Appendix O2:

Master Water Planned Facilities_2008

MURRIETA DIVISION DEVELOPMENT IMPACT FEE UPDATE FOR MASTER WATER PLANNED FACILITIES

Prepared For:

WESTERN MUNICIPAL WATER DISTRICT

WESTERN MUNICIPAL WATER DISTRICT

DRAFT

November, 2008

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICIES & ASSOCIATED TABLES

SECTION 1 - EXECUTIVE SUMMARY

ULTIMATE EDUS

The total number of EDUs for the Murrieta Division at ultimate build-out is 7,576 EDUs based on the City of Murrieta's existing land-use designations. The Murrieta Division currently has 2,538 customers with the total number of remaining additional EDUs estimated at 5,038.

ULTIMATE DEMAND

Ultimate water demand for the Murrieta Division Development Impact Fee (DIF) area based on existing General Plan land use is estimated at 6,440 af-ft/yr for 7,576 EDU's.

PROJECT COST

The updated costs for the proposed master planned facilities are $29,900,000. The facilities included account for water supply, storage, pumping, and major transmission systems necessary to deliver maximum day demand, fire flow, and peak hour demand at ultimate build-out.

RECOMMENDED DEVELOPMENT IMPACT FEE

The recommended Development Impact Fee (DIF) increases by $2,989 per EDU for a ¾-in meter to $4,921 for CFD 88-1 areas and $8,871 for Non-CFD 88-1 areas. The fire flow fee increases from $409 per acre to $535 per acre for all commercial, industrial, or high density residential fire flow connections. The current acreage fee of $2,045 per acre would be eliminated. The proposed DIF fee would be indexed for increasing construction costs and adjusted annually based on the ENR CCI-LA index. To account for the current bond indebtedness of CFD 88-1 for water master planned facilities, the fee differential between CFD 88-1 and Non-CFD 88-1 areas must be phased out over time. The proposed DIF for CFD 88-1 areas would be raised $29 per year for the first twelve years and $14 per year for the next twelve years. The proposed DIF for Non-CFD 88-1 areas would be reduced by $191 per year for the first twelve years and $95 per year for the next twelve years.

SECTION 2 - SCOPE OF WORK

The objective of this report is to review:

1) The existing DIF for the Western Municipal Water District (WMWD) Murrieta Division,

2) The existing indebtedness for the Murrieta Division Community Facilities Districts (CFDs)

3) Update cost estimates and master planned facilities

4) Recommend a new DIF structure based on the latest information available.

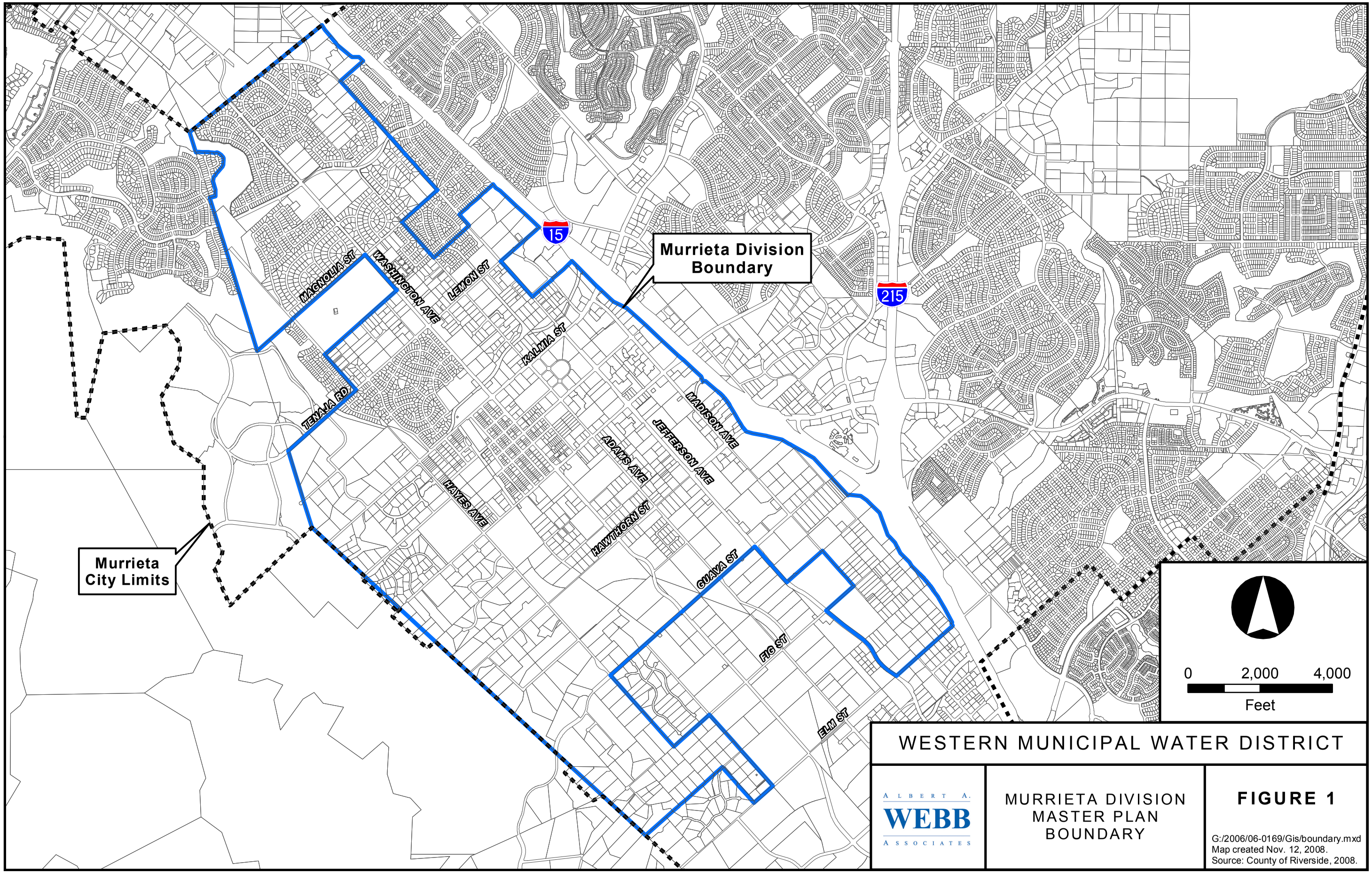
Data developed in the *Murrieta County Water District 2004 Water Facilities Master Plan* (Krieger and Stewart, Inc.) and *Connection Fee Review for the Murrieta Division Retail System, WMWD – Letter Report Update* dated May 25, 2007 (Albert A. Webb Associates) were used as a basis for the required improvements for the ultimate water supply and distribution system. The hydraulic assumptions and calculations developed in the 2004 Water Facilities Master Plan have been assumed to be valid and have not been verified or changed.

This report summarizes project costs for the required improvements, the current CFD funding, the number of EDUs proposed within the service area, and calculations for the proposed DIF update that will fully fund the proposed master planned water facilities required for the WMWD Murrieta Division. The scope details are as follows:

- Develop a data base of land use and water demand for each parcel within the study area.
- Confirm the definition of an EDU to be used within the study area.
- Confirm the unit water demand for an individual EDU.
- Determine the Ultimate Water Demand
- Determine the Ultimate Water Supply Requirements
- Determine master plan facilities to be funded by DIF for
    - Pumping Requirements
    - Storage Requirements
    - Transmission Pipeline Requirements
- Prepare Cost Estimates for facilities proposed.
- Calculate proposed master plan fees required to fund proposed ultimate facilities.

SECTION 3 - STUDY AREA

The study area is shown in **Figure 1,** and includes all parcels within the former Murrieta County Water District (MCWD) now known as the Murrieta Division of Western Municipal Water District. The entire area lies within the City of Murrieta and is approximately 6.5 square miles in size. The service area has 2,538 existing connections. Planning Data was obtained from the City of Murrieta and summarized in the letter report Connection Fee Review for the Murrieta Division Retail System prepared by Albert A. Webb Associates dated May 25, 2007. This data is used as the basis of the EDU's, water demand and project costs.



WESTERN MUNICIPAL WATER DISTRICT

ALBERT A. WEBB ASSOCIATES

MURRIETA DIVISION MASTER PLAN BOUNDARY

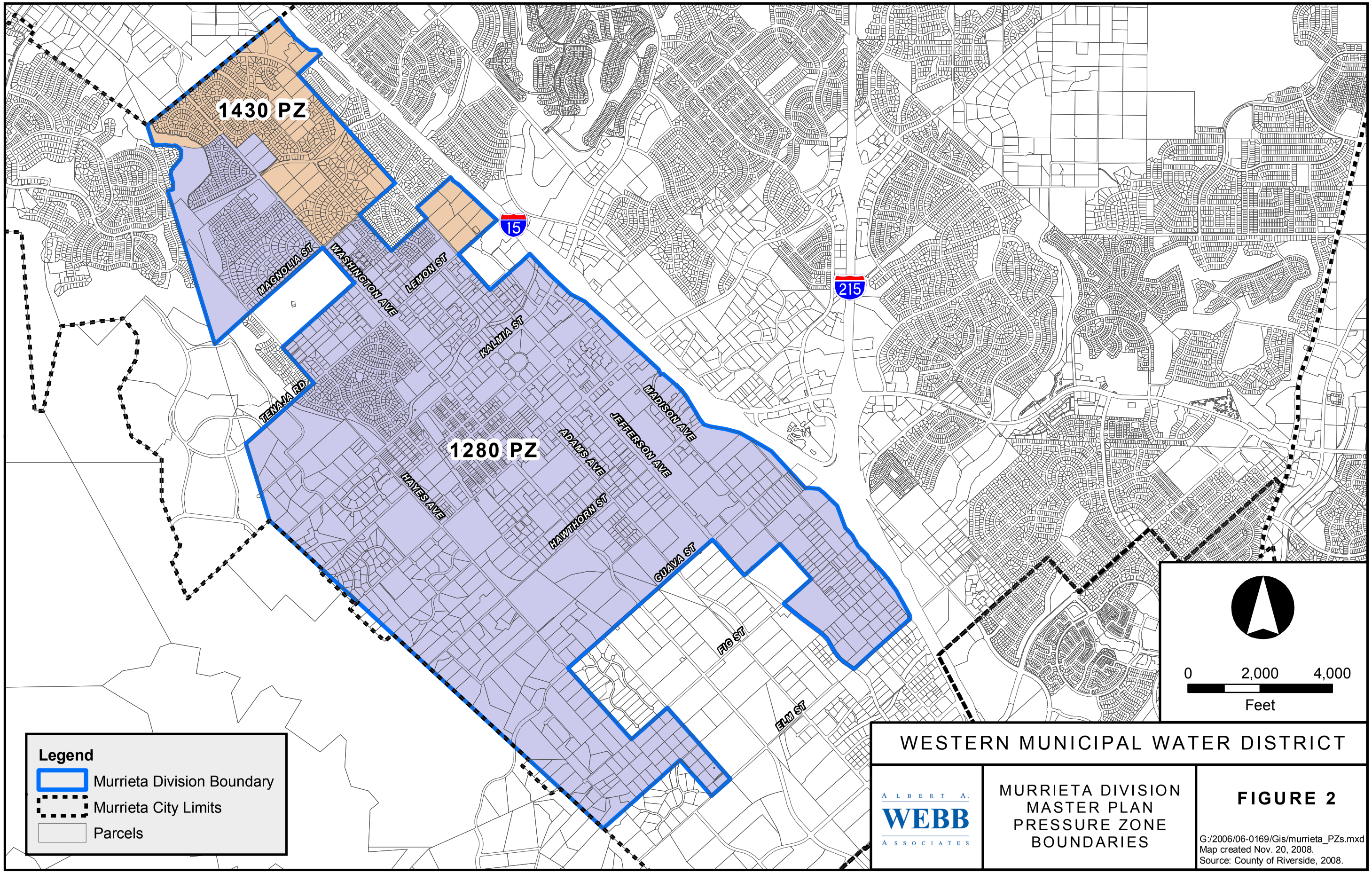
FIGURE 1

G:/2006/06-0169/Gis/boundary.mxd
Map created Nov. 12, 2008.
Source: County of Riverside, 2008.

SECTION 4 - PRESSURE ZONES

The Murrieta Division has two pressure zones per the 2004 Water Facilities Master Plan report, the 1280′ pressure zone and the 1430′ pressure zone. The boundaries of each pressure zone are based on data provided by the District. The boundaries are shown in **Figure 2**. Minor changes to the boundaries due to development may be allowable based on operational considerations at the time of development.

The 1280′ pressure zone has storage provided by the Olga Gordon Tanks with a high water level of 1282′ MSL. The former Lemon Reservoir site has been abandoned in favor of this higher hydraulic grade. Some localized areas of the west edge of the 1280′ pressure zone may have low pressures due to the local topography. Private pumping systems may be necessary to maintain adequate pressures beyond the meter connection. The 1430′ pressure zone has storage provided by the Grizzly Ridge Tanks at a high water level of 1434′ MSL.



WESTERN MUNICIPAL WATER DISTRICT

ALBERT A. WEBB ASSOCIATES

MURRIETA DIVISION
MASTER PLAN
PRESSURE ZONE
BOUNDARIES

FIGURE 2

G:/2006/06-0169/Gis/murrieta_PZs.mxd
Map created Nov. 20, 2008.
Source: County of Riverside, 2008.

SECTION 5 - UNIT WATER DEMAND AND LAND USE

An Equivalent Dwelling Unit (EDU) for the Murrieta Division is defined as a single family residence with a ¾" meter and an annual unit water demand of 0.85 ac-ft/year. Other land uses have been normalized to EDUs based on their projected unit water demands. This unit water demand is consistent with the unit water demand used in the 2004 report and similar to the unit water demand used in the District's North Added Facilities Area with similar development types and densities.

Maximum, Median, and Minimum Number of new EDUs still to be developed within the Murrieta Division have been estimated based on the City of Murrieta's General Plan Zoning. **Table 1** summarizes the results.

Table 1

Western Municipal Water District

Murrieta Division

Potential Number of New EDUs at Ultimate Build-out

Options	Remaining Development - CFD		Remaining Development - Non CFD		Total
	Residential	Non-Residential	Residential	Non-Residential	
Maximum	3,025	4,493	1,830	235	9,583
Median	2,256	3,631	1,195	210	7,292
Minimum	1,613	2,769	470	186	5,038

Differences between all three options are due to density ranges allowed for a particular land use designation by the City of Murrieta. **Appendix I** gives detailed calculations for each option to determine the Maximum, Median, and Minimum Number of new ultimate EDUs within Murrieta Division service area using current City of Murrieta zoning designations. Existing meters are then subtracted to give the potential number of new EDUs at ultimate build-out as listed in Table 1. An independent photo-metric analysis conducted by Western staff using the same City of Murrieta supplied data suggests an ultimate build-out of approximately 7,600 EDUs. If the existing 2,538 customers are subtracted from that estimated total, then 5,062 EDUs are left to develop, closely matching the minimum density calculation of 5,038. Therefore, this analysis

recommends using the Minimum number of remaining EDUs of 5,038 as the basis for further calculations in this report.

SECTION 6 - PROJECTED ULTIMATE WATER DEMAND

Land use acreages were determined using the applicable city planning documents and from data bases provided by the City of Murrieta. The projected number of EDU's was calculated for each pressure zone. Commercial water demand is estimated at 2000 gpd/acre.

Table 2 contains a summary of projected land use, annual, maximum day, and peak hour water demands for each pressure zone within the Murrieta Division.

Table 2
Western Municipal Water District
Murrieta Division
Ultimate Water Demand by Pressure Zone

Pressure Zone	Acreage	EDU's	Annual Demand (ac-ft/yr)	Maximum Day Demand (gpm) (1)	Maximum Day Demand (cfs) (1)	Peak Hour Demand (cfs) (2)
1280′	3,378	6,049	5140	8,725	19.4	29.1
1430′	571	1,529	1,300	2,200	4.9	7.3
TOTALS	**3,949**	**7,576**	**6,440**	**10,925**	**24.3**	**36.4**

(1) Maximum Day is 150% of the average day of Maximum Month; Maximum Month is based on 15% of total annual water demand
(2) Peak Hour is 150% of Maximum Day

SECTION 7 - WATER SYSTEM AND HYDRAULICS

The Murrieta Division water system is designed to deliver pumped groundwater and imported treated water to its customers under maximum day demand, fire flow, and peak hour conditions. The system consists of five components: supply, storage, pumping, transmission, and local distribution. The first four components are included in the master planned water facilities. Each facility must be sized to provide an adequate level of service at maximum day demand and peak hour conditions. Local distribution, limited to local pipelines adjacent or within a new tract or project, is specific to the new development and is therefore excluded from the master planned facilities. These local distribution pipelines are funded directly by individual property owners. The most recent report analyzing the water system is the *Murrieta County Water District 2004 Water Facilities Master Plan* ("Master Plan") prepared by Krieger and Stewart, Inc. This report describes the necessary master planned facilities needed to meet maximum day demand at ultimate build out of the Murrieta Division. The report included a detailed analysis of the existing water infrastructure, an analysis of the storage and well capacity needed, and a hydraulic analysis to determine the size and extent of the transmission pipeline and pumping system required to meet ultimate maximum day demand. The findings of this report have been used as a basis for determining the master planned facilities and their current estimated costs for the development impact fee calculation.

The existing pressure zones for the Murrieta Division are shown in **Figure 2**. The system currently has two pressure zones, two active storage sites – one for each zone, a pump station to lift water from the lower zone into the higher zone, several active wells in the lower zone, one imported water connection to the lower zone from Eastern Municipal Water District (EMWD), and one emergency connection to the higher zone from Elsinore Valley Municipal Water District (EVMWD).

Since the 2004 Master Plan was prepared, several significant changes have occurred. First, Murrieta County Water District was dissolved and absorbed into WMWD as the Murrieta Division. Second, contrary to initial assumptions, the local groundwater supply is now

recognized as unable to meet ultimate maximum day demand. Several existing wells have been removed from service due to water quality concerns. Additionally, basin hydrological studies indicate that the local groundwater basin may already be in an overdraft condition. WMWD has responded to these issues by working closely with neighboring water purveyors to obtain viable long-term connections for conveying imported water to the Murrieta Division for existing demands. It should be noted that these new connections are more expensive than new groundwater wells but current conditions within the underlying groundwater basin makes relying solely on groundwater a risky and untenable long term water supply plan for the Murrieta Division. Therefore, WMWD has updated the master planned facilities shown in the original 2004 Master Plan by adding additional imported water supply facilities.

The imported water facilities include upgrading the existing EMWD connection at Los Alamos Road to a permanent connection and installing a new emergency connection to EVMWD on Washington Ave near Palomar Road. The agreement between WMWD and EMWD requires that EMWD convey up to 5 cfs imported water from MWD's Skinner Treatment Plant through EMWD's conveyance system to the Murrieta Division at Los Alamos Road when water is available from MWD. The EVMWD connection is an emergency connection to be used for mutual aid in emergency situations only.

The 2004 master plan report also indicated that future water storage would be available through EVMWD; however WMWD has decided that Murrieta Division should plan to construct its own water storage facilities rather than relying on EVMWD. The costs for these facilities, as well as updated costs for other master planned facilities, were summarized in *Connection Fee Review for the Murrieta Division Retail System, WMWD – Letter Report Update* dated May 25, 2007 (Albert A. Webb Associates).

In addition, Western staff has simplified the proposed pipeline conveyance system to include only major transmission facilities in order to keep the development impact fee as low as possible. Any additional pipelines necessary to serve a particular parcel will be the responsibility of the individual property owner or developer. It is expected that development will occur near existing pipelines and would proceed as the distribution system expands. Any outlaying property could

construct additional off-site water facilities or wait until those off-site water facilities were constructed by others. The proposed master planned facilities are shown in **Figure 3** with costs summarized in **Table 3 at $27,900,000**. A more detailed discussion of the required master planned facilities for transmission pipelines, storage and pumping requirements are given in **Appendices II, III and IV** respectively. Additional details regarding the proposed master planned facility costs are given in **Appendix V.**

Grizzly Ridge Tank Site

EMWD Supply Connection

15

MADISON AVE

JEFFERSON AVE

ADAMS AVE

HAYES AVE

WASHINGTON AVE

MAGNOLIA ST

LEMON ST

KALMIA ST

HAWTHORN ST

GUAVA ST

FIG ST

TENAJA RD

12"

24"

16"

PS

South Well

North Well

New Clay Well

Alson Pump Station

Olga Gordon Tank Site

Legend

- Murrieta Division Boundary
- Murrieta City Limits
- Parcels
- Proposed Water Lines
- Existing Lines
- 1280 PZ
- 1430 PZ

0 2,000 4,000

Feet

WESTERN MUNICIPAL WATER DISTRICT

ALBERT A. WEBB ASSOCIATES

MURRIETA DIVISION MASTER PLAN EXISTING AND PROPOSED FACILITIES

FIGURE 3

G:/2006/06-0169/Gis/prop_facil.mxd
Map revised Nov. 20, 2008.
Source: County of Riverside, 2008.

Table 3

Western Municipal Water District
Construction and Project Cost for
Proposed Murrieta Division Master Planned Facilities

DESCRIPTION		CONSTRUCTION COST
Water Supply - Wells		$6,625,000
Pumping Facilities		$0
Storage Facilities		$3,700,000
Pipeline		$6,475,500
Construction Cost		$16,800,500
Project overhead (40% of construction cost) [1]		$6,720,200
Project Cost		$23,520,700
External Water Supply		$4,350,000
Total Project Cost		$27,870,700
	use	$27,900,000

[1] Project Cost is 1.4 times construction cost. Project cost includes: construction costs, construction contingencies, design engineering including plans and specifications; design and construction surveying and mapping; geotechnical evaluation and report; engineering contract administration; field inspection and nominal environmental documentation. Costs are based on Engineering News Record (ENR) Construcion Cost Index Los Angeles, August, 2008 (ENR CCI LA = 9342.44). Escalation, financing, interest during construction, legal, EIR/EIS, land acquisition, except where expicitly noted

SECTION 8 - HISTORY OF MCWD FEE STRUCTURE

The existing Murrieta Division Development Fee Impact (DIF) structure for new water meters was developed based on estimated costs to construct the needed water infrastructure, funds currently available to pay for those costs, and an estimate of future revenues from various sources such as CFD financing or development impact fees. The most recent report for the needed water infrastructure is the *Murrieta County Water District 2004 Water Facilities Master Plan* ("Master Plan") prepared by Krieger and Stewart, Inc. (October 2004). The current fee structure for new meters and fire service connections is given in **Table 4**.

Table 4
Western Municipal Water District
Murrieta Division
Development Impact Fee – Current

	Within CFD 88-1	Non CFD 88-1 Areas
DIF (per EDU or 3/4" meter)	$1,932	$5,882
Commercial Fire Service Fee (per acre)	$409	$409
Acreage Fee (per acre)	$2,045	$2,045

These charges were in effect when WMWD acquired MCWD and have not been revised since that time. The existing fee has three major components: a DIF charged for each and every new meter installed, a commercial fire service fee charged for any fire service connections necessary for on-site fire protection within a commercial, industrial, or high density residential development, and an acreage fee charged for a parcel or parcels when new meters are installed. These fees are intended to provide an equitable means of funding any future water user's share of the master planned facilities.

DIF is charged for each new meter when vacant land is developed and requires water service from the District. Since master planned facility sizing ultimately depends on the flow capacity demand placed on the system from each meter, the meter capacity charge is a relative way to

determine the benefit for a given parcel. Meter fees for high density residential or other commercial uses that may have large master meters are based on a calculation converting the anticipated water demand to equivalent dwelling units. In these situations, meter sizes for commercial, industrial, or high density residential development are then determined to best match the required peak flow of each proposed development.

The $3,950 difference in DIF meter fees between CFD 88-1 and Non-CFD 88-1 areas accounts for master planned water facilities financed by the existing CFD 88-1 and paid for by property owners with the CFD. Properties within the CFD 88-1 boundary are responsible for repayment of the associated bond indebtedness. It is estimated that half of the bonds will be retired in approximately 12 years and with the remaining half retired in another 12 years. Additional details of the bond funding are given in **Section 9**.

The Commercial Fire Service Fee is charged for any new fire service connections and funds the additional water system capacity necessary to supply the higher fire flow requirements typically required for commercial, industrial, or high density residential development. The higher capacity translates to larger pipeline diameters and increased storage capacity to deliver that increased fire flow. Water supply and pump station capacity are not impacted as their ultimate size is typically based on maximum day demand of the system irrespective of fire flow demand.

SECTION 9 - EXISTING COMMUNITY FACILITY DISTRICTS

MCWD established Community Facilities District (CFD) 88-1 to construct water, wastewater, and other capital facilities such as street improvements, storm drains, and financing costs within MCWD's water service boundary. As MCWD expanded to its current 6.5 square mile service area, new parcels were annexed to MCWD but not to CFD 88-1. Therefore, MCWD established different DIFs for those areas inside or outside of CFD 88-1 to account for water master planned facilities already being financed by the CFD. Subsequent to the original 1988 bond issuance, additional bond series have been issued for a variety of reasons including additional funds for facilities or refinancing previous bond issues. These details are discussed in this section of the report. In addition, MCWD established CFD 99-1 for an area outside CFD 88-1 to finance fees associated with a new Tract development. Since this CFD was to finance facilities and fees specific for that development and not used to finance construction of any water master planned facilities benefiting the entire District, CFD 99-1 has been excluded from this analysis.

CFD 88-1 ANALYSIS

MCWD has issued a number of separate bonds under CFD 88-1. A list of all Issued Bonds and their amounts is given below in **Table 5**. A more detailed description of all Issued Bonds is found in **Appendix VI**. These bonds were used to finance various improvements beyond water facilities such as sewer facilities, street improvements, storm drains, and associated financing costs (such as Reserve fund, Underwriter's Discount, and Cost of Issuance).

Table 5

Western Municipal Water District

Murrieta Division

List of Issued Bonds under CFD 88-1

Issued Bond	Bond Amount	Status
CDF No. 88-1 Series 1988 Special Tax Bond	$1,975,000	Defeased
CFD No. 88-1 Series 1990 Special Tax Bond	$2,255,000	Defeased
CFD No. 88-1 Series 1991 Special Tax Bond	$7,840,000	Defeased
CFD No. 88-1 1996 Series A (Senior Lien Bond)	$7,325,000	Active
CFD No. 88-1 1996 Series A (Junior Lien Bond)	$4,965,000	Active
CFD No. 88-1 Series 2000 Junior Lien Special Tax Bond	$2,690,000	Active

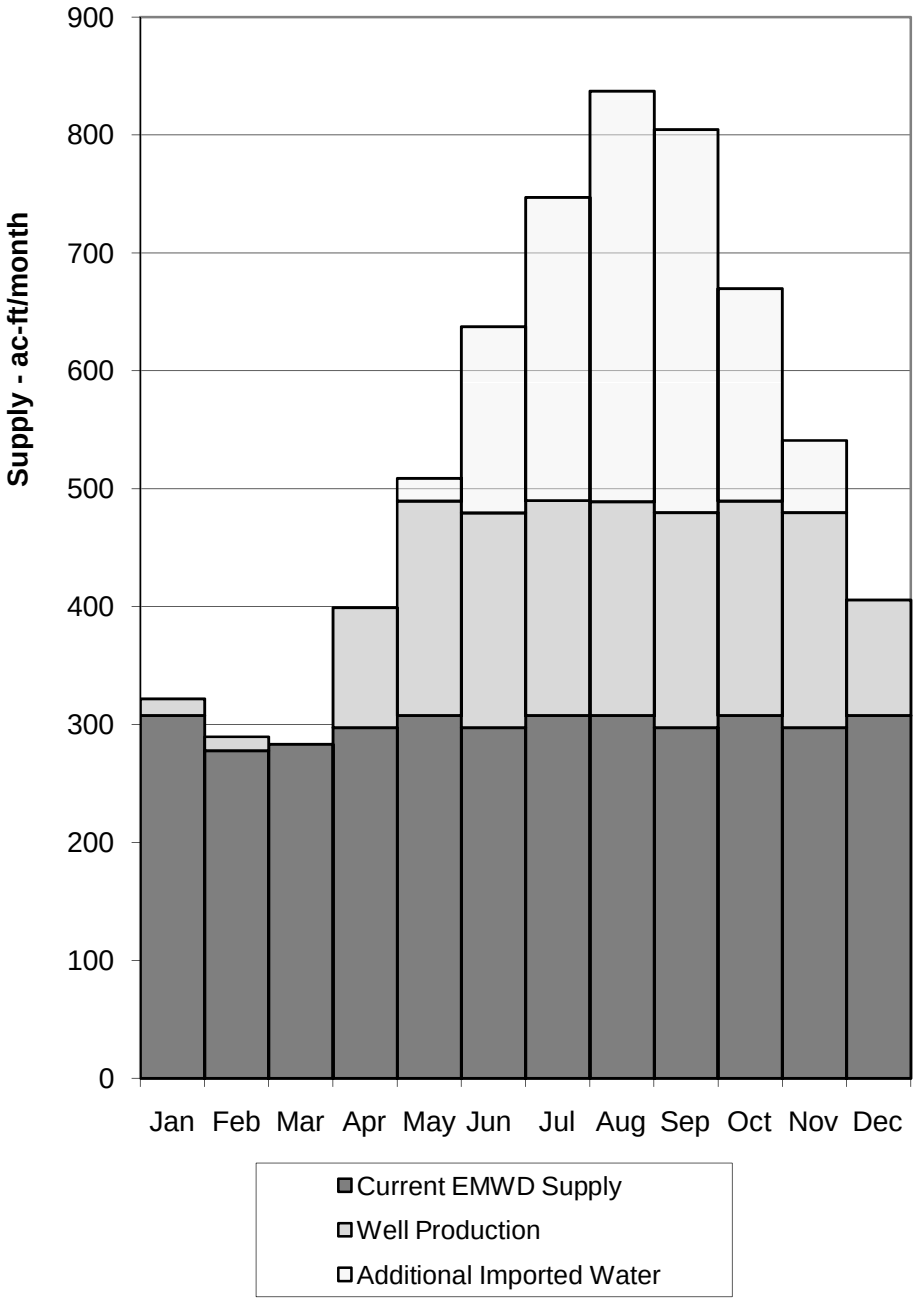
Some information regarding the use and allocation of funds for all Issued Bonds (CFD 88-1) was obtained from their respective Issue-Books. However, these books do not provide enough information to determine which water and sewer facilities have actually been constructed. *Water System Development Impact Fee Report* dated May 21, 1991 prepared by CQC Engineering, Inc. provided more detailed estimates of water and sewer facilities constructed and is considered the best information available regarding the water facilities constructed with CFD financing. Approximately 43% of the bond proceeds were used to construction water and sewer facilities for the Murrieta division.

SECTION 10 - WATER SUPPLY

The estimated ultimate water demand is 6,440 ac-ft/year. The Murrieta Division currently has ground water wells and a connection from EMWD for imported water at 5 cfs. Based on recent hydrologic studies of the underlying groundwater basin, extraction for the Murrieta Division could be limited to 1,500 ac-ft/year. Maximum water supply from the EMWD connection is estimated at 3,600 ac-ft/year assuming a 99.4% utilization of the existing 5 cfs connection. Therefore, an additional 1,340 ac-ft/year of imported water is required to meet ultimate demand. Most of this additional imported water will be needed for peak summer demand. The seasonally adjusted demand versus water supply for the ultimate condition is given in **Figure 4**. It is estimated the ultimate maximum month water demand will be 837 ac-ft. Additional imported water must provide an additional 348 ac-ft in the maximum month with a peak flow of 16.3 cfs to account for maximum day demand.

As shown in Figure 4, the supply through the EMWD connection has been used as the baseline supply to maximum the imported supply through this 5 cfs connection. Well production will be used as an additional baseline supply in higher demand months assuming a well production limit of 1,375 gpm. Additional imported water supply must be provide to meet the ultimate summer peak demands.

Figure 4
Western Municipal Water District
Murrieta Division
Water Supply
Ultimate Demand of 6,440 ac-ft/yr
and Well Production Limit of 1,500 ac-ft/yr



SECTION 11 - PROPOSED DEVELOPMENT IMPACT FEE

All connection fees imposed by WMWD must have a nexus to the benefits provided. Within the Murrieta Division, the DIF is intended to finance master planned water facilities for the general benefit of the entire District. These facilities include water supply, storage, pumping, and pipeline facilities necessary to convey water throughout the District and meet maximum day, fire flow, and peak hour demand criteria established by the State of California Department of Public Health.

Updated costs for proposed ultimate system are **$27,900,000**, as shown in **Section 7** and include additional facilities for water supply, as well as higher costs for each water system component due to increased construction costs. Using the current DIF charges presented in Section 4 and the potential number of new EDUs estimated in Section 3, the Murrieta Division would collect approximately $16,710,000, leaving a shortfall of $11,190,000. Therefore, a fee increase is necessary to cover the funding shortfall.

In addition to the DIF, the former MCWD instituted the use of an "acreage fee", which was a means for allocating capital costs (and thus the connection fee) based on the total acreage of the parcel as well as the size of the meter supplied. Although this is a valid methodology, this report recommends that the acreage fee be eliminated to conform to the connection fee philosophy of Western's main retail area.

The proposed DIF meter component would increase for both CFD and Non-CFD areas by $3,041 to a single fee of $4,978 for CFD areas and $8,928 for Non-CFD areas when a ¾-inch meter is purchased. Additional details are given in **Appendix VII**. Higher fees would apply for larger meter sizes based on their higher capacity. Commercial, industrial, or high density residential with a master meter would pay fees based on an actual demand/EDU comparison to ¾-inch meter fees. **Table 6** compares the existing to proposed DIF/acreage/fire flow fees.

Table 6
Western Municipal Water District
Murrieta Division
Development Impact Fee – Current vs. Proposed

	Current		Proposed	
	Within CFD 88-1	**Non-CFD Area**	**Within CFD 88-1**	**Non-CFD Area**
DIF (per EDU or ¾" meter)	$1,932	$5,882	$4,978	$8,928
Commercial Fire Service Fee (per acre)	$409	$409	$535	$535
Acreage Fee (per acre)	$2,045	$2,045	--	--
Total (assume 1 acre)	$4,386	$8,336	$5,370	$9,320

Recognizing that property owners within the CFD areas are paying a tax increment towards retiring the bonds used to construct certain water master planned facilities and that those two bond issues are estimated to be retired in 12 and 24 years, the ultimate DIF for both the CFD and Non-CFD areas should be equal when the bonds are fully retired. Therefore, the DIF for both the CFD and Non-CFD areas should approach a weighted average fee over the life of the bonds. In order to adjust the fees accordingly, it is recommended that 1) the DIF for the CFD areas increase by $29 per year for the first 12 years and $14 per year for the remaining 12 years and 2) the DIF for the Non-CFD areas be reduced by $191 per year for the first 12 years and $95 per year for the remaining 12 years. This adjustment would need to be revised if any new bonds are issued for water facilities or any existing bonds are refinanced with new retirement dates.

Construction costs typically increase over time and fees adjustments must be made to the connection fee to incorporate these increased costs for water master planned facilities. The Engineering and News Record Construction Cost Index for Los Angeles (ENR CCI LA) is a widely accepted cost index for local public works projects. The current index value is $9,181.67 for December 2007 and adjusted on a monthly basis. To keep the connection fee current with increasing construction costs, the fee would be multiplied by the ratio of the new index value to the previous index value. Historically, this index has changed between two and four percent per

year over the last several years. If the fee is not increased, the Murrieta Division will not collect enough money to fully fund the required master planned facilities.

It is recommended that an annual adjustment be made to the DIF on or about January 1 using both ENR CCI LA and the Bond Repayment schedule noted above. In this way, the DIF will automatically adjust for construction cost inflation and appropriately and fairly account for the existing CFD financing. Periodically, on a five-year cycle, the cost structure of the master plan, the current fund balance, the CFD bonding status, and the projected future fees should be revised to ensure that an appropriate and equitable connection fee is in effect.

APPENDIX I

EDU CALCULATIONS

Appendix I-1: Estimated Remaining EDUs within Murrieta District - Minimum

					Ultimate Development			Existing Meter Count		Remaining Development	
Area No.	Zoning	Acreage	Location	Description	Residential (DU)	Non-Residential (Gross Acreage)	Non-Residential (DU)	Residential (Meters)	Non-Residential (Meters)	Residential (DU)	Non-Residential (DU)
11	BP	53.7	88-1	Non-Res	0	21.5	53	0	0	0	53
13	C/I	14.9	88-1	Non-Res	0	0.0	0	0	1	0	0
16	NC	2.7	88-1	Non-Res	0	0.7	2	0	0	0	2
17	MU-3	39.2	88-1	Non-Res	0	117.6	292	0	0	0	292
19	MU-3	28.6	88-1	Non-Res	0	85.8	213	0	7	0	206
21	MU-3	20.9	88-1	Non-Res	0	62.7	155	0	9	0	146
24	MU-3	5.7	88-1	Non-Res	0	17.1	42	0	0	0	42
31	MU-3	22.9	88-1	Non-Res	0	68.7	170	0	9	0	161
32	VP/C/I	40.5	88-1	Non-Res	0	0.0	0	0	18	0	0
33	VMU	15.3	88-1	Non-Res	0	3.4	8	0	1	0	7
34	VCN	5.3	88-1	Non-Res	0	1.2	3	0	1	0	2
36	VCN	3.8	88-1	Non-Res	0	0.9	2	0	3	0	0
37	VP/C/I	18.5	88-1	Non-Res	0	0.0	0	0	12	0	0
39	VRO	10.7	88-1	Non-Res	0	2.5	6	0	0	0	6
40	VP/C/I	2.3	88-1	Non-Res	0	0.0	0	0	0	0	0
41	VRO	2.8	88-1	Non-Res	0	0.6	2	0	0	0	2
43	VCN	9.5	88-1	Non-Res	0	2.2	5	0	3	0	2
44	VMU	20.2	88-1	Non-Res	0	4.4	11	0	19	0	0
45	VMU	7.5	88-1	Non-Res	0	1.7	4	0	4	0	0
46	VMU	11.9	88-1	Non-Res	0	2.6	6	0	0	0	6
48-B	VP/C/I	15.0	88-1	Non-Res	0	0.0	0	0	0	0	0
55	MU-3	39.8	88-1	Non-Res	0	119.4	296	0	23	0	273
56	MU-3	29.3	88-1	Non-Res	0	87.9	218	0	16	0	202
58	MU-3	9.8	88-1	Non-Res	0	29.4	73	0	2	0	71
63	CC	30.5	88-1	Non-Res	0	8.2	20	0	4	0	16
64	CC	45.4	88-1	Non-Res	0	12.3	30	0	0	0	30
65	CC	39.6	88-1	Non-Res	0	10.7	27	0	11	0	16
66	CC	40.5	88-1	Non-Res	0	10.9	27	0	0	0	27
67	MU-3	39.2	88-1	Non-Res	0	117.6	292	0	5	0	287
68	BP	40.6	88-1	Non-Res	0	16.2	40	0	0	0	40
70	BP	43.2	88-1	Non-Res	0	17.3	43	0	1	0	42
20-A	CC	29.0	88-1	Non-Res	0	7.8	19	0	1	0	18
22-B	CC	14.0	88-1	Non-Res	0	3.8	9	0	0	0	9
23-A	MU-3	13.6	88-1	Non-Res	0	40.8	101	0	6	0	95
23-B	CC	3.0	88-1	Non-Res	0	0.8	2	0	1	0	1
29-B	MU-3	20.7	88-1	Non-Res	0	62.1	154	0	7	0	147
52-B	MU-3	8.2	88-1	Non-Res	0	24.6	61	0	17	0	44
12	SF-1	19.7	88-1	Res	41	0.0	0	55	0	0	0
14	ER-2	4.8	88-1	Res	5	0.0	0	0	0	5	0
18	ER-2	83.1	88-1	Res	91	0.0	0	19	0	72	0
25	SF-1	162.6	88-1	Res	341	0.0	0	429	0	0	0
35	VRM-1	16.6	88-1	Res	168	0.0	0	0	0	168	0
38	VP/C/I	2.8	88-1	Res	0	0.0	0	0	0	0	0
42	VRS-2	8.5	88-1	Res	43	0.0	0	0	0	43	0

Appendix I-1: Estimated Remaining EDUs within Murrieta District - Minimum

					Ultimate Development			Existing Meter Count		Remaining Development	
Area No.	Zoning	Acreage	Location	Description	Residential (DU)	Non-Residential (Gross Acreage)	Non-Residential (DU)	Residential (Meters)	Non-Residential (Meters)	Residential (DU)	Non-Residential (DU)
47	VRS-2	35.9	88-1	Res	183	0.0	0	6	0	177	0
48-A	VRS-1	80.2	88-1	Res	168	0.0	0	44	0	124	0
49	VRR	23.1	88-1	Res	2	0.0	0	2	0	0	0
54	MF-2	10.2	88-1	Res	154	0.0	0	0	0	154	0
57	MF-1	9.8	88-1	Res	99	0.0	0	2	0	97	0
59	SF-2	20.7	88-1	Res	106	0.0	0	0	0	106	0
60	MF-1	10.3	88-1	Res	104	0.0	0	2	0	102	0
69	ER-1	19.1	88-1	Res	10	0.0	0	24	0	0	0
71	ER-1	94.0	88-1	Res	47	0.0	0	1	0	46	0
72	RR	44.3	88-1	Res	4	0.0	0	0	0	4	0
73	ER-1	39.7	88-1	Res	20	0.0	0	0	0	20	0
74	RR	46.8	88-1	Res	5	0.0	0	0	0	5	0
11-A	SF-1	15.0	88-1	Res	32	0.0	0	0	0	32	0
15-A	ER-2	25.2	88-1	Res	28	0.0	0	1	0	27	0
15-B	SF-1	15.0	88-1	Res	32	0.0	0	0	0	32	0
20-B	ER-2	29.9	88-1	Res	33	0.0	0	0	0	33	0
22-A	ER-2	46.0	88-1	Res	51	0.0	0	4	0	47	0
61-A	ER-1	123.9	88-1	Res	62	0.0	0	5	0	57	0
61-B	RR	38.0	88-1	Res	4	0.0	0	1	0	3	0
8	CC	9.7	District	Non-Res	0	2.6	6	0	20	0	0
76	MU-2	105.2	District	Non-Res	0	21.0	52	0	6	0	46
77	MU-2	93.6	District	Non-Res	0	18.7	46	0	0	0	46
78	BP	39.9	District	Non-Res	0	16.0	40	0	3	0	37
79	BP	49.4	District	Non-Res	0	19.8	49	0	0	0	49
51-A	CC	9.8	District	Non-Res	0	2.6	7	0	13	0	0
51-B	CC	17	District	Non-Res	0	4.6	11	0	4	0	7
1	ER-3	91.1	District	Res	182	0.0	0	56	0	126	0
2	SF-1	101.5	District	Res	213	0.0	0	300	0	0	0
3	MF-1	15.9	District	Res	161	0.0	0	0	0	161	0
4	SF-1	124.2	District	Res	261	0.0	0	261	0	0	0
5	ER-3	81.9	District	Res	164	0.0	0	112	0	52	0
6	ER-3	77.2	District	Res	154	0.0	0	91	0	63	0
7	ER-3	5.8	District	Res	12	0.0	0	8	0	4	0
9	SF-1	65.7	District	Res	138	0.0	0	188	0	0	0
10	ER-2	83.1	District	Res	91	0.0	0	161	0	0	0
26	SF-1	16.9	District	Res	35	0.0	0	41	0	0	0
27	RR	169.8	District	Res	17	0.0	0	0	0	17	0
50	RR	201.0	District	Res	20	0.0	0	48	0	0	0
62	RR	178.1	District	Res	18	0.0	0	15	0	3	0
75	RR	178.1	District	Res	18	0.0	0	0	0	18	0
80	RR	38.9	District	Res	4	0.0	0	0	0	4	0
81	RR	20.3	District	Res	2	0.0	0	0	0	2	0
82	RR	136.7	District	Res	14	0.0	0	0	0	14	0
83	RR	69.2	District	Res	7	0.0	0	0	0	7	0

Appendix I-1: Estimated Remaining EDUs within Murrieta District - Minimum

Area No.	Zoning	Acreage	Location	Description	Ultimate Development Residential (DU)	Ultimate Development Non-Residential (Gross Acreage)	Ultimate Development Non-Residential (DU)	Existing Meter Count Residential (Meters)	Existing Meter Count Non-Residential (Meters)	Remaining Development Residential (DU)	Remaining Development Non-Residential (DU)
51	RC	27.5	IA-2	Non-Res	0	13.8	34	0	16	0	18
53	MU-3	29.5	IA-2	Non-Res	0	88.5	219	0	0	0	219
28-A	CC	20.8	IA-2	Non-Res	0	5.6	14	0	16	0	0
28-B	NC	10.1	IA-2	Non-Res	0	2.5	6	0	3	0	3
29-A	MU-3	20.0	IA-2	Non-Res	0	60.0	149	0	5	0	144
52-A	MU-3	20.0	IA-2	Non-Res	0	60.0	149	0	12	0	137
30	MF-2	17.5	IA-2	Res	264	0.0	0	4	0	260	0
TOTAL					**3607**	**1279.1**	**3172**	**1880**	**279**	**2083**	**2955**

Assumptions:

1.5	AF / acre / yr
325,851	gal / AF
540	gal / day / DU

BP	0.40	F/A Ratio
C/I		
CC	0.27	F/A Ratio
ER-1	0.50	DU/acres
ER-2	1.10	DU/acres
ER-3	2.00	DU/acres
GI	0.40	
MF-1	10.10	DU/acres
MF-2	15.10	DU/acres
MU-1		(There is no specific designation for this category)
MU-2	0.20	(There is no specific designation for this category)
MU-3	3.00	(There is no specific designation for this category)
NC	0.25	F/A Ratio
PC	0.50	F/A Ratio
RC	0.50	F/A Ratio
RR	0.10	DU/acres
RRC	0.25	F/A Ratio
SF-1	2.10	DU/acres
SF-2	5.10	DU/acres
SI	0.40	
SP		
VCN	0.23	F/A Ratio
VMU	0.22	F/A Ratio
VP/C/I		
VRM-1	10.10	DU/acres
VRO	0.23	F/A Ratio
VRR	0.10	DU/acres
VRS-1	2.10	DU/acres
VRS-2	5.10	DU/acres

Appendix I-2: Estimated Remaining EDUs within Murrieta District - Average

					Ultimate Development			Existing Meter Count		Remaining Development	
Area No.	Zoning	Acreage	Location	Description	Residential (DU)	Non-Residential (Gross Acreage)	Non-Residential (DU)	Residential (Meters)	Non-Residential (Meters)	Residential (DU)	Non-Residential (DU)
11	BP	53.7	88-1	Non-Res	0	21.5	53	0	0	0	53
13	C/I	14.9	88-1	Non-Res	0	0.0	0	0	1	0	0
16	NC	2.7	88-1	Non-Res	0	0.7	2	0	0	0	2
17	MU-3	39.2	88-1	Non-Res	0	156.8	389	0	0	0	389
19	MU-3	28.6	88-1	Non-Res	0	114.4	284	0	7	0	277
21	MU-3	20.9	88-1	Non-Res	0	83.6	207	0	9	0	198
24	MU-3	5.7	88-1	Non-Res	0	22.8	57	0	0	0	57
31	MU-3	22.9	88-1	Non-Res	0	91.6	227	0	9	0	218
32	VP/C/I	40.5	88-1	Non-Res	0	0.0	0	0	18	0	0
33	VMU	15.3	88-1	Non-Res	0	3.4	8	0	1	0	7
34	VCN	5.3	88-1	Non-Res	0	1.3	3	0	1	0	2
36	VCN	3.8	88-1	Non-Res	0	0.9	2	0	3	0	0
37	VP/C/I	18.5	88-1	Non-Res	0	0.0	0	0	12	0	0
39	VRO	10.7	88-1	Non-Res	0	2.5	6	0	0	0	6
40	VP/C/I	2.3	88-1	Non-Res	0	0.0	0	0	0	0	0
41	VRO	2.8	88-1	Non-Res	0	0.6	2	0	0	0	2
43	VCN	9.5	88-1	Non-Res	0	2.3	6	0	3	0	3
44	VMU	20.2	88-1	Non-Res	0	4.4	11	0	19	0	0
45	VMU	7.5	88-1	Non-Res	0	1.7	4	0	4	0	0
46	VMU	11.9	88-1	Non-Res	0	2.6	6	0	0	0	6
48-B	VP/C/I	15.0	88-1	Non-Res	0	0.0	0	0	0	0	0
55	MU-3	39.8	88-1	Non-Res	0	159.2	395	0	23	0	372
56	MU-3	29.3	88-1	Non-Res	0	117.2	291	0	16	0	275
58	MU-3	9.8	88-1	Non-Res	0	39.2	97	0	2	0	95
63	CC	30.5	88-1	Non-Res	0	8.2	20	0	4	0	16
64	CC	45.4	88-1	Non-Res	0	12.3	30	0	0	0	30
65	CC	39.6	88-1	Non-Res	0	10.7	27	0	11	0	16
66	CC	40.5	88-1	Non-Res	0	10.9	27	0	0	0	27
67	MU-3	39.2	88-1	Non-Res	0	156.8	389	0	5	0	384
68	BP	40.6	88-1	Non-Res	0	16.2	40	0	0	0	40
70	BP	43.2	88-1	Non-Res	0	17.3	43	0	1	0	42
20-A	CC	29.0	88-1	Non-Res	0	7.8	19	0	1	0	18
22-B	CC	14.0	88-1	Non-Res	0	3.8	9	0	0	0	9
23-A	MU-3	13.6	88-1	Non-Res	0	54.4	135	0	6	0	129
23-B	CC	3.0	88-1	Non-Res	0	0.8	2	0	1	0	1
29-B	MU-3	20.7	88-1	Non-Res	0	82.8	205	0	7	0	198
52-B	MU-3	8.2	88-1	Non-Res	0	32.8	81	0	17	0	64
12	SF-1	19.7	88-1	Res	69	0.0	0	55	0	14	0
14	ER-2	4.8	88-1	Res	7	0.0	0	0	0	7	0
18	ER-2	83.1	88-1	Res	125	0.0	0	19	0	106	0
25	SF-1	162.6	88-1	Res	569	0.0	0	429	0	140	0
35	VRM-1	16.6	88-1	Res	183	0.0	0	0	0	183	0
38	VP/C/I	2.8	88-1	Res	0	0.0	0	0	0	0	0
42	VRS-2	8.5	88-1	Res	55	0.0	0	0	0	55	0

Appendix I-2: Estimated Remaining EDUs within Murrieta District - Average

Area No.	Zoning	Acreage	Location	Description	Ultimate Development Residential (DU)	Ultimate Development Non-Residential (Gross Acreage)	Ultimate Development Non-Residential (DU)	Existing Meter Count Residential (Meters)	Existing Meter Count Non-Residential (Meters)	Remaining Development Residential (DU)	Remaining Development Non-Residential (DU)
47	VRS-2	35.9	88-1	Res	233	0.0	0	6	0	227	0
48-A	VRS-1	80.2	88-1	Res	221	0.0	0	44	0	177	0
49	VRR	23.1	88-1	Res	5	0.0	0	2	0	3	0
54	MF-2	10.2	88-1	Res	168	0.0	0	0	0	168	0
57	MF-1	9.8	88-1	Res	123	0.0	0	2	0	121	0
59	SF-2	20.7	88-1	Res	155	0.0	0	0	0	155	0
60	MF-1	10.3	88-1	Res	129	0.0	0	2	0	127	0
69	ER-1	19.1	88-1	Res	14	0.0	0	24	0	0	0
71	ER-1	94.0	88-1	Res	71	0.0	0	1	0	70	0
72	RR	44.3	88-1	Res	18	0.0	0	0	0	18	0
73	ER-1	39.7	88-1	Res	30	0.0	0	0	0	30	0
74	RR	46.8	88-1	Res	19	0.0	0	0	0	19	0
11-A	SF-1	15.0	88-1	Res	53	0.0	0	0	0	53	0
15-A	ER-2	25.2	88-1	Res	38	0.0	0	1	0	37	0
15-B	SF-1	15.0	88-1	Res	53	0.0	0	0	0	53	0
20-B	ER-2	29.9	88-1	Res	45	0.0	0	0	0	45	0
22-A	ER-2	46.0	88-1	Res	69	0.0	0	4	0	65	0
61-A	ER-1	123.9	88-1	Res	93	0.0	0	5	0	88	0
61-B	RR	38.0	88-1	Res	15	0.0	0	1	0	14	0
8	CC	9.7	District	Non-Res	0	2.6	6	0	20	0	0
76	MU-2	105.2	District	Non-Res	0	26.3	65	0	6	0	59
77	MU-2	93.6	District	Non-Res	0	23.4	58	0	0	0	58
78	BP	39.9	District	Non-Res	0	16.0	40	0	3	0	37
79	BP	49.4	District	Non-Res	0	19.8	49	0	0	0	49
51-A	CC	9.8	District	Non-Res	0	2.6	7	0	13	0	0
51-B	CC	17	District	Non-Res	0	4.6	11	0	4	0	7
1	ER-3	91.1	District	Res	228	0.0	0	56	0	172	0
2	SF-1	101.5	District	Res	355	0.0	0	300	0	55	0
3	MF-1	15.9	District	Res	199	0.0	0	0	0	199	0
4	SF-1	124.2	District	Res	435	0.0	0	261	0	174	0
5	ER-3	81.9	District	Res	205	0.0	0	112	0	93	0
6	ER-3	77.2	District	Res	193	0.0	0	91	0	102	0
7	ER-3	5.8	District	Res	15	0.0	0	8	0	7	0
9	SF-1	65.7	District	Res	230	0.0	0	188	0	42	0
10	ER-2	83.1	District	Res	125	0.0	0	161	0	0	0
26	SF-1	16.9	District	Res	59	0.0	0	41	0	18	0
27	RR	169.8	District	Res	68	0.0	0	0	0	68	0
50	RR	201.0	District	Res	80	0.0	0	48	0	32	0
62	RR	178.1	District	Res	71	0.0	0	15	0	56	0
75	RR	178.1	District	Res	71	0.0	0	0	0	71	0
80	RR	38.9	District	Res	16	0.0	0	0	0	16	0
81	RR	20.3	District	Res	8	0.0	0	0	0	8	0
82	RR	136.7	District	Res	55	0.0	0	0	0	55	0
83	RR	69.2	District	Res	28	0.0	0	0	0	28	0

Appendix I-2: Estimated Remaining EDUs within Murrieta District - Average

Area No.	Zoning	Acreage	Location	Description	Ultimate Development Residential (DU)	Ultimate Development Non-Residential (Gross Acreage)	Ultimate Development Non-Residential (DU)	Existing Meter Count Residential (Meters)	Existing Meter Count Non-Residential (Meters)	Remaining Development Residential (DU)	Remaining Development Non-Residential (DU)
51	RC	27.5	IA-2	Non-Res	0	13.8	34	0	16	0	18
53	MU-3	29.5	IA-2	Non-Res	0	118.0	293	0	0	0	293
28-A	CC	20.8	IA-2	Non-Res	0	5.6	14	0	16	0	0
28-B	NC	10.1	IA-2	Non-Res	0	2.5	6	0	3	0	3
29-A	MU-3	20.0	IA-2	Non-Res	0	80.0	198	0	5	0	193
52-A	MU-3	20.0	IA-2	Non-Res	0	80.0	198	0	12	0	186
30	MF-2	17.5	IA-2	Res	289	0.0	0	4	0	285	0
TOTAL					**5285**	**1636.6**	**4059**	**1880**	**279**	**3451**	**3841**

Assumptions:

1.5	AF / acre / yr
325,851	gal / AF
540	gal / day / DU

BP	0.40	F/A Ratio
C/I		
CC	0.27	F/A Ratio
ER-1	0.75	DU/acres
ER-2	1.50	DU/acres
ER-3	2.50	DU/acres
GI	0.40	
MF-1	12.50	DU/acres
MF-2	16.50	DU/acres
MU-1		(There is no specific designation for this category)
MU-2	0.25	(There is no specific designation for this category)
MU-3	4.00	(There is no specific designation for this category)
NC	0.25	F/A Ratio
PC	0.50	F/A Ratio
RC	0.50	F/A Ratio
RR	0.40	DU/acres
RRC	0.25	F/A Ratio
SF-1	3.50	DU/acres
SF-2	7.50	DU/acres
SI	0.40	
SP		
VCN	0.24	F/A Ratio
VMU	0.22	F/A Ratio
VP/C/I		
VRM-1	11.00	DU/acres
VRO	0.23	F/A Ratio
VRR	0.20	DU/acres
VRS-1	2.75	DU/acres
VRS-2	6.50	DU/acres

Appendix I-3: Estimated Remaining EDUs within Murrieta District - Maximum

					Ultimate Development			Existing Meter Count		Remaining Development	
					Residential	Non-Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential
Area No.	Zoning	Acreage	Location	Description	(DU)	(Gross Acreage)	(DU)	(Meters)	(Meters)	(DU)	(DU)
11	BP	53.7	88-1	Non-Res	0	21.5	53	0	0	0	53
13	C/I	14.9	88-1	Non-Res	0	0.0	0	0	1	0	0
16	NC	2.7	88-1	Non-Res	0	0.7	2	0	0	0	2
17	MU-3	39.2	88-1	Non-Res	0	196.0	486	0	0	0	486
19	MU-3	28.6	88-1	Non-Res	0	143.0	355	0	7	0	348
21	MU-3	20.9	88-1	Non-Res	0	104.5	259	0	9	0	250
24	MU-3	5.7	88-1	Non-Res	0	28.5	71	0	0	0	71
31	MU-3	22.9	88-1	Non-Res	0	114.5	284	0	9	0	275
32	VP/C/I	40.5	88-1	Non-Res	0	0.0	0	0	18	0	0
33	VMU	15.3	88-1	Non-Res	0	3.4	8	0	1	0	7
34	VCN	5.3	88-1	Non-Res	0	1.3	3	0	1	0	2
36	VCN	3.8	88-1	Non-Res	0	1.0	2	0	3	0	0
37	VP/C/I	18.5	88-1	Non-Res	0	0.0	0	0	12	0	0
39	VRO	10.7	88-1	Non-Res	0	2.5	6	0	0	0	6
40	VP/C/I	2.3	88-1	Non-Res	0	0.0	0	0	0	0	0
41	VRO	2.8	88-1	Non-Res	0	0.6	2	0	0	0	2
43	VCN	9.5	88-1	Non-Res	0	2.4	6	0	3	0	3
44	VMU	20.2	88-1	Non-Res	0	4.4	11	0	19	0	0
45	VMU	7.5	88-1	Non-Res	0	1.7	4	0	4	0	0
46	VMU	11.9	88-1	Non-Res	0	2.6	6	0	0	0	6
48-B	VP/C/I	15.0	88-1	Non-Res	0	0.0	0	0	0	0	0
55	MU-3	39.8	88-1	Non-Res	0	199.0	493	0	23	0	470
56	MU-3	29.3	88-1	Non-Res	0	146.5	363	0	16	0	347
58	MU-3	9.8	88-1	Non-Res	0	49.0	122	0	2	0	120
63	CC	30.5	88-1	Non-Res	0	8.2	20	0	4	0	16
64	CC	45.4	88-1	Non-Res	0	12.3	30	0	0	0	30
65	CC	39.6	88-1	Non-Res	0	10.7	27	0	11	0	16
66	CC	40.5	88-1	Non-Res	0	10.9	27	0	0	0	27
67	MU-3	39.2	88-1	Non-Res	0	196.0	486	0	5	0	481
68	BP	40.6	88-1	Non-Res	0	16.2	40	0	0	0	40
70	BP	43.2	88-1	Non-Res	0	17.3	43	0	1	0	42
20-A	CC	29.0	88-1	Non-Res	0	7.8	19	0	1	0	18
22-B	CC	14.0	88-1	Non-Res	0	3.8	9	0	0	0	9
23-A	MU-3	13.6	88-1	Non-Res	0	68.0	169	0	6	0	163
23-B	CC	3.0	88-1	Non-Res	0	0.8	2	0	1	0	1
29-B	MU-3	20.7	88-1	Non-Res	0	103.5	257	0	7	0	250
52-B	MU-3	8.2	88-1	Non-Res	0	41.0	102	0	17	0	85
12	SF-1	19.7	88-1	Res	99	0.0	0	55	0	44	0
14	ER-2	4.8	88-1	Res	10	0.0	0	0	0	10	0
18	ER-2	83.1	88-1	Res	166	0.0	0	19	0	147	0
25	SF-1	162.6	88-1	Res	813	0.0	0	429	0	384	0
35	VRM-1	16.6	88-1	Res	199	0.0	0	0	0	199	0
38	VP/C/I	2.8	88-1	Res	0	0.0	0	0	0	0	0
42	VRS-2	8.5	88-1	Res	68	0.0	0	0	0	68	0
47	VRS-2	35.9	88-1	Res	287	0.0	0	6	0	281	0
48-A	VRS-1	80.2	88-1	Res	281	0.0	0	44	0	237	0
49	VRR	23.1	88-1	Res	9	0.0	0	2	0	7	0
54	MF-2	10.2	88-1	Res	184	0.0	0	0	0	184	0
57	MF-1	9.8	88-1	Res	147	0.0	0	2	0	145	0
59	SF-2	20.7	88-1	Res	207	0.0	0	0	0	207	0

Appendix I-3: Estimated Remaining EDUs within Murrieta District - Maximum

					Ultimate Development			Existing Meter Count		Remaining Development	
					Residential	Non-Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential
Area No.	Zoning	Acreage	Location	Description	(DU)	(Gross Acreage)	(DU)	(Meters)	(Meters)	(DU)	(DU)
60	MF-1	10.3	88-1	Res	155	0.0	0	2	0	153	0
69	ER-1	19.1	88-1	Res	19	0.0	0	24	0	0	0
71	ER-1	94.0	88-1	Res	94	0.0	0	1	0	93	0
72	RR	44.3	88-1	Res	18	0.0	0	0	0	18	0
73	ER-1	39.7	88-1	Res	40	0.0	0	0	0	40	0
74	RR	46.8	88-1	Res	19	0.0	0	0	0	19	0
11-A	SF-1	15.0	88-1	Res	75	0.0	0	0	0	75	0
15-A	ER-2	25.2	88-1	Res	50	0.0	0	1	0	49	0
15-B	SF-1	15.0	88-1	Res	75	0.0	0	0	0	75	0
20-B	ER-2	29.9	88-1	Res	60	0.0	0	0	0	60	0
22-A	ER-2	46.0	88-1	Res	92	0.0	0	4	0	88	0
61-A	ER-1	123.9	88-1	Res	124	0.0	0	5	0	119	0
61-B	RR	38.0	88-1	Res	15	0.0	0	1	0	14	0
8	CC	9.7	District	Non-Res	0	2.6	6	0	20	0	0
76	MU-2	105.2	District	Non-Res	0	31.6	78	0	6	0	72
77	MU-2	93.6	District	Non-Res	0	28.1	70	0	0	0	70
78	BP	39.9	District	Non-Res	0	16.0	40	0	3	0	37
79	BP	49.4	District	Non-Res	0	19.8	49	0	0	0	49
51-A	CC	9.8	District	Non-Res	0	2.6	7	0	13	0	0
51-B	CC	17	District	Non-Res	0	4.6	11	0	4	0	7
1	ER-3	91.1	District	Res	273	0.0	0	56	0	217	0
2	SF-1	101.5	District	Res	508	0.0	0	300	0	208	0
3	MF-1	15.9	District	Res	239	0.0	0	0	0	239	0
4	SF-1	124.2	District	Res	621	0.0	0	261	0	360	0
5	ER-3	81.9	District	Res	246	0.0	0	112	0	134	0
6	ER-3	77.2	District	Res	232	0.0	0	91	0	141	0
7	ER-3	5.8	District	Res	17	0.0	0	8	0	9	0
9	SF-1	65.7	District	Res	329	0.0	0	188	0	141	0
10	ER-2	83.1	District	Res	166	0.0	0	161	0	5	0
26	SF-1	16.9	District	Res	85	0.0	0	41	0	44	0
27	RR	169.8	District	Res	68	0.0	0	0	0	68	0
50	RR	201.0	District	Res	80	0.0	0	48	0	32	0
62	RR	178.1	District	Res	71	0.0	0	15	0	56	0
75	RR	178.1	District	Res	71	0.0	0	0	0	71	0
80	RR	38.9	District	Res	16	0.0	0	0	0	16	0
81	RR	20.3	District	Res	8	0.0	0	0	0	8	0
82	RR	136.7	District	Res	55	0.0	0	0	0	55	0
83	RR	69.2	District	Res	28	0.0	0	0	0	28	0
51	RC	27.5	IA-2	Non-Res	0	13.8	34	0	16	0	18
53	MU-3	29.5	IA-2	Non-Res	0	147.5	366	0	0	0	366
28-A	CC	20.8	IA-2	Non-Res	0	5.6	14	0	16	0	0
28-B	NC	10.1	IA-2	Non-Res	0	2.5	6	0	3	0	3
29-A	MU-3	20.0	IA-2	Non-Res	0	100.0	248	0	5	0	243
52-A	MU-3	20.0	IA-2	Non-Res	0	100.0	248	0	12	0	236
30	MF-2	17.5	IA-2	Res	315	0.0	0	4	0	311	0
TOTAL					**6730**	**1994.2**	**4945**	**1880**	**279**	**4855**	**4728**

Assumptions:

Appendix I-3: Estimated Remaining EDUs within Murrieta District - Maximum

					Ultimate Development			Existing Meter Count		Remaining Development	
					Residential	Non-Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential
Area No.	Zoning	Acreage	Location	Description	(DU)	(Gross Acreage)	(DU)	(Meters)	(Meters)	(DU)	(DU)

1.5	AF / acre / yr
325,851	gal / AF
540	gal / day / DU

BP	0.40	F/A Ratio	
C/I			
CC	0.27	F/A Ratio	
ER-1	1.00	DU/acres	
ER-2	2.00	DU/acres	
ER-3	3.00	DU/acres	
GI	0.40		
MF-1	15.00	DU/acres	
MF-2	18.00	DU/acres	
MU-1			(There is no specific designation for this category)
MU-2	0.30		(There is no specific designation for this category)
MU-3	5.00		(There is no specific designation for this category)
NC	0.25	F/A Ratio	
PC	0.50	F/A Ratio	
RC	0.50	F/A Ratio	
RR	0.40	DU/acres	
RRC	0.25	F/A Ratio	
SF-1	5.00	DU/acres	
SF-2	10.00	DU/acres	
SI	0.40		
SP			
VCN	0.25	F/A Ratio	
VMU	0.22	F/A Ratio	
VP/C/I			
VRM-1	12.00	DU/acres	
VRO	0.23	F/A Ratio	
VRR	0.40	DU/acres	
VRS-1	3.50	DU/acres	
VRS-2	8.00	DU/acres	

APPENDIX II

PIPELINE REQUIREMENTS FOR ULTIMATE SYSTEM

The design criteria used to size the transmission pipeline network is consistent with criteria used in previous Master Plans as well as the District's current design criteria contained in the District's "Developer Handbook and Standard Drawings" manual. The transmission network will serve as the backbone of the water distribution system with additional pipelines constructed to provide service to individual parcels or tracts. The following is a summary of the design criteria used:

- Maximum velocity of 6ft/sec in transmission pipelines under replenishment conditions.
- Maximum friction loss of 3.5ft/1000 ft of transmission line under replenishment conditions.
- Maximum velocity of 7.5 ft/sec in any water pipelines during peak hour or maximum day demand plus emergency fire flow conditions.
- Transmission pipelines shall be no smaller than 12-in diameter.

The proposed transmission pipelines for the ultimate system are shown in **Figure 3**. The proposed system requires approximately 7.9 miles of new pipeline which is broken down as follows:

18,900 lf of 12-in diameter pipeline
17,100 lf of 16-in diameter pipeline
5,500 lf of 24- in diameter pipeline

APPENDIX III

STORAGE REQUIREMENTS FOR THE ULTIMATE SYSTEM

EXISTING STORAGE

The Murrieta Division has 5.2 MG storage within existing active facilities as shown in **Table A-III-1**.

Table A-III-1
Western Municipal Water District
North AFC
Existing Storage Facilities

Reservoir	Pressure Zone	Existing Storage (MG)	HWL	LWL
Olga Gordon	1280′	3.0	1282′	1250′
Grizzly Ridge	1434′	2.2	1434′	1394′
Totals		**5.20**		

STORAGE DESIGN CRITERIA

The proposed storage facilities are required to meet the peak hour demand, maximum day demand, fire flow and other emergency conditions and are equivalent to 75% of maximum day demand plus worst case fire flow storage requirements. The following criteria were used to determine storage volume:

Equalizing Storage

Pumping facilities have been sized to meet maximum day demand flows. Any peak demands (ie peak hour) greater than maximum day must be supplied from storage. Equalizing storage provides the storage to meet these short term peak demands. Twenty-five percent (25%) of the estimated maximum day demand is used as the criteria needed to meet the daily demand fluctuations within each pressure zone.

Fire Flow Storage

Fire flow requirements for each pressure zone must be met through storage and have been estimated based on the fire flow criteria given in Table 2.

Emergency Storage

Emergency storage capacity would be needed to sustain the water needs during periods of total or partial shutdown of the water supply facilities. One-half (50%) of the estimated maximum day demand is used to calculate emergency storage by pressure zone.

Fire flows and durations used in the analysis are given in **Table A-III-2** for the Murrieta Division. Worst case conditions were used for each pressure zone.

Table A-III-2
Western Municipal Water District
Murrieta Division
Maximum Fire flows and Duration used by Pressure Zone

Pressure Zone	Fire Flow (gpm)	Duration (hour)	Total Storage Volume (gallons)
1280′	2,500	2	300,000
1430′	2,000	2	240,000

ULTIMATE STORAGE REQUIREMENTS:

The projected ultimate storage requirements for each pressure zone were calculated to meet peak hour, fire flow, and emergency conditions per the listed criteria. No storage was included to wheel water through a pressure zone to a higher pressure zone except where noted. These ultimate requirements were then compared to existing storage capacity to determine additional storage required to meet ultimate demands. **Table A-III-3** gives the existing and required storage by zone for the North AFC and South AFC areas respectively.

Table A-III-3
Western Municipal Water District
Murrieta Division
Ultimate Storage Requirements by Pressure Zone

Pressure Zone	Existing Storage (MG)	Additional Storage (MG)	Ultimate Storage (MG)
1280′	3.0	6.7	9.7
1430′	2.2	0.0	2.2
Totals	**5.2**	**6.7**	**11.90**

1280′ Pressure Zone

Currently the two Olga Gordon Tanks are the only storage within the 1280′ pressure zone, with a combined total storage of 3.0 MG. This site is now fully developed. Additional storage required within the 1280′ pressure zone must be provided at a new, unidentified site.

1430′ Pressure Zone

Based on the forementioned criteria, the storage requirements for the 1480′ pressure zone is 26 MG. The second Grizzly Ridge Tank was recently constructed, matching the same HWL as the older tank. In order to maximize the storage capacity at the existing site, the second tank LWL was constructed at 1394′ approximately 16′ lower than the older tank. Since the Grizzly Ridge Site is considered the only feasible tank site for this pressure zone and the site configuration has maximum storage capacity, additional pumping capacity may need to be planned for at ultimate conditions

APPENDIX IV

PUMPING REQUIREMENTS FOR THE ULTIMATE SYSTEM

The existing pumping facilities are given in **Table A-IV-1** for the Murrieta Division area. These facilities include all available pumps. For any potable water pumping system, firm pumping capacity is determined by assuming that the largest available pump is out of service. Both actual and firm pumping capacities are given for each pump station.

Table A-IV-1
Western Municipal Water District
Murrieta Division
Existing Pumping Facilities

Site	Pump	Pump Capacity, gpm	Pump HP	Station Total Capacity, gpm	Station Firm Capacity, gpm [1]
Alson	E1	800	60	2,400	1,600
	E2	800	60		
	E3	800	60		

[1]Firm Pumping Capacity is defined as Total Station Pumping Capacity less largest pump capacity

Pumping Station Description

Alson

The existing facility has three pumping units, each with an 800 gpm 60 hp pumping unit. Actual pump performance indicates that the pumps can pump approximately 1,000 gpm each.

Ultimate Pumping Requirement

Pumping requirements for the proposed ultimate system have been calculated based on maximum day demand. **Table A-IV-2** gives the required pumping capacity for the ultimate Murrieta Division system. Final pump station horsepower and total discharge head will be determined during final design of each pump station.

Table A-IV-2
Western Municipal Water District
North AFC
Ultimate Pumping Requirements

Pump Station	Pressure Zone	Existing Firm Pumping Capacity, cfs	Additional Pumping Capacity, cfs	Ultimate Required Pumping Capacity, cfs
Alson Booster	1430′	3.6	1.3	4.9

Expansion of the Alson Pump Station

Space constraints of the existing site will not allow the addition of additional pumping units. The existing units are currently pumping approximately 20 % higher than the design . It is anticipated that the existing pump will be replaced by slightly higher capacity pumps within the same pump can and unit piping. Since pumps are replaced on a more routine basis as part of major maintenance expense, no additional costs for pumping facilities have been added to the master plan cost estimates.

APPENDIX V

CONSTRUCTION AND PROJECT COST ESTIMATES

Cost estimates have been developed for the facilities proposed to serve each pressure zone at ultimate development. The cost estimates are based on unit costs for water pipelines ($/lf) and lump sum estimates for pump stations, reservoirs and PRV stations. For the Murrieta Division AFC Area, cost estimates are given in **Table A-V-1.**

The construction and project cost shown were obtained from manufacturers, construction firms and recorded data from result bid results for similar water facilities. The estimated project costs are based on the September, 2007 ENR-Los Angeles Construction Cost Index of 9215.07.75. Estimated project costs include construction cost and project overhead. Project overhead is estimated at 40% of construction costs and is broken down as follows:

(1) Contingencies - 10% of construction cost.

(2) Technical Services – 15% of construction cost which includes preparation of a non-controversial environmental assessment, processing of necessary approvals and permits, engineering survey and photogrammetry, design and specifications.

(3) Field Engineering – 10% of construction costs which includes contract administration, coordination with other agencies, administration of geotechnical and other necessary outside services, construction surveying, construction inspection and preparation f as-built drawings.

(4) District Contract Administration – 5% of construction cost.

Escalation, financing, interest during construction, legal, EIR/EIS, land acquisition and right of way agent costs are not included.

APPENDIX VI

CFD BOND DETAILS

APPENDIX VI- CFD Bond Details

Bond	Sources of Bond Money	Amount	Uses of Bond Money	Amount Allocated
CFD No. 88-1	Paramount of Bond	$ 1,975,000.00	Underwriter's Discount	$ 57,275.00
Series 1988 Special Tax Bond	Accrued Interest	$ 13,473.81	Cost of Issuance	$ 200,000.00
			Accrued Interest	$ 13,473.81
		$ 1,988,473.81	Capitalized Interest	$ 142,996.19
			Debt Service Reserve	$ 180,532.50
			Net Construction Fund Account	$ 1,338,874.31
			Contingency	$ 55,322.00
				$ 1,988,473.81
			Projects included in Construction Account	
			1.5 MG Reservoir	$ 500,000.00
			Hayes Street Transmission Main	$ 300,000.00
			El Rancho / Murrieta Transmission Main	$ 170,000.00
			Kalmia Force Main and Pump Station	$ 330,000.00
			EMWD Interconnect	$ 200,000.00
			Jefferson Street Transmission Main	$ 400,000.00
				$ 1,900,000.00
CFD No. 88-1	Principal Amount	$ 2,255,000.00	Construction Fund	$ 369,175.00
Series 1990 Special Tax Bond	Accrued Interest	$ 5,772.00	Retention Fund	$ 1,735,000.00
	Underwriter's Discount	$ (33,825.00)	Bond Service Fund	$ 5,772.00
			Reserve Fund	$ 52,000.00
		$ 2,226,947.00	Cost of Issuance	$ 65,000.00
				$ 2,226,947.00
			Projects included in Construction Account	
			Water Transmission Lines	N/A
			Storage Tanks	N/A
			Sewer Lines	N/A
			MWD Annexation Costs	N/A
				$ -

APPENDIX VI- CFD Bond Details

Bond	Sources of Bond Money	Amount	Uses of Bond Money	Amount Allocated
CFD No. 88-1	Principal Amount	$ 7,840,000.00	Construction Fund	$ 5,316,429.46
Series 1991 Special Tax Bond	Accrued Interest	$ 12,463.74	Cost of Issuance Account	$ 361,067.54
	Underwriter's Discount	$ (174,440.00)	Bond Service Fund	$ 1,076,161.74
			Reserve Fund	$ 784,000.00
		$ 7,678,023.74	Administrative Expense Fund	$ 140,365.00
				$ 7,678,023.74
		Projects included in Construction Amount		
			Road Facilities	$ 3,312,235.00
			Flood Control Facilities	$ 42,441.00
			Water & Sewer Facilities	$ 1,927,427.00
			Dry Utilities	$ 262,105.00
				$ 5,544,208.00
CFD No. 88-1	Principal Amount	$ 7,325,000.00	Purchase Fund	$ 7,172,384.50
1996 Series A (Senior Lien	Accrued Interest	$ 6,459.00	Senior Lien Reserve Fund	$ 555,600.00
Bonds)	Original Issue Discount	$ (62,677.50)	Junior Lien Reserve Fund	$ -
	Refunding Bond	$ 555,600.00	Underwriter's Discount	$ 96,397.00
		$ 7,824,381.50		**$ 7,824,381.50**
CFD No. 88-1	Principal Amount	$ 4,965,000.00	Purchase Fund	$ 4,859,266.09
1996 Series A (Junior Lien	Accrued Interest	$ 5,134.54	Senior Lien Reserve Fund	$ -
Bonds)	Original Issue Discount	$ -	Junior Lien Reserve Fund	$ 440,625.00
	Refunding Bond	$ 440,625.00	Underwriter's Discount	$ 110,868.45
		$ 5,410,759.54		**$ 5,410,759.54**
Refunding Bond	Principal Amount	$ 3,360,000.00	Escrow Fund	$ 3,248,773.91
District	Accrued Interest	$ 3,169.59	Acquisition and Construction Fund	$ 272,668.20
	Original Issue Discount	$ (17,135.59)	Interest Account	$ 3,169.59
	Related Prior Bonds	$ 626,106.11	Amount Transferred to 1996 Bonds Trustee	$ 268,831.44
			Cost of issuance	$ 122,032.05
		$ 3,972,140.11	Purchaser's Discount	$ 56,664.92
				$ 3,972,140.11
Refunding Bond	Principal Amount	$ 8,930,000.00	Escrow Fund	$ 8,645,710.86
Improvement Area	Accrued Interest	$ 8,423.95	Acquisition and Construction Fund	$ 434,247.73
	Original Issue Discount	$ (45,541.91)	Interest Account	$ 8,423.95
	Related Prior Bonds	$ 1,353,299.92	Amount Transferred to 1996 Bonds Trustee	$ 716,483.56
			Cost of issuance	$ 292,715.33
		$ 10,246,181.96	Purchaser's Discount	$ 150,600.53
				$ 10,248,181.96
CFD No. 88-1	Bonds Proceeds	$ 2,690,000.00	Deposit to Acquisition and Construction Fund	$ 940,421.13
Series 2000 Junior Lien	Underwriter's Discount	$ (53,800.00)	Deposit to Escrow Fund	$ 1,463,412.68

APPENDIX VI- CFD Bond Details

Bond	Sources of Bond Money	Amount	Uses of Bond Money	Amount Allocated
Special Tax Bonds			Deposit to Capitalized Interest Subaccount of the Interest Account	$ 20,416.19
		$ 2,636,200.00		
			Deposit to Reserve Fund	$ 100,950.00
			Deposit to the Costs of Issuance Account	$ 111,000.00
				$ 2,636,200.00
		Projects inlcuded in Construction Account		
			MWD Annexation Fees	N/A
			Construction and Installation of Facilities	N/A
				$ -
CFD No. 99-1	Bonds Proceeds	$ 3,050,000.00	Deposit to Construction Fund (Water	$ 1,553,292.25
Series 2000 Special Tax Bond	Underwriter's Discount		Construction Account)	
		$ (61,000.00)		
			Deposit to Construction Fund (School	
		$ 2,989,000.00	Construction Account)	
			Deposit to Capitalized Interest Account of Bond Fund	$ 38,707.75
			Deposit to Reserve Fund	$ 305,000.00
			Deposit to the Costs of Issuance Account	$ 192,000.00
				$ 2,989,000.00

APPENDIX VII

CONNECTION FEE CALCULATIONS

Modified Fee Increase Calculation

Ultimate Collections based on Current Fee

	Current Fees CFD 88-1	Current Fees Non-CFD	Possible Amount Collected CFD 88-1	Possible Amount Collected Non-CFD	Total
Meter Charge ($/conn.)	$ 1,932.00	$ 5,882.00	$ 8,467,956	$ 3,852,710	$ 12,320,666
Comm. FS Connec. ($/ac)	$ 535.00	$ 535.00	$ 94,160	$ 140,170	$ 234,330
Acreage ($/ac)	$ 2,045.00	$ 2,045.00	$ 3,614,441	$ 540,146	$ 4,154,586
TOTAL					$ 16,709,582

Description	Amount Needed to be Funded
Cost of Facilities - Estimated	$ 27,900,000
Possible Amount Collected from Current Fees	$ (16,709,582)
Total Increased Fee	$ 11,190,418

Description	Increase in Fee per EDU
Increase due to Cost of Facilities - Estimated	$2,221
Increase due to Elimination of Acreage Fee	$825
Total Increased Fee	$3,046

Assumptions:

Total Remaining Number of EDUs	5,038	DU
Remaining CFD 88-1 Dwelling Units	4,383	DU (per Table 2) - It also includes IA No.2
Remaining Non-CFD Dwelling Units	655	DU (per Table 2)
Remaining CFD 88-1 Commercial Acreage	176	acres (per Master Plan)
Remaining Non-CFD Commercial Acreage	262	acres (per Master Plan)
Remaining CFD 88-1 Residential Acreage	1,767	acres (Based on 4383 DU)
Remaining Non-CFD Residential Acreage	264	acres (Based on 655 DU)