WATER SUPPLY ASSESSMENT FOR "THE RANCH PLAN" GENERAL PLAN AMENDMENT / ZONE CHANGE (PA 01-114) RANCHO MISSION VIEJO

Prepared by
Santa Margarita Water District

June 25, 2003

EXECUTIVE SUMMARY AND CONCLUSIONS

1. Total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection are sufficient to meet projected water demands of The Ranch Plan, in addition to SMWD's existing and approved new development uses (exclusive of The Ranch Plan).

2. Current and future sources of potable and non-potable water supplies are sufficient to meet the projected water demand associated with The Ranch Plan, in addition to SMWD's existing and approved new development uses (exclusive of The Ranch Plan).

3. The analyses included in this Water Supply Assessment demonstrate the combination of MWD base supply and recycled water, buttressed by supplemental dry year(s) supplies, which are currently available to SMWD through contracts with Cucamonga County Water District and Southern California Water Company, enable SMWD to meet the projected 20-year water demand associated with The Ranch Plan. Although not required to meet projected demands, SMWD has, or will have available, additional local supplies discussed herein to provide a margin of safety.

4. MWD's 2003 Supply Report projects adequate supply reliability through at least 2025, with margins of safety in terms of projected supply reserves ranging from 8-26%, including during single and multiple dry year(s). For purposes of further augmenting supply reliability during single dry and multiple dry years, SMWD has entered into water purchase agreements with Cucamonga County Water District and Southern California Water Company involving existing water supplies located in the Chino Groundwater Basin.

5. The supplemental dry year(s) supplies addressed in this Water Supply Assessment are directed to ensuring that additional water demands on SMWD's water resources, including potable and non-potable supplies, associated with The Ranch Plan do not result in a reduction in water supplies for existing demands/customers, while also taking into consideration approved new development uses (exclusive of The Ranch Plan).

6. Supplemental dry year(s) supplies are not intended, nor are they required for purposes of demonstrating adequate supply reliability to increase the overall water supply reliability for the entire SMWD service area. Consequently, the supplemental water supplies addressed in this Water Supply Assessment enable SMWD to provide water for The Ranch Plan without affecting the availability or reliability of supplies for existing customers under normal, dry or multiple dry year water years.

7. The water supply contracts with Cucamonga County Water District and Southern California Water Company are specifically directed, and exclusive, to augmenting water supply reliability for The Ranch Plan. In the event of unexpected MWD supply shortfalls, up to 4,250 acre-feet of water can be called in each year to supplement MWD supplies. The effect of calling this water in

the event of MWD supply shortfalls, will be to enable the delivery of the amount of water necessary to meet the Ranch Plan demands during such a shortfall, while at the same time satisfying demands associated with SMWD's other customers.

8. The 4,250 acre-feet of potable water secured through agreement with Cucamonga County Water District provides at least 50% redundancy to The Ranch Plan's projected Year 2025 potable water demand of 8,483 acre-feet during normal years and thus further augments MWD's already conservative projected supply reliability. Expected increased demand during dry and multiple dry years will be met by increasing recycled water production and potentially from local supplies (although the latter are not required for purposes of meeting demands), and thus will enable at least a 50% margin of potable water supply redundancy in addition to meeting non-potable demands for The Ranch Plan.

COUNTY OF ORANGE NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE RANCH PLAN

Santa Margarita Water District (SMWD) was notified by the County of Orange (County) on February 26, 2003, in accordance with California Water Code Section 10910[1], of its Notice of Preparation of a draft Environmental Impact Report #589 (EIR) for General Plan Amendment/Zone Change (PA 01-114), known as "The Ranch Plan." The County is the Lead Agency and is therefore responsible for preparation of the EIR pursuant to the California Environmental Quality Act (CEQA).

The Ranch Plan is located within SMWD's current service territory. SMWD provides potable water, recycled water and wastewater collection and treatment services and is a "public water system," as defined in Section 10912(c), because it has 3,000 or more service connections, and owns and operates a system for the provision of piped water to the public for human consumption.

THE RANCH PLAN IS CONSIDERED A PROJECT AND THEREFORE A WATER SUPPLY ASSESSMENT IS REQUIRED

Senate Bill 610, codified in Section 10910 et seq., effective January 1, 2002, requires the preparation of a Water Supply Assessment (WSA) for projects subject to an EIR. Section 10912 defines a "project" as:

---

[1]Statutory references hereinafter are to the California Water Code unless otherwise indicated.

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Ranch Plan is considered a project as defined by the above criteria because it is proposed to include up to 14,000 dwelling units, 130 acres of urban activity center uses, 258 acres of business park uses, 39 acres of neighborhood retail development, up to five golf courses and a 1,079-acre regional park. Accordingly, on February 26, 2003, the County requested that SMWD prepare a WSA.

STATUTORY WATER SUPPLY ASSESSMENT REQUIREMENTS

The following determinations must be made in a Water Supply Assessment:

1. The County shall request the public water system (SMWD) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan *(Section 10910(c)(1))*[2].

2. If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system (SMWD) may incorporate the requested information from the urban water management plan in preparing the

[2]Cited Water Code sections are summarized and not specifically quoted for purposes of addressing the particular circumstances applicable to this WSA.

elements of the assessment required to comply with subdivisions (d), (e), (f), and (g)[3] *(underlining added; Section 10910(c)(2))*.

3. If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's (SMWD) total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses *(underlining added; Section 10910(c)(3))*.

4. The assessment shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system *(Section 10910(d)(1))*.

5. An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system (SMWD), shall be demonstrated by providing information related to all of the following *(Section 10910(d)(2)(A-D))*:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system (SMWD).

(C) Federal, state and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

6. If no water has been received in prior years by the public water system (SMWD) under the existing supply entitlements, water rights, or water service contracts, SMWD shall also include in its water supply assessment an identification of the other public water systems or water service

---

[3]Subdivisions (d), (e), (f) are summarized below. Subdivision (g) requires the SMWD Board of Directors to approve the WSA at a regular or special meeting for submission to the County not later than 90 days from the date on which the WSA request was received, unless prior to the expiration of the 90-day period, SMWD meets with the County to request an extension of time not to exceed 30 days. Since the County's WSA request was received by SMWD on February 26, 2003, the 90-day period ends on May 27, 2003. On May 20, 2003, SMWD's General Manager met with the County's Interim Director of the Planning and Development Services Department and requested a 30-day extension of time for SMWD to prepare and adopt the WSA. Accordingly, the extension deadline is June 26, 2003.

contractholders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system has identified as a source of water supply within its water supply assessments *(Section 10910(e))*.

7. If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment *(Section 10910(f)(1-5))*:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system has the legal right to pump under the order or decree.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system for the past five years from any groundwater basin from which the proposed project will be supplied *(underlining added)*.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system from any basin from which the proposed project will be supplied *(underlining added)*.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

WATER SUPPLY ASSESSMENT

Each of the determinations required by Section 10910, listed in the preceding section of this document, is addressed below.

Section 1. Projected Water Demand of The Ranch Plan was Substantially Accounted for in SMWD's Year 2000 Urban Water Management Plan.

The SMWD Board of Directors adopted its most recent Urban Water Management Plan (UWMP), in accordance with Section 10610 et seq., at its' duly noticed regular meeting held on December 20, 2000 (incorporated by referenced herein)[4]. The Year 2000 UWMP included water supply projections based on water demands through Year 2020.

[4]Due to the number and size of documents referenced or incorporated by reference herein, if not attached, they are available from SMWD upon request. A list of documents referenced in this WSA is attached as Appendix "A."

Figure No. 1 is a copy of *Table 2.1, Current and Projected Water Supplies in Acre-Feet*, from the Year 2000 UWMP, and is shown below along with Figure No. 2.1, which is an updated projection based on subsequent information inclusive of The Ranch Plan. The Year 2000 UWMP contemplated all water supplies to meet the identified demands, including development throughout the service territory of SMWD and The Ranch Plan area. However, the identified supplies to meet demands for Years 2015 and 2020 were less than the currently projected demands for these years and hence the finding for purposes of this WSA that the UWMP substantially accounted for the demand. This WSA will provide supplemental analysis for demands not addressed in the UWMP.

Additional and more detailed information supplemental to SMWD's Year 2000 UWMP, which complies with subdivisions (d), (e), and (f) of Section 10910, is provided in the following sections of this document since Years 2015 and 2020 demands for The Ranch Plan were less than currently projected demands. The supplemental information included in this WSA addresses supply and demand projections for the entire SMWD service area through Year 2025, inclusive of The Ranch Plan. Consequently, a projection period of 22 years is used for purposes of this WSA even though only a 20-year projection period is required under Section 10910(c)(3).

Figure 1
SMWD 2000 Urban Water Management
Current and Projected Water Supplies
In Acre-Feet

Water Supply Source	**2000**	**2005**	**2010**	**2015**	**2020**
Purchased from MWDOC/MWD	27,893	20,638	19,657	19,998	18,901
SMWD Produced Groundwater	540	1,750	2,000	2,400	2,800
ETWD Produced Groundwater	0	1,000	2,000	2,000	2,000
SMWD Produced Recycled Water	1,960	4,759	6,439	8,118	9,797
Water Transfers (Recycled Water)	1,983	2,000	2,000	2,000	2,000
Water Transfers (Domestic)	1,000	10,000	10,000	10,000	10,000
Total	33,376	40,147	42,096	44,516	45,498

Section 2. Total Projected Water Supplies Available During Normal, Single Dry, and Multiple Dry Water Years During a 20-year Projection are Sufficient to Meet Projected Water Demands of The Ranch Plan in Addition to SMWD's Existing and Planned Future Uses.

The following Figure Nos. 2.1, 2.2, and 2.3 show demands through 2025 for normal, single dry and multiple dry water years. A detailed analysis of the Ranch Plan projections is included in the WSA as Appendix "B." The graphs included in Figures No. 2.4, 2.5 and 2.6 following the charts show the components of SMWD's current and future sources of potable and non-potable water supplies and total demands for normal single dry and multiple dry water years through Year 2025.

Increased water demands in the amount of 10% and 13% for single and multiple dry years, respectively, are based on the "Report on Metropolitan's Water Supplies," dated March 25, 2003, prepared by Metropolitan Water District of Southern California (MWD), which report is discussed elsewhere in this WSA. SMWD's comparative data for wet, normal and dry years indicates an increased demand of 5-7%. This is based on a comparison of 1998, in which local precipitation was above normal with 30 inches of rain, and 2002 in which local precipitation was below normal with less than four inches of rain. Based on actual recent years' precipitation variances and correlation to SMWD service jurisdiction demands, use of MWD's more conservative dry year(s) increased demand assumptions for purposes of this WSA provides an additional margin of safety. **Current and future sources of potable and non-potable water supplies are sufficient to meet the projected water demand associated with The Ranch Plan, in addition to SMWD's existing and planned future uses, all of which are shown in Figure 2.1 as "The Ranch Plan Development," "Existing Development," and "Approved New Development," respectively.** Approved New Development means all other development (exclusive of The Ranch Plan) expected to occur within SMWD through Year 2025.

The chart and graphs demonstrate the combination of MWD base supply and recycled water, buttressed by supplemental dry year(s) supplies, which are currently available to SMWD through contracts with Cucamonga County Water District (CCWD)and Southern California Water Company (SCWC), enable SMWD to meet the projected 20-year water demand associated with The Ranch Plan. Although not required to meet projected demands, SMWD has, or will have available, the additional local supplies discussed herein to provide an even greater margin of safety.

Following, is discussion and analysis concerning the methodology used for purposes of assessing current and future water demands, and conservation, which collectively support overall demand projections associated with The Ranch Plan, existing and approved new development occurring within the SMWD service area. This in turn is followed by discussion and analyses with respect to the water supplies required to meet the projected demands, along with additional local supplies (although not essential) providing a further layer of reliability. Finally, water supply entitlements, including quantities of water received in prior years, and groundwater information is provided.

Figure 2.1*

	Normal Year Demands in Acre-Feet				
Domestic Demands	**2005**	**2010**	**2015**	**2020**	**2025**
Existing Development	26,250	26,250	26,250	26,250	26,250
Approved New Development	1,798	2,599	2,599	2,599	2,599
The Ranch Plan Development	-	2,281	4,830	6,798	8,483
Subtotal	28,048	31,130	33,679	35,647	37,332
Recycled/Non-Potable Demands					
Existing Oso Creek Demand	3,468	3,468	3,468	3,468	3,468
Existing Chiquita WRP Demand	3,021	3,021	3,021	3,021	3,021
Approved New Development	352	352	352	352	395
The Ranch Plan Development	-	2,298	4,575	6,467	8,281
Chiquita Subtotal	3,373	5,671	7,948	9,840	11,697
Recycled Subtotal	6,841	9,139	11,416	13,308	15,165
Total Water Demand	34,889	40,269	45,095	48,955	52,497
2000 UWMP**	40,147	42,096	44,516	45,498	

Figure No. 2.2

	Single Dry Year Demands in Acre-Feet (10% Increase)				
Domestic Demands	**2005**	**2010**	**2015**	**2020**	**2025**
Existing Development	28,875	28,875	28,875	28,875	28,875
Approved New Development	1,978	2,859	2,859	2,859	2,859
The Ranch Plan Development	-	2,509	5,313	7,478	9,331
Subtotal	30,853	34,243	37,047	39,212	41,065
Recycled/Non-Potable Demands					
Existing Oso Creek Demand	3,815	3,815	3,815	3,815	3,815
Existing Chiquita WRP Demand	3,323	3,323	3,323	3,323	3,323
Approved New Development	387	387	387	387	435
The Ranch Plan Development	-	2,528	5,033	7,114	9,109
Chiquita Subtotal	3,710	6,238	8,743	10,824	12,867
Recycled Subtotal	7,525	10,053	12,558	14,639	16,682
Total Water Demand	38,378	44,296	49,605	53,851	57,747

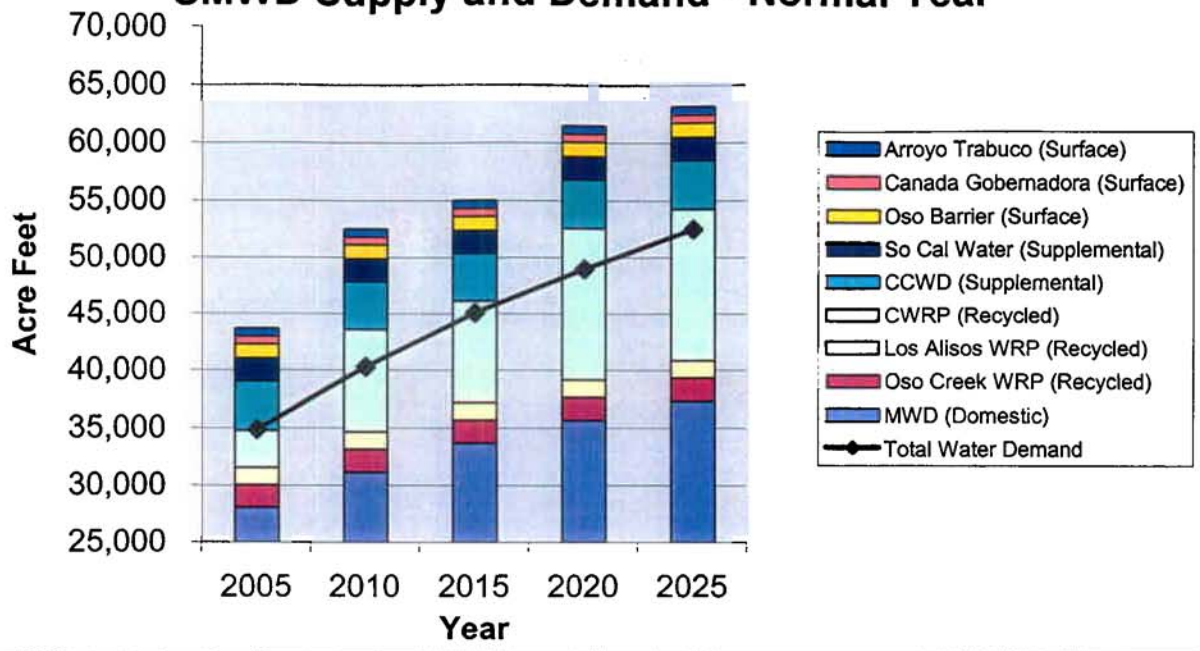
* As of June 2003, Existing Development demand is 29,500 acre-feet; and, Existing Oso Creek demand is 3,468 acre-feet; Total for both is 32,968 acre-feet.

** The 2000 UWMP did not distinguish demands for normal, single dry or multiple dry years.

Figure 2.3

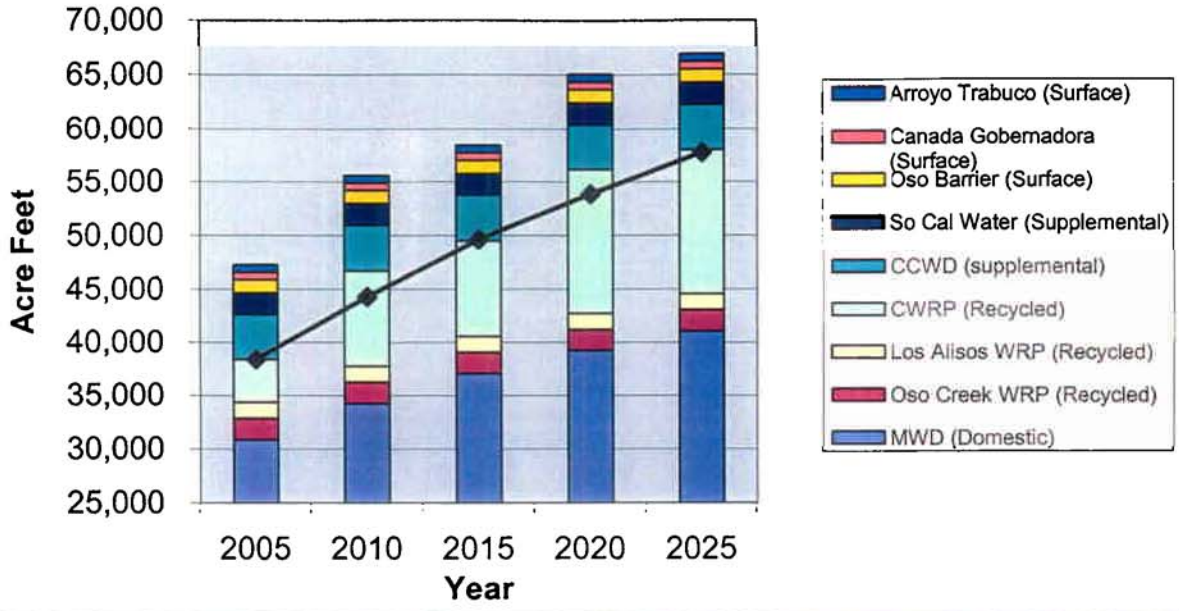
	Multiple Dry Year Demands in Acre-Feet (13% Increase)				
Domestic Demands	**2005**	**2010**	**2015**	**2020**	**2025**
Existing Development	29,663	29,663	29,663	29,663	29,663
Approved New Development	2,032	2,937	2,937	2,937	2,937
The Ranch Plan Development	-	2,578	5,458	7,682	9,586
Subtotal	31,695	35,178	38,058	40,282	42,186
Recycled/Non-Potable Demands					
Existing Oso Creek Demand	3,919	3,919	3,919	3,919	3,919
Existing Chiquita WRP Demand	3,414	3,414	3,414	3,414	3,414
Approved New Development	398	398	398	398	446
The Ranch Plan Development	-	2,597	5,170	7,308	9,358
Chiquita Subtotal	3,811	6,408	8,981	11,119	13,218
Recycled Subtotal	7,730	10,327	12,900	15,038	17,136
Total Water Demand	39,425	45,505	50,958	55,320	59,322

Figure 2.4
SMWD Supply and Demand - Normal Year



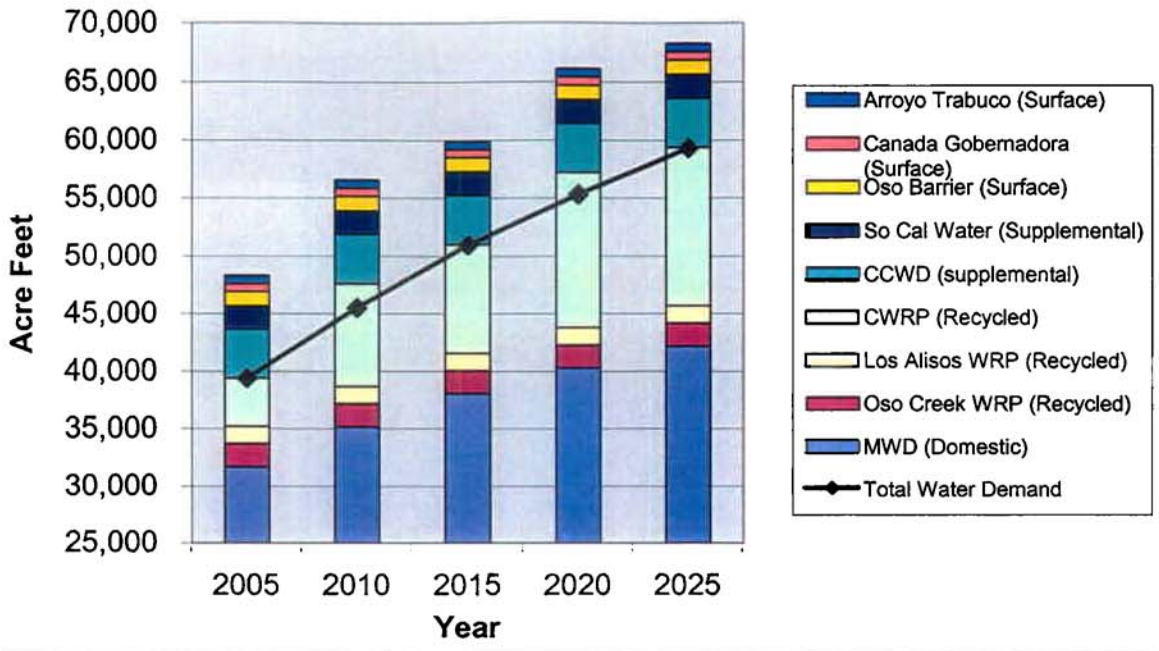
Normal Year		Average Annual Acre-Feet				
DEMAND		**2005**	**2010**	**2015**	**2020**	**2025**
Domestic	Existing Development	26,250	26,250	26,250	26,250	26,250
	Approved New Development	1,798	2,599	2,599	2,599	2,599
	The Ranch Plan Development	-	2,281	4,830	6,798	8,483
Total Domestic Demand		**28,048**	**31,130**	**33,679**	**35,647**	**37,332**
Recycled	Existing Oso Creek Demand	3,468	3,468	3,468	3,468	3,468
	Existing Chiquita WRP Demand	3,021	3,021	3,021	3,021	3,021
	Approved New Development	352	352	352	352	395
	The Ranch Plan Development	-	2,298	4,575	6,467	8,281
Total Recycled Demand		**6,841**	**9,139**	**11,416**	**13,308**	**15,165**
Total Water Demand		**34,889**	**40,269**	**45,095**	**48,955**	**52,497**
SUPPLIES						
Domestic	Metropolitan Water District	28,048	31,130	33,679	35,647	37,332
Recycled	Oso Creek WRP	2,000	2,000	2,000	2,000	2,000
	Los Alisos WRP	1,500	1,500	1,500	1,500	1,500
	CWRP	3,227	8,960	8,960	13,440	13,440
Supplemental	CCWD	4,250	4,250	4,250	4,250	4,250
	So Cal Water	2,000	2,000	2,000	2,000	2,000
Surface	Oso Barrier	1,250	1,250	1,250	1,250	1,250
	Canada Gobernadora	700	700	700	700	700
	Arroyo Trabuco	700	700	700	700	700
Total Supplies		**43,675**	**52,490**	**55,039**	**61,487**	**63,172**

Figure 2.5
SMWD Supply and Demand - Single Dry Year



Single Dry Year		Average Annual Acre-Feet				
DEMAND		2005	2010	2015	2020	2025
Domestic	Existing Development	28,875	28,875	28,875	28,875	28,875
	Approved New Development	1,978	2,859	2,859	2,859	2,859
	The Ranch Plan Development	-	2,509	5,313	7,478	9,331
Total Domestic Demand		**30,853**	**34,243**	**37,047**	**39,212**	**41,065**
Recycled	Existing Oso Creek Demand	3,815	3,815	3,815	3,815	3,815
	Existing Chiquita WRP Demand	3,323	3,323	3,323	3,323	3,323
	Approved New Development	387	387	387	387	435
	The Ranch Plan Development	-	2,528	5,033	7,114	9,109
Total Recycled Demand		**7,525**	**10,053**	**12,558**	**14,639**	**16,682**
Total Water Demand		**38,378**	**44,296**	**49,605**	**53,851**	**57,747**
SUPPLIES						
Domestic	Metropolitan Water District	30,853	34,243	37,047	39,212	41,065
Recycled	Oso Creek WRP	2,000	2,000	2,000	2,000	2,000
	Los Alisos WRP	1,500	1,500	1,500	1,500	1,500
	CWRP	4,025	8,960	8,960	13,440	13,440
Supplemental	CCWD	4,250	4,250	4,250	4,250	4,250
	So Cal Water	2,000	2,000	2,000	2,000	2,000
Surface	Oso Barrier	1,250	1,250	1,250	1,250	1,250
	Canada Gobernadora	700	700	700	700	700
	Arroyo Trabuco	700	700	700	700	700
Total Supplies		**47,278**	**55,603**	**58,407**	**65,052**	**66,905**

Figure 2.6
SMWD Supply and Demand - Multiple Dry Years



Multiple Dry Years		Average Annual Acre-Feet				
DEMAND		**2005**	**2010**	**2015**	**2020**	**2025**
Domestic	Existing Development	29,663	29,663	29,663	29,663	29,663
	Approved New Development	2,032	2,937	2,937	2,937	2,937
	The Ranch Plan Development	-	2,578	5,458	7,682	9,586
Total Domestic Demand		**31,695**	**35,178**	**38,058**	**40,282**	**42,186**
Recycled	Existing Oso Creek Demand	3,919	3,919	3,919	3,919	3,919
	Existing Chiquita WRP Demand	3,414	3,414	3,414	3,414	3,414
	Approved New Development	398	398	398	398	446
	The Ranch Plan Development	-	2,597	5,170	7,308	9,358
Total Recycled Demand		**7,731**	**10,328**	**12,901**	**15,039**	**17,137**
Total Water Demand		**39,426**	**45,506**	**50,959**	**55,321**	**59,323**
SUPPLIES						
Domestic	Metropolitan Water District	31,694	35,177	38,057	40,281	42,185
Recycled	Oso Creek WRP	2,000	2,000	2,000	2,000	2,000
	Los Alisos WRP	1,500	1,500	1,500	1,500	1,500
	CWRP	4,231	8,960	9,450	13,440	13,700
Supplemental	CCWD	4,250	4,250	4,250	4,250	4,250
	So Cal Water	2,000	2,000	2,000	2,000	2,000
Surface	Oso Barrier	1,250	1,250	1,250	1,250	1,250
	Canada Gobernadora	700	700	700	700	700
	Arroyo Trabuco	700	700	700	700	700
Total Supplies		**48,325**	**56,537**	**59,907**	**66,121**	**68,285**

Section 2.A. Demand Assessment Methodology

The information included in this section is provided for purposes of substantiating and supporting the overall demands included in the preceding Section 2 chart and graphs. SMWD uses the following standard demand rates for proposed development which are verified based on historical usage data supplemented by conservative estimates of projected use, differentiated by the identified water use sectors.

SMWD Demand Factors

SMWD currently has approximately 50,965 customer connections to its potable and non-potable water distribution system. The following table shows the number of connections by type for five-year increments starting in 1980.

Figure 2.7
SMWD Customer
Number of Connections by Type

March of Year	Residential	Commercial	Irrigation	Construction	Total
1980	7,128	46	282	43	7,499
1985	9,723	74	537	51	10,385
1990	21,354	189	988	113	22,644
1995	27,506	622	1,411	93	29,632
2000	40,272	1,102	1,934	45	43,353
2002	46,920	1,671	2,326	48	50,965

- Based on SMWD Customer Service Reports

Water use sectors play the largest role in determining water supply demands within a given area. Water use sectors within SMWD include: residential, commercial (including industrial and governmental demands) irrigation and construction.

SMWD does not provide water for agricultural use with the exception of water used by commercial nursery operations which is included in the commercial sector. Rancho Mission Viejo Company's existing ranching operations and lease holders (which are not relevant for purposes of this WSA and therefore not part of this analysis) are supplied from a private water system owned and operated by Rancho Mission Viejo.

Residential Sector

The residential sector accounts for approximately 55% of the existing water demand within SMWD (Figure 2.8). The average daily demand based on customer service data for 2002 is 343 gallons per day per dwelling unit, which was a dry year with higher than average demands. SMWD uses a planning factor of 345 gallons per day per dwelling unit. New developments in Ladera Ranch are only averaging 330 gallons per day, which suggests the higher planning factor creates a margin of safety.

Commercial Sector

SMWD has a mix of commercial uses including markets, restaurants, governmental entities such as schools, fire stations and government offices, office complexes, light industrial, warehouses and facilities serving the public. Current commercial demand is 3% of the overall demand. SMWD uses a planning factor of 225 gallons/day/1,000 square feet of building space. A sampling of existing users indicates the average demand is lower, however, since uses can change, the higher factor is considered prudent.

Construction Sector

SMWD has a variety of construction accounts with varying uses which account for 2% of existing demand. Demands are not in addition to new development, but occur temporarily and transitionally during construction as development occurs and, therefore, are included within the demand factors associated with new development. For this reason, separate projection factors are not generated for construction.

Irrigation

SMWD's water demands include recycled and domestic irrigation accounts. Existing centralized irrigation demands are 38% of SMWD's total water demands, with 11% of total irrigation demands provided by the recycled water system.[5] Irrigation demands in Talega and Ladera are currently met with domestic water, but will be converted to recycled water for irrigation use upon the completion of the tertiary system, currently under construction, at the Chiquita Water Reclamation Plant.

Analysis of the Ladera Ranch irrigation system indicates that water requirements during the initial planting for slopes and shrub areas are 3.5 acre-feet per acre per year (afa/year) and 4.0 afa/year for turf areas. An overall system review indicates the average throughout SMWD is 2.5 afa/year. For purposes of this WSA, a conservative factor of 3.5 and 4.0 afa/year, is used for slopes and turf, respectively.

Up to five (5) golf courses are included in The Ranch Plan. Existing courses in SMWD utilize private water systems for a portion of the supply except for the Talega course. Water use for 2002 for the Talega Golf course was approximately 363 acre-feet. It is anticipated the proposed courses included in The Ranch Plan will utilize private water systems, however, for purposes of this WSA a conservative demand of 400 acre-feet per year per course is used.

Other uses

Uses, other than residential, commercial, irrigation or construction, are less than 2% of water use. These other uses include water used by SMWD facilities and for lakefill for the man-made lakes

[5]Apparent variation between these percentages and figures included in the chart on page 15 are the result of the mixture of nondomestic and recycled water sources which are not separately accounted for in the chart.

in Mission Viejo and Rancho Santa Margarita. SMWD uses will remain consistent in demand and The Ranch Plan does not include provisions for the construction of lakes. Service agreements with SMWD for lakefill prioritize residential, commercial, construction and irrigation uses in the event of water shortage periods, enabling interruptions or avoided deliveries of water for lakefill.

Section 2.B. Current Water Demand

SMWD's projected water demands for the current 2002/2003 Fiscal Year (July 1-June 30), as reported in SMWD's Operating Budget, is shown in the following table. The table projects the water demand to be just under 33,000 acre-feet for this fiscal year.

Figure 2.8
Water Demand for 2002/2003 Fiscal Year[1]

Water Demand Sector	Demands (Acre-Feet)	Percentage
Residential	18,026	54.68%
Commercial	1,130	3.43%
Construction	540	1.64%
Domestic Irrigation	7,525	22.82%
Nondomestic (recycled) Irrigation[2]	5,126	15.55%
District Facilities	352	1.07%
Lakefill	269	0.81%
Total	32,968	100.00%

[1] SMWD does not provide water for agricultural or manufacturing uses.

[2] Includes domestic water stored in Portola Reservoir.

Domestic irrigation demands include existing accounts in Talega and Ladera which, as indicated in Section 2.A., will be served in the future with recycled water. As shown in Figure 2.1, when the Chiquita Water Reclamation Plant expansion to include the production of tertiary treated (recycled) water is completed, domestic irrigation demands will be reduced as recycled water is provided in-lieu of currently provided domestic water. The conversion from domestic to recycled water for Talega and Ladera is projected to occur in late 2003 or early 2004.

Recycled water from the Oso Creek Water Reclamation Plant and the Los Alisos Water District (now Irvine Ranch Water District) is delivered to Upper Oso Reservoir and serves nondomestic irrigation meters in the City of Mission Viejo. The following table includes irrigation demand components.

Figure 2.9
Irrigation Demands for 2002/2003 Fiscal Year

Water Use Sector	Location/Type of Water	Water Demand (Acre-Feet)
Nondomestic/Recycled	Mission Viejo/ Recycled	3,468
	Portola Reservoir/ Domestic	1,658
Subtotal		5,126
Domestic Irrigation	Talega/ Future Recycled	969
	Ladera/ Future Recycled	743
	Mission Viejo, Rancho Santa Margarita, Las Flores, Coto de Caza/Domestic Services	5,813
Subtotal		7,525
Total		12,651

Section 2.C. Projected Water Demand

Projected water demand through Year 2025, which is the planning horizon of this WSA, includes the buildout of the SMWD service area that will occur in Coto de Caza, Talega, Ladera and the area covered by The Ranch Plan. Demand projections for the first three areas, based on the demand assessment methodology addressed above, are summarized below.

Figure 2.10

	Normal Year Demands in Acre-Feet				
Approved New Development in Coto de Caza, Ladera and Talega	**2005**	**2010**	**2015**	**2020**	**2025**
Domestic Demands	1,798	2,599	2,599	2,599	2,599
Nondomestic Demands	352	352	352	352	395
Total Water Demand	2,150	2,951	2,951	2,951	2,994

The following table summarizes projected demands for The Ranch Plan[6].

Figure 2.11

	Normal Year Demands in Acre-Feet				
The Ranch Plan	**2005**	**2010**	**2015**	**2020**	**2025**
Domestic Demands	-	2,281	4,830	6,798	8,483
Nondomestic Demands		2,298	4,575	6,467	8,281
Total Water Demand	-	4,579	9,405	13,265	16,764

[6]The Ranch Plan demands assume and include a 5% system loss factor as noted in Appendix "B." This factor is conservative based on SMWD's historical data which indicates an actual 3% system loss.

Section 2.D. Water Conservation

In April 1991, the SMWD Board of Directors adopted Ordinance No. 91-4-01, providing for a comprehensive water conservation program in the event of a critical water supply shortfall (the Conservation Ordinance). The Conservation Ordinance was enacted because of an extended drought at that time and the establishment of a water rationing program by Metropolitan Water District of Southern California. The Conservation Ordinance established: 1) a tiered water rate structure to encourage conservation and 2) mandatory conservation stages.

Under the Conservation Ordinance, normal water supply levels are Stage One, with voluntary conservation. During drought conditions, the SMWD Board can adopt Stage Two, which limits outdoor use of water and mandates use of local recycled water for construction activities. Stage Three limits outdoor irrigation and most outdoor uses. Stage Four, which is severe drought conditions, prohibits outdoor irrigation, and other outdoor water uses. The Conservation Ordinance additionally establishes monetary penalties for violations.

SMWD's current and future water conservation activities and programs are contemplated in the demand projections included herein. Demand hardening or relative inelasticity, and therefore diminished water conservation opportunities, for new development areas including The Ranch Plan is likely due to the combination of smart-growth landscaping practices, the use of state-of-the-art conservation designs and technology.

Conversely, demand reductions for older established areas within the SMWD service area in the form of increased voluntary conservation, and mandatory conservation under severe water shortage conditions, is likely. Thus, the demand projections used in this WSA may be reduced through enhanced conservation measures, including potentially, actions taken by the SMWD Board pursuant to its Conservation Ordinance.

Based on previous shutdowns of the Allen-McColloch Pipeline, which provides most of the MWD imported water delivered to SMWD, demand can be reduced during single and multiple dry years in an amount up to 43% acre-feet of normal year demands. This assumes, however, curtailment of all non-essential uses of water (primarily irrigation). Limited use of water for irrigation purposes would reduce demand projections by approximately 10% compared to normal year demands based on SMWD demand data from the last drought period in 1991.

Although SMWD promotes ongoing conservation, demand reduction through conservation is not required for purposes of meeting the combination of existing customer demands and projected demands associated with The Ranch Plan, and other development occurring with the SMWD service area. Consequently, although demand reduction through conservation provides an additional level of conservatism for purposes of supply/demand analysis, existing and/or other developing lands within the SMWD service area are not required to reduce water use for purposes of enabling conserved water to be used or accounted for within The Ranch Plan.

Current voluntary and/or future mandatory conservation measures are or will be undertaken as part of an overall comprehensive program throughout the SMWD service area directed to maximizing the availability of water for all customers while considering priorities of use by

category (i.e., domestic; health and safety). Mutually beneficial programs may be undertaken whereby water conserved via new technology and/or irrigation practice improvements in existing areas, which are paid for by developing lands, may be credited to developing areas. As previously stated, however, such programs are not required or included within the demand/supply analysis for purposes of this WSA.

Section 2.E. Water Supplies

This section addresses current and projected water supplies available to SMWD. Sources of supply addressed in this section include: imported (potable) water, recycled water, supplemental dry year(s) supplies, and local supplies.

Section 2.E.1. Imported Water

SMWD is a member agency of the Municipal Water District of Orange County (MWDOC), a member agency of and wholesale water importer from the Metropolitan Water District of Southern California (MWD) and as such is entitled to receive water from available MWD sources. A Regional Urban Water Management Plan, dated December 2000, was prepared by MWDOC for its service area, inclusive of and consistent with SMWD's supply and demand projections addressed in this WSA. SMWD has a service connection agreement with MWDOC whereby MWDOC will deliver water to SMWD as it receives water from MWD in the amount requested by SMWD, subject to MWD water availability.

MWD has prepared a Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, dated December 2000 for its service area. MWD has also prepared a "Report on Metropolitan's Water Supplies," dated March 25, 2003 (MWD 2003 Supply Report), which is incorporated by reference herein. Pursuant to Section 10631(j), SMWD is relying upon water supply information provided by the wholesale agency (MWD) in fulfilling informational requirements addressed in this WSA.

MWD's 2003 Supply Report uses growth demands for its service area in Orange County based on projections provided by Southern California Association of Governments (SCAG) Regional Transportation Plan, which Plan includes projections up to Year 2050. The Orange County projections were prepared by the California State University at Fullerton Center for Demographic Research and adopted by the Orange County Council of Governments (OCCOG) in June 2000.

The SCAG projections included at least 20,000 dwelling units for The Ranch Plan area. The Ranch Plan now only includes up to 14,000 dwelling units and, therefore, is well within the much more conservative projections used by MWD based on the SCAG Plan. A comparison of job market projections also indicates that the Ranch Plan demand for commercial uses is within the MWD projections.

MWD's 2003 Supply Report finds that MWD is able to meet with existing supplies 100% of its member agencies' projected demands over the next 20 years (through Year 2025) during *average and wet years*, and 100% of its member agencies' projected demands over the next 15 years during *single and multiple dry years*. During *average and wet years*, and in

addition to meeting 100% of all demands for 20 years, MWD projects significant surplus supplies to refill system storage. During *single and multiple dry years*, and in addition to meeting 100% of member agencies' demands for the next 15 years, MWD projects an 8-26% supply reserve.

With the addition of planned supplies under development, MWD's 2003 Supply Report finds that MWD will be able to meet 100% of its member agencies' projected demands through Year 2030, even under a repeat of the worst drought. In addition to meeting 100% of member agencies' demands through 2030, MWD projects a 20-25% supply reserve.

MWD's 2003 Supply Report discusses and analyzes current circumstances involving reduced deliveries to MWD of Colorado River water resulting from California's failure to execute the Quantification Settlement Agreement (QSA). MWD characterizes this as a very serious matter but not an emergency because of its contingency planning which began two years ago in contemplation that the QSA may not be adopted. The State Water Project was also reviewed and analyzed in the MWD report. That analysis relied on the Department of Water Resources report to project the reliability and confirm expected deliveries. Accordingly, MWD identifies several projects and programs directed to maintaining reliability for Southern California and thereby offset Colorado River reductions resulting from the unresolved QSA.

MWD's 2003 Supply Report also discusses and analyzes water quality constraints which it is addressing through operational changes and capital programs. The Report states that: 1) a full Diamond Valley Lake; 2) re-operation of storage and transfer programs; 3) enhanced conservation programs; and, 4) development of additional local resources conjunctively will enable MWD to achieve the stated levels of reliability set forth in this Section 2.E.1.

Section 2.E.2. Recycled Water

Recycled water is considered a highly reliable water supply since it is generated from relatively constant and predictable wastewater flows that are not subject to seasonal variations. As referenced above and indicated in the chart and graphs included in Section 2, SMWD owns and operates a recycled water system with two existing components and one under construction. Recycled water is part of SMWD's overall menu of water supplies included in this WSA for purposes of meeting the projected water demand associated with The Ranch Plan, while also meeting existing and planned future uses.

The following tables summarize the historical and projected water production from each of the facilities:

Figure 2.12
Historical Recycled Water Production
(Acre-Feet per Year)

Year	1980	1985	1990	1995	2000	2002
Oso Creek WRP	216	149	474	214	1,960	62
Los Alisos WRP	-	-	-	-	1,983	2,800
Chiquita WRP	-	-	-	-	-	-
Total	216	149	474	214	3,943	2,862

Figure 2.13
Projected Recycled Water Production
(Acre-Feet per Year)

Year	2005	2010	2015	2020	2025
Oso Creek WRP	2,000	2,000	2,000	2,000	2,000
Los Alisos WRP	1,500	1,500	1,500	1,500	1,500
Chiquita WRP	3,227	8,960	8,960	13,440	13,440
Total	6,727	12,460	12,460	16,940	16,940

Supplies in any given year may exceed production due to storage capabilities. The Los Alisos Water Reclamation Plant (LAWRP) supply may be reduced in the future, however as discussed below, supplies from the Oso Creek Water Reclamation Plant can be increased to offset any potential reduction and therefore enable SMWD to meet demands.

Oso Creek Water Reclamation Plant

SMWD owns and operates the Oso Creek Wastewater Reclamation System (non-domestic system). Constructed in 1978 and upgraded in 1989, this system includes: 1) tertiary treatment capacity of three (3) million gallons per day (mgd) in the Oso Creek Reclamation Plant; 2) the Upper Oso Reservoir; 3) a force main and distribution system for effluent disposal; and, 4) an interceptor system for low flow urban run-off waters in Oso Creek.

Recycled water from this system is used for centralized irrigation requirements including a golf course and community landscape areas such as major slopes, parks and school grounds. Recycled water from the Oso Plant is pumped to the Upper Oso Reservoir, a 4,000 acre-foot seasonal storage facility located in Mission Viejo.

The Oso Plant is currently undergoing modifications to the disinfection system and the aeration basins. Upon completion of the work in the summer of 2003, the Plant will produce approximately 1.8 mgd, which equates to 2,000 acre-feet per year.

The modification project is being funded by Improvement District No. 1 General Obligation Bond Funds and the work is included in the District's Five-Year Capital Improvement Program.

The significance of this project for purposes of this WSA is to note that recycled water will be available from this source as needed to replace and/or augment other recycled water sources, including from the Los Alisos Water Reclamation Plant (now owned and operated by Irvine Ranch Water District), discussed below in this Section.

Chiquita Water Reclamation Plant

SMWD is currently constructing a $27.7 million expansion of the Chiquita Water Reclamation Plant, which it owns and operates. The current secondary treatment capacity of the Plant is 6 mgd and the expansion will add 3 mgd of secondary treatment capacity.

The expansion includes 5 mgd of tertiary capacity to produce recycled water for irrigation uses, including The Ranch Plan as indicated in the chart and graphs in Section 2 of this WSA. Additional capacity is planned to increase the total production of recycled water to 8 mgd, which is approximately 8,960 acre-feet per year by Year 2010, and to 12 mgd, which is approximately 13,440 acre-feet per year by Year 2020. Additional expansions are included in SMWD's Five-Year Capital Improvement Program (which includes longer-term capital facilities programs).

The initial phase to produce 5 mgd of recycled water will be on-line by late 2003. Funding for the current project is provided by SMWD General Fund monies and a low-interest loan from the State Water Resources Control Board. In addition, the project has qualified and is participating in the Metropolitan Water District Local Projects Program and will receive financial subsidy for the production of recycled water.

Chiquita System Seasonal Storage Reservoir

SMWD planning includes the construction of approximately 2,500 acre-feet of seasonal storage for recycled water produced from the Chiquita Plant. Approximately 20 potential sites have been identified and geotechnical evaluations are underway to determine the feasibility of the sites.

Construction of a seasonal storage reservoir will allow for year-round recycled water production for use in peak irrigation demands which will increase the reliability of the recycled water supply. Sites will be identified for incorporation in The Ranch Plan, the Natural Community Conservation (NCCP) Plan and the Special Area Management Plan (SAMP) environmental documentation currently under preparation.

A sufficient amount of Improvement District general obligation bonds are authorized to fund the seasonal storage reservoir. Detailed discussion of bond authorization is included in Section 3.B. Additionally, SMWD will pursue local, state and federal loan and grant programs.

Los Alisos Water Reclamation Plant

SMWD purchases recycled water from the Los Alisos Reclamation Plant owned and operated by Irvine Ranch Water District (IRWD) through a pipeline interconnection located in Mission Viejo. Recycled water from the Los Alisos Plant is pumped to the Upper Oso Reservoir for seasonal storage. By agreement, SMWD can purchase up to 1,500 acre-feet per year from IRWD through Year 2010. SMWD can purchase additional water on an as-available basis.

SMWD is currently negotiating a firm extension of the agreement beyond 2010. If unsuccessful in extending the time period, additional recycled water can be produced at the Oso Creek Water Reclamation Plant with the construction of flow-equalization facilities.

Interconnection Will Increase Reliability

The Oso/Los Alisos recycled water systems will be connected to the Chiquita system in Summer 2003, thus increasing the reliability of the recycled supply throughout the SMWD service area,

including the area within The Ranch Plan. Thus, the seasonal storage reservoir (discussed above) which will be completed prior to or at the time The Ranch Plan commences development, will add another layer of reliability and system operational flexibility but is not essential for purposes of supplying projected recycled water demands associated with The Ranch Plan in addition to existing and planned future uses.

Section 2.E.3. Supplemental Dry Year(s) Supplies

MWD's 2003 Supply Report, as discussed above, projects adequate supply reliability through at least 2025, with margins of safety in terms of projected supply reserves ranging from 8-26%, including during single and multiple dry year(s). For purposes of further augmenting supply reliability during single dry and multiple dry years, SMWD has entered into two water purchase agreements involving existing water supplies located in the Chino Groundwater Basin.

The supplemental dry year(s) supply agreements addressed in this WSA are directed to ensuring that additional water demands on SMWD's water resources, including potable and non-potable supplies, associated with The Ranch Plan do not result in a reduction in water supplies for existing demands/customers, while also taking into consideration approved new development uses (exclusive of The Ranch Plan). Supplemental dry year(s) supplies are not intended, nor are they required for purposes of demonstrating adequate supply reliability pursuant to Section 10910 et seq. and related statutes, to increase the overall water supply reliability for the entire SMWD service area. **Consequently, the supplemental water supplies addressed in this section enable SMWD to provide water for The Ranch Plan without affecting the availability or reliability of supplies for other customers under normal, dry or multiple dry year water years.**

SMWD/Cucamonga County Water District Supplemental Dry Year(s) Supply Agreement

On March 25, 2003, SMWD and Cucamonga County Water District (CCWD) entered into an exclusive three-year option agreement which, if exercised, enables SMWD to enter into a water supply contract with CCWD for at least 25 years for the purchase and delivery of 4,250 acre-feet of water each year over the term of the contract. The three-year option period provides sufficient time to determine the approval process for The Ranch Plan.

If The Ranch Plan proceeds, it is expected that SMWD will exercise the option to purchase water and thereafter will be committed to paying CCWD for 4,250 acre-feet of water each year irrespective of whether the water is called. SMWD and the owners of land encompassing The Ranch Plan have entered into a separate agreement whereby the latter is responsible for paying all costs associated with the option and water purchase contracts.

The option and water supply contracts are specifically directed, and exclusive, to augmenting water supply reliability for The Ranch Plan as indicated in those contracts. In the event of unexpected MWD supply shortfalls, up to 4,250 acre-feet of water can be called in each year to supplement MWD supplies. **The effect of calling this water in the event of MWD supply shortfalls, will be to enable the delivery of the amount of water necessary to meet the Ranch**

Plan demands during such a shortfall, while at the same time satisfying demands associated with SMWD's other customers.

The amount of 4,250 acre-feet of water has been secured to provide at least 50% redundancy to The Ranch Plan's projected Year 2025 potable water demand of 8,483 acre-feet during normal years and thus augment MWD's already conservative projected supply reliability as discussed above. Expected increased demand during dry and multiple dry years, as shown in the chart included in Section 2 of this WSA, will be met by increasing recycled water production and potentially from local supplies (although the latter are not required for purposes of meeting demands as discussed above and in the following sections of this WSA), and thus will enable at least a 50% margin of potable water supply redundancy in addition to meeting non-potable demands for The Ranch Plan. Discussion and analysis regarding the Chino Groundwater Basin, where the CCWD water which is the subject of the option and water supply contracts is currently reserved for SMWD, is addressed below in this WSA.

SMWD/Southern California Water Company Supplemental Dry Year(s) Supply Agreement

On December 28, 2001, SMWD and Southern California Water Company (SCWC) entered into a water sale and purchase agreement providing for the purchase of 2,000 acre-feet of water by SMWD. The water is currently stored in the Chino Groundwater Basin.

The SCWC stored water was acquired in contemplation of augmenting MWD water supplies for The Ranch Plan. The water may be called if necessary to supplement the CCWD supply discussed above and is included for this purpose in the Section 2 chart and graphs of this WSA. Discussion and analysis regarding the Chino Groundwater Basin, where the SCWC water is currently stored, is addressed below in this WSA.

Section 2.E.4. Local Supplies

As indicated in previous sections of this WSA, local supplies are not essential for purposes of meeting 20-year demand projections associated with The Ranch Plan but are discussed herein for purposes of demonstrating a further margin of safety for purposes of this WSA. The following section addresses these supplemental local water supplies.

Urban Run-off Surface Flow Diversions

SMWD owns and operates the Oso Creek Barrier (discussed following) to supplement recycled water production. SMWD is proposing additional surface and/or subsurface flow diversions throughout its service area within the San Juan Basin watershed to supplement the recycled water system. The following tables summarize projected water production from each of the facilities:

Figure 2.14
Historical Surface Flow Diversions
(Acre-Feet per Year)

Year	1980	1985	1990	1995	2000	2002
Oso Creek Barrier	No Data	No Data	793	793	1,239	1,252

Figure 2.15
Projected Surface Flow Diversions
(Acre-Feet per Year)

Year	2005	2010	2015	2020	2025
Oso Creek Barrier	1,250	1,250	1,250	1,250	1,250
Canada Gobernadora	700	700	700	700	700
Arroyo Trabuco	700	700	700	700	700
Total	2,650	2,650	2,650	2,650	2,650

Oso Creek

Since 1979, SMWD has operated the Oso Creek Barrier in Mission Viejo (the Barrier). The Barrier was constructed pursuant to *San Diego Regional Water Quality Control Board Order 77-11, Waste Discharge Requirements for Santa Margarita Water District Pilot Reclamation Near Mission Viejo, California*. The Regional Board required operation of the Barrier to mitigate potential degradation of the lower San Juan Creek Basin that may be caused by the use of recycled water produced and distributed from SMWD's Oso Creek Water Reclamation Plant. The Barrier is operated during non-storm periods and produces approximately one (1) mgd when operational, yielding 858 acre-feet per year on a reliable basis. Based on recent flows, production is projected to increase to 1,250 acre-feet per year.

Canada Gobernadora

SMWD is also in the process of constructing a wetlands basin in Canada Gobernadora to collect and treat urban run-off from irrigation within Coto de Caza (Gobernadora Basin). A study prepared by Rivertech, Inc., dated September 1999, entitled *Gobernadora Multipurpose Basin Concept Plan and Estimated Yield* estimated the yield from the Gobernadora Basin is approximately 800 acre-feet.

Water from the Gobernadora Basin would be pumped to the 500 acre-foot capacity Portola Reservoir located in the north end of Coto de Caza, which stores water used for non-domestic (irrigation) use. The Gobernadora Basin will yield water for irrigation use while providing wetlands and erosion protection. SMWD has started the environmental documentation for the project and has performed wildlife surveys.

Funding is proposed to be provided from SMWD's Five-Year Capital Improvement Program and in addition, SMWD has applied for a grant from the State Water Resources Control Board.

Arroyo Trabuco

In March of 1998, SMWD authorized a joint research project with Rancho Mission Viejo to conduct a technical feasibility study for new water production facilities to be located in the alluvium along Trabuco Creek in the reach roughly bounded by Oso Parkway and the proposed Crown Valley Parkway extension. The study was conducted by Wildermuth Environmental Associates and

concluded that an infiltration gallery would capture approximately 1,500-acre-feet per year. The study was extended to include a source water determination to identify the percentage of non-storm water flows that were return imported flows.

A monitoring program conducted in conjunction with the study characterized water quality in strategic reaches and recharge areas of Arroyo Trabuco. Since, as explained above, SMWD retains imported water return flow rights, it is necessary to establish the amount of return flow water available for collection and reuse by SMWD.

Eleven surface sites and four groundwater well sites were selected for the monitoring program. These sites were chosen to provide information about changes in water chemistry that occur within Trabuco Creek. The study's premise was that water quality in surface and groundwater varies substantially from upstream to downstream. Analysis of the water upstream of urbanization and analysis of imported water quality can be compared to water quality downstream of urbanization and the percentage of contribution of each can be determined.

Based on the water characteristic analyses, about 50 to 70 percent of the water in Trabuco Creek during non-storm flows is imported water. The relative percentage changes seasonally with precipitation and will be documented through an ongoing monitoring program.

Dry-weather flow measurements conducted in the summer of 1996 indicate flow exceed 1 mgd, which is three acre-feet per day or a minimum of 1,120 acre-feet per year. Since, as indicated above, imported water return flows are in the range of 50-70%, this amounts to approximately 500 to 700 acre-feet of water each year which SMWD is entitled to harvest for irrigation use. SMWD is participating in the SAMP and NCCP EIR development process to facilitate acquisition of permits which are reasonably expected to be issued subject to feasible terms and conditions.

Section 3. Identification of Existing Water Supply Entitlements, Water Rights and Water Service Contracts

This Section provides information responsive to the statutory requirements itemized above concerning entitlements to water, ability to fund identified facilities, and permits and regulatory approvals in connection therewith.

Section 3.A. Written Contracts or Other Proof of Entitlement to Water Supply

Imported Water

SMWD is a member agency of Municipal Water District of Orange County (MWDOC), which in turn is a member agency of The Metropolitan Water District of Southern California (MWD). SMWD has been receiving water from MWD on a continual basis in increasing quantities based on service demands since 1973. MWD water was initially provided via interconnections with other agencies and subsequently through the connections identified below.

As a member agency of MWDOC and MWD, SMWD is entitled to receive available water from MWD. Property owners within SMWD, including the area encompassed by The Ranch Plan, have been, and continue to be, subject to the payment of property taxes levied by MWD since SMWD's formation in 1964 in connection with the entitlement to receive MWD water served by SMWD for use on their property.

The following table describes the quantity of water received in prior years by SMWD:

Figure 3.1
Imported Water Purchases

Year	Volume in Acre-feet	Year	Volume in Acre-feet	Year	Volume in Acre-feet
1980	7,364	1988	14,135	1996	20,444
1981	8,596	1989	15,325	1997	23,471
1982	8,617	1990	18,575	1998	20,095
1983	7,641	1991	19,366	1999	23,352
1984	8,884	1992	16,406	2000	27,893
1985	9,177	1993	16,689	2001	28,444
1986	10,531	1994	17,457	2002	34,398
1987	12,030	1995	18,665		

Importation System

SMWD also has entitlements and/or written contracts to receive imported (potable) water from MWD via the regional distribution system located in Orange County, components of which are described below. Although pipeline capacity rights do not guarantee the availability of water per se, they do guarantee the ability to convey water when it is available to the SMWD distribution system and, therefore, operate in tandem with water entitlements and/or contracts to receive supplemental water for purposes of demonstrating not only water supply reliability, but also physical delivery system reliability.

SMWD is connected to the Allen-McColloch Pipeline and the East Orange County Feeder No. 2 which deliver domestic water. For non-potable water, SMWD has capacity in the Baker Pipeline, operated by the Santiago Aqueduct Commission (a joint exercise of powers agency which includes SMWD), and the Irvine Lake Pipeline operated by Irvine Ranch Water District. SMWD is not currently directly connected to either the Baker or Irvine Lake Pipelines. Each of these facilities, along with entitlements or contracts to receive water from these facilities, is discussed below.

Allen-McColloch Pipeline

The Allen-McColloch Pipeline (AMP) is SMWD's primary source of domestic water in which SMWD owns specified capacity rights for the delivery of water. The AMP is connected to the South County Pipeline (SCP), which is jointly owned on the basis of capacity allocation, by SMWD and MWD. The SCP traverses the SMWD service area from north to south and passes

through the area encompassed by The Ranch Plan. Additionally, SMWD has a connection to the AMP in Mission Viejo near El Toro Reservoir. MWD owns and operates the AMP. SMWD's AMP capacity ownership, expressed as rate of flow, is 139.19 cubic feet per second (cfs).

The Agreement For Sale And Purchase Of Allen-McColloch Pipeline (Metropolitan Agreement No. 4623) among MWD, MWDOC, MWDOC Water Facilities Corporation and certain other identified participants, including SMWD, dated July 1, 1994 (the AMP Sale Agreement) requires MWD, among other things, to meet SMWD's requests for water deliveries (subject to the availability of water from MWD). The AMP Sale Agreement further requires MWD to augment/increase capacity necessary to meet SMWD's projected ultimate service area water demands, which includes The Ranch Plan and other undeveloped lands within SMWD.

East Orange County Feeder No. 2

The East Orange County Feeder No. 2 (EOCF No. 2) is a pipeline jointly owned by several local agencies and MWD. SMWD has 14 cfs, or 10,000 acre-feet per year of capacity rights in the EOCF No. 2 per the agreement entitled 1970 Agreement Municipal Water District of Orange County and Santa Margarita Water District, dated December 4, 1970. Water is delivered through the Aufdenkamp Transmission Main to SMWD's Plaza Pump Station.

The EOCF No. 2 is considered a back-up system to the AMP and is currently used intermittently for facilities maintenance purposes. Approximately 1,100 acre-feet of water per year is deliverable through this system as necessary to augment or replace deliveries, to the extent of capacity limitations, through the AMP.

SMWD's capacity rights in the EOCF No. 2, and connecting local facilities, enable SMWD to receive water from sources including agencies located within the Orange County Water District (OCWD) service area. The delivery and method of delivery (i.e., direct delivery or exchange) of such water is likely to occur under dry year(s) conditions and will be subject to agreements or understandings involving MWDOC, OCWD and its member agencies.

Baker Pipeline

The Baker Pipeline conveys untreated water via a connection to MWD's raw (untreated) water feeder system. SMWD owns capacity in the pipeline pursuant to Santiago Aqueduct Commission Joint Powers Authority Agreement dated September 1961 and as amended, but does not currently have a direct connection. Trabuco Canyon Water District (TCWD) also has capacity and owns and operates a water treatment plant to produce domestic water. By agreement, SMWD can purchase up to 2000 acre-feet per year from TCWD. This is included in the MWD imported water supply for purposes of this WSA. This is considered a back-up system for reliability purposes. Additionally, in an emergency the Baker Pipeline can be converted to domestic use as it was in recent years, and used to deliver water to the South County Pipeline during the repairs to the AMP.

Interconnections

SMWD maintains interconnections with other adjacent local water suppliers including, Moulton Niguel Water District, Irvine Ranch Water District, Trabuco Canyon Water District, El Toro Water District, City of San Juan Capistrano and City of San Clemente. The interconnections are various sizes and generally operate as an emergency source of supply. The significance of these connections is to collectively increase the water supply delivery reliability for interconnected agencies, including SMWD, particularly in the event of physical system failures involving delivery pipelines. The interconnections also operate to temporarily diversify SMWD's sources of water supply in the event of deliveries from IRWD and TCWD, which sources include local groundwater and imported untreated water.

Recycled Water

Section 1210 provides that the owner of a wastewater treatment plant operated for the purpose of treating wastes from a sanitary sewer system shall hold the exclusive right to the treated waste water as against anyone who has supplied the water discharged into the waste water collection and treatment system, including a person using water under a water service contract, unless otherwise provided by agreement.

SMWD's permits for the operation of its wastewater treatment facilities addressed herein, allow only irrigation and customer uses of recycled water. Such water is not permitted to be discharged to a stream and, therefore, ownership or rights to use such water by appropriation is not possible. Consequently, SMWD owns and is entitled to sell recycled water.

The following table describes the quantity of recycled water produced in prior years.

Figure 3.2
Historical Recycled Water Production
(Acre-Feet per Year)

Year	1980	1985	1990	1995	2000	2002
Oso Creek WRP	216	149	474	214	1,960	62
Los Alisos WRP	-	-	-	-	1,983	2,800
Chiquita WRP	-	-	-	-	-	-
Total	216	149	474	214	3,943	2,862

Supplemental Dry Year(s) Water Supplies

On March 25, 2003, SMWD and Cucamonga County Water District entered into the option agreement (with the executory water supply contract attached thereto) more fully described in Section 2.E.3 of this WSA. A copy of the option agreement and water supply contract are available from SMWD.

On December 28, 2001, SMWD and Southern California Water Company entered into a water sale and purchase agreement more fully described in Section 2.E.3 of this WSA. A copy of this agreement is available from SMWD.

Local Supplies

Local supplies are urban run-off surface flow diversions comprised of the Oso Creek Barrier, Canada Gobernadora and Arroyo Trabuco, all of which are described in Section 2.E.4. SMWD overlies the San Juan Creek watershed. The State Water Resources Control Board (SWRCB) has determined the watershed is not a groundwater basin, but a surface and underground flowing stream and, therefore, it is subject to SWRCB jurisdiction and its processes with respect to the appropriation and use of waters within the watershed. SMWD is a member of the San Juan Basin Authority (SJBA) which has SWRCB Permit for Diversion and Use of Water Permit No. 21074 for appropriation and diversion of up to 8,026 acre-feet per year, with the ability to increase to 10,702 acre-feet of water per year upon demonstration of sufficient availability of unappropriated water.

As a member of the SJBA, SMWD is entitled to participate in the development of projects to appropriate and divert water from the San Juan Basin. Additionally, return imported flows, defined as water imported by the SMWD from outside the drainage basin (water purchased from MWD) used within the basin can be collected by SMWD for re-use.

Section 3.B. Adopted Capital Outlay Program for Financing the Delivery of Water Supply

SMWD has established eight primary Improvement Districts, some of which include sub-improvement districts, for purposes of financing when needed the construction of capital water, wastewater and reclamation facilities through the issuance of authorized General Obligation Bonds. The following table itemizes the amount of authorized and issued General Obligation Bonds for each of the Improvement Districts which encompass The Ranch Plan.

Figure 3.3
General Obligation Bond Authorization

Improvement District	Amount Authorized	Amount Issued	Remaining Unissued Amount
I.D. 4	$332,546,366	$158,896,366	$173,650,000
I.D. 4C	$432,000,000	-	$432,000,000
I.D. 5	$150,000,000	-	$150,000,000
I.D. 6	$830,000,000	-	$830,000,000

The amount of authorized General Obligation Bonds, based on conservative cost estimates, to finance the primary water transmission delivery and related facilities delivery system for The Ranch Plan is more than adequate. The remaining improvement districts have authorized bonds, however, the infrastructure within the districts has been completed or funds are available to complete the facilities and, therefore, SMWD does not anticipate issuing additional bonds in those improvement districts.

SMWD has also adopted a Five-Year Capital Facilities Program and budget which is updated each year. The capital facilities program and budget identifies capital facilities necessary in order to provide water, wastewater and reclamation service to developing lands within the SMWD service area, including The Ranch Plan.

Section 3.C. Federal, State and Local Permits for Construction of Necessary Infrastructure associated with Delivering Water Supply

Virtually all of SMWD's existing and future water delivery pipelines are, or will be, located within public rights-of-way. Section 35600 et seq., relating to the acquisition and disposition of property, including SMWD's right to locate, construct and maintain works on any land owned by the State, provides express authority for SMWD to construct any works along, under or across any stream of water, watercourse, street, avenue, highway, railway, canal, ditch, or flume which the route of a pipeline or canal of the works may proceed along or across in a manner that will afford security for life and property. Although these statutes do not specifically address federal permits, SMWD is participating in the SAMP and NCCP to ensure its facilities are included and any applicable permits will be obtained for purposes of constructing necessary infrastructure associated with delivering water supply.

The County of Orange routinely issues encroachment permits which are not permissive with respect to the right to construct water delivery pipelines but rather are for purposes of prescribing the terms and conditions for such construction.

Section 3.D. Necessary Regulatory Approvals Required to Convey or Deliver Water Supply

In the event it is necessary for SMWD to call its supplemental dry year(s) supplies from Cucamonga County Water District and/or Southern California Water Company, such calls would only be made in the event of Tier 2 water shortages from MWD, which by definition assumes there will be unused capacity in MWD's water delivery system to effect an exchange or wheeling of water as between SMWD and CCWD and/or SCWC.

In event of MWD Tier 2 shortages, Section 1810 authorizes a bona fide transferor of water for the use of a water conveyance facility which has unused capacity for the period of time for which that capacity is available, if fair compensation is paid for that use. MWD's recent rate restructuring included the establishment of a system access charge as the basis of fair compensation, along with other components of its rate structure, to enable the exchange or wheeling of water through its system. A bona fide transferor is defined as a government agency (i.e., SMWD) with a contract for sale of water (San Luis Coastal Unified School District v. City of Morro Bay (2000) 81 Cal.App.4th1044).

Section 4405 of MWD's Administrative Code, relating to the use of MWD's system to wheel water, states that the determination of whether there is unused capacity in MWD's conveyance system is to be made by the Chief Executive Officer on a case-by-case basis in response to particular requests for wheeling. It is expected MWD must necessarily make this determination in the event it is unable to deliver SMWD's required demand for Tier 2 water.

The preceding section addresses regulatory approvals in connection with encroachment permits issued by the County of Orange relative to SMWD's construction of water delivery pipelines in public rights-of-way. In addition, the San Diego Regional Water Quality Control Board (the Regional Board), pursuant to federal and State requirements, has or will approve amendments to

SMWD's National Pollution Discharge Elimination System (NPDES) permit in connection with SMWD's delivery of recycled water.

Permits necessary to divert and use local supplies addressed in this WSA, to the extent not already issued or provided for within existing priority permits of regional entities such as the San Juan Basin Authority (see Section 3.A., local supplies), may be required by the Regional Board.

Section 4. For Water Not Received in Prior Years Under Existing Supply Entitlements, Water Rights, or Water Service Contracts, Identification of Other Water Systems or Contractholders Receiving Water or With Rights to Same Source of Water

With respect to expected future deliveries of water from MWD to SMWD that are quantified and addressed in this WSA, other MWD member agencies share rights or entitlements to the same sources of water projected by MWD to be available. MWD, however, has accounted for and included total demands within its service territory in its 2003 Supply Report.

The sharing of such rights or entitlements to future deliveries during drought/shortage periods is governed by MWD policies and procedures, including principally MWD's Water Surplus and Drought Management Plan (WSDM Plan), adopted in August 1999 (Report No. 1150).

The WSDM Plan includes governing objectives in the event of water shortages that include the avoidance of mandatory import water allocations to the extent practicable and equitably allocating imported water on the basis of agencies' needs that include impact on retail consumers. Since MWD is the primary and not a supplemental supplier to SMWD, MWD's WSDM Plan criteria suggest the delivery of water to SMWD would be prioritized relative to other agencies reliant on MWD which have local resources.

In times of extreme shortages, the WSDM Plan enables the continued delivery of water although the price of the water may be higher depending on the extent of the supply demand exceeding 102% of firm deliveries for the allocation of all MWD supplies. Thus, under extreme shortage circumstances, supply reliability may be a matter of willingness to pay for water, depending on the desired level of reliability, rather than the actual unavailability of water.

MWD's General Counsel has opined that preferential rights claims among and between MWD's member agencies, which may be made on the basis of historical financial contributions to MWD aside from monies paid to purchase water, may be limited if MWD declares a water shortage under Section 350 et seq. (see November 27, 2000 memorandum to MWD Board of Directors from Roderick E. Walston, General Counsel). MWD's invocation of Section 350 et seq. would operate to enable MWD to prioritize deliveries of water if insufficient water is available for human consumption, sanitation and fire protection. As stated above, since SMWD is entirely dependent on MWD for such purposes, except for supplemental water supplies identified herein for dry year purposes, deliveries of water to SMWD are likely to be prioritized relative to other demands in the MWD system under Section 350 et seq. conditions.

With respect to the production of additional recycled water as addressed in this WSA, there are no other public water systems or water service contractholders with existing claims or rights to such production.

Public water systems or water service contractholders receiving water or with existing entitlements, water rights, or water service contracts to groundwater in connection with the supplemental dry year(s) supplies from Cucamonga County Water District and Southern California Water Company identified in this WSA are addressed in the following groundwater information section.

Relative to SMWD's existing local supplies entitlements addressed in this WSA, other public agencies and private entities located in the San Juan Basin receive water from and/or have water rights within the Basin, however, diversions made on the basis of an appropriative right are governed by State Water Resources Control Board (SWRCB) permits. The permits are issued in consideration of the availability of water to meet all demands, including environmental needs and year-to-year precipitation variances. Consequently, SMWD's diversions are or will be part of the SWRCB's comprehensive permit regime.

Section 5. Groundwater Information

This section includes groundwater information relative to SMWD's supplemental dry year(s) water supplies referenced hereinabove which are currently available pursuant to separate agreements with Cucamonga County Water District (CCWD) and Southern California Water Company (SCWC) entered into on March 25, 2003, and December 28, 2001, respectively. Both of these water supplies are located in and involve the Chino Groundwater Basin (the Chino Basin).

The CCWD and SCWC agreements specifically earmark reserved and stored water supplies, respectively, for SMWD supplemental dry year(s) purposes and enable the availability of such water to SMWD through an exchange process whereby they will increase groundwater production in-lieu of otherwise directly or indirectly receiving imported water from MWD. Access to and use of MWD's system for exchange purposes is addressed in Section 3.D. above.

Section 5.A. Reference to Chino Basin Groundwater in SMWD's Year 2000 Urban Water Management Plan

SMWD's Year 2000 Urban Water Management Plan did not include information concerning the Chino Basin.

Section 5.B. Description of Chino Basin and Amount of Water CCWD and SCWC Have Legal Right to Pump Under Chino Basin Adjudication

CCWD and SCWC produce water from the Chino Basin which was adjudicated by the Superior Court of the State of California for the County of San Bernardino on January 27, 1978 ("the Judgment"). A copy of the Judgment and Court-approved amendments thereto is attached as Appendix "C."

The Chino Basin consists of approximately 235 square miles in the upper Santa Ana River Watershed. While still considered a single basin for hydrologic purposes, the Chino Basin is divided into five management zones, based on similar hydrologic conditions, and three sub-basins. The Chino Basin stores approximately five (5) million acre-feet of groundwater with the capability of storing an additional one (1) million acre-feet.

The Judgment represents a plenary adjudication of all water rights in the Chino Basin and is currently administered under the authority of the Chino Basin Watermaster with continuing jurisdiction by the Court. The principal function of an adjudication generally is to control the use of a water source in order to ensure the source is utilized in an optimum manner. For purposes of an adjudication, the central feature is the determination of the safe yield of the Chino Basin.

The safe yield of a groundwater basin has been defined as the amount of water that can be withdrawn annually without producing an undesirable result. Withdrawal in excess of safe yield is termed overdraft. The Judgment established the safe yield of the Chino Basin in the amount of 140,000 acre-feet per year, however, Watermaster may determine that the operating safe yield can be higher from year-to-year depending on factors including favorable precipitation and management efforts that maximize the beneficial use of all water supplies in the Chino Basin. These management efforts, which ensure the long-term sufficiency of groundwater from the Chino Basin, including during dry years, are addressed below.

The Judgment does not place any limits upon the groundwater production by any party to the Judgment, which includes CCWD and SCWC. Parties are permitted to pump in accordance with the rights described by the Judgment.

The Judgment allocates safe yield of the Chino Basin according to the three pools as described in Paragraph 13 of the Judgment. The members of each pool are then enjoined from producing water from the Chino Basin in excess of such allocated amount "except pursuant to the provisions of the Physical Solution" (Judgment, Paragraph 13(a)-(c)).

The Physical Solution of the Judgment is described in broad terms by Paragraphs 39 through 57 of the Judgment. Paragraph 45 provides Watermaster with the authority to levy and collect assessments for the purchase of water necessary to balance the production by any party in excess of that party's allocated share of safe yield of the Basin. Paragraphs 49 and 50 then describe the sources of water which are authorized to function as sources of replenishment water and the methods by which water can be replenished to the Basin. Exhibit "H," Paragraph 7, of the Judgment describes the way in which costs for replenishment water will be spread among the members of the Appropriative Pool, which includes CCWD and SCWC.

The afore-cited paragraphs of the Judgment evince a clear expectation that parties, including CCWD and SCWC, would produce water in excess of their adjudicated production rights. The injunction in Paragraph 13 of the Judgment should thus be interpreted to mean that parties are enjoined from producing water in excess of their adjudicated rights except to the extent that they will pay a replenishment assessment upon production exceeding a specified amount.

The ability to produce water from the Chino Basin is accordingly not a matter of availability, as contemplated and sanctioned by the Judgment for the reasons discussed above, but rather a matter of cost. Water produced in excess of production rights will cost more than water produced within a party's production rights. Thus, the quantity and reliability of water supplies for purposes of this WSA is a matter of the cost of the water produced from the Chino Basin rather than limitations on production which may otherwise operate to reduce the sufficiency of the groundwater supply.

CCWD and SCWC have the right pursuant to Paragraph 12 of the Judgment to store supplemental water through written agreement with Watermaster, with the allocation of storage capacity subject to the needs and requirements of overlying users and owners of rights in the safe yield or operating safe yield having priority and preference over storage for export. CCWD's and SCWC's existing stored water is held pursuant to Local Storage Agreements with Watermaster and is included within the cumulative Local Storage limit of 50,000 acre-feet for all parties to the Judgment. Therefore, the right to produce water is not restricted to the extent water which CCWD and/or SCWC may produce in connection with the agreements with SMWD is considered stored water or stored water for export.

Whether the water is characterized as reserved or stored, does not affect its availability for CCWD's or SCWC's production for purposes of the agreements with SMWD since both parties, as discussed above, have rights to produce water pursuant to the Judgment and promulgating agreements and programs. Such characterization, therefore, may only be important with respect to whether the water is subject to a replenishment obligation and not CCWD's or SCWC's right to pump the water.

Section 5.C. Detailed Description and Analysis of the Amount and Location of Groundwater Pumped for the Past Five Years by Cucamonga County Water District and Projected to be Pumped by Cucamonga County Water District Through 2025

CCWD pumps groundwater from the Cucamonga and Chino basins, both of which are adjudicated. The following table is a summary of the historical and the projected production from both basins:

Figure 5.1
Cucamonga County Water District
Historical and Projected Groundwater Supplies
Cucamonga and Chino Basins

Year	Acre-Feet
1998	16,893
1999	21,830
2000	17,341
2001	14,009
2002	17,507
2005	24,000
2010	28,000
2015	32,000
2020	36,000
2025	40,000

The Cucamonga Basin is the predominant source of groundwater with the production being two-thirds, or more, of the total groundwater pumped by the District. Over the ten fiscal years from 1988-89 through 1997-98, the total annual groundwater production from both the Cucamonga Basin and Chino Basin has ranged from a low of about 11,419 acre-feet in Fiscal 1990-91, to a maximum of 24,337 acre-feet in fiscal year 1988-89. The average annual groundwater production for the ten-year period was about 16,200 acre-feet per year.

The southern portions of CCWD overlie the Chino Basin, which is separated from the Cucamonga Basin by the Red Hill Fault. The District's Chino Basin production in 2002 was from six wells. Based on the Judgment, CCWD's maximum annual groundwater pumping right is limited to an appropriative right of 3,619 acre-feet per year. In addition, CCWD purchased the Kaiser Ventures water rights of approximately 6,397 acre-feet per year in Fontana Water Company. With this, CCWD's minimum aggregate groundwater rights and access to groundwater in the Chino Basin is 10,016 acre-feet.

Section 5.D. Detailed Description and Analysis of the Amount and Location of Groundwater Pumped for the Past Five Years by Southern California Water Company and Projected to be Pumped by Southern California Water Company through 2025

SCWC has a single well within the Chino Basin and an annual appropriative right, exclusive of Agricultural Pool transfers, of approximately 441 acre-feet. Agricultural Pool transfers provide an additional amount of water to SCWC of approximately 200 acre-feet/year, accumulated amounts of which may be sold from time-to-time.

Figure 5.2
Southern California Water Company
Chino Basin Groundwater Historical and Projected Production

Year	Acre-Feet
1998	411
1999	411
2000	411
2001	411
2002	411
2005	411
2010	411
2015	411
2020	411
2025	411

Section 5.E. Sufficiency of the Groundwater from the Chino Basin

CCWD's and SCWC's legal right to pump water in an amount necessary to meet all demands as sanctioned and protected by the Judgment as discussed above, including for purposes of the agreements with SMWD addressed in this WSA, is buttressed by a number of programs and projects directed to ensuring the sufficiency of groundwater supplies from the Chino Basin, particularly during dry years. An adjudicated water right has perhaps the most substantial indicia

of reliability of any water right that currently exists in California. An adjudicated right is based upon long-term studies whose purpose is to protect the long-term functionality of the water source. These rights are coordinated in an established and binding manner with all the other users of the Chino Basin and are overseen by Watermaster which has the authority to mandate and proscribe activities whose purpose is to protect the water source and maximize its long-term beneficial use.

Chino Basin management activities include objectives, projects and programs identified in the Peace Agreement, entered into between Judgment parties on June 29, 2000, which are more specifically described in the Optimum Basin Management Program (OBMP) that implements the provisions of the Peace Agreement. All Watermaster processes are governed by Rules and Regulations and receive active oversight from the Court which, as noted above, retains continuing jurisdiction over the administration of the Judgment. Consequently, the sufficiency of the groundwater is not only directed by rigorous Watermaster management processes, but validated and ensured by continuing Court oversight.

OBMP projects directed to ensuring the maximization of safe yield and operating safe yield of the Chino Basin include: 1) a comprehensive monitoring program; 2) a comprehensive recharge program; 3) development and implementation of a water supply plan for impaired areas of the Chino Basin; 4) development and implementation of a comprehensive groundwater management plan for Management Zone 1; 5) development and implementation of a regional supplemental water program; 6) development and implementation of cooperative programs with the Regional Water Quality Control Board and other agencies to improve Chino Basin management; 7) development and implementation of a salt management program; 8) development and implementation of a groundwater storage program; and, 9) development and implementation of storage and recovery programs.

The referenced elements of the OBMP collectively comprise a comprehensive regimen directed to ensuring and maximizing the long-term beneficial use of water in the Chino Basin. The OBMP Program Elements are collectively directed to ensuring the sufficiency of Chino Basin groundwater supplies, particularly during dry years, and comprehensively address water quality and quantity, thus maximizing beneficial use over the long-term. The Inland Empire Utilities Agency (IEUA) Board of Directors approved and certified the overall OBMP Programmatic Environmental Impact Report in July 2000. Sufficiency of groundwater from the Chino Basin is further assured for the following reasons.

IEUA is a member agency of MWD, which provides imported water from the State Water Project for direct use by parties to the Judgment in the Chino Basin and recharge purposes. IEUA has also reviewed the sufficiency of supplies for its service territory that includes the Basin in connection with its Year 2000 Urban Water Management Plan (IEUA UWMP).

The IEUA UWMP is consistent with, and reiterative of, OBMP projects and programs. The IEUA UWMP projects increased requirements for imported water for direct and recharge use while noting reductions during dry years (due to increased reliance on groundwater from the

Chino Basin) and in the higher amount otherwise required in the absence of OBMP projects and programs. The IEUA UWMP also analyzes the sufficiency of water supplies for single and multiple year drought scenarios and concludes the region is expected to meet 100% of its dry year demand under every scenario.

IEUA's UWMP also discusses MWD's Year 2002 "Report on Metropolitan's Water Supplies." IEUA has augmented its assessment of imported water supply reliability via correspondence dated March 19, 2003, to the City of Chino. This correspondence includes detailed discussion regarding contemporary circumstances, including the reduction of Colorado River water to MWD and MWD's most recent supply report: "Report on Metropolitan's Water Supplies," dated March 25, 2003. IEUA concludes, on the basis of the OBMP and its own activities in the Chino Basin and MWD's latest report that imported supply reliability will remain adequate to serve anticipated demand through 2025.

California Water Code Section 10631(j) provides that urban water suppliers, such as IEUA, that rely upon a wholesale agency for a source of water may rely upon water supply information provided by the wholesale agency in fulfilling UWMP informational requirements. IEUA's independent analysis of contemporary regional water conditions in conjunction with MWD's most recent report, provide additional and reliable assurances concerning the sufficiency of imported water supplies that comprise a portion of overall Chino Basin supply sufficiency.

IEUA's March 19, correspondence also references MWD's 100,000 acre-feet water storage and recovery program which, along with future storage and recovery projects will drought-proof the Chino Basin and all other appropriative pool members (including CCWD and SCWC) from imported water shortages. Watermaster is currently finalizing an agreement for the MWD 100,000 acre-feet program that will include up to 10,458 acre-feet of participation by CCWD and thus further enhancing the sufficiency of CCWD's groundwater supply. This program is consistent with OBMP Program Element No. 9-Develop And Implement Storage And Recovery Program. Benefits to the Chino Basin associated with this program include the construction of facilities to enhance imported water deliveries and the production of water from the Chino Basin. Further demonstrating the sufficiency of Chino Basin groundwater is MWD's program to use the Basin for dry year supply purposes, thus underscoring that sufficient Chino Basin groundwater is available during dry years not only for local use by agencies such as CCWD and SCWC but also in connection with MWD's regional reliability programs and other agencies such as SMWD.

In conclusion, the sufficiency of groundwater from the Chino Basin is assured due to CCWD's and SCWC's legal right to produce water necessary to meet ultimate demands in conjunction with OBMP objectives. These OBMP objectives which are overseen and administered by the Chino Basin Watermaster specifically assure, under the auspices of continuing Court jurisdiction, the long-term production of water from the Chino Basin.

Full Report
Volumes I, II and III
Of the
Water Supply Assessment
For ‘The Ranch Plan’

Is provided as a Reference document
to the DRAFT EIR #589