRMH-008875	SP0582MH18	SP0582MH12	245	0.005	8	0.05	0.002	19:02 hr	0.56	0.65
SWRGM-009612	SWRMH-008780	SWRMH-008778	SP712MH27	SP712MH26	381	0.002	27	0.38	2.383	23:58 hr	2.65	0.59
SWRGM-009613	SWRMH-009032	SWRMH-009031	SP574MH06	SP574MH05	189	0.005	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009614	SWRMH-009117	SWRMH-009116	SP686MH6	SP686MH5	359	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009616	SWRMH-008862	SWRMH-008863	SP0582MH23	SP0582MH19	264	0.016	12	0.05	0.01	19:05 hr	1.21	1.22
SWRGM-009617	SWRMH-008999	SWRMH-008985	SP572MH7	SP572MH4	116	0.009	8	0.06	0.004	19:09 hr	0.80	0.87
SWRGM-009618	SWRMH-009200	SWRMH-009204	SP634MH06	SP634MH03	168	0.025	8	0.16	0.061	19:11 hr	2.60	1.68
SWRGM-009619	SWRMH-008841	SWRMH-008842	SP726MH8	SP726MH7	350	0.017	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009620	SWRMH-009182	SWRMH-009191	S0674ABMH09	S0674ABMH10	350	0.006	18	0.18	0.32	10:21 hr	2.32	0.95
SWRGM-009622	SWRMH-009314	SWRMH-009313	SP615MH10	SP615MH11	93	0.013	8	0.12	0.024	19:10 hr	1.57	1.18
SWRGM-009623	SWRMH-008846	SWRMH-008847	SP726MH3	SP726MH2	350	0.015	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009626	SWRMH-009107	SWRMH-009106	SP686MH3	SP686MH2	269	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009627	SWRMH-008765	SWRMH-008763	SP712MH20	SP712MH19	500	0.007	27	0.27	2.383	24:20 hr	4.22	1.13
SWRGM-009629	SWRCO-000993	SWRMH-009034		SP574MH7	34	0.181	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009630	SWRMH-009105	SWRMH-009103	SP686MH12	SP686MH13	34	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009631	SWRMH-008851	SWRMH-008852	SP0582MH15	SP0582MH16	266	0.008	8	0.10	0.014	19:06 hr	1.13	0.92
SWRGM-009633	SWRMH-009178	SWRMH-009177	S0674ABMH13	S0674ABMH14	350	0.006	18	0.18	0.32	10:30 hr	2.32	0.95
SWRGM-009634	SWRMH-009152	SWRMH-009150	SP720MH27	SP720MH26	340	0.002	24	0.26	0.852	19:48 hr	2.00	0.58
SWRGM-009635	SWRMH-008702	SWRMH-008701	SP715MH65	SP715MH64	430	0.002	27	0.37	2.383	22:23 hr	2.79	0.63
SWRGM-009636	SWRMH-009318	SWRMH-009314	SP615MH9	SP615MH10	308	0.006	8	0.14	0.024	19:10 hr	1.21	0.83
SWRGM-009637	SWRMH-008657	SWRMH-008658	SP716MH11	SP716MH10	500	0.004	21	0.17	0.325	11:17 hr	1.92	0.75
SWRGM-009638	SWRMH-009055	SWRMH-009054	SP680MH2	SP680MH1	92	0.007	15	0.26	0.448	21:19 hr	2.71	0.99
SWRGM-009639	SWRMH-008990	SWRMH-008986	SP572MH13	SP572MH2	270	0.007	8	0.17	0.037	19:10 hr	1.40	0.87
SWRGM-009640	SWRMH-009237	SWRMH-009239	SP619MH2	SP619MH4	462	0.023	8	0.33	0.237	19:26 hr	3.69	1.63
SWRGM-009641	SWRMH-009274	SWRMH-002517	SP627MH24	SDMH002517	313	0.011	8	0.07	0.007	19:03 hr	1.02	1.02
SWRGM-009642	SWRFT-000033	SWRMH-008705		SP717MH1	5	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009643	SWRMH-008980	SWRMH-008981	SP572MH01	SP572MH02	298	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009644	SWRMH-009101	SWRMH-009102	SP653MH14	SP653-MH15	269	0.004	10	0.01	0	19:10 hr	0.22	0.51
SWRGM-009645	SWRMH-009035	SWRMH-009034	SP574MH08	SP574MH7	268	0.005	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009646	SWRMH-009197	SWRMH-009210	SP634MH14	SP634MH15	85	0.008	8	0.06	0.004	19:02 hr	0.78	0.84
SWRGM-009647	SWRMH-009292	SWRMH-009291	SP711MH27	SP711MH26	442	0.002	27	0.38	2.384	21:04 hr	2.66	0.59
SWRGM-009648	SWRMH-009235	SWRMH-009259	SP634MH22	SP634MH20	300	0.011	8	0.09	0.012	19:04 hr	1.18	1.03
SWRGM-009649	SWRMH-009046	SWRMH-009047	SP641MH4	SP641MH3	256	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009650	SWRNJ-000110	SWRMH-008943		SP0709MH11	47	0.004	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009651	SWRMH-009045	SWRMH-000548	SP641MH1	SDMH000548	160	0.025	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009652	SWRMH-008829	SWRMH-008830	SP726MH20	SP726MH19	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009653	SWRMH-009174	SWRMH-009173	S0674ABMH17	S0674ABMH18	380	0.006	18	0.18	0.32	10:39 hr	2.31	0.95
SWRGM-009654	SWRMH-008755	SWRMH-008753	SP712MH15	SP712MH14	500	0.001	27	0.41	2.383	24:33 hr	2.38	0.51
SWRGM-009655	SWRMH-009111	SWRMH-009112	SP686MH10	SP686MH7	342	0.022	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009656	SWRMH-008700	SWRMH-008699	SP715MH63	SP715MH62	433	0.002	27	0.38	2.383	22:33 hr	2.71	0.61
SWRGM-009657	SWRMH-009282	SWRMH-009288	SP631MH6	SP631MH7	257	0.016	8	0.12	0.025	19:12 hr	1.67	1.27
SWRGM-009660	SWRMH-009009	SWRMH-009010	SP573MH014	SP573MH016	277	0.017	8	0.06	0.005	19:05 hr	1.06	1.19
SWRGM-009661	SWRMH-009211	SWRMH-009248	SP634MH36	SP634MH8	37	0.027	8	0.12	0.032	19:08 hr	2.18	1.66
SWRGM-009662	SWRCO-001031	SWRMH-009264		SP627MH11	105	0	8	0.15	0.001	19:01 hr	0.05	0.03
SWRGM-009663	SWRMH-008776	SWRMH-008773	SP712MH25	SP712MH24	500	0.002	27	0.38	2.383	24:06 hr	2.65	0.59
SWRGM-009664	SWRMH-008881	SWRMH-008882	SP0584MH9	SP0584MH8	191	0.01	8	0.02	0.001	19:01 hr	0.47	0.80
SWRGM-009666	SWRMH-009109	SWRMH-009108	SP686MH8	SP686MH4	145	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009667	SWRMH-008828	SWRMH-008829	SP726MH21	SP726MH20	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009668	SWRMH-009293	SWRMH-009292	SP711MH28	SP711MH27	320	0.002	27	0.38	2.384	21:02 hr	2.65	0.59
SWRGM-009669	SWRFT-000034	SWRMH-008714		SP722MH2	10	0	10	0.30	0.008	10:00 hr	0.09	0.04
SWRGM-009670	SWRMH-009077	SWRMH-009076	SP652MH14	SP652MH15	440	0.019	10	0.00	0	19:13 hr	0.00	0.00
SWRGM-009671	SWRMH-007586	SWRCO-000950	SDMH007586	SP730MH18	188	0.014	10	0.20	0.127	19:29 hr	2.54	1.31
SWRGM-009673	SWRMH-009095	SWRMH-009096	SP653MH8	SP653MH9	276	0.005	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-009674	SWRMH-009171	SWRMH-008722	S0674ABMH01	SP724MH2	26	0.003	18	0.21	0.32	10:51 hr	1.82	0.68
SWRGM-009675	SWRMH-009116	SWRMH-009106	SP686MH5	SP686MH2	35	0.149	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009676	SWRMH-008880	SWRMH-008879	SP0584MH6	SP0584MH5	185	0.024	8	0.03	0.001	19:00 hr	0.76	1.27
SWRGM-009677	SWRMH-009206	SWRMH-009207	SP634MH09	SP634MH10	300	0.01	8	0.13	0.024	19:08 hr	1.40	1.01
SWRGM-009678	SWRMH-009319	SWRMH-009323	SP615MH05	SP615MH06	213	0.017	8	0.09	0.014	19:02 hr	1.46	1.28
SWRGM-009680	SWRMH-009297	SWRMH-009296	SP711MH32	SP711MH31	438	0.002	27	0.38	2.384	20:49 hr	2.64	0.59
SWRGM-009681	SWRMH-008689	SWRMH-008688	SP715MH52	SP715MH51	500	0.002	27	0.37	2.383	23:04 hr	2.79	0.63
SWRGM-009682	SWRMH-009069	SWRMH-009068	SP652MH19	SP652MH20	350	0.002	12	0.03	0.002	19:03 hr	0.52	0.64
SWRGM-009684	SWRMH-009298	SWRMH-009297	SP711MH33	SP711MH32	438	0.002	27	0.38	2.384	20:46 hr	2.65	0.59
SWRGM-009685	SWRMH-009231	SWRMH-009232	SP634MH27	SP634MH26	200	0.009	8	0.09	0.01	19:05 hr	1.06	0.95
SWRGM-009686	SWRMH-009332	SWRMH-000605			250	0.039	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009687	SWRMH-009018	SWRMH-009019	SP573MH012	SP573MH09	237	0.005	8	0.15	0.022	19:12 hr	1.07	0.73
SWRGM-009688	SWRMH-008815	SWRMH-008813	SP712MH45	SP712MH44	250	0.003	27	0.33	2.383	23:11 hr	3.22	0.77
SWRGM-009689	SWRMH-008692	SWRMH-008691	SP715MH55	SP715MH54	500	0.002	27	0.37	2.383	22:56 hr	2.79	0.63
SWRGM-009691	SWRMH-009151	SWRMH-009147	SP720MH25	SP720MH24	315	0.002	24	0.27	0.896	19:50 hr	2.03	0.58
SWRGM-009692	SWRMH-008709	SWRMH-008710	SP717MH5	SP717MH001	240	0.007	8	0.23	0.064	10:09 hr	1.64	0.88
SWRGM-009693	SWRNJ-000265	SWRMH-009084		SP656MH1	10	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009694	SWRMH-008852	SWRMH-008853	SP0582MH16	SP0582MH17	266	0.009	8	0.11	0.017	19:07 hr	1.23	0.97
SWRGM-009695	SWRMH-009252	SWRMH-009253	SP711MH64	SP711MH63	173	0.01	27	0.00	0	00:00 hr	0.00	0.00
SWRGM-009698	SWRMH-009241	SWRMH-009242	SP634MH1	SP634MH2	152	0.018	8	0.07	0.01	19:00 hr	1.33	1.28
SWRGM-009699	SWRMH-009283	SWRMH-009282	SP631MH5	SP631MH6	280	0.004	8	0.15	0.023	19:11 hr	1.05	0.70
SWRGM-009700	SWRMH-009270	SWRMH-009271	SP627MH8	SP627MH2	336	0.006	8	0.09	0.009	19:09 hr	0.88	0.76
SWRGM-009701	SWRMH-008835	SWRMH-008836	SP726MH14	SP726MH13	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009702	SWRMH-008690	SWRMH-008689	SP715MH53	SP715MH52	500	0.002	27	0.37	2.383	23:01 hr	2.79	0.63
SWRGM-009704	SWRMH-009267	SWRMH-009268	SP627MH4	SP627MH3	350	0.008	8	0.03	0.001	19:04 hr	0.50	0.75
SWRGM-009705	SWRMH-008929	SWRMH-008930	SP0599MH15	SP0599MH16	282	0.014	8	0.07	0.007	19:07 hr	1.07	1.10
SWRGM-009706	SWRMH-008845	SWRMH-008846	SP726MH4	SP726MH3	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009707	SWRMH-008704	SWRMH-008703	SP715MH67	SP715MH66	284	0.003	27	0.34	2.383	22:20 hr	3.07	0.72
SWRGM-009708	SWRMH-008979	SWRMH-008977	SP570MH04	SP570MH05	30	0.004	12	0.20	0.113	19:22 hr	1.59	0.75
SWRGM-009709	SWRMH-009112	SWRMH-009117	SP686MH7	SP686MH6	94	0.026	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009710	SWRMH-009221	SWRMH-009261	SP634MH38	SP634MH37	336	0.01	8	0.09	0.011	19:05 hr	1.13	1.00

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-009711	SWRMH-008646	SWRMH-008647	SP716MH21	SP716MH20	374	0.004	21	0.17	0.325	10:54 hr	1.91	0.75
SWRGM-009712	SWRMH-009154	SWRMH-009152	SP720MH28	SP720MH27	138	0.003	24	0.23	0.852	19:45 hr	2.43	0.76
SWRGM-009713	SWRMH-008712	SWRMH-008713	SP721MH2	SP721MH1	45	0.005	8	0.18	0.034	19:12 hr	1.23	0.76
SWRGM-009714	SWRMH-008988	SWRMH-008990	SP572MH05	SP572MH13	201	0.013	8	0.04	0.003	19:02 hr	0.81	1.02
SWRGM-009715	SWRMH-009181	SWRMH-009182	S0674ABMH08	S0674ABMH09	200	0.006	18	0.18	0.32	10:20 hr	2.30	0.94
SWRGM-009716	SWRFT-000082	SWRMH-009142		SP720MH20	40	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009717	SWRCO-000992	SWRMH-009001		SP573MH07	145	0	8	0.14	0.001	19:01 hr	0.05	0.03
SWRGM-009718	SWRMH-009083	SWRMH-009082	SP656MH2	SP656MH3	340	0.005	8	0.04	0.001	19:05 hr	0.47	0.61
SWRGM-009719	SWRMH-009209	SWRMH-009206	SP634MH08	SP634MH09	255	0.01	8	0.12	0.02	19:07 hr	1.33	1.00
SWRGM-009720	SWRMH-008722	SWRMH-008669	SP724MH1C	SP724MH2	131	0.004	21	0.17	0.32	10:50 hr	1.90	0.75
SWRGM-009721	SWRMH-009266	SWRMH-009267	SP627MH5	SP627MH4	158	0.039	8	0.02	0.001	19:01 hr	0.87	1.58
SWRGM-009722	SWRMH-008982	SWRMH-008991	SP572MH5	SP572MH06	158	0.049	8	0.13	0.057	19:16 hr	3.19	2.27
SWRGM-009723	SWRMH-008757	SWRMH-008755	SP712MH16	SP712MH15	500	0.002	27	0.37	2.383	24:29 hr	2.75	0.62
SWRGM-009724	SWRMH-009128	SWRMH-009127	SP720MH7	SP720MH6	264	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009725	SWRMH-008642	SWRMH-008641	SP705MH20	SP705MH19	397	0.002	27	0.38	2.384	21:24 hr	2.65	0.59
SWRGM-009726	SWRMH-008877	SWRMH-008873	SP0582MH11	SP0582MH5	262	0.024	8	0.12	0.035	19:08 hr	2.15	1.59
SWRGM-009727	SWRMH-009316	SWRMH-009315	SP615MH15	SP615MH14	101	0.024	8	0.06	0.008	19:01 hr	1.36	1.46
SWRGM-009728	SWRMH-009134	SWRMH-009132	SP720MH13	SP720MH12	296	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009729	SWRMH-008902	SWRMH-008901	SP0607MH9	SP0607MH7	26	0.004	8	0.03	0.001	19:03 hr	0.35	0.54
SWRGM-009730	DUMMY_3	SWRMH-009089	SP653MH03	SP653MH2	300	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009732	SWRMH-009016	SWRMH-009017	SP573MH017	SP573MH018	335	0.012	8	0.08	0.011	19:06 hr	1.18	1.07
SWRGM-009733	SWRMH-009000	SWRMH-009004	SP573MH04	SP573MH05	263	0.007	8	0.09	0.009	19:06 hr	0.93	0.80
SWRGM-009737	SWRMH-009123	SWRMH-009122	SP720MH2	SP720MH1	350	0.012	8	0.08	0.01	10:05 hr	1.15	1.06
SWRGM-009738	SWRMH-008934	SWRMH-008933	SP0599MH6	SP0599MH20	270	0.016	8	0.04	0.002	19:02 hr	0.82	1.11
SWRGM-009739	SWRMH-008878	SWRMH-009105	SP686MH13	SP0584MH4	250	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009741	SWRMH-008830	SWRMH-008831	SP726MH19	SP726MH18	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009742	SWRMH-009011	SWRMH-009012	SP573MH019	SP573MH020	350	0.015	8	0.05	0.003	19:02 hr	0.87	1.08
SWRGM-009743	SWRMH-008806	SWRMH-008804	SP712MH40	SP712MH39	439	0.003	27	0.33	2.383	23:24 hr	3.24	0.78
SWRGM-009744	SWRMH-008687	SWRMH-008686	SP715MH50	SP715MH49	397	0.003	27	0.34	2.383	23:08 hr	3.13	0.74
SWRGM-009745	SWRMH-008674	SWRMH-008672	SP699MH4	SP699MH3	114	0.005	8	0.09	0.009	19:05 hr	0.81	0.69
SWRGM-009746	SWRMH-008863	SWRMH-008864	SP0582MH19	SP0582MH13	208	0.013	12	0.09	0.036	19:08 hr	1.68	1.22
SWRGM-009747	SWRMH-008945	SWRMH-008944	S0678MHMS2	S0678MHMS3	146	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009748	SWRMH-008885	SWRMH-008892	SP0584MH2	SP0584MH1	172	0.009	8	0.08	0.008	19:03 hr	0.97	0.92
SWRGM-009749	SWRMH-008867	SWRMH-008868	SP0582MH9	SP0582MH10	266	0.01	8	0.10	0.013	19:05 hr	1.15	0.97
SWRGM-009750	SWRMH-009216	SWRMH-009241	SP634MH44	SP634MH1	65	0.021	8	0.04	0.002	19:01 hr	0.89	1.24
SWRGM-009751	SWRMH-009005	SWRMH-009004	SP573MH08	SP573MH05	347	0.007	8	0.07	0.006	19:05 hr	0.82	0.80
SWRGM-009752	SWRMH-008720	SWRMH-008721	SP723MH5	SP723MH6	295	0.011	18	0.28	1.007	20:13 hr	3.92	1.27
SWRGM-009753	SWRMH-009265	SWRMH-009266	SP627MH03	SP627MH5	269	0.038	8	0.02	0.001	19:01 hr	0.86	1.55
SWRGM-009754	SWRMH-009020	SWRMH-009021	SP573MH01	SP573MH02	323	0.005	8	0.06	0.003	19:03 hr	0.61	0.66
SWRGM-009755	SWRMH-008874	SWRMH-008873	SP0582MH6	SP0582MH5	264	0.005	8	0.07	0.004	19:06 hr	0.65	0.66
SWRGM-009757	SWRMH-008926	SWRMH-008927	SP0599MH12	SP0599MH13	303	0.014	8	0.05	0.003	19:02 hr	0.84	1.05
SWRGM-009758	SWRMH-009230	SWRMH-009235	SP634MH21	SP634MH22	335	0.025	8	0.03	0.002	19:01 hr	0.94	1.35
SWRGM-009759	SWRMH-008631	SWRMH-008630	SP705MH9	SP705MH8	309	0.002	27	0.38	2.384	21:51 hr	2.65	0.59
SWRGM-009760	SWRMH-008808	SWRMH-008806	SP712MH41	SP712MH40	401	0.004	27	0.32	2.383	23:21 hr	3.39	0.83
SWRGM-009762	SWRMH-008622	SWRMH-008972	SP698MH03	SP569MH01	122	0.016	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009764	SWRMH-008658	SWRMH-008659	SP716MH10	SP716MH9	500	0.004	21	0.17	0.325	11:20 hr	1.91	0.75
SWRGM-009765	SWRMH-008955	SWRMH-008954	SP568MH6	SP568MH1	260	0.022	8	0.05	0.005	19:01 hr	1.17	1.35
SWRGM-009766	SWRMH-009143	SWRMH-009141	SP720MH19	SP720MH18	249	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009767	SWRMH-008639	SWRMH-008634	SP705MH13	SP705MH12	504	0.002	27	0.38	2.384	21:41 hr	2.65	0.59
SWRGM-009770	SWRMH-009118	SWRMH-008711	SP689MH3	SP721MH3	315	0.005	8	0.18	0.034	19:09 hr	1.22	0.74
SWRGM-009772	SWRMH-009008	SWRMH-009009	SP573MH013	SP573MH014	277	0.016	8	0.05	0.003	19:04 hr	0.93	1.15
SWRGM-009774	SWRMH-009272	SWRMH-001266	SP627MH1	SDMH001266	158	0.009	8	0.10	0.012	19:10 hr	1.14	0.96
SWRGM-009775	SWRMH-008677	SWRMH-008676	SP699MH7	SP699MH6	354	0.017	8	0.07	0.008	19:02 hr	1.24	1.25
SWRGM-009776	SWRMH-008865	SWRMH-008871	SP0582MH7	SP0582MH2	266	0.088	12	0.07	0.054	19:09 hr	3.64	3.00
SWRGM-009777	SWRMH-009258	SWRMH-009231	SP634MH28	SP634MH27	200	0.01	8	0.08	0.008	19:05 hr	0.98	0.94
SWRGM-009778	SWRMH-009066	SWRMH-009065	SP652MH22	SP652MH23	451	0.005	12	0.04	0.005	19:11 hr	0.65	0.67
SWRGM-009779	SWRMH-008861	SWRMH-008862	SP0582MH26	SP0582MH23	265	0.013	12	0.04	0.008	19:04 hr	1.02	1.06
SWRGM-009780	SWRMH-009115	SWRMH-009114	SP686MH15	SP686MH14	332	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009782	SWRMH-004446	SWRMH-000409	Z43164	Z43165	20	0.063	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009783	SWRMH-008916	SWRMH-002622	SP0599MH5	SDMH002622	265	0.008	8	0.06	0.004	19:04 hr	0.75	0.84
SWRGM-009785	SWRMH-008989	SWRMH-008988	SP572MH04	SP572MH05	201	0.014	8	0.04	0.002	19:01 hr	0.74	1.01
SWRGM-009787	SWRMH-008960	SWRMH-008863	SP568MH4	SP0582MH19	265	0.007	8	0.14	0.025	19:08 hr	1.29	0.89
SWRGM-009789	SWRMH-005078	SWRNJ-000722	AA37142	AA37141	51	0.029	8	0.16	0.062	19:28 hr	2.74	1.79
SWRGM-009790	SWRMH-009071	SWRMH-009070	SP652MH17	SP652MH18	412	0.005	10	0.00	0	19:15 hr	0.00	0.00
SWRGM-009791	SWRMH-009087	SWRMH-009088	SP653MH02	SP653MH03	325	0.001	15	0.32	0.984	20:00 hr	4.47	1.46
SWRGM-009792	SWRMH-008911	SWRMH-008910	SP557MH02	SP557MH01	301	0.004	8	0.08	0.006	19:15 hr	0.69	0.65
SWRGM-009793	SWRMH-008749	SWRMH-008747	SP712MH12	SP712MH11	358	0.001	27	0.41	2.382	24:44 hr	2.39	0.51
SWRGM-009795	SWRMH-009198	SWRMH-009197	SP634MH13	SP634MH14	118	0.007	8	0.06	0.004	19:02 hr	0.72	0.79
SWRGM-009796	SWRMH-009082	SWRMH-009081	SP656MH3	SP656MH4	350	0.005	8	0.05	0.002	19:07 hr	0.54	0.64
SWRGM-009798	SWRMH-008637	SWRMH-008638	SP705MH15	SP705MH14	351	0.002	27	0.38	2.384	21:35 hr	2.65	0.59
SWRGM-009799	SWRMH-009090	SWRMH-009091	SP653MH3	SP653MH4	338	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009801	SWRMH-008686	SWRMH-008817	SP715MH49	SP712MH46	250	0.003	27	0.33	2.383	23:09 hr	3.24	0.78
SWRGM-009803	SWRMH-008977	SWRMH-008978	SP570MH05	SP570MH06	302	0.005	12	0.19	0.113	19:24 hr	1.66	0.80
SWRGM-009804	SWRMH-009201	SWRMH-009200	SP634MH05	SP634MH06	289	0.013	8	0.05	0.003	19:01 hr	0.83	1.02
SWRGM-009805	SWRMH-000544	SWRMH-009333			43	0.044	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009806	SWRMH-008872	SWRMH-008869	SP0582MH4	SP0582MH30	267	0.005	8	0.20	0.041	19:12 hr	1.29	0.75
SWRGM-009808	SWRMH-008633	SWRMH-008632	SP705MH11	SP705MH10	560	0.002	27	0.38	2.384	21:47 hr	2.65	0.59
SWRGM-009810	SWRMH-009223	SWRMH-009224	SP634MH30	SP634MH29	318	0.01	8	0.05	0.003	19:02 hr	0.76	0.90
SWRGM-009811	SWRMH-008913	SWRMH-008914	SP0601MH4	SP0601MH5	302	0.01	8	0.09	0.012	10:11 hr	1.16	0.99
SWRGM-009812	SWRMH-009204	SWRMH-009240	SP634MH03	SP634MH4	302	0.005	8	0.24	0.065	19:14 hr	1.53	0.79
SWRGM-009813	SWRMH-009290	SWRMH-009289	SP711MH25	SP711MH24	442	0.002	27	0.38	2.384	21:10 hr	2.66	0.59
SWRGM-009814	SWRMH-008879	SWRMH-008878	SP0584MH5	SP0584MH4	300	0.025	8	0.04	0.002	19:01 hr	0.96	1.35
SWRGM-009817	SWRMH-008930	SWRMH-008924	SP0599MH16	SP0599MH17	303	0.009	8	0.07	0.007	19:09 hr	0.95	0.93
SWRGM-009819	SWRMH-008956	SWRMH-008955	SP568MH11	SP568MH6	200	0.035	8	0.03	0.002	19:00 hr	1.03	1.57
SWRGM-009820	SWRMH-009025	SWRMH-009024	SP573MH024	SP573MH025	261	0.022	8	0.15	0.047	19:13 hr	2.29	1.56
SWRGM-009821	SWRMH-009259	SWRMH-009236	SP634MH20	SP634MH33	100	0.01	8	0.10	0.015	19:04 hr	1.21	0.99
SWRGM-009822	SWRMH-008907	SWRMH-008908	SP557MH6	SP557MH5	265	0.008	8	0.06	0.005	19:07 hr	0.80	0.83
SWRGM-009826	SWRMH-009047	SWRMH-009048	SP641MH3	SP641MH2	300	0.041	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009827	SWRMH-008859	SWRMH-008858	SP0582MH28	SP0582MH29	241	0.011	8	0.03	0.001	19:02 hr	0.62	0.89
SWRGM-009828	SWRMH-009121	SWRMH-009120	SP689MH6	SP689MH5	320	0.005	8	0.10	0.01	19:03 hr	0.84	0.70
SWRGM-009829	SWRMH-009122	SWRMH-005191	SP720MH1	SDMH005191	360	0.01	8	0.08	0.01	10:07 hr	1.08	0.97

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-009832	SWRMH-000867	SWRMH-009334			327	0.071	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009833	SWRCO-001018	SWRMH-009160		P0955MH12	64	0.101	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009834	SWRMH-008693	SWRMH-008692	SP715MH56	SP715MH55	500	0.002	27	0.37	2.383	22:53 hr	2.79	0.63
SWRGM-009835	SWRMH-008827	SWRMH-008828	SP726MH22	SP726MH21	350	0.017	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009836	SWRMH-009080	SWRMH-009079	SP656MH5	SP656MH6	350	0.005	8	0.05	0.002	19:13 hr	0.54	0.64
SWRGM-009837	SWRMH-009003	SWRMH-009002	SP573MH015	SP573MH010	205	0.016	8	0.03	0.002	19:01 hr	0.74	1.08
SWRGM-009838	SWRMH-008708	SWRMH-008709	SP717MH4	SP717MH5	350	0.035	8	0.15	0.064	10:06 hr	2.92	1.94
SWRGM-009839	SWRMH-008855	SWRMH-008851	SP0582MH21	SP0582MH15	257	0.011	8	0.09	0.011	19:04 hr	1.17	1.04
SWRGM-009840	SWRMH-008858	SWRMH-008854	SP0582MH29	SP0582MH25	279	0.024	8	0.04	0.003	19:02 hr	1.06	1.37
SWRGM-009843	SWRMH-008998	SWRMH-008999	SP572MH14	SP572MH7	351	0.008	8	0.06	0.004	19:09 hr	0.76	0.81
SWRGM-009844	SWRMH-009011	SWRMH-009008	SP573MH019	SP573MH013	306	0.006	8	0.05	0.002	19:03 hr	0.56	0.70
SWRGM-009847	SWRMH-009299	SWRMH-009298	SP711MH34	SP711MH33	438	0.002	27	0.38	2.384	20:44 hr	2.65	0.59
SWRGM-009849	SWRMH-009287	SWRMH-009286	SP631MH1	SP631MH2	346	0.005	8	0.07	0.005	19:03 hr	0.72	0.70
SWRGM-009850	SWRMH-009294	SWRMH-009293	SP711MH29	SP711MH28	500	0.002	27	0.38	2.384	21:00 hr	2.65	0.59
SWRGM-009852	SWRMH-008917	SWRMH-008916	SP0599MH4	SP0599MH5	266	0.005	8	0.05	0.002	19:02 hr	0.55	0.66
SWRGM-009853	SWRMH-009133	SWRMH-009131	SP720MH11	SP720MH10	350	0.023	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009854	SWRMH-009212	SWRNJ-000508	SP609MH1		194	0	8	0.11	0.001	19:01 hr	0.04	0.03
SWRGM-009855	SWRMH-009136	SWRMH-009135	SP720MH15	SP720MH14	237	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009856	SWRFT-000019	SWRMH-009015		SP573MH023	27	0.02	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009857	SWRFT-000002	SWRMH-008711		SP721MH3	8	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009858	SWRMH-008096	SWRMH-008681	SDMH008096	SP730MH153	318	0.013	10	0.17	0.088	19:15 hr	2.25	1.27
SWRGM-009859	SWRMH-008656	SWRMH-008657	SP716MH12	SP716MH11	307	0.004	21	0.17	0.325	11:14 hr	1.91	0.75
SWRGM-009861	SWRMH-008993	SWRMH-008992	SP572MH010	SP572MH07	362	0.006	8	0.05	0.002	19:03 hr	0.58	0.70
SWRGM-009862	SWRMH-008842	SWRMH-008843	SP726MH7	SP726MH6	350	0.013	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009863	SWRMH-009173	SWRMH-009172	S0674ABMH18	S0674ABMH19	348	0.006	18	0.18	0.32	10:41 hr	2.32	0.95
SWRGM-009866	SWRMH-008769	SWRMH-008767	SP712MH22	SP712MH21	500	0.007	27	0.27	2.383	24:16 hr	4.22	1.13
SWRGM-009867	SWRMH-009296	SWRMH-009295	SP711MH31	SP711MH30	438	0.002	27	0.38	2.384	20:52 hr	2.65	0.59
SWRGM-009868	SWRMH-009031	SWRMH-009030	SP574MH05	SP574MH04	300	0.005	12	0.04	0.003	10:02 hr	0.58	0.65
SWRGM-009869	SWRMH-009323	SWRMH-009311	SP615MH06	SP615MH07	286	0.02	8	0.09	0.016	19:03 hr	1.61	1.40
SWRGM-009870	SWRNJ-000687	SWRMH-009066		SP652MH22	40	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009871	SWRMH-009210	SWRMH-009195	SP634MH15	SP634MH31	350	0.01	8	0.14	0.029	19:08 hr	1.47	1.02
SWRGM-009873	SWRMH-009026	SWRMH-009027	SP574MH01	SP574MH09	114	0.05	12	0.02	0.003	10:10 hr	1.29	1.92
SWRGM-009877	SWRMH-008847	SWRMH-008848	SP726MH2	SP726MH1	100	0.01	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009878	SWRMH-009224	SWRMH-009258	SP634MH29	SP634MH28	349	0.01	8	0.07	0.006	19:04 hr	0.92	0.93
SWRGM-009879	SWRMH-009168	SWRMH-009169	S0674ABMH22	S0674ABG6MH	291	0.004	21	0.16	0.32	10:47 hr	1.96	0.78
SWRGM-009885	SWRMH-008630	SWRMH-008629	SP705MH8	SP705MH7	500	0.002	27	0.38	2.384	21:55 hr	2.65	0.59
SWRGM-009886	SWRMH-009010	SWRMH-009016	SP573MH016	SP573MH017	284	0.007	8	0.09	0.008	19:04 hr	0.90	0.81
SWRGM-009887	SWRMH-009033	SWRMH-009032	SP574MH07	SP574MH06	188	0.005	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009888	SWRMH-008889	SWRMH-008888	SP0584MH13	SP0584MH12	161	0.019	8	0.03	0.001	19:00 hr	0.68	1.14
SWRGM-009889	SWRMH-008660	SWRMH-008661	SP716MH8	SP716MH7	500	0.004	21	0.17	0.325	11:25 hr	1.91	0.75
SWRGM-009890	SWRMH-008781	SWRMH-008780	SP712MH28	SP712MH27	499	0.002	27	0.38	2.383	23:55 hr	2.65	0.59
SWRGM-009891	SWRFT-000030	SWRMH-008673		SP699MH2	5	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009892	SWRMH-008898	SWRMH-008899	SP0607MH12	SP0607MH5	215	0.01	8	0.02	0.001	19:01 hr	0.47	0.81
SWRGM-009893	SWRMH-009062	SWRMH-009061	SP637MH4	SP637MH5	348	0.003	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009894	SWRMH-009012	SWRMH-009013	SP573MH020	SP573MH021	337	0.005	8	0.08	0.006	19:05 hr	0.70	0.66
SWRGM-009895	SWRMH-008691	SWRMH-008690	SP715MH54	SP715MH53	500	0.002	27	0.37	2.383	22:58 hr	2.79	0.63
SWRGM-009898	SWRMH-009013	SWRMH-009014	SP573MH021	SP573MH022	138	0.004	8	0.09	0.007	19:06 hr	0.71	0.63
SWRGM-009900	SWRMH-009246	SWRMH-009245	SP634MH6	SP634MH5	181	0.005	8	0.18	0.035	19:10 hr	1.26	0.77
SWRGM-009902	SWRMH-008627	SWRMH-008626	SP705MH5	SP705MH4	500	0.002	27	0.38	2.383	22:07 hr	2.65	0.59
SWRGM-009903	SWRMH-009187	SWRMH-009185	S0674ABMH03	S0674ABMH04	390	0.006	18	0.18	0.32	10:10 hr	2.32	0.95
SWRGM-009904	SWRMH-009232	SWRMH-009208	SP634MH26	SP634MH25	352	0.01	8	0.10	0.014	19:06 hr	1.21	1.00
SWRGM-009905	SWRMH-008684	SWRMH-000397	SP730MH01	SDMH000397	89	0.005	12	0.45	0.583	19:36 hr	2.66	0.82
SWRGM-009906	SWRMH-008843	SWRMH-008844	SP726MH6	SP726MH05	350	0.013	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009907	SWRMH-009015	SWRMH-009017	SP573MH023	SP573MH018	315	0.025	8	0.07	0.009	19:09 hr	1.46	1.49
SWRGM-009908	SWRMH-008890	SWRMH-008885	SP0584MH3	SP0584MH2	174	0.021	8	0.04	0.003	19:02 hr	0.99	1.29
SWRGM-009909	SWRMH-009176	SWRMH-009175	S0674ABMH15	S0674ABMH16	350	0.006	18	0.18	0.32	10:35 hr	2.32	0.95
SWRGM-009911	SWRMH-008941	SWRMH-008940	SP0602MH01	SP0602MH02	288	0.005	8	0.17	0.03	19:02 hr	1.16	0.73
SWRGM-009912	SWRMH-009058	SWRMH-009062	SP637MH3	SP637MH4	251	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009913	SWRMH-009108	SWRMH-009107	SP686MH4	SP686MH3	284	0.009	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009914	SWRMH-008640	SWRMH-008635	SP705MH18	SP705MH17	311	0.002	27	0.38	2.384	21:29 hr	2.64	0.59
SWRGM-009915	SWRMH-009084	SWRMH-009083	SP656MH1	SP656MH2	345	0.01	8	0.03	0.001	19:02 hr	0.53	0.83
SWRGM-009917	SWRMH-009313	SWRMH-009309	SP615MH11	SP615MH12	98	0.023	8	0.11	0.025	19:10 hr	1.92	1.53
SWRGM-009918	SWRMH-009247	SWRMH-009240	SP634MH7	SP634MH4	295	0.019	8	0.14	0.039	19:12 hr	2.05	1.43
SWRGM-009919	SWRMH-008623	SWRMH-008704	SP705MH1	SP715MH67	306	0.004	27	0.32	2.383	22:18 hr	3.30	0.80
SWRGM-009920	SWRMH-009139	SWRMH-009136	SP720MH16	SP720MH15	350	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009921	SWRCO-000950	SWRMH-008684		SP730MH01	7	0.028	12	0.13	0.127	19:29 hr	3.17	1.85
SWRGM-009922	SWRMH-009285	SWRMH-009284	SP631MH3	SP631MH4	343	0.005	8	0.12	0.014	19:08 hr	0.93	0.70
SWRGM-009923	SWRMH-008875	SWRMH-008874	SP0582MH12	SP0582MH6	253	0.011	8	0.05	0.003	19:03 hr	0.80	0.95
SWRGM-009924	SWRMH-008763	SWRMH-008761	SP712MH19	SP712MH18	500	0.007	27	0.27	2.383	24:22 hr	4.22	1.13
SWRGM-009925	SWRMH-008839	SWRMH-008840	SP726MH10	SP726MH9	50	0.018	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009926	SWRMH-008653	SWRMH-008655	SP716MH26	SP716MH13	70	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009929	SWRMH-008925	SWRMH-001623	SP0599MH19	SDMH001623	20	0.027	8	0.11	0.026	19:11 hr	2.04	1.64
SWRGM-009930	SWRMH-009226	SWRMH-009225	SP634MH16	SP634MH17	99	0.039	8	0.03	0.002	19:00 hr	1.03	1.65
SWRGM-009931	SWRMH-009305	SWRMH-009319	SP615MH04	SP615MH05	94	0.016	8	0.09	0.014	19:01 hr	1.41	1.24
SWRGM-009932	SWRMH-008798	SWRMH-008796	SP712MH36	SP712MH35	476	0.004	27	0.31	2.383	23:34 hr	3.55	0.89
SWRGM-009933	SWRMH-009236	SWRMH-009234	SP634MH33	SP634MH18	169	0.008	8	0.11	0.016	19:05 hr	1.16	0.90
SWRGM-009934	SWRMH-008662	SWRMH-008663	SP716MH6	SP716MH5	500	0.004	21	0.17	0.325	11:31 hr	1.92	0.75
SWRGM-009936	SWRMH-009309	SWRMH-001201	SP615MH12	SDMH001201	146	0.006	8	0.15	0.026	19:11 hr	1.22	0.82
SWRGM-009937	SWRMH-009167	SWRMH-009168	S0674ABMH21	S0674ABMH22	196	0.004	21	0.17	0.32	10:46 hr	1.90	0.75
SWRGM-009938	SWRMH-009126	SWRMH-009125	SP720MH5	SP720MH4	267	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009939	SWRMH-009163	SWRMH-009162	P0955MH9	P0955MH8	345	0.01	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009940	SWRMH-009140	SWRMH-009139	SP720MH17	SP720MH16	350	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009942	SWRMH-008645	SWRMH-008644	SP705MH23	SP705MH22	438	0.002	27	0.38	2.384	21:15 hr	2.66	0.59
SWRGM-009943	SWRMH-008725	SWRMH-008726	SP724MH1A	SP724MH1	161	0.003	21	0.00	0	00:00 hr	0.00	0.00
SWRGM-009945	SWRMH-009145	SWRMH-009148	SP720MH23	SP720MH22	216	0.002	24	0.28	0.972	19:49 hr	2.09	0.58
SWRGM-009946	SWRMH-008804	SWRMH-008802	SP712MH39	SP712MH38	440	0.003	27	0.33	2.383	23:26 hr	3.24	0.78
SWRGM-009948	SWRMH-000396	SWRMH-008684	SDMH000396	SP730MH01	141	0.003	12	0.46	0.458	19:40 hr	2.04	0.62
SWRGM-009950	SWRMH-008912	SWRMH-008913	SP0601MH3	SP0601MH4	298	0.01	8	0.09	0.012	10:08 hr	1.16	0.99
SWRGM-009951	SWRMH-008681	SWRMH-008682	SP730MH153	SP730MH101	20	0.011	10	0.37	0.364	19:31 hr	3.10	1.15
SWRGM-009952	SWRMH-008735	SWRMH-008733	SP712MH5	SP712MH4	500	0.001	27	0.41	2.382	25:09 hr	2.38	0.51

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-009953	SWRMH-008878	SWRMH-008890	SP0584MH4	SP0584MH3	175	0.021	8	0.04	0.003	19:02 hr	0.94	1.27
SWRGM-009954	SWRMH-009284	SWRMH-009283	SP631MH4	SP631MH5	324	0.005	8	0.14	0.019	19:09 hr	1.02	0.71
SWRGM-009955	SWRMH-009199	SWRMH-009198	SP634MH12	SP634MH13	185	0	8	0.25	0.003	19:01 hr	0.07	0.03
SWRGM-009956	SWRMH-008870	SWRMH-008871	SP0582MH3	SP0582MH2	261	0.006	8	0.20	0.043	19:16 hr	1.39	0.81
SWRGM-009957	SWRMH-009208	SWRMH-009209	SP634MH25	SP634MH08	303	0.018	8	0.09	0.017	19:07 hr	1.54	1.31
SWRGM-009958	SWRMH-009024	SWRMH-009023	SP573MH025	SP573MH026	263	0.011	8	0.18	0.047	19:14 hr	1.76	1.09
SWRGM-009960	SWRMH-003918	SWRMH-009057	SDMH003918	SP680MH4	123	0.009	15	0.24	0.448	21:16 hr	3.00	1.14
SWRGM-009961	SWRMH-008699	SWRMH-008698	SP715MH62	SP715MH61	519	0.002	27	0.40	2.383	22:38 hr	2.50	0.54
SWRGM-009962	SWRMH-008983	SWRMH-008984	SP572MH03	SP572MH3	283	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009964	SWRMH-009269	SWRMH-009270	SP627MH9	SP627MH8	174	0.01	8	0.08	0.009	19:06 hr	1.04	0.96
SWRGM-009965	SWRMH-009097	SWRMH-009098	SP653MH10	SP653MH11	311	0.005	10	0.00	0	19:02 hr	0.00	0.00
SWRGM-009966	SWRMH-009135	SWRMH-009134	SP720MH14	SP720MH13	304	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009968	SWRMH-008683	SWRMH-000406	SP730MH102	SDMH000406	69	0.004	12	0.56	0.748	19:50 hr	2.57	0.73
SWRGM-009969	SWRMH-009091	SWRMH-009092	SP653MH4	SP653MH5	307	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009970	SWRMH-008947	SWRMH-008946	S0678MHSB5	S0678MHMS1	313	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009971	SWRMH-008817	SWRMH-008815	SP712MH46	SP712MH45	250	0.003	27	0.33	2.383	23:10 hr	3.24	0.78
SWRGM-009972	SWRFT-000037	SWRMH-009121		SP689MH6	20	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009973	SWRMH-009308	SWRMH-009307	SP615MH17	SP615MH19	186	0.034	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009975	SWRMH-008620	SWRMH-008621	SP698MH01	SP698MH02	349	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009976	SWRMH-008994	SWRMH-008995	SP572MH013	SP572MH014	250	0.008	8	0.09	0.011	19:06 hr	1.03	0.89
SWRGM-009977	SWRMH-009150	SWRMH-009151	SP720MH26	SP720MH25	376	0.002	24	0.27	0.896	19:48 hr	2.04	0.58
SWRGM-009979	SWRMH-008659	SWRMH-008660	SP716MH9	SP716MH8	500	0.004	21	0.17	0.325	11:22 hr	1.92	0.75
SWRGM-009980	SWRMH-008621	SWRMH-008622	SP698MH02	SP698MH03	350	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009981	SWRMH-009164	SWRMH-009163	P0955MH10	P0955MH9	350	0.028	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009982	SWRMH-009295	SWRMH-009294	SP711MH30	SP711MH29	496	0.002	27	0.38	2.384	20:56 hr	2.65	0.59
SWRGM-009983	SWRMH-009161	SWRMH-009155	P0955MH7	P0955MH3	311	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009984	SWRMH-008893	SWRMH-008894	SP0601MH1	SP0601MH2	300	0.01	8	0.10	0.012	10:02 hr	1.15	0.98
SWRGM-009985	SWRMH-008628	SWRMH-008627	SP705MH6	SP705MH5	500	0.002	27	0.38	2.384	22:03 hr	2.65	0.59
SWRGM-009986	SWRMH-008652	SWRMH-008654	SP716MH15	SP716MH14	467	0.004	21	0.17	0.325	11:07 hr	1.91	0.75
SWRGM-009988	SWRMH-008948	SWRMH-008947	S0678MH4	S0678MHSB5	271	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009989	SWRMH-008848	SWRMH-008849	SP726MH1	SP726MH5	41	0.009	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-009992	SWRMH-009089	SWRMH-009090	SP653MH2	SP653MH3	354	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009993	SWRFT-000006	SWRMH-008861		SP0582MH26	25	0.015	10	0.04	0.006	19:04 hr	1.02	1.14
SWRGM-009995	SWRMH-008705	SWRMH-008706	SP717MH1	SP717MH2	55	0.019	8	0.05	0.004	10:00 hr	1.05	1.24
SWRGM-009996	SWRMH-009184	SWRMH-009181	S0674ABMH07	S0674ABMH08	280	0.006	18	0.18	0.32	10:18 hr	2.31	0.95
SWRGM-009997	SWRMH-009061	SWRMH-009063	SP637MH5	SP637MH6	79	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-009998	SWRMH-008771	SWRMH-008769	SP712MH23	SP712MH22	500	0.002	27	0.38	2.383	24:14 hr	2.65	0.59
SWRGM-009999	SWRMH-008753	SWRMH-008751	SP712MH14	SP712MH13	499	0.002	27	0.41	2.383	24:37 hr	2.41	0.52
SWRGM-010000	SWRMH-007972	SWRMH-008952	SDMH007972	S0678MH01	328	0.003	12	0.06	0.008	19:24 hr	0.64	0.55
SWRGM-010001	SWRMH-008978	SWRMH-008976	SP570MH06	SP570MH028	333	0.005	12	0.20	0.113	19:27 hr	1.61	0.77
SWRGM-010002	SWRMH-008924	SWRMH-008923	SP0599MH17	SP0599MH18	255	0.005	8	0.15	0.024	19:11 hr	1.10	0.73
SWRGM-010003	SWRMH-009156	SWRMH-009157	P0955MH6	P0955MH5	299	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010005	SWRMH-008664	SWRMH-008665	SP716MH4	SP716MH3	500	0.01	21	0.13	0.325	11:35 hr	2.74	1.22
SWRGM-010006	SWRNJ-000083	SWRMH-008802		SP712MH38	135	0	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-010007	SWRMH-008946	SWRMH-008945	S0678MHMS1	S0678MHMS2	318	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010008	SWRMH-008981	SWRMH-008982	SP572MH02	SP572MH5	319	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010009	SWRMH-008972	SWRMH-008971	SP569MH01	SP569MH02	330	0.027	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010010	SWRMH-009022	SWRMH-009025	SP573MH03	SP573MH024	139	0.02	8	0.15	0.047	19:11 hr	2.20	1.47
SWRGM-010011	SWRMH-008856	SWRMH-008850	SP0582MH20	SP0582MH14	262	0.012	8	0.06	0.005	19:02 hr	0.92	1.00
SWRGM-010015	SWRMH-009242	SWRMH-009218	SP634MH2	SP634MH42	118	0.015	8	0.08	0.01	19:01 hr	1.26	1.19
SWRGM-010016	SWRMH-009052	SWRMH-009051	SP671MH2	SP671MH3	210	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010019	SWRCO-001017	SWRMH-009137		P0685MH1	99	0.026	8	0.00	0	19:00 hr	0.00	0.00
SWRGM-010020	SWRMH-009190	SWRMH-009189	S0674ABMH24	S0674ABMH01	313	0.001	18	0.20	0.32	10:03 hr	2.01	0.78
SWRGM-010021	SWRMH-009307	SWRMH-009323	SP615MH19	SP615MH06	60	0.036	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010023	SWRMH-009303	SWRMH-009302	SP711MH38	SP711MH37	375	0.002	27	0.38	2.384	20:36 hr	2.70	0.61
SWRGM-010024	SWRMH-009166	SWRMH-009167	S0674ABMH20	S0674ABMH21	350	0.004	21	0.17	0.32	10:46 hr	1.90	0.75
SWRGM-010025	SWRMH-009254	SWRMH-009256	SP711MH62	SP711MH61	248	0.005	27	0.00	0	00:00 hr	0.00	0.00
SWRGM-010026	SWRMH-009065	SWRMH-009064	SP652MH23	SP652MH27	23	0.004	12	0.05	0.005	19:11 hr	0.59	0.60
SWRGM-010027	SWRNJ-000277	SWRMH-009020		SP573MH01	10	0.05	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010030	SWRMH-009240	SWRMH-009249	SP634MH4	SP634MH9	294	0.01	8	0.27	0.106	19:15 hr	2.17	1.07
SWRGM-010031	SWRMH-009146	SWRMH-009145	SP720MH32	SP720MH23	71	0.099	8	0.16	0.113	10:51 hr	5.01	3.29
SWRGM-010032	SWRMH-008873	SWRMH-008872	SP0582MH5	SP0582MH4	267	0.005	8	0.20	0.04	19:10 hr	1.28	0.75
SWRGM-010033	SWRMH-009099	SWRMH-009100	SP653MH12	SP653MH13	179	0.022	10	0.00	0	19:06 hr	0.00	0.00
SWRGM-010034	SWRMH-008975	SWRMH-008973	SP570MH01	SP570MH2	326	0.005	12	0.18	0.098	19:17 hr	1.59	0.80
SWRGM-010035	SWRMH-009160	SWRMH-009158	P0955MH12	P0955MH4	350	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010036	SWRMH-009234	SWRMH-009233	SP634MH18	SP634MH32	169	0.01	8	0.12	0.02	19:06 hr	1.31	0.99
SWRGM-010038	SWRNJ-000137	SWRMH-008876		SP0582MH18	168	0	8	0.13	0.001	19:01 hr	0.05	0.03
SWRGM-010039	SWRMH-008647	SWRMH-008648	SP716MH20	SP716MH19	406	0.005	21	0.16	0.325	10:56 hr	2.11	0.86
SWRGM-010040	SWRMH-008714	SWRMH-008715	SP722MH2	SP722MH1	199	0.006	10	0.08	0.014	10:02 hr	0.97	0.78
SWRGM-010041	SWRMH-007545	SWRMH-000396	SDMH007545	SP730MH18	217	0.009	8	0.24	0.079	19:23 hr	1.93	1.02
SWRGM-010042	SWRMH-009100	SWRMH-009101	SP653MH13	SP653MH14	402	0.002	10	0.00	0	19:07 hr	0.00	0.00
SWRGM-010043	SWRMH-008940	SWRMH-008939	SP0602MH02	SP0602MH03	50	0.01	8	0.14	0.03	19:02 hr	1.49	1.02
SWRGM-010044	SWRMH-009195	SWRMH-009196	SP634MH31	SP634MH11	140	0.024	8	0.12	0.03	19:08 hr	2.06	1.59
SWRGM-010046	SWRMH-009021	SWRMH-009022	SP573MH02	SP573MH03	335	0.005	8	0.08	0.006	19:06 hr	0.73	0.67
SWRGM-010047	SWRMH-007454	SWRMH-008681	SDMH007454	SP730MH153	350	0.02	8	0.37	0.279	19:38 hr	3.70	1.54
SWRGM-010048	SWRMH-000327	SWRMH-006296	Y45143	Y45146	26	0.028	12	0.32	0.721	20:10 hr	5.26	1.94
SWRGM-010049	SWRMH-008671	SWRMH-008670	SP716MH25	SP716MH24	500	0.005	21	0.03	0.009	20:22 hr	0.70	0.66
SWRGM-010050	SWRMH-008685	SWRMH-007544	SP730MH18	SDMH007544	195	0.012	10	0.02	0.001	19:01 hr	0.62	0.94
SWRGM-010051	SWRMH-008643	SWRMH-008642	SP705MH21	SP705MH20	397	0.002	27	0.38	2.384	21:21 hr	2.66	0.59
SWRGM-010053	SWRMH-009257	SWRMH-009255	SP711MH88	SP711MH87	178	0.009	18	0.05	0.031	19:05 hr	1.30	0.98
SWRGM-010054	SWRMH-008854	SWRMH-008855	SP0582MH25	SP0582MH21	257	0.012	8	0.07	0.008	19:02 hr	1.07	1.03
SWRGM-010055	SWRMH-009159	SWRMH-009192	P0955MH2	P0955MH1	260	0.043	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010057	SWRMH-009120	SWRMH-009119	SP689MH5	SP689MH4	342	0.005	8	0.18	0.032	19:03 hr	1.17	0.72
SWRGM-010058	SWRMH-009225	SWRMH-009234	SP634MH17	SP634MH18	92	0.021	8	0.03	0.002	19:00 hr	0.83	1.23
SWRGM-010059	SWRMH-008903	SWRMH-008902	SP0607MH10	SP0607MH9	300	0	8	0.12	0.001	19:02 hr	0.04	0.03
SWRGM-010060	SWRMH-009261	SWRMH-009244	SP634MH37	SP634MH04	358	0.013	8	0.09	0.013	19:07 hr	1.28	1.12
SWRGM-010061	SWRMH-009304	SWRMH-000296	SP711MH39	SDMH000296	62	0.002	27	0.00	0	00:00 hr	0.00	0.00
SWRGM-010062	SWRMH-008954	SWRMH-008958	SP568MH1	SP568MH2	309	0.01	8	0.08	0.008	19:03 hr	1.00	0.95
SWRGM-010063	SWRMH-008745	SWRMH-008743	SP712MH10	SP712MH9	580	0.001	27	0.41	2.382	24:54 hr	2.40	0.51
SWRGM-010064	SWRMH-009203	SWRMH-009202	SP634MH01	SP634MH02	290	0	8	0.21	0.002	19:02 hr	0.06	0.03

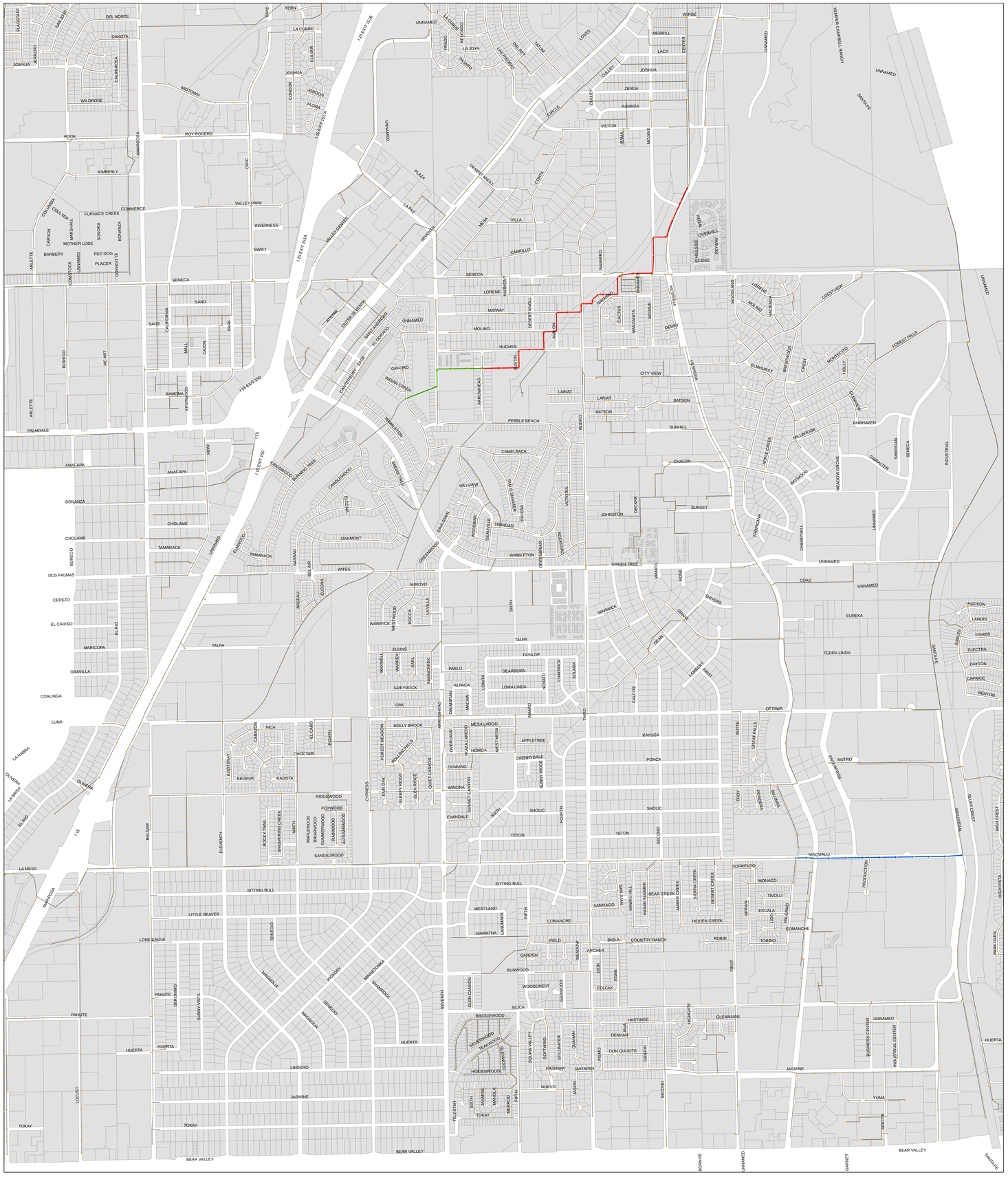
Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-010065	SWRMH-009245	SWRMH-009247	SP634MH5	SP634MH7	198	0.005	8	0.19	0.037	19:11 hr	1.24	0.74
SWRGM-010067	SWRMH-008707	SWRMH-008708	SP717MH3	SP717MH4	300	0.007	8	0.19	0.046	10:04 hr	1.48	0.87
SWRGM-010070	SWRMH-009085	SWRMH-003760	SP676MH1	SDMH003760	300	0.007	8	0.05	0.003	19:02 hr	0.68	0.78
SWRGM-010071	SWRMH-009076	SWRMH-009075	SP652MH15	SP652MH16	102	0.009	10	0.00	0	19:12 hr	0.00	0.00
SWRGM-010073	SWRMH-009034	SWRMH-009033	SP574MH7	SP574MH07	186	0.005	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-010076	SWRMH-008648	SWRMH-008649	SP716MH19	SP716MH18	350	0.004	21	0.17	0.325	10:58 hr	1.91	0.75
SWRGM-010078	SWRMH-008743	SWRMH-008741	SP712MH9	SP712MH8	261	0.001	27	0.41	2.382	24:56 hr	2.37	0.51
SWRGM-010079	SWRMH-009104	SWRMH-009103	SP686MH1	SP686MH12	274	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010081	SWRMH-008958	SWRMH-008959	SP568MH2	SP568MH3	309	0.01	8	0.09	0.011	19:05 hr	1.10	0.97
SWRGM-010084	SWRMH-009248	SWRMH-009246	SP634MH8	SP634MH6	219	0.019	8	0.13	0.034	19:09 hr	1.95	1.41
SWRGM-010086	SWRMH-008636	SWRMH-008637	SP705MH16	SP705MH15	351	0.002	27	0.38	2.384	21:33 hr	2.65	0.59
SWRGM-010087	SWRMH-009014	SWRMH-009015	SP573MH022	SP573MH023	350	0.005	8	0.09	0.008	19:08 hr	0.82	0.71
SWRGM-010088	SWRMH-000387	SWRMH-008680	SDMH000387	SP730MH16B	208	0.016	12	0.06	0.018	10:18 hr	1.43	1.25
SWRGM-010090	SWRMH-009148	SWRMH-009149	SP720MH22	SP720MH21	217	0.002	24	0.29	0.972	19:51 hr	1.99	0.55
SWRGM-010091	SWRFT-000035	SWRMH-009121		SP689MH6	5	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010094	SWRMH-008759	SWRMH-008757	SP712MH17	SP712MH16	500	0.007	27	0.27	2.383	24:26 hr	4.20	1.12
SWRGM-010095	SWRMH-009336	SWRMH-009337			463	0.003	8	0.09	0.006	19:10 hr	0.64	0.57
SWRGM-010096	SWRMH-009315	SWRMH-009312	SP615MH14	SP615MH13	96	0.005	8	0.09	0.008	19:01 hr	0.79	0.68
SWRGM-010097	SWRMH-009141	SWRMH-009140	SP720MH18	SP720MH17	338	0.007	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010098	SWRMH-009006	SWRMH-009005	SP573MH011	SP573MH08	316	0.011	8	0.05	0.003	19:02 hr	0.81	0.95
SWRGM-010100	SWRMH-009125	SWRMH-009124	SP720MH4	SP720MH3	350	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010102	SWRMH-008694	SWRMH-008693	SP715MH57	SP715MH56	423	0.003	27	0.35	2.383	22:50 hr	2.97	0.69
SWRGM-010103	SWRMH-008952	SWRMH-007649	S0678MH01	SDMH007650	219	0.009	12	0.05	0.008	19:26 hr	0.92	0.90
SWRGM-010104	SWRMH-008868	SWRMH-008877	SP0582MH10	SP0582MH11	266	0.01	8	0.10	0.014	19:06 hr	1.21	1.00
SWRGM-010105	SWRMH-008634	SWRMH-008633	SP705MH12	SP705MH11	504	0.002	27	0.38	2.384	21:44 hr	2.65	0.59
SWRGM-010106	SWRMH-009311	SWRMH-009310	SP615MH07	SP615MH8	318	0.005	8	0.15	0.021	19:07 hr	1.03	0.70
SWRGM-010108	SWRMH-009124	SWRMH-009123	SP720MH3	SP720MH2	350	0.012	8	0.08	0.01	10:02 hr	1.15	1.06
SWRGM-010111	SWRMH-009202	SWRMH-009204	SP634MH02	SP634MH03	128	0.048	8	0.03	0.002	19:03 hr	1.21	1.85
SWRGM-010112	SWRMH-009007	SWRMH-009022	SP573MH06	SP573MH03	293	0.014	8	0.15	0.041	19:11 hr	1.88	1.25
SWRGM-010113	SWRMH-008731	SWRMH-008729	SP712MH3	SP712MH2	500	0.001	27	0.41	2.382	25:17 hr	2.38	0.51
SWRGM-010114	SWRMH-009312	SWRMH-001201	SP615MH13	SDMH001201	88	0.006	8	0.09	0.008	19:02 hr	0.85	0.76
SWRGM-010115	SWRMH-009255	SWRMH-008221	SP711MH87	SP711MH001	327	0.012	18	0.05	0.031	19:07 hr	1.45	1.13
SWRGM-010116	SWRMH-009264	SWRMH-009263	SP627MH11	SP627MH10	312	0.008	8	0.08	0.008	19:04 hr	0.92	0.85
SWRGM-010118	SWRMH-009189	SWRMH-009188	S0674ABMH01	S0674ABMH02	250	0.004	18	0.20	0.32	10:06 hr	2.03	0.79
SWRGM-010119	SWRMH-009335	SWRMH-009337			193	0.048	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010120	SWRMH-009106	SWRMH-009104	SP686MH2	SP686MH1	281	0.034	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010121	SWRMH-008834	SWRMH-008835	SP726MH15	SP726MH14	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-010122	SWRMH-008761	SWRMH-008759	SP712MH18	SP712MH17	388	0.007	27	0.27	2.383	24:23 hr	4.21	1.12
SWRGM-010123	SWRMH-008675	SWRMH-008674	SP699MH5	SP699MH4	24	0.004	8	0.10	0.009	19:04 hr	0.76	0.64
SWRGM-010124	SWRMH-008894	SWRMH-008912	SP0601MH2	SP0601MH3	300	0.01	8	0.09	0.012	10:05 hr	1.15	0.98
SWRGM-010125	SWRMH-009291	SWRMH-009290	SP711MH26	SP711MH25	442	0.002	27	0.38	2.384	21:07 hr	2.65	0.59
SWRGM-010126	SWRMH-009081	SWRMH-009080	SP656MH4	SP656MH5	350	0.005	8	0.05	0.002	19:10 hr	0.54	0.64
SWRGM-010127	SWRMH-008901	SWRMH-008904	SP0607MH7	SP0607MH6	137	0.005	8	0.05	0.002	19:03 hr	0.52	0.63
SWRGM-010128	SWRMH-008886	SWRMH-008885	SP0584MH10	SP0584MH2	184	0.031	8	0.04	0.004	19:02 hr	1.25	1.56
SWRGM-010129	SWRMH-009019	SWRMH-009007	SP573MH09	SP573MH06	237	0.014	8	0.12	0.023	19:13 hr	1.55	1.18
SWRGM-010130	SWRMH-008626	SWRMH-008625	SP705MH4	SP705MH3	500	0.002	27	0.38	2.383	22:11 hr	2.65	0.59
SWRGM-010131	SWRMH-008857	SWRMH-008854	SP0582MH24	SP0582MH25	265	0.013	8	0.04	0.003	19:01 hr	0.80	1.03
SWRGM-010132	SWRMH-008741	SWRMH-008739	SP712MH8	SP712MH7	350	0.001	27	0.41	2.382	24:59 hr	2.39	0.51
SWRGM-010133	SWRMH-008914	SWRMH-008915	SP0601MH5	SP0601MH001	314	0.01	8	0.09	0.012	10:13 hr	1.16	0.99
SWRGM-010134	SWRMH-009028	SWRMH-009026	SP574MH02	SP574MH01	192	0.005	12	0.04	0.003	10:09 hr	0.58	0.65
SWRGM-010137	SWRMH-009162	SWRMH-009161	P0955MH8	P0955MH7	311	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010138	SWRMH-009002	SWRMH-009001	SP573MH010	SP573MH07	254	0.005	8	0.07	0.004	19:02 hr	0.66	0.67
SWRGM-010140	SWRMH-008921	SWRMH-008922	SP0599MH10	SP0599MH11	299	0.012	8	0.10	0.017	19:06 hr	1.35	1.10
SWRGM-010141	SWRMH-008695	SWRMH-008694	SP715MH58	SP715MH57	381	0.003	27	0.34	2.383	22:48 hr	3.08	0.73
SWRGM-010144	SWRMH-008866	SWRMH-008867	SP0582MH8	SP0582MH9	266	0.009	8	0.09	0.01	19:05 hr	1.05	0.93
SWRGM-010146	SWRMH-008920	SWRMH-008921	SP0599MH9	SP0599MH10	300	0.014	8	0.09	0.013	19:05 hr	1.32	1.16
SWRGM-010147	SWRMH-008673	SWRMH-001471	SP699MH2	SDMH001471	17	0.005	8	0.10	0.009	19:05 hr	0.80	0.68
SWRGM-010148	SWRMH-008661	SWRMH-008662	SP716MH7	SP716MH6	500	0.004	21	0.17	0.325	11:28 hr	1.92	0.75
SWRGM-010150	SWRMH-008943	SWRMH-002180	SP0709MH11	SDMH002180	301	0.01	10	0.12	0.035	19:31 hr	1.54	1.05
SWRGM-010152	SWRMH-009183	SWRMH-009184	S0674ABMH06	S0674ABMH07	280	0.006	18	0.18	0.32	10:16 hr	2.31	0.95
SWRGM-010153	SWRMH-008987	SWRMH-008986	SP572MH1	SP572MH2	229	0.013	8	0.10	0.016	19:09 hr	1.37	1.14
SWRGM-010154	SWRMH-009093	SWRMH-009094	SP653MH6	SP653MH7	193	0.014	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010155	SWRMH-008785	SWRMH-008783	SP712MH30	SP712MH29	300	0.002	27	0.38	2.383	23:47 hr	2.65	0.59
SWRGM-010156	SWRMH-009119	SWRMH-009118	SP689MH4	SP689MH3	293	0.005	8	0.18	0.032	19:06 hr	1.20	0.74
SWRGM-010158	SWRFT-000018	SWRMH-009011		SP573MH019	27	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010159	SWRMH-008624	SWRMH-008623	SP705MH2	SP705MH1	588	0.004	27	0.32	2.383	22:17 hr	3.37	0.82
SWRGM-010160	SWRMH-009218	SWRMH-009243	SP634MH42	SP634MH3	30	0.024	8	0.08	0.012	19:02 hr	1.55	1.48
SWRGM-010161	SWRMH-009068	SWRMH-009067	SP652MH20	SP652MH21	350	0.011	12	0.03	0.002	19:05 hr	0.62	0.81
SWRGM-010162	SWRMH-000084	SWRMH-002502	AC47124	AC46104	45	0.004	12	0.41	0.477	10:58 hr	2.41	0.77
SWRGM-010163	SWRMH-008783	SWRMH-008781	SP712MH29	SP712MH28	500	0.002	27	0.38	2.383	23:51 hr	2.65	0.59
SWRGM-010164	SWRMH-008933	SWRMH-008925	SP0599MH20	SP0599MH19	270	0.012	8	0.04	0.002	19:03 hr	0.74	0.98
SWRGM-010165	SWRMH-008729	SWRMH-008727	SP712MH2	SP712MH1	314	0.001	27	0.41	2.382	25:19 hr	2.38	0.51
SWRGM-010167	SWRMH-008918	SWRMH-008919	SP0599MH7	SP0599MH8	325	0.014	8	0.07	0.007	19:04 hr	1.11	1.12
SWRGM-010168	SWRMH-008899	SWRMH-008900	SP0607MH5	SP0607MH4	233	0.005	8	0.03	0.001	19:03 hr	0.41	0.61
SWRGM-010170	SWRNJ-000664	SWRMH-008907		SP557MH6	135	0	8	0.08	0	19:01 hr	0.03	0.03
SWRGM-010171	SWRMH-009334	SWRMH-009335			204	0.046	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010172	SWRMH-008992	SWRMH-008987	SP572MH07	SP572MH1	231	0.01	8	0.10	0.015	19:08 hr	1.23	1.01
SWRGM-010173	SWRMH-009155	SWRMH-009159	P0955MH3	P0955MH2	40	0.012	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010174	SWRMH-008773	SWRMH-008771	SP712MH24	SP712MH23	470	0.002	27	0.38	2.383	24:10 hr	2.65	0.59
SWRGM-010176	SWRMH-008717	SWRMH-008718	SP723MH1	SP723MH2	154	0.029	18	0.21	1.007	20:07 hr	5.65	2.10
SWRGM-010178	SWRMH-009001	SWRMH-009000	SP573MH07	SP573MH04	209	0.005	8	0.09	0.007	19:04 hr	0.77	0.68
SWRGM-010179	SWRMH-009260	SWRMH-009220	SP634MH40	SP634MH39	349	0.02	8	0.05	0.005	19:01 hr	1.10	1.28
SWRGM-010180	SWRMH-009244	SWRMH-009211	SP634MH04	SP634MH36	259	0.007	8	0.16	0.03	19:07 hr	1.32	0.86
SWRGM-010181	SWRMH-008917	SWRMH-008918	SP0599MH4	SP0599MH7	350	0.014	8	0.05	0.003	19:02 hr	0.89	1.07
SWRGM-010182	SWRMH-009268	SWRMH-009271	SP627MH3	SP627MH2	340	0.007	8	0.03	0.001	19:07 hr	0.48	0.71
SWRGM-010183	SWRMH-008733	SWRMH-008731	SP712MH4	SP712MH3	500	0.001	27	0.41	2.382	25:13 hr	2.38	0.51
SWRGM-010184	SWRMH-009046	SWRMH-009049	SP641MH4	SP641MH5	204	0.015	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010185	SWRMH-008888	SWRMH-008887	SP0584MH12	SP0584MH11	188	0.02	8	0.04	0.003	19:01 hr	0.98	1.27
SWRGM-010188	SWRFT-000036	SWRMH-009121		SP689MH6	10	0	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010189	SWRMH-009172	SWRMH-009166	S0674ABMH19	S0674ABMH20	250	0.005	18	0.19	0.32	10:42 hr	2.15	0.85
SWRGM-010190	SWRMH-009320	SWRMH-009305	SP615MH03	SP615MH04	74	0.016	8	0.07	0.008	19:01 hr	1.19	1.21

Pipe ID (New)	U/S MH ID (New)	D/S MH ID (New)	U/S MH ID (Old)	D/S MH ID (Old)	Pipe Length (ft)	Slope	Existing Pipe Size (inch)	Max dD	MaxFlow_mgd	MaxFlowTime	MaxVelocity_ fps	MaxFroudeNo
SWRGM-010194	SWRMH-008995	SWRMH-008996	SP572MH014	SP572MH015	250	0.009	8	0.10	0.012	19:07 hr	1.12	0.95
SWRGM-010198	SWRMH-008932	SWRMH-001603	SP0599MH2	SDMH001603	314	0.007	8	0.02	0	19:05 hr	0.36	0.68
SWRGM-010200	SWRMH-008625	SWRMH-008624	SP705MH3	SP705MH2	500	0.004	27	0.33	2.383	22:14 hr	3.29	0.79
SWRGM-010201	SWRMH-008727	SWRNJ-000196	SP712MH1		73	0.003	27	0.36	2.491	25:17 hr	3.02	0.70
SWRGM-010202	SWRMH-009253	SWRMH-009254	SP711MH63	SP711MH62	250	0.002	27	0.00	0	00:00 hr	0.00	0.00
SWRGM-010204	SWRMH-008871	SWRMH-008975	SP0582MH2	SP570MH01	284	0.005	12	0.18	0.098	19:15 hr	1.62	0.81
SWRGM-010205	SWRMH-009196	SWRMH-009200	SP634MH11	SP634MH06	296	0.009	8	0.20	0.057	19:11 hr	1.78	1.02
SWRGM-010206	SWRMH-009048	SWRMH-009045	SP641MH2	SP641MH1	260	0.045	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010207	SWRMH-009317	SWRMH-009316	SP615MH18	SP615MH15	109	0.012	8	0.06	0.006	19:00 hr	1.01	1.05
SWRGM-010208	SWRMH-008826	SWRMH-008827	SP726MH23	SP726MH22	206	0.017	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-010209	SWRMH-008996	SWRMH-008990	SP572MH015	SP572MH13	260	0.016	8	0.13	0.032	19:08 hr	1.80	1.29
SWRGM-010210	SWRMH-008969	SWRMH-008968			300	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010213	SWRMH-009165	SWRMH-009164	P0955MH11	P0955MH10	233	0.011	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010214	SWRMH-009271	SWRMH-009272	SP627MH2	SP627MH1	123	0.006	8	0.10	0.01	19:10 hr	0.89	0.75
SWRGM-010215	SWRMH-008928	SWRMH-008929	SP0599MH14	SP0599MH15	324	0.014	8	0.07	0.007	19:06 hr	1.08	1.11
SWRGM-010217	SWRMH-008706	SWRMH-008707	SP717MH2	SP717MH3	233	0.012	8	0.13	0.027	10:01 hr	1.57	1.14
SWRGM-010218	SWRMH-009004	SWRMH-009007	SP573MH05	SP573MH06	266	0.008	8	0.12	0.017	19:07 hr	1.18	0.90
SWRGM-010219	SWRMH-008906	SWRMH-008901	SP0607MH8	SP0607MH7	201	0.01	8	0.03	0.001	19:02 hr	0.50	0.83
SWRGM-010220	SWRMH-008919	SWRMH-008920	SP0599MH8	SP0599MH9	300	0.014	8	0.08	0.01	19:04 hr	1.22	1.15
SWRGM-010222	SWRMH-008964	SWRFT-000006	SP568MH15		253	0.017	10	0.04	0.006	19:04 hr	1.05	1.19
SWRGM-010223	SWRMH-008850	SWRMH-008866	SP0582MH14	SP0582MH8	261	0.015	8	0.06	0.007	19:03 hr	1.10	1.15
SWRGM-010224	SWRMH-008959	SWRMH-008960	SP568MH3	SP568MH4	309	0.01	8	0.10	0.013	19:07 hr	1.18	0.98
SWRGM-010226	SWRMH-008813	SWRMH-008811	SP712MH44	SP712MH43	287	0.003	27	0.33	2.383	23:13 hr	3.24	0.78
SWRGM-010227	SWRMH-009075	SWRMH-009071	SP652MH16	SP652MH17	142	0.029	10	0.00	0	19:12 hr	0.00	0.00
SWRGM-010228	SWRMH-009129	SWRMH-009128	SP720MH8	SP720MH7	350	0.004	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010229	SWRCO-000991	SWRMH-008953		SP567MH15	205	0.019	8	0.01	0	19:01 hr	0.37	0.97
SWRGM-010230	SWRMH-008831	SWRMH-008832	SP726MH18	SP726MH17	350	0.019	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-010231	SWRMH-008696	SWRMH-008695	SP715MH59	SP715MH58	163	0.005	27	0.30	2.383	22:45 hr	3.69	0.93
SWRGM-010232	SWRMH-009301	SWRMH-009300	SP711MH36	SP711MH35	236	0.002	27	0.38	2.384	20:38 hr	2.64	0.59
SWRGM-010234	SWRMH-008666	SWRMH-008667	SP716MH2	SP716MH1	500	0.01	21	0.13	0.325	11:40 hr	2.72	1.21
SWRGM-010235	SWRMH-008857	SWRMH-008856	SP0582MH24	SP0582MH20	261	0.01	8	0.04	0.002	19:01 hr	0.68	0.87
SWRGM-010236	SWRMH-009056	SWRMH-009055	SP680MH3	SP680MH2	350	0.004	15	0.29	0.448	21:19 hr	2.30	0.79
SWRGM-010238	SWRMH-008840	SWRMH-008841	SP726MH9	SP726MH8	250	0.017	12	0.00	0	00:00 hr	0.00	0.00
SWRGM-010240	SWRMH-009098	SWRMH-009099	SP653MH11	SP653MH12	353	0.005	10	0.00	0	19:05 hr	0.00	0.00
SWRGM-010242	SWRMH-008853	SWRMH-008877	SP0582MH17	SP0582MH11	266	0.01	8	0.11	0.019	19:08 hr	1.33	1.03
SWRGM-010244	SWRMH-008654	SWRMH-008655	SP716MH14	SP716MH13	467	0.004	21	0.17	0.325	11:10 hr	1.92	0.75
SWRGM-010246	SWRMH-009273	SWRMH-009274	SP627MH23	SP627MH24	332	0.026	8	0.05	0.005	19:01 hr	1.19	1.44
SWRGM-010247	SWRMH-008986	SWRMH-008984	SP572MH2	SP572MH3	286	0.005	8	0.22	0.053	19:12 hr	1.43	0.78
SWRGM-010248	SWRMH-008887	SWRMH-008886	SP0584MH11	SP0584MH10	124	0.01	8	0.06	0.004	19:01 hr	0.81	0.91
SWRGM-010249	SWRMH-009086	SWRMH-009087	SP653MH1	SP653MH02	333	0.031	15	0.31	0.984	19:58 hr	4.75	1.59
SWRGM-010251	SWRMH-009157	SWRMH-009158	P0955MH5	P0955MH4	350	0.006	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010252	SWRMH-008635	SWRMH-008636	SP705MH17	SP705MH16	311	0.002	27	0.38	2.384	21:31 hr	2.64	0.59
SWRGM-010253	SWRMH-009286	SWRMH-009285	SP631MH2	SP631MH3	345	0.005	8	0.10	0.01	19:06 hr	0.84	0.69
SWRGM-010254	SWRMH-008650	SWRMH-008651	SP716MH17	SP716MH16	214	0.004	21	0.17	0.325	11:02 hr	1.90	0.75
SWRGM-010255	SWRMH-009113	SWRMH-009112	SP686MH11	SP686MH7	328	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010256	SWRMH-000296	SWRMH-009303	SDMH000296	SP711MH38	314	0.003	27	0.34	2.384	20:33 hr	3.16	0.75
SWRGM-010257	SWRMH-009138	SWRMH-006525	P0685MH2	SDMH006525	392	0.046	10	0.03	0.003	19:02 hr	1.28	1.84
SWRGM-010258	SWRMH-008790	SWRMH-008788	SP712MH32	SP712MH31	275	0.002	27	0.38	2.383	23:42 hr	2.64	0.59
SWRGM-010260	SWRMH-009114	SWRMH-009104	SP686MH14	SP686MH1	35	0.008	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010262	SWRMH-008670	SWRMH-008669	SP716MH24	SP716MH23	235	0.004	21	0.03	0.009	20:23 hr	0.64	0.60
SWRGM-010263	SWRMH-008641	SWRMH-008640	SP705MH19	SP705MH18	397	0.002	27	0.38	2.384	21:27 hr	2.65	0.59
SWRGM-010265	SWRMH-006527	SWRMH-009138	SDMH006527	P0685MH2	190	0.018	12	0.02	0.002	19:01 hr	0.79	1.16
SWRGM-010266	SWRMH-008737	SWRMH-008735	SP712MH6	SP712MH5	500	0.001	27	0.41	2.382	25:05 hr	2.40	0.51
SWRGM-010267	SWRMH-008966	SWRMH-008965	SP568MH13	SP568MH14	288	0.013	10	0.03	0.003	19:02 hr	0.79	1.02
SWRGM-010268	SWRMH-009262	SWRMH-009264	SP627MH12	SP627MH11	261	0.004	8	0.06	0.003	19:02 hr	0.53	0.58
SWRGM-010269	SWRMH-000404	SWRMH-008683	SDMH000404	SP730MH102	271	0.008	12	0.39	0.59	19:52 hr	3.23	1.07
SWRGM-010270	SWRMH-008676	SWRMH-008675	SP699MH6	SP699MH5	329	0.02	8	0.07	0.009	19:03 hr	1.32	1.33
SWRGM-010271	SWRMH-009051	SWRMH-009050	SP671MH3	SP671MH4	166	0.005	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010272	SWRMH-008864	SWRMH-008865	SP0582MH13	SP0582MH7	319	0.014	12	0.09	0.037	19:09 hr	1.72	1.24
SWRGM-010273	SWRMH-009205	SWRMH-009209	SP634MH07	SP634MH08	127	0.01	8	0.03	0.001	19:01 hr	0.57	0.85
SWRGM-010274	SWRMH-009158	SWRMH-009155	P0955MH4	P0955MH3	276	0.013	8	0.00	0	00:00 hr	0.00	0.00
SWRGM-010275	SWRMH-008984	SWRMH-008985	SP572MH3	SP572MH4	293	0.005	8	0.22	0.053	19:14 hr	1.42	0.77
SWRGM-010276	SWRMH-009191	SWRMH-009180	S0674ABMH10	S0674ABMH11	350	0.006	18	0.18	0.32	10:24 hr	2.32	0.95
SWRGM-010277	SWRMH-008811	SWRMH-008810	SP712MH43	SP712MH42	446	0.004	27	0.33	2.383	23:16 hr	3.26	0.79
SWRGM-010278	SWRMH-008680	SWRMH-008679	SP730MH16B	SP730MH16A	46	0.002	12	0.10	0.018	10:19 hr	0.72	0.50
SWRGM-010279	SWRMH-008904	SWRMH-008900	SP0607MH6	SP0607MH4	145	0.021	8	0.03	0.002	19:04 hr	0.85	1.23
SWRGM-010280	SWRMH-009220	SWRMH-009221	SP634MH39	SP634MH38	332	0.017	8	0.06	0.007	19:03 hr	1.16	1.22
SWRGM-010282	SWRMH-005774	SWRMH-008721	SP723MH6	AA39115	27	0.003	18	0.44	1.367	20:06 hr	2.83	0.72
SWRGM-010283	SWRMH-002610	SWRMH-008717	SDMH002610	SP723MH1	81	0.034	18	0.21	1.007	20:07 hr	5.95	2.26
SWRGM-010285	SWRMH-009302	SWRMH-009301	SP711MH37	SP711MH36	241	0.002	27	0.38	2.384	20:37 hr	2.64	0.59
SWRGM-010286	SWRMH-008651	SWRMH-008652	SP716MH16	SP716MH15	467	0.004	21	0.17	0.325	11:05 hr	1.91	0.75
SWRGM-010289	SWRMH-008923	SWRMH-008925	SP0599MH18	SP0599MH19	52	0.005	8	0.15	0.024	19:11 hr	1.08	0.71
SWRGM-010290	SWRMH-009072	SWRMH-009071	SP652MH26	SP652MH17	122	0.019	10	0.00	0	00:00 hr	0.00	0.00
SWRGM-010291	SWRMH-008927	SWRMH-008928	SP0599MH13	SP0599MH14	303	0.014	8	0.06	0.006	19:04 hr	1.04	1.10

Appendix D

E-SIZE MAPS

City of Victorville
Sewer Master Plan 2016
Capacity Improvement CIP (Existing Condition)



Legend

City Manhole

Recommended Capacity CIP Project (Existing Condition)

C1

C2

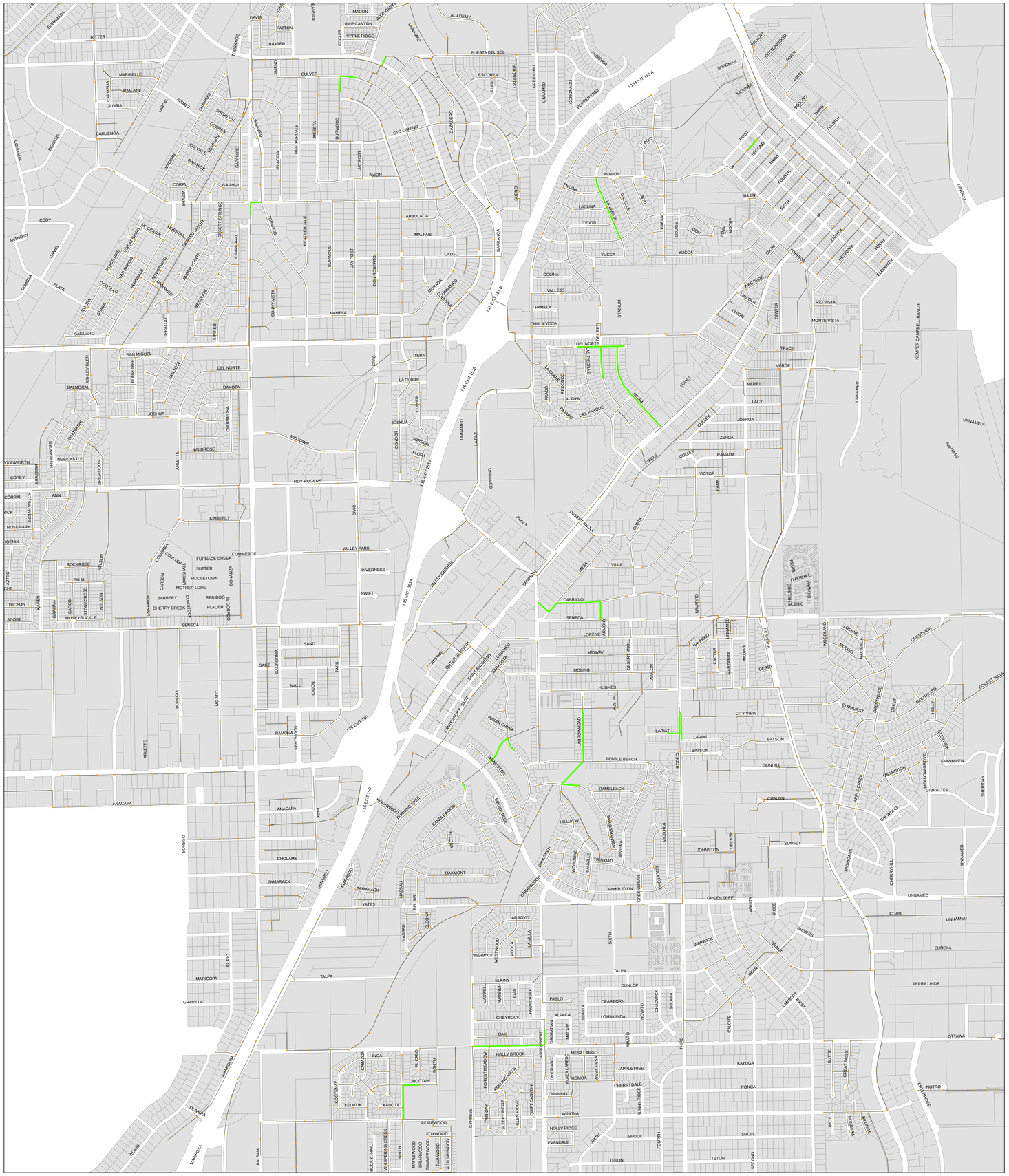
C3

Other City Sewer

City Parcel

DAVID EVANS AND ASSOCIATES INC.

City of Victorville
Sewer Master Plan 2016
Structural Improvement CIP

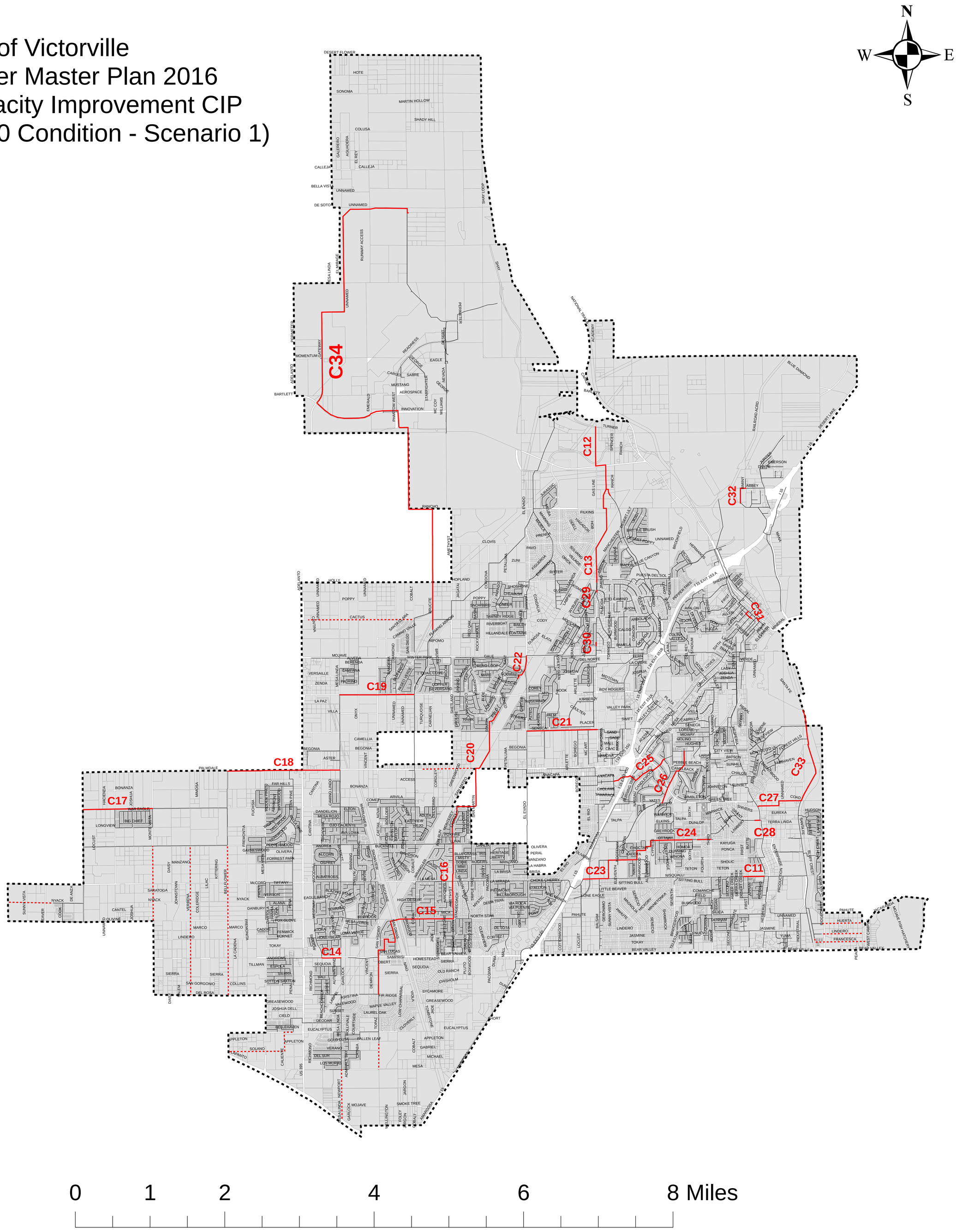


Legend

- City Manhole
- Structural Rehabilitation CIP_Optimized
- Other City Sewer
- City Parcel

DAVID EVANS AND ASSOCIATES INC.

City of Victorville
Sewer Master Plan 2016
Capacity Improvement CIP
(2040 Condition - Scenario 1)

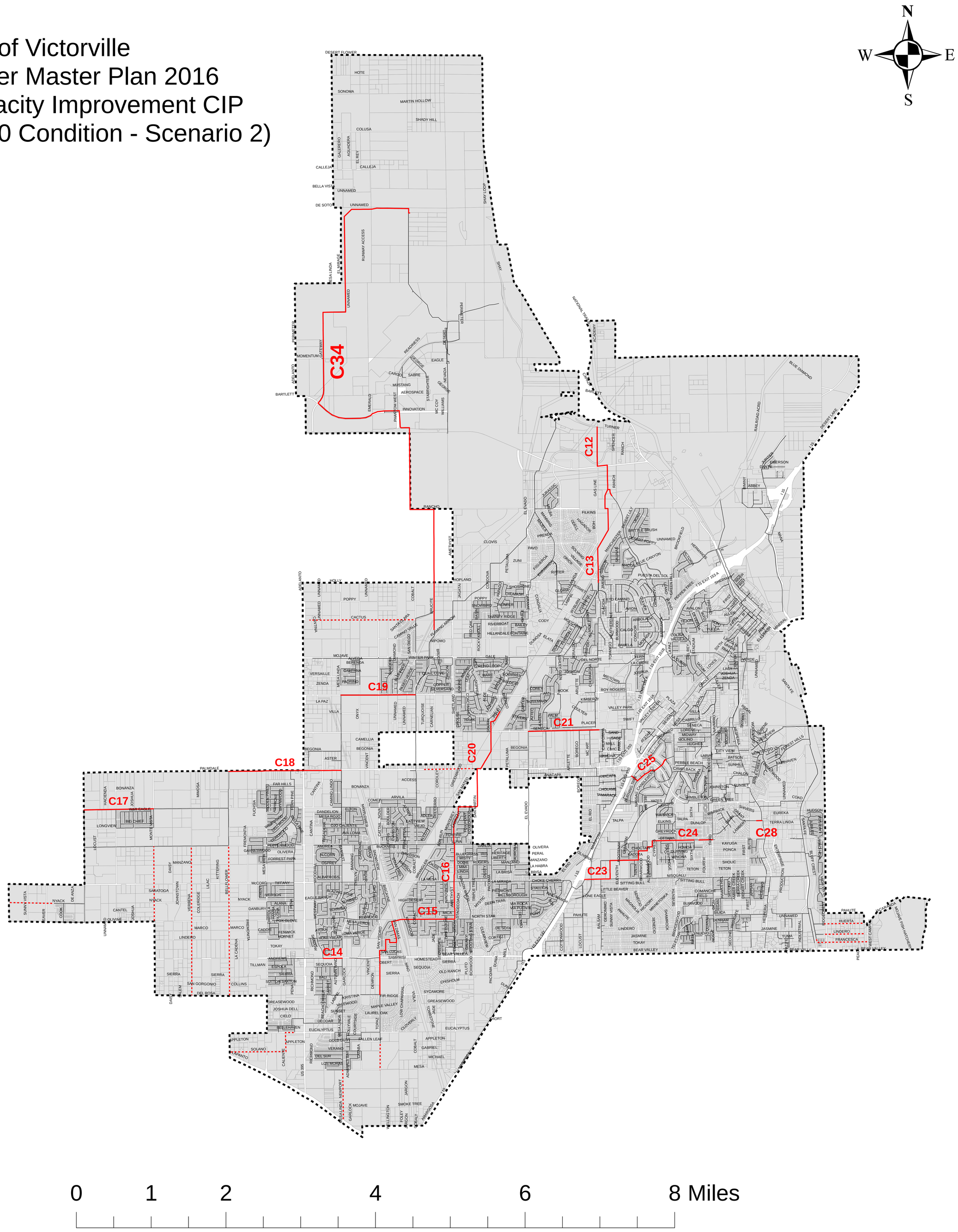


Legend

- Recommended Capacity Improvement CIP (2040)
- Projected Extension Sewer
- Other City Sewer
- VICTORVILLE_CITY_BOUNDARY
- City Parcel

DAVID EVANS AND ASSOCIATES INC.

City of Victorville
Sewer Master Plan 2016
Capacity Improvement CIP
(2040 Condition - Scenario 2)



Legend

- Recommended Capacity Improvement CIP (2040)
- Projected Extension Sewer
- Other City Sewer
- VICTORVILLE_CITY_BOUNDARY
- City Parcel

DAVID EVANS AND ASSOCIATES INC.