

Appendix I

Sewer Study, Water Supply Assessment



**PARKLANDS
TRACT MAP No. 5632**

SEWER STUDY



PREPARED BY:

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EXP. 09-30-2007**

INTRODUCTION

The purpose of this report is to analyze the existing sewer system to verify that there is enough capacity to adequately serve the increased flow from this project and to determine impacts on the City's sewer system, if any this may cause.

PROJECT SCOPE

This proposed project is located in East Ventura bounded on the North by Telegraph Road, the East by Wells Road, the South by Blackburn Road and the 126 Freeway, and on the West by an existing mobile home park and single family homes.

The Parklands project is a mixed use project consisting of 326 single family residences and 161 multi-family dwelling units with approximately 15,000 square feet of commercial space within the multi-family dwelling units.

The existing manhole to perform the flow monitoring on was determined by conversations with City Staff. It was determined that the manhole at Saticoy Golf Course located northwest of Wells Road and Telephone Road was selected as to where the test was needed.

The test was performed by Down Stream Services, Inc. during the week of September 20, 2006 to September 26, 2006. Their report is attached.

RESULT

The result of the flow monitoring study was as follow:

Maximum depth of flow = 2.58 inches

Maximum flow rate = 0.33209 mgd = 0.5138 cfs

The additional flow generated by this proposed project will add 0.4821 cfs (peak flow) to the existing 15" sewer line which will increase the capacity to 31.7% which is less than the maximum design capacity of 50%.

CONCLUSION

Based on this analysis, no significant impacts will occur because of the development of this project.

Proposed Flow

326 single family residences and 161 multi-family dwelling units = 487 units

Residential = 0.00013 cfs/capita

2.5 people x 487 = 1,217.5 people

1,217.5 x 0.00013 = **0.1583 cfs**

15,000 square feet of commercial space

Commercial = 0.0061 cfs/acre

15,000 sf = 0.34 acre

0.34 x 0.0061 = **0.0021 cfs**

Recreation Building

Recreation = 0.00031 cfs/acre

0.92 acres x 0.00031 = **0.0003 cfs**

Total flow = 0.1583 + 0.0021 + 0.0003 = 0.1607 cfs

Peak flow = 0.1607 x 3 = **0.4821 cfs**

Existing and Proposed Flow

Existing flow = 0.5138 cfs (maximum flow per Flow Monitoring Report)

Proposed flow = 0.4821 cfs

Total flow = 0.9959 cfs

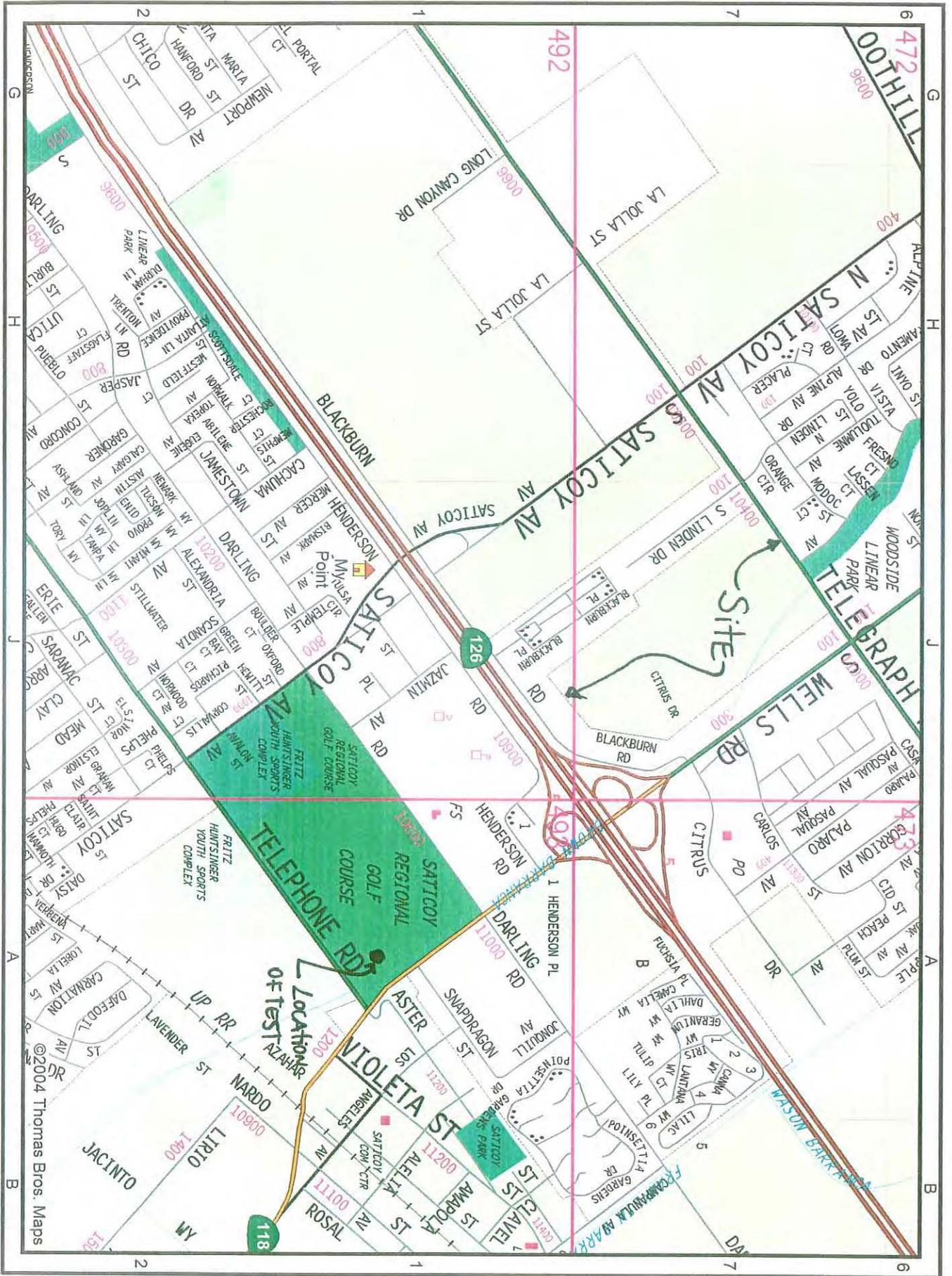
Manning Pipe Calculator

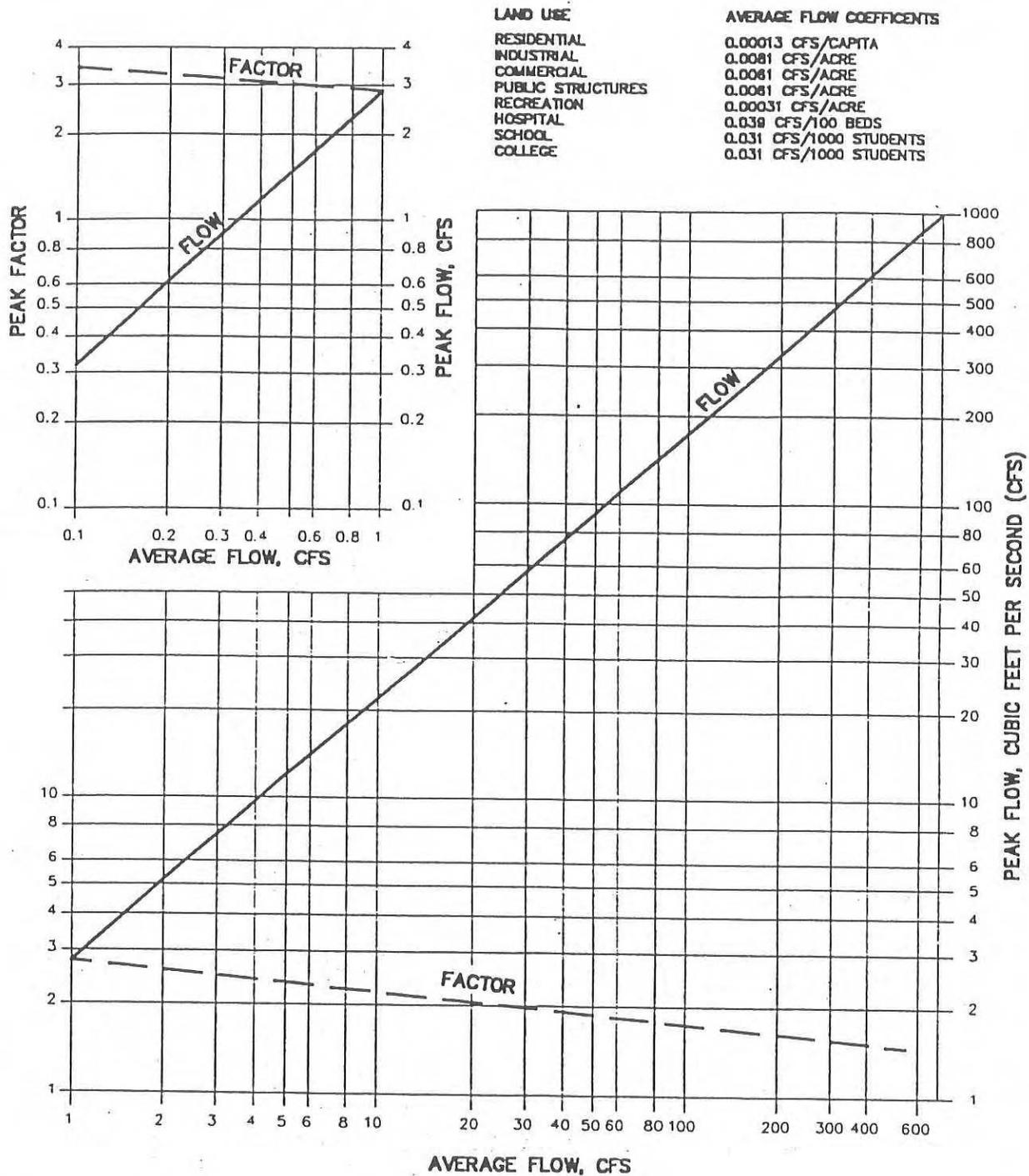
Given Input Data:

Shape	Circular
Solving for	Depth of Flow
Diameter	1.2500 ft
Flowrate	0.9959 cfs
Slope	0.0050 ft/ft
Manning's n	0.0130

Computed Results:

Depth	0.3965 ft
Area	1.2272 ft ²
Wetted Area	0.3344 ft ²
Wetted Perimeter	1.4956 ft
Perimeter	3.9270 ft
Velocity	2.9778 fps
Hydraulic Radius	0.2236 ft
Percent Full	31.7184 %
Full flow Flowrate	4.5678 cfs
Full flow velocity	3.7221 fps





CITY OF SAN BUENAVENTURA

COMMUNITY SERVICES DEPARTMENT
ENGINEERING DIVISION

DESIGNED BY: _____
 DRAWN BY: T. MEISNER
 CHECKED BY: B. EMADI
 APPROVED BY: [Signature]
 SANITATION SUPT.

AVERAGE SEWER DISCHARGE COEFFICIENTS
AND PEAK FLOW CHARTS

APPROVED BY: [Signature]
 CITY ENGINEER R.C.E. DATE 6-13-95
 37064

FIGURE
7

SHEET
1 of 1

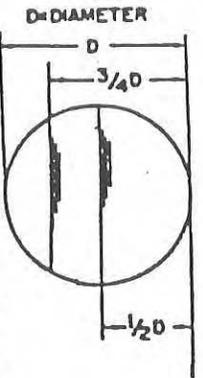
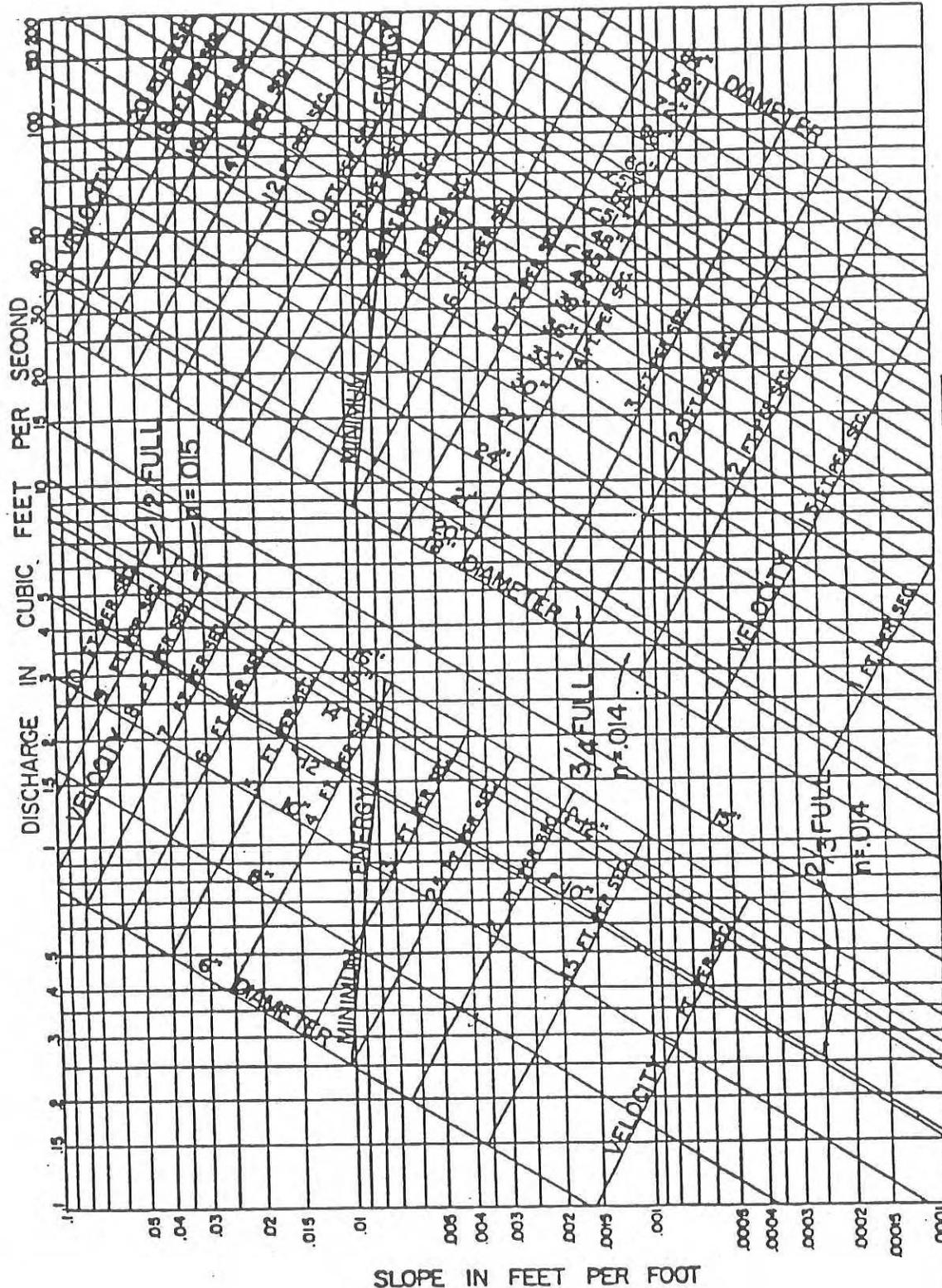


CHART IS BASED ON MANNING'S FORMULA

$$V = \frac{1.486}{n} R^{2/3} S^{1/2}$$
 FOR PIPES 18" DIA. OR LESS - FLOW AT 1/2 DEPTH - n = 0.015
 FOR PIPES 18" DIA. OR GREATER - FLOW AT 3/4 DEPTH - n = 0.014
 POINTS ABOVE THE MINIMUM ENERGY LINE INDICATE FLOW BELOW CRITICAL DEPTH.

CITY OF SAN BUENAVENTURA

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DRAWN BY T. M.
 CHECKED BY D.S.
 RECM'D BY J.B.
 APPROVED BY [Signature] 7/19/60
 SANITATION SUPERINTENDENT

**CHART OF DESIGN CAPACITY
CIRCULAR SEWERS**
 APPROVED BY [Signature] DATE 2-26-91
 CITY ENGINEER R.C.E. 23761 exp 12-31-93

FIGURE
6
 1 OF 1

**PARKLANDS
CITY OF SAN BUENAVENTURA
SPECIFIC PLAN NO. 6**

SB 610 Water Supply Assessment

Prepared by:

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January 14, 2008

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WATER SUPPLY ASSESSMENT INFORMATION

This water supply assessment is provided for the proposed Parklands Specific Plan in the City of Ventura, pursuant to the requirements of Section 10910 of the State Water Code, as amended by Senate Bill No. 610, Chapter 643 (2001).

BACKGROUND

Senate Bill No. 610 (Costa) became effective January 1, 2002. The bill requires a city or county which determines that a "project" (as defined in Water Code § 10912) is subject to the California Environmental Quality Act (CEQA) to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment. The assessment is required to include an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts. The assessment must be approved by the governing body of the public water system supplying water to the project. If the projected water demand associated with the project was included as part of the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in the water supply assessment. The bill requires the city or county, if it is not able to identify any public water system that may supply water for the project, to prepare the water supply assessment after a prescribed consultation. If the public water system concludes that water supplies are, or will be, insufficient, plans for acquiring additional water supplies are required to be submitted to the city or county. The city or county must include the water supply assessment in any environmental document prepared for the project pursuant to the act. It also requires the city or county to determine whether project water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

PROJECT SUMMARY

The proposed Parklands Specific Plan Project encompasses about 66.7 acres in the Wells Community. The applicant's proposal would involve annexation of three parcels currently under agricultural production from the County to the City and a zone change from R-1 (County Single-Family Residential) to R-P-D (Residential Planned Development) and to M-X-D (Mixed Use Zone). Development under the Parklands Specific Plan would generally include predominantly residential uses, with supporting infrastructure, green space, community recreational space, and a small amount of service commercial development. The specific plan could accommodate up to 499 dwelling units, 25,000 square feet of commercial space and a 6,560 square foot community center.

The proposed project meets the definition of "project" within Water Code section 10912 and is subject to the California Environmental Quality Act (CEQA). Pursuant to CEQA, the City of Ventura, acting as lead agency, prepared a Draft Mitigated Negative Declaration (MND) for the project. The City of Ventura is the public water system that would supply water to the Parklands Specific Plan Project if it is approved by the City of Ventura.



WATER SUPPLY ASSESSMENT

The following is a discussion of local water supply planning as it relates to the applicable requirements of Section 10910 of the State Water Code.

SB 610 APPLICABILITY

Water Code Section 10910(a) states that projects, as defined in Section 10912, are subject to the requirement to prepare a water supply assessment. A “project” under Section 10912 includes a development “that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project”. Therefore, since the proposed project includes up to 499 dwelling units, 25,000 square feet of commercial space and a 6,560 square foot community center, the requirements of Section 10910 of the California Water Code apply to the proposed project.

WATER SUPPLIER

Water Code Section 10910(b) requires the identification of the public water system that would serve the project. The project site is located within the City of Ventura service area and would be served by the City of Ventura if approved. The City of Ventura obtains its water from several sources, including the Ventura River, Casitas Municipal Water District, the Mound Groundwater Basin, the Oxnard Plain Groundwater Basin, the Santa Paula Groundwater Basin, and the Saticoy Yard Well.

UWMP APPLICABILITY

Water Code Section 10910(c)(1) requires a determination of whether or not the proposed project was included in the most recently adopted urban water management plan (UWMP). The most recently adopted UWMP (2005) for the City of Ventura projects future demand based on General Plan buildout to the year 2025, with an estimated population increase of 21,208 persons, the addition of 8,258 residences, and the addition of 2,655,000 square feet of commercial development. The proposed project includes up to 499 residential units, 25,000 square feet of commercial space and a 6,560 square foot community center. The General Plan land use designation for the site is residential low (0-8 dwelling units per acre). The Plan Area is 66.7 acres; therefore, the density proposed (499 residential units with 25,000 square feet of commercial space and a 6,560 square foot community center) is about the same as the maximum density envisioned under the General Plan Land Use designation (533 residential units). Therefore, the project has been accounted for in water demand figures included in the City’s 2005 UWMP.

WATER SUPPLIES AND DEMAND

According to the 2006 Biennial Water Supply Report, the City of Ventura obtains water from the following sources:

1. Ventura River surface and subsurface water intakes and four shallow wells (Foster Park)
2. Casitas Municipal Water District (Casitas)
3. Mound Groundwater Basin
4. Oxnard Plain Groundwater Basin (Fox Canyon Aquifer)



5. Santa Paula Ground Water Basin
6. Saticoy Yard Well

The City also holds a State Water Project entitlement of 10,000 acre-feet per year (AFY). To date, the City has not received delivery of its allotment, and it is not certain if or when facilities will be constructed to transport SWP water to the City. The City manages its water resources conjunctively. Conjunctive use is the practice of first utilizing surface supplies (which are lost to the ocean if not used when they are available) before groundwater supplies (which can be stored for use when the surface supplies are not plentiful). Groundwater is used to provide for seasonal demands and as a source during drought periods. Therefore, the City will generally utilize its water supplies in the following order: Ventura River, Lake Casitas, and groundwater basins. In addition, the City provides reclaimed water from the Ventura Water Reclamation Facility to two municipal golf courses, the Ventura Marina area and private customers for landscape irrigation. The City's Historic and Projected Water Source Supply Availability is shown in Table 1.

Table 1 Historic and Projected Water Source Supply Availability (Acre Feet) ¹

Year	Surface Water		Ground Water				Total Water Supply
	Lake Casitas ²	Ventura River ³	Mound Basin ⁴	Oxnard Plain Basin ⁵	Santa Paula Basin ⁶	Saticoy County Yard Well ⁷	
1980	7,544	7,276	0	5,198	2,129	0	22,147
1985	9,099	5,493	2,360	6,172	46	0	23,170
1990	6,175	2,859	4,365	5,749	0	0	19,148
1995	1,622	9,042	2,169	2,603	2,594	0	18,030
2000	5,836	6,779	4,579	2,674	1,698	0	21,566
2001	6,292	5,727	4,030	905	2,006	0	18,960
2002	7,127	5,951	3,721	1,978	1,157	0	19,934
2003	4,912	6,722	5,546	2,898	316	0	20,394
2004	6,833	6,118	4,773	2,391	2,183	0	22,298
2005	8,000	2,400	5,700	4,600	2,600	0	23,300
2010	8,000	2,400	5,700	4,600	2,600	2,400	29,900
2015	8,000	2,400	5,700	4,600	2,600	2,400	29,900
2020	8,000	2,400	5,700	4,600	2,600	2,400	29,900
2025	8,000	2,400	5,700	4,600	2,600	2,400	29,900
2030 ⁸	8,000	2,400	5,700	4,600	2,600	2,400	29,900

Source: City of San Buenaventura, 2005 UWMP, Table 3-6

¹ Includes treated and raw water; excludes reclaimed water supply

² Lake Casitas is the City's total past supply including raw water and oil users; projected supply is the City's anticipated water availability for in-district use.

³ Ventura River future supply is the average long-term production per the Evaluation of Long Term Alternative Water Sources, James M. Montgomery, June 1993. Reduced value in 2005 reflect lost and damaged wells caused by 2005 storm.

⁴ Mound Basin Future supply is 75 percent of well pump capacity within basin.

⁵ Oxnard Plain Basin future supply is based on GMA restricted extraction limits (rounded to nearest 100 AF from Table 3-2 in 2005 UWMP)

⁶ Santa Paula Basin 2005 water supply reflects estimated year-end actuals. Future production reflects 75% of maximum design capacity for one well at 2500 gpm.

⁷ Saticoy County Yard Well is 75% of well pump capacity.

⁸ Projections for 2030 were not included in the 2005, UWMP; however, to assure a 20-year projection is included in this analysis, water supply is assumed to remain as allocated in the preceding years.



The City's current water supply is about 23,300 AFY (2005 UWMP). The installation of the Saticoy County Yard Well and Saticoy Well #3 will increase redundancy and increase supply by 2,400 acre-feet/year (2005 UWMP). The Saticoy Yard Well was anticipated for production in 2007 (2006 Biennial Water Supply Report); however, the raw water pipeline to the Saticoy Conditioning Facility is not anticipated to be constructed until late 2008. Saticoy Well #3 is still in the design process and planned operation is anticipated in late 2009 (City of San Buenaventura Public Works Department, 2008).

Historic water use by the City's population is estimated at 0.22 AF per capita prior to mandatory water conservation measures such as low-flow plumbing fixtures. Following implementation of these measures, per capita annual water usage for the period between 1994 and 2004 is 0.18 AF. Future projected demand within the City based on population growth is shown in Table 2.

Table 2
Projected Water Demand (Acre Feet)
(Normal Year, Weatherwise)

Year	Est. Water Service Area Population ¹	Per Capita Usage AFY ²	Treated Water Demand ²	Raw Water Demand ³	Total Water Demand
2005	109,812	0.18	19,766	1,000	20,766
2010	114,629	0.18	20,633	1,000	21,633
2015	119,659	0.18	21,539	1,000	22,539
2020	124,913	0.18	22,484	1,000	23,484
2025	130,400	0.18	23,472	1,000	24,472
2030 ⁴	136,072	0.18	24,493	1,000	25,493

Source: Table 4-4, 2005 UWMP.

¹ Service Area population from DOF reflecting an average annual growth rate of 0.88%, consistent with the 2005 General Plan, plus a 0.35% average annual growth rate for unincorporated areas that are served by the City's supply and infrastructure (2005 UWMP).

² Treated water demand is estimated population multiplied by 0.18 AF/capita based on 1994-2004 average post mandatory water conservation per capita use from Table 4-1, 2005 UWMP

³ Raw water is utilized in the petroleum industry.

⁴ Assumes growth continues at the rate of 0.88% within the City and 0.35% within unincorporated areas served by the City.

A comparison of the supply as indicated in Table 1 with demand as indicated in Table 2 results in a determination that projected available supplies are adequate to meet projected demands (see Table 3). The residential sector of the City is comprised of single and multi-family residential customers. Residential uses comprise about 64% of the overall consumption (2005 UWMP). The commercial sector is comprised of gas stations, large shopping complexes, auto dealerships, restaurants, business parks, office buildings, hotels, and hospitals. The commercial sector comprises about 23% of the overall consumption (2005 UWMP). The industrial sector is comprised of the food industry and oil production, both of which constitute about 1% of the City's overall consumption (2005 UWMP). The institutional and governmental sectors are relatively stable and consist of the County Seat offices, a jail complex, City offices and yards as



well as school facilities and churches. The institutional and governmental sector comprises about 4% of the overall consumption (2005 UWMP). Landscape, Agricultural and Other uses consist of 34 developed parks and 45 miles of linear parkways. In addition there are two 18-hole tournament class public golf courses served by reclaimed water for all turf areas. Agricultural uses served by the City comprise about 0.46% of the overall consumption, while the entire Landscape, Agricultural and Other sector utilizes about 8% of the total consumption (2005 UWMP).

**Table 3
Projected Surplus (AFY)
(Normal Year, Weatherwise)**

Year	Projected Supply	Projected Demand	Surplus
2005	23,300	20,766	2,534
2010	29,900	21,633	8,267
2015	29,900	22,539	7,361
2020	29,900	23,484	6,416
2025	29,900	24,472	5,428
2030	29,900	25,493	4,407

The projected water supply in years 2005 through 2030 appears adequate to serve the demands of the City pursuant to planned growth increases, consistent with the 2005 General Plan, as the surplus of available water ranges from a low of 2,534 AFY in 2005 to a high of 7,361 AFY in 2015.

In drought conditions, water supplies may be reduced as a result of reduced precipitation. The 2005 UWMP evaluated a three-year drought scenario to determine the City’s ability to supply water under drought conditions. The City assumed that severe drought conditions (no rain and above average temperatures) would begin immediately and continue for three consecutive years. Planned water sources for fiscal year 2005, reflecting capacity of current facilities were used as an average normal water year base for estimating purposes. It was also assumed that demand would not be reduced in response to the drought conditions. Available water supplies during the three year period were projected considering: 1) the current status of each existing source; and 2) the past response of each existing source to similar drought conditions. The single dry and multiple dry year supply and demand comparisons are shown in Table 4. In addition, analysis of single dry water year supply vs. projected demand over a 20-year period is shown in Table 5.

Table 6 provides a summary of single dry water years in 5-year increments over twenty years, compared to projected water demand. As indicated in Table 6, the existing groundwater banking program would allow the City to draft from the existing banked water, which would meet multiple dry year demands until the year 2030, assuming 5 droughts, each having multiple dry year demands. This scenario assumes that the banked groundwater supply is



Table 4
Single and Multiple Dry Year
Supply Reliability and Demand Comparison (Acre Feet)

Source	Average/Normal Water Year ¹	Single Dry Water Year ²	Multiple Dry Years		
			Year 1	Year 2	Year 3
Ventura River ³	6,700	2,859	2,859	1,430	700
Casitas ⁴	8,000	7,090	7,090	7,090	4,960
Oxnard Plain GW ⁵	4,600	4,400	4,400	4,400	4,400
Mound Basin GW ⁶	5,700	4,365	4,365	2,838	2,270
Santa Paula GW ⁷	2,600	3,000	3,000	3,000	3,000
Saticoy County Yard Well ⁸	0	1,800	1,800	900	675
Total Source Capacity	27,600	23,514	23,514	19,658	16,005
Less Raw Water Demand ⁹	1,000	1,000	1,000	1,000	1,000
Available Treated Water	26,600	22,514	22,514	18,658	15,005
Total Treated Water Demand ¹⁰	19,766	19,766	19,766	19,937	20,109
Demand Delta	6,834	2,748	2,748	-1,279	-5,104
Banked Groundwater Used ¹¹	0	0	0	1,300	5,120
Surplus Available for Banking ¹²	6,834	2,748	2,748	21	16

Source: Table 6-1, 2005 UWMP

¹ From Table 3-6, 2005 UWMP (See Table 1). Year 2005 data with adjustment to Ventura River to reflect capacity of current facilities with a full basin.

² Rainfall in 1990 was 5.53 inches, well below the yearly average of 15 inches. For a single dry water year, 1990 historical data is used for the Ventura River and Mound Basin (ref. Table 3-6). Casitas reflects Stage 2 allocation, Oxnard source reflects the future available supply per GMA Ordinance. Santa Paula Basin reflects allocated amount per UWCD agreement and Saticoy Yd Well reflects 75% of average year (see Table 3-8).

³ Ventura River available supply in Year 1 reflects the single dry water year. Year 2 is 50% of Year 1. Year 3 is the worst-case available annual yield per the Comprehensive Water Resources Management Plan.

⁴ Casitas available supply during Year 1 and 2 reflects stage 2 allocation with year 3 reflecting stage 5 allocation.

⁵ Oxnard Plain available supply assumed to be the City's allocation at 80% per GMA Extraction Reductions (Table 3-2).

⁶ Mound Basin available supply for year 1 is assumed to be the single dry water year, decreasing in Year 2 by 35% based on 1990/1991 historical data. Year 3 reflects a 20% decrease of year 2.

⁷ Santa Paula Basin Available supply assumed to be City's allocated amount per agreement with UWCD.

⁸ Saticoy County Yard Well year 1 is assumed to be 75% of average year. Year 2 at 50% of year 1 and year 3 at 75% of year 2.

⁹ From Table 4-4, 2005 UWMP (see Table 2).

¹⁰ From Table 4-4, 2005 UWMP (see Table 2). Average and Single Dry Year reflects per capita use of 0.18 to projected 2005 population. The three multiple dry years also reflect 0.18 per capita water uses to extrapolated population estimates. (Population year 1 = 109,812; year 2 = 110,759; year 3 = 111,714).

¹¹ Reduced water demands have allowed the City to store 35,447 AF in the GMA bank at the end of year 2004. The use of banked groundwater would reduce our reserve but allow the City to meet its treated water demand.

¹² Surplus for banking is the lesser of net supply or GMA allocation amount.



**Table 5
 Summary of Projected Single Dry Water Year Demand and Supply
 (Five Year Increments in Acre Feet)**

Year	Projected Planning Area Population ¹	Projected Water Demand ²	Projected Single Dry Water Year Supply ³	Difference (Supply-less-demand)
2010	114,629	21,633	25,464	3,831
2015	119,659	22,539	25,464	2,925
2020	124,913	23,484	25,464	1,980
2025	130,400	24,472	25,464	992
2030	136,072	25,493	25,464	-29

Source: Table 6-2, 2005 UWMP

¹ Projected planning area population is from Table 4-3, 2005 UWMP (see Table 2).

² Projected water demand is from Table 4-4 (see Table 2).

³ Projected water supply is from Table 6-1, 2005 UWMP (see Table 4). For a Single Dry Water Year (23,514 a/f) reduced by 300 a/f, per GMA Extraction Requirement. Plus the New Saticoy Well #3 (Ref. Table 3-8, 2005 UWMP - 2,250 a/f).



Table 6
Summary of Projected Multiple-Dry Three Year Water Demand and Supply
(Five Year Increments in Acre Feet)

Year	Projected Planning Area Population ¹	Projected Water Demand ²	Projected Supply Multiple-Dry Water Years ³	Difference (Supply-less-Demand)	Banked Groundwater December 2004	
					Standalone ⁴ 35,447	CUM ⁵ 35,447
2008	112,677	21,282	25,764	4,482	39,929	39,929
2009	113,648	21,457	20,783	-674	39,256	39,256
2010	114,629	21,633	16,549	-5,084	34,171	34,171
2013	117,621	22,172	25,464	3,292	38,739	37,464
2014	118,635	22,354	20,483	-1,871	36,868	35,592
2015	119,659	22,539	16,549	-5,990	30,878	29,603
2018	122,784	23,101	25,464	2,363	37,810	31,965
2019	123,844	23,292	20,483	-2,809	35,001	29,157
2020	124,913	23,484	16,549	-6,935	28,066	22,221
2023	128,177	24,072	25,464	1,392	36,839	23,613
2024	129,284	24,271	20,483	-3,788	33,051	19,825
2025	130,400	24,472	16,549	-7,923	25,128	11,902
2028	133,755	25,076	25,464	388	35,835	12,290
2029	134,909	25,284	20,483	-4,801	31,034	7,489
2030	136,072	25,493	16,549	-8,944	22,091	-1,454

Source: Table 6-4 (2005 UWMP); data for years 2028 through 2030 was extrapolated based on planned population growth increase of 0.88% annually.

¹ Projected planning area population is from Table 4-3 (2005 UWMP) with population estimates extrapolated to fit three multi dry years.

² Projected water demand is estimated population multiplied by 0.18 AF/capita based on 1994-2004 average post mandatory water conservation per capita use from Table 4-1 plus 1,000 AF/yr raw water demand.

³ Projected water supply reflects Total Source Capacity from Table 6-1 (2005 UWMP) Multiple Dry Water Years plus the New Saticoy Well #3 (Ref. Table 6-3). Additionally, 2010 forward reflects Fox Canyon GMA Extraction Requirements (Ref. Table 3-2, 2005 UWMP)

⁴ Each consecutive three year period reflects a standalone snapshot over the next twenty years ending in five year increments. Assumes only one of the three-year drought periods occur. For example if a drought occurred in 2013 through 2015 it is assumed that banked GMA credits would be available to support the water demand delta. As of December 2004, the City's banked groundwater was 35,447 a/f.

⁵ Reflects a cumulative reduction of banked groundwater for each five-year period over the next twenty years. This assumes five (5), three-year drought periods occur in the next twenty years. In this example the use of banked GMA credits would reduce the reserve, but allow the City to meet its treated water demand until the year 2030.



frozen at the December 2004 supply of 35,447 AF and that groundwater bank contributions do not increase beyond single and multiple dry year banking deposits (maximum of 2,748 AF/Year). However, if normal year groundwater bank deposits occur, such as the 6,834 AF/year surplus (surplus avail. for banking in an Average/Normal Water Year – See Table 4), banked groundwater supplies would be expected to exceed demand in 2030, indicating no cumulative shortage even with a three-year drought every five years.

CONTINGENCY PLANS/WATER CONSERVATION

The City has developed a five-stage water shortage plan that would include voluntary and mandatory stages. The stages are intended to be fair to all water customers with the minimum impact on business, employment and quality of life. The water shortage stages and the reduction goals for each stage are outlined in Table 7.

**Table 7
 Water Shortage Stages and Reduction Goals**

Shortage	Stage	Demand Reduction Goal	Program Type
Up to 10%	Stage 1	10% reduction	Voluntary
10-15%	Stage 2	15% reduction	Mandatory
15-20%	Stage 3	20% reduction	Mandatory
20-30%	Stage 4	30% reduction	Mandatory
30-50%+	Stage 5	50%+ reduction	Mandatory

Source: Table 6-5, 2005 UWMP.

In addition to its continuing water conservation efforts, the City implemented a Toilet Rebate Program and the Water Demand Reduction Offset Program (Water DROP) during the mandatory conservation period (1990-1993). Through the City’s Toilet Rebate Program, a water customer received \$80 for replacing each 5 gallon per flush or larger toilet with an ultra low volume toilet. The Water DROP program is designed to promote both economic vitality and water use efficiency. New non-residential construction, additions, or alterations are now allowed if the developer offsets their increased water demand at a 3:1 ratio through retrofitting. A 2:1 ratio is required for residential projects. With the lifting of mandatory water conservation, these programs have been discontinued. However, future drought conditions could reactivate these programs once more.

Significant measures of the five-stage water shortage plan include:

Stage 1: 0-10 Percent Reduction Goal (Voluntary)

Public Agency Actions

- Monitor conservation levels and increase public awareness



- Notify customers of shortage conditions and disseminate literature
- Publish customer use goals
- Identify Water Shortage Contingency Plan stages and the possible actions per stage
- Distribute water conservation brochures, information, and conservation kits
- Conduct exterior and interior water audits upon customer requests
- Request voluntary water consumption reduction
- Maintain tiered rate structure to promote water conservation
- Establish/enforce water waste ordinance
- Establish/enforce ordinance prohibiting watering from 9 am to 6 pm

Water Customer Actions

- Monitor own meter for usage
- Implement conservation measures to reduce usage
- Comply with water waste ordinance
- Comply with prohibited watering during 9 am to 6 pm

Stage 2: 10-15 Percent Reduction Goal (Mandatory)

Public Agency Actions (In addition to actions established in previous Stage):

- Initiate Mandatory Water Conservation Regulations of Ordinance No. 92-07
- Enforce mandatory water consumption goals and allocations for all customers
- Enact water rate surcharge for water consumption over customer allocation. Water in excess of allocation is billed at four times the City's highest water rate. For the third consecutive excessive bill, surcharge is ten times the City's highest water rate. Beyond a third billing period, restrictors placed on meters, at the customer's expense.
- Enactment of allocation adjustment and penalty review programs. Customers can apply for an allocation adjustment for the reasons specified in ordinance.
- Customers may appeal in writing for a waiver of penalties incurred due to a leak or break, incorrect allocation or hardship.

Water Customer Actions (In addition to actions established in previous Stage):

- Comply with mandatory water conservation regulations.
- All water customers requesting an increase in their water allocation must undergo a water audit and install water efficient plumbing for all fixtures at their business or residence.

Stage 3: 15-20 Percent Reduction Goal (Mandatory)

Public Agency Actions (In addition to actions established in previous Stage)

- Initiate Mandatory Water Conservation Regulations as an Ordinance.
- Establish and enforce mandatory water consumption goals and allocations for all customers.

Water Customer Actions (In addition to actions established in previous Stage)



- Comply with mandatory water conservation guidelines.

Stage 4: 20-30 Percent Reduction Goal (Mandatory)

Public Agency Actions (In addition to actions established in previous Stage)

- Initiate Mandatory Water Conservation Regulations as an Ordinance.
- Establish and enforce mandatory water consumption goals and allocations for all customers.

Water Customer Actions (In addition to actions established in previous Stage)

- Comply with mandatory water conservation guidelines.

Stage 5: 30-50+ Percent Reduction Goal (Mandatory)

Public Agency Actions (In addition to actions established in previous Stage)

- Initiate Mandatory Water Conservation Regulations as an Ordinance.
- Establish and enforce mandatory water consumption goals and allocations for all customers.
- All water use not required for health and safety is prohibited.

Water Customer Actions (In addition to actions established in previous Stage)

- Comply with mandatory water conservation regulations.
- Prohibition of all outside water use unless necessary for the preservation of health and safety and the public welfare.
- Watering with hand-held five gallon maximum bucket, filled at exterior hose bib or interior faucet (not by hose) shall be allowed at any time. This will assist in preserving vegetable gardens or fruit trees. Outdoor use of bath water, dishwater, and laundry water for irrigation purposes is encouraged to the extent this practice is allowed under local health and safety regulations.
- The filling, refilling or adding of water to swimming and/or wading pools is prohibited.
- The operation of any ornamental fountain or similar structure is prohibited.

ENTITLEMENTS/REGULATORY APPROVALS

Water Code Section 10910(d)(2) requires the identification of existing water supply entitlements, water rights, or water service contracts, federal, state, and local permits for construction of necessary infrastructure, and any regulatory approvals required in order to be able to deliver the water supply. The provision of water for the proposed project would require approval from the City of Ventura. The City of Ventura would review the project plans to ensure that there is adequate infrastructure and water supply to serve the project. Building/grading permits would be required from the City of Ventura to install or conduct improvements to water distribution facilities to serve the proposed development. No other federal, state, or local permits for construction of necessary infrastructure associated with delivering the water supply would be required. No regulatory approvals are required in order to convey the water supply to the proposed project. If approved, the proposed project would be served by the City of Ventura, which obtains water from various sources including the Ventura River, Casitas



Municipal Water District, the Mound Groundwater Basin, the Santa Paula Groundwater Basin, the Oxnard Plain Groundwater Basin, and the Saticoy Yard Well (Oxnard Forebay Basin). Existing allotments allow for continued production to meet demand over the 20 year planning horizon. In addition, a State Water Project entitlement of 10,000 AFY also exists, but has not been incorporated into the delivery system.

PROJECT IMPACTS

The proposed Parklands Specific Plan would allow for development of up to 499 dwelling units, up to 25,000 square feet of commercial space and a 6,560 square foot community center. The City of Ventura characterizes overall water usage based on per capita consumption, and the 2005 UWMP indicates that per capita consumption is about 0.18 AFY (Table 4-4, 2005 UWMP). The 2005 UWMP further characterizes water consumption by user groups including commercial, industrial, etc.; however, the totals for the sum of user groups is equal to the demand generated based on population (Table 4-4 and Table 4-5, 2005 UWMP). In addition, demand forecasts presented in the 2005 General Plan and the 2006 Biennial Water Supply Report are likewise based on population, without reference to demand factors for other individual uses such as commercial, industrial and institutional. Therefore, though the project includes up to 25,000 square feet of commercial space and up to 6,560 square feet of community center, the overall demand for the project is characterized based on population, consistent with projections contained in the UWMP, 2005 General Plan Update, and Biennial Water Supply Report. The proposed project would add up to 499 dwelling units. Based on a household size of 2.6 persons per dwelling unit (2005 General Plan), the proposed project would add 1,297 persons to the population. The water demand generated by full development of the proposed Parklands Specific Plan would be about 234 AFY ($0.18 \text{ AFY} \times 1,297 \text{ persons}$). This amount represents about 1% of the projected 2010 annual demand (20,633 AF).

CONCLUSION

The proposed project was accounted for in the 2005 General Plan, proposed at an intensity consistent with the Residential Low designation (up to 8 du/acre). The 2005 General Plan land use development patterns were accounted for in the 2005 UWMP, as evidenced by the population projections that are consistent between the two documents. Therefore, the proposed project is consistent with the 2005 General Plan, which is accounted for in the 2005 UWMP, and future supplies are adequate to meet the needs of development under the General Plan over a 20-year horizon. As such, project development would not adversely affect the water supply in normal, single dry, or multiple dry years.



REFERENCES

PUBLICATIONS

City of San Buenaventura, Department of Public Works. December 2005. Urban Water Management Plan

City of San Buenaventura. 2005. General Plan Final Environmental Impact Report.

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City of San Buenaventura. August 30, 2007. *Draft* Parklands Specific Plan No. 6.

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PERSONS CONTACTED

City of San Buenaventura, Public Works Department. Gary Lee. November 20, 2007.



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