APPENDIX G

Salt Creek Interceptor Technical Sewer Study

SALT CREEK INTERCEPTOR TECHNICAL SEWER STUDY FOR THE SOUTH OTAY RANCH (VILLAGE 8 WEST AND VILLAGE 9)

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FINAL

Prepared For:

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and the

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Chapter 1
Introduction

The Salt Creek Interceptor Technical Sewer Study addresses critical future capacity issues associated with increased density development proposals in the South Otay Ranch area of the City of Chula Vista (City). Specifically this technical study will support the Program Environmental Impact Report (EIR) currently being prepared by RECON Environmental Inc. (RECON) for the City of Chula Vista, specifically for Village 8 West and Village 9. Chapter 1 describes the study's purpose and provides background information and a project overview.

1.1 PURPOSE

The purpose of this report is two-fold:

1. To estimate the increase in wastewater generation for the proposed South Otay Ranch Village 8 West and Village 9 (Project) and the reasonable foreseeable proposed developments (cumulative impact), identified by the City.

2. To perform a hydraulic capacity analysis of the existing Salt Creek Interceptor and evaluate the impacts to the City's existing and ultimate capacity needs in the City of San Diego's Metropolitan Sewerage System (METRO).

The report will serve as a technical study in support of the Project's Program EIR currently being prepared by RECON.

1.2 VILLAGE 8 WEST AND VILLAGE 9 OVERVIEW

The South Otay Ranch Village 8 West and Village 9 (Project) is located in the City of Chula Vista within the Otay Ranch General Development Plan (GDP) Planning Area and will be provided sewer service by the City. Onsite sewer collection systems will convey wastewater generated by the Project, southerly to the existing Salt Creek Interceptor, which will then convey flows to METRO's South Metro Interceptor. Evaluation of the proposed onsite sewer systems will be conducted as part of the tentative map submittals and as such is not part of this report. Wilson Engineering has prepared a Draft Project Onsite Sewer Study and is currently responding to City comments. The Project includes increased residential development in the South Otay Ranch Villages area resulting from a land offer agreement between the City and Otay Land Company entered into on April 7, 2008. Table 1 summarizes the land use plan proposal for the Project.

Table 1. Proposed Project Land Use Summary

	Single Family Residential	Multi-Family Residential	Residential Total	Commercial (Office & Retail)	Industrial	Institutional	Park
	Units	Units	Units	Acres	Acres	Acres	Acres
Village 8 West	621	1,429	2,050	14.5	0.0	38.2	28.0
Village 9	266	3,734	4,000	17.8	0.0	27.0	25.1
Total	**887**	**5,163**	**6,050**	**32.3**	**0.0**	**65.2**	**53.1**

1.3 SEWER SYSTEM BACKGROUND

The Salt Creek Interceptor was planned, designed, and constructed to convey projected development flows in the eastern portions of the City of Chula Vista and future areas in the County of San Diego (County) that might otherwise be difficult to sewer. The Salt Creek Interceptor was designed and constructed based on the City of Chula Vista Salt Creek Interceptor Sewer Hydraulic Basis of Design Report (2002 Design Report), prepared by Dudek & Associates (Dudek) and dated December 3, 2002. The 2002 Design Report estimated wastewater flows based on then-current land planning for the Salt Creek sewer basin and the unit generation rates and peaking factors presented in the City's Subdivision Manual. The Salt Creek Interceptor was placed into service around 2005.

The capacity of the Salt Creek Interceptor was further analyzed in the 2005 Chula Vista Wastewater Master Plan (2005 Master Plan) based on the 2001 General Plan Amendment / Otay Ranch General Development Plan Amendment (2001 GPA). During the 2005 master planning process, the City was concurrently updating the City-wide General Plan. The Master Plan scope was therefore expanded to include an evaluation of the impacts of four alternative land use plans being considered in the new 2005 General Plan Update. However, the 2005 Master Plan was completed prior to the adoption of the 2005 General Plan, and the final adopted 2005 General Plan land uses were not included in the Master Plan.

The 2005 Master Plan estimated wastewater generation for varying land uses within each of the City's existing major sewer basins based on calibrated unit generation rates and time-varying dimensionless hydrographs or "diurnal curves." The calibration process was achieved by comparing results from the flow metering results from May 23 to June 5, 2003 at 12 permanent METRO and 8 temporary flow meters to results from the hydraulic models. The results of the calibration process showed lower wastewater unit generation and peaking factors than those stipulated in the Subdivision Manual for all meters. Based on the calibration results, unit generation rates were established for each basin based on varying land uses. During, the flow metering process, the Salt Creek sewer basin was undeveloped and was assigned similar unit generation rates as the Poggi Canyon basin because of the basins had similar land uses and planned development mixes.

1.4 SALT CREEK BASIN LAND USES

Proposed land uses within the Salt Creek Basin have changed since the Salt Creek Interceptor was designed in the 2002 Design Report. Furthermore, land uses within the basin have also changed from those presented in the 2005 Master Plan since the plan was completed prior to the adoption of the 2005 General Plan. This report serves to identify capacity issues resulting from the increased residential density proposal of the Project as well as any reasonably foreseeable projects.

As such, it was important to update the land use projections presented in the 2005 Master Plan to reflect the adopted 2005 General Plan to establish a new "Baseline" condition. In accordance with the California Environmental Quality Act (CEQA), a proposed project must not only determine its specific project impacts, but also address the cumulative impact of any reasonably foreseeable project or "Cumulative" conditions. The City provided land use summary data (April 2, 2010) for the Baseline and Cumulative conditions for the Salt Creek sewer basin. This data is included along with the wastewater generation estimates in Appendix A. Table 2 summarizes the Baseline and Cumulative land uses along with the land uses presented in the 2002 Design

Report, and the 2005 Master Plan. Note that the land uses presented in the 2002 Design Report do not include specific land use breakdowns for the County. The 2002 Design Report did include approximately 30,563 equivalent people or 9,261 EDUs (based on 3.3 persons per household) for the County in their design calculations, which confirms a portion of the County was included in the Salt Creek Interceptor.

Table 2. Salt Creek Sewer Basin Land Use Summary

	Single Family Residential	Multi-Family Residential	Residential Total	Commercial (Office & Retail)	Industrial	Institutional	Park
	Units	Units	Units	Acres	Acres	Acres	Acres
2002 Design Report [1]							
City	12,627	9,071	21,698	458.9	508.9	536	390.4
2005 Master Plan							
City	8,420	6,790	15,210	420.4	264.6	924.3	206.3
County	875	1,606	2,481	259.1	0.0	7.9	18.4
Master Plan Total	**9,295**	**8,396**	**17,691**	**679.5**	**264.6**	**932.2**	**224.7**
Baseline Condition							
City (Existing)	5,026	1,808	6,834	22.4	0.0	322.8	95.6
City (Future)	2,673	9,607	12,280	102.6	452.9	636.3	311.9
City Subtotal	*7,699*	*11,415*	*19,114*	*124.9*	*452.9*	*959.2*	*407.5*
County	3,112	1,558	4,670	255.0	0.0	39.4	30.9
Baseline Total	**10,811**	**12,973**	**23,784**	**379.9**	**452.9**	**998.6**	**438.4**
Baseline + Project Condition							
City (Existing)	5,026	1,808	6,834	22.4	0.0	322.8	95.6
City (Future)	2,920	10,240	13,160	117.3	452.9	636.4	314.7
City Subtotal	*7,946*	*12,048*	*19,994*	*139.6*	*452.9*	*959.3*	*410.3*
County	3,112	1,558	4,670	255.0	0.0	39.4	30.9
Baseline + Project Total	**11,058**	**13,606**	**24,664**	**394.6**	**452.9**	**998.7**	**441.2**
Cumulative Condition							
City (Existing)	5,026	1,808	6,834	22.4	0.0	322.8	95.6
City (Future)	3,106	15,691	18,797	117.3	247.9	426.1	366.9
City Subtotal	*8,132*	*17,499*	*25,631*	*139.6*	*247.9*	*749.0*	*462.5*
County	3,112	1,558	4,670	255.0	0.0	39.4	30.9
Cumulative Total	**11,244**	**19,057**	**30,301**	**394.9**	**247.9**	**788.4**	**493.4**

[1] The final design of the Salt Creek Interceptor included 9,261 EDUs from future County areas.

The City is not obligated to provide sewer service to the County planning areas. However, County land uses have been included as it appears those areas logically would sewer to the Salt Creek Interceptor. It should be noted that the 2005 Master Plan excluded the County's Village 14 and Planning Area 16 from the land use numbers because those properties were acquired by nature conservatory groups for open space.

The City has also identified the Bayfront Redevelopment Project, which does not drain to the Salt Creek Interceptor, as having cumulative impacts on future METRO capacity needs.

1.5 PROJECT SEWER SERVICE

Sanitary sewer service for the Project will be provided by the City. The City operates and maintains its own sanitary collection system that ultimately connects to the METRO system. All wastewater generated within the Project will eventually be conveyed to the METRO system via the Salt Creek Interceptor. The wastewater is treated by the City of San Diego at the Point Loma Wastewater Treatment Facility. METRO provides wastewater conveyance, treatment, and disposal services for the City of Chula Vista and fourteen other participating agencies in accordance with the terms of a multi-agency agreement (METRO Agreement).

The City collects a capacity fee from new developments to fund the purchase of METRO capacity. Developers typically pay the sewer capacity fee at building permit issuance. Development can't occur without adequate sewer capacity as determined by the City Engineer. Building permits will not be issued if the City Engineer has determined that adequate sewer capacity does not exist.

Chapter 2
Wastewater Generation

This chapter describes the wastewater flows generated for the Baseline and Cumulative conditions, based on the unit sewer generation rates required by the City's 2002 Subdivision Manual for new development and unit sewer generation rates recommended in the 2005 Master Plan for existing development. The 2005 Master Plan used calibrated unit generation rates for the Salt Creek Basin to estimate basin wastewater flows and also to forecast future METRO capacity needs. The sewer generation rates were calibrated to the Poggi Canyon Basin which is adjacent to the Salt Creek Basin and exhibits similar demographic conditions. The calibrated sewer generation rates were the basis for the development of the 2005 Master Plan Salt Creek Interceptor dynamic hydraulic model and subsequent build-out hydraulic analysis.

2.1 UNIT SEWER GENERATION RATES

The unit sewer generation rates used to estimate wastewater flows for the Baseline and Cumulative condition are based on the 2002 Subdivision Manual criteria for new development and the 2005 Master Plan criteria for existing development. The 2002 Subdivision Manual's unit generation criterion for new development is 265 gallons per day per equivalent dwelling unit (gpd/EDU). Wastewater flows were estimated in the 2005 Master Plan, based on calibrated unit generation rates, to be 215 gpd/EDU. The calibrated unit sewer rates were based on recorded sewer flow meter data in the Poggi Canyon Basin. Table 3 summarizes the unit generation rates presented in the Subdivision Manual and the 2005 Master Plan for the Salt Creek sewer basin.

2.2 WASTEWATER GENERATION SUMMARY

Wastewater flows generated for the Baseline and Cumulative conditions were estimated based on the unit sewer generation rates presented in the City's 2002 Subdivision Manual for new development and unit sewer generation rates presented in the 2005 Master Plan for existing development. Table 4 summarizes estimated sewage generation from the Project and the cumulative impact projects as presented in the 2002 Design Report and 2005 Master Plan. Table 5 summarizes the estimated sewage generation for the land use areas from the Baseline, Baseline + Project and Cumulative conditions.

The City is not obligated to provide sewer service to the County planning areas. However, County land use areas have been included in the wastewater generation estimates. It should be noted that the 2005 Master Plan excluded the County's Village 14 and Planning Area 16 from the land use numbers because those properties were reportedly acquired by nature conservatory groups for open space. See Appendix A for development projections for the County's Village 14 and 16.

Table 3. Unit Sewer Generation Rates

Item	2005 Master Plan Criteria for the Salt Creek Basin	Subdivision Manual Criteria
Residential Sewage Generation	215 gpd/EDU SF: 1 DU = 1 EDU MF: 1 DU = 0.75 EDU	265 gpd/EDU SF: 1 DU = 1 EDU MF: 1 DU = 0.75 EDU
Commercial, Industrial, & Institutional Sewage Generation	1,500 gpd/ac	2,500 gpd/ac
Park Sewage Generation	500 gpd/ac	500 gpd/ac

MF – Multi-Family Residential
SF – Single Family Residential

Table 4. Estimated Wastewater Generation (Design Report and Master Plan)

Land Use	Units	Unit Wastewater Generation Rate	Estimated Wastewater Generation
2002 Design Report[(1)]			**9,234,764 gpd**
2005 Master Plan[(2)]			
City			
Single Family Residential	8,420 DU	215 gpd/EDU	1,810,300 gpd
Multi-Family Residential	6,790 DU	161.25 gpd/DU	1,094,888 gpd
Commercial (Office & Retail)	420.4 acres	1,500 gpd/ac	630,600 gpd
Industrial	264.6 acres	1,500 gpd/ac	396,900 gpd
Institutional	924.3 acres	1,500 gpd/ac	1,386,450 gpd
Park	206.3 acres	500 gpd/ac	103,150 gpd
City Total			**5,422,288 gpd**
County			
Single Family Residential	875 DU	215 gpd/EDU	188,125 gpd
Multi-Family Residential	1,606 DU	161.25 gpd/DU	258,968 gpd
Commercial (Office & Retail)	259.1 acres	1,500 gpd/ac	388,650 gpd
Industrial	0 acres	1,500 gpd/ac	0 gpd
Institutional	7.9 acres	1,500 gpd/ac	11,850 gpd
Park	18.4 acres	500 gpd/ac	9,200 gpd
County Total			**856,793 gpd**
2005 City Master Plan Total			**6,279,080 gpd**

(1) City of Chula Vista Salt Creek Interceptor Sewer Hydraulic Basis of Design Report (2002 Design Report), prepared by Dudek & Associates (Dudek) and dated December 3, 2002.
(2) City of Chula Vista Wastewater Master Plan (2005 Master Plan) Appendix D2 Model Projections, prepared by PBS&J and dated May 2005.

Table 5. Estimated Wastewater Generation (Baseline and Cumulative)

Land Use	Units			Unit Wastewater Generation Rate	Estimated Wastewater Generation (gpd)		
	Baseline	Baseline + Project	Cumulative		Baseline	Baseline + Project	Cumulative
City (Existing)							
Single Family Residential	5,026 DU	5,026 DU	5,026 DU	215 gpd/EDU[(1)]	1,080,590	1,080,590	1,080,590
Multi-Family Residential	1,808 DU	1,808 DU	1,808 DU	161.25 gpd/DU	291,540	291,540	291,540
Commercial (Office & Retail)	22.4 ac	22.4 ac	22.4 ac	1,500 gpd/ac	33,600	33,600	33,600
Industrial	0 ac	0 ac	0 ac	1,500 gpd/ac	0	0	0
Institutional	322.8 ac	322.8 ac	322.8 ac	1,500 gpd/ac	484,200	484,200	484,200
Park	95.6 ac	95.6 ac	95.6 ac	500 gpd/ac	47,800	47,800	47,800
City Existing Subtotal					*1,937,730*	*1,937,730*	*1,937,730*
City (Future)							
Single Family Residential	2,673 DU	2,920 DU	3,106 DU	265 gpd/EDU	708,345	773,800	823,090
Multi-Family Residential	9,607 DU	10,240 DU	15,691 DU	198.75 gpd/DU	1,909,391	2,035,200	3,118,586
Commercial (Office & Retail)	102.6 ac	117.3 ac	117.3 ac	2,500 gpd/ac	256,375	293,175	293,175
Industrial	452.9 ac	452.9 ac	247.9 ac	2,500 gpd/ac	1,132,250	1,132,250	619,750
Institutional	636.3 ac	636.4 ac	426.1 ac	2,500 gpd/ac	1,590,775	1,591,025	1,065,275
Park	311.9 ac	314.7 ac	366.9 ac	500 gpd/ac	155,940	157,340	183,440
City Future Subtotal					*5,753,076*	*5,982,790*	*6,103,316*
City Total					**7,690,806**	**7,920,520**	**8,041,046**
County							
Single Family Residential	3,112 DU	3,112 DU	3,112 DU	265 gpd/EDU	824,680	824,680	824,680
Multi-Family Residential	1,558 DU	1,558 DU	1,558 DU	198.75 gpd/DU	309,653	309,653	309,653
Commercial (Office & Retail)	255.0 ac	255.0 ac	255.0 ac	2,500 gpd/ac	637,500	637,500	637,500
Industrial	0.0 ac	0.0 ac	0.0 ac	2,500 gpd/ac	0	0	0
Institutional	39.4 ac	39.4 ac	39.4 ac	2,500 gpd/ac	98,500	98,500	98,500
Park	30.9 ac	30.9 ac	30.9 ac	500 gpd/ac	15,450	15,450	15,450
County Total					**1,885,783**	**1,885,783**	**1,885,783**
Total					**9,576,589**	**9,806,303**	**9,926,829**

(1) Existing estimated flows in the Salt Creek sewer basin are based on lower generation rates (see Table 3).

The wastewater generation estimates for the Baseline, Baseline + Project, and Cumulative conditions are 9.58, 9.81, and 9.93 million gallons per day (mgd), respectively. The wastewater generation estimates for the three land use conditions are approximately one and a half times higher what was assumed in the 2005 Master Plan. This is in part attributed to the use of a lower calibrated generation rate (215 gpd/EDU) and the traffic analysis zone methodology used to estimate flows in the 2005 Master Plan, which results in 25 percent lower flows. The wastewater generation estimates for the Baseline, Baseline + Project, and Cumulative conditions exceed the 2005 Master Plan estimates by 3.30, 3.53, and 3.65 mgd, respectively. However, they are within three percent of the wastewater generation estimates in the 2002 Design Report, which was the basis for the pipeline sizing.

Additionally, the City has identified the Bayfront Redevelopment Project as contributing to the City's overall METRO capacity requirements. Although not located within the Salt Creek Basin, the Bayfront Redevelopment Project is estimated to increase wastewater flows by 1.328 mgd based upon the Bayfront Master Plan Revised Draft EIR, dated May 2008.

Chapter 3
Salt Creek Interceptor Capacity Analysis

Chapter 3 provides a hydraulic capacity analysis of the Salt Creek Interceptor for the Baseline, Baseline + Project, and Cumulative conditions. In accordance with the Subdivision Manual, hydraulic capacity thresholds for existing sewer pipelines are defined as a depth to diameter (d/D) ratio of 0.85. The sewer capacity analyses used the Salt Creek Interceptor model input data from the 2005 Master Plan, which was converted to the InfoWorks dynamic sewer software platform in 2006. Hydraulic model inputs and results are presented in Appendix A and B, respectively.

3.1 REVIEW OF 2005 MASTER PLAN EVALUATION

The 2005 Master Plan included a wet weather capacity analysis of the Salt Creek Interceptor under the 2001 GPA and the 2005 General Plan Update's "Preferred Alternative" based on the calibrated unit sewer generation rates, as previously discussed. The predominant unit sewer generation rate used in the analysis was the 215 gpd/EDU for single family residential development. An allowance of 10 percent was applied to the model to account for potential inflow and infiltration. Based on these assumptions, the Master Plan concluded that there were no hydraulic system deficiencies within the Salt Creek Interceptor.

This capacity analysis for Village 8 West and Village 9 was taken in two steps in order to analyze the capacity of the Salt Creek Interceptor under similar assumptions. First, the model was updated with the Subdivision Manual criteria and second, the increases in wastewater flows beyond those projected in the 2005 Master Plan were added to the model.

3.2 REVISED SUBDIVISION MANUAL EVALUATION

At the City's request, the 2005 Master Plan Salt Creek Interceptor Sewer Model, under the Baseline, Baseline + Project, and Cumulative conditions, was revised to incorporate the Subdivision Manual's higher unit sewer generation rates for new development while evaluating existing development under the Master Plan criteria. The basis for this assumption is that new development (tentative map) onsite sewer systems would be designed based on the Subdivision Manual. The City recognizes that this is a more conservative approach for regional trunk sewer capacity analyses and is consistent with a Baseline level analysis. Figure 1 displays the Salt Creek Interceptor and the location of identified deficiencies under this scenario as further described below. Exhibit 1 identifies the modeled manholes and can be used in comparison to the model results presented in Appendix B.

Baseline Condition

The use of these more conservative unit sewer generation rates in the Salt Creek hydraulic model under the Baseline condition resulted in approximately 4,930 feet of deficient sewer main which exceeded the d/D criteria of 0.85. The deficient existing sewer mains are located in the northern portions of the Salt Creek Interceptor, and include 18-inch diameter sections in North Creekside Drive and South Creekside Drive and 24-inch diameter section within Salt Creek south of the Otay Lake. These identified deficiencies are located upstream of the Project and

are a result of the more conservative unit sewer generation rates and the inclusion of County areas that the City is not required to serve.

Baseline + Project Conditions

The Baseline + Project condition did not result in any identified deficiencies beyond those identified in the Baseline condition. As discussed previously the identified deficiencies occur upstream of the Project and therefore there are no impacts to the Salt Creek Interceptor resulting from the Project.

Cumulative Conditions

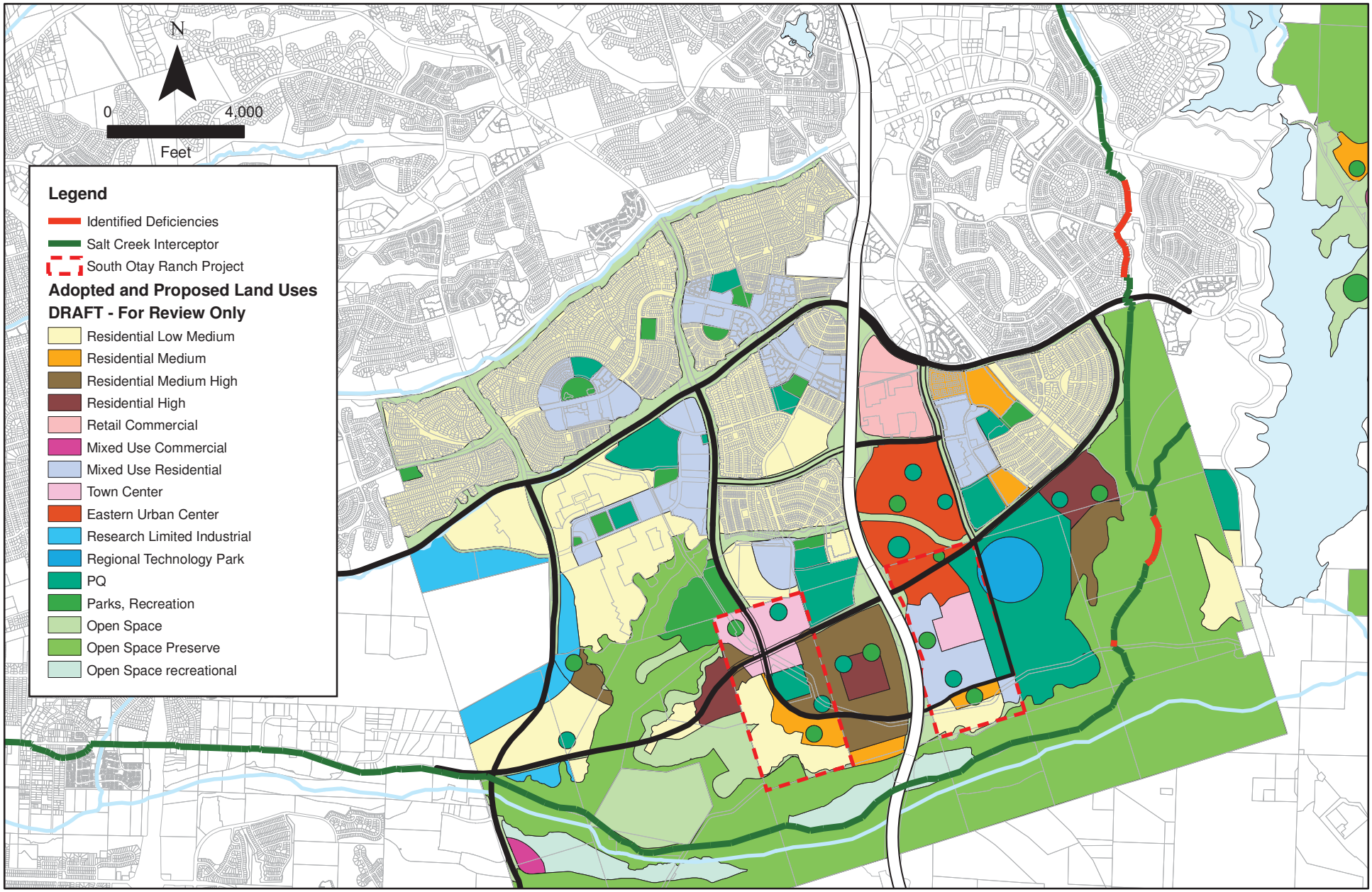
The Cumulative condition did not result in any identified deficiencies beyond those identified in the Baseline condition. However, the Cumulative condition does include increased flows into the identified deficiency located within Salt Creek south of the Otay Lake. These increased flows are a result of the projections for Village 10 / University. The City should closely monitor the development planning of Village 10 / University to properly condition those projects at the tentative map stage related to any required improvements to the Salt Creek Interceptor.

3.3 SUMMARY

The Baseline condition results in approximately 4,930 feet of identified deficiencies in the Salt Creek Interceptor located upstream of the Project. The Baseline + Project condition did not identify any identified deficiencies beyond those identified in the Baseline condition. The Cumulative condition did not identify any identified deficiencies beyond those identified in the Baseline condition. The only identified deficiencies were located upstream of the Project, therefore the Project has no impact on the Salt Creek Interceptor.

However, under Cumulative conditions, increased flow projections from Village 10 / University, are assumed to drain into the identified deficiency located within Salt Creek south of the Otay Lake. The City should closely monitor the development planning of Village 10 / University to properly condition those projects at the tentative map stage related to any required improvements to the Salt Creek Interceptor.

It is also recommended that the City update the 2005 Master Plan to reflect the significant demographic changes and growth over the past 5 plus years that has occurred in eastern Chula Vista. This would allow the City to review and determine, if appropriate, an updated unit sewer generation rate for future planning purposes to support the remaining land development entitlements in the Otay Ranch area. Furthermore, they would greatly assist the City in evaluating its short term capital improvement program capacity needs and confirm Metro capacity requirements. It is also recommended that the City require proposed developments upstream of the identified deficiencies to perform further studies to analyze potential impacts to the Salt Creek Interceptor.



SALT CREEK INTERCEPTOR CAPACITY ANALYSIS

FIGURE 1

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Chapter 4
METRO Treatment Capacity

This chapter describes the impacts to METRO capacity under Baseline, Baseline + Project, and Cumulative conditions and summarizes the cumulative impacts associated with other identified future projects within the City. Note that the estimated flow projections for METRO capacity do not include allocations for the County.

4.1 MASTER PLAN EVALUATION AND UPDATE

The City currently has capacity rights in the METRO system (comprised of conveyance, treatment, and disposal facilities) equal to 20.864 mgd based on the recent capacity allocation of 1.021 mgd from the South Bay Water Reclamation Facility. Existing sewer flows in the City were approximately 17.0 mgd in 2009. Over the past several years, the City has approved a number of development projects that would likely exceed their current METRO capacity if built out to their maximum approved land use densities. Accordingly, the City has begun to pursue alternatives to increase its sewer treatment capacity.

The 2005 Master Plan estimated wastewater flows in 2030 at 23.322 mgd under the 2001 GPA. The Master Plan estimated an additional 2.9 mgd of wastewater flow under the "Preferred Alternative" resulting in 26.222 mgd by 2030. Based on the City's current capacity rights of 20.864 mgd, the City would need to acquire an additional 5.358 mgd of treatment capacity to serve the "Preferred Alternative" land use plan by 2030 as described in the 2005 Master Plan.

As part of the 2005 Master Plan, the increase in flow from the Preferred Alternative was estimated for the Northwest, Southwest and East areas. The Northwest and Southwest areas accounted for an increase in flow of 1.5 mgd. The East area accounted for an increase in flow of 1.4 mgd. The Northwest and Southwest areas span multiple basins and the flow projections in the Baseline condition are assumed to be the same as the 2005 Master Plan. The East area included the rapidly growing Poggi Canyon and Salt Creek Basins, and buildout flow estimates for those basins have been revised per the March 2009 Poggi Canyon Developer Impact Fee (DIF) Study provided by the City, and the buildout flow projections for the Salt Creek Basin presented as part of this study. Table 6 summarizes the revised sewer flow projections per basin and compares the Master Plans 2030 Metro projections with the updated buildout projections from this study. Note that SANDAG anticipates that the buildout flow projections will occur far beyond 2030.

Table 6. Sewer Basin Flow Projections (2030 vs. Build-out)

Basin	2005 Master Plan 2030 Flow Projection (mgd)	2005 Master Plan Preferred Alternative 2030 Flow Projection (mgd)	Baseline Condition Buildout Flow Projection (mgd)
Bayfront	0.235	0.235	0.235
West Area			
Date-Faivre	0.666		
G Street	2.274		
Main Street	4.054		
Sweetwater	4.143		
Telegraph Canyon	5.939		
West Total	*17.076*	*18.576*	*18.576*
East Area			
Poggi Canyon	2.301		4.368
Salt Creek	3.710		7.691
East Total	*6.011*	*7.411*	*12.059*
City Total	**23.322**	**26.222**	**30.870**

4.2 BASELINE METRO ANALYSIS

The Baseline condition results in a total estimated buildout wastewater generation of 30.870 mgd. This estimate is an increase of 7.548 mgd over the estimated 2030 projection of 23.322 mgd presented in the 2005 Master Plan. Within the Salt Creek Basin, this buildout estimate is an increase of 3.981 mgd over the estimated 2030 projection of 3.710 mgd presented in the 2005 Master Plan. The increase in treatment capacity requirement for the City would be 4.378 mgd, beyond the requirement presented in the 2005 Master Plan.

4.3 BASELINE + PROJECT METRO ANALYSIS

The Baseline + Project condition results in a total estimated buildout wastewater generation of 31.100 mgd. This estimate is an increase of 7.778 mgd over the estimated 2030 projection of 23.322 mgd presented in the 2005 Master Plan. Within the Salt Creek Basin, this buildout estimate is an increase of 4.211 mgd over the estimated 2030 projection of 3.710 mgd presented in the 2005 Master Plan. The increase in treatment capacity requirement for the City would be 4.579 mgd, beyond the requirement presented in the 2005 Master Plan.

4.4 CUMULATIVE METRO ANALYSIS

The City has identified the Bayfront Redevelopment Project as contributing to the City's overall METRO capacity requirements. The Bayfront Redevelopment Project is estimated to increase wastewater flows by 1.328 mgd based upon the Bayfront Master Plan Revised Draft EIR, dated May 2008. The inclusion of the Bayfront Redevelopment Project with the Cumulative condition results in a total estimated wastewater generation of 32.548 mgd. This estimate is an increase of 9.226 mgd over the estimated 23.322 mgd presented in the 2005 Master Plan. Within the Salt Creek Basin, this estimate is an increase of 4.331 mgd over the estimated 3.710 mgd

presented in the 2005 Master Plan. The increase in treatment capacity requirement for the City would be 6.027 mgd, beyond the requirement presented in the 2005 Master Plan.

4.5 SUMMARY

The City will need to acquire additional treatment capacity in the METRO system and/or construct a new wastewater treatment plant to meet their future needs. Figure 2 graphically presents an estimate of the anticipated timing of those needs. Future flow projections are based on SANDAG's Series 12 residential growth rates through 2050. The figure suggests that the City's existing sewer treatment capacity will be reached by 2025.

Currently, the City is studying both alternatives to resolve their treatment capacity deficiency, which includes ongoing negotiations with METRO to purchase additional capacity and an evaluation of a City owned wastewater treatment plant. The City of San Diego has indicated that there is available METRO capacity in the regional system that could be purchased by the City.

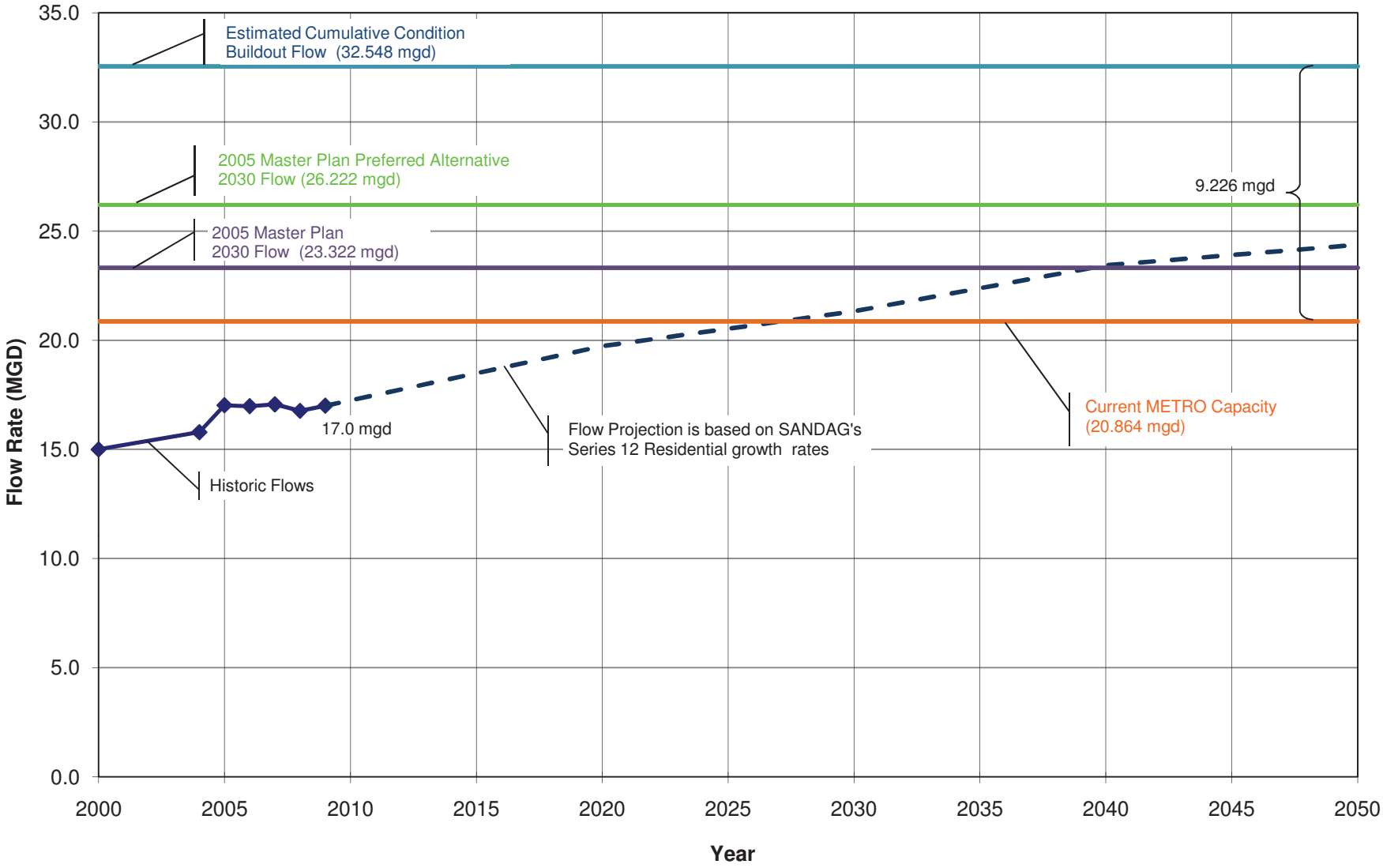
The Baseline condition would require the City to acquire approximately 7.548 mgd of additional treatment capacity, resulting in approximately 30.870 mgd of wastewater flows. The Baseline + Project condition would require the City to acquire approximately 7.778 mgd of additional treatment capacity, resulting in approximately 31.100 mgd of wastewater flows The Cumulative condition, including the Bayfront Redevelopment, would require the City to acquire approximately 9.226 mgd of additional treatment capacity by 2030, resulting in approximately 32.548 mgd of wastewater flows. A summary of METRO capacity impacts under all the build-out scenarios is shown in Table 7.

Table 7. METRO Capacity Impacts (Buildout)

	Increase in wastewater flow from 2005 MP (mgd)	METRO Capacity (mgd)
Current METRO Capacity		20.864
2005 Master Plan Flow Projection	--	23.322
2005 Master Plan Preferred Alternative Flow Projection	2.900	26.222
Baseline Condition Flow Projection	7.548	30.870
Baseline + Project Condition Flow Projection	7.778	31.100
Cumulative Condition Flow Projection	9.226	32.548

The City recognizes that additional treatment plant capacity must be secured to allow full build-out of the City and continues to proceed with the necessary studies to determine the most economical and beneficial treatment and disposal options. The City has the ability to self mitigate METRO capacity limitations. Issuance of METRO capacity is given to proposed developments after the acceptance of the building permit. The City can self mitigate METRO capacity limitations by not issuing building permits until adequate METRO capacity has been secured.

Figure 2. METRO Capacity Threshold



N

0 1,000 2,000 3,000 4,000
Feet

Legend

- Identified Deficiencies
- Salt Creek Interceptor
- South Otay Ranch Project

Adopted and Proposed Land Uses
DRAFT - For Review Only

- Residential Low Medium
- Residential Medium
- Residential Medium High
- Residential High
- Retail Commercial
- Mixed Use Commercial
- Mixed Use Residential
- Town Center
- Eastern Urban Center
- Research Limited Industrial
- Regional Technology Park
- PQ
- Parks, Recreation
- Open Space
- Open Space Preserve
- Open Space recreational

SALT CREEK INTERCEPTOR CAPACITY ANALYSIS

EXHIBIT 1

081610 KM SD H:\Waterres\080 Chula Vista\10010582 South Otay Ranch ages\Graphics\Exhibit 1 Salt Creek Interceptor.mxd

PBS&J

Salt Creek Interceptor Sewer Study for the South Otay Ranch Villages
October 2010

Appendix A
Hydraulic Model Loading

SALT CREEK SEWER BASIN BUILDOUT FLOW PROJECTIONS

Basis

- Baseline Land Use Projections - provided by City per current General Plan
- Cumulative Land Use Projections - provided by City based on GPA's and reasonably forseeable projects
- Unit Generation Rates for existing connections - From Calibrated Poggi Canyon XP-SWMM Model
- Unit Generation Rates for future connections - From City Subdivision Manual

UNIT GENERATION RATES

Existing Connections		Future Connections	
SF Residential DU =	215 gpd	SF Residential DU =	265 gpd
MF Residential DU =	161 gpd	MF Residential DU =	199 gpd
Non-Residential Ac =	1,500 gpd	Non-Residential Ac =	2,500 gpd
Park Ac =	500 gpd	Park Ac =	500 gpd
• EDU Conversions (1 EDU = 265 gpd)		• EDU Conversions (1 EDU = 265 gpd)	
SF Residential =	0.81	SF Residential =	1.00
MF Residential =	0.61	MF Residential =	0.75
Comm/Indust/Instit =	5.66	Comm/Indust/Instit =	9.43
Park =	1.89	Park =	1.89

Existing Flow Projections

From City =	7,312	EDU	1.938 mgd
From County =	0	EDU	0.000 mgd
Total =	**7,312**	**EDU**	**1.938 mgd**

Baseline Flow Projections

From City =	29,022	EDU	7.691 mgd
From County =	7,116	EDU	1.886 mgd
Total =	**36,138**	**EDU**	**9.577 mgd**

Baseline + Project Flow Projections

From City =	29,889	EDU	7.921 mgd
From County =	7,116	EDU	1.886 mgd
Total =	**37,005**	**EDU**	**9.806 mgd**

Cumulative Flow Projections

From City =	30,344	EDU	8.041 mgd
From County =	7,116	EDU	1.886 mgd
Total =	**37,460**	**EDU**	**9.927 mgd**

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SALT CREEK SEWER BASIN
BASELINE PROJECTIONS[1]

Nodes	Villages	TAZ Zones	SF Residential		MF Residential		Commercial		Industrial		Institutional		Parks		Total Residential	Total Non-Res	Total EDU
			DU	EDU	DU	EDU	Ac	EDU	Ac	EDU	Ac	EDU	Ac	EDU	EDU	EDU	
450																	
		(RHR)4141*	215	174.4		0.0		0.0		0.0		0.0		0.0	174.4	0.0	174.4
		(RHR)4138*	109	88.4		0.0		0.0		0.0		0.0		0.0	88.4	0.0	88.4
	Villages 14	(Vil 14)4051,4052& 3823	1,563	1,563.0	150	112.5	2.6	24.5		0.0	17.5	165.1	10.0	18.9	1,675.5	208.5	1,884.0
	Planning Area 16 Portion	(PA16)3823 & 3919	390	390.0		0.0		0.0		0.0	1.7	16.0	2.5	4.7	390.0	20.8	410.8
	Planning Area 19	(PA19)3823	20	20.0		0.0		0.0		0.0		0.0		0.0	20.0	0.0	20.0
		(RHR)4044*		0.0		0.0	1.0	5.7		0.0		0.0		0.0	0.0	5.7	5.7
		(RHR)4045	173	173.0		0.0		0.0		0.0		0.0		0.0	173.0	0.0	173.0
		(RHR)4045*	252	204.5		0.0		0.0		0.0		0.0		0.0	204.5	0.0	204.5
		(BELLALAGO)4045	84	84.0		0.0		0.0		0.0		0.0		0.0	84.0	0.0	84.0
		(BELLALAGO)4045*	56	45.4		0.0		0.0		0.0		0.0		0.0	45.4	0.0	45.4
Total			**2,862**	**2,743**	**150**	**113**	**3.6**	**30**	**0.0**	**0**	**19.2**	**181**	**12.5**	**24**	**2,855.3**	**234.9**	**3,090.2**
443																	
		(E.lake)4185*	254	206.1		0.0		0.0		0.0		0.0		0.0	206.1	0.0	206.1
		(RHR)4159*	256	207.7		0.0		0.0		0.0	3.2	18.0	27.4	51.6	207.7	69.6	277.3
Total			**510**	**414**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**3.2**	**18**	**27.4**	**52**	**413.8**	**69.6**	**483.4**
437																	
		(E.lake)4165	30	30.0		0.0		0.0		0.0		0.0		0.0	30.0	0.0	30.0
		(E.lake)4165*	378	306.7		0.0		0.0		0.0	39.0	220.9		0.0	306.7	220.9	527.6
Total			**408**	**337**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**39.0**	**221**	**0.0**	**0**	**336.7**	**220.9**	**557.6**
429																	
		(ORH)4176	128	128.0		0.0		0.0		0.0	18.7	176.4		0.0	128.0	176.4	304.4
	Villages 13	(OTRVil13)4186	658	658.0	1,408	1,056.0	249.1	2,350.0		0.0	7.9	74.5	15.0	28.3	1,714.0	2,452.8	4,166.8
	Villages 15	(OTRVil15)4203	481	481.0		0.0	3.3	31.1		0.0	12.3	116.0	3.4	6.4	481.0	153.6	634.6
		(E.lake)4207*	52	42.2	253	153.9		0.0		0.0		0.0		0.0	196.1	0.0	196.1
		(E.lake)4234*		0.0		0.0		0.0		0.0		0.0	3.7	7.0	0.0	7.0	7.0
		(E.lake)4225*	561	455.2	93	56.6		0.0		0.0		0.0	28.2	53.2	511.7	53.2	564.9
		(E.lake)4226*	724	587.4	17	10.3		0.0		0.0		0.0	12.9	24.3	597.7	24.3	622.0
		(E.lake)4274*	40	32.5		0.0		0.0		0.0		0.0		0.0	32.5	0.0	32.5
Total			**2,644**	**2,384**	**1,771**	**1,277**	**252.4**	**2,381**	**0.0**	**0**	**38.9**	**367**	**63.2**	**119**	**3,661.1**	**2,867.3**	**6,528.3**
416																	
		(E.lake)4257*	395	320.5	96	58.4		0.0		0.0	10.7	60.6		0.0	378.9	60.6	439.5
Total			**395**	**320**	**96**	**58**	**0.0**	**0**	**0.0**	**0**	**10.7**	**61**	**0.0**	**0**	**378.9**	**60.6**	**439.5**
379																	
		(E.lake)4255*	723	586.6		0.0		0.0		0.0		0.0	3.2	6.1	586.6	6.1	592.7
		(E.lake)4274*	15	12.2	263	160.0	12.3	69.8		0.0		0.0		0.0	172.2	69.8	242.1
		(E.lake)4291		0.0	494	370.5		0.0		0.0		0.0		0.0	370.5	0.0	370.5
		(E.lake)4290*		0.0	269	163.7		0.0		0.0	8.9	50.4	4.0	7.6	163.7	58.0	221.7
Total			**738**	**599**	**1,026**	**694**	**12.3**	**70**	**0.0**	**0**	**8.9**	**50**	**7.3**	**14**	**1,293.0**	**134.0**	**1,426.9**
383																	
	OTC	(OTC)4292*		0.0		0.0		0.0		0.0	149.6	846.6		0.0	0.0	846.6	846.6
Total			**0**	**0**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**149.6**	**847**	**0.0**	**0**	**0.0**	**846.6**	**846.6**
280																	
	Villages 11	(OTR)4299*	657	533.0		0.0		0.0		0.0		0.0	3.2	6.1	533.0	6.1	539.2
	Villages 11	(OTR)4320		0.0	43	32.3		0.0		0.0		0.0		0.0	32.3	0.0	32.3
	Villages 11	(OTR)4320*	119	96.5	629	382.7	9.0	51.1		0.0	17.4	98.3	13.0	24.5	479.3	173.9	653.2
	Villages 11	(OTR)4338	105	105.0	443	332.3		0.0		0.0		0.0		0.0	437.3	0.0	437.3
	Villages 11	(OTR)4338*	220	178.5	88	53.5		0.0		0.0	27.2	153.8		0.0	232.0	153.8	385.9
Total			**1,101**	**913**	**1,203**	**801**	**9.0**	**51**	**0.0**	**0**	**44.6**	**252**	**16.2**	**31**	**1,713.9**	**333.9**	**2,047.7**

SALT CREEK SEWER BASIN
BASELINE PROJECTIONS[1]

Nodes	Villages	TAZ Zones	SF Residential		MF Residential		Commercial		Industrial		Institutional		Parks		Total Residential	Total Non-Res	Total EDU
			DU	EDU	DU	EDU	Ac	EDU	Ac	EDU	Ac	EDU	Ac	EDU	EDU	EDU	
272																	
	University	(Univ)4353	264	264.0	925	693.8		0.0		0.0	318.4	3,003.8		0.0	957.8	3,003.8	3,961.5
	Village 10	(Vil 10)4353		0.0		0.0		0.0		0.0	121.6	1,147.2		0.0	0.0	1,147.2	1,147.2
	University	(Univ)4350		0.0		0.0		0.0		0.0	30.0	283.0		0.0	0.0	283.0	283.0
	Village 10	(Vil 10)4350		0.0		0.0		0.0		0.0	60.0	566.0		0.0	0.0	566.0	566.0
Total			**264**	**264**	**925**	**694**	**0.0**	**0**	**0.0**	**0**	**530.0**	**5,000**	**0.0**	**0**	**957.8**	**5,000.0**	**5,957.8**
220																	
	Village 9	(OTRVil 9)4373	101	101.0	3,513	2,634.8	13.6	128.1		0.0	23.8	224.5	29.8	56.2	2,735.8	408.9	3,144.6
	Planning Area 20	(PA20)4289		0.0		0.0		0.0		0.0		0.0	33.4	63.0	0.0	63.0	63.0
Total			**101**	**101**	**3,513**	**2,635**	**13.6**	**128**	**0.0**	**0**	**23.8**	**225**	**63.2**	**119**	**2,735.8**	**471.9**	**3,207.7**
202																	
	Village 8 East	(OTRVil 8)4614	71	71.0		0.0		0.0	200.0	1,886.8		0.0		0.0	71.0	1,886.8	1,957.8
	Planning Area 20	(PA20)4421		0.0		0.0		0.0		0.0		0.0	51.5	97.2	0.0	97.2	97.2
Total			**71**	**71**	**0**	**0**	**0.0**	**0**	**200.0**	**1,887**	**0.0**	**0**	**51.5**	**97**	**71.0**	**1,984.0**	**2,055.0**
200																	
	Village 8 West	(OTRVil 8)4391	539	539.0	1,017	762.8	4.0	37.7		0.0	41.3	389.6	20.5	38.7	1,301.8	466.0	1,767.8
Total			**539**	**539**	**1,017**	**763**	**4.0**	**38**	**0.0**	**0**	**41.3**	**390**	**20.5**	**39**	**1,301.8**	**466.0**	**1,767.8**
157																	
	Village 7	(Vil 7)4351	204	204.0	348	261.0	3.7	34.9		0.0	2.3	21.7		0.0	465.0	56.6	521.6
	Village 7	(Vil 7)4351*		0.0	100	60.8		0.0		0.0	66.9	378.7		0.0	60.8	378.7	439.5
	Planning Area 20	(PA20)4421		0.0		0.0		0.0		0.0		0.0	47.8	90.2	0.0	90.2	90.2
	Village 4	(Vil 4)4405	453	453.0		0.0		0.0		0.0	2.1	19.8	7.0	13.2	453.0	33.0	486.0
	Village 4	(Vil 4)4375		0.0		0.0		0.0		0.0		0.0	55.8	105.3	0.0	105.3	105.3
	EUC	(EUC)4345		0.0	2,520	1,890.0	66.3	625.2		0.0	7.9	74.6	10.9	20.6	1,890.0	720.4	2,610.4
Total			**657**	**657**	**2,968**	**2,212**	**70**	**660**	**0**	**0**	**79**	**495**	**122**	**229**	**2,869**	**1,384**	**4,253**
149																	
	Village 2	(Vil II) 4331	521	521.0	304	228.0		0.0	36.4	343.4		0.0		0.0	749.0	343.4	1,092.4
	Village 3	(OTRVil 3)4383		0.0		0.0		0.0	216.5	2,042.5	10.2	96.2		0.0	0.0	2,138.7	2,138.7
	Planning Area 20	(PA20)4421		0.0		0.0	15.0	141.5		0.0		0.0	55.2	104.1	0.0	245.6	245.6
Total			**521**	**521**	**304**	**228**	**15.0**	**142**	**252.9**	**2,386**	**10.2**	**96**	**55.2**	**104**	**749.0**	**2,727.7**	**3,476.7**

* Existing constructed land uses.

** The table includes constructed, adopted, and 2005 General Plan Updated land uses.

[1] Data allocations based on the revised Salt Creek Sewer Basin boundary, Nodes and proposed Otay Ranch Villages boundary.

SALT CREEK SEWER BASIN
BASELINE + PROJECT PROJECTIONS[1]

Nodes	Villages	TAZ Zones	SF Residential		MF Residential		Commercial		Industrial		Institutional		Parks		Total Residential	Total Non-Res	Total EDU
			DU	EDU	DU	EDU	Ac	EDU	Ac	EDU	Ac	EDU	Ac	EDU	EDU	EDU	
450																	
		(RHR)4141*	215	174.4		0.0		0.0		0.0		0.0		0.0	174.4	0.0	174.4
		(RHR)4138*	109	88.4		0.0		0.0		0.0		0.0		0.0	88.4	0.0	88.4
	Villages 14	(Vil 14)4051,4052& 3823	1,563	1,563.0	150	112.5	2.6	24.5		0.0	17.5	165.1	10.0	18.9	1,675.5	208.5	1,884.0
	Planning Area 16 Portion	(PA16)3823 & 3919	390	390.0		0.0		0.0		0.0	1.7	16.0	2.5	4.7	390.0	20.8	410.8
	Planning Area 19	(PA19)3823	20	20.0		0.0		0.0		0.0		0.0		0.0	20.0	0.0	20.0
		(RHR)4044*		0.0		0.0	1.0	5.7		0.0		0.0		0.0	0.0	5.7	5.7
		(RHR)4045	173	173.0		0.0		0.0		0.0		0.0		0.0	173.0	0.0	173.0
		(RHR)4045*	252	204.5		0.0		0.0		0.0		0.0		0.0	204.5	0.0	204.5
		(BELLALAGO)4045	84	84.0		0.0		0.0		0.0		0.0		0.0	84.0	0.0	84.0
		(BELLALAGO)4045*	56	45.4		0.0		0.0		0.0		0.0		0.0	45.4	0.0	45.4
Total			**2,862**	**2,743**	**150**	**113**	**3.6**	**30**	**0.0**	**0**	**19.2**	**181**	**12.5**	**24**	**2,855.3**	**234.9**	**3,090.2**
443																	
		(E.lake)4185*	254	206.1		0.0		0.0		0.0		0.0		0.0	206.1	0.0	206.1
		(RHR)4159*	256	207.7		0.0		0.0		0.0	3.2	18.0	27.4	51.6	207.7	69.6	277.3
Total			**510**	**414**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**3.2**	**18**	**27.4**	**52**	**413.8**	**69.6**	**483.4**
437																	
		(E.lake)4165	30	30.0		0.0		0.0		0.0		0.0		0.0	30.0	0.0	30.0
		(E.lake)4165*	378	306.7		0.0		0.0		0.0	39.0	220.9		0.0	306.7	220.9	527.6
Total			**408**	**337**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**39.0**	**221**	**0.0**	**0**	**336.7**	**220.9**	**557.6**
429																	
		(ORH)4176	128	128.0		0.0		0.0		0.0	18.7	176.4		0.0	128.0	176.4	304.4
	Villages 13	(OTRVil13)4186	658	658.0	1,408	1,056.0	249.1	2,350.0		0.0	7.9	74.5	15.0	28.3	1,714.0	2,452.8	4,166.8
	Villages 15	(OTRVil15)4203	481	481.0		0.0	3.3	31.1		0.0	12.3	116.0	3.4	6.4	481.0	153.6	634.6
		(E.lake)4207*	52	42.2	253	153.9		0.0		0.0		0.0		0.0	196.1	0.0	196.1
		(E.lake)4234*		0.0		0.0		0.0		0.0		0.0	3.7	7.0	0.0	7.0	7.0
		(E.lake)4225*	561	455.2	93	56.6		0.0		0.0		0.0	28.2	53.2	511.7	53.2	564.9
		(E.lake)4226*	724	587.4	17	10.3		0.0		0.0		0.0	12.9	24.3	597.7	24.3	622.0
		(E.lake)4274*	40	32.5		0.0		0.0		0.0		0.0		0.0	32.5	0.0	32.5
Total			**2,644**	**2,384**	**1,771**	**1,277**	**252.4**	**2,381**	**0.0**	**0**	**38.9**	**367**	**63.2**	**119**	**3,661.1**	**2,867.3**	**6,528.3**
416																	
		(E.lake)4257*	395	320.5	96	58.4		0.0		0.0	10.7	60.6		0.0	378.9	60.6	439.5
Total			**395**	**320**	**96**	**58**	**0.0**	**0**	**0.0**	**0**	**10.7**	**61**	**0.0**	**0**	**378.9**	**60.6**	**439.5**
379																	
		(E.lake)4255*	723	586.6		0.0		0.0		0.0		0.0	3.2	6.1	586.6	6.1	592.7
		(E.lake)4274*	15	12.2	263	160.0	12.3	69.8		0.0		0.0		0.0	172.2	69.8	242.1
		(E.lake)4291		0.0	494	370.5		0.0		0.0		0.0		0.0	370.5	0.0	370.5
		(E.lake)4290*		0.0	269	163.7		0.0		0.0	8.9	50.4	4.0	7.6	163.7	58.0	221.7
Total			**738**	**599**	**1,026**	**694**	**12.3**	**70**	**0.0**	**0**	**8.9**	**50**	**7.3**	**14**	**1,293.0**	**134.0**	**1,426.9**
383																	
	OTC	(OTC)4292*		0.0		0.0		0.0		0.0	149.6	846.6		0.0	0.0	846.6	846.6
Total			**0**	**0**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**149.6**	**847**	**0.0**	**0**	**0.0**	**846.6**	**846.6**
280																	
	Villages 11	(OTR)4299*	657	533.0		0.0		0.0		0.0		0.0	3.2	6.1	533.0	6.1	539.2
	Villages 11	(OTR)4320		0.0	43	32.3		0.0		0.0		0.0		0.0	32.3	0.0	32.3
	Villages 11	(OTR)4320*	119	96.5	629	382.7	9.0	51.1		0.0	17.4	98.3	13.0	24.5	479.3	173.9	653.2
	Villages 11	(OTR)4338	105	105.0	443	332.3		0.0		0.0		0.0		0.0	437.3	0.0	437.3
	Villages 11	(OTR)4338*	220	178.5	88	53.5		0.0		0.0	27.2	153.8		0.0	232.0	153.8	385.9
Total			**1,101**	**913**	**1,203**	**801**	**9.0**	**51**	**0.0**	**0**	**44.6**	**252**	**16.2**	**31**	**1,713.9**	**333.9**	**2,047.7**

SALT CREEK SEWER BASIN
BASELINE + PROJECT PROJECTIONS[1]

Nodes	Villages	TAZ Zones	SF Residential		MF Residential		Commercial		Industrial		Institutional		Parks		Total Residential	Total Non-Res	Total EDU
			DU	EDU	DU	EDU	Ac	EDU	Ac	EDU	Ac	EDU	Ac	EDU	EDU	EDU	
272																	
	University	(Univ)4353	264	264.0	925	693.8		0.0		0.0	318.4	3,003.8		0.0	957.8	3,003.8	3,961.5
	Village 10	(Vil 10)4353		0.0		0.0		0.0		0.0	121.6	1,147.2		0.0	0.0	1,147.2	1,147.2
	University	(Univ)4350		0.0		0.0		0.0		0.0	30.0	283.0		0.0	0.0	283.0	283.0
	Village 10	(Vil 10)4350		0.0		0.0		0.0		0.0	60.0	566.0		0.0	0.0	566.0	566.0
Total			**264**	**264**	**925**	**694**	**0.0**	**0**	**0.0**	**0**	**530.0**	**5,000**	**0.0**	**0**	**957.8**	**5,000.0**	**5,957.8**
220																	
	Village 9	(OTRVil 9)4373	266	266.0	3,734	2,800.5	17.8	167.9		0.0	27.0	254.7	25.1	47.4	3,066.5	470.0	3,536.5
	Planning Area 20	(PA20)4289		0.0		0.0		0.0		0.0		0.0	33.4	63.0	0.0	63.0	63.0
Total			**266**	**266**	**3,734**	**2,801**	**17.8**	**168**	**0.0**	**0**	**27.0**	**255**	**58.5**	**110**	**3,066.5**	**533.0**	**3,599.5**
202																	
	Village 8 East	(OTRVil 8)4614	71	71.0		0.0		0.0	200.0	1,886.8		0.0		0.0	71.0	1,886.8	1,957.8
	Planning Area 20	(PA20)4421		0.0		0.0		0.0		0.0		0.0	51.5	97.2	0.0	97.2	97.2
Total			**71**	**71**	**0**	**0**	**0.0**	**0**	**200.0**	**1,887**	**0.0**	**0**	**51.5**	**97**	**71.0**	**1,984.0**	**2,055.0**
200																	
	Village 8 West	(OTRVil 8)4391	621	621.0	1,429	1,071.8	14.5	136.8		0.0	38.2	360.4	28.0	52.8	1,692.8	550.0	2,242.8
Total			**621**	**621**	**1,429**	**1,072**	**14.5**	**137**	**0.0**	**0**	**38.2**	**360**	**28.0**	**53**	**1,692.8**	**550.0**	**2,242.8**
157																	
	Village 7	(Vil 7)4351	204	204.0	348	261.0	3.7	34.9		0.0	2.3	21.7		0.0	465.0	56.6	521.6
	Village 7	(Vil 7)4351*		0.0	100	60.8		0.0		0.0	66.9	378.7		0.0	60.8	378.7	439.5
	Planning Area 20	(PA20)4421		0.0		0.0		0.0		0.0		0.0	47.8	90.2	0.0	90.2	90.2
	Village 4	(Vil 4)4405	453	453.0		0.0		0.0		0.0	2.1	19.8	7.0	13.2	453.0	33.0	486.0
	Village 4	(Vil 4)4375		0.0		0.0		0.0		0.0		0.0	55.8	105.3	0.0	105.3	105.3
	EUC	(EUC)4345		0.0	2,520	1,890.0	66.3	625.2		0.0	7.9	74.6	10.9	20.6	1,890.0	720.4	2,610.4
Total			**657**	**657**	**2,968**	**2,212**	**70**	**660**	**0**	**0**	**79**	**495**	**122**	**229**	**2,869**	**1,384**	**4,253**
149																	
	Village 2	(Vil II) 4331	521	521.0	304	228.0		0.0	36.4	343.4		0.0		0.0	749.0	343.4	1,092.4
	Village 3	(OTRVil 3)4383		0.0		0.0		0.0	216.5	2,042.5	10.2	96.2		0.0	0.0	2,138.7	2,138.7
	Planning Area 20	(PA20)4421		0.0		0.0	15.0	141.5		0.0		0.0	55.2	104.1	0.0	245.6	245.6
Total			**521**	**521**	**304**	**228**	**15.0**	**142**	**252.9**	**2,386**	**10.2**	**96**	**55.2**	**104**	**749.0**	**2,727.7**	**3,476.7**

* Existing constructed land uses.

** The table includes constructed, adopted, and 2005 General Plan Updated land uses.

[1] Data allocations based on the revised Salt Creek Sewer Basin boundary, Nodes and proposed Otay Ranch Villages boundary.

SALT CREEK SEWER BASIN
CUMULATIVE PROJECTIONS[1]

Nodes	Villages	TAZ Zones	SF Residential		MF Residential		Commercial		Industrial		Institutional		Parks		Total Residential	Total Non-Res	Total EDU
			DU	EDU	DU	EDU	Ac	EDU	Ac	EDU	Ac	EDU	Ac	EDU	EDU	EDU	
450																	
		(RHR)4141*	215	174.4		0.0		0.0		0.0		0.0		0.0	174.4	0.0	174.4
		(RHR)4138*	109	88.4		0.0		0.0		0.0		0.0		0.0	88.4	0.0	88.4
	Villages 14 Portion	(Vil 14)4051,4052& 3823	1,563	1,563.0	150	112.5	2.6	24.5		0.0	17.5	165.1	10.0	18.9	1,675.5	208.5	1,884.0
	Planning Area 16 Portion	(PA16)3823 & 3919	390	390.0		0.0		0.0		0.0	1.7	16.0	2.5	4.7	390.0	20.8	410.8
	Planning Area 19	(PA19)3823	20	20.0		0.0		0.0		0.0		0.0		0.0	20.0	0.0	20.0
		(RHR)4044*		0.0		0.0	1.0	5.7		0.0		0.0		0.0	0.0	5.7	5.7
		(RHR)4045	173	173.0		0.0		0.0		0.0		0.0		0.0	173.0	0.0	173.0
		(RHR)4045*	252	204.5		0.0		0.0		0.0		0.0		0.0	204.5	0.0	204.5
		(BELLALAGO)4045	84	84.0		0.0		0.0		0.0		0.0		0.0	84.0	0.0	84.0
		(BELLALAGO)4045*	56	45.4		0.0		0.0		0.0		0.0		0.0	45.4	0.0	45.4
Total			**2,862**	**2,743**	**150**	**113**	**3.6**	**30**	**0.0**	**0**	**19.2**	**181**	**12.5**	**24**	**2,855.3**	**234.9**	**3,090.2**
443																	
		(E.lake)4185*	254	206.1		0.0		0.0		0.0		0.0		0.0	206.1	0.0	206.1
		(RHR)4159*	256	207.7		0.0		0.0		0.0	3.2	18.0	27.4	51.6	207.7	69.6	277.3
Total			**510**	**414**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**3.2**	**18**	**27.4**	**52**	**413.8**	**69.6**	**483.4**
437																	
		(E.lake)4165	30	30.0		0.0		0.0		0.0		0.0		0.0	30.0	0.0	30.0
		(E.lake)4165*	378	306.7		0.0		0.0		0.0	39.0	220.9		0.0	306.7	220.9	527.6
Total			**408**	**337**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**39.0**	**221**	**0.0**	**0**	**336.7**	**220.9**	**557.6**
429																	
		(ORH)4176	128	128.0		0.0		0.0		0.0	18.7	176.4		0.0	128.0	176.4	304.4
	Villages 13	(OTRVil13)4186	658	658.0	1,408	1,056.0	249.1	2,350.0		0.0	7.9	74.5	15.0	28.3	1,714.0	2,452.8	4,166.8
	Villages 15	(OTRVil15)4203	481	481.0		0.0	3.3	31.1		0.0	12.3	116.0	3.4	6.4	481.0	153.6	634.6
		(E.lake)4207*	52	42.2	253	153.9		0.0		0.0		0.0		0.0	196.1	0.0	196.1
		(E.lake)4234*		0.0		0.0		0.0		0.0		0.0	3.7	7.0	0.0	7.0	7.0
		(E.lake)4225*	561	455.2	93	56.6		0.0		0.0		0.0	28.2	53.2	511.7	53.2	564.9
		(E.lake)4226*	724	587.4	17	10.3		0.0		0.0		0.0	12.9	24.3	597.7	24.3	622.0
		(E.lake)4274*	40	32.5		0.0		0.0		0.0		0.0		0.0	32.5	0.0	32.5
Total			**2,644**	**2,384**	**1,771**	**1,277**	**252.4**	**2,381**	**0.0**	**0**	**38.9**	**367**	**63.2**	**119**	**3,661.1**	**2,867.3**	**6,528.3**
416																	
		(E.lake)4257*	395	320.5	96	58.4		0.0		0.0	10.7	60.6		0.0	378.9	60.6	439.5
Total			**395**	**320**	**96**	**58**	**0.0**	**0**	**0.0**	**0**	**10.7**	**61**	**0.0**	**0**	**378.9**	**60.6**	**439.5**
379																	
		(E.lake)4255*	723	586.6		0.0		0.0		0.0		0.0	3.2	6.1	586.6	6.1	592.7
		(E.lake)4274*	15	12.2	263	160.0	12.3	69.8		0.0		0.0		0.0	172.2	69.8	242.1
		(E.lake)4291		0.0	494	370.5		0.0		0.0		0.0		0.0	370.5	0.0	370.5
		(E.lake)4290*		0.0	269	163.7		0.0		0.0	8.9	50.4	4.0	7.6	163.7	58.0	221.7
Total			**738**	**599**	**1,026**	**694**	**12.3**	**70**	**0.0**	**0**	**8.9**	**50**	**7.3**	**14**	**1,293.0**	**134.0**	**1,426.9**
383																	
	OTC	(OTC)4292*		0.0		0.0		0.0		0.0	149.6	846.6		0.0	0.0	846.6	846.6
Total			**0**	**0**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**149.6**	**847**	**0.0**	**0**	**0.0**	**846.6**	**846.6**
280																	
	Villages 11	(OTR)4299*	657	533.0		0.0		0.0		0.0		0.0	3.2	6.1	533.0	6.1	539.2
	Villages 11	(OTR)4320		0.0	43	32.3		0.0		0.0		0.0		0.0	32.3	0.0	32.3
	Villages 11	(OTR)4320*	119	96.5	629	382.7	9.0	51.1		0.0	17.4	98.3	13.0	24.5	479.3	173.9	653.2
	Villages 11	(OTR)4338	105	105.0	443	332.3		0.0		0.0		0.0		0.0	437.3	0.0	437.3
	Villages 11	(OTR)4338*	220	178.5	88	53.5		0.0		0.0	27.2	153.8		0.0	232.0	153.8	385.9
Total			**1,101**	**913**	**1,203**	**801**	**9.0**	**51**	**0.0**	**0**	**44.6**	**252**	**16.2**	**31**	**1,713.9**	**333.9**	**2,047.7**

SALT CREEK SEWER BASIN
CUMULATIVE PROJECTIONS[1]

Nodes	Villages	TAZ Zones	SF Residential		MF Residential		Commercial		Industrial		Institutional		Parks		Total Residential	Total Non-Res	Total EDU
			DU	EDU	DU	EDU	Ac	EDU	Ac	EDU	Ac	EDU	Ac	EDU	EDU	EDU	
272																	
	University	(Univ)4353		0.0		0.0		0.0	85.0	801.9	260.0	2,452.8		0.0	0.0	3,254.7	3,254.7
	Village 10	(Vil 10)4353		0.0	2,290	1,717.5		0.0		0.0	14.0	132.1	20.8	39.2	1,717.5	171.3	1,888.8
	University	(Univ)4350		0.0		0.0		0.0		0.0	30.0	283.0		0.0	0.0	283.0	283.0
	Village 10	(Vil 10)4350	360	360.0		0.0		0.0		0.0		0.0		0.0	360.0	0.0	360.0
Total			**360**	**360**	**2,290**	**1,718**	**0.0**	**0**	**85.0**	**802**	**304.0**	**2,868**	**20.8**	**39**	**2,077.5**	**3,709.1**	**5,786.6**
220																	
	Village 9	(OTRVil 9)4373	266	266.0	3,734	2,800.5	17.8	167.9		0.0	27.0	254.7	25.1	47.4	3,066.5	470.0	3,536.5
	Planning Area 20	(PA20)4289		0.0		0.0		0.0		0.0		0.0	33.4	63.0	0.0	63.0	63.0
Total			**266**	**266**	**3,734**	**2,801**	**17.8**	**168**	**0.0**	**0**	**27.0**	**255**	**58.5**	**110**	**3,066.5**	**533.0**	**3,599.5**
202																	
	Village 8 East	(OTRVil 8)4614		0.0	3,106	2,329.5		0.0		0.0	14.0	132.1	24.3	45.8	2,329.5	177.9	2,507.4
	Planning Area 20	(PA20)4421		0.0		0.0		0.0		0.0		0.0	51.5	97.2	0.0	97.2	97.2
Total			**0**	**0**	**3,106**	**2,330**	**0.0**	**0**	**0.0**	**0**	**14.0**	**132**	**75.8**	**143**	**2,329.5**	**275.1**	**2,604.6**
200																	
	Village 8 West	(OTRVil 8)4391	621	621.0	1,429	1,071.8	14.5	136.8		0.0	38.2	360.4	28.0	52.8	1,692.8	550.0	2,242.8
Total			**621**	**621**	**1,429**	**1,072**	**14.5**	**137**	**0.0**	**0**	**38.2**	**360**	**28.0**	**53**	**1,692.8**	**550.0**	**2,242.8**
157																	
	Village 7	(Vil 7)4351	204	204.0	348	261.0	3.7	34.9		0.0	2.3	21.7		0.0	465.0	56.6	521.6
	Village 7	(Vil 7)4351*		0.0	100	60.8		0.0		0.0	66.9	378.7		0.0	60.8	378.7	439.5
	Planning Area 20	(PA20)4421		0.0		0.0		0.0		0.0		0.0	47.8	90.2	0.0	90.2	90.2
	Village 4	(Vil 4)4405	130	130.0	620	465.0		0.0		0.0		0.0	6.2	11.7	595.0	11.7	606.7
	Village 4	(Vil 4)4375		0.0		0.0		0.0		0.0		0.0	55.8	105.3	0.0	105.3	105.3
	EUC	(EUC)4345		0.0	2,520	1,890.0	66.3	625.2		0.0	7.9	74.6	10.9	20.6	1,890.0	720.4	2,610.4
Total			**334**	**334**	**3,588**	**2,677**	**70**	**660**	**0**	**0**	**77**	**475**	**121**	**228**	**3,011**	**1,363**	**4,374**
149																	
	Village 2	(Vil II) 4331	521	521.0	304	228.0		0.0	36.4	343.4		0.0		0.0	749.0	343.4	1,092.4
	Village 3	(OTRVil 3)4383	484	484.0	360	270.0		0.0	126.5	1,193.4	14.0	132.1	7.9	14.9	754.0	1,340.4	2,094.4
	Planning Area 20	(PA20)4421		0.0		0.0	15.0	141.5		0.0		0.0	55.2	104.1	0.0	245.6	245.6
Total			**1,005**	**1,005**	**664**	**498**	**15.0**	**142**	**162.9**	**1,537**	**14.0**	**132**	**63.1**	**119**	**1,503.0**	**1,929.4**	**3,432.4**

* Existing constructed land uses.

** The table includes constructed, adopted, proposed, and Land Offer Agreement land uses.

[1] Data allocations based on the revised Salt Creek Sewer Basin boundary, Nodes and proposed Otay Ranch Villages boundary.

Appendix B
Hydraulic Model Results

Ultimate Conditions, Wet Weather, Baseline Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
Salt Creek												
S 450	S 449	Hunte Parkway	15	105.8	0.55	900,650	0.62	2.28	0.49			
S 449	S 448	Hunte Parkway	15	379.4	0.64	900,650	0.61	2.28	0.48			
S 448	S 447	Hunte Parkway	15	408.6	0.58	900,640	0.61	2.28	0.48			
S 447	S 446	Hunte Parkway	15	337.9	0.61	900,640	0.60	2.28	0.48			
S 446	S 445	Hunte Parkway	15	394.3	0.68	900,630	0.58	2.28	0.46			
S 445	S 444	Hunte Parkway	15	308.7	5.33	900,620	0.35	2.28	0.28			
S 444	S 443	Hunte Parkway	15	96.0	15.71	900,620	0.42	2.28	0.34			
S 443	S 442	Hunte Parkway	15	307.7	3.46	1,041,590	0.57	2.64	0.46			
S 442	S 441	Hunte Parkway	15	401.7	1.01	1,041,580	0.57	2.64	0.46			
S 441	S 440	Hunte Parkway	15	378.2	1.21	1,041,570	0.54	2.64	0.43			
S 440	S 439	Hunte Parkway	15	358.0	2.50	1,041,550	0.56	2.64	0.44			
S 439	S 438	Hunte Parkway	15	344.4	1.10	1,041,540	0.55	2.64	0.44			
S 438	S 437	Hunte Parkway	15	317.4	1.83	1,041,520	0.49	2.64	0.39			
S 437	S 436	Hunte Parkway	15	374.8	3.56	1,204,140	0.62	3.05	0.49			
S 436	S 435	Salt Creek	15	390.0	1.05	1,204,110	0.62	3.05	0.49			
S 435	S 434	Salt Creek	15	235.3	1.08	1,204,090	0.62	3.05	0.49			
S 434	S 433	Salt Creek	15	392.1	1.05	1,204,060	0.62	3.05	0.49			
S 433	S 432	Salt Creek	15	291.0	1.07	1,204,030	0.61	3.05	0.49			
S 432	S 431	Salt Creek	15	288.7	1.07	1,204,000	0.61	3.05	0.49			
S 431	S 430	Salt Creek	15	357.0	2.38	1,203,970	0.73	3.05	0.59			
S 430	S 429	Salt Creek	18	536.0	0.38	1,203,890	0.84	3.05	0.56			
S 429	S 428	North Creekside Drive	18	56.7	1.78	3,106,750	0.83	7.91	0.55			
S 428	S 427	North Creekside Drive	18	127.3	3.10	3,106,740	0.71	7.91	0.47			
S 427	S 426	North Creekside Drive	18	179.4	3.08	3,106,730	0.72	7.91	0.48			
S 426	S 425	North Creekside Drive	18	322.1	3.00	3,106,700	5.63	7.89	3.76	322.10	322.10	
S 425	S 424	North Creekside Drive	18	391.4	0.43	3,106,630	5.59	7.89	3.73	391.40	391.40	
S 424	S 423	North Creekside Drive	18	337.4	0.43	3,106,550	5.01	7.89	3.34	337.40	337.40	
S 423	S 422	North Creekside Drive	18	320.0	0.52	3,106,490	4.50	7.89	3.00	320.00	320.00	
S 422	S 421	North Creekside Drive	18	375.2	0.34	3,106,380	4.28	7.89	2.86	375.20	375.20	
S 421	S 420	South Creekside Drive	18	214.6	0.45	3,106,340	3.37	7.89	2.25	214.60	214.60	
S 420	S 419	South Creekside Drive	18	279.2	0.44	3,106,270	3.06	7.88	2.04	279.20	279.20	
S 419	S 418	South Creekside Drive	18	331.5	0.43	3,106,180	2.62	7.88	1.75	331.50	331.50	
S 418	S 417	South Creekside Drive	18	234.3	0.44	3,106,110	2.09	7.88	1.40	234.30	234.30	
S 417	S 416	South Creekside Drive	18	376.8	0.43	3,105,990	1.75	7.88	1.16	376.80	376.80	
S 416	S 415	Salt Creek	18	183.3	8.21	3,234,130	0.88	8.20	0.59			
S 415	S 414	Salt Creek	18	291.2	1.64	3,234,070	0.98	8.20	0.65			
S 414	S 413	Salt Creek	18	295.0	1.22	3,234,010	0.96	8.20	0.64			
S 413	S 379	Salt Creek	18	33.0	13.33	3,234,010	1.07	8.20	0.71			
S 379	S 380	Salt Creek	20	9.1	0.88	3,649,940	1.05	9.24	0.63			
S 380	S 381	Salt Creek	20	151.4	0.89	3,649,910	1.05	9.24	0.63			
S 381	S 378	Salt Creek	20	25.0	3.32	3,649,900	0.72	9.24	0.43			
S 378	S 410	Salt Creek	20	8.5	3.30	3,649,900	0.72	9.24	0.43			
S 410	S 377	Salt Creek	20	91.2	6.35	3,649,880	0.77	9.24	0.46			
S 377	S 362	Salt Creek	20	173.3	1.20	3,649,840	0.96	9.24	0.57			
S 362	S 360	Salt Creek	20	346.7	1.07	3,649,760	0.99	9.24	0.59			
S 360	S 358	Salt Creek	20	609.7	2.07	3,649,660	0.88	9.24	0.53			
S 358	S 359	Salt Creek	20	564.0	0.86	3,649,530	1.06	9.24	0.63			
S 359	S 357	Salt Creek	20	596.8	1.57	3,649,350	0.88	9.24	0.53			
S 357	S 356	Salt Creek	24	470.9	0.86	3,649,220	0.94	9.24	0.47			
S 356	S 355	Salt Creek	24	510.3	1.85	3,649,070	0.78	9.24	0.39			

Ultimate Conditions, Wet Weather, Baseline Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 355	S 354	Salt Creek	24	511.1	1.26	3,648,920	0.86	9.24	0.43			
S 354	S 353	Salt Creek	24	509.8	0.82	3,648,760	0.95	9.24	0.48			
S 353	S 352	Salt Creek	24	507.7	1.56	3,648,590	0.82	9.24	0.41			
S 352	S 351	Salt Creek	24	501.7	1.72	3,648,440	0.91	9.24	0.46			
S 351	S 350	Salt Creek	24	17.4	0.40	3,648,420	1.11	9.24	0.55			
S 350	S 349	Salt Creek	24	403.1	0.32	3,648,230	1.27	9.24	0.63			
S 349	S 348	Salt Creek	24	20.7	0.29	3,648,210	1.16	9.24	0.58			
S 383	S 384	ROW	10	231.6	0.45	246,770	0.41	0.68	0.49			
S 384	S 386	ROW	10	260.5	0.42	246,770	0.41	0.68	0.50			
S 386	S 392	ROW	10	241.5	0.42	246,770	0.41	0.68	0.50			
S 392	S 394	ROW	10	246.5	0.41	246,760	0.42	0.68	0.50			
S 394	S 396	ROW	10	236.9	1.28	246,760	0.31	0.68	0.37			
S 396	S 398	ROW	10	278.8	0.47	246,760	0.40	0.68	0.48			
S 398	S 400	ROW	10	130.9	8.23	246,760	0.20	0.68	0.24			
S 400	S 402	ROW	10	357.7	19.82	246,760	0.17	0.68	0.20			
S 402	S 404	ROW	10	116.7	11.37	246,760	0.19	0.68	0.22			
S 404	S 406	ROW	10	168.7	8.88	246,760	0.20	0.68	0.24			
S 406	S 348	ROW	10	100.0	0.47	246,760	0.40	0.68	0.48			
S 348	S 347	Salt Creek	24	566.1	0.32	3,894,680	1.31	9.89	0.66			
S 347	S 282	Salt Creek	24	254.0	0.97	3,894,580	0.94	9.89	0.47			
S 282	S 280	Salt Creek	24	83.4	8.38	3,894,560	2.41	9.89	1.21	83.40	83.40	
S 280	S 278	Salt Creek	24	316.6	0.23	4,491,280	2.37	11.37	1.19	316.60	316.60	
S 278	S 276	Salt Creek	24	400.0	0.23	4,491,030	2.26	11.37	1.13	400.00	400.00	
S 276	S 274	Salt Creek	24	400.0	0.23	4,490,760	2.15	11.37	1.07	400.00	400.00	
S 274	S 272	Salt Creek	24	187.4	0.23	4,490,600	2.03	11.37	1.02	187.40	187.40	
S 272	S 270	Salt Creek	24	164.5	0.26	6,227,130	1.95	15.94	0.97	164.50		
S 270	S 412	Salt Creek	24	200.0	3.30	6,227,060	0.89	15.94	0.44			
S 412	S 268	Salt Creek	24	217.9	3.30	6,226,990	0.89	15.94	0.44			
S 268	S 266	Salt Creek	24	146.5	4.09	6,226,940	0.85	15.94	0.42			
S 266	S 264	Salt Creek	24	220.5	4.09	6,226,850	0.85	15.94	0.42			
S 264	S 262	Salt Creek	24	348.9	6.31	6,226,780	0.79	15.94	0.40			
S 262	S 341	Salt Creek	24	283.3	5.29	6,226,700	0.84	15.94	0.42			
S 341	S 260	Salt Creek	24	400.0	4.25	6,226,570	1.15	15.94	0.58			
S 260	S 258	Salt Creek	24	377.8	1.45	6,226,380	1.15	15.94	0.58			
S 258	S 256	Salt Creek	24	328.2	1.45	6,226,210	1.37	15.94	0.68			
S 256	S 376	Salt Creek	24	195.0	0.37	6,226,080	1.82	15.94	0.91	195.00		
S 376	S 389	Salt Creek	30	3.3	30.30	6,226,070	0.51	15.94	0.21			
S 389	S 375	Salt Creek	30	31.3	12.40	6,226,060	1.89	15.94	0.76			
S 375	S 252	Salt Creek	30	299.5	0.11	6,225,710	2.08	15.94	0.83			
S 252	S 250	Salt Creek	30	411.6	0.11	6,225,230	2.04	15.94	0.82			
S 250	S 374	Salt Creek	30	305.0	0.11	6,224,910	1.86	15.94	0.74			
S 374	S 244	Salt Creek	30	79.4	5.44	6,224,870	1.29	15.94	0.52			
S 244	S 242	Salt Creek	30	257.6	0.33	6,224,610	1.48	15.94	0.59			
S 242	S 240	Salt Creek	30	521.2	0.33	6,224,060	1.51	15.94	0.60			
S 240	S 238	Salt Creek	30	175.3	0.77	6,223,920	1.18	15.94	0.47			
S 238	S 236	Salt Creek	30	78.1	1.05	6,223,860	1.09	15.94	0.44			
S 236	S 234	Salt Creek	30	565.7	1.05	6,223,470	1.09	15.94	0.44			
S 234	S 232	Wiley Road	30	564.8	1.05	6,223,080	1.09	15.94	0.44			
S 232	S 230	Wiley Road	30	312.3	1.54	6,222,860	1.36	15.94	0.54			

Ultimate Conditions, Wet Weather, Baseline Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 230	S 222	Wiley Road	30	596.8	0.31	6,222,150	1.55	15.94	0.62			
S 222	S 220	Wiley Road	30	593.5	0.31	6,221,430	1.56	15.94	0.62			
S 220	S 218	Wiley Road	30	519.4	0.31	7,155,990	1.68	18.22	0.67			
S 218	S 216	Wiley Road	30	600.0	0.31	7,155,400	1.69	18.22	0.68			
S 216	S 214	Wiley Road	30	600.0	1.06	7,155,000	1.37	18.22	0.55			
S 214	S 212	Wiley Road	36	510.2	0.26	7,154,420	1.56	18.22	0.52			
S 212	S 210	Wiley Road	36	342.1	0.19	7,153,940	1.69	18.22	0.56			
S 210	S 208	Wiley Road	36	353.8	0.19	7,153,420	1.69	18.22	0.56			
S 208	S 206	Wiley Road	36	289.5	0.19	7,153,010	1.68	18.22	0.56			
S 206	S 204	Wiley Road	36	600.0	0.19	7,152,000	1.71	18.22	0.57			
S 204	S 202	Wiley Road	36	484.5	0.58	7,151,370	1.26	18.22	0.42			
S 202	S 200	Wiley Road	36	594.8	0.58	7,749,550	1.30	19.83	0.43			
S 200	S 198	Wiley Road	36	593.1	0.58	8,264,120	1.35	21.10	0.45			
S 198	S 196	Wiley Road	36	594.8	0.58	8,263,330	1.35	21.10	0.45			
S 196	S 194	Wiley Road	36	600.0	0.58	8,262,520	1.35	21.10	0.45			
S 194	S 192	Wiley Road	36	389.7	0.58	8,261,970	1.35	21.10	0.45			
S 192	S 190	Wiley Road	36	439.9	0.58	8,261,350	1.35	21.10	0.45			
S 190	S 188	Wiley Road	36	304.5	2.00	8,261,100	1.69	21.10	0.56			
S 188	S 186	Wiley Road	36	470.1	0.19	8,260,190	1.88	21.10	0.63			
S 186	S 184	Wiley Road	36	600.0	0.19	8,259,000	1.90	21.10	0.63			
S 184	S 182	Wiley Road	36	599.3	0.19	8,257,790	1.88	21.10	0.63			
S 182	S 180	Wiley Road	36	594.3	1.40	8,257,210	1.10	21.10	0.37			
S 180	S 178	Wiley Road	42	586.0	0.57	8,256,420	1.51	21.10	0.43			
S 178	S 176	Wiley Road	42	524.7	0.19	8,255,350	1.71	21.10	0.49			
S 176	S 175	Wiley Road	42	584.9	0.19	8,254,120	1.72	21.10	0.49			
S 175	S 373	Wiley Road	42	289.5	0.19	8,253,480	1.64	21.10	0.47			
S 373	S 372	Wiley Road	42	115.8	0.19	8,253,210	1.58	21.10	0.45			
S 372	S 168	Wiley Road	42	302.4	0.19	8,252,540	1.67	21.09	0.48			
S 168	S 166	Wiley Road	42	320.4	0.19	8,251,820	1.68	21.09	0.48			
S 166	S 164	Wiley Road	42	426.7	0.19	8,250,850	1.69	21.09	0.48			
S 164	S 162	Wiley Road	42	438.7	0.19	8,249,830	1.71	21.09	0.49			
S 162	S 160	Wiley Road	42	438.7	0.19	8,248,800	1.70	21.09	0.49			
S 160	S 157	Wiley Road	42	300.0	0.19	8,248,050	1.70	21.09	0.49			
S 157	S 155	Wiley Road	42	494.8	0.19	9,486,630	1.81	24.14	0.52			
S 155	S 153	Wiley Road	42	431.1	0.45	9,485,650	1.47	24.14	0.42			
S 153	S 151	Wiley Road	42	593.0	0.86	9,484,790	1.53	24.14	0.44			
S 151	S 149	Wiley Road	42	600.0	0.25	9,483,440	1.73	24.14	0.49			
S 149	S 371	Wiley Road	42	684.4	0.25	10,495,240	1.81	26.81	0.52			
S 371	S 145	Wiley Road	42	344.9	1.18	10,494,810	1.24	26.81	0.35			
S 145	S 143	Wiley Road	42	443.3	1.04	10,494,010	2.15	26.81	0.61			
S 143	S 141	Main Street	42	521.9	0.10	10,492,190	2.34	26.81	0.67			
S 141	S 139	Main Street	42	600.0	0.10	10,489,920	2.39	26.81	0.68			
S 139	S 137	Main Street	42	600.0	0.10	10,487,210	2.52	26.81	0.72			
S 137	S 345	Main Street	42	136.0	0.10	10,486,540	2.51	26.81	0.72			
S 345	S 135	Main Street	42	456.5	0.10	10,484,350	2.51	26.81	0.72			
S 135	S 133	Main Street	42	600.0	0.10	10,481,390	2.50	26.81	0.72			
S 133	S 128	Main Street	42	600.0	0.10	10,478,300	2.52	26.81	0.72			
S 130	S 125	Main Street	42	600.0	0.10	10,468,600	2.51	26.80	0.72			
S 128	S 127	Main Street	42	600.0	0.10	10,475,150	2.51	26.81	0.72			
S 127	S 130	Main Street	42	600.0	0.10	10,471,930	2.50	26.80	0.72			
S 125	S 123	Main Street	42	600.0	0.10	10,465,180	2.53	26.80	0.72			

Ultimate Conditions, Wet Weather, Baseline Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 123	S 121	Main Street	42	73.2	0.10	10,464,720	2.52	26.80	0.72			
S 121	S 119	Main Street	42	265.4	0.10	10,463,150	2.53	26.80	0.72			
S 119	S 117	Main Street	42	73.2	0.10	10,462,680	2.52	26.80	0.72			
S 117	S 115	Main Street	42	199.4	0.10	10,461,480	2.51	26.80	0.72			
S 115	S 113	Main Street	42	600.0	0.10	10,457,940	2.50	26.80	0.71			
S 113	S 111	Main Street	42	600.0	0.10	10,454,340	2.50	26.80	0.72			
S 111	S 408	Main Street	42	228.2	0.10	10,452,930	2.50	26.80	0.71			
S 408	S 109	Main Street	42	371.9	0.10	10,450,630	2.50	26.79	0.71			
S 109	S 107	Main Street	42	146.8	0.10	10,449,690	2.49	26.79	0.71			
S 107	S 86	Main Street	42	955.6	0.10	10,443,840	2.47	26.79	0.71			
S 86	S 85	Main Street	42	566.9	0.10	10,440,450	2.37	26.79	0.68			
S 85	S 84	Main Street	42	287.7	0.10	10,438,830	2.26	26.79	0.64			
S 84	S 83	Main Street	42	399.0	0.10	10,436,940	2.12	26.79	0.60			
S 83	S 81	Main Street	42	269.1	1.49	14,292,130	1.83	37.19	0.52			
S 81	S 70	Otay Valley Road	42	13.0	0.23	14,292,040	1.92	37.19	0.55			
S 70	S 80	Otay Valley Road	42	42.1	0.19	14,291,820	1.99	37.19	0.57			
S 80	S 79	Otay Valley Road	42	57.6	1.25	14,291,630	1.44	37.19	0.41			
S 79	S 78	Otay Valley Road	42	84.8	1.25	14,291,360	1.44	37.19	0.41			
S 78	S 77	Otay Valley Road	42	78.0	1.27	14,291,110	1.44	37.19	0.41			
S 77	S 76	Otay Valley Road	42	293.5	1.39	14,290,260	1.40	37.19	0.40			
S 76	S 75	Otay Valley Road	42	283.0	1.53	14,289,380	1.95	37.19	0.56			
S 75	S 74	Otay Valley Road	42	12.0	0.25	14,289,290	2.04	37.19	0.58			
S 74	S 73	Otay Valley Road	42	84.0	0.25	14,288,880	2.11	37.19	0.60			
S 73	S 82	Otay Valley Road	42	212.5	0.29	14,287,910	2.14	37.19	0.61			
S 82	S 72	Otay Valley Road	42	172.0	0.25	14,287,070	2.20	37.19	0.63			
S 72	S 71	Otay Valley Road	42	133.4	0.25	14,286,390	2.21	37.19	0.63			
S 71	S 55	Otay Valley Road	42	400.7	0.22	14,284,470	2.25	37.19	0.64			
S 55	S 54	Otay Valley Road	42	18.2	0.22	14,284,350	1.94	37.19	0.55			
S 54	S 62	Date Street	42	78.4	0.32	14,283,960	1.97	37.19	0.56			
S 62	S 61	Date Street	42	8.0	1.50	14,283,910	1.40	37.19	0.40			
S 61	S 53	Main Street	42	204.7	1.06	14,283,280	1.50	37.19	0.43			
S 53	S 65	Main Street	42	129.7	1.11	14,282,810	1.93	37.19	0.55			
S 65	S 66	Main Street	42	532.4	0.34	14,280,270	2.02	37.19	0.58			
S 66	S 60	Main Street	42	497.0	1.35	14,278,760	1.41	37.19	0.40			
S 60	S 59	Main Street	42	26.8	1.27	14,278,670	1.44	37.42	0.41			
S 59	S 58	Main Street	42	502.7	1.11	14,277,010	2.08	37.20	0.59			
S 58	S 57	Main Street	42	600.0	0.28	14,274,090	2.16	37.19	0.62			
S 57	S 68	Main Street	42	584.7	1.24	14,272,240	1.45	37.19	0.41			
S 68	S 67	Main Street	42	579.7	1.23	14,270,400	1.45	37.19	0.41			
S 67	S 56	Main Street	42	41.6	2.02	14,270,260	1.32	37.19	0.38			
S 56	S 63	Main Street	42	504.5	1.34	14,268,500	1.42	37.19	0.40			
S 63	S 64	Main Street	42	467.0	0.97	14,266,920	1.82	37.19	0.52			
S 64	S 69	Main Street	42	65.8	0.41	14,266,550	1.91	37.19	0.55			
S 69	S 100	Main Street	42	600.0	0.41	14,263,390	2.41	37.19	0.69			
S 100	S 99A	Main Street	42	285.7	0.21	14,901,690	2.49	38.73	0.71			
S 99A	S 99	Main Street	42	314.3	0.20	1,441,530	0.90	3.57	0.26			
S 99	S 98	Main Street	42	585.7	0.21	16,339,810	2.52	42.08	0.72			
S 98	S 97	Main Street	42	594.7	0.76	16,337,490	1.90	42.08	0.54			
S 97	S 96	Main Street	42	589.4	0.47	16,334,600	1.99	42.08	0.57			

Ultimate Conditions, Wet Weather, Baseline Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 96	S 95	Main Street	42	51.1	0.47	16,334,310	1.99	42.08	0.57			
S 95	S 101	Main Street	42	247.5	0.61	16,333,140	1.82	42.08	0.52			
S 101	S 87	Main Street	42	593.4	0.61	16,330,350	1.82	42.08	0.52			
S 87	S 90	Main Street	42	600.0	0.90	16,328,180	1.65	42.08	0.47			
S 90	S 92	Main Street	42	575.0	0.73	16,325,630	1.99	42.08	0.57			
S 92	S 91	Main Street	42	44.1	0.34	16,325,350	2.07	42.08	0.59			
S 91	S 93	Main Street	42	155.9	0.34	16,324,460	2.12	42.08	0.61			
S 93	S 89	Main Street	42	528.1	0.64	16,321,800	2.23	42.08	0.64			
S 89	S 94	Main Street	42	375.0	0.36	16,319,480	2.42	42.08	0.69			
S 94	S 369	Main Street	42	687.0	0.23	16,314,990	2.49	42.08	0.71			
S 369	S 88	Main Street	42	204.5	2.68	16,314,270	2.04	42.08	0.58			
S 88	S 105	Main Street	42	1110.4	0.38	16,307,730	2.12	42.07	0.61			

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Ultimate Conditions, Wet Weather, Baseline + Project Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
Salt Creek												
S 450	S 449	Hunte Parkway	15	105.8	0.55	900,650	0.62	2.28	0.49			
S 449	S 448	Hunte Parkway	15	379.4	0.64	900,650	0.61	2.28	0.48			
S 448	S 447	Hunte Parkway	15	408.6	0.58	900,640	0.61	2.28	0.48			
S 447	S 446	Hunte Parkway	15	337.9	0.61	900,640	0.60	2.28	0.48			
S 446	S 445	Hunte Parkway	15	394.3	0.68	900,630	0.58	2.28	0.46			
S 445	S 444	Hunte Parkway	15	308.7	5.33	900,620	0.35	2.28	0.28			
S 444	S 443	Hunte Parkway	15	96.0	15.71	900,620	0.42	2.28	0.34			
S 443	S 442	Hunte Parkway	15	307.7	3.46	1,041,590	0.57	2.64	0.46			
S 442	S 441	Hunte Parkway	15	401.7	1.01	1,041,580	0.57	2.64	0.46			
S 441	S 440	Hunte Parkway	15	378.2	1.21	1,041,560	0.54	2.64	0.43			
S 440	S 439	Hunte Parkway	15	358.0	2.50	1,041,550	0.56	2.64	0.44			
S 439	S 438	Hunte Parkway	15	344.4	1.10	1,041,540	0.55	2.64	0.44			
S 438	S 437	Hunte Parkway	15	317.4	1.83	1,041,520	0.49	2.64	0.39			
S 437	S 436	Hunte Parkway	15	374.8	3.56	1,204,140	0.62	3.05	0.49			
S 436	S 435	Salt Creek	15	390.0	1.05	1,204,110	0.62	3.05	0.49			
S 435	S 434	Salt Creek	15	235.3	1.08	1,204,090	0.62	3.05	0.49			
S 434	S 433	Salt Creek	15	392.1	1.05	1,204,060	0.62	3.05	0.49			
S 433	S 432	Salt Creek	15	291.0	1.07	1,204,030	0.61	3.05	0.49			
S 432	S 431	Salt Creek	15	288.7	1.07	1,204,000	0.61	3.05	0.49			
S 431	S 430	Salt Creek	15	357.0	2.38	1,203,970	0.73	3.05	0.59			
S 430	S 429	Salt Creek	18	536.0	0.38	1,203,890	0.84	3.05	0.56			
S 429	S 428	North Creekside Drive	18	56.7	1.78	3,106,740	0.83	7.91	0.55			
S 428	S 427	North Creekside Drive	18	127.3	3.10	3,106,730	0.71	7.91	0.47			
S 427	S 426	North Creekside Drive	18	179.4	3.08	3,106,720	0.72	7.91	0.48			
S 426	S 425	North Creekside Drive	18	322.1	3.00	3,106,700	5.63	7.89	3.76	322.10	322.10	
S 425	S 424	North Creekside Drive	18	391.4	0.43	3,106,620	5.59	7.89	3.73	391.40	391.40	
S 424	S 423	North Creekside Drive	18	337.4	0.43	3,106,550	5.01	7.89	3.34	337.40	337.40	
S 423	S 422	North Creekside Drive	18	320.0	0.52	3,106,490	4.50	7.89	3.00	320.00	320.00	
S 422	S 421	North Creekside Drive	18	375.2	0.34	3,106,380	4.28	7.89	2.86	375.20	375.20	
S 421	S 420	South Creekside Drive	18	214.6	0.45	3,106,340	3.37	7.89	2.25	214.60	214.60	
S 420	S 419	South Creekside Drive	18	279.2	0.44	3,106,270	3.06	7.88	2.04	279.20	279.20	
S 419	S 418	South Creekside Drive	18	331.5	0.43	3,106,170	2.62	7.88	1.75	331.50	331.50	
S 418	S 417	South Creekside Drive	18	234.3	0.44	3,106,100	2.09	7.88	1.40	234.30	234.30	
S 417	S 416	South Creekside Drive	18	376.8	0.43	3,105,980	1.75	7.88	1.16	376.80	376.80	
S 416	S 415	Salt Creek	18	183.3	8.21	3,234,110	0.88	8.20	0.59			
S 415	S 414	Salt Creek	18	291.2	1.64	3,234,050	0.98	8.20	0.65			
S 414	S 413	Salt Creek	18	295.0	1.22	3,234,000	0.96	8.20	0.64			
S 413	S 379	Salt Creek	18	33.0	13.33	3,233,990	1.07	8.20	0.71			
S 379	S 380	Salt Creek	20	9.1	0.88	3,649,920	1.05	9.24	0.63			
S 380	S 381	Salt Creek	20	151.4	0.89	3,649,890	1.05	9.24	0.63			
S 381	S 378	Salt Creek	20	25.0	3.32	3,649,880	0.72	9.24	0.43			
S 378	S 410	Salt Creek	20	8.5	3.30	3,649,880	0.72	9.24	0.43			
S 410	S 377	Salt Creek	20	91.2	6.35	3,649,870	0.77	9.24	0.46			
S 377	S 362	Salt Creek	20	173.3	1.20	3,649,830	0.96	9.24	0.57			
S 362	S 360	Salt Creek	20	346.7	1.07	3,649,750	0.99	9.24	0.59			
S 360	S 358	Salt Creek	20	609.7	2.07	3,649,640	0.88	9.24	0.53			
S 358	S 359	Salt Creek	20	564.0	0.86	3,649,510	1.06	9.24	0.63			
S 359	S 357	Salt Creek	20	596.8	1.57	3,649,340	0.88	9.24	0.53			
S 357	S 356	Salt Creek	24	470.9	0.86	3,649,200	0.94	9.24	0.47			
S 356	S 355	Salt Creek	24	510.3	1.85	3,649,060	0.78	9.24	0.39			

Ultimate Conditions, Wet Weather, Baseline + Project Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 355	S 354	Salt Creek	24	511.1	1.26	3,648,910	0.86	9.24	0.43			
S 354	S 353	Salt Creek	24	509.8	0.82	3,648,750	0.95	9.24	0.48			
S 353	S 352	Salt Creek	24	507.7	1.56	3,648,580	0.82	9.24	0.41			
S 352	S 351	Salt Creek	24	501.7	1.72	3,648,420	0.91	9.24	0.46			
S 351	S 350	Salt Creek	24	17.4	0.40	3,648,410	1.11	9.24	0.55			
S 350	S 349	Salt Creek	24	403.1	0.32	3,648,210	1.27	9.24	0.63			
S 349	S 348	Salt Creek	24	20.7	0.29	3,648,200	1.16	9.24	0.58			
S 383	S 384	ROW	10	231.6	0.45	246,770	0.41	0.68	0.49			
S 384	S 386	ROW	10	260.5	0.42	246,770	0.41	0.68	0.50			
S 386	S 392	ROW	10	241.5	0.42	246,770	0.41	0.68	0.50			
S 392	S 394	ROW	10	246.5	0.41	246,760	0.42	0.68	0.50			
S 394	S 396	ROW	10	236.9	1.28	246,760	0.31	0.68	0.37			
S 396	S 398	ROW	10	278.8	0.47	246,760	0.40	0.68	0.48			
S 398	S 400	ROW	10	130.9	8.23	246,760	0.20	0.68	0.24			
S 400	S 402	ROW	10	357.7	19.82	246,760	0.17	0.68	0.20			
S 402	S 404	ROW	10	116.7	11.37	246,760	0.19	0.68	0.22			
S 404	S 406	ROW	10	168.7	8.88	246,760	0.20	0.68	0.24			
S 406	S 348	ROW	10	100.0	0.47	246,760	0.40	0.68	0.48			
S 348	S 347	Salt Creek	24	566.1	0.32	3,894,670	1.31	9.89	0.66			
S 347	S 282	Salt Creek	24	254.0	0.97	3,894,580	0.94	9.89	0.47			
S 282	S 280	Salt Creek	24	83.4	8.38	3,894,550	2.41	9.89	1.21	83.40	83.40	
S 280	S 278	Salt Creek	24	316.6	0.23	4,491,270	2.37	11.37	1.19	316.60	316.60	
S 278	S 276	Salt Creek	24	400.0	0.23	4,491,020	2.26	11.37	1.13	400.00	400.00	
S 276	S 274	Salt Creek	24	400.0	0.23	4,490,750	2.15	11.37	1.07	400.00	400.00	
S 274	S 272	Salt Creek	24	187.4	0.23	4,490,590	2.03	11.37	1.02	187.40	187.40	
S 272	S 270	Salt Creek	24	164.5	0.26	6,227,120	1.95	15.94	0.97	164.50		
S 270	S 412	Salt Creek	24	200.0	3.30	6,227,050	0.89	15.94	0.44			
S 412	S 268	Salt Creek	24	217.9	3.30	6,226,980	0.89	15.94	0.44			
S 268	S 266	Salt Creek	24	146.5	4.09	6,226,930	0.85	15.94	0.42			
S 266	S 264	Salt Creek	24	220.5	4.09	6,226,840	0.85	15.94	0.42			
S 264	S 262	Salt Creek	24	348.9	6.31	6,226,770	0.79	15.94	0.40			
S 262	S 341	Salt Creek	24	283.3	5.29	6,226,690	0.84	15.94	0.42			
S 341	S 260	Salt Creek	24	400.0	4.25	6,226,560	1.15	15.94	0.58			
S 260	S 258	Salt Creek	24	377.8	1.45	6,226,370	1.15	15.94	0.58			
S 258	S 256	Salt Creek	24	328.2	1.45	6,226,200	1.37	15.94	0.68			
S 256	S 376	Salt Creek	24	195.0	0.37	6,226,070	1.82	15.94	0.91	195.00		
S 376	S 389	Salt Creek	30	3.3	30.30	6,226,060	0.51	15.94	0.21			
S 389	S 375	Salt Creek	30	31.3	12.40	6,226,050	1.89	15.94	0.76			
S 375	S 252	Salt Creek	30	299.5	0.11	6,225,700	2.08	15.94	0.83			
S 252	S 250	Salt Creek	30	411.6	0.11	6,225,220	2.04	15.94	0.82			
S 250	S 374	Salt Creek	30	305.0	0.11	6,224,900	1.86	15.94	0.74			
S 374	S 244	Salt Creek	30	79.4	5.44	6,224,860	1.29	15.94	0.52			
S 244	S 242	Salt Creek	30	257.6	0.33	6,224,600	1.48	15.94	0.59			
S 242	S 240	Salt Creek	30	521.2	0.33	6,224,040	1.51	15.94	0.60			
S 240	S 238	Salt Creek	30	175.3	0.77	6,223,910	1.18	15.94	0.47			
S 238	S 236	Salt Creek	30	78.1	1.05	6,223,850	1.09	15.94	0.44			
S 236	S 234	Salt Creek	30	565.7	1.05	6,223,460	1.09	15.94	0.44			
S 234	S 232	Wiley Road	30	564.8	1.05	6,223,070	1.09	15.94	0.44			
S 232	S 230	Wiley Road	30	312.3	1.54	6,222,850	1.36	15.94	0.54			

Ultimate Conditions, Wet Weather, Baseline + Project Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 230	S 222	Wiley Road	30	596.8	0.31	6,222,140	1.55	15.94	0.62			
S 222	S 220	Wiley Road	30	593.5	0.31	6,221,420	1.56	15.94	0.62			
S 220	S 218	Wiley Road	30	519.4	0.31	7,270,270	1.71	18.50	0.68			
S 218	S 216	Wiley Road	30	600.0	0.31	7,269,670	1.72	18.50	0.69			
S 216	S 214	Wiley Road	30	600.0	1.06	7,269,280	1.39	18.50	0.55			
S 214	S 212	Wiley Road	36	510.2	0.26	7,268,680	1.58	18.50	0.53			
S 212	S 210	Wiley Road	36	342.1	0.19	7,268,200	1.70	18.50	0.57			
S 210	S 208	Wiley Road	36	353.8	0.19	7,267,670	1.71	18.50	0.57			
S 208	S 206	Wiley Road	36	289.5	0.19	7,267,250	1.70	18.50	0.57			
S 206	S 204	Wiley Road	36	600.0	0.19	7,266,230	1.73	18.50	0.58			
S 204	S 202	Wiley Road	36	484.5	0.58	7,265,590	1.27	18.50	0.42			
S 202	S 200	Wiley Road	36	594.8	0.58	7,863,770	1.31	20.11	0.44			
S 200	S 198	Wiley Road	36	593.1	0.58	8,516,830	1.38	21.72	0.46			
S 198	S 196	Wiley Road	36	594.8	0.58	8,516,070	1.38	21.72	0.46			
S 196	S 194	Wiley Road	36	600.0	0.58	8,515,290	1.38	21.72	0.46			
S 194	S 192	Wiley Road	36	389.7	0.58	8,514,770	1.38	21.72	0.46			
S 192	S 190	Wiley Road	36	439.9	0.58	8,514,180	1.38	21.72	0.46			
S 190	S 188	Wiley Road	36	304.5	2.00	8,513,930	1.73	21.72	0.58			
S 188	S 186	Wiley Road	36	470.1	0.19	8,513,060	1.92	21.72	0.64			
S 186	S 184	Wiley Road	36	600.0	0.19	8,511,930	1.93	21.71	0.64			
S 184	S 182	Wiley Road	36	599.3	0.19	8,510,770	1.91	21.71	0.64			
S 182	S 180	Wiley Road	36	594.3	1.40	8,510,160	1.11	21.71	0.37			
S 180	S 178	Wiley Road	42	586.0	0.57	8,509,370	1.54	21.71	0.44			
S 178	S 176	Wiley Road	42	524.7	0.19	8,508,320	1.74	21.71	0.50			
S 176	S 175	Wiley Road	42	584.9	0.19	8,507,130	1.74	21.71	0.50			
S 175	S 373	Wiley Road	42	289.5	0.19	8,506,510	1.67	21.71	0.48			
S 373	S 372	Wiley Road	42	115.8	0.19	8,506,240	1.61	21.71	0.46			
S 372	S 168	Wiley Road	42	302.4	0.19	8,505,590	1.70	21.71	0.49			
S 168	S 166	Wiley Road	42	320.4	0.19	8,504,880	1.71	21.71	0.49			
S 166	S 164	Wiley Road	42	426.7	0.19	8,503,930	1.72	21.71	0.49			
S 164	S 162	Wiley Road	42	438.7	0.19	8,502,940	1.73	21.71	0.50			
S 162	S 160	Wiley Road	42	438.7	0.19	8,501,930	1.73	21.71	0.49			
S 160	S 157	Wiley Road	42	300.0	0.19	8,501,180	1.73	21.71	0.49			
S 157	S 155	Wiley Road	42	494.8	0.19	9,739,730	1.84	24.76	0.53			
S 155	S 153	Wiley Road	42	431.1	0.45	9,738,740	1.48	24.76	0.42			
S 153	S 151	Wiley Road	42	593.0	0.86	9,737,880	1.55	24.76	0.44			
S 151	S 149	Wiley Road	42	600.0	0.25	9,736,530	1.75	24.76	0.50			
S 149	S 371	Wiley Road	42	684.4	0.25	10,748,280	1.84	27.43	0.53			
S 371	S 145	Wiley Road	42	344.9	1.18	10,747,820	1.25	27.43	0.36			
S 145	S 143	Wiley Road	42	443.3	1.04	10,746,980	2.19	27.43	0.63			
S 143	S 141	Main Street	42	521.9	0.10	10,745,130	2.38	27.43	0.68			
S 141	S 139	Main Street	42	600.0	0.10	10,742,780	2.43	27.43	0.70			
S 139	S 137	Main Street	42	600.0	0.10	10,739,930	2.55	27.42	0.73			
S 137	S 345	Main Street	42	136.0	0.10	10,739,230	2.54	27.42	0.72			
S 345	S 135	Main Street	42	456.5	0.10	10,736,940	2.53	27.42	0.72			
S 135	S 133	Main Street	42	600.0	0.10	10,733,880	2.53	27.42	0.72			
S 133	S 128	Main Street	42	600.0	0.10	10,730,710	2.54	27.42	0.73			
S 130	S 125	Main Street	42	600.0	0.10	10,720,870	2.55	27.41	0.73			
S 128	S 127	Main Street	42	600.0	0.10	10,727,500	2.53	27.42	0.72			
S 127	S 130	Main Street	42	600.0	0.10	10,724,230	2.53	27.42	0.72			
S 125	S 123	Main Street	42	600.0	0.10	10,717,420	2.56	27.41	0.73			

Ultimate Conditions, Wet Weather, Baseline + Project Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 123	S 121	Main Street	42	73.2	0.10	10,716,960	2.55	27.41	0.73			
S 121	S 119	Main Street	42	265.4	0.10	10,715,380	2.55	27.41	0.73			
S 119	S 117	Main Street	42	73.2	0.10	10,714,910	2.54	27.41	0.73			
S 117	S 115	Main Street	42	199.4	0.10	10,713,720	2.53	27.41	0.72			
S 115	S 113	Main Street	42	600.0	0.10	10,710,190	2.53	27.41	0.72			
S 113	S 111	Main Street	42	600.0	0.10	10,706,610	2.53	27.41	0.72			
S 111	S 408	Main Street	42	228.2	0.10	10,705,200	2.53	27.41	0.72			
S 408	S 109	Main Street	42	371.9	0.10	10,702,910	2.53	27.41	0.72			
S 109	S 107	Main Street	42	146.8	0.10	10,701,970	2.52	27.41	0.72			
S 107	S 86	Main Street	42	955.6	0.10	10,696,080	2.50	27.40	0.72			
S 86	S 85	Main Street	42	566.9	0.10	10,692,650	2.41	27.40	0.69			
S 85	S 84	Main Street	42	287.7	0.10	10,691,030	2.28	27.40	0.65			
S 84	S 83	Main Street	42	399.0	0.10	10,689,120	2.15	27.40	0.61			
S 83	S 81	Main Street	42	269.1	1.49	14,544,310	1.85	37.81	0.53			
S 81	S 70	Otay Valley Road	42	13.0	0.23	14,544,210	1.94	37.81	0.55			
S 70	S 80	Otay Valley Road	42	42.1	0.19	14,544,000	2.01	37.81	0.57			
S 80	S 79	Otay Valley Road	42	57.6	1.25	14,543,810	1.46	37.81	0.42			
S 79	S 78	Otay Valley Road	42	84.8	1.25	14,543,540	1.46	37.81	0.42			
S 78	S 77	Otay Valley Road	42	78.0	1.27	14,543,290	1.45	37.81	0.41			
S 77	S 76	Otay Valley Road	42	293.5	1.39	14,542,430	1.42	37.81	0.40			
S 76	S 75	Otay Valley Road	42	283.0	1.53	14,541,540	1.98	37.81	0.57			
S 75	S 74	Otay Valley Road	42	12.0	0.25	14,541,450	2.07	37.81	0.59			
S 74	S 73	Otay Valley Road	42	84.0	0.25	14,541,050	2.14	37.81	0.61			
S 73	S 82	Otay Valley Road	42	212.5	0.29	14,540,070	2.17	37.81	0.62			
S 82	S 72	Otay Valley Road	42	172.0	0.25	14,539,220	2.22	37.81	0.63			
S 72	S 71	Otay Valley Road	42	133.4	0.25	14,538,530	2.23	37.81	0.64			
S 71	S 55	Otay Valley Road	42	400.7	0.22	14,536,570	2.27	37.81	0.65			
S 55	S 54	Otay Valley Road	42	18.2	0.22	14,536,450	1.95	37.81	0.56			
S 54	S 62	Date Street	42	78.4	0.32	14,536,060	1.98	37.81	0.57			
S 62	S 61	Date Street	42	8.0	1.50	14,536,010	1.41	37.81	0.40			
S 61	S 53	Main Street	42	204.7	1.06	14,535,380	1.51	37.81	0.43			
S 53	S 65	Main Street	42	129.7	1.11	14,534,910	1.95	37.81	0.56			
S 65	S 66	Main Street	42	532.4	0.34	14,532,360	2.03	37.81	0.58			
S 66	S 60	Main Street	42	497.0	1.35	14,530,820	1.43	37.81	0.41			
S 60	S 59	Main Street	42	26.8	1.27	14,530,800	1.45	37.81	0.41			
S 59	S 58	Main Street	42	502.7	1.11	14,529,040	2.11	37.81	0.60			
S 58	S 57	Main Street	42	600.0	0.28	14,526,020	2.19	37.81	0.63			
S 57	S 68	Main Street	42	584.7	1.24	14,524,140	1.46	37.80	0.42			
S 68	S 67	Main Street	42	579.7	1.23	14,522,250	1.46	37.80	0.42			
S 67	S 56	Main Street	42	41.6	2.02	14,522,110	1.33	37.80	0.38			
S 56	S 63	Main Street	42	504.5	1.34	14,520,270	1.43	37.80	0.41			
S 63	S 64	Main Street	42	467.0	0.97	14,518,670	1.84	37.80	0.53			
S 64	S 69	Main Street	42	65.8	0.41	14,518,290	1.93	37.80	0.55			
S 69	S 100	Main Street	42	600.0	0.41	14,514,990	2.43	37.80	0.69			
S 100	S 99A	Main Street	42	285.7	0.21	15,153,130	2.51	39.35	0.72			
S 99A	S 99	Main Street	42	314.3	0.20	1,441,530	0.92	3.57	0.26			
S 99	S 98	Main Street	42	585.7	0.21	16,591,080	2.54	42.71	0.73			
S 98	S 97	Main Street	42	594.7	0.76	16,588,570	1.92	42.71	0.55			
S 97	S 96	Main Street	42	589.4	0.47	16,585,580	2.00	42.71	0.57			

Ultimate Conditions, Wet Weather, Baseline + Project Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 96	S 95	Main Street	42	51.1	0.47	16,585,280	2.00	42.71	0.57			
S 95	S 101	Main Street	42	247.5	0.61	16,584,040	1.84	42.71	0.53			
S 101	S 87	Main Street	42	593.4	0.61	16,581,080	1.84	42.71	0.53			
S 87	S 90	Main Street	42	600.0	0.90	16,578,770	1.66	42.71	0.48			
S 90	S 92	Main Street	42	575.0	0.73	16,576,010	2.01	42.71	0.57			
S 92	S 91	Main Street	42	44.1	0.34	16,575,710	2.09	42.71	0.60			
S 91	S 93	Main Street	42	155.9	0.34	16,574,760	2.14	42.71	0.61			
S 93	S 89	Main Street	42	528.1	0.64	16,571,960	2.25	42.71	0.64			
S 89	S 94	Main Street	42	375.0	0.36	16,569,510	2.44	42.71	0.70			
S 94	S 369	Main Street	42	687.0	0.23	16,564,820	2.51	42.71	0.72			
S 369	S 88	Main Street	42	204.5	2.68	16,564,050	2.07	42.71	0.59			
S 88	S 105	Main Street	42	1110.4	0.38	16,557,180	2.15	42.71	0.62			

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Ultimate Conditions, Wet Weather, Cumulative Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
Salt Creek												
S 450	S 449	Hunte Parkway	15	105.8	0.55	900,720	0.62	2.28	0.49			
S 449	S 448	Hunte Parkway	15	379.4	0.64	900,720	0.61	2.28	0.48			
S 448	S 447	Hunte Parkway	15	408.6	0.58	900,710	0.61	2.28	0.48			
S 447	S 446	Hunte Parkway	15	337.9	0.61	900,710	0.60	2.28	0.48			
S 446	S 445	Hunte Parkway	15	394.3	0.68	900,700	0.58	2.28	0.46			
S 445	S 444	Hunte Parkway	15	308.7	5.33	900,700	0.35	2.28	0.28			
S 444	S 443	Hunte Parkway	15	96.0	15.71	900,690	0.42	2.28	0.34			
S 443	S 442	Hunte Parkway	15	307.7	3.46	1,041,590	0.57	2.64	0.46			
S 442	S 441	Hunte Parkway	15	401.7	1.01	1,041,580	0.57	2.64	0.46			
S 441	S 440	Hunte Parkway	15	378.2	1.21	1,041,560	0.54	2.64	0.43			
S 440	S 439	Hunte Parkway	15	358.0	2.50	1,041,550	0.56	2.64	0.44			
S 439	S 438	Hunte Parkway	15	344.4	1.10	1,041,540	0.55	2.64	0.44			
S 438	S 437	Hunte Parkway	15	317.4	1.83	1,041,520	0.49	2.64	0.39			
S 437	S 436	Hunte Parkway	15	374.8	3.56	1,204,040	0.62	3.05	0.49			
S 436	S 435	Salt Creek	15	390.0	1.05	1,204,010	0.62	3.05	0.49			
S 435	S 434	Salt Creek	15	235.3	1.08	1,203,990	0.62	3.05	0.49			
S 434	S 433	Salt Creek	15	392.1	1.05	1,203,960	0.62	3.05	0.49			
S 433	S 432	Salt Creek	15	291.0	1.07	1,203,930	0.61	3.05	0.49			
S 432	S 431	Salt Creek	15	288.7	1.07	1,203,900	0.61	3.05	0.49			
S 431	S 430	Salt Creek	15	357.0	2.38	1,203,870	0.73	3.05	0.59			
S 430	S 429	Salt Creek	18	536.0	0.38	1,203,790	0.84	3.05	0.56			
S 429	S 428	North Creekside Drive	18	56.7	1.78	3,106,660	0.83	7.91	0.55			
S 428	S 427	North Creekside Drive	18	127.3	3.10	3,106,650	0.71	7.91	0.47			
S 427	S 426	North Creekside Drive	18	179.4	3.08	3,106,640	0.72	7.91	0.48			
S 426	S 425	North Creekside Drive	18	322.1	3.00	3,106,620	5.63	7.89	3.76	322.10	322.10	
S 425	S 424	North Creekside Drive	18	391.4	0.43	3,106,540	5.59	7.89	3.73	391.40	391.40	
S 424	S 423	North Creekside Drive	18	337.4	0.43	3,106,470	5.00	7.89	3.34	337.40	337.40	
S 423	S 422	North Creekside Drive	18	320.0	0.52	3,106,410	4.49	7.89	3.00	320.00	320.00	
S 422	S 421	North Creekside Drive	18	375.2	0.34	3,106,300	4.28	7.89	2.86	375.20	375.20	
S 421	S 420	South Creekside Drive	18	214.6	0.45	3,106,260	3.37	7.88	2.25	214.60	214.60	
S 420	S 419	South Creekside Drive	18	279.2	0.44	3,106,190	3.06	7.88	2.04	279.20	279.20	
S 419	S 418	South Creekside Drive	18	331.5	0.43	3,106,090	2.62	7.88	1.75	331.50	331.50	
S 418	S 417	South Creekside Drive	18	234.3	0.44	3,106,020	2.09	7.88	1.40	234.30	234.30	
S 417	S 416	South Creekside Drive	18	376.8	0.43	3,105,900	1.75	7.88	1.16	376.80	376.80	
S 416	S 415	Salt Creek	18	183.3	8.21	3,233,990	0.88	8.20	0.59			
S 415	S 414	Salt Creek	18	291.2	1.64	3,233,930	0.98	8.20	0.65			
S 414	S 413	Salt Creek	18	295.0	1.22	3,233,880	0.96	8.20	0.64			
S 413	S 379	Salt Creek	18	33.0	13.33	3,233,870	1.07	8.20	0.71			
S 379	S 380	Salt Creek	20	9.1	0.88	3,649,790	1.05	9.24	0.63			
S 380	S 381	Salt Creek	20	151.4	0.89	3,649,760	1.05	9.24	0.63			
S 381	S 378	Salt Creek	20	25.0	3.32	3,649,750	0.72	9.24	0.43			
S 378	S 410	Salt Creek	20	8.5	3.30	3,649,750	0.72	9.24	0.43			
S 410	S 377	Salt Creek	20	91.2	6.35	3,649,740	0.77	9.24	0.46			
S 377	S 362	Salt Creek	20	173.3	1.20	3,649,700	0.96	9.24	0.57			
S 362	S 360	Salt Creek	20	346.7	1.07	3,649,620	0.99	9.24	0.59			
S 360	S 358	Salt Creek	20	609.7	2.07	3,649,510	0.88	9.24	0.53			
S 358	S 359	Salt Creek	20	564.0	0.86	3,649,380	1.06	9.24	0.63			
S 359	S 357	Salt Creek	20	596.8	1.57	3,649,210	0.88	9.24	0.53			
S 357	S 356	Salt Creek	24	470.9	0.86	3,649,070	0.94	9.24	0.47			
S 356	S 355	Salt Creek	24	510.3	1.85	3,648,930	0.78	9.24	0.39			

Ultimate Conditions, Wet Weather, Cumulative Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 355	S 354	Salt Creek	24	511.1	1.26	3,648,780	0.86	9.24	0.43			
S 354	S 353	Salt Creek	24	509.8	0.82	3,648,620	0.95	9.24	0.48			
S 353	S 352	Salt Creek	24	507.7	1.56	3,648,450	0.82	9.24	0.41			
S 352	S 351	Salt Creek	24	501.7	1.72	3,648,290	0.91	9.24	0.46			
S 351	S 350	Salt Creek	24	17.4	0.40	3,648,280	1.11	9.24	0.55			
S 350	S 349	Salt Creek	24	403.1	0.32	3,648,080	1.27	9.24	0.63			
S 349	S 348	Salt Creek	24	20.7	0.29	3,648,070	1.16	9.24	0.58			
S 383	S 384	ROW	10	231.6	0.45	246,750	0.41	0.68	0.49			
S 384	S 386	ROW	10	260.5	0.42	246,750	0.41	0.68	0.50			
S 386	S 392	ROW	10	241.5	0.42	246,750	0.41	0.68	0.50			
S 392	S 394	ROW	10	246.5	0.41	246,750	0.42	0.68	0.50			
S 394	S 396	ROW	10	236.9	1.28	246,750	0.31	0.68	0.37			
S 396	S 398	ROW	10	278.8	0.47	246,750	0.40	0.68	0.48			
S 398	S 400	ROW	10	130.9	8.23	246,750	0.20	0.68	0.24			
S 400	S 402	ROW	10	357.7	19.82	246,750	0.17	0.68	0.20			
S 402	S 404	ROW	10	116.7	11.37	246,750	0.19	0.68	0.22			
S 404	S 406	ROW	10	168.7	8.88	246,750	0.20	0.68	0.24			
S 406	S 348	ROW	10	100.0	0.47	246,750	0.40	0.68	0.48			
S 348	S 347	Salt Creek	24	566.1	0.32	3,894,530	1.31	9.89	0.66			
S 347	S 282	Salt Creek	24	254.0	0.97	3,894,430	0.94	9.89	0.47			
S 282	S 280	Salt Creek	24	83.4	8.38	3,894,410	2.38	9.89	1.19	83.40	83.40	
S 280	S 278	Salt Creek	24	316.6	0.23	4,491,090	2.35	11.37	1.17	316.60	316.60	
S 278	S 276	Salt Creek	24	400.0	0.23	4,490,840	2.24	11.37	1.12	400.00	400.00	
S 276	S 274	Salt Creek	24	400.0	0.23	4,490,560	2.12	11.37	1.06	400.00	400.00	
S 274	S 272	Salt Creek	24	187.4	0.23	4,490,400	2.00	11.37	1.00	187.40	187.40	
S 272	S 270	Salt Creek	24	164.5	0.26	6,176,950	1.92	15.73	0.96	164.50		
S 270	S 412	Salt Creek	24	200.0	3.30	6,176,880	0.88	15.73	0.44			
S 412	S 268	Salt Creek	24	217.9	3.30	6,176,810	0.88	15.73	0.44			
S 268	S 266	Salt Creek	24	146.5	4.09	6,176,770	0.84	15.73	0.42			
S 266	S 264	Salt Creek	24	220.5	4.09	6,176,710	0.84	15.73	0.42			
S 264	S 262	Salt Creek	24	348.9	6.31	6,176,620	0.79	15.73	0.39			
S 262	S 341	Salt Creek	24	283.3	5.29	6,176,530	0.84	15.73	0.42			
S 341	S 260	Salt Creek	24	400.0	4.25	6,176,400	1.14	15.73	0.57			
S 260	S 258	Salt Creek	24	377.8	1.45	6,176,210	1.14	15.73	0.57			
S 258	S 256	Salt Creek	24	328.2	1.45	6,176,030	1.33	15.73	0.66			
S 256	S 376	Salt Creek	24	195.0	0.37	6,175,910	1.79	15.73	0.90	195.00		
S 376	S 389	Salt Creek	30	3.3	30.30	6,175,910	0.51	15.73	0.20			
S 389	S 375	Salt Creek	30	31.3	12.40	6,175,890	1.86	15.73	0.74			
S 375	S 252	Salt Creek	30	299.5	0.11	6,175,550	2.05	15.73	0.82			
S 252	S 250	Salt Creek	30	411.6	0.11	6,175,080	2.02	15.73	0.81			
S 250	S 374	Salt Creek	30	305.0	0.11	6,174,770	1.84	15.73	0.74			
S 374	S 244	Salt Creek	30	79.4	5.44	6,174,730	1.28	15.73	0.51			
S 244	S 242	Salt Creek	30	257.6	0.33	6,174,470	1.47	15.73	0.59			
S 242	S 240	Salt Creek	30	521.2	0.33	6,173,930	1.49	15.73	0.60			
S 240	S 238	Salt Creek	30	175.3	0.77	6,173,800	1.17	15.73	0.47			
S 238	S 236	Salt Creek	30	78.1	1.05	6,173,750	1.09	15.73	0.43			
S 236	S 234	Salt Creek	30	565.7	1.05	6,173,370	1.09	15.73	0.43			
S 234	S 232	Wiley Road	30	564.8	1.05	6,172,990	1.09	15.73	0.43			
S 232	S 230	Wiley Road	30	312.3	1.54	6,172,770	1.34	15.73	0.54			

Ultimate Conditions, Wet Weather, Cumulative Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 230	S 222	Wiley Road	30	596.8	0.31	6,172,100	1.53	15.72	0.61			
S 222	S 220	Wiley Road	30	593.5	0.31	6,171,410	1.54	15.73	0.62			
S 220	S 218	Wiley Road	30	519.4	0.31	7,220,100	1.69	18.29	0.67			
S 218	S 216	Wiley Road	30	600.0	0.31	7,219,470	1.70	18.29	0.68			
S 216	S 214	Wiley Road	30	600.0	1.06	7,219,080	1.37	18.29	0.55			
S 214	S 212	Wiley Road	36	510.2	0.26	7,218,450	1.57	18.29	0.52			
S 212	S 210	Wiley Road	36	342.1	0.19	7,217,950	1.69	18.29	0.56			
S 210	S 208	Wiley Road	36	353.8	0.19	7,217,410	1.70	18.29	0.57			
S 208	S 206	Wiley Road	36	289.5	0.19	7,216,970	1.68	18.29	0.56			
S 206	S 204	Wiley Road	36	600.0	0.19	7,215,940	1.72	18.29	0.57			
S 204	S 202	Wiley Road	36	484.5	0.58	7,215,290	1.26	18.29	0.42			
S 202	S 200	Wiley Road	36	594.8	0.58	7,973,750	1.31	20.13	0.44			
S 200	S 198	Wiley Road	36	593.1	0.58	8,626,830	1.38	21.74	0.46			
S 198	S 196	Wiley Road	36	594.8	0.58	8,626,170	1.38	21.74	0.46			
S 196	S 194	Wiley Road	36	600.0	0.58	8,625,500	1.38	21.74	0.46			
S 194	S 192	Wiley Road	36	389.7	0.58	8,625,050	1.38	21.74	0.46			
S 192	S 190	Wiley Road	36	439.9	0.58	8,624,540	1.38	21.74	0.46			
S 190	S 188	Wiley Road	36	304.5	2.00	8,624,290	1.73	21.74	0.58			
S 188	S 186	Wiley Road	36	470.1	0.19	8,623,490	1.92	21.74	0.64			
S 186	S 184	Wiley Road	36	600.0	0.19	8,622,450	1.93	21.74	0.64			
S 184	S 182	Wiley Road	36	599.3	0.19	8,621,340	1.91	21.74	0.64			
S 182	S 180	Wiley Road	36	594.3	1.40	8,620,670	1.11	21.74	0.37			
S 180	S 178	Wiley Road	42	586.0	0.57	8,619,750	1.54	21.74	0.44			
S 178	S 176	Wiley Road	42	524.7	0.19	8,618,690	1.74	21.74	0.50			
S 176	S 175	Wiley Road	42	584.9	0.19	8,617,450	1.74	21.74	0.50			
S 175	S 373	Wiley Road	42	289.5	0.19	8,616,830	1.67	21.74	0.48			
S 373	S 372	Wiley Road	42	115.8	0.19	8,616,570	1.61	21.74	0.46			
S 372	S 168	Wiley Road	42	302.4	0.19	8,615,920	1.70	21.74	0.49			
S 168	S 166	Wiley Road	42	320.4	0.19	8,615,200	1.71	21.74	0.49			
S 166	S 164	Wiley Road	42	426.7	0.19	8,614,230	1.72	21.74	0.49			
S 164	S 162	Wiley Road	42	438.7	0.19	8,613,190	1.73	21.74	0.50			
S 162	S 160	Wiley Road	42	438.7	0.19	8,612,130	1.73	21.74	0.49			
S 160	S 157	Wiley Road	42	300.0	0.19	8,611,310	1.73	21.74	0.49			
S 157	S 155	Wiley Road	42	494.8	0.19	9,884,800	1.85	24.87	0.53			
S 155	S 153	Wiley Road	42	431.1	0.45	9,883,790	1.49	24.87	0.42			
S 153	S 151	Wiley Road	42	593.0	0.86	9,882,800	1.55	24.87	0.44			
S 151	S 149	Wiley Road	42	600.0	0.25	9,881,250	1.75	24.87	0.50			
S 149	S 371	Wiley Road	42	684.4	0.25	10,879,700	1.84	27.43	0.53			
S 371	S 145	Wiley Road	42	344.9	1.18	10,879,140	1.25	27.43	0.36			
S 145	S 143	Wiley Road	42	443.3	1.04	10,878,140	2.19	27.43	0.63			
S 143	S 141	Main Street	42	521.9	0.10	10,875,980	2.38	27.42	0.68			
S 141	S 139	Main Street	42	600.0	0.10	10,873,320	2.43	27.42	0.70			
S 139	S 137	Main Street	42	600.0	0.10	10,870,290	2.55	27.42	0.73			
S 137	S 345	Main Street	42	136.0	0.10	10,869,570	2.53	27.42	0.72			
S 345	S 135	Main Street	42	456.5	0.10	10,867,210	2.53	27.42	0.72			
S 135	S 133	Main Street	42	600.0	0.10	10,864,070	2.53	27.41	0.72			
S 133	S 128	Main Street	42	600.0	0.10	10,860,870	2.54	27.41	0.73			
S 130	S 125	Main Street	42	600.0	0.10	10,850,720	2.55	27.41	0.73			
S 128	S 127	Main Street	42	600.0	0.10	10,857,590	2.53	27.41	0.72			
S 127	S 130	Main Street	42	600.0	0.10	10,854,220	2.53	27.41	0.72			
S 125	S 123	Main Street	42	600.0	0.10	10,847,080	2.56	27.40	0.73			

Ultimate Conditions, Wet Weather, Cumulative Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 123	S 121	Main Street	42	73.2	0.10	10,846,580	2.55	27.40	0.73			
S 121	S 119	Main Street	42	265.4	0.10	10,844,880	2.55	27.40	0.73			
S 119	S 117	Main Street	42	73.2	0.10	10,844,370	2.54	27.40	0.73			
S 117	S 115	Main Street	42	199.4	0.10	10,843,060	2.53	27.40	0.72			
S 115	S 113	Main Street	42	600.0	0.10	10,839,110	2.53	27.40	0.72			
S 113	S 111	Main Street	42	600.0	0.10	10,834,980	2.53	27.40	0.72			
S 111	S 408	Main Street	42	228.2	0.10	10,833,330	2.53	27.40	0.72			
S 408	S 109	Main Street	42	371.9	0.10	10,830,610	2.53	27.40	0.72			
S 109	S 107	Main Street	42	146.8	0.10	10,829,490	2.52	27.40	0.72			
S 107	S 86	Main Street	42	955.6	0.10	10,822,430	2.50	27.39	0.72			
S 86	S 85	Main Street	42	566.9	0.10	10,818,340	2.41	27.39	0.69			
S 85	S 84	Main Street	42	287.7	0.10	10,816,360	2.28	27.39	0.65			
S 84	S 83	Main Street	42	399.0	0.10	10,814,060	2.14	27.39	0.61			
S 83	S 81	Main Street	42	269.1	1.49	14,669,130	1.85	37.80	0.53			
S 81	S 70	Otay Valley Road	42	13.0	0.23	14,669,020	1.94	37.80	0.55			
S 70	S 80	Otay Valley Road	42	42.1	0.19	14,668,770	2.01	37.80	0.57			
S 80	S 79	Otay Valley Road	42	57.6	1.25	14,668,560	1.46	37.80	0.42			
S 79	S 78	Otay Valley Road	42	84.8	1.25	14,668,270	1.46	37.80	0.42			
S 78	S 77	Otay Valley Road	42	78.0	1.27	14,667,990	1.45	37.80	0.41			
S 77	S 76	Otay Valley Road	42	293.5	1.39	14,667,040	1.42	37.80	0.40			
S 76	S 75	Otay Valley Road	42	283.0	1.53	14,666,030	1.98	37.80	0.57			
S 75	S 74	Otay Valley Road	42	12.0	0.25	14,665,930	2.07	37.80	0.59			
S 74	S 73	Otay Valley Road	42	84.0	0.25	14,665,460	2.14	37.80	0.61			
S 73	S 82	Otay Valley Road	42	212.5	0.29	14,664,250	2.17	37.80	0.62			
S 82	S 72	Otay Valley Road	42	172.0	0.25	14,663,220	2.22	37.80	0.63			
S 72	S 71	Otay Valley Road	42	133.4	0.25	14,662,370	2.23	37.80	0.64			
S 71	S 55	Otay Valley Road	42	400.7	0.22	14,660,040	2.27	37.80	0.65			
S 55	S 54	Otay Valley Road	42	18.2	0.22	14,659,910	1.95	37.80	0.56			
S 54	S 62	Date Street	42	78.4	0.32	14,659,460	1.98	37.80	0.57			
S 62	S 61	Date Street	42	8.0	1.50	14,659,400	1.41	37.80	0.40			
S 61	S 53	Main Street	42	204.7	1.06	14,658,730	1.51	37.80	0.43			
S 53	S 65	Main Street	42	129.7	1.11	14,658,190	1.95	37.80	0.56			
S 65	S 66	Main Street	42	532.4	0.34	14,655,350	2.03	37.80	0.58			
S 66	S 60	Main Street	42	497.0	1.35	14,653,680	1.43	37.80	0.41			
S 60	S 59	Main Street	42	26.8	1.27	14,653,630	1.45	37.80	0.41			
S 59	S 58	Main Street	42	502.7	1.11	14,651,680	2.11	37.80	0.60			
S 58	S 57	Main Street	42	600.0	0.28	14,648,160	2.19	37.80	0.63			
S 57	S 68	Main Street	42	584.7	1.24	14,646,200	1.46	37.80	0.42			
S 68	S 67	Main Street	42	579.7	1.23	14,644,240	1.46	37.80	0.42			
S 67	S 56	Main Street	42	41.6	2.02	14,644,080	1.33	37.80	0.38			
S 56	S 63	Main Street	42	504.5	1.34	14,642,150	1.43	37.80	0.41			
S 63	S 64	Main Street	42	467.0	0.97	14,640,490	1.84	37.80	0.53			
S 64	S 69	Main Street	42	65.8	0.41	14,640,080	1.93	37.80	0.55			
S 69	S 100	Main Street	42	600.0	0.41	14,636,500	2.43	37.80	0.69			
S 100	S 99A	Main Street	42	285.7	0.21	15,274,240	2.51	39.35	0.72			
S 99A	S 99	Main Street	42	314.3	0.20	1,441,530	0.92	3.57	0.26			
S 99	S 98	Main Street	42	585.7	0.21	16,711,870	2.54	42.73	0.73			
S 98	S 97	Main Street	42	594.7	0.76	16,709,040	1.92	42.73	0.55			
S 97	S 96	Main Street	42	589.4	0.47	16,705,910	2.00	42.73	0.57			

Ultimate Conditions, Wet Weather, Cumulative Model
Upsized Integrated Master Plan Model including Main Street Diversion

U/S Node	D/S Node	Street Name	Diameter (in)	Length (ft)	Slope (%)	Average Flow (gpd)	Max Depth	Peak Flow (cfs)	d/D	Length Exceeding d/D = 0.85	Length Exceeding d/D = 1	Notes
S 96	S 95	Main Street	42	51.1	0.47	16,705,600	2.00	42.73	0.57			
S 95	S 101	Main Street	42	247.5	0.61	16,704,270	1.84	42.73	0.53			
S 101	S 87	Main Street	42	593.4	0.61	16,701,150	1.84	42.73	0.53			
S 87	S 90	Main Street	42	600.0	0.90	16,698,580	1.66	42.73	0.48			
S 90	S 92	Main Street	42	575.0	0.73	16,695,610	2.01	42.73	0.57			
S 92	S 91	Main Street	42	44.1	0.34	16,695,290	2.09	42.73	0.60			
S 91	S 93	Main Street	42	155.9	0.34	16,694,300	2.14	42.73	0.61			
S 93	S 89	Main Street	42	528.1	0.64	16,691,370	2.25	42.73	0.64			
S 89	S 94	Main Street	42	375.0	0.36	16,688,790	2.44	42.73	0.70			
S 94	S 369	Main Street	42	687.0	0.23	16,683,870	2.51	42.73	0.72			
S 369	S 88	Main Street	42	204.5	2.68	16,683,070	2.07	42.73	0.59			
S 88	S 105	Main Street	42	1110.4	0.38	16,675,950	2.15	42.73	0.62			

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