

SEWER STUDY

ALVARADO SPECIFIC PLAN

September 2020

La Mesa, CA

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SEWER STUDY

INTRODUCTION

This sewer study addresses the proposed development of the Alvarado Specific Plan project. The purpose of this study is to determine the impact on wastewater flow caused by the proposed 12.2 acres of multi-family residential development at the site of the existing RV Park on Alvarado Road. To study the impacts on wastewater flow, it was necessary to determine the existing capacity and sewer flow of the Alvarado Trunk Sewer Pipeline within the Alvarado Drainage Basin.

References used to complete this study include:

- *City of La Mesa Wastewater Collection System Master Plan (October 2008)*
- *City of San Diego Sewer Design Guide (May 2015)*

PROJECT DESCRIPTION

The Alvarado Specific Plan is proposed as a master plan for a multi-family “transit-oriented development” (TOD) on approximately 12 acres located along Alvarado Road generally between 70th Street on the west and Guava Avenue on the east within the City of La Mesa. The Specific Plan is being proposed by the property owner, RV Communities, which has operated an RV campground on the site since 1998. Prior to this change in use the site was operated as a mobile-home park from approximately the time I-8 was constructed in the 1950’s.

Surrounding uses include the MTS light-rail (LRT) 70th Street station immediately west of the site and the double track LRT Green Line south of the site. East of the site is a car dealership. On the north is Alvarado Road and the I-8 freeway. A significant feature of the site is Alvarado Creek which bisects the property as it intersects Alvarado Road on the easterly portion of the site. The creek continues within the property and the adjoining MTS property toward the westerly end of the site as it enters underground storm drainage facilities below Alvarado Road and the trolley line as it flows westerly through San Diego until reaching the San Diego River in Mission Valley.

The Specific Plan proposes to include four parcels, with four primary development sites. The plan is for construction to occur in two phases. Phase 1 is planned for the properties west of the intersection of Alvarado Creek and Alvarado Road with three development parcels for Buildings 1-3. Phase 2, the parcel east of the Alvarado Road/Alvarado Creek intersection, is planned for a later development schedule with a similar development concept in Building 4, and the San Diego RV Resort facilities remaining as an interim use. All sewer modifications will be constructed as part of Phase 1, in order to provide continuous service to the remaining RV Resort and surrounding areas. Each development parcel is proposed to include Type V residential wood frame construction of dwelling units in five stories on a 1-3 level concrete parking garage podium.

From a sewer drainage perspective, the project site is in the Alvarado Drainage Basin. Alvarado Drainage basin covers the northern half of the City with outfall on the western City limits. Alvarado Drainage Basin is adjacent to the San Carlos neighborhood of San Diego and the City of El Cajon. Both cities contribute wastewater flow to the Alvarado Trunk Sewer. Segments of the Alvarado Trunk Sewer near the proposed project site will be analyzed to determine the impact of the proposed development.

METHODOLOGY

The *City of La Mesa Wastewater Collection System Master Plan* is used as the backbone of determining the influence of the proposed development on the existing wastewater system.

EXISTING WASTEWATER FLOWS

For sewer service, existing onsite sewer lines connect to the existing 21" VCP sewer main in Alvarado Road, which is represented in the *Master Plan* as pipe segment PA0013.05 where it becomes adjacent to the project site. Four other existing sewer lines enter the project site from the south- pipe segments PAC008.00, PAC005.00, and PAC002.01, and the lateral from 7272 Saranac. These sewer lines currently connect to the existing sewer line running through the project site and within the bed of Alvarado Creek. The onsite portions of this system will be abandoned, and the flows entering from the south will be rerouted through the project site to connect to the main in Alvarado Road. Please see the Sewer Study Exhibit in Appendix A.

Existing wastewater peak design flow rates at the pipe sections connecting to the project were obtained from *City of La Mesa Wastewater Collection System Master Plan, Appendix E – Model Results* (See Appendix B for relevant excerpts). The Master Plan includes dry and wet weather flows for these lines, including peaking factors. These flows were taken as the existing conditions, and are summarized in the Dry Weather Conditions and Wet Weather Conditions tables in Appendix C.

PLANNED DEVELOPMENTS

Since the completion of the Master Plan, development has continued to occur within the Alvarado sewer basin. In order to account for cumulative impact of these developments (both constructed and still in the planning phases), flows generated by the developments were calculated and added to the existing flows. Existing offsite wastewater flow rates for recent/pending development projects were obtained from the *City of La Mesa Wastewater Collection System Master Plan, Appendix D – Model Loading* (See Appendix B) and used as a baseline for sewer generation from these properties. This baseline was compared to the sewer generation from the proposed projects, using recommended generation rates from *City of La Mesa Master Plan, Table 3-4*. Peaking factors were applied to the sewer generation based on the estimated population increases, in accordance with Figure 1-1 and Table 1-1 of the *City of San Diego Sewer Design Guide*. The Peaking factors from the *Sewer Design Guide* were used in lieu of the peaking factors found in the *Master Plan* because they are population-based rather than flow-based, which seemed more appropriate for some of the small projected population increases. For example, the 40 apartment units proposed at 8135 Colony Drive have a peaking factor of 3.24 based on the *Sewer Design Guide*. The peaking factor using the *Master Plan* would have been 3.0. Where the proposed developments resulted in an increase in sewer flows,

this was added to the existing flows entering the project site, as noted in the Dry Weather Conditions and Wet Weather Conditions tables in Appendix C.

PROJECT WASTEWATER FLOWS

The sewer flows from the Alvarado Specific Plan project were calculated and added to the existing plus planned developments flows entering the site. These flows are summarized in the Dry Weather Conditions and Wet Weather Conditions tables in Appendix C. The sewer generation rates used for the proposed project were based on the Master Plan for multi-family residential development, at 180 GPD/DU. Building 2 of the proposed project is planned as off-campus student housing, with a higher concentration of beds than a typical multi-family development. To account for increased flows from the student housing, Building 2 sewer flows were calculated based on the sewer generation rate for boarding schools from the *2018 Uniform Plumbing Code Page 338*, at 100 GPD/bed. This results in a higher proposed flow than an equivalent multi-family residential use, and is therefore a conservative estimate. Peaking factors for flows from the project sewer based on population equivalent and peaking factors from *City of San Diego Sewer Design Guide*. A conservative value of 3.5 population per dwelling unit was used for the multi-family portions of the project.

HYDRAULIC CALCULATIONS

To assess the available capacity of existing and proposed sewer system to handle the combined flows from onsite and offsite, hydraulic calculations were performed using the FlowMaster program. Output from these calculations can be found in Appendix D. The Manning's N values used were 0.015 for the existing VCP pipes, and 0.010 for PVC pipes. The normal depth (dn) was calculated for each sewer line within the project and its frontage, including the next segment downstream. The dn/D ratio was then calculated. Per the Master Plan, a dn/D ratio of less than 0.75 is required for pipes greater than 15", and less than 0.50 is required for pipes of 15" or less.

Results of the hydraulic calculations are presented in the Dry Weather Conditions and Wet Weather Conditions tables in Appendix C. The FlowMaster results are also included in Appendix D. As can be seen in these results, the dn/D requirements are met for all of the onsite sewer pipes, as well as the trunk line in Alvarado Road.

DOWNSTREAM WET WEATHER CAPACITY

Downstream of the project site, the Alvarado trunk sewer connects to the City of San Diego sewer system at a metering manhole to the west of 70th Street. According to discussions with City of La Mesa staff, flows at this metering manhole exhibit a large spike during wet weather conditions, and have resulted in overflows and near-overflows in the past. In order to ensure that the proposed project will not worsen this condition, potential causes for this wet weather spike were investigated.

Under existing conditions, approximately 1,035 lf of existing 15" and 8" VCP runs within Alvarado Creek in the project site, including 5 manholes. This pipe is old, and the trunk flows have been rerouted new mains in development. As part of the project, the existing sewer lines

within Alvarado Creek will be abandoned, and the flows entering from the south will be rerouted to new mains through the project site and ultimately to the 21" trunk line in Alvarado Road. Three manholes will be required in the Creek where the sewer lines from the south are intercepted. These manhole protection structures will be reconstructed with watertight, elevated lids to prevent the intrusion of stormwater into the manholes.

To assess the condition of the existing sewer lines in Alvarado Creek and the project site, CCTV video inspection of the sewer lines was performed. The inspection reports can be found in Appendix E. Significant evidence of infiltration into the sewer lines were found at multiple locations. Removing the sewer lines and manholes from within the Creek will remove a significant source of wet weather stormwater intrusion into the sewer system, which will help alleviate the wet weather flow spikes being experienced downstream. This is consistent with other City of La Mesa projects upstream which have removed sewer mains from the creek bed in order to reduce the possibility of sewer overflows and reduce infiltration into the sewer system.

CONCLUSION

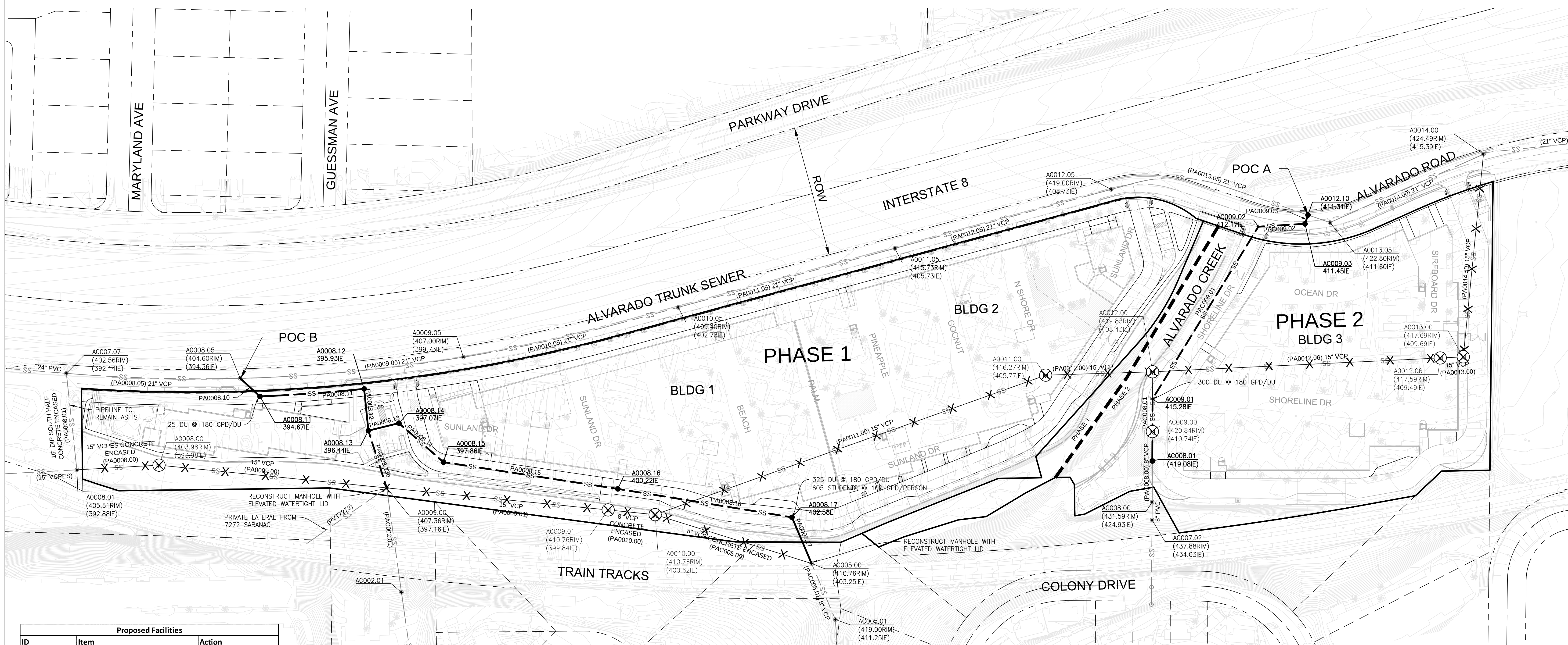
Based on the estimated project flows combined with both existing flows and other planned developments, the existing and proposed sewer systems will have capacity to serve the Alvarado Specific Plan project. Additionally, removal of the existing sewer lines and manholes from within Alvarado Creek will reduce infiltration and interception into the sewer system, mitigating wet weather peaking downstream.

APPENDICES

- Appendix A – Sewer Study Exhibit
- Appendix B – Excerpts from City of La Mesa Wastewater Collection System Master Plan
- Appendix C – Sewer Line Summary – Dry & Wet Weather Conditions
- Appendix D – Flow Master Flow Results – Dry & Wet Weather Conditions
- Appendix E – CCTV Inspection Reports

APPENDIX A
SEWER STUDY EXHIBIT

NOTE: ALL SEWER MODIFICATIONS
TO BE COMPLETED PRIOR TO
START OF PHASE 1



Proposed Facilities		
ID	Item	Action
PA0008.17	8" VCP	To be Constructed
A0008.17	Manhole	To be Constructed
PA0008.16	8" VCP	To be Constructed
A0008.16	Manhole	To be Constructed
PA0008.15	8" VCP	To be Constructed
A0008.15	Manhole	To be Constructed
PA0008.14	8" VCP	To be Constructed
A0008.14	Manhole	To be Constructed
PA0008.13	8" VCP	To be Constructed
A0008.13	Manhole	To be Constructed
PA0008.13B	8" VCP	To be Constructed
PA0008.12	8" VCP	To be Constructed
A0008.12	Manhole	To be Constructed
PA0008.11	8" VCP	To be Constructed
A0008.11	Manhole	To be Constructed
PA0008.10	8" VCP	To be Constructed
AC008.01	Manhole	To be Constructed
PAC08.01	8" VCP	To be Constructed
AC009.01	Manhole	To be Constructed
PAC009.01	8" VCP	To be Constructed
AC009.02	Manhole	To be Constructed
PAC009.02	8" VCP	To be Constructed
AC009.03	Manhole	To be Constructed
PAC009.03	8" VCP	To be Constructed
A0012.10	Manhole	To be Constructed

Existing Facilities		
ID	Item	Action
AC005.00	Manhole	To be Reconstructed
PAC005.00	8" VCP Concrete Encased	To be Abandoned
A0010.00	Manhole	To be Abandoned
PA0010.00	8" VCP Concrete Encased	To be Abandoned
A0009.01	Manhole	To be Abandoned
PA0009.01	15" VCP	To be Abandoned
A0009.00	Manhole	To be Reconstructed
PA0009.00	15" VCP	To be Abandoned
A0008.00	Manhole	To be Abandoned
PA0008.00	15" VCPES Concrete Encased	To be Abandoned
PA0011.00	15" VCP	To be Abandoned
A0011.00	Manhole	To be Abandoned
PA0012.00	15" VCP	To be Abandoned
A0012.00	Manhole	To be Abandoned
PA0012.06	15" VCP	To be Abandoned
A0012.06	Manhole	To be Abandoned
PA0013.00	15" VCP	To be Abandoned
A0013.00	Manhole	To be Abandoned
PA0014.50	15" VCP	To be Abandoned
PAC008.00	119.32' North Portion of 8" PVC	Partially Removed
AC009.00	Manhole	To be Abandoned
PA0008.01	16" DIP Concrete Encased	To Remain in place

SEWER STUDY EXHIBIT

ALVARADO SPECIFIC PLAN

AUGUST 2020

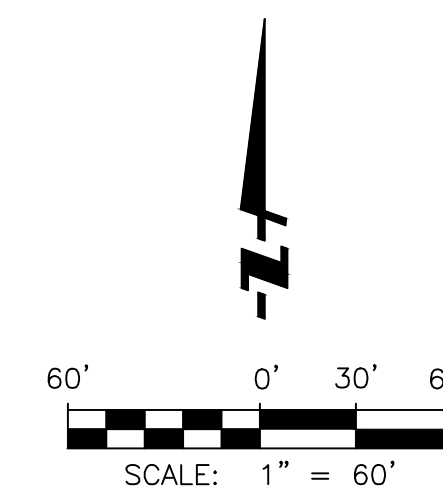
LEGEND

- 
 EXISTING SEWER LINE TO BE ABANDONED

 PROPOSED SEWER LINE

 EXISTING SEWER LINE TO REMAIN

 EXISTING MANHOLE TO BE ABANDONED



APPENDIX B

**EXCERPTS FROM CITY OF LA MESA WASTEWATER
COLLECTION SYSTEM MASTER PLAN**

TABLE E-SS-3
STEADY STATE CALCULATIONS
BUILDOUT DRY WEATHER CONDITION

9/19/2007

Line No.	From MH	To MH	Tributary Avg. Flow (gpd)	Cumulative Avg. Flow (cfs)	Peak/Ave Ratio	Peak Design Flow (gpd)	Line Size (inches)	Design Slope (%)	dn (feet)	dn/D	Velocity (fps)	Notes	Model	Comments
PAD028.00	AD020.00	AD032.00	0	0.000	3.954	0.006	2.93	11.585	0.018	8	15.908	0.03	0	Steady-State
PAD032.00	AD032.00	AD024.01	0	0.000	8.123	0.013	2.69	21.851	0.034	8	0.389	0.10	0	Steady-State
PAD024.01	AD024.01	AD024.00	19,818	0.031	27.941	0.043	2.31	64.544	0.100	8	3.621	0.09	0	Steady-State
PAD027.01	AD027.01	AD027.00	4,048	0.006	4.048	0.006	2.92	11.820	0.018	8	-657.552	N/A	MUSIE	Steady-State
PAD027.00	AD027.00	AD025.00	2,520	0.004	6.568	0.010	2.76	18.126	0.028	8	4.149	0.05	0	Steady-State
PAD025.00	AD025.00	AD024.00	0	0.000	6.568	0.010	2.76	18.126	0.028	8	3.001	0.05	0	Steady-State
PAD024.00	AD024.00	AD023.00	270	0.000	34.779	0.054	2.25	78.255	0.121	8	2.460	0.11	0	Steady-State
PAD023.90	AD023.90	AD023.50	4,144	0.006	4.144	0.006	2.91	12.059	0.019	6	0.000	0.06	0	MUSIE
PAD023.50	AD023.50	AD023.00	0	0.000	4.144	0.006	2.91	12.059	0.019	6	-1342.910	N/A	MUSIE	Steady-State
PAD023.00	AD023.00	AD022.00	2,970	0.005	41.893	0.065	2.20	92.165	0.143	8	1.623	0.14	0	Steady-State
PAD022.00	AD022.00	AD021.00	7,560	0.012	49.453	0.077	2.16	106.818	0.165	8	3.605	0.12	0	XP-SWMM
PAD021.00	AD021.00	AD007.00	6,302	0.010	55.755	0.086	2.13	118.758	0.184	8	7.630	0.11	0	XP-SWMM
PAD007.00	AD007.00	AD006.00	270	0.000	56.025	0.087	2.13	119.333	0.185	8	14.736	0.09	0	XP-SWMM
PAD006.01	AD006.01	AD006.00	1,936	0.003	1,936	0.003	3.00	5.808	0.009	6	-427.188	N/A	MUSIE	Steady-State
PAD006.00	AD006.00	AD004.00	3,579	0.006	61.540	0.095	2.10	129.234	0.200	8	14.675	0.09	0	XP-SWMM
PAD005.01	AD005.01	AD005.00	3,091	0.005	3,091	0.005	3.00	9.273	0.014	8	10.896	0.03	0	Steady-State
PAD005.00	AD005.00	AD004.00	833	0.001	3,924	0.006	2.93	11.497	0.018	8	0.134	0.09	0	Steady-State
PAD004.00	AD004.00	AD003.00	833	0.001	66.297	0.103	2.08	137.698	0.213	8	4.355	0.13	0	XP-SWMM
PAD003.00	AD003.00	AD002.00	1,171	0.002	67.468	0.104	2.08	140.333	0.217	8	0.500	0.23	0	IOSIES
PAD002.00	AD002.00	AD001.00	0	0.000	67.468	0.104	2.08	140.333	0.217	8	0.715	0.21	0	IOSIES
PAD001.00	AD001.00	AD001.06	0	0.000	129.477	0.200	1.92	248.596	0.385	8	0.751	0.28	0	XP-SWMM
PAD001.06	AD001.06	AD001.05	0	0.000	129.477	0.200	1.92	248.596	0.385	8	0.763	0.28	0	XP-SWMM
PAD001.05	AD001.05	AD001.01	1,170	0.002	130.647	0.202	1.92	250.842	0.388	8	4.351	0.18	0	XP-SWMM
PAD001.01	AD001.01	AD001.00	0	0.000	130.647	0.202	1.92	250.842	0.388	30	0.237	0.24	0	XP-SWMM
PAD001.00	AD001.00	AD001.05	4,013	0.006	3,601.877	5.573	1.50	5,402.816	8.359	30	0.308	0.05	0	XP-SWMM
PAD015.00	AD015.00	AD014.00	1,883	0.003	3,603.760	5.576	1.50	5,405.640	8.364	21	0.941	0.92	0	XP-SWMM
PAD014.00	AD014.00	AD013.05	0	0.000	2,386.274	3.692	1.50	3,579.410	5.538	21	1.656	0.62	0	DIV
PAD013.05	AD013.05	AD012.05	0	0.000	2,386.274	3.692	1.50	3,579.410	5.538	21	0.971	0.72	0	XP-SWMM
PAD012.05	AD012.05	AD011.05	0	0.000	2,386.274	3.692	1.50	3,579.410	5.538	21	1.023	0.71	0	XP-SWMM
PAD011.05	AD011.05	AD010.05	0	0.000	2,386.274	3.692	1.50	3,579.410	5.538	21	1.053	0.70	0	XP-SWMM
PAD010.05	AD010.05	AD009.05	0	0.000	2,386.274	3.692	1.50	3,579.410	5.538	21	1.047	0.71	0	XP-SWMM
PAD009.05	AD009.05	AD008.05	0	0.000	2,386.274	3.692	1.50	3,579.410	5.538	21	1.796	0.61	0	XP-SWMM
PAD008.05	AD008.05	AD007.07	0	0.000	2,386.274	3.692	1.50	3,579.410	5.538	21	0.826	0.75	0	XP-SWMM
PAD014.50	AD014.50	AD013.00	0	0.000	1,217.486	1.884	1.50	1,826.230	2.826	15	2.104	0.47	0	DIV
PAD013.00	AD013.00	AD012.06	0	0.000	1,217.486	1.884	1.50	1,826.230	2.826	15	1.007	0.58	0	XP-SWMM
PAD012.06	AD012.06	AD011.00	0	0.000	1,217.486	1.884	1.50	1,826.230	2.826	15	0.274	0.87	0	XP-SWMM
PAC010.90	AC010.90	AC010.00	540	0.001	540	0.001	3.00	1.620	0.003	8	-1221.916	N/A	MUSIE	Steady-State
PAC010.00	AC010.00	AC006.00	0	0.000	540	0.001	3.00	1.620	0.003	8	21.119	0.01	0	Steady-State
PAC006.00	AC006.00	AC007.00	0	0.000	540	0.001	3.00	1.620	0.003	8	0.830	0.03	0	Steady-State
PAC007.00	AC007.00	AC007.01	0	0.000	540	0.001	3.00	1.620	0.003	8	121.640	0.01	0	Steady-State
PAC007.01	AC007.01	AC007.02	3,332	0.005	3,872	0.006	2.94	11.384	0.018	8	0.000	0.05	0	Steady-State
PAC007.02	AC007.02	AC008.00	0	0.000	3,872	0.006	2.94	11.384	0.018	8	45.500	0.02	0	Steady-State
PAC008.00	AC008.00	AC009.00	0	0.000	3,872	0.006	2.94	11.384	0.018	8	15.319	0.04	0	Steady-State
PAC009.00	AC009.00	AC012.00	0	0.000	3,872	0.006	2.94	11.384	0.018	8	2.822	0.04	0	Steady-State
PAC012.00	AC012.00	AC011.00	0	0.000	1,221.358	1.890	1.50	1,832.038	2.835	15	1.964	0.48	0	XP-SWMM
PAC011.00	AC011.00	AC010.00	167,513	0.259	1,388.871	2.149	1.50	2,083.307	3.223	15	0.925	0.64	0	XP-SWMM
PAC010.00	AC010.00	AC004.00	8,350	0.013	8,350	0.013	2.68	22.378	0.035	8	8.253	0.05	0	Steady-State
PAC004.90	AC004.90	AC004.00	0	0.000	0	0.000	0.00	0	0.000	8	-2286.346	N/A	MUSIE	Steady-State
PAC004.00	AC004.00	AC015.00	1,080	0.002	9,430	0.015	2.64	24.895	0.039	8	9.444	0.05	0	Steady-State
PAC015.90	AC015.90	AC015.02	1,620	0.003	1,620	0.003	3.00	4.860	0.008	8	-358.538	N/A	MUSIE	Steady-State
PAC015.02	AC015.02	AC015.01	270	0.001	1,890	0.003	3.00	5.670	0.009	8	2.158	0.03	0	Steady-State
PAC015.01	AC015.01	AC015.00	0	0.000	1,890	0.003	3.00	5.670	0.009	8	34.278	0.02	0	Steady-State
PAC017.00	AC017.00	AC013.00	810	0.001	810	0.001	3.00	2.430	0.004	8	1.157	0.03	0	Steady-State
PAC013.90	AC013.90	AC013.00	810	0.001	810	0.001	3.00	2.430	0.004	8	-629.548	N/A	MUSIE	Steady-State
PAC013.00	AC013.00	AC014.00	270	0.000	1,890	0.003	3.00	5.670	0.009	8	29.910	0.02	0	Steady-State
PAC014.90	AC014.90	AC014.00	540	0.001	540	0.001	3.00	1.620	0.003	8	-286.496	N/A	MUSIE	Steady-State
PAC014.00	AC014.00	AC015.00	0	0.000	2,430	0.004	3.00	7.290	0.011	8	6.572	0.03	0	Steady-State
PAC015.00	AC015.00	AC005.01	4,410	0.007	18,160	0.028	2.44	44,310	0.069	8	7.258	0.07	0	Steady-State
PAC005.01	AC005.01	AC005.00	833	0.001	18,963	0.029	2.42	45,963	0.029	8	12.192	0.06	0	Steady-State
PAC005.00	AC005.00	AC010.00	833	0.001	19,826	0.031	2.41	47,781	0.074	8	1.192	0.11	0	Steady-State
PAC010.00	AC010.00	AC009.01	0	0.000	1,408.697	2.180	1.50	2,113.046	3.269	8	1.659	0.95	0	XP-SWMM
PAC009.01	AC009.01	AC009.00	833	0.001	1,409.530	2.181	1.50	2,114.296	3.271	15	0.877	0.65	0	XP-SWMM
PAC001.90	AC001.90	AC001.00	6,000	0.009	6,000	0.009	2.79	16.740	0.026	8	-673.894	N/A	MUSIE	Steady-State
PAC001.00	AC001.00	AC002.00	14,063	0.022	20,063	0.031	2.41	48.352	0.075	8	8.165	0.07	0	Steady-State
PAC003.90	AC003.90	AC003.00	540	0.001	540	0.001	3.00	1.620	0.003	8	2.109	0.02	0	Steady-State
PAC003.00	AC003.00	AC002.00	0	0.000	540	0.001	3.00	1.620	0.003	8	20.949	0.01	0	Steady-State
PAC002.00	AC002.00	AC002.01	360	0.001	20,963	0.032	2.39	50.102	0.078	8	13.295	0.06	0	IOSIES
PAC002.01	AC002.01	AC003.00	833	0.001	21,796	0.034	2.38	52,196	0.084	8	13.298	0.06	0	IOSIES
PAC003.00	AC003.00	AC008.00	0	0.000	1,431.326	2.215	1.50	2,146.990	3.322	15	1.016	0.83	0	XP-SWMM
PAC008.00	AC008.00	AC008.01	0	0.000	1,431.326	2.215	1.50	2,146.990	3.322	15	1.004	0.83	0	XP-SWMM
PAC008.01	AC008.01	AC007.07	833	0.001	1,432.159	2.216	1.50	2,148.239	3.324	16	0.641	0.70	0	XP-SWMM
PAC007.07	AC007.07	AC007.05	0	0.000	3,818.433	5.908	1.50	5,727.650	8.862	24	3.012	0.65	0	XP-SWMM
PAC007.05	AC007.05	AC006.05	0	0.000	3,818.433	5.908	1.50	5,727.650	8.862	24	1.871	0.73	0	XP-SWMM
PAC006.05	AC006.05	AC006.06	0	0.000	3,818.433	5.908	1.50	5,727.650	8.862	24	1.552	0.77	0	XP-SWMM
PAC006.06	AC006.06	AC006.07	0	0.000	3,818.433	5.908	1.50	5,727.650	8.862	30	0.812	0.83	0	XP-SWMM
PAB181.01	AB181.01	AB181.00	1,350	0.002	1,350	0.002	3.00	4.860	0.008	8	-385.272	N/A	MUSIE	Steady-State
PAB181.00	AB181.00	AB180.00	810	0.001	2,160	0.003	3.00	6.480	0.010	8	0.457	0.05	0	Steady-State
PAB180.00	AB180.00	AB179.00	810	0.001	2,970	0.005	3.00	8.910	0.014	8	0.375	0.06	0	Steady-State
PAB183.01	AB183.01	AB183.00	1,080	0.002	1,080	0.002	3.00	3.240	0.005	8	-312.071	N/A	MUSIE	Steady-State
PAB183.00	AB183.00	AB182.00	2,430	0.004	3,510	0.005	2.97	10,425	0.016	8	0.334	0.07	0	Steady-State
PAB182.00	AB182.00	AB179.00	1											

TABLE E-SS-4
STEADY STATE CALCULATIONS
BUILDOUT WET WEATHER CONDITION (15%)

9/19/2007

Line No.	From MH	To MH	Tributary Avg. Flow (gpd)	Cumulative Avg. Flow (cfs)	Peak/Ave Ratio	Peak Design Flow (gpd)	Line Size (inches)	Design Slope (%)	dn (feet)	dn/D	Velocity (fps)	Notes	Model	Comments	
PAD028.00	AD028.00	AD032.00	0	0.000	3.954	0.006	2.93	12.178	0.019	8	15.908	0.03	0	Steady-State	
PAD032.00	AD032.00	AD024.01	0	0.000	8.123	0.013	2.69	23.069	0.036	8	0.389	0.10	0	Steady-State	
PAD024.01	AD024.01	AD024.00	19,818	0.031	27.941	0.043	2.31	68.735	0.106	8	3.621	0.10	0	Steady-State	
PAD027.01	AD027.01	AD027.00	4,048	0.006	4.048	0.006	2.92	12.427	0.019	8	-657.552	N/A	MUSIE	Steady-State	
PAD027.00	AD027.00	AD025.00	2,520	0.004	6.568	0.010	2.76	19.113	0.030	8	4.149	0.05	0	Steady-State	
PAD025.00	AD025.00	AD024.00	0	0.000	6.568	0.010	2.76	19.113	0.030	8	3.001	0.06	0	Steady-State	
PAD024.00	AD024.00	AD023.00	270	0.000	34.779	0.054	2.25	83.470	0.129	8	2.460	0.12	0	Steady-State	
PAD023.90	AD023.90	AD023.50	4,144	0.006	4.144	0.006	2.91	12.681	0.020	6	0.000	0.06	0	MUSIE	Steady-State
PAD023.50	AD023.50	AD023.00	0	0.000	4.144	0.006	2.91	12.681	0.020	6	-1342.910	N/A	MUSIE	Steady-State	
PAD023.00	AD023.00	AD022.00	2,970	0.005	41.893	0.065	2.20	98.449	0.152	8	1.623	0.14	0	Steady-State	
PAD022.00	AD022.00	AD021.00	7,560	0.012	49.453	0.077	2.16	114.236	0.177	8	3.605	0.13	0	XP-SWMM	
PAD021.00	AD021.00	AD007.00	6,302	0.010	55.755	0.086	2.13	127.121	0.197	8	7.630	0.11	0	XP-SWMM	
PAD007.00	AD007.00	AD006.00	270	0.000	56.025	0.087	2.13	127.737	0.198	8	14.736	0.09	0	XP-SWMM	
PAD006.01	AD006.01	AD006.00	1,936	0.003	1,936	0.003	3.00	6.098	0.009	6	-427.188	N/A	MUSIE	Steady-State	
PAD006.00	AD006.00	AD004.00	3,579	0.006	61.540	0.095	2.10	138.465	0.214	8	14.675	0.10	0	XP-SWMM	
PAD005.01	AD005.01	AD005.00	3,091	0.005	3,091	0.005	3.00	9.737	0.015	8	10.896	0.03	0	Steady-State	
PAD005.00	AD005.00	AD004.00	833	0.001	3,924	0.006	2.93	12.086	0.019	8	0.134	0.09	0	Steady-State	
PAD004.00	AD004.00	AD003.00	833	0.001	66.297	0.103	2.08	147.842	0.225	8	4.355	0.14	0	XP-SWMM	
PAD003.00	AD003.00	AD002.00	1,171	0.002	67.468	0.104	2.08	150.454	0.233	8	0.500	0.24	0	IOSIES	Steady-State
PAD002.00	AD002.00	AD001.00	0	0.000	67.468	0.104	2.08	150.454	0.233	8	0.715	0.22	0	XP-SWMM	
PAD001.00	AD001.00	AD001.06	0	0.000	129.477	0.200	1.92	268.017	0.415	8	0.751	0.29	0	XP-SWMM	
PAD001.06	AD001.06	AD001.05	0	0.000	129.477	0.200	1.92	268.017	0.415	8	0.763	0.29	0	XP-SWMM	
PAD001.05	AD001.05	AD016.01	1,170	0.002	130.647	0.202	1.92	270.439	0.418	8	4.351	0.18	0	XP-SWMM	
PAD016.50	AD016.50	AD016.00	0	0.000	130.647	0.202	1.92	270.439	0.418	30	0.237	0.25	0	XP-SWMM	
PAD016.00	AD016.00	AD015.00	4,013	0.006	3,601.877	5.573	1.50	5,943.097	9.195	30	0.308	1.11	0	XP-SWMM	
PAD015.00	AD015.00	AD014.00	1,883	0.003	3,603.760	5.576	1.50	5,946.204	9.200	21	0.941	0.98	0	XP-SWMM	> 50% Full
PAD014.00	AD014.00	AD013.05	0	0.000	2,386.274	3.692	1.50	3,937.351	6.092	21	1.656	0.66	0	DIV	Steady-State
PAD013.05	AD013.05	AD012.05	0	0.000	2,386.274	3.692	1.50	3,937.351	6.092	21	0.971	0.76	0	XP-SWMM	
PAD012.05	AD012.05	AD011.05	0	0.000	2,386.274	3.692	1.50	3,937.351	6.092	21	1.023	0.75	0	XP-SWMM	
PAD011.05	AD011.05	AD010.05	0	0.000	2,386.274	3.692	1.50	3,937.351	6.092	21	1.053	0.74	0	XP-SWMM	
PAD010.05	AD010.05	AD009.05	0	0.000	2,386.274	3.692	1.50	3,937.351	6.092	21	1.047	0.74	0	XP-SWMM	
PAD009.05	AD009.05	AD008.05	0	0.000	2,386.274	3.692	1.50	3,937.351	6.092	21	1.796	0.64	0	XP-SWMM	
PAD008.05	AD008.05	AD007.07	0	0.000	2,386.274	3.692	1.50	3,937.351	6.092	21	0.826	0.79	0	XP-SWMM	
PAD014.50	AD014.50	AD013.00	0	0.000	1,217.486	1.884	1.50	2,008.853	3.108	15	2.104	0.50	0	DIV	Steady-State
PAD013.00	AD013.00	AD012.00	0	0.000	1,217.486	1.884	1.50	2,008.853	3.108	15	1.007	0.61	0	XP-SWMM	
PAD012.06	AD012.06	AD011.00	0	0.000	1,217.486	1.884	1.50	2,008.853	3.108	15	0.274	0.94	0	XP-SWMM	> 75% Full
PAC010.90	AC010.90	AC010.00	540	0.001	540	0.001	3.00	1,701	0.003	8	-1221.916	N/A	MUSIE	Steady-State	
PAC010.00	AC010.00	AC006.00	0	0.000	540	0.001	3.00	1,701	0.003	8	21.119	0.01	0	Steady-State	
PAC006.00	AC006.00	AC007.00	0	0.000	540	0.001	3.00	1,701	0.003	8	0.830	0.03	0	Steady-State	
PAC007.00	AC007.00	AC007.01	0	0.000	540	0.001	3.00	1,701	0.003	8	121.640	0.01	0	Steady-State	
PAC007.01	AC007.01	AC007.02	3,332	0.005	3,872	0.006	2.94	11,964	0.019	8	0.000	0.06	0	Steady-State	
PAC007.02	AC007.02	AC008.00	0	0.000	3,872	0.006	2.94	11,964	0.019	8	45.500	0.02	0	Steady-State	
PAC008.00	AC008.00	AC009.00	0	0.000	3,872	0.006	2.94	11,964	0.019	8	-15,319	0.06	0	Steady-State	
PAC009.00	AC009.00	AC012.00	0	0.000	3,872	0.006	2.94	11,964	0.019	8	2.822	0.04	0	Steady-State	
PAC012.00	AC012.00	AC011.00	0	0.000	1,221.358	1.890	1.50	2,015.242	3.118	15	1.964	0.51	0	XP-SWMM	
PAC011.00	AC011.00	AC010.00	167,513	0.259	1,388.871	2.149	1.50	2,291.638	3.546	15	0.925	0.68	0	XP-SWMM	> 50% Full
PAC010.00	AC010.00	AC004.00	8,350	0.013	8,350	0.013	2.68	23.631	0.037	8	8.253	0.05	0	Steady-State	
PAC004.90	AC004.90	AC004.00	0	0.000	0	0.000	0.00	0	0.000	8	-2286.346	N/A	MUSIE	Steady-State	
PAC004.00	AC004.00	AC015.00	1,080	0.002	9,430	0.015	2.64	26.310	0.041	8	9.444	0.05	0	Steady-State	
PAC015.90	AC015.90	AC015.02	1,620	0.003	1,620	0.003	3.00	5,103	0.008	8	-358.538	N/A	MUSIE	Steady-State	
PAC015.02	AC015.02	AC015.01	270	0.001	1,890	0.003	3.00	5,954	0.009	8	2.158	0.03	0	Steady-State	
PAC015.01	AC015.01	AC015.00	0	0.000	1,890	0.003	3.00	5,954	0.009	8	34.278	0.02	0	Steady-State	
PAC017.00	AC017.00	AC013.00	810	0.001	810	0.001	3.00	2,552	0.004	8	1.157	0.03	0	Steady-State	
PAC013.90	AC013.90	AC013.00	810	0.001	810	0.001	3.00	2,552	0.004	8	-629.548	N/A	MUSIE	Steady-State	
PAC013.00	AC013.00	AC014.00	270	0.000	1,890	0.003	3.00	5,954	0.009	8	29.910	0.02	0	Steady-State	
PAC014.90	AC014.90	AC014.00	540	0.001	540	0.001	3.00	1,701	0.003	8	-286.496	N/A	MUSIE	Steady-State	
PAC014.00	AC014.00	AC015.00	0	0.000	2,430	0.004	3.00	7,655	0.012	8	6.572	0.03	0	Steady-State	
PAC015.00	AC015.00	AC005.01	4,410	0.007	18,160	0.028	2.44	47,034	0.073	8	7.258	0.07	0	Steady-State	
PAC005.01	AC005.01	AC005.00	833	0.001	18,963	0.029	2.42	47,036	0.076	8	-12.192	0.06	0	Steady-State	
PAC005.00	AC005.00	AC010.00	833	0.001	19,826	0.031	2.41	50,755	0.079	8	1.192	0.11	0	Steady-State	
PAC010.00	AC010.00	AC009.01	0	0.000	1,408.697	2.180	1.50	2,324.351	3.596	8	1.659	0.95	0	XP-SWMM	> 75% Full
PAC009.01	AC009.01	AC009.00	833	0.001	1,409.530	2.181	1.50	2,325.725	3.598	15	0.887	0.69	0	XP-SWMM	> 50% Full
PAC001.90	AC001.90	AC001.00	6,000	0.009	6,000	0.009	2.79	17,640	0.027	8	-673.894	N/A	MUSIE	Steady-State	
PAC001.00	AC001.00	AC002.00	14,063	0.022	20,063	0.031	2.41	51,361	0.079	8	8.165	0.07	0	Steady-State	
PAC003.90	AC003.90	AC003.00	540	0.001	540	0.001	3.00	1,701	0.003	8	2.109	0.02	0	Steady-State	
PAC003.00	AC003.00	AC002.00	0	0.000	540	0.001	3.00	1,701	0.003	8	20.949	0.01	0	Steady-State	
PAC002.00	AC002.00	AC002.01	360	0.001	20,963	0.032	2.39	53,246	0.082	8	13.295	0.06	0	Steady-State	
PAC002.01	AC002.01	AC003.00	833	0.001	21,796	0.034	2.38	55,331	0.086	8	-13,298	0.06	0	Steady-State	
PAC003.00	AC003.00	AC008.00	0	0.000	1,431.326	2.215	1.50	2,361.689	3.654	15	1.016	0.67	0	XP-SWMM	> 50% Full
PAC008.00	AC008.00	AC008.01	0	0.000	1,431.326	2.215	1.50	2,361.689	3.654	15	1.004	0.67	0	XP-SWMM	> 50% Full
PAC008.01	AC008.01	AC007.07	833	0.001	1,432.159	2.216	1.50	2,363.063	3.656	16	0.641	0.74	0	XP-SWMM	> 50% Full
PAC007.07	AC007.07	AC007.05	0	0.000	3,818.433	5.908	1.50	6,300.414	9.748	24	3.012	0.68	0	XP-SWMM	
PAC007.05	AC007.05	AC006.05	0	0.000	3,818.433	5.908	1.50	6,300.414	9.748	24	1.871	0.77	0	XP-SWMM	
PAC006.05	AC006.05	AC006.06	0	0.000	3,818.433	5.908	1.50	6,300.414	9.748	24	1.552	0.81	0	XP-SWMM	
PAC006.06	AC006.06	AC006.07	0	0.000	3,818.433	5.908	1.50	6,300.414	9.748	30	0.812	0.88	0	XP-SWMM	
PAB181.01	AB181.01	AB181.00	1,350	0.002	1,350	0.002	3.00	4,253	0.007	8	-385.272	N/A	MUSIE	Steady-State	
PAB181.00	AB181.00	AB180.00	810	0.001	2,160	0.003	3.00	6,804	0.011	8	0.457	0.05	0	Steady-State	
PAB180.00	AB180.00	AB179.00	810	0.001	2,970	0.005	3.00	9							

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
A0004.00		839.00	4690113147	7000 SARANAC ST	180.00	A0009.01		0.00
4681130200	6950 ALVARADO RD	839.00	4690113148	7000 SARANAC ST	180.00	4691000300	5075 KEENEY ST	0.00
			4690113149	7000 SARANAC ST	180.00			
A0004.01		476.00	4690113150	7000 SARANAC ST	180.00	A0011.00		180.00
4681130100		476.00	4690113151	7000 SARANAC ST	180.00	4690210100	7407 ALVARADO RD	180.00
			4690113152	7000 SARANAC ST	180.00			
A0005.01		596.00	4690113153	7000 SARANAC ST	180.00	A0015.00		1050.00
4690112900	7051 ALVARADO RD	204.00	4690113154	7000 SARANAC ST	180.00	4690211000		1050.00
4690113200	5151 70TH ST	392.00	4690113155	7000 SARANAC ST	180.00			
4690113300	70TH ST	0.00	4690113156	7000 SARANAC ST	180.00	A0016.00		2347.00
			4690113157	7000 SARANAC ST	180.00	4690211100	ALVARADO RD	1832.00
A0005.02		18249.00	4690113158	7000 SARANAC ST	180.00	4690211200	7621 ALVARADO RD	515.00
4690111500	7080 SARANAC ST	3600.00	4690113159	7000 SARANAC ST	180.00			
4690113000	ALVARADO RD	249.00	4690113160	7000 SARANAC ST	180.00	A0021.10		1064.00
4690113101	7000 SARANAC ST	180.00	4690113161	7000 SARANAC ST	180.00	4645303500	8000 PARKWAY DR	1064.00
4690113102	7000 SARANAC ST	180.00	4690113162	7000 SARANAC ST	180.00			
4690113103	7000 SARANAC ST	180.00	4690113163	7000 SARANAC ST	180.00	A0021.90		324.00
4690113104	7000 SARANAC ST	180.00	4690113164	7000 SARANAC ST	180.00	4646002000	8045 FLETCHER PKY	324.00
4690113105	7000 SARANAC ST	180.00	4690113165	7000 SARANAC ST	180.00	4700501600	BALTIMORE DR	0.00
4690113106	7000 SARANAC ST	180.00	4690113166	7000 SARANAC ST	180.00			
4690113107	7000 SARANAC ST	180.00	4690113167	7000 SARANAC ST	180.00	A0022.00		1629.00
4690113108	7000 SARANAC ST	180.00	4690113168	7000 SARANAC ST	180.00	4646001500	8165 FLETCHER PKY	1629.00
4690113109	7000 SARANAC ST	180.00	4690113169	7000 SARANAC ST	180.00			
4690113110	7000 SARANAC ST	180.00	4690113170	7000 SARANAC ST	180.00	A0023.00		1617.00
4690113111	7000 SARANAC ST	180.00	4690113171	7000 SARANAC ST	180.00	4646002100	8185 FLETCHER PKY	555.00
4690113112	7000 SARANAC ST	180.00	4690113172	7000 SARANAC ST	180.00	4906313100	8332 CASE ST	1062.00
4690113113	7000 SARANAC ST	180.00	4690113173	7000 SARANAC ST	180.00			
4690113114	7000 SARANAC ST	180.00	4690113174	7000 SARANAC ST	180.00	A0025.00		742.00
4690113115	7000 SARANAC ST	180.00	4690113175	7000 SARANAC ST	180.00	4646002400	8191 FLETCHER PKY	742.00
4690113116	7000 SARANAC ST	180.00	4690113176	7000 SARANAC ST	180.00			
4690113117	7000 SARANAC ST	180.00	4690113177	7000 SARANAC ST	180.00	A0027.00		651.00
4690113118	7000 SARANAC ST	180.00	4690113178	7000 SARANAC ST	180.00	4646002300	8285 FLETCHER PKY	651.00
4690113119	7000 SARANAC ST	180.00	4690113179	7000 SARANAC ST	180.00			
4690113120	7000 SARANAC ST	180.00	4690113180	7000 SARANAC ST	180.00	A0031.00		845.00
4690113121	7000 SARANAC ST	180.00				4902004300	8401 FLETCHER PKY	845.00
4690113122	7000 SARANAC ST	180.00	A0006.00		516.00			
4690113123	7000 SARANAC ST	180.00	4690203700	7191 ALVARADO RD	489.00	A0032.00		1030.00
4690113124	7000 SARANAC ST	180.00	4690203800	ALVARADO RD	27.00	4902004400	8481 FLETCHER PKY	1030.00
4690113125	7000 SARANAC ST	180.00						
4690113126	7000 SARANAC ST	180.00	A0006.02		157.00	A0032.01		389.00
4690113127	7000 SARANAC ST	180.00	4690203100	7195 ALVARADO RD	157.00	4902004500	8501 FLETCHER PKY	389.00
4690113128	7000 SARANAC ST	180.00						
4690113129	7000 SARANAC ST	180.00	A0006.03		22753.00	A0034.00		631.00
4690113130	7000 SARANAC ST	180.00	4690110600	7100 SARANAC ST	720.00	4902004600	8505 FLETCHER PKY	631.00
4690113131	7000 SARANAC ST	180.00	4690112600	7138 SARANAC ST	8640.00			
4690113132	7000 SARANAC ST	180.00	4690200500	7170 SARANAC ST	270.00	A0036.00		2065.00
4690113133	7000 SARANAC ST	180.00	4690200600	7174 SARANAC ST	270.00	4902702300		2065.00
4690113134	7000 SARANAC ST	180.00	4690201100	7180 SARANAC ST	270.00			
4690113135	7000 SARANAC ST	180.00	4690201200	SARANAC ST	0.00	A0038.00		921.00
4690113136	7000 SARANAC ST	180.00	4690202400	7200 SARANAC ST	12240.00	4902702400	8765 FLETCHER PKY	921.00
4690113137	7000 SARANAC ST	180.00	4690203200	7199 ALVARADO RD	101.00			
4690113138	7000 SARANAC ST	180.00	4690203300	7241 ALVARADO RD	242.00	A0038.02		18.00
4690113139	7000 SARANAC ST	180.00				4902702500	CUYAMACA AVE	18.00
4690113140	7000 SARANAC ST	180.00	A0006.07a		499.00			
4690113141	7000 SARANAC ST	180.00	4690112500	7171 ALVARADO RD	499.00	A0039.01		2841.00
4690113142	7000 SARANAC ST	180.00				4902701100	FLETCHER PKY	35.00
4690113143	7000 SARANAC ST	180.00	A0008.01		0.00	4902702200	8881 FLETCHER PKY	2806.00
4690113144	7000 SARANAC ST	180.00	4690203400	7243 ALVARADO RD	0.00			
4690113145	7000 SARANAC ST	180.00						
4690113146	7000 SARANAC ST	180.00						

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
A0041.00		17321.00	AA012.01		270.00	AA026.90		270.00
4902103500		41.00	4643503000	5440 CONNECTICUT AVE	270.00	4643500600	6895 COLORADO AVE	270.00
4902104200	5609 AMAYA DR	8640.00						
4902104300	5629 AMAYA DR	8640.00	AA012.02		270.00	AA029.00		540.00
			4643501300	5446 CONNECTICUT AVE	270.00	4642100100	5475 CONNECTICUT AVE	270.00
A0043.00		999.00				4642100200	6909 OHIO AVE	270.00
4902102700		0.00	AA014.00		238.00			
4902103900		999.00	4643803300	5302 LAKE MURRAY BLVD	238.00	AA030.00		270.00
						4642100300	6919 OHIO AVE	270.00
A0044.00		10080.00	AA015.00		651.00			
4906700300	5648 AMAYA DR	10080.00	4643800400	5425 CONNECTICUT AVE	270.00	AA031.00		270.00
			4643805100	5308 LAKE MURRAY BLVD	381.00	4642100400	6925 OHIO AVE	270.00
A0045.00		230.00						
4867500200	5900 SEVERIN DR	230.00	AA016.00		540.00	AA032.00		270.00
			4643800500	6915 OREGON AVE	270.00	4642100500	6929 OHIO AVE	270.00
AA001.00		270.00	4643800600	6921 OREGON AVE	270.00			
4643400500	5304 ARIZONA AVE	270.00				AA033.90		540.00
			AA017.00		810.00	4642100600	6931 OHIO AVE	270.00
AA003.00		1080.00	4642100800	6924 OREGON AVE	270.00	4642100700	6932 OREGON AVE	270.00
4643600100	6905 WISCONSIN AVE	270.00	4642100900	6918 OREGON AVE	270.00			
4643600200	6915 WISCONSIN AVE	270.00	4642101000	6910 OREGON AVE	270.00	AA034.00		1350.00
4643600300	6925 WISCONSIN AVE	270.00				4642001700	6930 OHIO AVE	270.00
4643600400	6927 WISCONSIN AVE	270.00	AA018.00		540.00	4642001800	6924 OHIO AVE	270.00
			4642101100	6904 OREGON AVE	270.00	4642001900	6918 OHIO AVE	270.00
AA003.01		540.00	4642101200	5455 CONNECTICUT AVE	270.00	4642002000	6912 OHIO AVE	270.00
4643600500	6971 WISCONSIN AVE	270.00				4642002100	5485 CONNECTICUT AVE	270.00
4643600600	6979 WISCONSIN AVE	270.00	AA019.00		810.00			
			4643800100	6901 OREGON AVE	270.00	AA035.00		1080.00
AA003.02		217.00	4643800200	5441 CONNECTICUT AVE	270.00	4642001300	6962 OHIO AVE	270.00
4643600700	6985 WISCONSIN AVE	146.00	4643800300	5435 CONNECTICUT AVE	270.00	4642001400	6954 OHIO AVE	270.00
4643600800	5200 LAKE MURRAY BLVD	71.00				4642001500	6948 OHIO AVE	270.00
			AA020.00		540.00	4642001600	6934 OHIO AVE	270.00
AA005.00		383.00	4643501100	5450 CONNECTICUT AVE	270.00			
4643501500	5400 CONNECTICUT AVE	113.00	4643501200	5448 CONNECTICUT AVE	270.00	AA037.00		540.00
4643501600	6982 WISCONSIN AVE	270.00				4643801100	6941 OREGON AVE	270.00
			AA021.00		1080.00	4643801200	6945 OREGON AVE	270.00
AA006.00		810.00	4643502500	5437 ARIZONA AVE	270.00			
4643501700	6980 WISCONSIN AVE	270.00	4643502600	5449 ARIZONA AVE	270.00	AA038.00		270.00
4643501800	6970 WISCONSIN AVE	270.00	4643502700	5465 ARIZONA AVE	270.00	4642002300	6974 OREGON AVE	270.00
4643501900	6940 WISCONSIN AVE	270.00	4643502800	5475 ARIZONA AVE	270.00			
						AA039.00		810.00
AA007.00		540.00	AA022.00		810.00	4643800700	6925 OREGON AVE	270.00
4643502000	6930 WISCONSIN AVE	270.00	4643400100	5461 PENNSYLVANIA LN	270.00	4643800800	6931 OREGON AVE	270.00
4643502100	6920 WISCONSIN AVE	270.00	4643400200	5441 PENNSYLVANIA LN	270.00	4643805300	6935 OREGON AVE	270.00
			4643401000	5432 ARIZONA AVE	270.00			
AA009.00		1080.00				AA040.00		270.00
4643400400	5401 PENNSYLVANIA LN	270.00	AA023.00		270.00	4643803500	6937 OREGON AVE	270.00
4643400600	5380 ARIZONA AVE	270.00	4643502900	5485 ARIZONA AVE	270.00			
4643400700	5402 ARIZONA AVE	270.00				AA041.00		270.00
4643401100	5383 PENNSYLVANIA LN	270.00	AA025.00		1080.00	4642010600	6947 OREGON AVE	270.00
			4643500700	5490 CONNECTICUT AVE	270.00			
AA010.00		810.00	4643500800	5480 CONNECTICUT AVE	270.00	AA042.00		1080.00
4643400300	5417 PENNSYLVANIA LN	270.00	4643500900	5460 CONNECTICUT AVE	270.00	4642010200	6971 OREGON AVE	270.00
4643400800	5412 ARIZONA AVE	270.00	4643501000	5454 CONNECTICUT AVE	270.00	4642010300	6967 OREGON AVE	270.00
4643400900	5422 ARIZONA AVE	270.00				4642010400	6955 OREGON AVE	270.00
			AA025.01		270.00	4642010500	6951 OREGON AVE	270.00
AA011.00		810.00	4643500400	6881 COLORADO AVE	270.00			
4643502200	6910 WISCONSIN AVE	270.00				AA043.00		270.00
4643502300	5415 ARIZONA AVE	270.00	AA026.00		270.00	4642010100	6975 OREGON AVE	270.00
4643502400	5425 ARIZONA AVE	270.00	4643500500	6887 COLORADO AVE	270.00			

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
AB080.00		2430.00	AB082.01		18360.00	AB095.00		10440.00
4642800900	5542 LESA RD	270.00	4642921200	5526 SHASTA LN	720.00	4640402600	5434 LAKE MURRAY BLVD	720.00
4642801000	5538 LESA RD	270.00	4642921800	5560 SHASTA LN	16200.00	4640402700	5426 LAKE MURRAY BLVD	720.00
4642802900	5522 LESA RD	270.00	4642921900	5560 SHASTA LN	1440.00	4640402800	5424 LAKE MURRAY BLVD	360.00
4642803000	5526 LESA RD	270.00				4642600300	5419 LAKE MURRAY BLVD	8640.00
4642803100	5530 LESA RD	270.00	AB082.02		270.00	AB095.01		534.00
4642803200	5534 LESA RD	270.00	4642715400	5406 WELLESLEY ST	270.00	4640402400	5416 LAKE MURRAY BLVD	174.00
4642910600	5525 MARYLAND AVE	270.00				4640402900	5418 LAKE MURRAY BLVD	360.00
4642911600	5495 MARYLAND AVE	270.00	AB083.00		11700.00	AB095.02		1440.00
4642911700	5499 MARYLAND AVE	270.00	4643000300	5575 SHASTA LN	7200.00	4640401300	5557 KIOWA DR	360.00
			4643000400	5553 SHASTA LN	1980.00	4640401500	5545 KIOWA DR	1080.00
			4643000500	5543 SHASTA LN	2520.00			
			4643000600	5541 SHASTA LN	0.00	AB095.03		1890.00
AB081.00		3240.00	AB084.00		540.00	4640400200	5565 KIOWA DR	270.00
4642800700	5552 LESA RD	270.00	4642800500	5560 LESA RD	270.00	4640403201	5567 KIOWA DR	180.00
4642801300	5549 LESA RD	270.00	4642800600	5554 LESA RD	270.00	4640403202	5569 KIOWA DR	180.00
4642802100	5555 LESA RD	270.00				4640403203	5571 KIOWA DR	180.00
4642802500	5525 LESA RD	270.00	AB085.00		810.00	4640403204	5573 KIOWA DR	180.00
4642802600	5521 LESA RD	270.00	4642804000	5548 LESA RD	270.00	4640403205	5575 KIOWA DR	180.00
4642802700	5517 LESA RD	270.00	4642910400	5563 MARYLAND AVE	270.00	4640403206	5577 KIOWA DR	180.00
4642802800	5513 LESA RD	270.00	4642910500	5551 MARYLAND AVE	270.00	4640403207	5579 KIOWA DR	180.00
4642803300	5536 LESA RD	270.00				4640403208	5581 KIOWA DR	180.00
4642803400		0.00	AB086.00		270.00	4640403209	5583 KIOWA DR	180.00
4642803500	5543 LESA RD	270.00	4642910300	5575 MARYLAND AVE	270.00			
4642803700	5537 LESA RD	270.00				AB095.04		2720.00
4642803800	5533 LESA RD	270.00	AB087.00		1620.00	4640403000	5555 KIOWA DR	720.00
4642803900	5529 LESA RD	270.00	4642801700	5582 LESA RD	270.00	MT-A5	ALVARADO TRAINING CENTER	2000.00
AB081.09		540.00	4642801900	5576 LESA RD	270.00			
4642715500	5398 WELLESLEY ST	270.00	4642920300	5575 LESA RD	270.00	AB095.05		1620.00
4642920600	5502 SHASTA LN	270.00	4642920400	5569 LESA RD	270.00	4640302200	5601 KIOWA DR	270.00
			4642922100	5595 LESA RD	270.00	4640302300	5603 KIOWA DR	270.00
			4642922200	LAKE MURRAY BLVD	270.00	4640302400	5605 KIOWA DR	270.00
AB082.00		5220.00				4640302500	5607 KIOWA DR	270.00
4643001301	5525 SHASTA LN	180.00	AB088.00		5670.00	4640302600	5609 KIOWA DR	270.00
4643001302	5525 SHASTA LN	180.00	4640702800	5516 LAKE MURRAY BLVD	270.00	4640302700	5611 KIOWA DR	270.00
4643001303	5525 SHASTA LN	180.00	4643001200	5519 LAKE MURRAY BLVD	5400.00			
4643001304	5525 SHASTA LN	180.00				AB096.00		540.00
4643001305	5525 SHASTA LN	180.00	AB089.00		1350.00	4640602200	7495 COLLINS AVE	270.00
4643001306	5525 SHASTA LN	180.00	4640702600	5512 LAKE MURRAY BLVD	270.00	4640602400	5580 MARYLAND AVE	270.00
4643001307	5525 SHASTA LN	180.00	4640703200	5506 LAKE MURRAY BLVD	270.00			
4643001308	5525 SHASTA LN	180.00	4642921600	5507 LAKE MURRAY BLVD	270.00	AB096.01		2250.00
4643001309	5525 SHASTA LN	180.00	4642921700	5590 SHASTA LN	540.00	4640400400	7490 COLLINS AVE	1980.00
4643001310	5525 SHASTA LN	180.00				4640402000	5549 KIOWA DR	270.00
4643001311	5525 SHASTA LN	180.00	AB090.00		540.00			
4643001312	5525 SHASTA LN	180.00	4640702900	5500 LAKE MURRAY BLVD	270.00	AB096.90		4680.00
4643001313	5525 SHASTA LN	180.00	4640703000	5496 LAKE MURRAY BLVD	270.00	4640402500	7491 COLLINS AVE	4680.00
4643001314	5525 SHASTA LN	180.00						
4643001315	5525 SHASTA LN	180.00	AB091.00		1852.00	AB097.00		810.00
4643001316	5525 SHASTA LN	180.00	4640703100	5492 LAKE MURRAY BLVD	189.00	4640600200	5581 MARYLAND AVE	270.00
4643001317	5525 SHASTA LN	180.00	4640703500	5480 LAKE MURRAY BLVD	853.00	4640600300	5583 MARYLAND AVE	270.00
4643001318	5525 SHASTA LN	180.00	4642801600	5489 LAKE MURRAY BLVD	270.00	4640602500	5579 MARYLAND AVE	270.00
4643001319	5525 SHASTA LN	180.00	4642801800	5481 LAKE MURRAY BLVD	270.00			
4643001320	5525 SHASTA LN	180.00	4642802000	LAKE MURRAY BLVD	270.00	AB098.00		1595.00
4643001321	5525 SHASTA LN	180.00				4640700900		0.00
4643001322	5525 SHASTA LN	180.00	AB092.00		543.00	4640701000	5536 LAKE PARK WAY	270.00
4643001323	5525 SHASTA LN	180.00	4642910900	5465 LAKE MURRAY BLVD	273.00	4640701100	5530 LAKE PARK WAY	270.00
4643001324	5525 SHASTA LN	180.00	4642911100	5475 LAKE MURRAY BLVD	270.00	4640701200	5526 LAKE PARK WAY	816.00
4643001325	5525 SHASTA LN	180.00				4640901300		239.00
4643001326	5525 SHASTA LN	180.00						
4643001327	5525 SHASTA LN	180.00						
4643001328	5525 SHASTA LN	180.00						
4643001329	5525 SHASTA LN	180.00						

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
AB099.00		12150.00	4640802124	5580 LAKE PARK WAY	180.00	4640203604	5702 BALTIMORE DR	180.00
4642714200	5492 WELLESLEY ST	270.00	4640802125	5580 LAKE PARK WAY	180.00	4640203605	5702 BALTIMORE DR	180.00
4643000900	5555 LAKE MURRAY BLVD	11880.00	4640802126	5580 LAKE PARK WAY	180.00	4640203606	5702 BALTIMORE DR	180.00
			4640802127	5580 LAKE PARK WAY	180.00	4640203607	5702 BALTIMORE DR	180.00
AB100.00		1021.00	4640802128	5580 LAKE PARK WAY	180.00	4640203608	5702 BALTIMORE DR	180.00
4642717300	5520 WELLESLEY ST	325.00	4640802129	5580 LAKE PARK WAY	180.00	4640203609	5702 BALTIMORE DR	180.00
4643001000	5565 LAKE MURRAY BLVD	696.00	4640902700	5640 BALTIMORE DR	315.00	4640203610	5702 BALTIMORE DR	180.00
						4640203611	5702 BALTIMORE DR	180.00
AB101.00		823.00	AB106.02		270.00	4640203612	5702 BALTIMORE DR	180.00
4642717200	5550 BALTIMORE DR	192.00	4640800200	5590 LAKE PARK WAY	270.00	4640203613	5702 BALTIMORE DR	180.00
4642717500	5577 LAKE MURRAY BLVD	304.00				4640203614	5702 BALTIMORE DR	180.00
4643901600	5307 LAKE MURRAY BLVD	146.00	AB107.00		1141.00	4640203615	5702 BALTIMORE DR	180.00
4643901700	5301 LAKE MURRAY BLVD	181.00	4640700600	5546 LAKE PARK WAY	270.00	4640203616	5702 BALTIMORE DR	180.00
			4640702700	5542 LAKE PARK WAY	270.00	4640203617	5702 BALTIMORE DR	180.00
AB101.90		412.00	4640902200	5550 LAKE MURRAY BLVD	601.00	4640203618	5702 BALTIMORE DR	180.00
4640902100	5600 BALTIMORE DR	412.00				4640203619	5702 BALTIMORE DR	180.00
			AB108.00		1350.00	4640203620	5702 BALTIMORE DR	180.00
AB102.02		1091.00	4640600400	5585 MARYLAND AVE	270.00	4640203621	5702 BALTIMORE DR	180.00
4641202700	5611 LAKE MURRAY BLVD	366.00	4640600500	5587 MARYLAND AVE	270.00	4640203622	5702 BALTIMORE DR	180.00
4641202800	5609 LAKE MURRAY BLVD	196.00	4640600600	5589 MARYLAND AVE	270.00	4640203623	5702 BALTIMORE DR	180.00
4641204200	5575 BALTIMORE DR	529.00	4640600700	5591 MARYLAND AVE	270.00	4640203624	5702 BALTIMORE DR	180.00
			4640600800	5593 MARYLAND AVE	270.00	4640203625	5702 BALTIMORE DR	180.00
AB104.00		52.00				4640203626	5702 BALTIMORE DR	180.00
4641104000	5610 LAKE MURRAY BLVD	52.00	AB109.00		1620.00	4640203627	5702 BALTIMORE DR	180.00
			4640600900	5594 MARYLAND AVE	270.00	4640203628	5702 BALTIMORE DR	180.00
AB105.03		272.00	4640601000	5592 MARYLAND AVE	270.00	4640203629	5702 BALTIMORE DR	180.00
4640902300	5620 BALTIMORE DR	272.00	4640601100	5590 MARYLAND AVE	270.00	4640203630	5702 BALTIMORE DR	180.00
			4640601200	5588 MARYLAND AVE	270.00	4640203631	5702 BALTIMORE DR	180.00
AB106.00		1837.00	4640601900	5586 MARYLAND AVE	270.00	4640203632	5702 BALTIMORE DR	180.00
4640801300	5560 LAKE PARK WAY	270.00	4640602000	7496 COLLINS AVE	270.00	4640203633	5702 BALTIMORE DR	180.00
4640801400	5566 LAKE PARK WAY	270.00				4640203634	5704 BALTIMORE DR	180.00
4640801500	5570 LAKE PARK WAY	270.00	AB110.00		0.00	4640203635	5704 BALTIMORE DR	180.00
4640801600	5576 LAKE PARK WAY	270.00	4640300500		0.00	4640203636	5704 BALTIMORE DR	180.00
4640902500	5565 LAKE PARK WAY	327.00	4640300700		0.00	4640203637	5704 BALTIMORE DR	180.00
4640902600	5575 LAKE PARK WAY	430.00	4640702200		0.00	4640203638	5704 BALTIMORE DR	180.00
						4640203639	5704 BALTIMORE DR	180.00
AB106.01		5535.00	AB114.00		540.00	4640203640	5704 BALTIMORE DR	180.00
4640802101	5580 LAKE PARK WAY	180.00	4640301300	5826 PAWNEE DR	270.00	4640203641	5704 BALTIMORE DR	180.00
4640802102	5580 LAKE PARK WAY	180.00	4640700200	5822 PAWNEE DR	270.00	4640203642	5704 BALTIMORE DR	180.00
4640802103	5580 LAKE PARK WAY	180.00				4640203643	5704 BALTIMORE DR	180.00
4640802104	5580 LAKE PARK WAY	180.00	AB114.01		1620.00	4640203644	5704 BALTIMORE DR	180.00
4640802105	5580 LAKE PARK WAY	180.00	4640700400	5816 PAWNEE DR	270.00	4640203645	5704 BALTIMORE DR	180.00
4640802106	5580 LAKE PARK WAY	180.00	4640700500	5802 PAWNEE DR	270.00	4640203646	5704 BALTIMORE DR	180.00
4640802107	5580 LAKE PARK WAY	180.00	4640703700	5820 PAWNEE DR	270.00	4640203647	5704 BALTIMORE DR	180.00
4640802108	5580 LAKE PARK WAY	180.00	4640703800	5818 PAWNEE DR	270.00	4640203648	5704 BALTIMORE DR	180.00
4640802109	5580 LAKE PARK WAY	180.00	4640801200	5811 PAWNEE DR	270.00	4640203649	5704 BALTIMORE DR	180.00
4640802110	5580 LAKE PARK WAY	180.00	4640802500	5819 PAWNEE DR	270.00	4640203650	5704 BALTIMORE DR	180.00
4640802111	5580 LAKE PARK WAY	180.00				4640203651	5704 BALTIMORE DR	180.00
4640802112	5580 LAKE PARK WAY	180.00	AB115.00		1620.00	4640203652	5704 BALTIMORE DR	180.00
4640802113	5580 LAKE PARK WAY	180.00	4640301100	5836 PAWNEE DR	270.00	4640203653	5704 BALTIMORE DR	180.00
4640802114	5580 LAKE PARK WAY	180.00	4640301200	5830 PAWNEE DR	270.00	4640203654	5704 BALTIMORE DR	180.00
4640802115	5580 LAKE PARK WAY	180.00	4640800700	5839 PAWNEE DR	270.00	4640203655	5704 BALTIMORE DR	180.00
4640802116	5580 LAKE PARK WAY	180.00	4640800800	5833 PAWNEE DR	270.00	4640203656	5704 BALTIMORE DR	180.00
4640802117	5580 LAKE PARK WAY	180.00	4640800900	5829 PAWNEE DR	270.00	4640203657	5704 BALTIMORE DR	180.00
4640802118	5580 LAKE PARK WAY	180.00	4640802300	5825 PAWNEE DR	270.00	4640203658	5704 BALTIMORE DR	180.00
4640802119	5580 LAKE PARK WAY	180.00				4640203659	5704 BALTIMORE DR	180.00
4640802120	5580 LAKE PARK WAY	180.00	AB115.01		14130.00	4640203660	5704 BALTIMORE DR	180.00
4640802121	5580 LAKE PARK WAY	180.00	4640203601	5702 BALTIMORE DR	180.00	4640203661	5704 BALTIMORE DR	180.00
4640802122	5580 LAKE PARK WAY	180.00	4640203602	5702 BALTIMORE DR	180.00	4640203662	5704 BALTIMORE DR	180.00
4640802123	5580 LAKE PARK WAY	180.00	4640203603	5702 BALTIMORE DR	180.00	4640203663	5704 BALTIMORE DR	180.00

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
AC001.00		13230.00	AC015.90		1620.00	4700201506	7715 SARANAC PL	180.00
4690202900	7260 SARANAC ST	270.00	4691002600	5043 KEENEY ST	270.00	4700201507	7715 SARANAC PL	180.00
4690203500	7272 SARANAC ST	12960.00	4691002700	5041 KEENEY ST	270.00	4700201508	7715 SARANAC PL	180.00
			4691002800	5039 KEENEY ST	270.00	4700201509	7730 SARANAC PL	180.00
AC001.90		6000.00	4691002900	5037 KEENEY ST	270.00	4700201510	7730 SARANAC PL	180.00
MT-A2	73RD & SARANAC	6000.00	4691003100	5031 KEENEY ST	270.00	4700201511	7730 SARANAC PL	180.00
			4691003200	5033 KEENEY ST	270.00	4700201512	7730 SARANAC PL	180.00
AC002.00		360.00				4700201513	7730 SARANAC PL	180.00
4691001200	5090 KEENEY ST	360.00	AC016.00		8350.00	4700201514	7730 SARANAC PL	180.00
4691003500	73RD ST	0.00	4691002200	5048 KEENEY ST	270.00	4700201515	7730 SARANAC PL	180.00
			4691002400	5042 KEENEY ST	270.00	4700201516	7730 SARANAC PL	180.00
AC002.01		0.00	4691003000	5029 KEENEY ST	270.00	4700201517	7730 SARANAC PL	180.00
4690203600	SARANAC ST	0.00	4691411800	7330 MOHAWK ST	540.00	4700201518	7730 SARANAC PL	180.00
4691003600	73RD ST	0.00	MT-A9	KEENEY	7000.00	4700201519	7740 SARANAC PL	180.00
						4700201520	7740 SARANAC PL	180.00
AC003.90		540.00	AC017.00		810.00	4700201521	7740 SARANAC PL	180.00
4691001100	5084 KEENEY ST	270.00	4691410900	7382 MOHAWK ST	270.00	4700201522	7740 SARANAC PL	180.00
4691002300	5056 KEENEY ST	270.00	4691411600	5024 WILLIAMS AVE	270.00	4700201523	7740 SARANAC PL	180.00
			4691411700	5014 WILLIAMS AVE	270.00	4700201524	7740 SARANAC PL	180.00
AC004.00		1080.00				4700201525	7740 SARANAC PL	180.00
4691002101	5055 KEENEY ST	270.00	AD001.05		337.00	4700201526	7740 SARANAC PL	180.00
4691002102	5057 KEENEY ST	270.00	4690210800	7631 ALVARADO RD	337.00	4700201527	7740 SARANAC PL	180.00
4691002103	5051 KEENEY ST	270.00				4700201528	7740 SARANAC PL	180.00
4691002104	5053 KEENEY ST	270.00	AD003.00		338.00	4700201529	7740 SARANAC PL	180.00
			4700201200	7651 ALVARADO RD	338.00	4700201530	7740 SARANAC PL	180.00
AC005.00		0.00				4700201531	7740 SARANAC PL	180.00
4691003800	KEENEY ST	0.00	AD004.00		0.00	4700201532	7740 SARANAC PL	180.00
			4700201800	ALVARADO RD	0.00	4700201533	7740 SARANAC PL	180.00
AC005.01		0.00				4700201534	7765 SARANAC PL	180.00
4691303500	COLONY DR	0.00	AD005.00		0.00	4700201535	7765 SARANAC PL	180.00
			4700321600	ALVARADO RD	0.00	4700201536	7765 SARANAC PL	180.00
AC007.01		0.00				4700201537	7765 SARANAC PL	180.00
4691302800	ALVARADO RD	0.00	AD005.01		592.00	4700201538	7765 SARANAC PL	180.00
4691302900	ALVARADO RD	0.00	4700400100	EL CAJON BLVD	0.00	4700201539	7755 SARANAC PL	180.00
4691303000	ALVARADO RD	0.00	4700400400	7811 ALVARADO RD	428.00	4700201540	7755 SARANAC PL	180.00
4691303100	ALVARADO RD	0.00	4700400500	ALVARADO RD	164.00	4700201541	7755 SARANAC PL	180.00
						4700201542	7755 SARANAC PL	180.00
AC010.90		540.00	AD006.00		1080.00	4700201543	7755 SARANAC PL	180.00
4691302600	7440 COLONY DR	540.00	4700310200	5172 GUAVA AVE	270.00	4700201544	7755 SARANAC PL	180.00
			4700311700	5176 GUAVA AVE	270.00	4700201545	7755 SARANAC PL	180.00
AC013.00		270.00	4700320200	5169 GUAVA AVE	270.00	4700201546	7755 SARANAC PL	180.00
4691300300	7385 COLONY DR	270.00	4700321700	5173 GUAVA AVE	270.00	4700201547	7755 SARANAC PL	180.00
						4700201548	7755 SARANAC PL	180.00
AC013.90		810.00	AD006.01		270.00	4700201549	7755 SARANAC PL	180.00
4691300100	5050 WILLIAMS AVE	270.00	4700310300		0.00	4700201550	7755 SARANAC PL	180.00
4691300200	5060 WILLIAMS AVE	270.00	4700310400	5162 GUAVA AVE	270.00	4700201551	7755 SARANAC PL	180.00
4691411000	5030 WILLIAMS AVE	270.00				4700201552	7755 SARANAC PL	180.00
			AD007.00		270.00	4700201553	7755 SARANAC PL	180.00
AC014.90		540.00	4700320300	5161 GUAVA AVE	270.00	4700201554	7735 SARANAC PL	180.00
4691410700	5025 KEENEY ST	270.00				4700201555	7735 SARANAC PL	180.00
4691410800	7380 MOHAWK ST	270.00	AD008.01		154.00	4700201556	7735 SARANAC PL	180.00
			4700200600	5185 COMANCHE DR	154.00	4700201557	7735 SARANAC PL	180.00
AC015.00		270.00				4700201558	7735 SARANAC PL	180.00
4691003700	5061 KEENEY ST	270.00	AD008.02		12780.00	4700201559	7735 SARANAC PL	180.00
4691303400	COLONY DR	0.00	4700111900	5059 THORNE DR	270.00	4700201560	7735 SARANAC PL	180.00
			4700201501	7715 SARANAC PL	180.00	4700201561	7735 SARANAC PL	180.00
AC015.02		270.00	4700201502	7715 SARANAC PL	180.00	4700201562	7735 SARANAC PL	180.00
4691003300	5035 KEENEY ST	270.00	4700201503	7715 SARANAC PL	180.00	4700201563	7735 SARANAC PL	180.00
			4700201504	7715 SARANAC PL	180.00	4700201564	7735 SARANAC PL	180.00
			4700201505	7715 SARANAC PL	180.00	4700201565	7735 SARANAC PL	180.00

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
4700201566	7735 SARANAC PL	180.00	4700130600	7595 SARANAC AVE	270.00	AD024.00		270.00
4700201567	7735 SARANAC PL	180.00	4700131400	7589 SARANAC AVE	270.00	4701110700	5050 GUAVA AVE	270.00
4700201568	7735 SARANAC PL	180.00						
4701000700	7712 EL CAJON BLVD	270.00	AD019.00		2160.00	AD024.01		19818.00
			4700113100	7620 SARANAC AVE	270.00	4701110800	5036 GUAVA AVE	270.00
AD008.89		1997.00	4700113200	7618 SARANAC AVE	270.00	4701110900	5032 GUAVA AVE	270.00
4700201700	7777 ALVARADO RD	1997.00	4700113400	7624 SARANAC AVE	270.00	4701113500	5018 GUAVA AVE	270.00
			4700113700	7604 SARANAC AVE	270.00	4701120800	5027 GUAVA AVE	3960.00
AD008.90		2160.00	4700130700	7605 SARANAC AVE	270.00	4701122300	7862 EL CAJON BLVD	468.00
4700112600	5065 THORN DR	2160.00	4700130800	7621 SARANAC AVE	270.00	4701122500	5035 GUAVA AVE	14580.00
			4700130900	7639 SARANAC AVE	270.00			
AD009.01		540.00	4700131000	7645 SARANAC AVE	270.00	AD027.00		2520.00
4700111100	7628 SARANAC AVE	270.00				4701111900	5035 WOODYARD AVE	360.00
4700111200	7632 SARANAC AVE	270.00	AD020.01		540.00	4701112000	5039 WOODYARD AVE	360.00
			4700131100	7649 SARANAC AVE	270.00	4701112200	5050 WOODYARD AVE	720.00
AD010.00		270.00	4700131200	5070 THORN DR	270.00	4701113400	5045 WOODYARD AVE	1080.00
4700113300	5151 COMANCHE DR	270.00						
			AD020.90		180.00	AD027.01		898.00
AD011.00		540.00	4700120100	5055 THORNE DR	180.00	4701001400	7808 EL CAJON BLVD	88.00
4700112900	5131 COMANCHE DR	270.00				4701111800	5031 WOODYARD AVE	270.00
4700113000	5141 COMANCHE DR	270.00	AD021.00		2970.00	4701112300	5040 WOODYARD AVE	540.00
			4700310600	5144 GUAVA AVE	270.00	4701112400	7808 EL CAJON BLVD	0.00
AD012.00		540.00	4700310700	5138 GUAVA AVE	270.00			
4700113500	5111 COMANCHE DR	270.00	4700311400	5156 GUAVA AVE	270.00	AD029.00		483.00
4700113600	5121 COMANCHE DR	270.00	4700311500	5150 GUAVA AVE	270.00	4701111200	7860 EL CAJON BLVD	254.00
			4700311900	5126 GUAVA AVE	270.00	4701111300	7840 EL CAJON BLVD	91.00
AD013.00		540.00	4700312000	5130 GUAVA AVE	270.00	4701111400	EL CAJON BLVD	75.00
4700112100	5101 COMANCHE DR	270.00	4700320400	5149 GUAVA AVE	270.00	4701113200	EL CAJON BLVD	63.00
4700114000	5093 COMANCHE DR	270.00	4700320500	5143 GUAVA AVE	270.00			
			4700320600	5137 GUAVA AVE	270.00	AD030.00		321.00
AD013.01		540.00	4700320700	5131 GUAVA AVE	270.00	4701111700	5025 WOODYARD AVE	270.00
4700112800	7580 SARANAC AVE	270.00	4700320800	5119 GUAVA AVE	270.00	4701112500	7808 EL CAJON BLVD	0.00
4700113900	7576 SARANAC AVE	270.00				4701113300	EL CAJON BLVD	51.00
			AD022.00		2160.00			
AD015.00		0.00	4700310900	5120 GUAVA AVE	270.00	AD031.00		0.00
4691303200	5040 COMMANCHE DR	0.00	4700311000	5114 GUAVA AVE	270.00	4701113000	7808 EL CAJON BLVD	0.00
4691303300	COMMANCHE DR	0.00	4700311100	5102 GUAVA AVE	270.00			
			4700311200	5094 GUAVA AVE	270.00	AD034.00		1434.00
AD016.00		270.00	4700321000	5105 GUAVA AVE	270.00	4701122400	7870 EL CAJON BLVD	350.00
4691301000	COMANCHE DR	0.00	4700321100	5101 GUAVA AVE	270.00	4701200600	EL CAJON BLVD	1084.00
4691301100	COMANCHE DR	0.00	4700321400	5113 GUAVA AVE	270.00			
4700110100	7570 SARANAC AVE	270.00	4700321500	5107 GUAVA AVE	270.00	AD035.00		1673.00
			4701113600	GUAVA AVE	0.00	4701200700	EL CAJON BLVD	373.00
AD016.01		0.00				4701200900	EL CAJON BLVD	353.00
4691302100	COLONY DR	0.00	AD023.00		2970.00	4701201100	7960 EL CAJON BLVD	404.00
			4700321300	5079 GUAVA AVE	270.00	4701201200	7930 EL CAJON BLVD	543.00
AD016.02		23040.00	4700321800	5087 GUAVA AVE	270.00			
4700800600	5025 COMANCHE DR	1800.00	4700321900	5091 GUAVA AVE	270.00	AD036.00		260.00
4700801100	5040 COMANCHE DR	21240.00	4701110200	5082 GUAVA AVE	270.00	4702002600	4979 CLEARVIEW WAY	260.00
			4701110300	5074 GUAVA AVE	270.00			
AD017.00		1080.00	4701110400	5068 GUAVA AVE	270.00	AD037.00		369.00
4700110200	7574 SARANAC AVE	270.00	4701110500	5062 GUAVA AVE	270.00	4702002700	7901 HILLSIDE DR	195.00
4700130100	7571 SARANAC AVE	270.00	4701110600	5056 GUAVA AVE	270.00	4702002800	EL CAJON BLVD	0.00
4700130200	7575 SARANAC AVE	270.00	4701120100	5071 GUAVA AVE	270.00	4702003000	EL CAJON BLVD	0.00
4700130300	7579 SARANAC AVE	270.00	4701120200	5065 GUAVA AVE	270.00	4702003100	EL CAJON BLVD	0.00
			4701120300	5055 GUAVA AVE	270.00	4702235100	7935 EL CAJON BLVD	174.00
AD018.00		1350.00						
4700112200	7586 SARANAC AVE	270.00	AD023.90		3311.00	AD037.01		236.00
4700113800	7590 SARANAC AVE	270.00	4700400300	7900 EL CAJON BLVD	3311.00	4702235200	7961 EL CAJON BLVD	236.00
4700130400	7583 SARANAC AVE	270.00						

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
AD039.00		197.00	4700722100	COMMERCIAL ST	70.00	AE029.00		444.00
4702235500	7981 EL CAJON BLVD	197.00				4700721300	8174 CENTER ST	82.00
			AE018.00		169.00	4700722000	8176 CENTER ST	82.00
AE002.00		646.00	4700720600	8163 COMMERCIAL ST	85.00	4700730800	8171 CENTER ST	73.00
4700501300		0.00	4700720700	COMMERCIAL ST	84.00	4700731200	8167 CENTER ST	107.00
4700501500	7851 FLETCHER PKY	646.00				4940102000	8179 CENTER ST	100.00
			AE019.00		82.00			
AE003.00		1420.00	4700720500	8163 COMMERCIAL ST	82.00	AE032.00		3757.00
4646001800	8005 FLETCHER PKY	365.00				4701301000	4981 SPRING ST	1060.00
4646001900	8025 FLETCHER PKY	159.00	AE020.00		74.00	4702300700		20.00
4700500700	5175 BALTIMORE DR	812.00	4700710100		0.00	4702301300	8090 UNIVERSITY AVE	678.00
4700501200	5175 BALTIMORE DR	84.00	4700710200		0.00	4702301400	4999 BALTIMORE DR	905.00
			4700710300		0.00	4702301500	4999 BALTIMORE DR	295.00
AE008.50		5497.00	4700710400		0.00	4702301600	4949 BALTIMORE DR	498.00
4646001400	8125 FLETCHER PKY	5497.00	4700720200	8159 COMMERCIAL ST	74.00	4941002000	8118 UNIVERSITY AVE	301.00
AE010.00		0.00	AE021.00		805.00	AE047.01		1080.00
4700710500		0.00	4700620600	8104 CENTER ST	301.00	4948200200	4996 PORTER HILL RD	270.00
			4700620700	GUILD ST	31.00	4948200300	4994 PORTER HILL RD	270.00
AE012.00		188.00	4700620800	5120 GUILD ST	46.00	4948200400	4992 PORTER HILL RD	270.00
4700710600		0.00	4700620900	5160 GUILD ST	50.00	4948200500	4990 PORTER HILL RD	270.00
4700710700		0.00	4700621000	COMMERCIAL ST	47.00	4948200600	PORTER HILL RD	0.00
4700710800		0.00	4700720101	5171 GUILD ST	39.00			
4700720900	8173 COMMERCIAL ST	171.00	4700720102	5171 GUILD ST	39.00	AE048.01		810.00
4700722200		17.00	4700720300	5151 GUILD ST	42.00	4940403900	5020 PORTER HILL RD	270.00
			4700720400	5141 GUILD ST	36.00	4940404000	5010 PORTER HILL RD	270.00
AE012.02		27.00	4700721800	8126 CENTER ST	174.00	4940404100	5000 PORTER HILL RD	270.00
4700711000		27.00				4940404300		0.00
			AE022.00		310.00			
AE012.90		0.00	4700610100		0.00	AE049.00		540.00
4646000700	5200 INDUSTRIAL LN	0.00	4700610200	8152 COMMERCIAL ST	0.00	4948200700	4970 PORTER HILL RD	270.00
			4700610300		0.00	4948201000	8450 ROACH DR	270.00
AE013.01		684.00	4700610400	8150 COMMERCIAL ST	151.00			
4700711100	8176 COMMERCIAL ST	55.00	4700620100	8115 COMMERCIAL ST	80.00	AE052.00		1440.00
4700711200	8180 COMMERCIAL ST	46.00	4700621100	8151 COMMERCIAL ST	79.00	4948200800	4960 PORTER HILL RD	270.00
4700711300	COMMERCIAL ST	132.00				4948200900	8460 ROACH DR	270.00
4700711400	COMMERCIAL ST	0.00	AE023.00		502.00	4948201100	8451 ROACH DR	360.00
4700711500	8186 COMMERCIAL ST	88.00	4700610500	8140 COMMERCIAL ST	150.00	4948201200	8461 ROACH DR	270.00
4700721000	COMMERCIAL ST	85.00	4700610600	8130 COMMERCIAL ST	117.00	4948201300	4950 PORTER HILL RD	270.00
4700721100	COMMERCIAL ST	88.00	4700610700	8120 COMMERCIAL ST	127.00			
4940100100	8188 COMMERCIAL ST	190.00	4700610800	8110 COMMERCIAL ST	108.00	AE052.01		1440.00
						4948201600	8450 UNIVERSITY AVE	1440.00
AE014.00		561.00	AE024.00		855.00			
4940100200	8200 COMMERCIAL ST	157.00	4700610900	8108 COMMERCIAL ST	176.00	AE056.01		506.00
4940100300	8230 COMMERCIAL ST	206.00	4700611200	8100 CENTER ST	464.00	4942710200	UNIVERSITY AVE	0.00
4940101500	8227 COMMERCIAL ST	198.00	4700620200	8111 COMMERCIAL ST	25.00	4942710400		61.00
			4700620300	8107 COMMERCIAL ST	67.00	4942710500		61.00
AE015.00		987.00	4700620400	8105 COMMERCIAL ST	48.00	4942710700	8450 LA MESA BLVD	384.00
4940100400	8250 COMMERCIAL ST	174.00	4700620500	8103 COMMERCIAL ST	75.00			
4940100500	8260 COMMERCIAL ST	120.00				AE056.90		2391.00
4940101400	8265 COMMERCIAL ST	693.00	AE028.00		972.00	4941602200	8366 UNIVERSITY AVE	81.00
			4700721500	8160 CENTER ST	189.00	4941602300	8372 UNIVERSITY AVE	270.00
AE016.00		708.00	4700721600	8150 CENTER ST	99.00	4941603200	8378 UNIVERSITY AVE	1440.00
4700721900	8186 CENTER ST	350.00	4700721700	8140 CENTER ST	202.00	4947720500	8375 UNIVERSITY AVE	74.00
4940101000	8185 CENTER ST	84.00	4700730100	8135 CENTER ST	172.00	4947721300	8381 UNIVERSITY AVE	195.00
4940101100	8183 CENTER ST	119.00	4700730200	8139 CENTER ST	91.00	4947721700	8387 UNIVERSITY AVE	195.00
4940101200	8181 CENTER ST	155.00	4700730300	8141 CENTER ST	86.00	4947721800	8369 UNIVERSITY AVE	136.00
			4700730400	8155 CENTER ST	133.00			
AE017.00		166.00	4700731100		0.00	AE061.01		233.00
4700721400	8172 CENTER ST	96.00				4948201700	8480 LA MESA BLVD	233.00

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
4940401100	8411 TIO DIEGO PL	270.00	4941921600	4957 RANDLETT DR	270.00	4941922903	4900 ROSEHEDGE DR	180.00
4940401200	8421 TIO DIEGO PL	270.00				4941922904	4900 ROSE HEDGE DR	180.00
4940401300	8431 TIO DIEGO PL	270.00	AE090.03		270.00	4941922905	4900 ROSEHEDGE DR	180.00
4940401400	8441 TIO DIEGO PL	270.00	4941921700	4945 RANDLETT DR	270.00	4941922906	4900 ROSEHEDGE DR	180.00
4940401500	8451 TIO DIEGO PL	270.00				4941922907	4900 ROSEHEDGE DR	180.00
4940404200	8430 TIO DIEGO PL	270.00	AE096.00		0.00	4941922908	4900 ROSEHEDGE DR	180.00
			4943001100	8529 LA MESA BLVD	0.00	4941922909	4900 ROSEHEDGE DR	180.00
AE082.00		2160.00				4941922910	4900 ROSEHEDGE DR	180.00
4940400100	8480 TIO DIEGO PL	270.00	AE096.05		18360.00	4941922911	4900 ROSE HEDGE DR	180.00
4940400200	8470 TIO DIEGO PL	270.00	4943000200	8633 LA MESA BLVD	18000.00	4941922912	4900 ROSE HEDGE DR	180.00
4940510100	8490 TIO DIEGO PL	270.00	4943000300	8640 LEMON AVE	360.00	4941922913	4900 ROSE HEDGE DR	180.00
4940510200	8500 TIO DIEGO PL	270.00				4941922914	4900 ROSEHEDGE DR	180.00
4940510300	8510 TIO DIEGO PL	270.00	AE096.06		1800.00	4941922915	4900 ROSEHEDGE DR	180.00
4940510400	8520 TIO DIEGO PL	270.00	4943001007	8622 LEMON AVE	180.00	4941922916	4900 ROSEHEDGE DR	180.00
4940511300	8519 TIO DIEGO PL	270.00	4943001008	8622 LEMON AVE	180.00	4941922917	4900 ROSEHEDGE DR	180.00
4940511400	8501 TIO DIEGO PL	270.00	4943001009	8622 LEMON AVE	180.00	4941922918	4900 ROSE HEDGE DR	180.00
			4943001010	8620 LEMON AVE	180.00	4941922919	4900 ROSEHEDGE DR	180.00
AE082.01		2160.00	4943001011	8622 LEMON AVE	180.00	4941922920	4900 ROSE HEDGE DR	180.00
4940510500	8530 TIO DIEGO PL	270.00	4943001012	8622 LEMON AVE	180.00	4941922921	4900 ROSEHEDGE DR	180.00
4940510600	8540 TIO DIEGO PL	270.00	4943001013	8622 LEMON AVE	180.00	4941922922	4900 ROSEHEDGE DR	180.00
4940510700	8550 TIO DIEGO PL	270.00	4943001014	8622 LEMON AVE	180.00	4941922923	4900 ROSEHEDGE DR	180.00
4940510800	8560 TIO DIEGO PL	270.00	4943001015	8622 LEMON AVE	180.00	4941922924	4900 ROSEHEDGE DR	180.00
4940510900	8561 TIO DIEGO PL	270.00	4943001016	8622 LEMON AVE	180.00	4941922925	4900 ROSEHEDGE DR	180.00
4940511000	8551 TIO DIEGO PL	270.00				4941922926	4900 ROSEHEDGE DR	180.00
4940511100	8543 TIO DIEGO PL	270.00	AE097.05		5400.00	4941922927	4900 ROSE HEDGE DR	180.00
4940511200	8533 TIO DIEGO PL	270.00	4943102100	8672 LEMON AVE	720.00	4941922928	4900 ROSEHEDGE DR	180.00
			4943102200	8650 LEMON AVE	360.00	4941922929	4900 ROSEHEDGE DR	180.00
AE083.00		1080.00	4943102400	8694 LEMON AVE	4320.00	4941922930	4900 ROSEHEDGE DR	180.00
4940511500	8530 TIA MARIA WAY	270.00				4941922931	4900 ROSE HEDGE DR	180.00
4940511600	8540 TIA MARIA WAY	270.00	AE098.00		630.00	4941922932	4900 ROSE HEDGE DR	180.00
4940520300	8531 TIA MARIA WAY	270.00	4943500200	8673 LEMON AVE	360.00	4941922933	4900 ROSEHEDGE DR	180.00
4940520400	8541 TIA MARIA WAY	270.00	4943500300	8677 LEMON AVE	270.00	4941922934	4900 ROSE HEDGE DR	180.00
						4941922935	4900 ROSE HEDGE DR	180.00
AE084.00		810.00	AE098.01		10980.00	4941922936	4900 ROSEHEDGE DR	180.00
4940511700	8550 TIA MARIA WAY	270.00	4943500100	8659 LEMON AVE	360.00	4941922937	4900 ROSE HEDGE DR	180.00
4940511800	8560 TIA MARIA WAY	270.00	4943502200	8671 LEMON AVE	10620.00	4941922938	4900 ROSEHEDGE DR	180.00
4940520500	8551 TIA MARIA WAY	270.00				4941922939	4900 ROSEHEDGE DR	180.00
			AE098.02		13500.00	4941922940	4900 ROSEHEDGE DR	180.00
AE086.00		1350.00	4943001200	8600 LEMON AVE	2520.00	4941922941	4900 ROSEHEDGE DR	180.00
4941811400	8545 VICTORY RD	270.00	4943402400	8603 LEMON AVE	10980.00	4941922942	4900 ROSEHEDGE DR	180.00
4941820100	5010 RANDLETT DR	270.00				4941922943	4900 ROSEHEDGE DR	180.00
4941920300	5055 RANDLETT DR	270.00	AE098.05		2520.00	4941922944	4900 ROSEHEDGE DR	180.00
4941920600	5019 RANDLETT DR	270.00	4943502100	8691 LEMON AVE	2520.00	4941922945	4900 ROSE HEDGE DR	180.00
4941920700	5009 RANDLETT DR	270.00				4941922946	4900 ROSEHEDGE DR	180.00
			AE099.00		2160.00	4941922947	4900 ROSEHEDGE DR	180.00
AE088.00		1890.00	4943500600	8701 LEMON AVE	2160.00	4941922948	4900 ROSE HEDGE DR	180.00
4941811500	4986 RANDLETT DR	270.00						
4941811600	4980 RANDLETT DR	270.00	AE100.01		1080.00	AE105.00		810.00
4941811900	4976 RANDLETT DR	270.00	4943100100	LA MESA BLVD	0.00	4941910500	4939 ROSEHEDGE DR	270.00
4941812000	4968 RANDLETT DR	270.00	4943101800	8704 LEMON AVE	1080.00	4941910600	4929 ROSEHEDGE DR	270.00
4941921400	4971 RANDLETT DR	270.00				4941920900	4940 ROSEHEDGE DR	270.00
4941922500	4979 RANDLETT DR	540.00	AE103.00		436.00			
			4941911000	8600 LA MESA BLVD	163.00	AE106.00		1620.00
AE089.00		270.00	4941922800	8580 LA MESA BLVD	273.00	4941910200	4969 ROSEHEDGE DR	270.00
4941921000	4999 RANDLETT DR	270.00				4941910300	4959 ROSE HEDGE DR	270.00
			AE104.00		9180.00	4941910400	4949 ROSE HEDGE DR	270.00
AE090.00		1080.00	4941910700	4919 ROSEHEDGE DR	270.00	4941920400	4970 ROSEHEDGE DR	270.00
4941813900	4948 RANDLETT DR	270.00	4941911500	4909 ROSE HEDGE DR	270.00	4941920500	4960 ROSE HEDGE DR	270.00
4941814000	4956 RANDLETT DR	270.00	4941922901	4900 ROSEHEDGE DR	180.00	4941920800	4950 ROSEHEDGE DR	270.00
4941921500	4969 RANDLETT DR	270.00	4941922902	4900 ROSEHEDGE DR	180.00			

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
4641201700	5602 AZTEC DR	270.00	4645904500	8005 ANDERS CIR	270.00	AG017.00		17640.00
4645904100	5631 AZTEC DR	270.00	4645910800	5757 LAKE MURRAY BLVD	28980.00	4645305600	5500 MORRO WAY	16200.00
AF018.00		270.00	AG003.00		406.00	4902441201	5495 MARENGO AVE	180.00
4645901600	8026 ANDERS CIR	270.00	4645306500		212.00	4902441202	5495 MARENGO AVE	180.00
AF018.01		810.00	4645306600	8090 PARKWAY DR	194.00	4902441203	5495 MARENGO AVE	180.00
4641200900	5646 AZTEC DR	270.00	AG004.00		5590.00	4902441204	5495 MARENGO AVE	180.00
4645901500	5641 AZTEC DR	270.00	4645306400	8010 PARKWAY DR	5590.00	4902441205	5495 MARENGO AVE	180.00
4645912000	5643 AZTEC DR	270.00				4902441206	5495 MARENGO AVE	180.00
AF019.00		270.00	AG006.00		374.00	4902441207	5495 MARENGO AVE	180.00
4641203900	5570 AZTEC DR	270.00	4640502400	8110 PARKWAY DR	374.00	4902441208	5495 MARENGO AVE	180.00
4641204300	5580 AZTEC DR	0.00	AG007.00		632.00	AG019.00		1890.00
AF020.00		2160.00	4640501500	8130 PARKWAY DR	364.00	4902430400	5555 WAKE ST	270.00
4645903600	7919 ANDERS CIR	270.00	4640501600	8160 PARKWAY DR	135.00	4902430500	5545 WAKE ST	270.00
4645903700	7913 ANDERS CIR	270.00	4640501700	8170 PARKWAY DR	133.00	4902430600	5535 WAKE ST	270.00
4645903800	7907 ANDERS CIR	270.00	AG008.00		754.00	4902440200	5540 WAKE ST	270.00
4645903900	7901 ANDERS CIR	270.00	4640501800	8180 PARKWAY DR	121.00	4902440300	5530 WAKE ST	270.00
4645904000	5625 AZTEC DR	270.00	4640501900	8182 PARKWAY DR	118.00	4902440400	5520 WAKE ST	270.00
4645905200	7918 ANDERS CIR	270.00	4905910600	8200 PARKWAY DR	128.00	4902441100	5510 WAKE ST	270.00
4645905300	7912 ANDERS CIR	270.00	4905911000	8202 PARKWAY DR	127.00	AG021.00		1350.00
4645905400	7906 ANDERS CIR	270.00	4905911100	8206 PARKWAY DR	132.00	4902430700	8110 ST ONGE DR	270.00
AF021.00		2160.00	4905911200	8210 PARKWAY DR	128.00	4902440600	8101 ST ONGE DR	270.00
4645903100	7949 ANDERS CIR	270.00	AG009.00		701.00	4902440700	8105 ST ONGE DR	270.00
4645903200	7943 ANDERS CIR	270.00	4905910200	8238 PARKWAY DR	427.00	4902440800	8115 ST ONGE DR	270.00
4645903300	7937 ANDERS CIR	270.00	4905911300	8214 PARKWAY DR	120.00	4902440900	5490 HEIDI ST	270.00
4645903400	7931 ANDERS CIR	270.00	4905911400	8240 PARKWAY DR	154.00	AG022.00		1080.00
4645903500	7925 ANDERS CIR	270.00	AG010.00		520.00	4902540100	5495 HEIDI ST	270.00
4645904900	7936 ANDERS CIR	270.00	4905912500	8274 PARKWAY DR	241.00	4902540200	8155 ST ONGE DR	270.00
4645905000	7930 ANDERS CIR	270.00	4905912600	8260 PARKWAY DR	279.00	4902540300	8165 ST ONGE DR	270.00
4645905100	7924 ANDERS CIR	270.00	AG010.01		198.00	4902540400	8175 ST ONGE DR	270.00
AF022.00		1620.00	4905912400	PARKWAY DR	198.00	AG023.00		810.00
4645902500	7985 ANDERS CIR	270.00	AG011.00		21600.00	4902540500	8185 ST ONGE DR	270.00
4645902600	7979 ANDERS CIR	270.00	4640500600	5435 HEIDI ST	5400.00	4902540600	8189 ST ONGE DR	270.00
4645902700	7973 ANDERS CIR	270.00	4640500700	8180 VINCETTA DR	3420.00	4902540700	8195 ST ONGE DR	270.00
4645902800	7967 ANDERS CIR	270.00	4640502200	8211 VINCETTA DR	6660.00	AG024.00		2970.00
4645902900	7961 ANDERS CIR	270.00	4640502300	8171 VINCETTA DR	5040.00	4902520500	8190 ST ONGE DR	270.00
4645903000	7955 ANDERS CIR	270.00	4905911900	5475 HEIDI ST	270.00	4902520600	5520 DUGAN AVE	270.00
AF023.00		1890.00	4905913000	5480 HEIDI ST	270.00	4902520700	5530 DUGAN AVE	270.00
4645902100	8006 ANDERS CIR	270.00	4905913100	5470 HEIDI ST	270.00	4902520800	5540 DUGAN AVE	270.00
4645902200	8002 ANDERS CIR	270.00	4905913200	5460 HEIDI ST	270.00	4902520900	5550 DUGAN AVE	270.00
4645902300	7996 ANDERS CIR	270.00	AG012.01		8640.00	4902530600	5555 DUGAN AVE	270.00
4645902400	7990 ANDERS CIR	270.00	4640500800	5465 VINCETTA CT	2880.00	4902530700	5545 DUGAN AVE	270.00
4645904600	8001 ANDERS CIR	270.00	4640502100	5436 VINCETTA CT	5760.00	4902530800	5535 DUGAN AVE	270.00
4645904700	7991 ANDERS CIR	270.00	AG015.00		18720.00	4902530900	5525 DUGAN AVE	270.00
4645904800	7981 ANDERS CIR	270.00	4640502600	5365 MARENGO AVE	2160.00	4902531000	5515 DUGAN AVE	270.00
AF024.00		31140.00	4645303900	5360 MARENGO AVE	16560.00	4902531100	5505 DUGAN AVE	270.00
4645901700	8022 ANDERS CIR	270.00	AG016.00		77580.00	AG024.01		1620.00
4645901800	8018 ANDERS CIR	270.00	4640501000	5465 MARENGO AVE	2160.00	4902521000	5560 DUGAN AVE	270.00
4645901900	8014 ANDERS CIR	270.00	4640501100	5435 MARENGO AVE	2160.00	4902521100	5578 DUGAN AVE	270.00
4645902000	8010 ANDERS CIR	270.00	4645301700	5480 MARENGO AVE	73260.00	4902521200	8195 KATO ST	270.00
4645904200	5637 AZTEC DR	270.00				4902530300	5585 DUGAN AVE	270.00
4645904300	8017 ANDERS CIR	270.00				4902530400	5575 DUGAN AVE	270.00
4645904400	8011 ANDERS CIR	270.00				4902530500	5565 DUGAN AVE	270.00

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
4853901700	5950 AMARILLO AVE	270.00	4852532100	8404 NENTRA ST	270.00	AI114.00		736.00
4853904200	8494 EL PASO ST	270.00	4852532200	8400 NENTRA ST	270.00	6751000900	6055 LAKE MURRAY BLVD	736.00
4854020200	5957 AMARILLO AVE	270.00						
4854020300	5945 AMARILLO AVE	270.00	AI107.00		3240.00	AI114.01		2070.00
4854020400	5933 AMARILLO AVE	270.00	4853721100	6040 KELTON AVE	270.00	6751100700	5996 LAKE MURRAY BLVD	270.00
4854020500	5921 AMARILLO AVE	270.00	4853721200	6050 KELTON AVE	270.00	6751101000	6004 LAKE MURRAY BLVD	1800.00
4854020600	5911 AMARILLO AVE	270.00	4853721300	6060 KELTON AVE	270.00			
4854020700	5901 AMARILLO AVE	270.00	4853721400	6070 KELTON AVE	270.00	AI115.00		176.00
			4853721500	6080 KELTON AVE	270.00	6751000600	6025 LAKE MURRAY BLVD	86.00
AI103.00		6480.00	4853721600	6090 KELTON AVE	270.00	6751000700	6001 LAKE MURRAY BLVD	90.00
4852600700	8496 ABILENE TER	270.00	4853730700	6035 KELTON AVE	270.00			
4852600800	6026 AMARILLO AVE	270.00	4853730800	6045 KELTON AVE	270.00	AI116.00		2430.00
4852600900	6036 AMARILLO AVE	270.00	4853730900	6055 KELTON AVE	270.00	6750602000	6100 SAMUEL ST	270.00
4852601000	6046 AMARILLO AVE	270.00	4853731000	6065 KELTON AVE	270.00	6750602100	6105 SAMUEL ST	270.00
4852601100	6056 AMARILLO AVE	270.00	4853731100	6075 KELTON AVE	270.00	6750602200	6095 SAMUEL ST	270.00
4852601200	6066 AMARILLO AVE	270.00	4853731200	6085 KELTON AVE	270.00	6750701600	6110 SAMUEL ST	270.00
4852601300	6076 AMARILLO AVE	270.00				6750701700	6120 SAMUEL ST	270.00
4852601400	6090 AMARILLO AVE	270.00	AI108.00		1080.00	6750701900	6145 SAMUEL ST	270.00
4852700300	6091 AMARILLO AVE	270.00	4852421400	6110 JACKSON DR	270.00	6750702000	6125 SAMUEL ST	270.00
4852700400	6081 AMARILLO AVE	270.00	4853720400	6111 JACKSON DR	270.00	6750702100	6115 SAMUEL ST	270.00
4852700500	6071 AMARILLO AVE	270.00	4853720500	6109 JACKSON DR	270.00	6750702400	6140 SAMUEL ST	270.00
4852700600	6061 AMARILLO AVE	270.00	4853720600	6105 JACKSON DR	270.00			
4852700700	6051 AMARILLO AVE	270.00				AI116.90		1620.00
4852700800	6041 AMARILLO AVE	270.00	AI109.00		1620.00	6750601700	6050 SAMUEL ST	270.00
4852700900	6031 AMARILLO AVE	270.00	4852421500	6120 JACKSON DR	270.00	6750601800	6080 SAMUEL ST	270.00
4852701000	6021 AMARILLO AVE	270.00	4852421600	6126 JACKSON DR	270.00	6750601900	6090 SAMUEL ST	270.00
4852701100	6011 AMARILLO AVE	270.00	4852421700	6130 JACKSON DR	270.00	6750602300	6085 SAMUEL ST	270.00
4852701200	6001 AMARILLO AVE	270.00	4853720100	6127 JACKSON DR	270.00	6750602400	6075 SAMUEL ST	270.00
4852701300	5995 AMARILLO AVE	270.00	4853720200	6123 JACKSON DR	270.00	6750602500	6055 SAMUEL ST	270.00
4852701400	5987 AMARILLO AVE	270.00	4853720300	6119 JACKSON DR	270.00			
4853901800	5960 AMARILLO AVE	270.00				AI117.00		1080.00
4853901900	5980 AMARILLO AVE	270.00	AI110.00		810.00	6750600400	6125 KIMBERLY DR	270.00
4853902000	5990 AMARILLO AVE	270.00	4852421800	6132 JACKSON DR	270.00	6750600500	6115 KIMBERLY DR	270.00
4854020100	5969 AMARILLO AVE	270.00	4852421900	6136 JACKSON DR	270.00	6750701500	6135 KIMBERLY DR	270.00
			4852422000	6140 JACKSON DR	270.00	6750702300	6145 KIMBERLY DR	270.00
AI104.00		1620.00						
4852531200	8490 NENTRA ST	270.00	AI111.00		1620.00	AI117.01		1080.00
4852700100	6111 AMARILLO AVE	270.00	4852410400	6110 DALHART AVE	270.00	6750600300	8030 ALIDA ST	270.00
4852700200	6101 AMARILLO AVE	270.00	4852410500	6108 DALHART AVE	270.00	6750600600	6105 KIMBERLY DR	270.00
4852820700	6141 AMARILLO AVE	270.00	4852410600	6104 DALHART AVE	270.00	6750600700	8045 ALIDA ST	270.00
4852820800	6131 AMARILLO AVE	270.00	4852410900	8290 EL PASO ST	270.00	6750603800	8035 ALIDA ST	270.00
4852820900	6121 AMARILLO AVE	270.00	4852420600	6111 DALHART AVE	270.00			
			4852420700	6105 DALHART AVE	270.00	AI118.01		1620.00
AI105.00		2970.00				6750700300	8020 EL PASO ST	270.00
4852531300	8480 NENTRA ST	270.00	AI111.01		1890.00	6750700400	8025 EL PASO ST	270.00
4852531400	8470 NENTRA ST	270.00	4852410100	6132 DALHART AVE	270.00	6750700500	8035 EL PASO ST	270.00
4852531500	8460 NENTRA ST	270.00	4852410200	6120 DALHART AVE	270.00	6750700600	8030 EL PASO ST	270.00
4852531600	8450 NENTRA ST	270.00	4852410300	6116 DALHART AVE	270.00	6750803300	8000 EL PASO ST	270.00
4852531700	8440 NENTRA ST	270.00	4852420200	6135 DALHART AVE	270.00	6750803400	8015 EL PASO ST	270.00
4852601500	8485 NENTRA ST	270.00	4852420300	6131 DALHART AVE	270.00			
4852601600	8475 NENTRA ST	270.00	4852420400	6121 DALHART AVE	270.00	AI119.00		1664.00
4852601700	8465 NENTRA ST	270.00	4852420500	6115 DALHART AVE	270.00	6750100300		1664.00
4852601800	8455 NENTRA ST	270.00				6750702200	8135 EL PASO ST	0.00
4852601900	8445 NENTRA ST	270.00	AI112.00		927.00			
4853731300	6095 KELTON AVE	270.00	4852410700	8270 EL PASO ST	270.00	AI120.00		186.00
			4852410800	8280 EL PASO ST	270.00	6751000100	8151 EL PASO ST	186.00
AI106.00		1350.00	4900300200		250.00			
4852531800	8430 NENTRA ST	270.00	6751001000	8251 EL PASO ST	137.00	AI124.00		943.00
4852531900	8420 NENTRA ST	270.00				6751000200	6080 LAKE MURRAY BLVD	367.00
4852532000	8410 NENTRA ST	270.00				6751000300	6062 LAKE MURRAY BLVD	356.00

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MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
6751000400	6085 LAKE MURRAY BLVD	220.00	4852810500	8546 DALLAS ST	270.00	AI139.01		1350.00
			4852810600	8550 DALLAS ST	270.00	4852310100	8390 DALLAS ST	270.00
AI126.00		2357.00	4852810700	8556 DALLAS ST	270.00	4852310200	8380 DALLAS ST	270.00
4852200200	6101 LAKE MURRAY BLVD	2357.00	4853110100	8560 DALLAS ST	270.00	4852310300	8370 DALLAS ST	270.00
			4853110200	8570 DALLAS ST	270.00	4852310400	8360 DALLAS ST	270.00
AI127.00		1350.00	4853110300	8580 DALLAS ST	270.00	4852321300	6190 JACKSON DR	270.00
4852320100	8365 DALLAS ST	270.00	4853110400	8590 DALLAS ST	270.00			
4852320200	6181 DALHART AVE	270.00				AI140.01		1350.00
4852330200	6180 DALHART AVE	270.00	AI133.00		3240.00	4852310800	8330 DALLAS ST	270.00
4852330300	6170 DALHART AVE	270.00	4852510100	8490 DALLAS ST	270.00	4852310900	8326 DALLAS ST	270.00
4852330700	8345 DALLAS ST	270.00	4852810100	8500 DALLAS ST	270.00	4852311000	8318 DALLAS ST	270.00
			4852810800	8536 DALLAS ST	270.00	4852311100	8310 DALLAS ST	270.00
AI127.01		2160.00	4852810900	8526 DALLAS ST	270.00	4852330800	8335 DALLAS ST	270.00
4852320300	6171 DALHART AVE	270.00	4852811000	8510 DALLAS ST	270.00			
4852320400	6161 DALHART AVE	270.00	4852811100	8514 DALLAS ST	270.00	AI141.00		291.00
4852320500	6155 DALHART AVE	270.00	4852811200	8520 DALLAS ST	270.00	4852200100	6195 LAKE MURRAY BLVD	291.00
4852320600	6147 DALHART AVE	270.00	4852820200	8505 DALLAS ST	270.00			
4852330400	6160 DALHART AVE	270.00	4852821000	8509 DALLAS ST	270.00	AI141.01		167.00
4852330500	6150 DALHART AVE	270.00	4852821100	8515 DALLAS ST	270.00	6750100800	6140 LAKE MURRAY BLVD	167.00
4852330600	6140 DALHART AVE	270.00	4852821200	8521 DALLAS ST	270.00			
4852420100	6141 DALHART AVE	270.00	4852821300	8525 DALLAS ST	270.00	AI141.03		32000.00
						MT-A11	LAKE MURRAY	32000.00
AI128.00		810.00	AI134.00		1080.00	AI141.90		592.00
4852320700	6144 JACKSON DR	270.00	4852820100	8501 DALLAS ST	270.00	6750100600	6120 LAKE MURRAY BLVD	141.00
4852320800	6148 JACKSON DR	270.00	4852820400	6171 AMARILLO AVE	270.00	6750100700	6122 LAKE MURRAY BLVD	451.00
4852320900	6154 JACKSON DR	270.00	4852820500	6161 AMARILLO AVE	270.00			
			4852820600	6151 AMARILLO AVE	270.00	AI142.01		1813.00
AI128.01		810.00				6750100400	6100 LAKE MURRAY BLVD	1813.00
4852321000	6160 JACKSON DR	270.00	AI135.00		2700.00			
4852321100	6170 JACKSON DR	270.00	4852510200	8480 DALLAS ST	270.00	AI142.02		18000.00
4852321200	6180 JACKSON DR	270.00	4852510300	8470 DALLAS ST	270.00	MT-A6	BLUE LAKE	18000.00
			4852510400	8460 DALLAS ST	270.00			
AI130.00		3240.00	4852510500	8450 DALLAS ST	270.00	AI143.00		810.00
4852521700	8438 DENTON ST	270.00	4852510600	8440 DALLAS ST	270.00	6750701100	6185 KIMBERLY DR	270.00
4852521800	8428 DENTON ST	270.00	4852520700	8449 DALLAS ST	270.00	6750701200	6175 KIMBERLY DR	270.00
4852521900	8418 DENTON ST	270.00	4852520800	8455 DALLAS ST	270.00	6750701300	6165 KIMBERLY DR	270.00
4852522000	8410 DENTON ST	270.00	4852520900	8465 DALLAS ST	270.00			
4852522100	8406 DENTON ST	270.00	4852521000	8475 DALLAS ST	270.00	AI143.01		540.00
4852522200	8400 DENTON ST	270.00	4852521100	8483 DALLAS ST	270.00	6750700900	6205 KIMBERLY DR	270.00
4852530100	8401 DENTON ST	270.00				6750701000	6195 KIMBERLY DR	270.00
4852530200	8405 DENTON ST	270.00	AI136.00		2970.00			
4852530300	8409 DENTON ST	270.00	4852510700	8430 DALLAS ST	270.00	AI144.00		2700.00
4852530400	8417 DENTON ST	270.00	4852510800	8420 DALLAS ST	270.00	6750700100	8020 MICHELLE DR	270.00
4852530500	8427 DENTON ST	270.00	4852510900	8410 DALLAS ST	270.00	6750700200	8025 MICHELLE DR	270.00
4852530600	8437 DENTON ST	270.00	4852511000	8404 DALLAS ST	270.00	6750700700	8035 MICHELLE DR	270.00
			4852511100	8400 DALLAS ST	270.00	6750700800	8030 MICHELLE DR	270.00
AI131.00		2700.00	4852520100	6185 JACKSON DR	270.00	6750800900	7980 MICHELLE DR	270.00
4852521200	8488 DENTON ST	270.00	4852520200	8405 DALLAS ST	270.00	6750801000	7990 MICHELLE DR	270.00
4852521300	8478 DENTON ST	270.00	4852520300	8411 DALLAS ST	270.00	6750801100	8000 MICHELLE DR	270.00
4852521400	8468 DENTON ST	270.00	4852520400	8421 DALLAS ST	270.00	6750801200	8015 MICHELLE DR	270.00
4852521500	8458 DENTON ST	270.00	4852520500	8429 DALLAS ST	270.00	6750801300	7995 MICHELLE DR	270.00
4852521600	8448 DENTON ST	270.00	4852520600	8439 DALLAS ST	270.00	6750801400	7985 MICHELLE DR	270.00
4852530700	8447 DENTON ST	270.00						
4852530800	8457 DENTON ST	270.00	AI137.01		74000.00	AI145.00		270.00
4852530900	8467 DENTON ST	270.00	MT-A8	JACKSON	74000.00	4901731700	5650 SIGMA ST	270.00
4852531000	8477 DENTON ST	270.00						
4852531100	8483 DENTON ST	270.00	AI139.00		810.00	AI146.00		1350.00
			4852310500	8350 DALLAS ST	270.00	4902810300	5645 SIGMA ST	270.00
AI132.00		2160.00	4852310600	8340 DALLAS ST	270.00	4905921300	8405 CHLOE AVE	270.00
4852810400	8540 DALLAS ST	270.00	4852310700	8336 DALLAS ST	270.00			

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
AK004.00		1296.00	AL008.01		0.00	AL023.00		1080.00
4902601100	5601 GROSSMONT CENTER DR	0.00	4856002400		0.00	4855230100	6315 SWALERO RD	270.00
4902601300	5565 GROSSMONT CENTER DR	1296.00	4856002500	DALLAS ST	0.00	4855320100	6305 SWALERO RD	270.00
						4855320200	6295 SWALERO RD	270.00
AK005.00		0.00	AL009.00		12210.00	4855320300	6285 SWALERO RD	270.00
4902601400	8787 CENTER DR	0.00	4856000900	PARK PLAZA DR	11322.00			
			4902101600		888.00	AL024.00		540.00
AK007.00		7240.00				4855320900	6340 MEADOWCREST DR	270.00
4902610900	5500 GROSSMONT CENTER DR	6139.00	AL011.00		0.00	4855330600	6345 MEADOWCREST DR	270.00
4902611000	5500 GROSSMONT CENTER DR	1101.00	4856002300	DALLAS ST	0.00			
						AL024.01		1853.00
AK011.02		2131.00	AL013.00		92877.00	4855500600	9158 FLETCHER PKY	1140.00
4902601000	5565 GROSSMONT CENTER DR	2131.00	4855413000	DALLAS ST	877.00	4855501100	9160 FLETCHER PKY	713.00
			MT-A7	EASTLAKE	92000.00			
AK014.00		615.00	AL014.00		17798.00	AL027.00		810.00
4902604400	5454 GROSSMONT CENTER DR	224.00	4856001300	9019 PARK PLAZA DR	370.00	4855230200	6325 SWALERO RD	270.00
4902604500	5464 GROSSMONT CENTER DR	391.00	4856001400	9089 DALLAS ST	293.00	4855230300	6335 SWALERO RD	270.00
			4856001700	9071 DALLAS ST	16920.00	4855230400	8951 LAKE ANGELA DR	270.00
AK015.03		437.00	4856001800	9083 DALLAS ST	215.00			
4902603000	5505 GROSSMONT CENTER DR	437.00				AL029.00		32080.00
			AL017.00		1080.00	4855210500	8960 LAKE ANGELA DR	270.00
AK016.00		1260.00	4855411300	6260 MEADOW CREST DR	270.00	4855210600	8970 LAKE ANGELA DR	270.00
4902604700	5485 GROSSMONT CENTER DR	482.00	4855411500	8990 DALLAS ST	270.00	4855230500	8955 LAKE ANGELA DR	270.00
4902604800	5475 GROSSMONT CENTER DR	492.00	4855413100	8980 DALLAS ST	270.00	4855230600	8965 LAKE ANGELA DR	270.00
4902604900	5465 GROSSMONT CENTER DR	286.00	4855420100	6255 MEADOWCREST DR	270.00	EC-1	THRASHER WAY	31000.00
AK017.02		30000.00				AM002.01		0.00
4903402200	5555 GROSSMONT CENTER (HOSPITAL-co) DR	30000.00	AL018.00		1080.00	4903601300		0.00
			4855411100	6280 MEADOWCREST DR	270.00			
AK018.00		540.00	4855411200	6270 MEADOW CREST DR	270.00	AM005.00		290.00
4902604600	5495 GROSSMONT CENTER DR	540.00	4855420200	6265 MEADOW CREST DR	270.00	4903601200	WAKARUSA ST	290.00
			4855420300	6285 MEADOWCREST DR	270.00	4903601400	WAKARUSA ST	0.00
AK019.00		1445.00	AL019.00		540.00	AM005.01		30005.00
4903901300	MURRAY DR	0.00	4855410600	6235 SWALERO RD	270.00	4903402200	5555 GROSSMONT CENTER (HOSPITAL) DR	30005.00
4904212400		1445.00	4855412900	6245 SWALERO RD	270.00			
						AM006.02		5580.00
AK028.01		1700.00	AL020.00		810.00	4903900900	WAKARUSA ST	5580.00
4902604200	8805 MURRAY DR	774.00	4855410800	6255 SWALERO RD	270.00			
4902604300	8825 MURRAY DR	926.00	4855410900	6265 SWALERO RD	270.00	AM009.03		4600.00
			4855411000	6275 SWALERO RD	270.00	4903901400	WAKARUSA ST	4600.00
AK029.00		6139.00	AL021.00		1350.00			
4902610900	5500 GROSSMONT CENTER DR	6139.00	4855320400	6290 MEADOWCREST DR	270.00	AM011.00		27105.00
			4855320500	6300 MEADOW CREST DR	270.00	4903703300	9000 WAKARUSA ST	27105.00
AK035.01		6139.00	4855320600	6310 MEADOW CREST DR	270.00			
4902610900	5500 GROSSMONT CENTER DR	6139.00	4855330100	6295 MEADOWCREST DR	270.00	AM014.00		810.00
			4855330200	6305 MEADOWCREST DR	270.00	4903700800	9101 WAKARUSA ST	270.00
AK041.00		6139.00				4903700900	9109 WAKARUSA ST	270.00
4902610900	5500 GROSSMONT CENTER DR	6139.00	AL021.01		1124.00	4903701000	9100 WAKARUSA ST	270.00
			4855500700	9118 FLETCHER PKY	324.00			
AL002.08		547.00	4855500800	9100 FLETCHER PKY	800.00	AM016.00		270.00
4902104700	FLETCHER PKY	547.00				4903701100	9112 WAKARUSA ST	270.00
			AL022.00		1350.00			
AL002.09		809.00	4855320700	6320 MEADOWCREST DR	270.00	AM017.00		540.00
4902104900	FLETCHER PKY	809.00	4855320800	6330 MEADOWCREST DR	270.00	4903701200	9120 WAKARUSA ST	270.00
			4855330300	6315 MEADOWCREST DR	270.00	4903701300	9130 WAKARUSA ST	270.00
AL002.50		223.00	4855330400	6325 MEADOWCREST DR	270.00			
4902105000	FLETCHER PKY	223.00	4855330500	6335 MEADOW CREST DR	270.00			

Appendix D. Existing Dry Weather Condition Steady State Model Loading

MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)	MH ID APNs	SITE ADDRESS	TRIBUTARY FLOW (gpd)
AP035.00		270.00	AP045.05		540.00	4866702829	5931 HOWELL DR	180.00
4868021300	9335 URBAN DR	270.00	4912801600	9510 GROSSMONT BLVD	270.00	4866702830	5931 HOWELL DR	180.00
			4912801800	9514 GROSSMONT BLVD	270.00			
AP036.00		2160.00				AQ003.00		309.00
4868020200	9350 URBAN DR	270.00	AP047.00		451.00	4867500500	5742 AMAYA DR	309.00
4868020300	9360 URBAN DR	270.00	4912801400	9539 GROSSMONT SUMMIT DR	193.00			
4868020400	9370 URBAN DR	270.00	4912802200	9555 GROSSMONT SUMMIT DR	258.00			
4868020500	9380 URBAN DR	270.00				AQ004.01		10800.00
4868021200	9345 URBAN DR	270.00				4866702601	5750 AMAYA DR	180.00
4868021500	9390 URBAN DR	270.00	AP049.00		810.00	4866702602	5750 AMAYA DR	180.00
4868021600	9355 URBAN DR	270.00	4912900700	9643 PLIMPTON RD	270.00	4866702603	5750 AMAYA DR	180.00
4868021700	9367 URBAN DR	270.00	4912900800	9644 PLIMPTON RD	270.00	4866702604	5750 AMAYA DR	180.00
			4913002200	9623 GROSSMONT SUMMIT DR	270.00	4866702605	5750 AMAYA DR	180.00
						4866702606	5750 AMAYA DR	180.00
AP037.00		1747.00	AP050.00		810.00	4866702607	5750 AMAYA DR	180.00
4868320800	9472 LOREN DR	127.00	4912900600	9555 GROSSMONT BLVD	270.00	4866702608	5750 AMAYA DR	180.00
4868320900	9478 LOREN DR	270.00	4912901100	9600 SIERRA VISTA AVE	270.00	4866702609	5750 AMAYA DR	180.00
4868321000	9484 LOREN DR	270.00	4912901900	9537 GROSSMONT BLVD	270.00	4866702610	5750 AMAYA DR	180.00
4868321100	9490 LOREN DR	270.00	4912902200	GROSSMONT BLVD	0.00	4866702611	5750 AMAYA DR	180.00
4868321400	9481 LOREN DR	270.00				4866702612	5750 AMAYA DR	180.00
4868321500	9475 LOREN DR	270.00	AP051.00		1890.00	4866702613	5750 AMAYA DR	180.00
4868322000	9487 LOREN DR	270.00	4912900200	9523 GROSSMONT BLVD	270.00	4866702614	5750 AMAYA DR	180.00
4868322100	LOREN DR	0.00	4912900300	9533 GROSSMONT BLVD	270.00	4866702615	5750 AMAYA DR	180.00
			4912901200	9524 SIERRA VISTA AVE	270.00	4866702616	5750 AMAYA DR	180.00
AP038.00		0.00	4912901300	9510 SIERRA VISTA AVE	270.00	4866702617	5750 AMAYA DR	180.00
4868401000	9530 MURRAY DR	0.00	4912901400	9504 SIERRA VISTA AVE	270.00	4866702618	5750 AMAYA DR	180.00
			4912902000	9501 GROSSMONT BLVD	270.00	4866702619	5750 AMAYA DR	180.00
AP040.00		938.00	4912902100	9511 GROSSMONT BLVD	270.00	4866702620	5750 AMAYA DR	180.00
4868400400	9530 MURRAY DR	529.00				4866702621	5750 AMAYA DR	180.00
4868400500	9550 MURRAY DR	409.00	AQ001.00		2903.00	4866702622	5750 AMAYA DR	180.00
			4867500300	5901 SEVERIN DR	2903.00	4866702623	5750 AMAYA DR	180.00
AP041.00		1388.00				4866702624	5750 AMAYA DR	180.00
4868400600	9566 MURRAY DR	339.00	AQ001.01		5400.00	4866702625	5750 AMAYA DR	180.00
4868400700	9570 MURRAY DR	226.00	4866702801	5931 HOWELL DR	180.00	4866702626	5750 AMAYA DR	180.00
4868400800	9584 MURRAY DR	0.00	4866702802	5931 HOWELL DR	180.00	4866702627	5750 AMAYA DR	180.00
4868400900	9600 MURRAY DR	361.00	4866702803	5931 HOWELL DR	180.00	4866702628	5750 AMAYA DR	180.00
4868401200	9607 MURRAY DR	462.00	4866702804	5931 HOWELL DR	180.00	4866702629	5750 AMAYA DR	180.00
			4866702805	5931 HOWELL DR	180.00	4866702630	5750 AMAYA DR	180.00
AP042.01		2410.00	4866702806	5931 HOWELL DR	180.00	4866702631	5750 AMAYA DR	180.00
4912301300	9347 EL CAJON BLVD	589.00	4866702807	5931 HOWELL DR	180.00	4866702632	5750 AMAYA DR	180.00
4912301500	9340 FUERTE DR	900.00	4866702808	5931 HOWELL DR	180.00	4866702633	5750 AMAYA DR	180.00
4912301600		27.00	4866702809	5931 HOWELL DR	180.00	4866702634	5750 AMAYA DR	180.00
4912601200	9424 GROSSMONT BLVD	270.00	4866702810	5931 HOWELL DR	180.00	4866702635	5750 AMAYA DR	180.00
4912601300	9414 GROSSMONT BLVD	270.00	4866702811	5931 HOWELL DR	180.00	4866702636	5750 AMAYA DR	180.00
4912601400	9410 GROSSMONT BLVD	121.00	4866702812	5931 HOWELL DR	180.00	4866702637	5750 AMAYA DR	180.00
4912601500	9402 GROSSMONT BLVD	114.00	4866702813	5931 HOWELL DR	180.00	4866702638	5750 AMAYA DR	180.00
4912601600		119.00	4866702814	5931 HOWELL DR	180.00	4866702639	5750 AMAYA DR	180.00
			4866702815	5931 HOWELL DR	180.00	4866702640	5750 AMAYA DR	180.00
AP043.00		407.00	4866702816	5931 HOWELL DR	180.00	4866702641	5750 AMAYA DR	180.00
4912301700	9400 GROSSMONT SUMMIT DR	0.00	4866702817	5931 HOWELL DR	180.00	4866702642	5750 AMAYA DR	180.00
4912600800	9462 GROSSMONT BLVD	270.00	4866702818	5931 HOWELL DR	180.00	4866702643	5750 AMAYA DR	180.00
4912600900	GROSSMONT BLVD	0.00	4866702819	5931 HOWELL DR	180.00	4866702644	5750 AMAYA DR	180.00
4912601000	GROSSMONT BLVD	0.00	4866702820	5931 HOWELL DR	180.00	4866702645	5750 AMAYA DR	180.00
4912602000	9461 GROSSMONT SUMMIT DR	137.00	4866702821	5931 HOWELL DR	180.00	4866702646	5750 AMAYA DR	180.00
			4866702822	5931 HOWELL DR	180.00	4866702647	5750 AMAYA DR	180.00
AP044.00		810.00	4866702823	5931 HOWELL DR	180.00	4866702648	5750 AMAYA DR	180.00
4912601800	9476 GROSSMONT BLVD	270.00	4866702824	5931 HOWELL DR	180.00	4866702649	5750 AMAYA DR	180.00
4912801700	9515 GROSSMONT BLVD	270.00	4866702825	5931 HOWELL DR	180.00	4866702650	5750 AMAYA DR	180.00
4912801900	9517 GROSSMONT SUMMIT DR	270.00	4866702826	5931 HOWELL DR	180.00	4866702651	5750 AMAYA DR	180.00
			4866702827	5931 HOWELL DR	180.00	4866702652	5750 AMAYA DR	180.00
			4866702828	5931 HOWELL DR	180.00	4866702653	5750 AMAYA DR	180.00

APPENDIX C
SEWER LINE SUMMARY
DRY & WET WEATHER CONDITIONS

Offsite Planned Development

APN	Adress	Project	Commercial Size		Units	Population [pop] ⁴	Generation Rates ¹	Flow (GPD)	Prior Use	Existing Dry Tributary Flow (GPD) ²	Net Positive Only (GPD)	From MH
			SF	AC								
4641201700	5602 Aztec Drive	Four-Lot TPM (Approved)	-	-	4	14	270	1,080	One Unit Existing	270	810	A0013.05
4700400900	5120 Baltimore Drive	66 Apartment Units (Completed 2017)	-	-	66	231	180	11,880	Former Restaurant	0	11,880	AC008.00
4691303400	8135 Colony Drive	40 Apartment Units (Approved)	-	-	40	140	180	7,200	Vacant Site (23 Units assumed in sewer master Plan)	6210	990	AC008.00
4940101400	8265 Commercial Street	Self-Storage Facility	110,346	2.53	-	277	500	1,267	Former Office Building	693	574	A0013.05
6750702200	8135 El Paso Street	Mixed-use w/ 20 Apartment Units (Approved)	749	0.02	20	71	500/180	3,609	Vacant Site	0	3,609	A0013.05
4646001500	8165 Fletcher Parkway	Costco Retail Fueling Facility (32 positions)	70,500	1.62	-	71	500	809	Former 40,000 SF Retail Pad	1629	0	A0013.05
4855501100	9160 Fletcher Parkway	Resaurant/Bar	10,275	0.24	-	11	500	118	Former Retail Pad	713	0	A0013.05
7602369907	5555 Grossmont Center Drive	Hospital Diagnostic/Treatment	70,500	1.62	-	1214	500	809	Vacant Site	30000	0	A0013.05
4912301700	9400 Grossmont Summit Drive	Commercial Office Building	33,232	0.76	-	101	500	381	Vacant Site	0	381	A0013.05
4902610800	5335 Jackson Drive	Coffee Shop	2,000	0.05	-	3	500	23	Vacant Site	240	0	A0013.05
4691002400	5042 Keeney Street	10 Unit Condos (Approved)	-	-	10	35	180	1,800	2 Single Family Residence Existing	270	1,530	AC005.01
4943001100	8529 La Mesa Blvd	Apartments under construction	-	-	130	455	180	23,400	Former Retirement Home/Chapel	0	23,400	AC008.00
4643001000	5565 Lake Murray Blvd	Mixed-use	970	0.02	27	96	500/180	4,871	Former Auto Repair	696	4,175	A0013.05
6750100800	6140 Lake Murray Blvd	Coffee Shop	1,616	0.04	-	2	500	19	Former Fast Food Restaurant	167	0	A0013.05
4640902200	5550 Lake Murray Blvd	Two Commerical Shell Buildings	5,937	0.14	-	6	500	68	Former Restaurant	601	0	A0013.05
6750100900	6110 Lake Murray Blvd	Fast Food Restaurant	2,159	0.05	-	3	500	25	Vacant Site	0	25	A0013.05
4691411800	7330 Mohawk Street	9 Single Family Resiendence	-	-	9	32	270	2,430	Former Mobile Home	540	1,890	AC005.01
4903901300	0 Murray Drive	Hospital Central Energy	-	-	1	150	500	500	Vacant Site	0	500	A0013.05
4700110200	7574 Saranac Avenue	4 Units (Approved)	-	-	4	14	180	720	One Unit Existing	270	450	AC008.00
4690201200	0 Saranac Street	30 Apartment Units (Approved)	-	-	30	105	180	5,400	Vacant Site	0	5,400	AC002.01
4867500200	5900 Severin Drive	18 Units (Include 2 Live-work)	-	-	18	63	180	3,240	Vacant Site	230	3,010	A0013.05
4642920600	5502 Shasta Lane	18 Units (Under Construction)	-	-	18	63	180	3,240	Vacant Site	270	2,970	A0013.05

From MH	Total Flow (w/o peaking factor)		Total Pop	Peaking Factor [PF] ³	Total Flow	
	GPD	CFS			GPD	CFS
A0013.05	51,784	0.080	2,845	2.16	112,104	0.173
AC008.00	990	0.002	140	3.24	3,211	0.005
AC005.01	3,420	0.005	67	3.58	12,244	0.019
AC002.01	5,400	0.008	105	3.37	18,202	0.028

¹Per City of La Mesa Sewer Master Plan, Table 3-4

²Per City of La Mesa Sewer Master Plan, Appendix D

³Peaking factor per Formula found on City of San Diego Sewer Design Guide, Figure 1-1

⁴Population per City of San Diego Sewer Design Guide, Table 1-1

Dry Weather Conditions																							
Existing ⁵										Proposed													
Line No.	From MH	To MH	Peak Design Flow		Line Size (inches)	Length (feet)	Design Slope (%)	dn (ft)	dn/D	Line No.	From MH	To MH	Added Flows (GPD)			Peak Design Flow		Line Size (inches)	Length (feet)	Design Slope (%)	dn (ft)	dn/D	Notes
			(GPD)	(CFS)									Existing	Offsite	Proposed	(GPD)	(CFS)						
PAC008.00	AC008.00	AC009.00	11,384	0.018	8	93.67	15.319	0.03	0.045														
										PAC008.01	AC008.01	AC009.01	11,384	3,211	0	14,595	0.023	8	83.06	4.575	0.04	0.06	Start w/ existing flow from Line No. PAC008.00 & Offsite flow from MH AC008.00
										PAC009.01	AC009.01	AC009.02	14,595	0	133,380	147,975	0.229	8	270.32	1.150	0.16	0.24	Add 300 DU @ 180 GPD ¹ w/ 2.47 PF ³ for 1050 pop ⁴
										PAC009.02	AC009.02	AC009.03	147,975	0	0	147,975	0.229	8	62.46	1.153	0.16	0.24	
										PAC009.03	AC009.03	A0012.10	147,975	0	0	147,975	0.229	8	12.54	1.116	0.17	0.26	
PA0013.05	A0013.05	A0012.05	3,579,410	5.538	21	295.5	0.971	0.72	0.411	PA0013.05	A0012.10	A0012.05	3,579,410	112,104	0	3,691,514	5.712	21	272.42	0.947	0.79	0.45	Add existing flow from Line No. PA0013.05 & Offsite flow from MH A0013.05
PA0012.05	A0012.05	A0011.05	3,579,410	5.538	21	293.3	1.023	0.71	0.406	PA0012.05	A0012.05	A0011.05	3,691,514	0	0	3,691,514	5.712	21	293.3	1.023	0.78	0.45	
PA0011.05	A0011.05	A0010.05	3,579,410	5.538	21	284.9	1.053	0.7	0.400	PA0011.05	A0011.05	A0010.05	3,691,514	0	0	3,691,514	5.712	21	284.9	1.053	0.78	0.45	
PA0010.05	A0010.05	A0009.05	3,579,410	5.538	21	286.6	1.047	0.71	0.406	PA0010.05	A0010.05	A0009.05	3,691,514	0	0	3,691,514	5.712	21	286.6	1.047	0.78	0.45	
PA0009.05	A0009.05	A0008.05	3,579,410	5.538	21	299.1	1.796	0.61	0.349	PA0009.05	A0008.10	A0008.05	3,691,514	0	0	3,691,514	5.713	21	83.74	1.796	0.67	0.38	Continues to Line No. PA0008.05
PAC005.01	AC005.01	AC005.00	45,963	0.071	8	81.42	12.792	0.06	0.090														
										PA0008.17	AC005.00	A0008.17	45,963	12,244	0	58,207	0.090	8	67.08	0.900	0.10	0.15	Start w/ existing flow from Line No. PAC005.01 & Offsite flow from MH AC005.00
										PA0008.16	A0008.17	A0008.16	58,207	0	274,890	333,097	0.515	8	235.86	0.900	0.24	0.36	Add 605 students @ 100 GPD ² & 325 DU @ 180 GPD ¹ w/ 2.31 PF ³ for 1743 pop ⁴
										PA0008.15	A0008.16	A0008.15	333,097	0	0	333,097	0.515	8	235.84	0.900	0.24	0.36	
										PA0008.14	A0008.15	A0008.14	333,097	0	0	333,097	0.515	8	79.13	0.900	0.24	0.36	
										PA0008.13	A0008.14	A0008.13	333,097	0	0	333,097	0.515	8	42.02	1.700	0.23	0.35	Continues to Line No. PA0008.12
PAC002.01	AC002.01	A0009.00	51,874	0.080	8	141.08	13.298	0.06	0.090														
										PA0008.13b	A0009.00	A0008.13	51,874	18,202	0	70,076	0.108	8	80.44	0.900	0.12	0.18	Start w/ existing flow from Line No. PAC002.01 & Offsite flow from MH AC002.01
										PA0008.12	A0008.13	A0008.12	403,173	0	0	403,173	0.624	8	57.02	0.900	0.30	0.45	Add flow from Line No. PA008.13
										PA0008.11	A0008.12	A0008.11	403,173	0	0	403,173	0.624	8	80.7	0.900	0.30	0.45	
										PA0008.10	A0008.11	A0008.10	403,173	0	15,525	418,698	0.648	8	24.01	0.900	0.31	0.47	Add 25 DU @ 180 GPD ¹ w/ 3.45 PF ³ for 88 pop ⁴
PA0008.05	A0008.05	A0007.07	3,579,410	5.538	21	232.5	0.826	0.75	0.429	PA0008.05	A0008.05	A0007.07	4,110,212	0	0	4,110,212	6.361	21	232.5	0.826	0.71	0.41	Add flow from Line No. PA0009.05

¹ 180 GPD/DU for Multi-Family Residential Per City of La Mesa Sewer Master Plan, Table 3-4

² 100 GPD per student for boarding schools (2018 Uniform Plumbing Code P.338)

³Peaking factor per Formula found on City of San Diego Sewer Design Guide, Figure 1-1

⁴Population per City of San Diego Sewer Design Guide, Table 1-1

⁵Per City of La Mesa Sewer Master Plan, Appendix E, Buildout Dry Weather Condition

Wet Weather Conditions																							
Existing ⁵										Proposed													
Line No.	From MH	To MH	Peak Design Flow		Line Size (inches)	Length (feet)	Design Slope (%)	dn (ft)	dn/D	Line No.	From MH	To MH	Added Flows (GPD)			Peak Design Flow		Line Size (inches)	Length (feet)	Design Slope (%)	dn (ft)	dn/D	Notes
			(GPD)	(CFS)									Existing	Offsite	Proposed	(GPD)	(CFS)						
PAC008.00	AC008.00	AC009.00	11,964	0.019	8	93.67	15.319	0.03	0.045														
										PAC008.01	AC008.01	AC009.01	11,964	3,211	0	15,175	0.023	8	83.06	4.575	0.04	0.06	Start w/ existing flow from Line No. PAC008.00 & Offsite flow from MH AC008.00
										PAC009.01	AC009.01	AC009.02	15,175	0	133,380	148,555	0.230	8	270.32	1.150	0.16	0.24	Add 300 DU @ 180 GPD ¹ w/ 2.47 PF ³ for 1050 pop ⁴
										PAC009.02	AC009.02	AC009.03	148,555	0	0	148,555	0.230	8	62.46	1.153	0.16	0.24	
										PAC009.03	AC009.03	A0012.10	148,555	0	0	148,555	0.230	8	12.54	1.116	0.17	0.26	
PA0013.05	A0013.05	A0012.05	3,937,351	6.092	21	295.5	0.971	0.72	0.411	PA0013.05	A0012.10	A0012.05	3,937,351	112,104	0	4,049,455	6.265	21	272.42	0.947	0.84	0.48	Add existing flow from Line No. PA0013.05 & Offsite flow from MH A0013.05
PA0012.05	A0012.05	A0011.05	3,937,351	6.092	21	293.3	1.023	0.71	0.406	PA0012.05	A0012.05	A0011.05	4,049,455	0	0	4,049,455	6.265	21	293.3	1.023	0.82	0.47	
PA0011.05	A0011.05	A0010.05	3,937,351	6.092	21	284.9	1.053	0.7	0.400	PA0011.05	A0011.05	A0010.05	4,049,455	0	0	4,049,455	6.265	21	284.9	1.053	0.82	0.47	
PA0010.05	A0010.05	A0009.05	3,937,351	6.092	21	286.6	1.047	0.71	0.406	PA0010.05	A0010.05	A0009.05	4,049,455	0	0	4,049,455	6.265	21	286.6	1.047	0.82	0.47	
PA0009.05	A0009.05	A0008.05	3,579,410	5.538	21	299.1	1.796	0.61	0.349	PA0009.05	A0008.10	A0008.05	4,049,455	0	0	4,049,455	6.265	21	83.74	1.796	0.7	0.40	Continues to Line No. PA0008.05
PAC005.01	AC005.01	AC005.00	48,812	0.076	8	81.42	12.792	0.06	0.090														
										PA0008.17	AC005.00	A0008.17	48,812	12,244	0	61,056	0.094	8	67.08	0.900	0.10	0.15	Start w/ existing flow from Line No. PAC005.01 & Offsite flow from MH AC005.00
										PA0008.16	A0008.17	A0008.16	61,056	0	274,890	335,946	0.520	8	235.86	0.900	0.25	0.38	Add 605 students @ 100 GPD ² & 325 DU @ 180 GPD ¹ w/ 2.31 PF ³ for 1743 pop ⁴
										PA0008.15	A0008.16	A0008.15	335,946	0	0	335,946	0.520	8	235.84	0.900	0.25	0.38	
										PA0008.14	A0008.15	A0008.14	335,946	0	0	335,946	0.520	8	79.13	0.900	0.25	0.38	
										PA0008.13	A0008.14	A0008.13	335,946	0	0	335,946	0.520	8	42.02	1.700	0.23	0.35	Continues to Line No. PA0008.12
PAC002.01	AC002.01	A0009.00	55,144	0.085	8	141.08	13.298	0.06	0.090														
										PA0008.13b	A0009.00	A0008.13	55,144	18,202	0	73,346	0.114	8	80.44	0.900	0.12	0.18	Start w/ existing flow from Line No. PAC002.01 & Offsite flow from MH AC002.01
										PA0008.12	A0008.13	A0008.12	409,292	0	0	409,292	0.633	8	57.02	0.900	0.30	0.45	Add flow from Line No. PA008.13
										PA0008.11	A0008.12	A0008.11	409,292	0	0	409,292	0.633	8	80.7	0.900	0.30	0.45	
										PA0008.10	A0008.11	A0008.10	409,292	0	15,525	424,817	0.657	8	24.01	0.900	0.31	0.47	Add 25 DU @ 180 GPD ¹ w/ 3.45 PF ³ for 88 pop ⁴
PA0008.05	A0008.05	A0007.07	3,937,351	6.092	21	232.5	0.826	0.79	0.451	PA0008.05	A0008.05	A0007.07	4,474,272	0	0	4,474,272	6.924	21	232.5	0.826	0.93	0.53	Add flow from Line No. PA0009.05

¹ 180 GPD/DU for Multi-Family Residential Per City of La Mesa Sewer Master Plan, Table 3-4

² 100 GPD per student for boarding schools (2018 Uniform Plumbing Code P.338)

³Peaking factor per Formula found on City of San Diego Sewer Design Guide, Figure 1-1

⁴Population per City of San Diego Sewer Design Guide, Table 1-1

⁵Per City of La Mesa Sewer Master Plan, Appendix E, Buildout Wet Weather Condition

APPENDIX D
FLOW MASTER FLOW RESULTS
DRY & WET WEATHER CONDITIONS

Worksheet for Dry Weather PAC008.00

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	15.319	%
Diameter	8.00	in
Discharge	0.018	ft ³ /s

Results

Normal Depth	0.03	ft
Flow Area	0.00	ft ²
Wetted Perimeter	0.27	ft
Hydraulic Radius	0.02	ft
Top Width	0.26	ft
Critical Depth	0.06	ft
Percent Full	4.0	%
Critical Slope	0.00462	ft/ft
Velocity	3.88	ft/s
Velocity Head	0.23	ft
Specific Energy	0.26	ft
Froude Number	5.13	
Maximum Discharge	6.61	ft ³ /s
Discharge Full	6.15	ft ³ /s
Slope Full	0.00000	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	3.97	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PAC008.00

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.03	ft
Critical Depth	0.06	ft
Channel Slope	15.319	%
Critical Slope	0.00462	ft/ft

Worksheet for Dry Weather PAC008.01

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	4.600	%
Diameter	8.00	in
Discharge	0.023	ft ³ /s

Results

Normal Depth	0.04	ft
Flow Area	0.01	ft ²
Wetted Perimeter	0.33	ft
Hydraulic Radius	0.03	ft
Top Width	0.31	ft
Critical Depth	0.07	ft
Percent Full	5.9	%
Critical Slope	0.00442	ft/ft
Velocity	2.75	ft/s
Velocity Head	0.12	ft
Specific Energy	0.16	ft
Froude Number	2.97	
Maximum Discharge	3.62	ft ³ /s
Discharge Full	3.37	ft ³ /s
Slope Full	0.00000	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	5.92	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PAC008.01

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.04	ft
Critical Depth	0.07	ft
Channel Slope	4.600	%
Critical Slope	0.00442	ft/ft

Worksheet for Dry Weather PAC009.01

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.200	%
Diameter	8.00	in
Discharge	0.229	ft ³ /s

Results

Normal Depth	0.16	ft
Flow Area	0.07	ft ²
Wetted Perimeter	0.69	ft
Hydraulic Radius	0.10	ft
Top Width	0.57	ft
Critical Depth	0.22	ft
Percent Full	24.6	%
Critical Slope	0.00381	ft/ft
Velocity	3.42	ft/s
Velocity Head	0.18	ft
Specific Energy	0.35	ft
Froude Number	1.77	
Maximum Discharge	1.85	ft ³ /s
Discharge Full	1.72	ft ³ /s
Slope Full	0.00021	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	24.64	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PAC009.01

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.16	ft
Critical Depth	0.22	ft
Channel Slope	1.200	%
Critical Slope	0.00381	ft/ft

Worksheet for Dry Weather PAC009.02

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.200	%
Diameter	8.00	in
Discharge	0.229	ft ³ /s

Results

Normal Depth	0.16	ft
Flow Area	0.07	ft ²
Wetted Perimeter	0.69	ft
Hydraulic Radius	0.10	ft
Top Width	0.57	ft
Critical Depth	0.22	ft
Percent Full	24.6	%
Critical Slope	0.00381	ft/ft
Velocity	3.42	ft/s
Velocity Head	0.18	ft
Specific Energy	0.35	ft
Froude Number	1.77	
Maximum Discharge	1.85	ft ³ /s
Discharge Full	1.72	ft ³ /s
Slope Full	0.00021	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	24.64	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PAC009.02

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.16	ft
Critical Depth	0.22	ft
Channel Slope	1.200	%
Critical Slope	0.00381	ft/ft

Worksheet for Dry Weather PAC009.03

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.100	%
Diameter	8.00	in
Discharge	0.229	ft ³ /s

Results

Normal Depth	0.17	ft
Flow Area	0.07	ft ²
Wetted Perimeter	0.70	ft
Hydraulic Radius	0.10	ft
Top Width	0.58	ft
Critical Depth	0.22	ft
Percent Full	25.2	%
Critical Slope	0.00380	ft/ft
Velocity	3.32	ft/s
Velocity Head	0.17	ft
Specific Energy	0.34	ft
Froude Number	1.70	
Maximum Discharge	1.77	ft ³ /s
Discharge Full	1.65	ft ³ /s
Slope Full	0.00021	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	25.19	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PAC009.03

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.17	ft
Critical Depth	0.22	ft
Channel Slope	1.100	%
Critical Slope	0.00380	ft/ft

Worksheet for Dry Weather PA0013.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.970	%
Diameter	21.00	in
Discharge	5.712	ft ³ /s

Results

Normal Depth	0.79	ft
Flow Area	1.06	ft ²
Wetted Perimeter	2.59	ft
Hydraulic Radius	0.41	ft
Top Width	1.74	ft
Critical Depth	0.88	ft
Percent Full	45.4	%
Critical Slope	0.00680	ft/ft
Velocity	5.38	ft/s
Velocity Head	0.45	ft
Specific Energy	1.24	ft
Froude Number	1.22	
Maximum Discharge	14.55	ft ³ /s
Discharge Full	13.52	ft ³ /s
Slope Full	0.00173	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	45.36	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0013.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.79	ft
Critical Depth	0.88	ft
Channel Slope	0.970	%
Critical Slope	0.00680	ft/ft

Worksheet for Dry Weather PA0012.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	1.020	%
Diameter	21.00	in
Discharge	5.712	ft ³ /s

Results

Normal Depth	0.78	ft
Flow Area	1.04	ft ²
Wetted Perimeter	2.56	ft
Hydraulic Radius	0.41	ft
Top Width	1.74	ft
Critical Depth	0.88	ft
Percent Full	44.7	%
Critical Slope	0.00680	ft/ft
Velocity	5.49	ft/s
Velocity Head	0.47	ft
Specific Energy	1.25	ft
Froude Number	1.25	
Maximum Discharge	14.92	ft ³ /s
Discharge Full	13.87	ft ³ /s
Slope Full	0.00173	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	44.72	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0012.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.78	ft
Critical Depth	0.88	ft
Channel Slope	1.020	%
Critical Slope	0.00680	ft/ft

Worksheet for Dry Weather PA0011.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	1.050	%
Diameter	21.00	in
Discharge	5.712	ft ³ /s

Results

Normal Depth	0.78	ft
Flow Area	1.03	ft ²
Wetted Perimeter	2.55	ft
Hydraulic Radius	0.40	ft
Top Width	1.74	ft
Critical Depth	0.88	ft
Percent Full	44.4	%
Critical Slope	0.00680	ft/ft
Velocity	5.55	ft/s
Velocity Head	0.48	ft
Specific Energy	1.25	ft
Froude Number	1.27	
Maximum Discharge	15.14	ft ³ /s
Discharge Full	14.07	ft ³ /s
Slope Full	0.00173	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	44.35	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0011.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.78	ft
Critical Depth	0.88	ft
Channel Slope	1.050	%
Critical Slope	0.00680	ft/ft

Worksheet for Dry Weather PA0010.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	1.050	%
Diameter	21.00	in
Discharge	5.712	ft ³ /s

Results

Normal Depth	0.78	ft
Flow Area	1.03	ft ²
Wetted Perimeter	2.55	ft
Hydraulic Radius	0.40	ft
Top Width	1.74	ft
Critical Depth	0.88	ft
Percent Full	44.4	%
Critical Slope	0.00680	ft/ft
Velocity	5.55	ft/s
Velocity Head	0.48	ft
Specific Energy	1.25	ft
Froude Number	1.27	
Maximum Discharge	15.14	ft ³ /s
Discharge Full	14.07	ft ³ /s
Slope Full	0.00173	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	44.35	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0010.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.78	ft
Critical Depth	0.88	ft
Channel Slope	1.050	%
Critical Slope	0.00680	ft/ft

Worksheet for Dry Weather PA0008.17

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.300	%
Diameter	8.00	in
Discharge	0.090	ft ³ /s

Results

Normal Depth	0.10	ft
Flow Area	0.03	ft ²
Wetted Perimeter	0.53	ft
Hydraulic Radius	0.06	ft
Top Width	0.48	ft
Critical Depth	0.14	ft
Percent Full	15.2	%
Critical Slope	0.00390	ft/ft
Velocity	2.68	ft/s
Velocity Head	0.11	ft
Specific Energy	0.21	ft
Froude Number	1.78	
Maximum Discharge	1.93	ft ³ /s
Discharge Full	1.79	ft ³ /s
Slope Full	0.00003	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	15.24	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0008.17

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.10	ft
Critical Depth	0.14	ft
Channel Slope	1.300	%
Critical Slope	0.00390	ft/ft

Worksheet for Dry Weather PA0008.16

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.300	%
Diameter	8.00	in
Discharge	0.515	ft ³ /s

Results

Normal Depth	0.24	ft
Flow Area	0.12	ft ²
Wetted Perimeter	0.87	ft
Hydraulic Radius	0.13	ft
Top Width	0.64	ft
Critical Depth	0.34	ft
Percent Full	36.7	%
Critical Slope	0.00418	ft/ft
Velocity	4.44	ft/s
Velocity Head	0.31	ft
Specific Energy	0.55	ft
Froude Number	1.84	
Maximum Discharge	1.93	ft ³ /s
Discharge Full	1.79	ft ³ /s
Slope Full	0.00107	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	36.68	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0008.16

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.24	ft
Critical Depth	0.34	ft
Channel Slope	1.300	%
Critical Slope	0.00418	ft/ft

Worksheet for Dr Weather PA0008.15

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.300	%
Diameter	8.00	in
Discharge	0.515	ft ³ /s

Results

Normal Depth	0.24	ft
Flow Area	0.12	ft ²
Wetted Perimeter	0.87	ft
Hydraulic Radius	0.13	ft
Top Width	0.64	ft
Critical Depth	0.34	ft
Percent Full	36.7	%
Critical Slope	0.00418	ft/ft
Velocity	4.44	ft/s
Velocity Head	0.31	ft
Specific Energy	0.55	ft
Froude Number	1.84	
Maximum Discharge	1.93	ft ³ /s
Discharge Full	1.79	ft ³ /s
Slope Full	0.00107	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	36.68	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dr Weather PA0008.15

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.24	ft
Critical Depth	0.34	ft
Channel Slope	1.300	%
Critical Slope	0.00418	ft/ft

Worksheet for Dry Weather PA0008.14

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.300	%
Diameter	8.00	in
Discharge	0.515	ft ³ /s

Results

Normal Depth	0.24	ft
Flow Area	0.12	ft ²
Wetted Perimeter	0.87	ft
Hydraulic Radius	0.13	ft
Top Width	0.64	ft
Critical Depth	0.34	ft
Percent Full	36.7	%
Critical Slope	0.00418	ft/ft
Velocity	4.44	ft/s
Velocity Head	0.31	ft
Specific Energy	0.55	ft
Froude Number	1.84	
Maximum Discharge	1.93	ft ³ /s
Discharge Full	1.79	ft ³ /s
Slope Full	0.00107	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	36.68	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0008.14

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.24	ft
Critical Depth	0.34	ft
Channel Slope	1.300	%
Critical Slope	0.00418	ft/ft

Worksheet for Dry Weather PA0008.13

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.700	%
Diameter	8.00	in
Discharge	0.515	ft ³ /s

Results

Normal Depth	0.23	ft
Flow Area	0.11	ft ²
Wetted Perimeter	0.83	ft
Hydraulic Radius	0.13	ft
Top Width	0.63	ft
Critical Depth	0.34	ft
Percent Full	34.2	%
Critical Slope	0.00417	ft/ft
Velocity	4.88	ft/s
Velocity Head	0.37	ft
Specific Energy	0.60	ft
Froude Number	2.11	
Maximum Discharge	2.20	ft ³ /s
Discharge Full	2.05	ft ³ /s
Slope Full	0.00107	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	34.21	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0008.13

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.23	ft
Critical Depth	0.34	ft
Channel Slope	1.700	%
Critical Slope	0.00417	ft/ft

Worksheet for Dry Weather PA0008.13b

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.900	%
Diameter	8.00	in
Discharge	0.108	ft ³ /s

Results

Normal Depth	0.12	ft
Flow Area	0.04	ft ²
Wetted Perimeter	0.59	ft
Hydraulic Radius	0.07	ft
Top Width	0.51	ft
Critical Depth	0.15	ft
Percent Full	18.2	%
Critical Slope	0.00388	ft/ft
Velocity	2.48	ft/s
Velocity Head	0.10	ft
Specific Energy	0.22	ft
Froude Number	1.51	
Maximum Discharge	1.60	ft ³ /s
Discharge Full	1.49	ft ³ /s
Slope Full	0.00005	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	18.23	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0008.13b

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.12	ft
Critical Depth	0.15	ft
Channel Slope	0.900	%
Critical Slope	0.00388	ft/ft

Worksheet for Dry Weather PA0008.12

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.900	%
Diameter	8.00	in
Discharge	0.624	ft ³ /s

Results

Normal Depth	0.30	ft
Flow Area	0.15	ft ²
Wetted Perimeter	0.98	ft
Hydraulic Radius	0.16	ft
Top Width	0.66	ft
Critical Depth	0.37	ft
Percent Full	45.1	%
Critical Slope	0.00440	ft/ft
Velocity	4.08	ft/s
Velocity Head	0.26	ft
Specific Energy	0.56	ft
Froude Number	1.50	
Maximum Discharge	1.60	ft ³ /s
Discharge Full	1.49	ft ³ /s
Slope Full	0.00158	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	45.11	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0008.12

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.30	ft
Critical Depth	0.37	ft
Channel Slope	0.900	%
Critical Slope	0.00440	ft/ft

Worksheet for Dry Weather PA0008.11

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.900	%
Diameter	8.00	in
Discharge	0.624	ft ³ /s

Results

Normal Depth	0.30	ft
Flow Area	0.15	ft ²
Wetted Perimeter	0.98	ft
Hydraulic Radius	0.16	ft
Top Width	0.66	ft
Critical Depth	0.37	ft
Percent Full	45.1	%
Critical Slope	0.00440	ft/ft
Velocity	4.08	ft/s
Velocity Head	0.26	ft
Specific Energy	0.56	ft
Froude Number	1.50	
Maximum Discharge	1.60	ft ³ /s
Discharge Full	1.49	ft ³ /s
Slope Full	0.00158	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	45.11	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0008.11

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.30	ft
Critical Depth	0.37	ft
Channel Slope	0.900	%
Critical Slope	0.00440	ft/ft

Worksheet for Dry Weather PA0008.10

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.900	%
Diameter	8.00	in
Discharge	0.648	ft ³ /s

Results

Normal Depth	0.31	ft
Flow Area	0.16	ft ²
Wetted Perimeter	1.00	ft
Hydraulic Radius	0.16	ft
Top Width	0.66	ft
Critical Depth	0.38	ft
Percent Full	46.1	%
Critical Slope	0.00445	ft/ft
Velocity	4.12	ft/s
Velocity Head	0.26	ft
Specific Energy	0.57	ft
Froude Number	1.49	
Maximum Discharge	1.60	ft ³ /s
Discharge Full	1.49	ft ³ /s
Slope Full	0.00170	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	46.10	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0008.10

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.31	ft
Critical Depth	0.38	ft
Channel Slope	0.900	%
Critical Slope	0.00445	ft/ft

Worksheet for Dry Weather PA0009.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	1.800	%
Diameter	21.00	in
Discharge	5.713	ft ³ /s

Results

Normal Depth	0.67	ft
Flow Area	0.85	ft ²
Wetted Perimeter	2.33	ft
Hydraulic Radius	0.36	ft
Top Width	1.70	ft
Critical Depth	0.88	ft
Percent Full	38.2	%
Critical Slope	0.00680	ft/ft
Velocity	6.75	ft/s
Velocity Head	0.71	ft
Specific Energy	1.38	ft
Froude Number	1.69	
Maximum Discharge	19.82	ft ³ /s
Discharge Full	18.42	ft ³ /s
Slope Full	0.00173	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	38.24	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0009.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.67	ft
Critical Depth	0.88	ft
Channel Slope	1.800	%
Critical Slope	0.00680	ft/ft

Worksheet for Dry Weather PA0008.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	1.826	%
Diameter	21.00	in
Discharge	6.361	ft ³ /s

Results

Normal Depth	0.71	ft
Flow Area	0.91	ft ²
Wetted Perimeter	2.41	ft
Hydraulic Radius	0.38	ft
Top Width	1.72	ft
Critical Depth	0.93	ft
Percent Full	40.4	%
Critical Slope	0.00698	ft/ft
Velocity	6.99	ft/s
Velocity Head	0.76	ft
Specific Energy	1.47	ft
Froude Number	1.69	
Maximum Discharge	19.96	ft ³ /s
Discharge Full	18.56	ft ³ /s
Slope Full	0.00215	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	40.38	%
Downstream Velocity	Infinity	ft/s

Worksheet for Dry Weather PA0008.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.71	ft
Critical Depth	0.93	ft
Channel Slope	1.826	%
Critical Slope	0.00698	ft/ft

Worksheet for Wet Weather PAC008.00

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	15.319	%
Diameter	8.00	in
Discharge	0.019	ft ³ /s

Results

Normal Depth	0.03	ft
Flow Area	0.00	ft ²
Wetted Perimeter	0.27	ft
Hydraulic Radius	0.02	ft
Top Width	0.26	ft
Critical Depth	0.06	ft
Percent Full	4.1	%
Critical Slope	0.00454	ft/ft
Velocity	3.92	ft/s
Velocity Head	0.24	ft
Specific Energy	0.27	ft
Froude Number	5.11	
Maximum Discharge	6.61	ft ³ /s
Discharge Full	6.15	ft ³ /s
Slope Full	0.00000	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	4.09	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PAC008.00

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.03	ft
Critical Depth	0.06	ft
Channel Slope	15.319	%
Critical Slope	0.00454	ft/ft

Worksheet for Wet Weather PAC008.01

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	4.600	%
Diameter	8.00	in
Discharge	0.023	ft ³ /s

Results

Normal Depth	0.04	ft
Flow Area	0.01	ft ²
Wetted Perimeter	0.33	ft
Hydraulic Radius	0.03	ft
Top Width	0.31	ft
Critical Depth	0.07	ft
Percent Full	5.9	%
Critical Slope	0.00442	ft/ft
Velocity	2.75	ft/s
Velocity Head	0.12	ft
Specific Energy	0.16	ft
Froude Number	2.97	
Maximum Discharge	3.62	ft ³ /s
Discharge Full	3.37	ft ³ /s
Slope Full	0.00000	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	5.92	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PAC008.01

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.04	ft
Critical Depth	0.07	ft
Channel Slope	4.600	%
Critical Slope	0.00442	ft/ft

Worksheet for Wet Weather PAC009.01

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.200	%
Diameter	8.00	in
Discharge	0.230	ft ³ /s

Results

Normal Depth	0.16	ft
Flow Area	0.07	ft ²
Wetted Perimeter	0.69	ft
Hydraulic Radius	0.10	ft
Top Width	0.57	ft
Critical Depth	0.22	ft
Percent Full	24.7	%
Critical Slope	0.00381	ft/ft
Velocity	3.43	ft/s
Velocity Head	0.18	ft
Specific Energy	0.35	ft
Froude Number	1.77	
Maximum Discharge	1.85	ft ³ /s
Discharge Full	1.72	ft ³ /s
Slope Full	0.00021	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	24.70	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PAC009.01

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.16	ft
Critical Depth	0.22	ft
Channel Slope	1.200	%
Critical Slope	0.00381	ft/ft

Worksheet for Wet Weather PAC009.02

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.200	%
Diameter	8.00	in
Discharge	0.230	ft ³ /s

Results

Normal Depth	0.16	ft
Flow Area	0.07	ft ²
Wetted Perimeter	0.69	ft
Hydraulic Radius	0.10	ft
Top Width	0.57	ft
Critical Depth	0.22	ft
Percent Full	24.7	%
Critical Slope	0.00381	ft/ft
Velocity	3.43	ft/s
Velocity Head	0.18	ft
Specific Energy	0.35	ft
Froude Number	1.77	
Maximum Discharge	1.85	ft ³ /s
Discharge Full	1.72	ft ³ /s
Slope Full	0.00021	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	24.70	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PAC009.02

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.16	ft
Critical Depth	0.22	ft
Channel Slope	1.200	%
Critical Slope	0.00381	ft/ft

Worksheet for Wet Weather PAC009.03

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.100	%
Diameter	8.00	in
Discharge	0.230	ft ³ /s

Results

Normal Depth	0.17	ft
Flow Area	0.07	ft ²
Wetted Perimeter	0.70	ft
Hydraulic Radius	0.10	ft
Top Width	0.58	ft
Critical Depth	0.22	ft
Percent Full	25.2	%
Critical Slope	0.00380	ft/ft
Velocity	3.33	ft/s
Velocity Head	0.17	ft
Specific Energy	0.34	ft
Froude Number	1.70	
Maximum Discharge	1.77	ft ³ /s
Discharge Full	1.65	ft ³ /s
Slope Full	0.00021	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	25.24	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PAC009.03

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.17	ft
Critical Depth	0.22	ft
Channel Slope	1.100	%
Critical Slope	0.00380	ft/ft

Worksheet for Wet Weather PA0013.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.970	%
Diameter	21.00	in
Discharge	6.265	ft ³ /s

Results

Normal Depth	0.84	ft
Flow Area	1.14	ft ²
Wetted Perimeter	2.67	ft
Hydraulic Radius	0.42	ft
Top Width	1.75	ft
Critical Depth	0.92	ft
Percent Full	47.8	%
Critical Slope	0.00695	ft/ft
Velocity	5.52	ft/s
Velocity Head	0.47	ft
Specific Energy	1.31	ft
Froude Number	1.21	
Maximum Discharge	14.55	ft ³ /s
Discharge Full	13.52	ft ³ /s
Slope Full	0.00208	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	47.81	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0013.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.84	ft
Critical Depth	0.92	ft
Channel Slope	0.970	%
Critical Slope	0.00695	ft/ft

Worksheet for Wet Weather PA0012.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015
Channel Slope	1.020 %
Diameter	21.00 in
Discharge	6.265 ft ³ /s

Results

Normal Depth	0.82 ft
Flow Area	1.11 ft ²
Wetted Perimeter	2.65 ft
Hydraulic Radius	0.42 ft
Top Width	1.75 ft
Critical Depth	0.92 ft
Percent Full	47.1 %
Critical Slope	0.00695 ft/ft
Velocity	5.62 ft/s
Velocity Head	0.49 ft
Specific Energy	1.32 ft
Froude Number	1.24
Maximum Discharge	14.92 ft ³ /s
Discharge Full	13.87 ft ³ /s
Slope Full	0.00208 ft/ft
Flow Type	SuperCritical

GVF Input Data

Downstream Depth	0.00 ft
Length	0.00 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.00 %
Normal Depth Over Rise	47.13 %
Downstream Velocity	Infinity ft/s

Worksheet for Wet Weather PA0012.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.82	ft
Critical Depth	0.92	ft
Channel Slope	1.020	%
Critical Slope	0.00695	ft/ft

Worksheet for Wet Weather PA0011.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	1.050	%
Diameter	21.00	in
Discharge	6.265	ft ³ /s

Results

Normal Depth	0.82	ft
Flow Area	1.10	ft ²
Wetted Perimeter	2.63	ft
Hydraulic Radius	0.42	ft
Top Width	1.75	ft
Critical Depth	0.92	ft
Percent Full	46.7	%
Critical Slope	0.00695	ft/ft
Velocity	5.68	ft/s
Velocity Head	0.50	ft
Specific Energy	1.32	ft
Froude Number	1.26	
Maximum Discharge	15.14	ft ³ /s
Discharge Full	14.07	ft ³ /s
Slope Full	0.00208	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	46.74	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0011.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.82	ft
Critical Depth	0.92	ft
Channel Slope	1.050	%
Critical Slope	0.00695	ft/ft

Worksheet for Wet Weather PA0010.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	1.050	%
Diameter	21.00	in
Discharge	6.265	ft ³ /s

Results

Normal Depth	0.82	ft
Flow Area	1.10	ft ²
Wetted Perimeter	2.63	ft
Hydraulic Radius	0.42	ft
Top Width	1.75	ft
Critical Depth	0.92	ft
Percent Full	46.7	%
Critical Slope	0.00695	ft/ft
Velocity	5.68	ft/s
Velocity Head	0.50	ft
Specific Energy	1.32	ft
Froude Number	1.26	
Maximum Discharge	15.14	ft ³ /s
Discharge Full	14.07	ft ³ /s
Slope Full	0.00208	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	46.74	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0010.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.82	ft
Critical Depth	0.92	ft
Channel Slope	1.050	%
Critical Slope	0.00695	ft/ft

Worksheet for Wet Weather PA0008.17

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.300	%
Diameter	8.00	in
Discharge	0.094	ft ³ /s

Results

Normal Depth	0.10	ft
Flow Area	0.03	ft ²
Wetted Perimeter	0.54	ft
Hydraulic Radius	0.06	ft
Top Width	0.48	ft
Critical Depth	0.14	ft
Percent Full	15.6	%
Critical Slope	0.00389	ft/ft
Velocity	2.71	ft/s
Velocity Head	0.11	ft
Specific Energy	0.22	ft
Froude Number	1.79	
Maximum Discharge	1.93	ft ³ /s
Discharge Full	1.79	ft ³ /s
Slope Full	0.00004	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	15.57	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.17

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.10	ft
Critical Depth	0.14	ft
Channel Slope	1.300	%
Critical Slope	0.00389	ft/ft

Worksheet for Wet Weather PA0008.16

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.300	%
Diameter	8.00	in
Discharge	0.520	ft ³ /s

Results

Normal Depth	0.25	ft
Flow Area	0.12	ft ²
Wetted Perimeter	0.87	ft
Hydraulic Radius	0.13	ft
Top Width	0.64	ft
Critical Depth	0.34	ft
Percent Full	36.9	%
Critical Slope	0.00419	ft/ft
Velocity	4.45	ft/s
Velocity Head	0.31	ft
Specific Energy	0.55	ft
Froude Number	1.84	
Maximum Discharge	1.93	ft ³ /s
Discharge Full	1.79	ft ³ /s
Slope Full	0.00110	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	36.88	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.16

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.25	ft
Critical Depth	0.34	ft
Channel Slope	1.300	%
Critical Slope	0.00419	ft/ft

Worksheet for Wet Weather PA0008.15

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.300	%
Diameter	8.00	in
Discharge	0.520	ft ³ /s

Results

Normal Depth	0.25	ft
Flow Area	0.12	ft ²
Wetted Perimeter	0.87	ft
Hydraulic Radius	0.13	ft
Top Width	0.64	ft
Critical Depth	0.34	ft
Percent Full	36.9	%
Critical Slope	0.00419	ft/ft
Velocity	4.45	ft/s
Velocity Head	0.31	ft
Specific Energy	0.55	ft
Froude Number	1.84	
Maximum Discharge	1.93	ft ³ /s
Discharge Full	1.79	ft ³ /s
Slope Full	0.00110	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	36.88	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.15

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.25	ft
Critical Depth	0.34	ft
Channel Slope	1.300	%
Critical Slope	0.00419	ft/ft

Worksheet for Wet Weather PA0008.14

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.300	%
Diameter	8.00	in
Discharge	0.520	ft ³ /s

Results

Normal Depth	0.25	ft
Flow Area	0.12	ft ²
Wetted Perimeter	0.87	ft
Hydraulic Radius	0.13	ft
Top Width	0.64	ft
Critical Depth	0.34	ft
Percent Full	36.9	%
Critical Slope	0.00419	ft/ft
Velocity	4.45	ft/s
Velocity Head	0.31	ft
Specific Energy	0.55	ft
Froude Number	1.84	
Maximum Discharge	1.93	ft ³ /s
Discharge Full	1.79	ft ³ /s
Slope Full	0.00110	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	36.88	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.14

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.25	ft
Critical Depth	0.34	ft
Channel Slope	1.300	%
Critical Slope	0.00419	ft/ft

Worksheet for Wet Weather PA0008.13

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	1.700	%
Diameter	8.00	in
Discharge	0.520	ft ³ /s

Results

Normal Depth	0.23	ft
Flow Area	0.11	ft ²
Wetted Perimeter	0.84	ft
Hydraulic Radius	0.13	ft
Top Width	0.63	ft
Critical Depth	0.34	ft
Percent Full	34.4	%
Critical Slope	0.00418	ft/ft
Velocity	4.89	ft/s
Velocity Head	0.37	ft
Specific Energy	0.60	ft
Froude Number	2.11	
Maximum Discharge	2.20	ft ³ /s
Discharge Full	2.05	ft ³ /s
Slope Full	0.00110	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	34.38	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.13

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.23	ft
Critical Depth	0.34	ft
Channel Slope	1.700	%
Critical Slope	0.00418	ft/ft

Worksheet for Wet Weather PA0008.13b

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.900	%
Diameter	8.00	in
Discharge	0.114	ft ³ /s

Results

Normal Depth	0.12	ft
Flow Area	0.05	ft ²
Wetted Perimeter	0.60	ft
Hydraulic Radius	0.08	ft
Top Width	0.52	ft
Critical Depth	0.15	ft
Percent Full	18.7	%
Critical Slope	0.00385	ft/ft
Velocity	2.53	ft/s
Velocity Head	0.10	ft
Specific Energy	0.22	ft
Froude Number	1.51	
Maximum Discharge	1.60	ft ³ /s
Discharge Full	1.49	ft ³ /s
Slope Full	0.00005	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	18.69	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.13b

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.12	ft
Critical Depth	0.15	ft
Channel Slope	0.900	%
Critical Slope	0.00385	ft/ft

Worksheet for Wet Weather PA0008.12

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.900	%
Diameter	8.00	in
Discharge	0.633	ft ³ /s

Results

Normal Depth	0.30	ft
Flow Area	0.15	ft ²
Wetted Perimeter	0.99	ft
Hydraulic Radius	0.16	ft
Top Width	0.66	ft
Critical Depth	0.37	ft
Percent Full	45.5	%
Critical Slope	0.00442	ft/ft
Velocity	4.10	ft/s
Velocity Head	0.26	ft
Specific Energy	0.56	ft
Froude Number	1.50	
Maximum Discharge	1.60	ft ³ /s
Discharge Full	1.49	ft ³ /s
Slope Full	0.00162	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	45.48	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.12

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.30	ft
Critical Depth	0.37	ft
Channel Slope	0.900	%
Critical Slope	0.00442	ft/ft

Worksheet for Wet Weather PA0008.11

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.900	%
Diameter	8.00	in
Discharge	0.633	ft ³ /s

Results

Normal Depth	0.30	ft
Flow Area	0.15	ft ²
Wetted Perimeter	0.99	ft
Hydraulic Radius	0.16	ft
Top Width	0.66	ft
Critical Depth	0.37	ft
Percent Full	45.5	%
Critical Slope	0.00442	ft/ft
Velocity	4.10	ft/s
Velocity Head	0.26	ft
Specific Energy	0.56	ft
Froude Number	1.50	
Maximum Discharge	1.60	ft ³ /s
Discharge Full	1.49	ft ³ /s
Slope Full	0.00162	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	45.48	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.11

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.30	ft
Critical Depth	0.37	ft
Channel Slope	0.900	%
Critical Slope	0.00442	ft/ft

Worksheet for Wet Weather PA0008.10

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.900	%
Diameter	8.00	in
Discharge	0.657	ft ³ /s

Results

Normal Depth	0.31	ft
Flow Area	0.16	ft ²
Wetted Perimeter	1.00	ft
Hydraulic Radius	0.16	ft
Top Width	0.67	ft
Critical Depth	0.38	ft
Percent Full	46.5	%
Critical Slope	0.00447	ft/ft
Velocity	4.14	ft/s
Velocity Head	0.27	ft
Specific Energy	0.58	ft
Froude Number	1.49	
Maximum Discharge	1.60	ft ³ /s
Discharge Full	1.49	ft ³ /s
Slope Full	0.00175	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	46.47	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.10

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.31	ft
Critical Depth	0.38	ft
Channel Slope	0.900	%
Critical Slope	0.00447	ft/ft

Worksheet for Wet Weather PA0009.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	1.800	%
Diameter	21.00	in
Discharge	6.265	ft ³ /s

Results

Normal Depth	0.70	ft
Flow Area	0.90	ft ²
Wetted Perimeter	2.40	ft
Hydraulic Radius	0.38	ft
Top Width	1.72	ft
Critical Depth	0.92	ft
Percent Full	40.2	%
Critical Slope	0.00695	ft/ft
Velocity	6.93	ft/s
Velocity Head	0.75	ft
Specific Energy	1.45	ft
Froude Number	1.68	
Maximum Discharge	19.82	ft ³ /s
Discharge Full	18.42	ft ³ /s
Slope Full	0.00208	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	40.20	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0009.05

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.70	ft
Critical Depth	0.92	ft
Channel Slope	1.800	%
Critical Slope	0.00695	ft/ft

Worksheet for Wet Weather PA0008.05

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.826	%
Diameter	21.00	in
Discharge	6.924	ft ³ /s

Results

Normal Depth	0.93	ft
Flow Area	1.30	ft ²
Wetted Perimeter	2.86	ft
Hydraulic Radius	0.45	ft
Top Width	1.75	ft
Critical Depth	0.97	ft
Percent Full	53.2	%
Critical Slope	0.00716	ft/ft
Velocity	5.32	ft/s
Velocity Head	0.44	ft
Specific Energy	1.37	ft
Froude Number	1.09	
Maximum Discharge	13.42	ft ³ /s
Discharge Full	12.48	ft ³ /s
Slope Full	0.00254	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	53.20	%
Downstream Velocity	Infinity	ft/s

Worksheet for Wet Weather PA0008.05

GVF Output Data

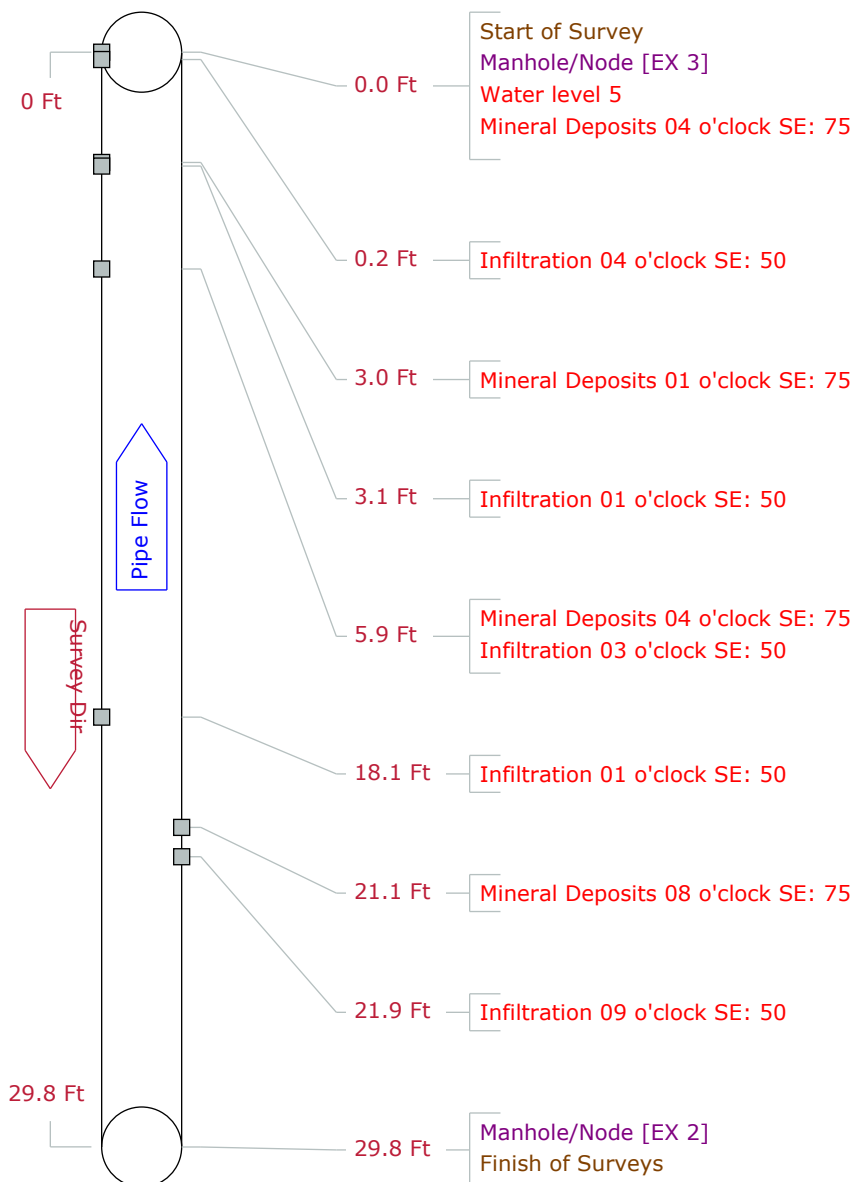
Upstream Velocity	Infinity	ft/s
Normal Depth	0.93	ft
Critical Depth	0.97	ft
Channel Slope	0.826	%
Critical Slope	0.00716	ft/ft

APPENDIX E
CCTV INSPECTION RESPORTS



Pipe Graphic Report of PLR EX 2 X for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	2
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	29.8 Ft	From	EX 3	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 2	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Upstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 2 X for Fuscoe Engineering

Work Order	02413-001	Setup 2
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 0.0 Ft
Code Mineral Deposits
Remarks
File Name 22.jpg



Video Index Count 0.2 Ft
Code Infiltration
Remarks
File Name 23.jpg



Video Index Count 3.0 Ft
Code Mineral Deposits
Remarks
File Name 24.jpg



Video Index Count 3.1 Ft
Code Infiltration
Remarks
File Name 25.jpg



Video Index Count 5.9 Ft
Code Mineral Deposits
Remarks
File Name 26.jpg



Video Index Count 5.9 Ft
Code Infiltration
Remarks
File Name 27.jpg



Video Index Count 18.1 Ft
Code Infiltration
Remarks
File Name 28.jpg



Video Index Count 21.1 Ft
Code Mineral Deposits
Remarks
File Name 29.jpg

CCTV Picture List of EX 2 X **for** Fuscoe Engineering

Work Order	02413-001	Setup 2
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snapshots\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index **Count** 21.9 Ft
Code Infiltration
Remarks
File Name 30.jpg

Tabular Report of PLR		EX 2	X	for Fuscoe Engineering	
Work Order	02413-001		Contract	Video	Setup 2
Facility			Operator C.Kintz	Van Ref 10	Surveyed On 09/16/2019
Street Name	Alvarado Rd		City La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose			Weather	Dry	
From	EX 3		Depth	Ft	Direction Up
To	EX 2		Depth	Ft	Year laid
Sched length	29.8	Ft	Size	15	by ins
Joint Spacing			Shape	Circular	
Pipe Use	Sanitary		Lining		
Material	Vitrified clay		Pre-clean		
Last Cleaned					
General note			Structural	Service	Constructional
Location note			Miscellaneous	Hydraulic	

Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST Start of Survey					
	0.0		MH Manhole/Node					EX 3
	0.0		WL Water level				5	
	0.0		E Mineral Deposits	M	04			
	0.2		I Infiltration	S	04			
	3.0		E Mineral Deposits	M	01			
	3.1		I Infiltration	S	01			
	5.9		E Mineral Deposits	M	04			
	5.9		I Infiltration	S	03			
	18.1		I Infiltration	S	01			
	21.1		E Mineral Deposits	M	08			
	21.9		I Infiltration	S	09			
	29.8		MH Manhole/Node					EX 2
	29.8		FH Finish of Surveys					

29.8 Ft Total Length Surveyed

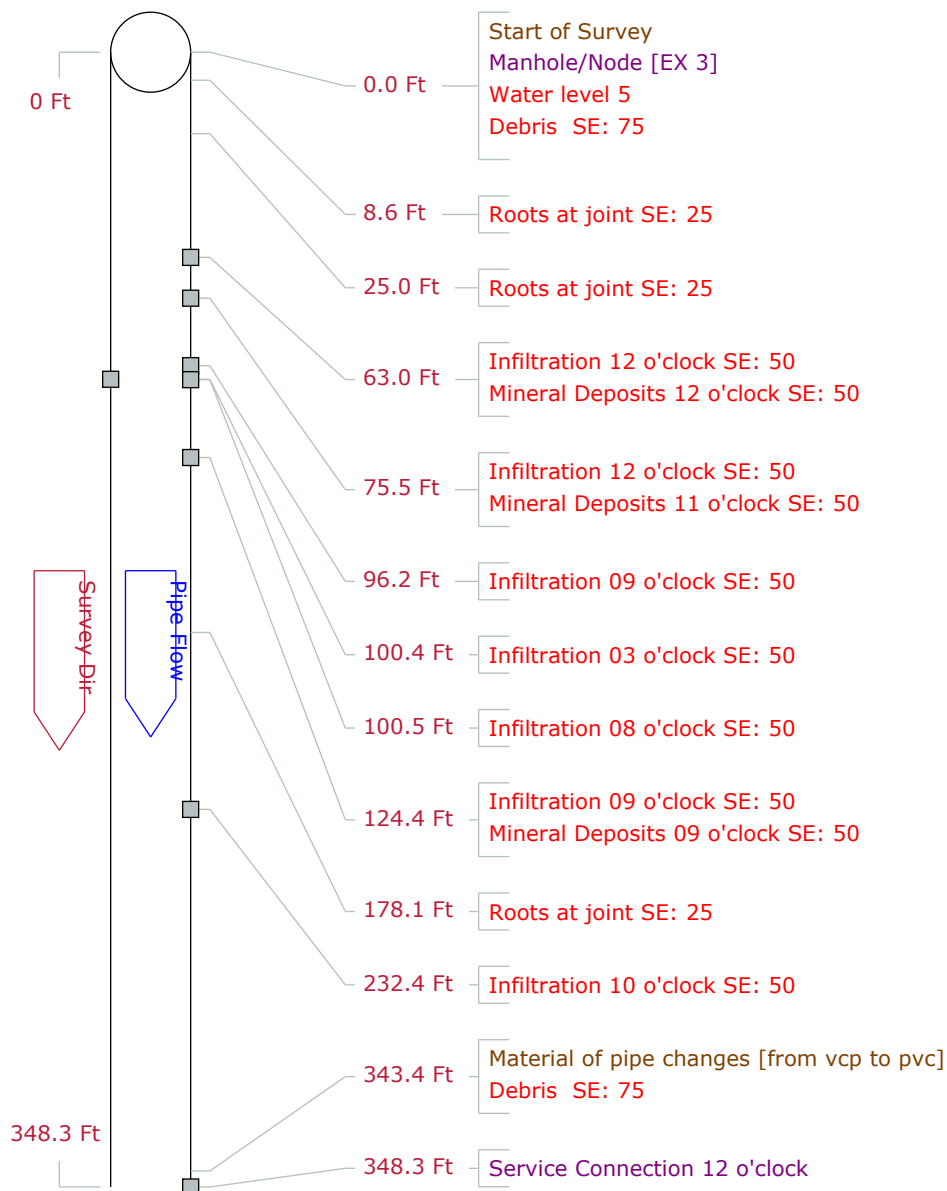
Scores	Structural:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0
	Service:	Total 550	Mean Defect 55	Peak 125	Mean Pipe 18.5

Pipe Graphic Report of PLR

EX 3 X

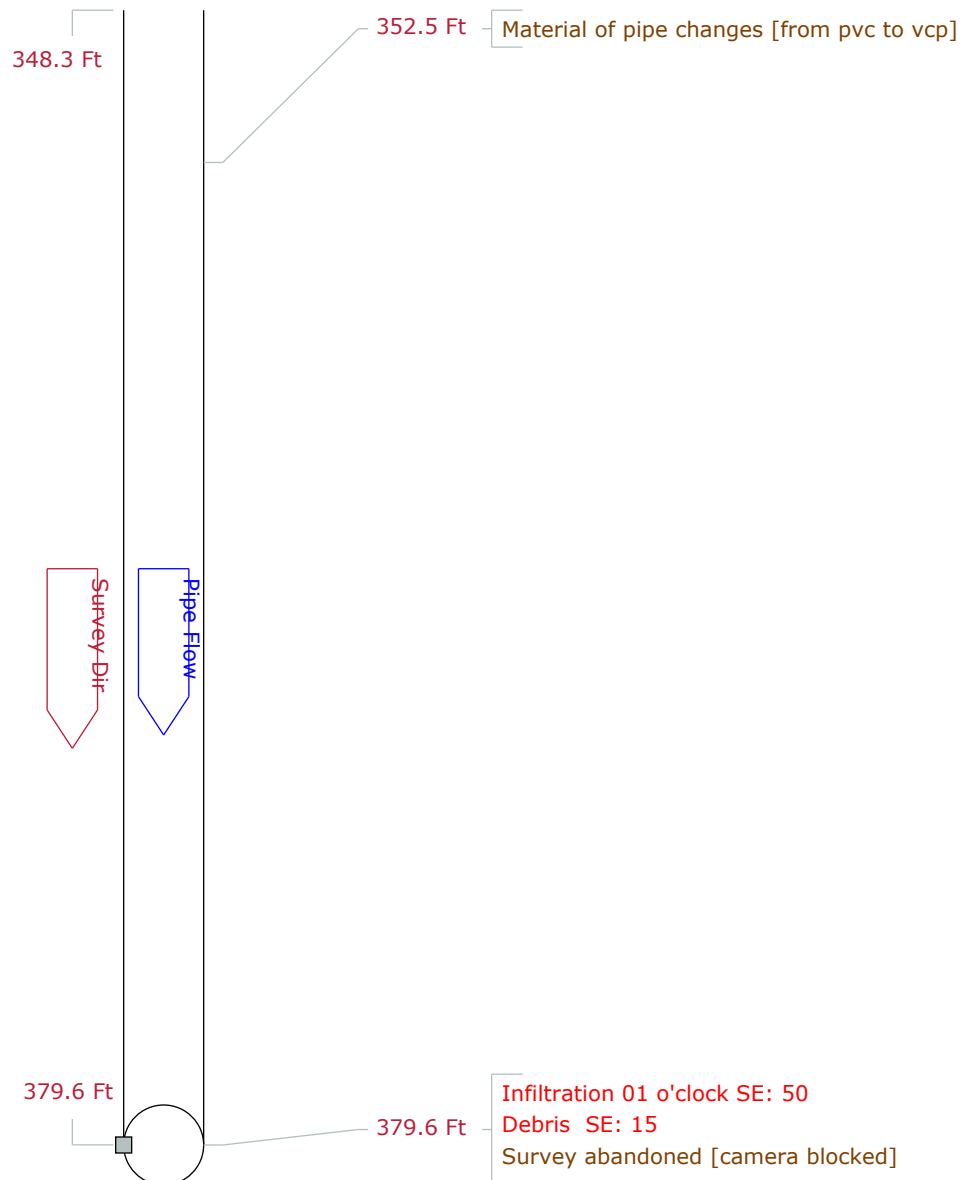
for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	1
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	Ft	From	EX 3	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 4	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



Pipe Graphic Report of PLR EX 3 X for Fusco Engineering

Work Order	02413-001	Contract		Video		Setup	1
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	Ft	From	EX 3	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 4	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 3 X for Fuscoe Engineering

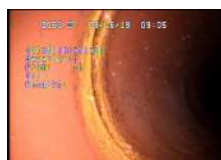
Work Order	02413-001	Setup 1
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index **Count** 8.6 Ft
Code Roots at joint
Remarks
File Name 2.jpg



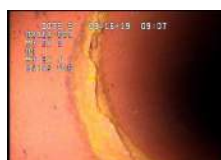
Video Index **Count** 25.0 Ft
Code Roots at joint
Remarks
File Name 3.jpg



Video Index **Count** 63.0 Ft
Code Infiltration
Remarks
File Name 4.jpg



Video Index **Count** 63.0 Ft
Code Mineral Deposits
Remarks
File Name 5.jpg



Video Index **Count** 75.5 Ft
Code Infiltration
Remarks
File Name 7.jpg



Video Index **Count** 75.5 Ft
Code Mineral Deposits
Remarks
File Name 6.jpg



Video Index **Count** 96.2 Ft
Code Infiltration
Remarks
File Name 8.jpg



Video Index **Count** 100.4 Ft
Code Infiltration
Remarks
File Name 9.jpg

CCTV Picture List of EX 3 X for Fuscoe Engineering

Work Order	02413-001	Setup 1
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 100.5 Ft
Code Infiltration
Remarks
File Name 10.jpg



Video Index Count 124.4 Ft
Code Infiltration
Remarks
File Name 11.jpg



Video Index Count 124.4 Ft
Code Mineral Deposits
Remarks
File Name 12.jpg



Video Index Count 178.1 Ft
Code Roots at joint
Remarks
File Name 13.jpg



Video Index Count 232.4 Ft
Code Infiltration
Remarks
File Name 14.jpg



Video Index Count 343.4 Ft
Code Material of pipe changes
Remarks from vcp to pvc
File Name 15.jpg



Video Index Count 343.4 Ft
Code Debris
Remarks
File Name 16.jpg



Video Index Count 348.3 Ft
Code Service Connection
Remarks
File Name 17.jpg

CCTV Picture List of EX 3 X for Fuscoe Engineering

Work Order	02413-001	Setup 1
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 352.5 Ft
 Code Material of pipe changes
 Remarks from pvc to vcp
 File Name 18.jpg



Video Index Count 379.6 Ft
 Code Infiltration
 Remarks
 File Name 19.jpg



Video Index Count 379.6 Ft
 Code Debris
 Remarks
 File Name 20.jpg

Tabular Report of PLR		EX 3	X	for Fuscoe Engineering	
Work Order	02413-001	Contract		Video	Setup 1
Facility		Operator	C.Kintz	Van Ref	10
Street Name	Alvarado Rd	City	La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose		Weather	Dry		
From	EX 3	Depth	Ft	Direction	Down
To	EX 4	Depth	Ft	Year laid	
Sched length	Ft	Size	15 by ins	Joint Spacing	Ft
Pipe Use	Sanitary	Shape	Circular	Pre-clean	
Material	Vitrified clay	Lining		Last Cleaned	
General note			Structural	Service	Constructional
Location note			Miscellaneous	Hydraulic	

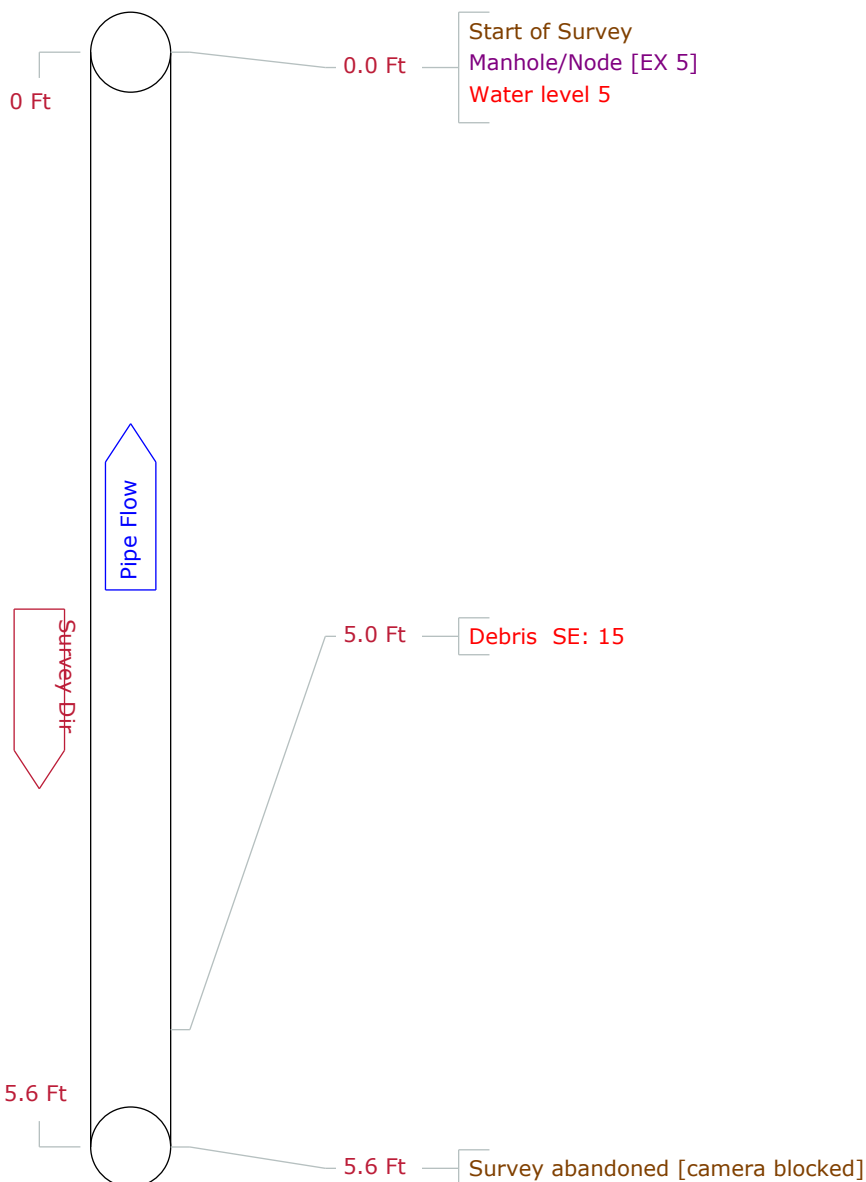
Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST Start of Survey					
	0.0		MH Manhole/Node					EX 3
	0.0		WL Water level				5	
	0.0		DE Debris	M				
	8.6		RJ Roots at joint	S				
	25.0		RJ Roots at joint	S				
	63.0		I Infiltration	S	12			
	63.0		E Mineral Deposits	S	12			
	75.5		I Infiltration	S	12			
	75.5		E Mineral Deposits	S	11			
	96.2		I Infiltration	S	09			
	100.4		I Infiltration	S	03			
	100.5		I Infiltration	S	08			
	124.4		I Infiltration	S	09			
	124.4		E Mineral Deposits	S	09			
	178.1		RJ Roots at joint	S				
	232.4		I Infiltration	S	10			
	343.4		MC Material of pipe changes					from vcp to pvc
	343.4		DE Debris	M				
	348.3		CN Service Connection		12			
	352.5		MC Material of pipe changes					from pvc to vcp
	379.6		I Infiltration	S	01			
	379.6		DE Debris	L				
	379.6		SA Survey abandoned					camera blocked

379.6 Ft Total Length Surveyed

Scores	Structural:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0
	Service:	Total 790	Mean Defect 43.9	Peak 100	Mean Pipe 2.1

Pipe Graphic Report of PLR EX 4 X for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	3
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	Ft	From	EX 5	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 4	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Upstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 4 X **for** Fuscoe Engineering

Work Order	02413-001	Setup 3
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index **Count** 5.0 Ft
Code Debris
Remarks
File Name 32.jpg

Tabular Report of PLR		EX 4	X	for Fuscoe Engineering	
Work Order	02413-001		Contract	Video	Setup 3
Facility			Operator C.Kintz	Van Ref 10	Surveyed On 09/16/2019
Street Name	Alvarado Rd		City La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose			Weather	Dry	
From	EX 5		Depth	Ft	Direction Up
To	EX 4		Depth	Ft	Year laid
Sched length	Ft	Size	15	by	ins
Pipe Use	Sanitary		Joint Spacing	Ft	
Material	Vitrified clay		Shape	Circular	
			Lining	Pre-clean	
				Last Cleaned	
General note			Structural Service Constructional		
Location note			Miscellaneous Hydraulic		

Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST					Start of Survey
	0.0		MH					EX 5
	0.0		WL				5	
	5.0		DE					
	5.6		SA					camera blocked

5.6 Ft Total Length Surveyed

Scores

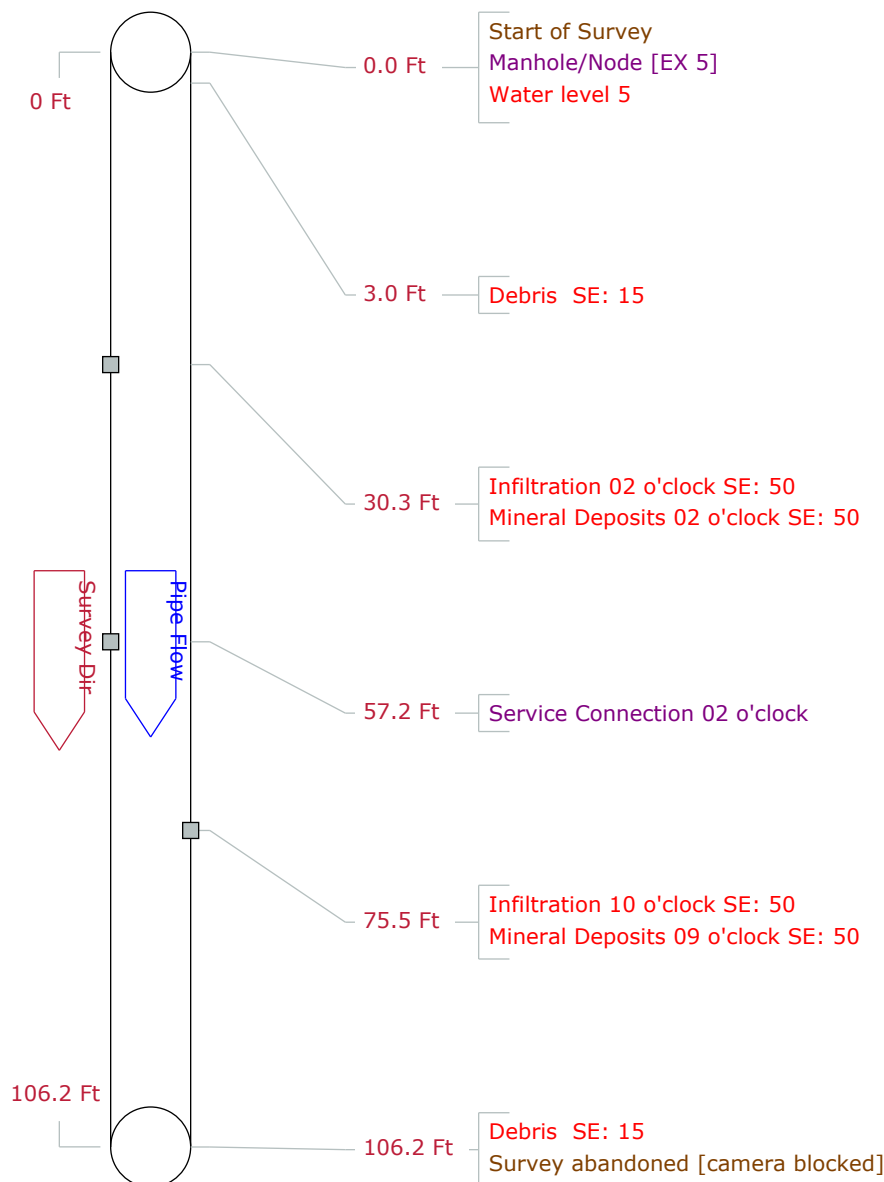
Structural:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0
Service:	Total 15	Mean Defect 7.5	Peak 15	Mean Pipe 2.7

Pipe Graphic Report of PLR

EX 5 X

for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	4
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	Ft	From	EX 5	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 6	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 5 X for Fuscoe Engineering

Work Order	02413-001	Setup 4
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 3.0 Ft
Code Debris
Remarks
File Name 34.jpg



Video Index Count 30.3 Ft
Code Infiltration
Remarks
File Name 35.jpg



Video Index Count 30.3 Ft
Code Mineral Deposits
Remarks
File Name 36.jpg



Video Index Count 57.2 Ft
Code Service Connection
Remarks
File Name 37.jpg



Video Index Count 75.5 Ft
Code Infiltration
Remarks
File Name 38.jpg



Video Index Count 75.5 Ft
Code Mineral Deposits
Remarks
File Name 39.jpg



Video Index Count 106.2 Ft
Code Debris
Remarks
File Name 40.jpg

Tabular Report of PLR		EX 5	X	for Fuscoe Engineering	
Work Order	02413-001		Contract	Video	Setup 4
Facility			Operator C.Kintz	Van Ref 10	Surveyed On 09/16/2019
Street Name	Alvarado Rd		City La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose			Weather	Dry	
From	EX 5		Depth	Ft	Direction Down
To	EX 6		Depth	Ft	Year laid
Sched length	Ft	Size	15	by	ins
Pipe Use	Sanitary		Joint Spacing	Ft	
Material	Vitrified clay		Shape	Circular	
			Lining	Pre-clean	
				Last Cleaned	
General note			Structural Service Constructional		
Location note			Miscellaneous Hydraulic		

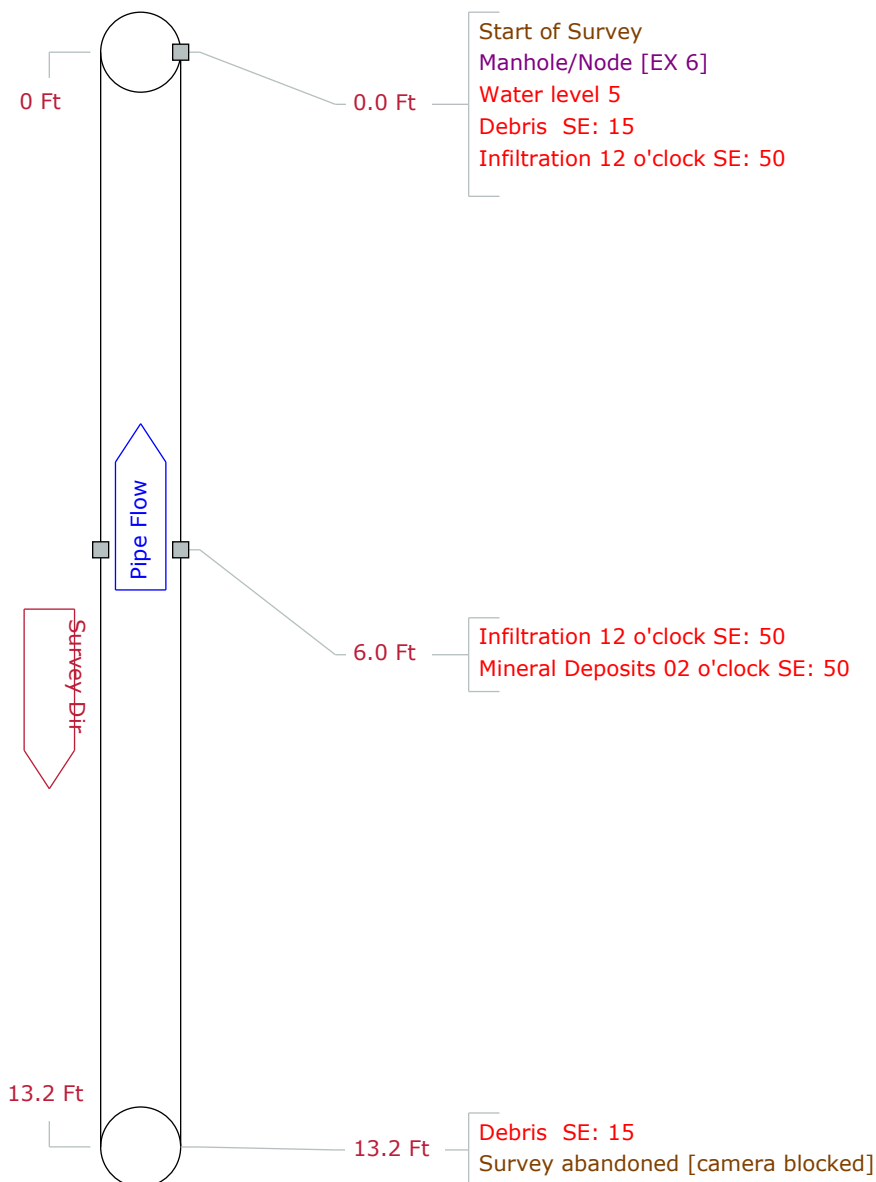
Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST Start of Survey					
	0.0		MH Manhole/Node					EX 5
	0.0		WL Water level				5	
	3.0		DE Debris	L				
	30.3		I Infiltration	S	02			
	30.3		E Mineral Deposits	S	02			
	57.2		CN Service Connection		02			
	75.5		I Infiltration	S	10			
	75.5		E Mineral Deposits	S	09			
	106.2		DE Debris	L				
	106.2		SA Survey abandoned					camera blocked

106.2 Ft Total Length Surveyed

Scores	Structural:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0
	Service:	Total 230	Mean Defect 32.9	Peak 100	Mean Pipe 2.2

Pipe Graphic Report of PLR EX 5 X for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	6
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	Ft	From	EX 6	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 5	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Upstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 5 X for Fuscoe Engineering

Work Order	02413-001	Setup 6
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 0.0 Ft
 Code Infiltration
 Remarks
 File Name 43.jpg



Video Index Count 6.0 Ft
 Code Infiltration
 Remarks
 File Name 44.jpg



Video Index Count 6.0 Ft
 Code Mineral Deposits
 Remarks
 File Name 45.jpg



Video Index Count 13.2 Ft
 Code Debris
 Remarks
 File Name 46.jpg

Tabular Report of PLR		EX 5	X	for Fuscoe Engineering	
Work Order	02413-001		Contract	Video	Setup 6
Facility			Operator C.Kintz	Van Ref 10	Surveyed On 09/16/2019
Street Name	Alvarado Rd		City La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose			Weather	Dry	
From	EX 6		Depth	Ft	Direction Up
To	EX 5		Depth	Ft	Year laid
Sched length	Ft	Size	15	by	ins
Pipe Use	Sanitary		Joint Spacing	Ft	
Material	Vitrified clay		Shape	Circular	
			Lining	Pre-clean	
				Last Cleaned	
General note			Structural Service Constructional		
Location note			Miscellaneous Hydraulic		

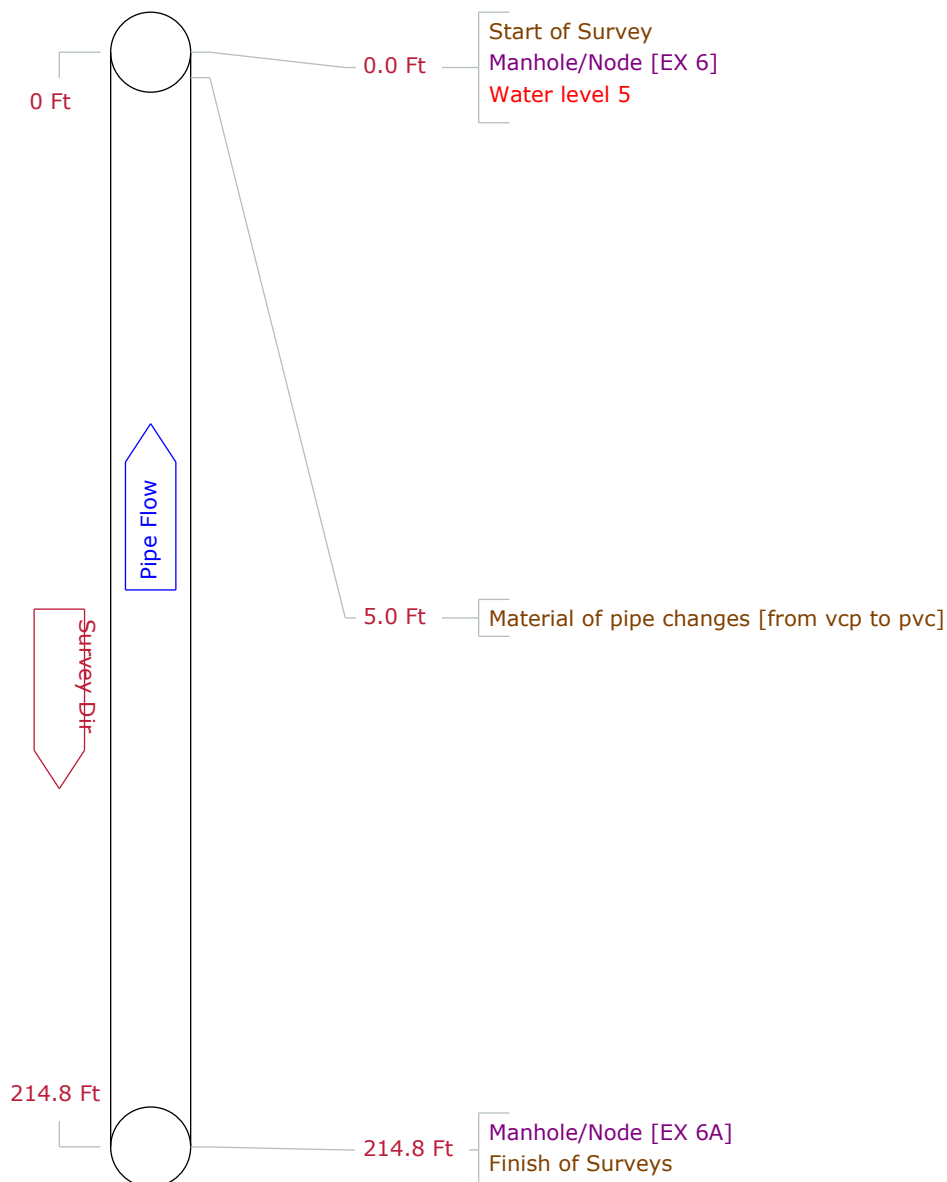
Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST	Start of Survey				
	0.0		MH	Manhole/Node				EX 6
	0.0		WL	Water level			5	
	0.0		DE	Debris	L			
	0.0		I	Infiltration	S	12		
	6.0		I	Infiltration	S	12		
	6.0		E	Mineral Deposits	S	02		
	13.2		DE	Debris	L			
	13.2		SA	Survey abandoned				camera blocked

13.2 Ft Total Length Surveyed

Scores	Structural:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0
	Service:	Total 180	Mean Defect 30	Peak 100	Mean Pipe 13.6

Pipe Graphic Report of PLR EX 6A X for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	5
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	214.8 Ft	From	EX 6	Depth	F
Shape	Circular	Size	8 by ins	To	EX 6A	Depth	t
Material	Vitrified clay	Joint spacing	Ft	Direction	Upstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



Tabular Report of PLR		EX 6A	X	for Fuscoe Engineering	
Work Order	02413-001	Contract		Video	Setup 5
Facility		Operator	C.Kintz	Van Ref	10
Street Name	Alvarado Rd	City	La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose		Weather	Dry		
From	EX 6	Depth	Ft	Direction	Up
To	EX 6A	Depth	Ft	Year laid	
Sched length	214.8 Ft	Size	8 by ins	Joint Spacing	Ft
Pipe Use	Sanitary	Shape	Circular	Pre-clean	
Material	Vitrified clay	Lining		Last Cleaned	
General note			Structural	Service	Constructional
Location note			Miscellaneous	Hydraulic	

Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST Start of Survey					
	0.0		MH Manhole/Node					EX 6
	0.0		WL Water level				5	
	5.0		MC Material of pipe changes					from vcp to pvc
	214.8		MH Manhole/Node					EX 6A
	214.8		FH Finish of Surveys					

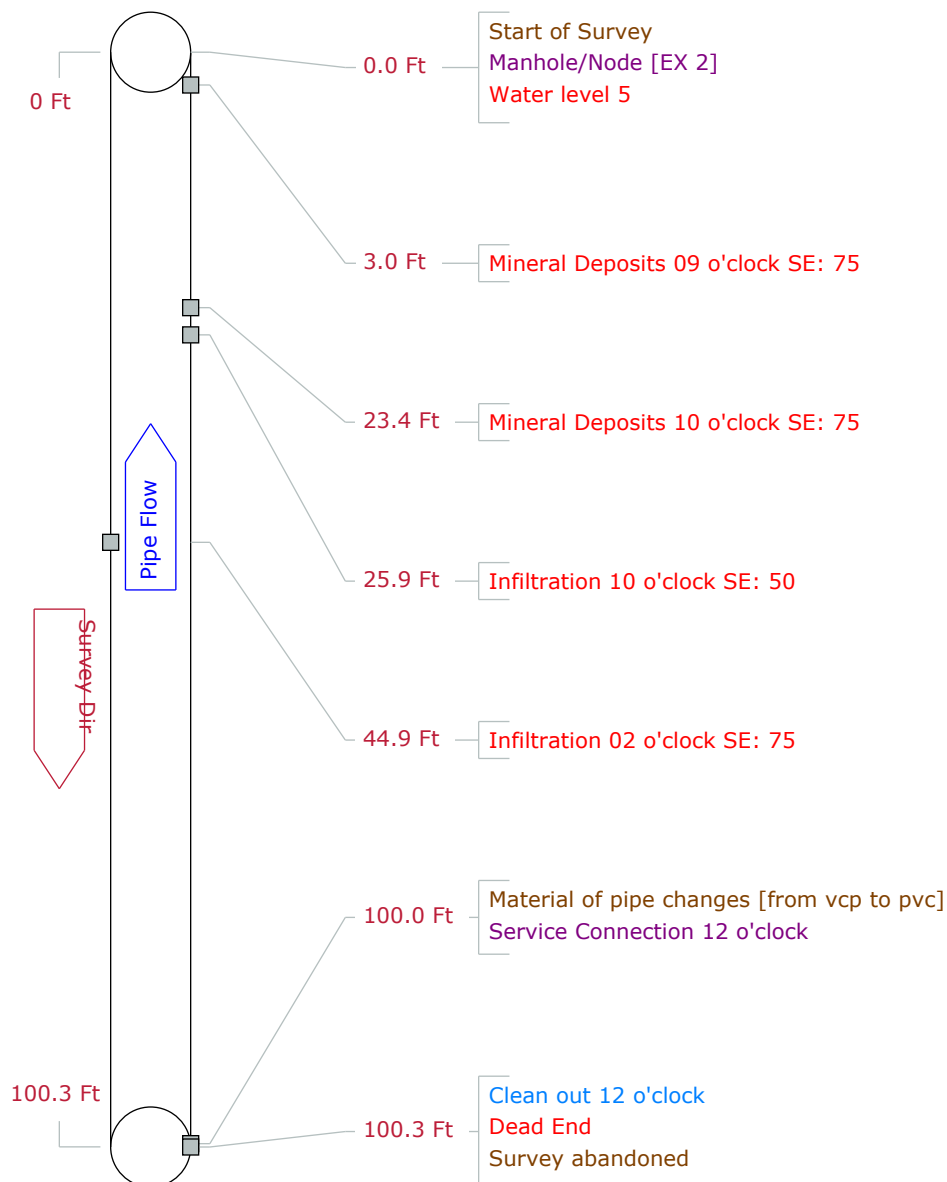
214.8 Ft Total Length Surveyed

Scores

Structural:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0
Service:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0

Pipe Graphic Report of PLR EX 1 X for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	13
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/17/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	Ft	From	EX 2	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 1	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Upstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 1 X for Fuscoe Engineering

Work Order	02413-001	Setup 13
Video	Survey Date	09/17/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 3.0 Ft
Code Mineral Deposits
Remarks
File Name 108.jpg



Video Index Count 23.4 Ft
Code Mineral Deposits
Remarks
File Name 109.jpg



Video Index Count 44.9 Ft
Code Infiltration
Remarks
File Name 110.jpg



Video Index Count 100.0 Ft
Code Material of pipe changes
Remarks from vcp to pvc
File Name 111.jpg



Video Index Count 100.0 Ft
Code Service Connection
Remarks
File Name 112.jpg

Tabular Report of PLR		EX 1	X	for Fuscoe Engineering	
Work Order	02413-001		Contract	Video	Setup 13
Facility			Operator C.Kintz	Van Ref 10	Surveyed On 09/17/2019
Street Name	Alvarado Rd		City La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose			Weather	Dry	
From	EX 2		Depth	Ft	Direction Up
To	EX 1		Depth	Ft	Year laid
Sched length	Ft	Size	15	by	ins
Pipe Use	Sanitary		Joint Spacing	Ft	
Material	Vitrified clay		Shape	Circular	
			Lining	Pre-clean	
				Last Cleaned	
General note			Structural Service Constructional		
Location note			Miscellaneous Hydraulic		

Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST	Start of Survey				
	0.0		MH	Manhole/Node				EX 2
	0.0		WL	Water level			5	
	3.0		E	Mineral Deposits	M	09		
	23.4		E	Mineral Deposits	M	10		
	25.9		I	Infiltration	S	10		
	44.9		I	Infiltration	M	02		
	100.0		MC	Material of pipe changes				from vcp to pvc
	100.0		CN	Service Connection		12		
	100.3		CO	Clean out		12		
	100.3		DND	Dead End				
	100.3		SA	Survey abandoned				

100.3 Ft Total Length Surveyed

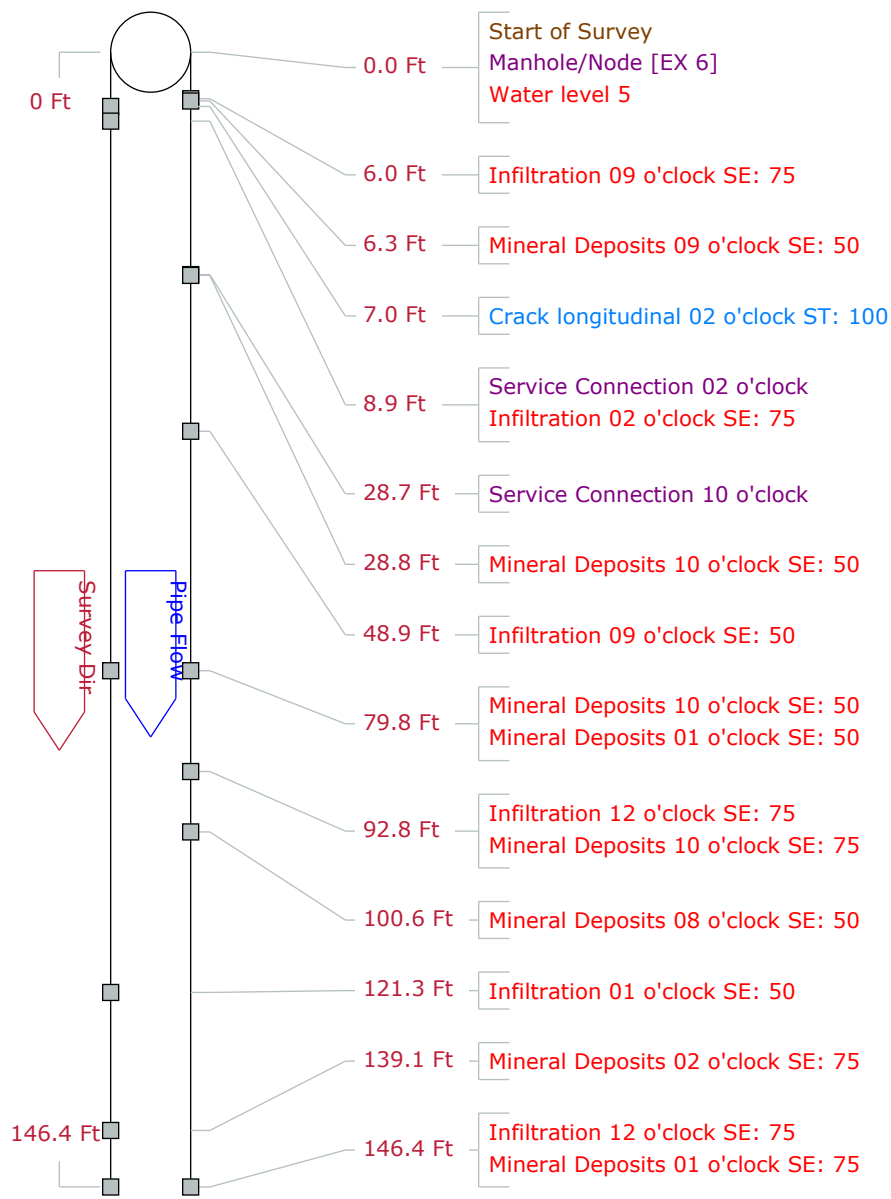
Scores	Structural:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0
	Service:	Total 275	Mean Defect 45.8	Peak 75	Mean Pipe 2.7

Pipe Graphic Report of PLR

EX 6 X

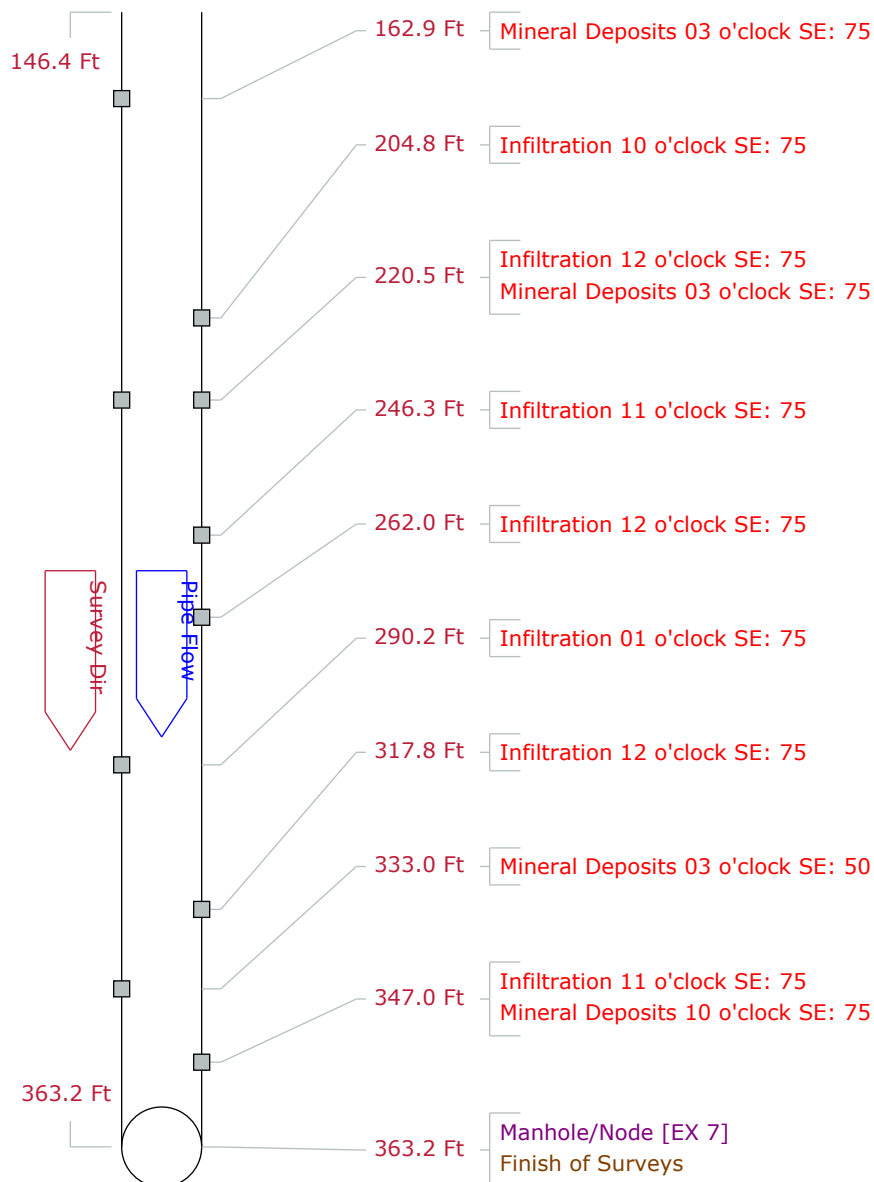
for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	7
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	363.2 Ft	From	EX 6	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 7	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



Pipe Graphic Report of PLR EX 6 X for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	7
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	363.2 Ft	From	EX 6	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 7	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 6 X for Fuscoe Engineering

Work Order	02413-001	Setup 7
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 6.0 Ft
Code Infiltration
Remarks
File Name 48.jpg



Video Index Count 6.3 Ft
Code Mineral Deposits
Remarks
File Name 49.jpg



Video Index Count 7.0 Ft
Code Crack longitudinal
Remarks
File Name 50.jpg



Video Index Count 8.9 Ft
Code Service Connection
Remarks
File Name 51.jpg



Video Index Count 8.9 Ft
Code Infiltration
Remarks
File Name 52.jpg



Video Index Count 28.7 Ft
Code Service Connection
Remarks
File Name 53.jpg



Video Index Count 28.8 Ft
Code Mineral Deposits
Remarks
File Name 54.jpg



Video Index Count 48.9 Ft
Code Infiltration
Remarks
File Name 55.jpg

CCTV Picture List of EX 6 X for Fuscoe Engineering

Work Order	02413-001	Setup 7
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 79.8 Ft
Code Mineral Deposits
Remarks
File Name 56.jpg



Video Index Count 79.8 Ft
Code Mineral Deposits
Remarks
File Name 57.jpg



Video Index Count 92.8 Ft
Code Infiltration
Remarks
File Name 58.jpg



Video Index Count 92.8 Ft
Code Mineral Deposits
Remarks
File Name 59.jpg



Video Index Count 100.6 Ft
Code Mineral Deposits
Remarks
File Name 60.jpg



Video Index Count 121.3 Ft
Code Infiltration
Remarks
File Name 61.jpg



Video Index Count 139.1 Ft
Code Mineral Deposits
Remarks
File Name 62.jpg



Video Index Count 146.4 Ft
Code Infiltration
Remarks
File Name 63.jpg

CCTV Picture List of EX 6 X for Fuscoe Engineering

Work Order	02413-001	Setup 7
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 146.4 Ft
Code Mineral Deposits
Remarks
File Name 64.jpg



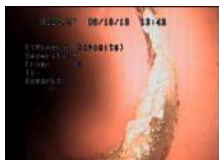
Video Index Count 162.9 Ft
Code Mineral Deposits
Remarks
File Name 65.jpg



Video Index Count 204.8 Ft
Code Infiltration
Remarks
File Name 66.jpg



Video Index Count 220.5 Ft
Code Infiltration
Remarks
File Name 67.jpg



Video Index Count 220.5 Ft
Code Mineral Deposits
Remarks
File Name 68.jpg



Video Index Count 246.3 Ft
Code Infiltration
Remarks
File Name 69.jpg



Video Index Count 262.0 Ft
Code Infiltration
Remarks
File Name 70.jpg



Video Index Count 290.2 Ft
Code Infiltration
Remarks
File Name 71.jpg

CCTV Picture List of EX 6 X for Fuscoe Engineering

Work Order	02413-001	Setup 7
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 317.8 Ft
 Code Infiltration
 Remarks
 File Name 72.jpg



Video Index Count 333.0 Ft
 Code Mineral Deposits
 Remarks
 File Name 73.jpg



Video Index Count 347.0 Ft
 Code Infiltration
 Remarks
 File Name 74.jpg

Tabular Report of PLR		EX 6	X	for Fuscoe Engineering	
Work Order	02413-001	Contract		Video	Setup 7
Facility		Operator C.Kintz		Van Ref 10	Surveyed On 09/16/2019
Street Name	Alvarado Rd			City La Mesa	
Location type	Private - with easement				
Surface					
Survey purpose				Weather	Dry
From	EX 6	Depth	Ft	Direction Down	
To	EX 7	Depth	Ft	Year laid	
Sched length	363.2	Ft	Size	15	by
Pipe Use	Sanitary		Joint Spacing	Ft	
Material	Vitrified clay		Shape	Circular	
		Lining		Pre-clean	
				Last Cleaned	
General note				Structural	Service
Location note				Miscellaneous	Hydraulic

Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST Start of Survey					
	0.0		MH Manhole/Node					EX 6
	0.0		WL Water level				5	
	6.0		I Infiltration	M	09			
	6.3		E Mineral Deposits	S	09			
	7.0		CL Crack longitudinal	S	02			
	8.9		CN Service Connection		02			
	8.9		I Infiltration	M	02			
	28.7		CN Service Connection		10			
	28.8		E Mineral Deposits	S	10			
	48.9		I Infiltration	S	09			
	79.8		E Mineral Deposits	S	10			
	79.8		E Mineral Deposits	S	01			
	92.8		I Infiltration	M	12			
	92.8		E Mineral Deposits	M	10			
	100.6		E Mineral Deposits	S	08			
	121.3		I Infiltration	S	01			
	139.1		E Mineral Deposits	M	02			
	146.4		I Infiltration	M	12			
	146.4		E Mineral Deposits	M	01			
	162.9		E Mineral Deposits	M	03			
	204.8		I Infiltration	M	10			
	220.5		I Infiltration	M	12			
	220.5		E Mineral Deposits	M	03			
	246.3		I Infiltration	M	11			
	262.0		I Infiltration	M	12			
	290.2		I Infiltration	M	01			
	317.8		I Infiltration	M	12			
	333.0		E Mineral Deposits	S	03			
	347.0		I Infiltration	M	11			
	347.0		E Mineral Deposits	M	10			
	363.2		MH Manhole/Node					EX 7
	363.2		FH Finish of Surveys					

Tabular Report of PLR		EX 6	X	for Fuscoe Engineering	
Work Order	02413-001		Contract	Video	Setup 7
Facility			Operator C.Kintz	Van Ref 10	Surveyed On 09/16/2019
Street Name	Alvarado Rd		City	La Mesa	
Location type	Private - with easement				
Surface					
Survey purpose			Weather	Dry	
From	EX 6		Depth	Ft	Direction Down
To	EX 7		Depth	Ft	Year laid
Sched length	363.2	Ft	Size	15	by ins
Joint Spacing			Ft		
Pipe Use	Sanitary		Shape	Circular	
Material	Vitrified clay		Lining		
Pre-clean					
Last Cleaned					
General note			Structural	Service	Constructional
Location note			Miscellaneous	Hydraulic	

363.2 Ft Total Length Surveyed

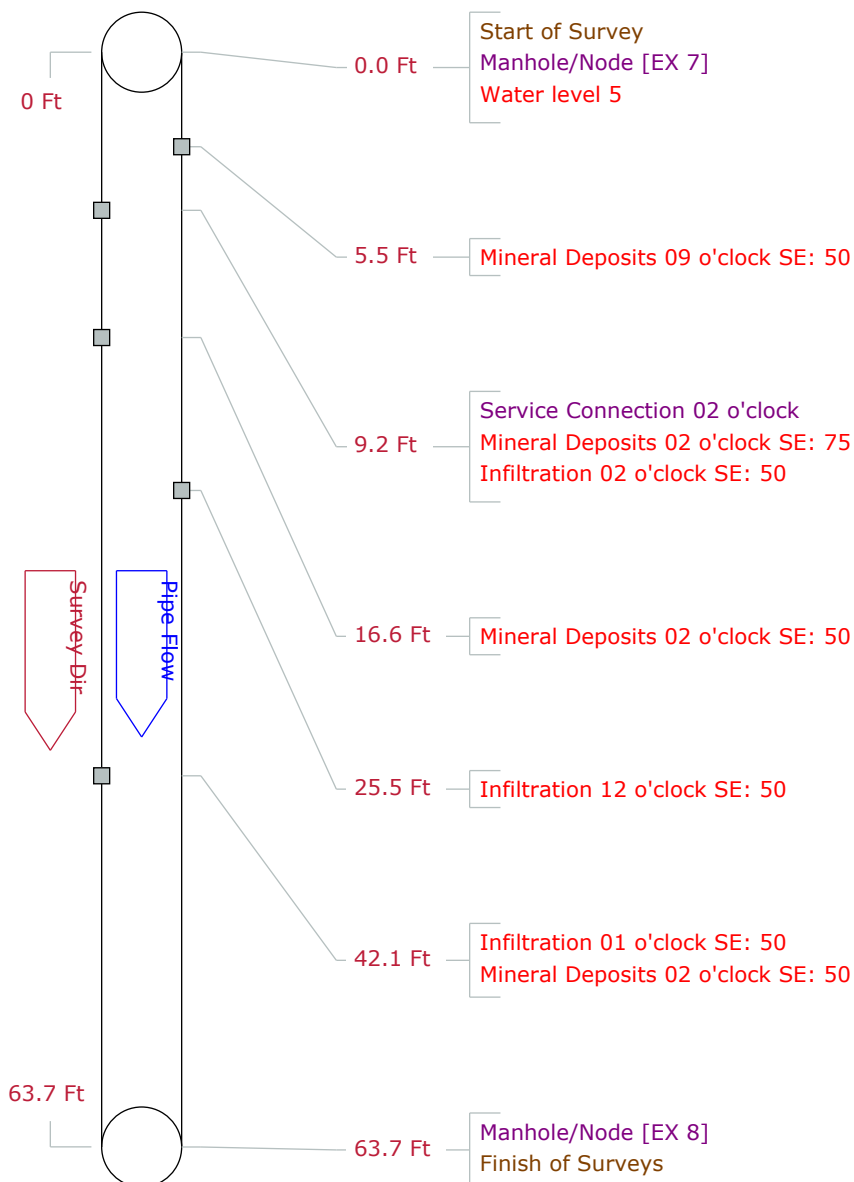
Scores	Structural:	Total	100	Mean Defect	100	Peak	100	Mean Pipe	0.3
	Service:	Total	1675	Mean Defect	64.4	Peak	150	Mean Pipe	4.6

Pipe Graphic Report of PLR

EX 7 X

for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	8
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	63.7 Ft	From	EX 7	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 8	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 7 X for Fuscoe Engineering

Work Order	02413-001	Setup 8
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 5.5 Ft
 Code Mineral Deposits
 Remarks
 File Name 76.jpg



Video Index Count 9.2 Ft
 Code Mineral Deposits
 Remarks
 File Name 77.jpg



Video Index Count 9.2 Ft
 Code Infiltration
 Remarks
 File Name 78.jpg



Video Index Count 16.6 Ft
 Code Mineral Deposits
 Remarks
 File Name 79.jpg



Video Index Count 25.5 Ft
 Code Infiltration
 Remarks
 File Name 80.jpg



Video Index Count 42.1 Ft
 Code Infiltration
 Remarks
 File Name 81.jpg



Video Index Count 42.1 Ft
 Code Mineral Deposits
 Remarks
 File Name 82.jpg

Tabular Report of PLR		EX 7	X	for Fuscoe Engineering	
Work Order	02413-001	Contract		Video	Setup 8
Facility		Operator	C.Kintz	Van Ref	10
Street Name	Alvarado Rd	City	La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose		Weather	Dry		
From	EX 7	Depth	Ft	Direction	Down
To	EX 8	Depth	Ft	Year laid	
Sched length	63.7	Ft		Joint Spacing	Ft
Size	15	by	ins	Shape	Circular
Pipe Use	Sanitary	Material	Vitrified clay	Lining	
Pre-clean		Last Cleaned			
General note		Structural		Service	
Location note		Miscellaneous		Hydraulic	

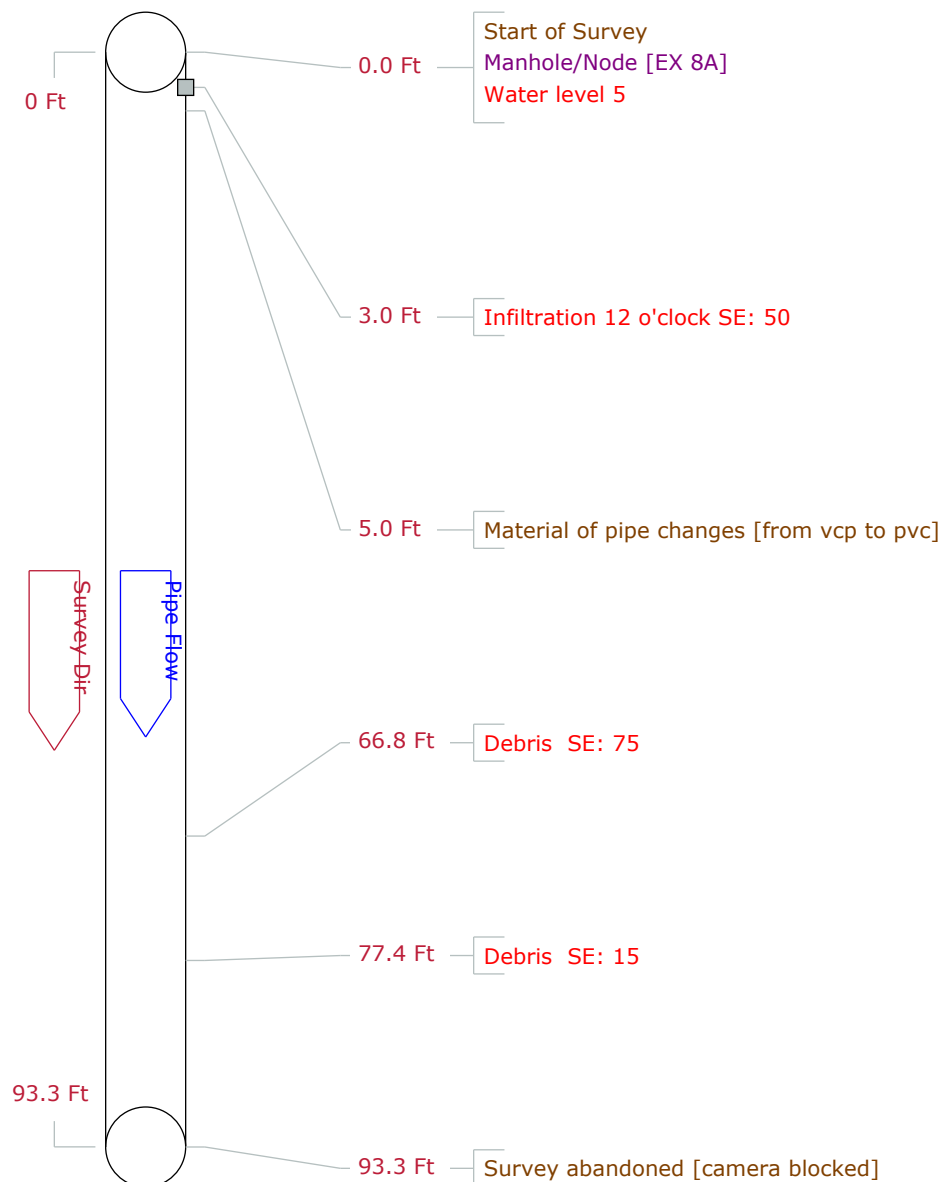
Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST Start of Survey					
	0.0		MH Manhole/Node					EX 7
	0.0		WL Water level				5	
	5.5		E Mineral Deposits	S	09			
	9.2		CN Service Connection		02			
	9.2		E Mineral Deposits	M	02			
	9.2		I Infiltration	S	02			
	16.6		E Mineral Deposits	S	02			
	25.5		I Infiltration	S	12			
	42.1		I Infiltration	S	01			
	42.1		E Mineral Deposits	S	02			
	63.7		MH Manhole/Node					EX 8
	63.7		FH Finish of Surveys					

63.7 Ft Total Length Surveyed

Scores	Structural:	Total	0	Mean Defect	0	Peak	0	Mean Pipe	0
	Service:	Total	375	Mean Defect	46.9	Peak	125	Mean Pipe	5.9

Pipe Graphic Report of PLR EX 8A X for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	10
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/17/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	Ft	From	EX 8A	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 9	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 8A X for Fuscoe Engineering

Work Order	02413-001	Setup 10
Video	Survey Date	09/17/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 3.0 Ft
 Code Infiltration
 Remarks
 File Name 99.jpg



Video Index Count 5.0 Ft
 Code Material of pipe changes
 Remarks from vcp to pvc
 File Name 100.jpg



Video Index Count 66.8 Ft
 Code Debris
 Remarks
 File Name 101.jpg

Tabular Report of PLR		EX 8A	X	for Fuscoe Engineering	
Work Order	02413-001	Contract		Video	Setup 10
Facility		Operator C.Kintz		Van Ref 10	Surveyed On 09/17/2019
Street Name	Alvarado Rd			City La Mesa	
Location type	Private - with easement				
Surface					
Survey purpose				Weather	Dry
From	EX 8A			Depth	Ft
To	EX 9			Depth	Ft
Sched length	Ft	Size	15	by	ins
Pipe Use	Sanitary			Joint Spacing	Ft
Material	Vitrified clay			Shape	Circular
				Lining	
Direction	Down				
Year laid					
Pre-clean					
Last Cleaned					
General note				Structural	Service
Location note				Miscellaneous	Hydraulic
				Constructional	

Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST	Start of Survey				
	0.0		MH	Manhole/Node				EX 8A
	0.0		WL	Water level			5	
	3.0		I	Infiltration	S	12		
	5.0		MC	Material of pipe changes				from vcp to pvc
	66.8		DE	Debris	M			
	77.4		DE	Debris	L			
	93.3		SA	Survey abandoned				camera blocked

93.3 Ft Total Length Surveyed

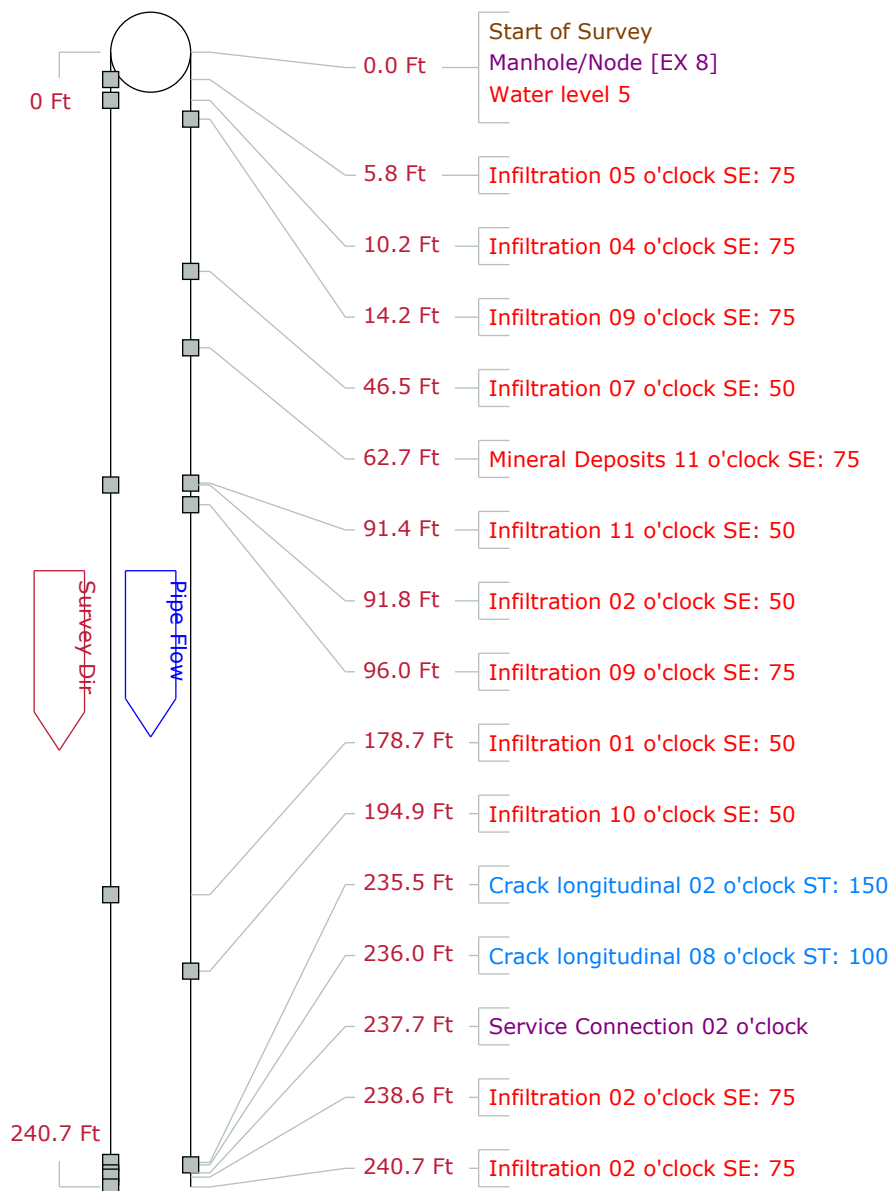
Scores	Structural:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0
	Service:	Total 140	Mean Defect 35	Peak 75	Mean Pipe 1.5

Pipe Graphic Report of PLR

EX 8 X

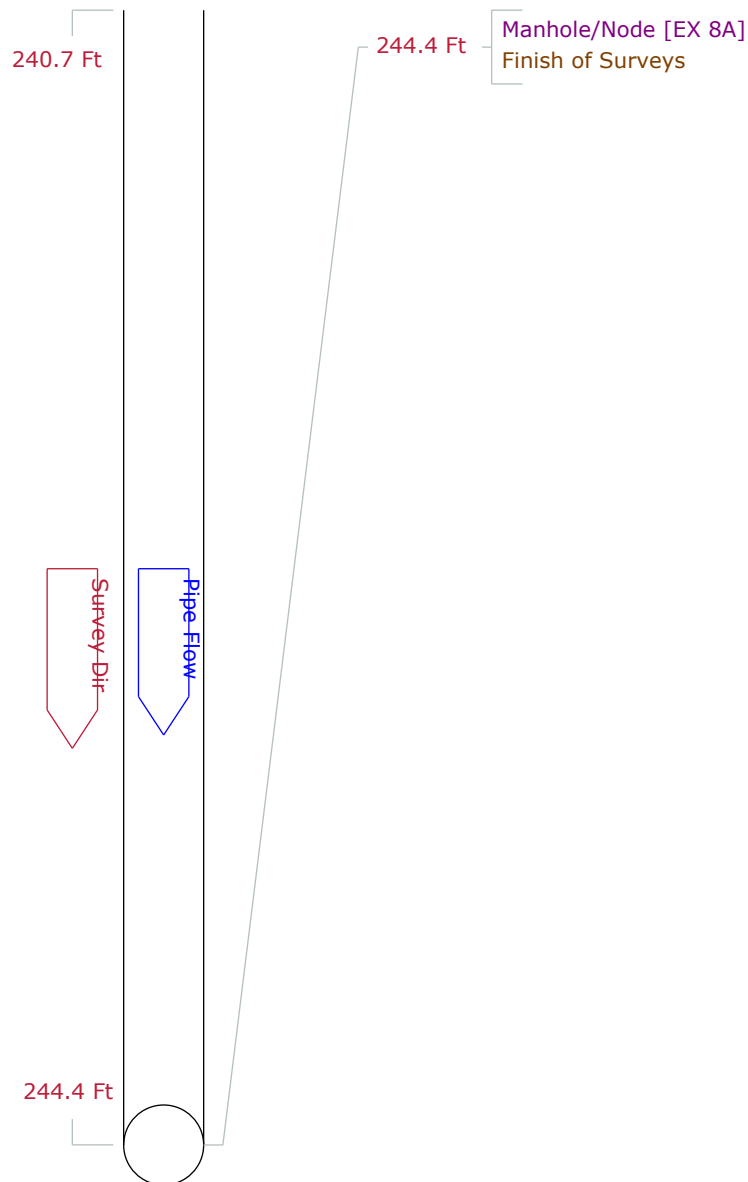
for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	9
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	244.4 Ft	From	EX 8	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 8A	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



Pipe Graphic Report of PLR EX 8 X for Fusco Engineering

Work Order	02413-001	Contract		Video		Setup	9
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/16/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	244.4 Ft	From	EX 8	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 8A	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 8 X for Fuscoe Engineering

Work Order	02413-001	Setup 9
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index Count 10.2 Ft
Code Infiltration
Remarks
File Name 84.jpg



Video Index Count 14.2 Ft
Code Infiltration
Remarks
File Name 85.jpg



Video Index Count 46.5 Ft
Code Infiltration
Remarks
File Name 86.jpg



Video Index Count 62.7 Ft
Code Mineral Deposits
Remarks
File Name 87.jpg



Video Index Count 91.4 Ft
Code Infiltration
Remarks
File Name 88.jpg



Video Index Count 91.8 Ft
Code Infiltration
Remarks
File Name 89.jpg

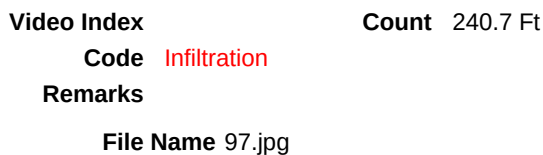
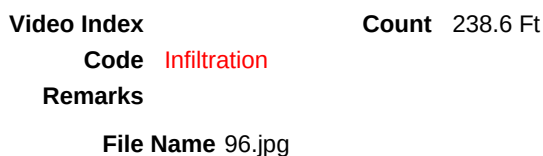
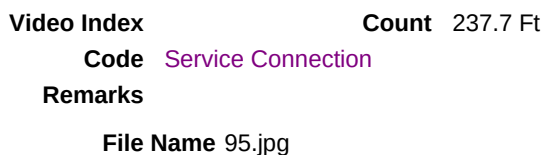
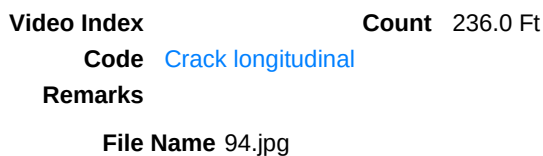
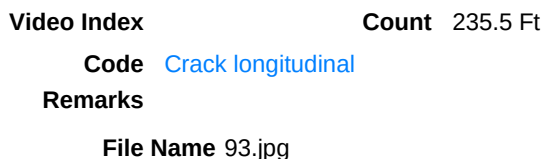
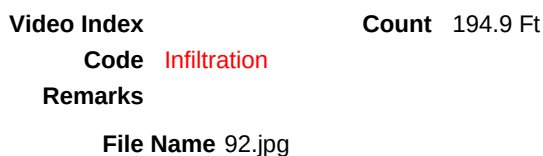


Video Index Count 96.0 Ft
Code Infiltration
Remarks
File Name 90.jpg



Video Index Count 178.7 Ft
Code Infiltration
Remarks
File Name 91.jpg

Work Order	02413-001	Setup 9
Video	Survey Date	09/16/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Tabular Report of PLR		EX 8	X	for Fuscoe Engineering	
Work Order	02413-001	Contract		Video	Setup 9
Facility		Operator	C.Kintz	Van Ref	10
Street Name	Alvarado Rd	City	La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose		Weather	Dry		
From	EX 8	Depth	Ft	Direction	Down
To	EX 8A	Depth	Ft	Year laid	
Sched length	244.4 Ft	Size	15 by ins	Joint Spacing	Ft
Pipe Use	Sanitary	Shape	Circular	Pre-clean	
Material	Vitrified clay	Lining		Last Cleaned	
General note			Structural	Service	Constructional
Location note			Miscellaneous	Hydraulic	

Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST Start of Survey					
	0.0		MH Manhole/Node					EX 8
	0.0		WL Water level				5	
	5.8		I Infiltration	M	05			
	10.2		I Infiltration	M	04			
	14.2		I Infiltration	M	09			
	46.5		I Infiltration	S	07			
	62.7		E Mineral Deposits	M	11			
	91.4		I Infiltration	S	11			
	91.8		I Infiltration	S	02			
	96.0		I Infiltration	M	09			
	178.7		I Infiltration	S	01			
	194.9		I Infiltration	S	10			
	235.5		CL Crack longitudinal	M	02			
	236.0		CL Crack longitudinal	S	08			
	237.7		CN Service Connection		02			
	238.6		I Infiltration	M	02			
	240.7		I Infiltration	M	02			
	244.4		MH Manhole/Node					EX 8A
	244.4		FH Finish of Surveys					

244.4 Ft Total Length Surveyed

Scores	Structural:	Total	250	Mean Defect	125	Peak	150	Mean Pipe	1
	Service:	Total	775	Mean Defect	59.6	Peak	75	Mean Pipe	3.2

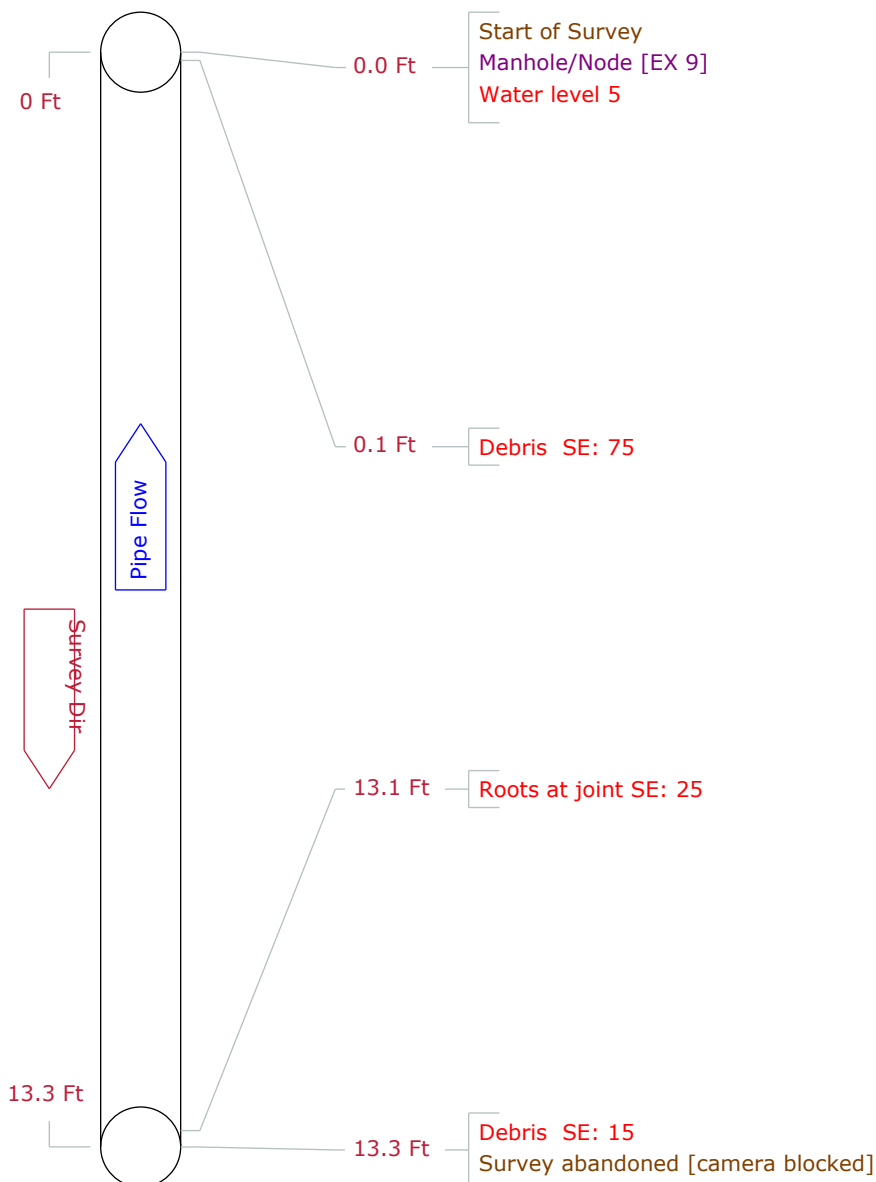
Pipe Graphic Report of PLR

EX 8A

X

for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	11
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/17/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	Ft	From	EX 9	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 8A	Depth	Ft
Material	Vitrified clay	Joint spacing	Ft	Direction	Upstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 8A X **for** Fuscoe Engineering

Work Order	02413-001	Setup 11
Video	Survey Date	09/17/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index **Count** 13.1 Ft
Code Roots at joint
Remarks
File Name 103.jpg



Video Index **Count** 13.3 Ft
Code Debris
Remarks
File Name 104.jpg

Tabular Report of PLR		EX 8A	X	for Fuscoe Engineering	
Work Order	02413-001		Contract	Video	Setup 11
Facility			Operator C.Kintz	Van Ref 10	Surveyed On 09/17/2019
Street Name	Alvarado Rd		City La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose			Weather	Dry	
From	EX 9		Depth	Ft	Direction Up
To	EX 8A		Depth	Ft	Year laid
Sched length	Ft	Size	15	by	ins
Pipe Use	Sanitary		Joint Spacing	Ft	
Material	Vitrified clay		Shape	Circular	
			Lining	Pre-clean	
				Last Cleaned	
General note			Structural Service Constructional		
Location note			Miscellaneous Hydraulic		

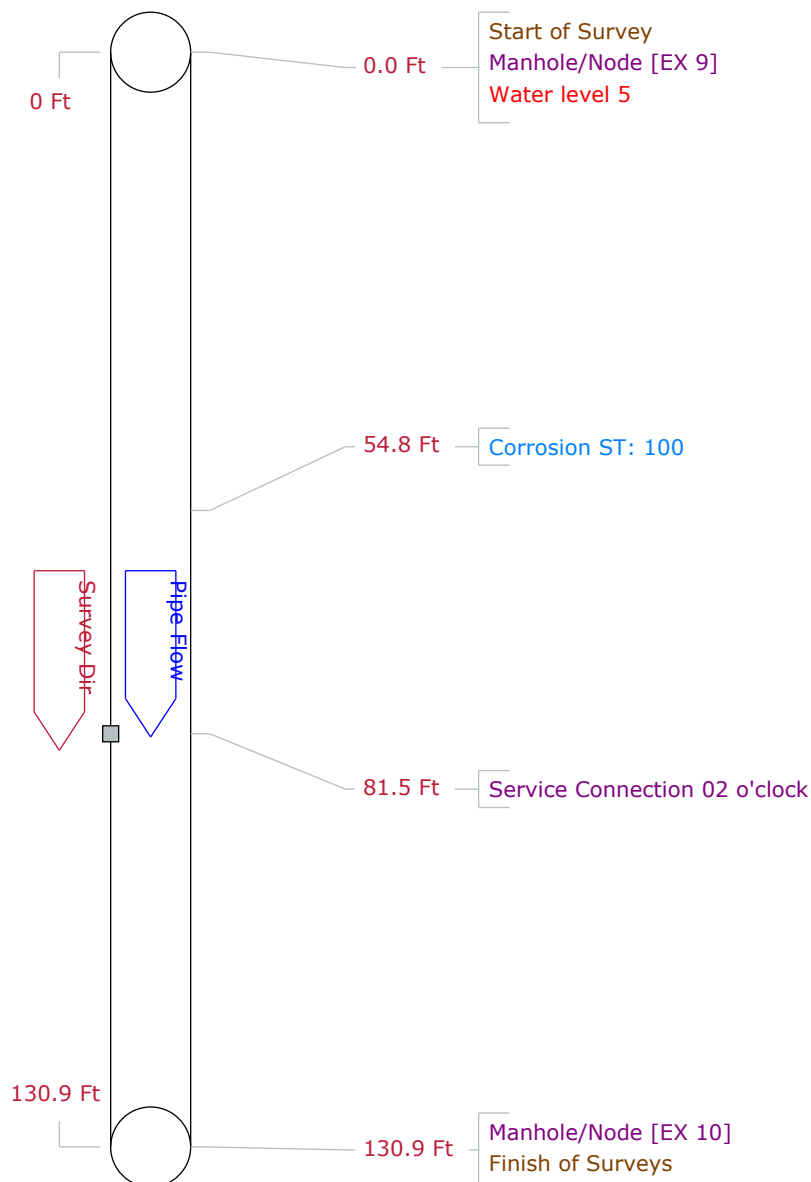
Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST Start of Survey					
	0.0		MH Manhole/Node					EX 9
	0.0		WL Water level				5	
	0.1		DE Debris	M				
	13.1		RJ Roots at joint	S				
	13.3		DE Debris	L				
	13.3		SA Survey abandoned					camera blocked

13.3 Ft Total Length Surveyed

Scores	Structural:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0
	Service:	Total 115	Mean Defect 28.8	Peak 75	Mean Pipe 8.6

Pipe Graphic Report of PLR EX 9 X for Fuscoe Engineering

Work Order	02413-001	Contract		Video		Setup	12
Facility		Operator	C.Kintz	Van Ref	10	Surveyed On	09/17/2019
Street Name	Alvarado Rd	City	La Mesa				
Location type	Private - with easement						
Surface							
Survey purpose		Weather	Dry				
Pipe Use	Sanitary	Schedule length	130.9 Ft	From	EX 9	Depth	Ft
Shape	Circular	Size	15 by ins	To	EX 10	Depth	Ft
Material	Cast iron	Joint spacing	Ft	Direction	Downstream		
Lining		Year laid		Pre-clean		Last cleaned	
General note				Structural	Service	Constructional	
Location note				Miscellaneous	Hydraulic		



CCTV Picture List of EX 9 X **for** Fuscoe Engineering

Work Order	02413-001	Setup 12
Video	Survey Date	09/17/2019
Path to picture files	E:\FLEX6\Snaps\FUSCOE ENGINEERING\	
Path to video files	E:\FLEX6\Movies\FUSCOE ENGINEERING\	
Path to media files	E:\FLEX6\Media\FUSCOE ENGINEERING\	



Video Index **Count** 54.8 Ft

Code Corrosion

Remarks

File Name 106.jpg

Tabular Report of PLR		EX 9	X	for Fuscoe Engineering	
Work Order	02413-001		Contract	Video	Setup 12
Facility			Operator C.Kintz	Van Ref 10	Surveyed On 09/17/2019
Street Name	Alvarado Rd		City La Mesa		
Location type	Private - with easement				
Surface					
Survey purpose			Weather	Dry	
From	EX 9		Depth	Ft	Direction Down
To	EX 10		Depth	Ft	Year laid
Sched length	130.9	Ft	Size	15	by ins
Joint Spacing			Ft		
Pipe Use	Sanitary		Shape	Circular	
Material	Cast iron		Lining		
General note			Structural	Service	Constructional
Location note			Miscellaneous	Hydraulic	

Video	Count	CD	Code	Sev	Fr	To	Value	Remarks
	0.0		ST	Start of Survey				
	0.0		MH	Manhole/Node				EX 9
	0.0		WL	Water level			5	
	54.8		C	Corrosion	S			
	81.5		CN	Service Connection		02		
	130.9		MH	Manhole/Node				EX 10
	130.9		FH	Finish of Surveys				

130.9 Ft Total Length Surveyed

Scores

Structural:	Total 100	Mean Defect 100	Peak 100	Mean Pipe 0.8
Service:	Total 0	Mean Defect 0	Peak 0	Mean Pipe 0