4.9 PUBLIC SERVICES

4.9 PUBLIC SERVICES

This section addresses the following public services in the unincorporated area of Sonoma County;

- Water Supply Services
- Wastewater Management Services
- Solid Waste Management
- Parks and Recreation Services
- Public Education Services
- Fire Protection and Emergency Services
- Criminal Justice Services
- Library Services
- Human Services

Each topic is addressed separately, with the environmental and regulatory setting information preceding the impacts and mitigation measures for each topic. The topics discussed in this section overlap with other sections of this EIR, including ***Section 4.5 Hydrology and Water Resources*** and ***Section 4.8 Agricultural and Timber Resources***. Public service impacts are most closely related to the Land Use and Public Facilities and Services Elements of the *Draft GP 2020.*

Water Supply Services – Environmental Setting

WATER SOURCES

Potable, commercial, industrial and agricultural water supplies in Sonoma County are derived from a number of sources, including surface water, groundwater, and recycled water. Surface water sources are primarily used in the incorporated areas (cities) and are supplemented by groundwater. Residences in rural areas in the county tend to rely more on groundwater sources.

The California Department of Water Resources (DWR) has identified eleven major groundwater basins in Sonoma County. These basins are primarily located along major creek and river valleys in the southern portions of the county, and are described further in ***Section 4.5 Hydrology and Water Resources.*** [1]

The Russian River and Dry Creek (a tributary to the Russian River) are the principal sources of potable surface water supplies in Sonoma County. The Russian River originates in central Mendocino County, approximately 15 miles north of Ukiah, and drains an area of 1,485 square miles, including much of Sonoma and Mendocino Counties. The Russian River reaches the Pacific Ocean at Jenner, approximately 20 miles west of Santa Rosa. The main channel of the Russian River is approximately 110 miles long and has five principal tributaries: the East Fork of the Russian River, Big Sulphur Creek, Maacama Creek, Dry Creek and Mark West Creek.

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1 *California's Groundwater – Bulletin 118, Draft Update 2002,* California Department of Water Resources, Division of Planning and Local Assistance, Statewide Planning, first published 1975, draft update 2002.

Two major reservoirs provide water storage for the Russian River Basin: Lake Mendocino on the East Fork of the Russian River and Lake Sonoma on Dry Creek. Lake Mendocino provides water for agricultural, municipal, and industrial uses and Lake Sonoma provides water for municipal and industrial uses. Releases from both lakes maintain minimum streamflows required by the State Water Resources Control Board (SWRCB) for recreational uses and fish habitat. A portion of the summer streamflow in the Russian River is augmented by diversions from the Eel River via the Potter Valley Project, a hydroelectric plant owned and operated by the Pacific Gas and Electric Company. Water for the Potter Valley Project is stored in Lake Pillsbury on the Eel River.

SONOMA COUNTY WATER AGENCY [2] [3] [4] [5]

The Sonoma County Water Agency (SCWA) is a special district that was created by the California Legislature in 1949 and operates under the direction of a Board of Directors, composed of the members of the Sonoma County Board of Supervisors. The law that created the SCWA and defines its powers and duties gives it the authority to produce and furnish surface water and groundwater for beneficial uses, to control flood waters, to generate electricity, and to provide recreational facilities in connection with the SCWA's facilities. Legislation enacted in 1994 added the treatment and disposal of wastewater to the SCWA's powers and duties.

The SCWA is the local sponsor for the two federal water supply and flood control reservoir projects in the Russian River watershed. The SCWA releases water from Coyote Valley Dam (Lake Mendocino) and Warm Springs Dam (Lake Sonoma) for water supply purposes and to maintain required minimum streamflows in the Russian River and Dry Creek. The SCWA holds water right permits from the State Water Resources Control Board that authorize the SCWA to divert Russian River and Dry Creek flows and to re-divert water stored and released from Lake Mendocino and Lake Sonoma. [6]

The SCWA provides potable water to approximately 600,000 people in Sonoma and Marin Counties. Water is delivered, on a wholesale basis, to the SCWA's primary water customers through the SCWA's transmission system. The primary water customers, collectively known as the water contractors, consist of the cities of Santa Rosa, Rohnert Park, Petaluma, Cotati, and Sonoma, and the North Marin, Valley of the Moon, and the Forestville water districts. The SCWA supplies water to the water contractors under an agreement entitled "Eleventh Amended Agreement for Water Supply," which was originally executed in 1974 and most recently amended in 2001. The SCWA also provides water via the transmission system to other customers such as the Marin Municipal Water District, the Town of Windsor, and local water companies. The water contractors and other SCWA customers

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2 *Fifty Years of Caring for Sonoma County's Water Resources*, Sonoma County Water Agency, 1999.

3. *Urban Water Management Plan*, Sonoma County Water Agency, 2000.

4 *Notice of Preparation of an Environmental Impact Report for the Water Supply Transmission, and Reliability Project*, Sonoma County Water Agency, February 2005.

5 *Report to the State Water Resources Control Board on Water Conservation*, Sonoma County Water Agency, April 2005.

6 *Divert* refers to water diverted directly from streamflow into distribution systems or reservoirs. *Re-divert* refers to water that has been diverted to storage in a reservoir, then released and diverted again at a point downstream. Diversions and re-diversions by the Agency will be collectively referred to as *diversions* in this document.

deliver water to customers through their own distribution systems. In addition to water supplied by the SCWA, many of the contractors use other sources such as municipal groundwater wells.

Surface Water

The SCWA holds appropriative water rights from the SWRCB to store water in Lake Mendocino and Lake Sonoma and to divert and re-divert water from the Russian River at Wohler and Mirabel. The SCWA is required to maintain the minimum streamflows at various points on the Russian River and Dry Creek in accordance with its water right permits. The SCWA's current total authorized amount of diversion is 75,000 acre-feet per year (AFY).

Transmission System

The SCWA's existing water transmission system includes diversion facilities at the Russian River and an aqueduct system comprised of pipelines, pumps, and storage tanks. Diversion facilities are located near Wohler Bridge and Mirabel Park adjacent to the Russian River and include Ranney-type collector wells, conventional wells, an inflatable dam and associated fish ladders, infiltration ponds, and treatment facilities. The aqueduct system distributes the water produced from the diversion facilities to customers in the SCWA's service area. The transmission system includes approximately 85 miles of 16 to 48-inch diameter pipelines, 17 water storage tanks with a total capacity of 118.8 million gallons, and eight booster pump stations. The total capacity of the transmission system is 92 million gallons per day (mgd), with 20 mgd of standby capacity.

Groundwater

The SCWA operates three groundwater production wells in the Santa Rosa Plain that are also connected to the transmission system. The wells are located west of the City of Santa Rosa at Sebastopol Road, Occidental Road and Todd Road. These wells are an additional source of water for the SCWA, and are capable of producing approximately 4 to 6 mgd.

Adequacy of the SCWA's Water Supply

The SCWA has estimated that by 2020 it will need to divert an additional 25,000 to 30,000 acre feet of water annually from the Russian River at its Wohler-Mirabel diversion facilities, and release additional water from Lake Sonoma to support this additional diversion to supply projected increases in its contractors' demands. This additional diversion amount was estimated from the 2000 Urban Water Management Plans of the SCWA, Marin Municipal Water District, and the Town of Windsor and it includes reductions in demands resulting from projected water conservation savings and urban recycled water uses. The current and projected water supplies of the SCWA for multiple dry years, from both surface and groundwater supplies, are presented in **Exhibit 4.9.1**. A summary of current and projected water supply and demand for the SCWA's contractors is presented in **Exhibit 4.9.2**. The demand projections are based on the adopted general plans of the individual contractors for their service areas and the existing *General Plan*.

The SCWA has adequate supplies to meet the projected increases in demands. The SCWA is the local sponsor of the Coyote Valley Dam / Lake Mendocino Project and the Warm Springs Dam / Lake Sonoma Project, which together are known as the Russian River Project. The SCWA paid the U.S. Army Corps of Engineers approximately $5,000,000 (in 1955 dollars) for the water supply benefits of the Coyote Valley Dam Project, and the SCWA is paying the Corps of Engineers a total of almost $100,000,000 for the water supply benefits of the Warm Springs Dam Project. These amounts have

been and are being funded through property taxes paid by the residents of Sonoma County and through water charges paid by the customers of the North Marin and Marin Municipal Water Districts.

Both Lake Mendocino and Lake Sonoma have dedicated flood-control pools and water supply pools. The right to store water in the 70,000 AF water supply pool in Lake Mendocino is shared between the SCWA and the Mendocino County Russian River Flood Control and Water Conservation Improvement District under Water Right Permits 12947A and 12947B. The SCWA's right to store 212,000 AF of water in Lake Sonoma is authorized by the SCWA's Water Right Permit 16596.

Digital computer hydrologic models are used by the SCWA to analyze the adequacy of its surface water supplies. The computer models simulate the levels of diversions and operational criteria for the coordinated operation of Lake Mendocino and Lake Sonoma, the maintenance of minimum instream flows required by the SWRCB, the diversions from the Eel River into the Russian River, and various levels of demands by SCWA customers or other water users. Based on these hydrologic models, the estimated reliable water supply yield of the Russian River Project at the SCWA's Wohler-Mirabel diversion facilities is approximately 124,000 AFY. The SCWA's Russian River diversions in 2020 at Wohler-Mirabel are estimated to be between 85,000 and 90,000 AFY. Thus, the SCWA has adequate water supplies to meet its contractors' projected 2020 demands. [7]

Although the SCWA has an adequate water supply, there are uncertainties in terms of how the SCWA may be able to use its supply. In order to re-divert additional water released from storage in Lake Sonoma, the SCWA would need to obtain additional water rights from the SWRCB. In addition, the transmission system would need to be expanded to distribute the water to customers in the SCWA's service area.

In the early 1990s, the SCWA initiated a project to increase the amount of water released from Lake Sonoma and diverted from the Russian River and expand the transmission system. The Environmental Impact Report for the project was successfully challenged, and the SCWA is in the process of preparing a new EIR for the project (Water Project). The Water Project must undergo environmental review in accordance with the California Environmental Quality Act and project approval before it can proceed. Supply projections on **Exhibit 4.9.2** assume that the Water Project will be approved. **Exhibits 4.9.1** and **4.9.2** indicate that the SCWA generally has sufficient supplies to serve its water contractors through the year 2020. If the Water Project is not approved, this determination may change.

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[7] Because the Agency has the rights to store water in and has paid for the water supply benefits of these two reservoirs, the Agency is in a very different water supply situation than other water users in the Russian River watershed that have not developed adequate water supply facilities or do not have sufficient water rights.

Exhibit 4.9-1
Current and Projected SCWA Water Supplies (acre-feet per year)
Multiple Dry Year Hydrologic Results

Water Supply Source	***2000***	***2005***	***2010***	***2015***	***2020***
SCWA Groundwater	3,025	3,025	3,025	3,025	3,025
SCWA Surface Water	127,830	126,830	125,830	124,830	123,830
SCWA Supply Totals	*130,855*	*129,855*	*128,855*	*127,855*	*126,855*
SCWA Projected Demand	*60,692*	*70,070*	*79,960*	*82,744*	*84,791*
Surplus	***70,163***	***59,785***	***48,895***	***45,111***	***42,064***

Source: *Urban Water Management Plan,* Sonoma County Water Agency, 2000.

Diversions from the Eel River into the Russian River via Pacific Gas and Electric's Potter Valley Project are regulated by a number of agencies including the Federal Energy Regulatory Commission (FERC), and the National Oceanic and Atmospheric Administration - National Marine Fisheries Service (NOAA-NMFS). In 2004, FERC issued a final decision that reduced the amount of diversions from the Eel River into the Russian River by approximately 15 percent to protect Eel River fisheries. This decision formalized an interim decision that was made and implemented in 1999. Since the flow reductions were implemented in 1999, the SCWA has not experienced any difficulties in operating the Russian River Project for water supply purposes or in meeting minimum streamflow requirements. Although there is some uncertainty surrounding this issue because the FERC decision is being appealed, there are no additional proposed reductions pending before FERC.

Another uncertainty facing the SCWA's water supply is related to the recent listings of coho salmon, Chinook salmon, and steelhead as threatened under the federal Endangered Species Act. The SCWA's water supply operations and maintenance activities are undergoing review by NOAA-NMFS. This review is being conducted as part of an ongoing Section 7 consultation process under the federal Endangered Species Act. Changes to either the SCWA's water supply operations and maintenance activities or to required minimum streamflows resulting from the consultation process, may affect the ability of the SCWA to use or deliver its water supply.

Exhibit 4.9-2
Current and Projected Water Supplies for SCWA Water Contractors (acre-feet per year)

Water Contractor	Water Supply Source	2000	2005	2010	2015	2020
City of Santa Rosa	Purchased from SCWA	23,312	27,000	29,100	29,100	29,100
	Recycled Water	25	200	400	600	800
	Other	0	0	1,300	3,350	5,050
	Total Supply	*23,337*	*27,200*	*30,800*	*33,050*	*34,950*
	Total Demand	*23,255*	*27,200*	*30,800*	*33,050*	*34,950*
	Surplus	*82*	*0*	*0*	*0*	*0*
North Marin Water District [a]	Purchased from SCWA	8,942	11,029	11,896	12,707	12,682
	North Marin Surface Water	1,982	1,715	1,715	1,715	1,715
	Recycled Water	0	300	325	350	375
	Other	250	250	250	250	250
	Total Supply	*11,174*	*13,294*	*14,186*	*15,022*	*15,022*
	Total Demand	*11,174*	*13,294*	*14,186*	*15,022*	*15,022*
	Surplus	*0*	*0*	*0*	*0*	*0*
City of Petaluma	Purchased from SCWA	10,171	10,916	11,898	12,611	13,358
	Petaluma Groundwater	1,029	750	500	250	0
	Recycled Water	0	300	400	500	600
	Total Supply	*11,200*	*11,966*	*12,798*	*13,361*	*13,958*
	Total Demand	*11,200*	*11,966*	*12,798*	*13,361*	*13,958*
	Surplus	*0*	*0*	*0*	*0*	*0*
City of Rohnert Park	Purchased from SCWA	2,785	7,234	7,500	7,500	7,500
	Rohnert Park Groundwater	4,020	0	172	634	1,108
	Recycled Water	973	973	988	1,004	1,034
	Total Supply	*7,778*	*8,207*	*8,660*	*9,138*	*9,642*
	Total Demand	*7,778*	*8,207*	*8,660*	*9,138*	*9,642*
	Surplus	*0*	*0*	*0*	*0*	*0*
Valley of the Moon	Purchased from SCWA	2,784	3,200	3,200	3,200	3,200
	Valley of the Moon Groundwater	1,031	784	784	784	784
	Other	0	2	174	346	517
	Total Supply	*3,815*	*3,986*	*4,158*	*4,330*	*4,501*
	Total Demand	*3,815*	*3,986*	*4,158*	*4,330*	*4,501*
	Surplus	*0*	*0*	*0*	*0*	*0*

Water Contractor	*Water Supply Source*	*2000*	*2005*	*2010*	*2015*	*2020*
City of Sonoma	Purchased from SCWA	2,508	2,714	2,991	3,000	3,000
	Sonoma Groundwater	0	0	0	269	448
	Other	0	0	0	0	96
	Total Supply	*2,508*	*2,714*	*2,991*	*3,269*	*3,554*
	Total Demand	*2,392*	*2,714*	*2,991*	*3,269*	*3,554*
	Surplus	*116*	*0*	*0*	*0*	*0*
City of Cotati	Purchased from SCWA	769	806	1,471	1,520	1,520
	Cotati Groundwater	409	448	0	0	0
	Recycled Water	0	112	112	112	112
	Other	0	0	0	204	496
	Total Supply	*1,178*	*1,366*	*1,583*	*1,836*	*2,128*
	Total Demand	*1,178*	*1,366*	*1,583*	*1,836*	*2,128*
	Surplus	*0*	*0*	*0*	*0*	*0*
Forestville Water District	Purchased from SCWA	480	439	446	456	464
	Recycled Water	0	50	50	50	50
	Total Supply	*480*	*489*	*496*	*506*	*514*
	Total Demand	*480*	*489*	*496*	*506*	*514*
	Surplus	*0*	*0*	*0*	*0*	*0*

[a] North Marin Water District is not a water contractor to the SCWA; however, the district affects SCWA supplies.

Source: *Urban Water Management Plan*, Sonoma County Water Agency, 2000.

OTHER SCWA CUSTOMERS

In addition to the primary water customer contractors described above, SCWA has agreements to transmit or indirectly provide water to three other types of customers. The first group consists of the users, other than the primary water customers, which have direct connections to the Agency's transmission system. This group includes the Town of Windsor, community water supply systems for the Kenwood, Penngrove and the Larkfield-Wikiup-Airport areas, the Lawndale Mutual Water Company, and other water companies, parks and government users. Since these customers use small amounts of water on an infrequent, supplemental basis, it is not possible to accurately estimate demand.

A second type is the Marin Municipal Water District (MMWD), a large user which is connected to the south end of the SCWA transmission system. MMWD receives a portion of its water supply from the Agency pursuant to separate agreements and is not a signatory to the Agreement for Water Supply. To ensure that adequate capacity is included in the transmission system, MMWD's entitlement of 12.8 mgd is included in the total SCWA transmission system capacity needed for the future.

The third type of other SCWA customer is water suppliers who are authorized to divert water directly from the Russian River and report it under the Agency's water rights permits. This group includes the

Town of Windsor, City of Healdsburg, Russian River County Water District, and Camp Meeker Parks and Recreation District. The estimated based demand for Russian River water includes the maximum amounts specified in the Agency's contracts with these customers.

WATER SUPPLIES IN UNINCORPORATED AREAS

The main water sources for the unincorporated portions of the county are either groundwater or Russian River water from the SCWA as described above. Nearly all of the urban water providers have one or more wells which constitute the primary source for most of the smaller providers and a supplemental of backup source for the large providers primarily using Russian River water. Groundwater is the primary water source for all rural areas of the county, including many water systems for small communities, subdivisions and institutions. As a result of the amounts of both urban and rural development depending on groundwater, Sonoma County reportedly has the second largest number of public and private wells of any county in California. It is estimated that about 42 percent of the population's water supply comes from groundwater sources.

Following are the major water providers for unincorporated areas, their sources of water, and the unincorporated areas they serve.

City of Santa Rosa: The City provides water to some unincorporated users in the South Santa Rosa and Rincon Valley areas in the Santa Rosa USA. The City obtains the water from both the SCWA Russian River system and groundwater wells.

City of Petaluma: The City provides water to some unincorporated residential areas west of the City. The City's primary source is the SCWA system, but the wells are available for backup use.

Valley of the Moon Water District: The District provides water service to all unincorporated portions of the Sonoma Valley USA and some adjacent rural areas. The District obtains water from both the SCWA Russian River system and several wells.

Forestville Water District: The District serves the Forestville USA and extensive surrounding areas. The SCWA system is the District's water source.

Town of Windsor: The Town provides water outside Town limits to part of the unincorporated airport industrial area and USA to the south. Small amounts of water are obtained on an infrequent supplemental basis from a direct connection to the SCWA transmission system, but most of the Town's water is from wells adjacent to the Russian River and is considered to be diverted from the Russian River underflow pursuant to agreement with SCWA and reporting under SCWA water rights permits.

Cal-American Water Company: The Company serves most of the Airport-Larkfield-Wikiup USA. Most of the water provided is from wells, but small amounts of SCWA water are obtained on an infrequent supplemental basis from a connection to the SCWA transmission system.

Penngrove / Kenwood Water Company: The Company operates two community systems. The larger system serves the Penngrove USA, adjacent rural areas, and the Canon Manor West subdivision in the Cotati / Rohnert Park USA. The other system serves the rural community of Kenwood east of Santa Rosa. Most of the water provided is from wells, but Russian River water is also obtained from connections to the SCWA transmission system.

Camp Meeker Parks and Recreation Department: Several years ago, the existing district constructed a new water system for the rural community of Camp Meeker, supplied by a well installed beside the Russian River in Monte Rio. The District's extractions from the Russian River underflow are authorized and reported under SCWA's water rights permits.

Occidental Water Company: The Company serves the Occidental USA and adjacent users in the Coleman Valley Road area. The water source historically was wells, but the Company now has a connection to the Camp Meeker system described above.

Sweetwater Springs Water District: The District serves a large area which include all of the Guerneville and Monte Rio USAs and adjoining rural residential areas along the Russian River. The water is provided by several wells in the Russian River underflow.

Russian River County Water District: The Russian River Water District serves several rural residential areas along the Russian River. The source of water is wells beside the Russian River, with extractions authorized and reported under SCWA's water rights permits.

City of Sebastopol: The City provides water service to limited areas outside the City limits. The source of water is wells to the east of the City.

City of Cloverdale: The City provides water service to limited areas outside City limits. Several City wells supply the water.

Geyserville Water Works: The Company provides water from wells to the Geyserville USA.

Bodega Bay Public Utilities District: The District serves the Bodega Bay USA and the water provided is from several wells.

The Sea Ranch Water Company: The Company serves the Sea Ranch USA and most of the remaining Sea Ranch development. The water supply is wells beside the Gualala River using surface water rights.

Graton: The Graton USA has no community water service; water is provided by private wells and a few mutual water systems serving small subdivisions.

AGRICULTURAL WATER USE

With approximately 60,000 acres, or six percent of the county, in agricultural crop production, Sonoma County agriculture is a significant producer. However, most of the agricultural land in the county is used for dry farmed hay production or for grazing, and is not irrigated. Although some of the vineyards and orchards along the Russian River and Sonoma Creek are irrigated by surface diversions under riparian water rights, (with many vineyards served by small surface diversions and storage facilities), most vineyard acreage is irrigated at least partially by groundwater wells.

Estimates of agricultural water use can be derived from an inventory of crop acreage and the annual water demand of the crop, which varies widely by crop type. The water requirement of a crop is directly related to the water lost through evapotranspiration (ET). In turn, the amount of water that can be consumed through ET depends in the short-term on local weather conditions, such as temperature and humidity, and in the long-term on seasonal climatic conditions, such as rainfall totals and soil moisture storage. The Draft Update of the Department of Water Resources (DWR) *Bulletin 113, Crop*

Water Use in California, includes agricultural water-use estimates for Sonoma County. According to the report, approximately 105,900 acre-feet of water was used for agricultural irrigation in 2001, the latest date for which information is available. This report indicates agricultural water use is up about 25 percent from 1998. The fact that 2001 was a dry year is contributing to this increase. This estimate includes water derived from groundwater wells, surface diversions, and surface impoundments, and represents roughly 50 percent of the total estimated water use in Sonoma County. Some of the increased water use can likely be attributed to increased vineyard plantings. However, there can also be substantial differences in total agricultural water use over a period of years due to differences in climate (rainfall and summer temperatures). Water use estimates by crop are presented in **Exhibit 4.9-3**.

Exhibit 4.9-3
Agricultural Water Use

Year		*Vineyards*	*Total Crops*
1998	Acreage	37,400 acres	51,000 acres
	Applied Water	*34,100 acre-feet*	*74,800 acre-feet*
2000	Acreage	44,900 acres	57,600 acres
	Applied Water	*48,900 acre-feet*	*92,300 acre-feet*
2001	Acreage	47,300 acres	59,300 acres
	Applied Water	*55,600 acre-feet*	*105,900 acre-feet*

Source: Questa Engineering communication with Department of Water Resources - Central District, Land and Water Use Conservation Section, February 3, 2003.

ESTIMATED TOTAL WATER USE

Water supplies are derived from a variety of sources and distributed through several municipal and private distribution systems. The water use estimates for the various consumers in Sonoma County are presented in **Exhibit 4.9-4**.

Exhibit 4.9-4
Sonoma County Water Use Estimates – 2001

	Water Consumption ***(acre-feet)***	***Percent Consumption***
Sonoma County Water Agency [a]		
SCWA - Water Contractors [b]	44,000	24
SCWA - Other Users [c]	1,100	1
Agricultural Water Use [d]	105,900	58
Residential Wells [e]	32,000	17
Total	***183,000***	***100***

[a] Water consumption estimates do not include SCWA contractors and users outside of Sonoma County (i.e., North Marin Water District and Marin Municipal Water District).

[b] SCWA water contractors include the City of Santa Rosa, City of Petaluma, City of Rohnert Park, Valley of the Moon Water District, City of Sonoma, City of Cotati, and Forestville Water District.

[c] Other users that the SCWA has the obligation to provide water to include, the Town of Windsor, and various water companies.

[d] Agricultural water use estimates include water derived from both surface and groundwater sources.

[e] There are no available well water use estimates for Sonoma County. Therefore, as a rough approximation for comparison purposes, water use estimates assumed that 80 percent of the wells in the county were for residential purposes (80% of 40,000 wells = 32,000 wells) and that each of these wells uses an average of 1 acre-foot per year. It was assumed that most of the remaining 8,000 wells in the county are used for agricultural purposes, accounted for under the agricultural water use estimates.

Sources: *Urban Water Management Plan*, SCWA, 2000; and *Crop Water Use in California*, Draft Bulletin 113, Department of Water Resources.

Accurate water use data for all municipal, public, and community-owned water districts in Sonoma County are not available. However, a general idea of how water use has increased in the County over the last few years is provided by water use data derived from individual water companies and the State Department of Health Services (DHS). **Exhibit 4.9-5** shows water use data from 1998 through 2002 for most incorporated cities, suppliers for urban service areas, and large (more than 500 year-round residents) County- and community-operated systems. Note that not all of the cities, water districts, and private water companies in Sonoma County reliably report annual water usage.

FACTORS AFFECTING WATER SUPPLY

Water supply is a function of several variables. Physical conditions affecting water supply include climate (precipitation and evaporation), soil infiltration and soil permeability for groundwater recharge and runoff, topography, and hydrogeology (the capacity, locations, and quality of groundwater basins). In addition to physical resources and constraints, water use and management actions can greatly improve or deplete available supply. Conservation and reuse are examples of how applied water management can extend supplies. Poor water quality can also have a direct impact on water supply, making available water unusable. Additionally, the supply available for human uses is limited by the stream flow requirements of natural ecosystems.

SCWA WATER CONSERVATION PROGRAMS

Since 1982, the SCWA has employed fourteen water conservation Best Management Practices (BMPs) to assist SCWA water contractors with water. In a 1995 study entitled *Water and Wastewater Efficiency / Avoided Cost Study*, the SCWA analyzed the cost-effectiveness of various conservation measures that could be employed by each water contractor. The study was used to develop a Water Conservation Plan (WCP) that designates approximately $1.5 million annually (through 2007-2008) to assist water contractors in implementing cost-effective BMPs. BMPs that have been implemented through the plan include: high-efficiency washing machine and ultra-low flush toilet rebate programs, public information programs including water-wise gardening workshops, school education programs, system water audits (leak detection and repair), and conservation pricing. Because not all of these measures are quantifiable (e.g., educational programs, leak detection and repair), estimating the total water savings that have resulted from the implementation of water conservation measures is difficult. Target savings for the 1998 approved water conservation plan was 6,600 acre-feet / year. However, some of these measures are quantifiable (e.g., low-flow fixtures) and have been widely implemented. Water conservation programs for major municipalities in Sonoma County are shown in **Exhibit 4.9-6**.

WATER CONSERVATION PROGRAMS OF OTHER AGENCIES

Water conservation programs have also been initiated by some of the other public water suppliers in the County. In June and July 2005, PRMD staff contacted the three cities not supplied by SCWA (i.e., Cloverdale, Healdsburg, and Sebastopol) and several other suppliers. All of the agencies contacted have meters on water connections and show the water use on the bills. Flat rates for water use are most common, but some agencies have tiered pricing with higher rates for higher use levels. Several of the agencies have participated in short-term toilet replacement programs in the past. All of the agencies have been active in detecting and fixing leaky connections and some have performed system wide leak assessments and assisted users in assessing and repairing other leaks. All of the agencies have mailed out water conservation information to users, and some agencies have posted such information and / or related links on their websites.

Exhibit 4.9-5
Water Use Data for Major Water Suppliers in Sonoma County [a]

Water Company	Total Water Use in Million Gallons				
	1998	1999	2000	2001	2002
Urban Service Areas					
Sweetwater Springs Water District	340.1	347.8	356.2	353.9	370.3
Sea Ranch Water System	84.3	80.9	118.4	78.0	98.7
Bodega Bay Utility District	132.3	125.0	127.6	123.4	140.8
Occidental Community Services District [a]	9.7	10.6	7.7	8.6	-
Geyserville Water System	59.7	63.8	64.9	61.8	-
Forestville County Water District					
Cal-American - Larkfield [a]	361.6	410.2	435.8	425.0	-
Penngrove Water Company	7.9	7.7	8.5	8.3	9.2
Valley of the Moon Water District		1166.0	1125.0	1342.0	
Incorporated Cities and Water Districts					
Cotati		345.0	404.0		
Rohnert Park		2508.0	2389.0	2432.0	
Santa Rosa		7471.0		7817.0	
Healdsburg	755.0	828.0	812.0	866.0	
Petaluma	3314.9	3371.0	3453.8	3399.7	2955.2
Windsor	1057.0	1256.0	1326.0	1405.0	
Cloverdale					
Sebastopol	431.2				
County-Operated Community Systems					
Fitch Mountain (purchased from Healdsburg)	24.3	25.7	27.6	40.1	-
Freestone	2.1	2.1	2.5	2.3	-
Jenner	6.2	5.6	6.1	6.3	-
Salmon Creek	3.5	3.4	3.1	2.9	-
Other Community Systems					
Camp Meeker				18.9	19.4
Sereno Del Mar Water Company			4.1	3.7	4.4
Rains Creek Water District				15.2	15.2
Heights Mutual Water Company			29.6		29.8

[a] Water usage for some years was not available. Although this exhibit is incomplete, it represents the best approximation of total water use by major water suppliers in the County.

Source: *Annual Water System Reports*, Department of Health Services, Drinking Water Fields Operation Branch, and Questa Engineering.

Exhibit 4.9-6
Activity Profile of Water Conservation Measures Implemented by SCWA Water Contractors

BMP No.	Water Conservation Measure / Program	Cotati	Forestville Water District	Petaluma	Rohnert Park	Santa Rosa	Sonoma	North Marin Water District [a]	Valley of the Moon	Marin Municipal Water District [a]	Windsor
1	Residential Surveys-Inside & Outside										
	Single-Family									x	
	Multi-Family									x	
	Residential Surveys - Inside Only					x					
2	Residential Plumbing Retrofit	x	x	x	x	x	x	x	x	x	x
3	Leak Detection Repair										
	Unaccounted for Water 10%	x	x	x		x	x	x	x	x	x
	System wide Audit Performed		x	x		x		x	x	x	
4	Metered Water Sales	x	x	x	x	x	x	x	x	x	x
5	Large Landscape Program										
	Assign Evapotranspiration Budgets to Irrigation Meters					x		x			
	Tracking Feedback (w/ water bills)					x		x			
	Large Landscape Surveys			x		x	x	x		x	
	Training for Landscape Professionals		x	x		x	x	x		x	
6	Washing Machine Rebates										
	Energy Utility Rebate	x	x	x	x	x	x	x	x	x	x
	Water Agency Rebate	x	x	x	x	x	x	x	x	x	x
7	Public Information										
	Comparative Water Use on Bill			x		x	x	x	x	x	x
	Bill Stuffers and Offers	x	x	x	x	x	x	x	x	x	x
	Handouts	x	x	x	x	x	x	x	x	x	x
	Speakers and Displays	x	x	x	x	x	x	x	x	x	x
	Evapotranspiration Hotline			x		x	x	x	x	x	
	Internet Water Conservation Info			x	x	x	x	x		x	x
	Public Service Announcements			x	x	x		x		x	
	Paid or Co-op Advertising			x	x	x	x	x		x	
	Media Events			x		x		x		x	
	Contests	x		x	x	x		x		x	
	Recognition & Award Programs					x				x	
8	School Education Program										
	K-1, 2-3, and 4-6	x	x	x	x	x	x	x	x	x	x
	7-8 and High School										

BMP No.	***Water Conservation Measure / Program***	***Cotati***	***Forestville Water District***	***Petaluma***	***Rohnert Park***	***Santa Rosa***	***Sonoma***	***North Marin Water District [a]***	***Valley of the Moon***	***Marin Municipal Water District [a]***	***Windsor***
9	Commercial, Industrial, and Institutional										
	CULFT Replacement on Resale of Property [b]							x		x	
	CULFT Rebates [b]	x		x	x	x				x	
	CULFT Direct Installation Program [b]			x	x					x	
	Survey and Incentive Programs			x		x				x	
	Sanitation Fixture Surveys					x					
	Coin Operated Rate/Incentives					x					
10	Wholesale Agency (SCWA) Assistance	x	x	x	x	x	x	x	x	N/A	x
11	Conservation Pricing										
	Uniform Commodity Rate	x	x	x		x		x	x		
	Tiered Conservation Rate						x			x	x
12	Conservation Co-coordinator [c]	O	C	C	C	O	O/C	C	O/C	O	O
13	Water Waste Prohibition	x	x	x	x	x	x	x	x	x	x
14	Residential ULFT Replacement Program										
	Replacement at Sale of Property							x		x	
	Rebates	x		x	x	x	x	x	x	x	
	Give-Away Events			x	x	x	x		x	x	
	ULFT Direct-Install [3]				x						
Percentage of SCWA Deliveries in 1998-99		*1%*	*1%*	*16%*	*5%*	*39%*	*4%*	*13%*	*5%*	*13%*	*1%*

[a] Although the Marin Municipal Water District and North Marin Water District are not located in Sonoma County, they are SCWA water contractors.

[b] CULFT = Commercial Ultra-Low Flush Toilet.

[c] O = water contractor has own conservation coordinator.
C = water contractor contracts with the SCWA for water conservation coordinator service.
O/C = collaborative effort of local utility staff and contract SCWA staff.

[d] ULFT = Ultra-Low Flush Toilet.

Source: *Urban Water Management Plan*, Appendix F, SCWA, 2000.

RECYCLED WATER AND REUSE

The use of recycled water for irrigation in urban areas has the potential to reduce peak summer demands and reduce the need for construction of additional supply sources and potable water storage facilities. Recycled water is wastewater that has undergone primary, secondary, and occasionally tertiary treatment. During primary treatment, large solids are removed; during secondary treatment, bacteria is used to remove approximately 90 to 95 percent of the remaining solids and disinfectant is used to destroy bacteria, viruses, and other pathogens; during tertiary treatment, required for many reuse applications, filtration or reverse osmosis makes the water suitable for most non-drinking purposes. Potential irrigation sites for recycled water include schools, business parks, community parks, golf courses, and agricultural land. The potential water reuse within SCWA's service area was analyzed in the *1999 Preliminary Assessment of Urban Water Reuse*, prepared by the SCWA. The results of the assessment indicate that the use of recycled water for irrigation in SCWA water contractors' service areas could reduce the consumption of approximately 4,200 acre-feet of potable water per year. This represents less than ten percent of current total water use. **Exhibit 4.9-7** shows current and projected recycled water and reuse for several SCWA contractors.

Exhibit 4.9-7
Recycled Water: Current / Projected Reuse

Treatment System	*Total Current Reuse (acre-feet per year)*	*Current Nonurban Reuse (acre-feet per year)*	*Current Urban Reuse (acre-feet per year)*	*Add'l Projected Urban Reuse [a] (acre-feet per year)*
City of Santa Rosa Sub-regional Wastewater Treatment System	10,127	9,520	607	2,250
Novato Sanitary District [b]	1,841	1,841	0	650
City of Petaluma	254	254	0	640
Sonoma Valley County Sanitation District	1,200	1,200	0	610
Healdsburg & Windsor Forestville County Sanitation District	34	34	0	50

[a] Additional Projected Urban Reuse is based on recycled water projections of proposed reuse projects.

[b] Although Novato Sanitary District is in Marin County, the district provides services to the North Marin Water District, which is a SCWA water contractor.

Sources: *Urban Water Management Plan 2000*, Sonoma County Water Agency, 2000.

Water Supply Services – Regulatory Setting

Beneficial uses and water quality objectives for surface water and groundwater resources are protected by a number of federal, State, and local governments. The California Code of Regulations, Section 65302 (Land Use), requires a city or county General Plan to address water supply as a topical issue using an Urban Water Management Plan as a primary source document. Programs and regulations

related to drinking water quality, water supply, and wastewater treatment and disposal are described below.

LOCAL REGULATIONS

Sonoma County General Plan

Acquisition of land for and construction of water supply facilities in the unincorporated area is subject to County review for consistency with the Sonoma County General Plan under Section 65402 of the Government Code. While many public agency sponsors will strive to develop facilities that are consistent with the General Plan, they have the authority to override the County's determination and proceed with acquisition and construction.

Sonoma County Code of Regulations

The Sonoma County Code, including various ordinances, provides the regulatory framework for implementing the County General Plan policies and programs. The Sonoma County Code includes provisions covering well permitting and construction, water conservation and landscape water usages, stormwater quality management, and the design and construction of on-site wastewater disposal systems, such as septic tank and leachfield systems.

Sonoma County Permit and Resource Management Department

There are roughly 40,000 individual water wells within Sonoma County. The Permit and Resource Management Department (PRMD) is responsible for granting groundwater well permits in unincorporated areas of the county. The well permitting process varies depending on the availability of groundwater at the location of the proposed well. As discussed in ***Section 4.5 Hydrology and Water Resources,*** a four-tier classification system is used to indicate general areas of groundwater availability: *Class I* includes the Major Groundwater Basins; *Class II* includes the Major Natural Recharge Areas; *Class III* includes the Marginal Groundwater Availability Areas; *Class IV* includes Areas with Low or Highly Variable Water Yield. Wells located in incorporated areas are often permitted by the corresponding City governments. The well permitting process for incorporated areas is dependent on City ordinances and varies throughout the county. The County does not have any jurisdiction over wells within the boundaries of most incorporated cities.

Currently, the PRMD grants nondiscretionary (ministerial) permits to non-agricultural wells located within Class I and Class II areas, provided that wells are constructed according to minimum State and County standards. For proposed non-agricultural wells located in Class III and Class IV areas, applicants are required to provide proof of adequate groundwater to meet proposed domestic or commercial uses by means of a geologic report. Test wells or the establishment of community water systems are mandatory in Class IV areas and are sometimes required in Class III areas. Provided they meet certain minimum County and State standards for construction, agricultural well permits are granted, generally without further technical review. However, agricultural well permits may be associated with other aspects of an agriculturally related project, such as a processing or visitor-serving use. Such uses are typically subject to discretionary project review and the permit approval process, including the review of the proposed well construction and operational details. Discretionary permits are not granted unless the geologic report establishes that groundwater supplies in the vicinity of the proposed well are adequate and will not be adversely impacted by anticipated future land uses and development.

While the standards for groundwater well permits in a given groundwater availability area govern their physical design and provide some restrictions on the location of wells, they do not control the use or quantity of water extracted, nor do they currently address the sustainable capacity of the underlying aquifer to supply groundwater. Detailed procedures for determining potential well interference effects (the interference of a proposed well on the pumping rate, drawdown, or long term supply of an adjacent well) are also not contained in the current County Code. These issues may be addressed during the CEQA review process for those projects which are subject to CEQA, particularly for projects in water scarce areas.

STATE REGULATIONS

California Code of Regulations

The California Code of Regulations Section 100-112 (Water Code) outlines the general State authority and responsibilities over water in California. It establishes the Department of Water Resources as the primary research and supply development and management agency for water, the State Water Resources Control Board for overall water quality policy development and for dealing with water rights issues, and nine Regional Water Quality Control Boards for regulation, enforcement, and protection of the beneficial uses of water.

Porter-Cologne Water Quality Control Act of 1969

The 1969 *Porter-Cologne Water Quality Control Act* established the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) as the primary State agencies with regulatory authority over water quality. Under the act, the SWRCB has the ultimate authority over State water rights and water quality policy, and the RWQCBs are responsible for overseeing water quality on a day-to-day basis at the local / regional level.

Surface Water Rights

The SWRCB has jurisdiction over all water rights in the State of California under the common law public trust doctrine. The *California Water Code* Section 1735 provides the regulatory framework for long-term transfers, subject to the requirements of CEQA.

Appropriative water rights allow the diversion of surface water for beneficial use. Prior to 1914, appropriative water rights involved a simple posting to describe intent and scope of water use, diversion, or construction of diversion activities. Since 1914, the sole method for obtaining appropriative water rights is to file an application with the SWRCB. Before it can issue a water rights permit, the SWRCB must demonstrate the availability of unappropriated water. Both pre- and post-1914 appropriative water rights may be lost if the water has gone unused for a period of five years.

Riparian water rights apply only to lands that are traversed by or border on a natural watercourse. Riparian owners have a right (correlative with the right of each other riparian owner) to share in the reasonable beneficial use of the natural flow of water that passes the owners land. No permit is required for such use. Riparian water must be used reasonably, beneficially, and solely on riparian (adjacent) land and cannot be stored for later use. [8]

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[8] Information pertaining to Water Rights in California, State Water Resources Control Board, June 2005. Accessed online at http://www.waterrights.ca.gov/application/forms/infobook.htm#_Toc442697734

Groundwater Rights

The State requires that counties enact regulations covering well design to protect groundwater quality from surface contamination, and to ensure proper well construction and development for domestic use. However, these regulations are not related to the quantity of water extracted. Counties can also enact an ordinance to ensure that wells developed on one property do not interfere with the use of adjacent wells.[9] In some areas of over use, and where there is a high dependence on groundwater, groundwater rights are determined judicially in what are termed *adjudicated groundwater basins*. There are no adjudicated groundwater basins in Sonoma County**.**

Water Supply Regulations

There are two principal laws in California regarding planning for water supply and ensuring adequate water availability for new planned and approved growth.

The *Urban Water Management Planning Act* requires that each urban water supplier that provides water for municipal purposes to 3,000 or more customers, or to more than 3,000 acre-feet per year, must submit to the DWR an Urban Water Management Plan (UWMP). The UWMP must summarize existing and planned sources of water supply, current and projected water usage or demand, and include a discussion of 14 specified demand management (e.g., water conservation) measures. The *Agricultural Water Conservation and Management Act* establishes a relationship between the DWR and agricultural water suppliers to develop and implement efficient water management practices. In Sonoma County, there are no large water suppliers (e.g., irrigation districts) that supply water primarily to agricultural customers; the SCWA UWMP provides for urban users that are customers of the agency.

New legislation took effect in January 2002 that requires an increased effort to identify and assess the reliability of anticipated water supplies and envisions an increased level of communication between municipal planning authorities and local water suppliers.

SB 221 requires that cities and counties impose a new condition of tentative subdivision approval, requiring that the applicant provide a detailed verification from the applicable water supplier that a sufficient water supply will be available before the final subdivision map can be approved. It applies to subdivisions of 500 units or more and projects that would employ 1,000 or more workers. This requirement also applies to increases of ten percent or more of service connections for public water systems with less than 500 service connections. The law defines criteria for determining *sufficient water supply* such as using normal, single-dry, and multiple-dry year hydrology and identifying the amount of water that the supplier can reasonably rely on to meet existing and future planned uses. Rights to extract additional groundwater, if used for the project, must be substantiated.

SB 610 amends the Urban Water Management Planning Act to require additional information in Urban Water Management Plans if groundwater is identified as a source available to the supplier. The information required includes a copy of any groundwater management plan adopted by the supplier, a copy of the adjudication order or decree for adjudicated basins, and if non-adjudicated, whether the basin has been identified as being overdrafted or projected to be overdrafted in the most current California Department of Water Resources (DWR) publication on that basin. If the basin is in overdraft, that plan must include current efforts to eliminate any long-term overdraft. A key provision

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9 California Water Code section 10753.

in SB 610 assures that water supply issues are thoroughly considered as part of the environmental review process, but only for the larger projects as described above. These projects must include a water supply assessment, containing specified information from the local public water supplier likely to provide water in the project area. [10] It is unlikely that projects of this magnitude would occur in the unincorporated area due to the limitations of the land use plan and the relatively small size of the communities served by public water suppliers. However, Rohnert Park recently completed a Master Water Supply Assessment for future development under its General Plan.

AB 901 requires Urban Water Management Plans to include information relating to the quality of existing sources of water available to an urban water supplier over given time periods and the manner in which water quality affects water management strategies and supply.

It would be unlikely that any land use or development associated with the adoption of the *Draft GP 2020* would be of a sufficient size in the unincorporated areas of the county to trigger the provisions of SB 610 or SB 221.

Groundwater Management Plans

The 1993 *Groundwater Management Act* (California Water Code Section 10750), commonly referred to as AB 3030, was designed to provide local public agencies in California with increased management authority over groundwater resources. AB 3030 was developed in response to the federal Environmental Protection Agency's Comprehensive State Groundwater Protection Programs. [11] AB 3030 allows, but does not require, local water providers to develop a groundwater management plan for DWR-defined groundwater basins. Cities and counties may cooperate with these providers. [12] The plan can cover groundwater quantity management, groundwater quality management, or both. Once the plan has been adopted, rules and regulations must also be developed to implement the groundwater management program called for in the plan. Currently, no groundwater management plans have been adopted for any basins in Sonoma County. However, the SCWA has initiated studies of groundwater conditions in two Sonoma County Basins; Sonoma Valley and Alexander Valley in cooperation with the USGS. The regulatory setting for groundwater management is discussed in greater detail in ***Section 4.5 Hydrology and Water Resources***.

State Drinking Water Quality Regulations

The State Department of Health Services (DHS) is responsible for regulating Public Water Systems and Small Water Systems and monitoring them for compliance with the State water code and national standards for drinking water quality. *Public Water Systems* are defined as systems that provide water to 15 or more service connections or regularly serve at least 25 individuals daily at least 60 days of the year. The SCWA and its water contractors are examples of Public Water Systems. *Small Water Systems* serve at least five but not more than 14 connections and do not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year. The DHS is

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10 *Impact of New Water Laws on Development in California*, David Lanferman, Shepard Mullin Richter & Hamilton LLP, January 29, 2002, http://www.smrh.com/publication/pubview.cfm?pubID=160.

11 *General Groundwater Information*, California Department of Water Resources, Division of Planning and Local Assistance, Northern District, accessed online at http://wwwdpla.water.ca , December 2002.

12 California Water Code sections 10750.7 and .8.

responsible for the issuance of operational permits, routine water system inspections, evaluation of water quality monitoring data, and follow-up compliance activities.

FEDERAL REGULATIONS

The federal government sets minimum standards for the protection of water quality, including for drinking water and environmental protection, and has jurisdiction over flow in some waters where rivers or streams cross state boundaries. It has built and maintains several large water supply and irrigation projects in California. The federal government also has a voice in water management through its jurisdiction over energy regulation (for hydroelectric projects), and where endangered fish and aquatic species occur within a water body (see ***Section 4.6 Biological Resources*** for a discussion of the Federal Endangered Species Act).

Safe Drinking Water Act

Drinking water quality is based on two general standards: (1) organic and inorganic water contaminants that may have detrimental effects on health and safety, and (2) aesthetic qualities of water that may make water unpalatable or unpleasant to customers. The *Safe Drinking Water Act* of 1974 establishes the U.S. EPA as the primary government entity with responsibility for setting national drinking water standards for public water systems. Since 1974, the EPA has set national water quality standards for over 80 contaminants in drinking water. The *National Primary Drinking Water Standards* establish the maximum allowable contaminant levels (MCLs) allowed in public distribution systems. The *National Secondary Drinking Water Standards* establishes the MCLs that apply to potable water supplies at the point of delivery to the customer. While the U.S. EPA and state governments enforce water quality standards, local governments and private water suppliers are ultimately responsible for the quality of water supplies.

Water Supply Services – Significance Criteria

According to the *State CEQA Guidelines*, the project would have a significant water supply services impact if it would:

- Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements; or

- Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Water Supply Services – Impacts and Mitigation Measures

Impact 4.9-1 Insufficient Water Supplies to Meet the Future Water Demand of the Urban Service Areas

Land uses and development consistent with the Draft GP 2020 would increase the demand for water. As a result, insufficient water supplies would be available to serve some of the unincorporated USAs from existing entitlements. New or expanded entitlements would be required. This would be a significant impact. ***(S)***

Sonoma County's surface water and groundwater supplies are finite but renewable. The long-term sustainability of these supplies is dependent upon both natural conditions (e.g., climate, soil permeability, topography and hydrogeology) and water supply management practices aimed at the distribution, conservation, reuse, and enhancement of supplies. Increases in water demand that would occur under the *Draft GP 2020* would be determined by future water use and management practices and the intensity and distribution of future land uses. Although both water supply and water demand vary over time, the long-term objective is to ensure that these two variables are held in balance, and that demand does not exceed supply for a prolonged period of time.

Provision of adequate supplies of urban water in Sonoma County is largely the responsibility of public sector water suppliers and private water companies that are not under the jurisdiction of the County. These suppliers must not only maintain supplies and facilities to serve existing water users, but also must expand supplies and facilities needed to accommodate planned growth within each service area. It is not always possible to assure adequate supplies and facilities fifteen or twenty years in advance of growth due to funding limitations, permitting and environmental entitlements, and competing water users. As a result, this analysis of the adequacy of future water supplies is based upon whether or not there is a reasonable likelihood that public water suppliers will be able to successfully bring future water supplies on-line where it is necessary to serve their respective districts.

As discussed in the setting section, the SCWA serves as a water wholesaler to the major cities and larger water districts in the county. The SCWA's water supplies are derived primarily from high capacity surface wells along the Russian River. These wells are recharged by flow in the adjacent Russian River. Inflows to Lake Mendocino are in turn supplemented by diversions from the Eel River. Many of the SCWA's water contractors supplement this supply with groundwater and surface water sources. In the unincorporated portions of the county, water supplies are almost entirely derived from groundwater via private groundwater wells and smaller municipalities and water districts that draw their supplies from local groundwater sources.

The SCWA has determined that the capacity of its water transmission system is constrained in meeting existing contract commitments for some contractors during summer months. Efforts to build additional collection and transmission facilities and secure additional Russian River diversions from Lake Sonoma have been initiated. If approved, the Water Project would increase Russian River diversions from 75,000 to 101,000 acre-feet per year. If the project is not approved, the SCWA would be unable to meet the future demands of SCWA water contractors. However, it is estimated that only about five percent of the proposed increased diversions would be allotted to the unincorporated portion of Sonoma County. The majority of water from the proposed increased diversion of Russian River would be used to serve the incorporated cities.

As indicated in **Exhibit 4.9-8**, six of the 12 unincorporated USAs are deemed to have *significant concerns* with regards to the ability of their respective water supplies to meet future demand. Significant concerns means that they currently lack the capacity to serve projected growth and would

be likely to experience significant difficulties in expanding the system to meet projected demand. Two of the unincorporated USAs are deemed to be *adequate with concerns,* meaning that the provider either has the capacity to serve projected growth or would be likely to solve capacity issues within the time horizon of the *GP 2020*. Some of the service providers have concerns related to infrastructure constraints related to the ability to store and convey available or allocated water to serve the projected demand. In some of the unincorporated USAs, the availability of additional water supplies to serve land uses and development consistent with the *Draft GP 2020* would depend on the proposed increased diversion from the Russian River by the SCWA. As previously discussed, this diversion has not completed environmental review and has not yet been approved. [13] In some of the unincorporated USAs, there are concerns that adequate water supplies cannot be achieved through sustainable groundwater management, that is, without creating declining groundwater levels, and adversely affecting existing wells.

Such concerns are heightened by the fact that most of these areas are presently dependent upon groundwater supplies and reliable information on current groundwater supplies for much of Sonoma County is not yet available. The following district by district analysis relies upon PRMD staff studies conducted in coordination with the applicable public water suppliers. Only those districts with significant concerns are discussed in greater detail below. [14]

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[13] The majority of USAs in the unincorporated area do not purchase water from the SCWA

[14] For a more thorough discussion of this issue see *Water and Sewer Capacities Final Report*, Richard Rogers, Sonoma County PRMD, October 16, 2003.

Exhibit 4.9-8
Summary of Water Supply and Sewer Capacity for Unincorporated Sonoma County

Area / Service	Facilities Adequacy to Serve Growth Allowed by General Plan Land Use Map			
	More than Adequate [a]	Adequate [b]	Adequate with Concerns [c]	Significant Concerns [d]
Bodega Bay Urban Service Area				
Water: Bodega Bay Public Utilities District		X		
Sewer: Bodega Bay Public Utilities District		X		
Sea Ranch Urban Service Area				
Water: Sea Ranch Water System		X		
Sewer: Sea Ranch Sanitation Zone		X		
Occidental Urban Service Area				
Water: Occidental Water Company				X
Sewer: Occidental County Sanitation District				X
Geyserville Urban Service Area				
Water: Geyserville Water Works				X
Sewer: Geyserville Sanitation Zone				X
Forestville Urban Service Area				
Water: Forestville Water District	X			
Sewer: Forestville Sewer Service Zone		X		
Russian River Urban Service Area				
Water: Sweetwater Springs Water District				X
Sewer: Russian River County Sanitation District			X	
Monte Rio Urban Service Area				
Water: Sweetwater Springs Water District				X
Sewer: approved, not constructed	n/a			
South Santa Rosa Urban Service Area				
Water: City of Santa Rosa			X	
Sewer: South Park County Sanitation District			X	
Airport/Larkfield/Wikiup Urban Service Area				
Water: Town of Windsor; California American				X
Sewer: Airport/Larkfield/Wikiup Sanitation Zone				X
Graton Urban Service Area				
Water: Wells		X		
Sewer: Graton Community Services District			X	
Penngrove Urban Service Area				
Water: Penngrove Water Company			X	
Sewer: Penngrove Sanitation Zone		X		
Sonoma Valley Urban Service Area				
Water: Valley of the Moon Water District				X
Sewer: Sonoma Valley County Sanitation District				X

[a] *"More Than Adequate"* means that facilities appear capable of serving growth beyond buildout the General Plan.

[b] *"Adequate"* means: (1) apparent capacity to serve buildout growth with little financial, technical or environmental difficulty; and (2) clear capacity to serve projected growth.

[c] *"Adequate with Concerns"* means that the provider either has the capacity to serve projected growth or is likely to solve capacity issues within the time horizon of the General Plan.

[d] *"Significant Concerns"* means that the provider lacks capacity to serve projected growth and is likely to experience significant difficulties in expanding the system to meet projected demand.

Source: *Water and Sewer Capacities: Final Report*, CAC memo, Sonoma County PRMD, October 16, 2003.

The Occidental USA is served by the Occidental Water Company. There currently is not an adequate supply for fire flow and very little capacity for new hook ups. The major problem appears to be infrastructure, not available water supply. Future land uses and development consistent with the *Draft GP 2020* could not be served by the existing infrastructure.

Within the Geyserville USA, water service is provided by the Geyserville Water Works. The existing system has little additional capacity available to serve even a modest amount of new demand. Similar to the Occidental USA, the problem is primarily one of a lack of infrastructure rather than the availability of water supply. However, a new well would be required to meet the increased demand of future land uses and development consistent with the *Draft GP 2020* .

The Russian River USA and the community of Monte Rio are served by the Sweetwater Springs Water District. The District currently receives nearly all of its allocated water from diversions of underflow of the Russian River. The District would need to obtain additional water rights and / or and implement an aggressive water conservation and recycling program as well as reduce system losses in order to meet the increased demand resulting from implementation of the *Draft GP 2020*. Obtaining new water rights along the Russian River may be problematic due to environmental issues associated with Russian River fisheries.

Within the Airport-Larkfield-Wikiup USA, the California American (CA) Water Company provides water service primarily to residential uses in the Larkfield-Wikiup area. Under an agreement with the County, the Town of Windsor supplies the majority of water supplies to commercial and industrial uses located within the Airport Industrial Park area. The Town of Windsor obtains its water from four municipal wells in addition to contracting for water from the SCWA. The CA also obtains its water supply from wells and from the SCWA. Neither the Town of Windsor nor the CA currently has enough supplies to meet the proposed demand resulting from implementation of the *Draft GP 2020*. The Town of Windsor and the CA would require additional wells and / or obtain additional water from the SCWA to meet this demand. The Town could also divert Russian River water under SCWA water rights. Again, because the ability of the SCWA to supply additional water in order meet this demand is uncertain, this would remain an area of concern.

Within the Penngrove USA, water service is provided by the Penngrove Water Company (PWC). The PWC obtains its water from a high capacity well and from the SCWA. Water delivery by the SCWA is presently constrained by the transmission system which could be remedied by the implementation of the Water Project. [15] However the PWC would need to rely on its well to meet the demand of land uses and development consistent with the *Draft GP 2020*. While water levels had declined in this area due in part to pumping by the City of Rohnert Park, the City's increased use of SCWA water has reversed this condition in recent years. The long-term sustainability of groundwater use in this area would depend on both the ability of the City of Rohnert Park to obtain additional water supplies (as a SCWA contractor) as well as the success of its water conservation programs.

Water is provided within the unincorporated southern portion of the Santa Rosa USA by the City of Santa Rosa. The City of Santa Rosa obtains its water from the SCWA with supplemental supply from municipal wells. A large portion of this USA may eventually be annexed into the City of Santa Rosa prior to 2020. The City of Santa Rosa would need to obtain additional water supplies to meet the increased water demand resulting from implementation of the *Draft GP 2020.* As some of this additional water would likely come from the SCWA's proposal for increased Russian River

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[15] The Water Supply and Transmission System Project (WTSP) is discussed in the environmental setting.

diversions, the ability of the City of Santa Rosa to provide adequate water supplies to future development in this unincorporated USA is an area of concern.

The majority of the unincorporated Sonoma Valley USA is served by the Valley of the Moon Water District (VOMWD). The water supplies of the VOMWD include SCWA's aqueduct that delivers Russian River water, wells, and a portion of the unused entitlement of the Forestville Water District from the SCWA. The ability of the VOMWD to meet the increased water demand resulting from implementation of the *Draft GP 2020* would be dependent upon completion of the Water Project, the construction of new wells, and either the extension of the agreement with the Forestville Water District or an increased entitlement from the SCWA.

Policies contained in Section 3.2 of the *Draft GP 2020* (Policies **WR-2a** through **WR-2o**) include provisions for assessing current groundwater conditions, the development of sustainable yield information and basin-wide monitoring programs, revisions to the well permitting process for improved data collection and monitoring, and provisions to protect important groundwater recharge areas. Implementation of the policies contained in Section 3.2 would be integral to the success of County strategies discussed below that pertain to managing water supplies to meet future water demands.

Due to the fact that water supply sources are not always contained within jurisdictional boundaries, cooperation and coordination between all relevant regulatory agencies, municipalities, public and private water suppliers, and other stakeholders is critical. For example, high capacity wells constructed within City boundaries can create problems for private or public water supply wells located in adjacent unincorporated areas, particularly if they both draw groundwater from a common aquifer. Wells drilled in incorporated areas, whether they are private or municipal wells, do not always require County approval. Although the County and individual property owners can comment on projects in incorporated areas that involve discretionary permits during the CEQA review process, there currently is a lack of consistent coordination between municipalities, water departments, and water companies. Policy **WR-3q** would support inter-regional planning efforts between water suppliers, their contractors, and stakeholders to develop the preferred combination of resources to meet demand. Policy **WR-3r** addresses potential controversies between the SCWA and outside water users during efforts to secure alternative supplies. This policy would strive to ensure that the interests of all outside water users and stakeholders associated with potential alternative water sources would be considered and appropriate resolutions developed to prevent impacts to the environment and other water users.

Implementation of the policies contained in the *Draft GP 2020* would foster coordination and cooperation between the County and public water suppliers for the purpose of meeting demand while maintaining sustainable yields and protecting water quality. Under Policy **WR-3a**, the County would work with public water suppliers in assessing the sustainable yield of surface water and groundwater supplies to ensure surface and groundwater supplies do not exceed safe yields. This policy would also explore opportunities for recycled water use, conservation, and potentially feasible alternative water supplies. Implementation of Policy **WR-3c** would gather water resource data from public water suppliers and make it available to other water suppliers and the public.

Policy **WR-3d** focuses on the quality of drinking water obtained from public water suppliers. This policy would require that the County assist public water suppliers in complying with federal and State water quality standards through protection of water supply sources. This policy complements policies associated with urban and agricultural water quality, saltwater intrusion, and failing septic and sewer systems contained in Section 3.1 of the Water Resources Element of the *Draft GP 2020* in that it seeks to protect surface water and groundwater resources from potential contamination. Additionally, Policy

WR-3e would support public water suppliers in developing wellhead protection plans. The plans may include restrictions on land uses and / or practices in areas surrounding wellheads to prevent contamination.

Policies **WR-3j**, **WR-3k**, **WR-3l**, **WR-3p**, and **WR-3s** address the compliance of proposed land uses, water supplies, and transmission facilities with sustainable yields, general plan policies, urban water management plans, water supply agreements, groundwater management plans, Master Facilities Plans, and programs to mitigate identified overdraft conditions, as applicable. Policy **WR-3j** seeks to maintain consistency with such plans through coordination between PRMD and public water suppliers and PRMD review of proposed Master Facilities Plans. Policy **WR-3k** entails County cooperation with public water suppliers in the planning and development of storage and transmission facilities to ensure compliance with all relevant plans and regulations. Under Policy **WR-3l**, public water suppliers would consult with the County prior to acquiring a site or developing facilities for public water supplies in unincorporated areas and request a determination of consistency with the *GP 2020*. Policy **WR-3p** would provide for the involvement of public water suppliers in the development of groundwater management plans to ensure compliance by suppliers with the applicable plans. Policy **WR-3s** would require that the County's land use decisions be consistent with the policies and programs contained in the Water Resources Element of the *Draft GP 2020*.

Ongoing groundwater monitoring is critical for evaluating existing conditions and comparing groundwater extractions against projected sustainable yields. Implementation of **Water Resources Program 7: Groundwater Monitoring and Annual Report** would result in the development of a groundwater database and monitoring program consisting of well permit data and groundwater basin studies. This program and the policies that comprise it would facilitate evaluation of current groundwater conditions. This program also includes the preparation of an annual report to the Board of Supervisors assessing the current status of groundwater conditions in unincorporated areas of the County. Policy **WR-3m** is part of the program and would encourage public water suppliers and other water users of groundwater supplies to monitor and report groundwater levels and yields.

These data would be incorporated into the groundwater database and monitoring program under **Water Resources Program 7**. Such data would serve the County in assisting public water suppliers in evaluating the limits of available water supplies, developing methods to increase efficiency, prioritizing the allocation of existing supplies, and determining acceptable levels of risk of shortages for various users, as required by Policy **WR-3h**. Policy **WR-3i** would require that the County prepare or encourage the preparation of master facilities plans for all public water supply systems. The master facilities plans would be aimed at maintaining sustainable yields and would address estimated future demand, project service and facility needs, estimated costs for any needed improvements, and monitoring and mitigation measures to assure long-term adequacy of resources. In cases where the Master Facilities Plan indicates supplies are inadequate for proposed future land uses and development, a moratorium on development or other restrictive actions may be taken to protect existing services.

Goals and objectives of the *Draft GP 2020* would seek to discourage increased dependency on groundwater supplies. Under Policy **WR-3n**, public water suppliers that utilize SCWA water would be discouraged from utilizing groundwater to supplement supplies. Gray water systems, roof catchment of rainwater, and other methods of reusing water and minimizing the need to use additional groundwater would be encouraged by Policy **WR-4o**.

Significant improvements in water use efficiency, water reuse and reclamation, and water conservation are critical to the long-term viability of the County's water supplies. Several policies and programs contained in the *Draft GP 2020* would encourage an increase in the role of water conservation and the

role of safe, beneficial reuse of secondary- or tertiary-treated wastewater in meeting the water supply needs of both urban and rural users. However, while the policies below would encourage public water suppliers to act in accordance with County desires, they cannot be compelled to do so. As a result, these policies may not be effective in reducing water supply impacts.

Water conservation and education programs with measurable targets for public water suppliers would be supported under Policy **WR-3f**. Policy **WR-4b** would increase efficiency and reduce demand by requiring water conserving design and equipment in new construction, encouraging drought-tolerant landscaping, encouraging retrofitting older buildings and residences with water-conserving devices, designing wastewater systems to minimize inflow and infiltration, and limiting impervious surfaces to minimize runoff and increase groundwater recharge. Policy **WR-4e** would require water-conserving plumbing and water-conserving landscaping in all new development projects. Water-conserving plumbing includes low-flow toilets, faucets, and showerheads. Water-conserving landscaping can involve the use of drought-tolerant native species and drip irrigation systems. Policy **WR-4e** would also include provisions to minimize water loss and waste by County-operated water systems. Policy **WR-4f** would promote education efforts and programs for plumbing retrofits, cost rebates for low-flow fixtures, identification of water leaks, improved landscape irrigation efficiency, and other methods of conservation for water users. Agricultural water conservation is addressed by Policy **WR-4h**. This policy would encourage increased water use efficiency for crop irrigation, frost protection, and livestock.

Assessing current water consumption is an important step towards improving water use efficiency. Policy **WR-4c** would support programs to monitor, establish and publicize per capita or per unit water use in each community and utilize this data in preparing groundwater management plans, Master Facilities Plans, and wastewater treatment plans. This data would also be useful in projecting water demand for new development proposals. Policy **WR-4d** would encourage public water suppliers to use water meters and develop pricing systems based on water use to provide incentives for conservation and reuse programs. Water consumption and conservation opportunities for County buildings and facilities are addressed under Policy **WR-4i**.

Improvements in water treatment technologies over the last two decades have increased the feasibility of water reclamation and reuse to augment water supplies. The *Draft GP 2020* promotes potential opportunities for water reclamation and reuse while protecting the water quality. Policies **WR-4k**, **WR-4l, WR-4n** would encourage the reuse of wastewater for agricultural crops and other types of irrigation and wildlife enhancement projects, as practicable, provided the reclaimed water meets applicable regulatory water quality standards for the intended use and would not compromise the beneficial uses of other water resources. Policy **WR-4j** would ensure that wastewater disposal systems are designed to reclaim and reuse treated water to the extent practicable. Policy **WR-4m** would have the County coordinate with the cities and other wastewater treatment entities in minimizing the impacts of reusing treated water on agricultural activities, geothermal activities, and other appropriate uses in incorporated and unincorporated areas.

In conclusion, current procedures and policies and programs contained in the *Draft GP 2020* would strive to secure adequate water supplies for unincorporated USAs through water use assessments and monitoring, determination of safe water yields, conservation, and reclamation and reuse. These policies and programs as well as mitigation measures contained in ***Section 4.5 Hydrology and Water Resources*** would reduce the onset and severity of water supply deficiencies which are presently not quantifiable. However, sufficient water supplies may not be available at this time to serve all future land uses and development consistent with the *Draft GP 2020* within some of the unincorporated USAs. New or expanded entitlements or facilities as previously described may be required.

As development proceeds over time, public water suppliers are afforded the opportunity to review projects in the urban areas and to determine whether or not water supplies are available. At any time that sufficient water is not available, the supplier can notify the County of that fact and provide the basis for County denial of a project or projects until additional water supplies are available.

Nonetheless, the uncertainty over long-term availability of water supplies and facilities and the lack of direct County jurisdiction over public water suppliers results in a level of uncertainty about the adequacy of future supplies in some urban areas. Therefore, this would be a significant impact.

Mitigation Measure 4.9-1 No mitigation available beyond the *Draft GP 2020* policies discussed in the impact analysis above.

Significance After Mitigation This would be a significant unavoidable impact. (**SU**)

Impact 4.9-2 Insufficient Water Supplies to Meet the Future Water Demand of Rural Private Domestic, Small Municipal, and Agricultural Wells

*Land uses and development consistent with the Draft GP 2020 would result in an increased demand on groundwater supplies for rural uses. Due to the lack of comprehensive information regarding the county's groundwater resources, it is uncertain if groundwater supplies would be sufficient to meet the future demand of rural private domestic, small municipal, and agricultural wells. This uncertainty combined with the current regulatory approach could result in insufficient groundwater supplies in rural areas of the county. This would be a significant impact. (**S**)*

The majority of water users in rural unincorporated areas would continue to be dependent upon groundwater to meet their water needs. As discussed under *Impact 4.5-5 Groundwater Level Decline*, the uncertainty of the county's groundwater supplies to sustainably meet the future increased water demand stems from the fact that the current state of groundwater resources in the county is largely unknown. Until comprehensive assessments have been conducted, it is not possible to conclude that the county's groundwater resources would be capable of meeting future water demands resulting from implementation of the *Draft GP 2020*.

It is expected that the population of Sonoma County would increase by about 87,450 by 2020. Of this, approximately 19,100 persons, or 28 percent of the population increase, would be expected to populate unincorporated areas. [16] At an estimated annual water use of 0.17 acre-feet per person, the projected unincorporated future residential water demand in rural areas would increase by approximately 3,210 acre-feet per year. [17]

The great majority of future agricultural growth is expected to occur in unincorporated areas of the county. According to **Exhibit 4.5-7**, vineyard acreages are projected to increase by approximately 15,900 acres between 2002 and 2020. Given that the current annual grape irrigation is approximately 1.0 acre-foot of water per acre, this represents roughly 15,900 acre-feet of increased water demand for grape irrigation alone. [18] Although future acreages for other crop types have not been estimated,

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16 *Sonoma County General Plan 2020 Public Hearing Draft*, Sonoma County PRMD, October 2004.

17 Based on a rural residential water use estimate of 150 gallons/person/day.

18 Based on average annual acreages vs. applied water in **Exhibit 4.9-3**.

historically, other agricultural crops have represented approximately 25 percent of the total agricultural acreage and 45 percent of the total agricultural water use. [19]

The sum of the projected rural residential water demand and projected agricultural water use for vineyards and other crop types represents a conservative estimate of the projected increase in water demand in unincorporated areas of the county. According to these numbers, land uses and development consistent with the *Draft GP 2020* in the rural unincorporated area would result in an increase of approximately 32,000 acre-feet in water demand per year. [20] Although the current groundwater usage in the county is not known, water usage in 2001 was roughly estimated to be on the order of 199,900 acre-feet. [21] Thus, the 32,000 acre-feet represents about a 16 percent increase in estimated water usage from 2001.

As discussed under *Impact 4.5-5 Groundwater Level Decline,* several policies and programs contained in Section 3.2 of the *Draft GP 2020* would improve groundwater management practices through groundwater monitoring and research as well as protecting groundwater resources through revisions to current regulations regarding well permits and procedures. The *Draft GP 2020* also contains provisions to protect groundwater recharge areas and increase groundwater infiltration. The establishment of an ongoing groundwater monitoring program throughout the county would facilitate the evaluation of groundwater levels, storage, and recharge. This information would be compiled with groundwater data from public and private water suppliers, well permit data, and other applicable sources.

The *Draft GP 2020* would call for the completion of comprehensive groundwater assessments for each major groundwater basin in the county as well as other isolated groundwater problem areas that are identified by the County in the future. Revisions to the current well permitting process would impose more stringent requirements for proof of water quantity and quality. Revisions to the well permitting ordinance would include metering to monitor usage and setbacks from property lines and existing wells to prevent impacts to surrounding wells. The *Draft GP 2020* would also seek to maintain and enhance groundwater recharge by encouraging implementation of standards to regulate impervious surfaces and provide for water impoundments to increase retention and recharge. Proposed Mitigation Measure 4.5-5 would further assist in this effort.

Increased water savings gained from conservation and re-use programs could provide the County with ability to reduce the projected increases in groundwater demand. The degree to which conservation and re-use programs would result in increased water savings would depend on the extent to which the County and water suppliers can effectively implement educational outreach programs (e.g., those described in policies **WR-2b** and **WR-3h**). Educational programs related to water conservation and re-use, including landscape irrigation and retrofit programs, would assist in balancing the projected water demand with a sustainable water supply.

Implementation of the policies and programs contained in the *Draft GP 2020* and Mitigation Measure 4.5-5 would partially reduce the impact to water resources associated with uncertain future groundwater availability. Yet, even with the adoption and implementation of the proposed policies

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[19] See **Exhibit 4.9-3**.

[20] 3,210 ac-ft/yr (residential) + 15,900 ac-ft/yr (vineyards) + 13,000 ac-ft/yr (other crops) = ~32,110 ac-ft/yr

[21] See **Exhibit 4.9-4**.

and programs, the ability of groundwater resources to meet the increased water demand resulting from the implementation of the *Draft GP 2020* would remain uncertain. As the analysis of potential impacts without completion of recommended groundwater assessments would be speculative, it must be concluded that there would be a significant impact to groundwater resources resulting from implementation of the *Draft GP 2020*.

Mitigation Measure 4.9-2 Same as Mitigation Measure 4.5-5.

Significance After Mitigation The recommended mitigation measure may help reduce the impact to water resources associated with uncertainties in water supply and groundwater sustainability for many unincorporated areas that rely on groundwater resources to a less-than-significant level. However, the impact to areas with known, suspected, or evolving groundwater management problems (especially in those areas identified in the setting section) would remain significant. Therefore, this would be a significant unavoidable impact. (**SU**)

Responsibility and Monitoring The Board of Supervisors would be responsible for adopting the revised policy **WR-2f** as proposed in Mitigation Measure 4.5-5 as part of the *GP 2020*. The PRMD would be responsible for adopting and implementing revisions to Policy **WR-2f** as outlined in Mitigation Measure 4.5-5.

Impact 4.9-3 New or Expanded Water Supply Facilities

*Land uses and development consistent with the Draft GP 2020 could result in the need for increased water supply facilities, either through the construction of new facilities or through the expansion or retrofitting of existing facilities. Construction of new or expanded water supply facilities could result in site-specific impacts, especially on aquatic organisms and fisheries. This would be a significant impact. (**S**)*

As the demand for water increases with population and job growth, the need for additional water supply facilities will also increase. These facilities could include water treatment facilities, pipelines, pumphouses, wells, etc. As water reuse increases, facilities that recycle used water may also be needed depending upon the needs of each public water supplier. The site-specific impacts of these facilities cannot be determined until such time that the facilities are proposed and subjected to environmental review. Typical impacts would likely be construction related noise, dust, and grading. The fact that water facilities may be located near streams or water bodies would mean that impacts to fish and wildlife, erosion, and stream flow may also occur.

The *Draft GP 2020* contains several policies that would reduce some of the environmental impacts related to the demand for new or expanded water supply facilities. Policy **WR-3b** would require that the County support to the extent feasible the actions of public water suppliers to meet future demands in a manner protective of the natural environment. Policy **WR-3o** would encourage public water suppliers to avoid or minimize significant environmental impacts resulting from the enhancement of water supplies and construction of new storage and transmission facilities. Potential environmental impacts associated with the export and import of water supplies are addressed by Policies **WR-5a** and **WR-5b**. These policies require that a full assessment of environmental impacts associated with the export and import of water supplies by conducted as part of the proposal process.

In addition, the **Residential Use**, **Commercial Use**, and **Industrial Use** policies (sections 2.2 through 2.4 of the Land Use Element), policies **LU-2a**, **LU-3c**, **LU-3d**, **LU-5b**, **LU-5d**, **LU-6a**, as well as policies that pertain to specific Planning Areas, would reduce the need for additional water supply facilities by maintaining low densities and limited commercial and industrial development outside of the USAs.

The *Draft GP 2020* also includes a number of policies and programs that would help limit potential impacts related to the construction of needed water supply facilities. For example, Policy **OSRC-8c**, would reduce potential impacts to riparian corridors by requiring future development be sited a minimum of 50 feet (or up to 200 feet in certain circumstances) from the top of banks of streams. Policies **OSRC-11b** and **WR-1h** would reduce potential water quality impacts due to erosion at construction sites. The policies require including control measures for projects involving construction or grading near waterways or on steep slopes and that grading plans include measures to avoid soil erosion and sedimentation in storm water to the maximum extent practical. Policy **OSRC-16c** would, through project review by the local air quality district, help minimize air pollution.

Although these policies and programs may reduce some of the adverse environmental impacts associated with the construction and operation of new or expanded water supply facilities, analysis of site-specific impacts is beyond the scope of this EIR and would be evaluated as part of a separate environmental review for the individual project. In addition, impacts resulting from the construction of these facilities are evaluated at a program level throughout this EIR, since these facilities are considered to be part of the *Draft GP 2020*. This would be a significant impact

Mitigation Measure 4.9-3 No mitigation available beyond the *Draft GP 2020* policies discussed in the impact analysis above.

Significance After Mitigation This would be a significant unavoidable impact. (**SU**)

Wastewater Management Services – Environmental Setting

Incorporated cities and special districts own and operate numerous centralized wastewater collection and treatment systems throughout the county. The discharge of treated effluent and disposal of biosolids is permitted by the corresponding RWQCB (either the North Coast or the San Francisco Bay). Rural areas not served by centralized systems use on-site septic systems subject to regulation by the Sonoma County PRMD, with larger systems subject to the approval of the RWQCBs.

CONVENTIONAL WASTEWATER TREATMENT PLANTS

Conventional wastewater treatment plants typically receive and treat wastewater either from multiple parcels and land uses or agricultural processing facilities on a single parcel and produce secondary or tertiary-treated effluent. In the first case, the facility is typically owned and operated by a public agency, usually a sanitation district, and is built to service large to very large wastewater flows. [22]

There are eleven wastewater treatment plants in unincorporated Sonoma County as listed in **Exhibit 4.9-9**. The North Coast RWQCB or the San Francisco Bay RWQCB, depending on the location of the plant, regulates discharge from each treatment plant. Inadequate treatment capacity, aging and / or malfunctioning facilities, and / or the implementation of stricter treatment or discharge standards by the RWQCB are factors that often lead to necessary plant improvements.

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22 *Package Treatment Plants,* CAC memo, Richard C. Rogers, Sonoma County PRMD, October 17, 2002.

With the exception of South Santa Rosa and Penngrove, all districts serving Urban Service Areas (USAs) in unincorporated Sonoma County maintain independent facilities to collect, treat, and / or dispose of wastewater. South Santa Rosa receives sewer service from the South Park County Sanitation District, which contracts with the City of Santa Rosa for wastewater treatment and disposal. The Penngrove Sanitation Zone contracts with the City of Petaluma for sewer service. [23] **Exhibit 4.9-9** presents basic information about the 11 existing sanitation zones and wastewater service providers in the county, all of which are managed by SCWA, with the exception of the Bodega Bay Public Utility District and Forestville. [24] The Sonoma Valley County Sanitation District (CSD) treatment facility is located within the jurisdiction of the San Francisco Bay RWQCB. The remaining facilities are under the jurisdiction of the North Coast RWQCB. [25]

PACKAGE WASTEWATER TREATMENT PLANTS

Package wastewater treatment plants are treatment facilities manufactured off-site in a modular fashion and delivered in "packages" (truckloads) to be installed at a particular location. They may be ordered in different sizes and may be connected together to achieve treatment of fairly large wastewater flows. [26] Package wastewater treatment plants are smaller than municipal wastewater treatment plants and are generally located in unincorporated areas of the county. They are privately owned and maintained, typically serving specific developments (e.g., planned communities) or specific uses (e.g., wineries or industry). Like the larger conventional wastewater treatment plants, package plants are regulated by the San Francisco Bay or North Coast RWQCBs. While these plants may offer better treatment of wastewater, their use can be challenging in that the financial responsibility for plant operation, maintenance, and potential RWQCB penalties may be in the hands of one or more private property owners who may not have adequate financial resources to deal with problems when they arise.

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23 *Water and Sewer Capacities: Preliminary Report,* CAC memo, Richard C. Rogers, Sonoma County, August 15, 2002.

24 Sewer service for the Monte Rio USA has been approved but not constructed.

25 *Wastewater Treatment,* Sonoma County Water Agency, accessed online at http://www.scwa.ca.gov/svtp.html , December 2002.

26 *Package Treatment Plants,* CAC memo, Richard C. Rogers, Sonoma County PRMD, October 17, 2002.

Exhibit 4.9-9
Wastewater Treatment and Disposal Methods

Sanitation Districts or Zones	Service Area (Acres)	Current Permitted Capacity (MGD) [a]	Average Dry Weather Flow, 1998-2002 (MGD) [b]	Percent of Current Capacity in Use	Level of Treatment	Effluent Disposal	
						Summer	Winter
Sea Ranch, Central	27	0.027	0.004	15	Secondary	Irrigation and Percolation	
Sea Ranch, North	305	0.130	0.019	15	Secondary	Irrigation	
Bodega Bay		0.430	0.240	56	Tertiary	Irrigation	
Occidental	55	0.050	0.017	35	Secondary	Irrigation	Dutch Bill Creek
Geyserville	177	0.092	0.054	59	Secondary	Percolation and Evaporation	
Forestville	70	0.100	0.064	64	Tertiary	Irrigation	Jones Creek
Russian River	2,700	0.710	0.295	41	Tertiary	Irrigation	Russian River
Airport-Larkfield-Wikiup	2,100	0.900	0.672	75	Tertiary	Irrigation	Stored for Irrigation
Graton	260	0.140	0.099	71	Secondary	Irrigation	Atascadero Creek
Sonoma Valley	4,500	3.000	2.525	84	Secondary	Irrigation	Schell Slough
Sanitation District or Zone	**Service Area (Acres)**	**Current Contracted Capacity (MGD)**	**Current Flows (MGD)**	**Percent of Current Capacity in Use**	**Level of Treatment**	**Effluent Disposal**	
						Summer	**Winter**
South Park	NA	0.700	0.705	101	Tertiary	Irrigation and Geysers	Laguna and Geysers
		Current Contracted Capacity (ESDs) [c]	**Current Flows (ESDs) [d]**				
Penngrove	475	1,090.91	484	44	Secondary	Irrigation and Evaporation	Evaporation and Petaluma River

a MGD = Million Gallons per Day
b Average dry weather flow is the lowest average total flow over a period of 30 consecutive days.
c Equivalent Single Family Dwelling (service recipients) – one ESD is the expected wastewater generation from a typical single family dwelling.
d NA = Not Available due to rate of annexation by City of Santa Rosa.

Sources: Sonoma County Water Agency, Bodega Bay Public Utilities District, Cities of Santa Rosa and Petaluma

SEPTIC SYSTEMS

Most residences and some small educational, public, commercial, and industrial facilities in unincorporated areas of the county rely upon individual septic systems to treat and dispose of wastewater. Although the total number of septic systems in use in Sonoma County is not known, it is estimated by PRMD to be about 35,000. Assuming that each of the estimated 35,000 residential septic systems serves a household averaging 2.8 people, some 95,000 residents of Sonoma County utilize on-site systems for wastewater disposal. This represents approximately 75 percent of the unincorporated county residents and about 20 percent of the total county population.

PRMD is responsible for evaluating proposed septic system design plans and issuing septic system permits in the county. There are two primary types of septic systems: standard septic systems and alternative septic systems. A *standard septic system* consists of an appropriately sized septic tank and leachfield. Standard septic systems are ministerial permits, provided all necessary site conditions and design and construction requirements are met. Such systems must be serviced (pumped) every two to three years. *Alternative septic systems* are necessary when site conditions do not meet the standard septic system requirements (e.g., low soil percolation rates, inappropriate distance to groundwater, shallow soils, steep slopes, etc.). Alternative septic systems include *filled land, shallow sloping, mound*, and *pressure distribution* systems. The maintenance of alternative systems depends on the type of system. Systems such as Mound and Pressure Distribution require quarterly monitoring.

Wastewater Management Services – Regulatory Setting

COUNTY REGULATIONS

Acquisition of land for and construction of wastewater treatment facilities in the unincorporated area is subject to County review for consistency with the Sonoma County General Plan under Section 65402 of the Government Code. While many public agency sponsors will strive to develop facilities that are consistent with the General Plan, they have the authority to override the County's determination and proceed with acquisition and construction.

The Sonoma County PRMD is responsible for the review and permitting of individual on-site septic systems, and some community systems that involve the use of on-site septic tanks, with the collection and disposal of effluent from several systems. Individual septic systems are granted permits provided that all relevant conditions and / or regulations are met. Larger systems, including some commercial and industrial systems, are also subject to the review and approval of the Regional Boards. Some of the rules and regulations pertaining to the design and construction of on-site wastewater systems are detailed in the County Code. Others are contained in internal guidance documents and memoranda available from PRMD staff.

Several areas in unincorporated Sonoma County are under restrictions which limit the expansion or remodeling of residences or businesses due to a preponderance of older and inadequate septic systems. Camp Meeker, Monte Rio, Sereno Del Mar, Jenner, South Wright Road, Carmet, and Salmon Creek are small communities that are designated *Waiver Prohibition Areas.* In these areas, water quality problems resulting from older septic systems are severe and the soil conditions will not support septic system upgrades under current environmental health standards.

STATE AND REGIONAL REGULATIONS

The State Water Resources Control Board (SWRCB), in coordination with two of the nine Regional Water Quality Control Boards (RWQCBs), regulates water quality, including issuance of discharge permits in Sonoma County. [27] As mentioned in the ***Water Supply Services*** subsection and in ***Section 4.5 Hydrology and Water Resources***, the federal NPDES program regulates point source discharges from wastewater treatment plants that discharge directly to surface waters. Each NPDES permit contains limits on allowable concentrations contained in the discharge, and typically a self-monitoring and surveillance program. The NPDES program is administered by the SWRCB and the RWQCBs under procedures outlined in the State Water Code.

Water Quality Control Plans, also referred to as Basin Plans, are prepared by each RWQCB for its respective region. The plans designate beneficial uses for specific surface and groundwater resources and establish water quality objectives and implementation programs. The Regional Boards issue Waste Discharge Requirements (WDRs) permits in compliance with the applicable plans for major point-source discharges, such as municipal wastewater treatment plants and industrial facilities.

Wastewater Management Services – Significance Criteria

According to the *State CEQA Guidelines*, the project would have a significant wastewater management services impact if it would:

- Not meet wastewater treatment requirements of the applicable RWQCB;
- Violate any water quality standards or waste discharge requirements;
- Result in the determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- Otherwise substantially degrade water quality.

Analysis of water quality impacts related to the discharge of wastewater are discussed in *Impact 4.5-4 Water Quality – Wastewater Disposal* contained in ***Section 4.5 Hydrology and Water Resources***. Analysis of capacity impacts related to wastewater treatment services resulting from implementation of the *Draft GP 2020* are discussed below.

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[27] *California Environmental Protection Agency*, California Environmental Protection Agency, accessed online at http://www.calepa.ca.gov/ , December 2002.

Wastewater Management Services – Impacts and Mitigation Measures

Impact 4.9-4 Increased Wastewater Treatment Demand

Land uses and development consistent with the Draft GP 2020 would generate wastewater flows that exceed treatment capacity of wastewater treatment services and would require both construction of new facilities and improvements to existing facilities. This would be a significant impact. ***(S)***

Provision of adequate wastewater system capacity in urban areas of Sonoma County is largely the responsibility of public agencies that are not under the jurisdiction of the County. These agencies must not only maintain their systems and facilities to serve existing users, but also must expand as needed to accommodate projected growth within each service area. It is not always possible to assure adequate capacity and facilities fifteen or twenty years in advance of growth due to funding limitations and permitting and environmental entitlements. As a result, this analysis of the adequacy of future wastewater capacity is based upon whether or not there is a reasonable likelihood that the public wastewater systems will be able to successfully bring future capacity on line in order to serve their respective districts. The following analysis relies upon PRMD staff studies conducted in coordination with the applicable wastewater system providers. [28]

According to PRMD staff analysis, as described in **Exhibit 4.9-8**, four of the 11 unincorporated USAs are deemed to have significant concerns with regards to the ability of wastewater treatment providers to treat future wastewater flows. Significant concerns means that the wastewater treatment provider lacks the current capacity to serve projected growth and buildout estimates and would likely experience significant difficulties expanding the system to meet projected demand. Four facilities are considered as clearly having the capacity to meet projected growth while the remaining three facilities are considered to have capacity to serve projected growth or are likely to solve capacity issues within the time horizon of *GP 2020*. Wastewater capacity analysis by urban service area (USA) is summarized in **Exhibit 4.9-10**. [29]

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[28] For a more thorough discussion of this issue see *Water and Sewer Capacities Final Report*, Richard Rogers, Sonoma County PRMD, October 16, 2003.

[29] *Water and Sewer Capacities: Final Report*, CAC Memo, Richard Rogers, Sonoma County PRMD, October 16, 2003.

Exhibit 4.9-10
2020 Wastewater Treatment Capacity, Surplus, and Deficits

Sanitation District	Current Permitted Capacity (MGD) [a]	Average Dry Weather Flow, 1998-2002 (MGD) [b]	Remaining Capacity in 2003 (MGD)	Planned Capacity by 2020 (MGD) [c]	Gallons per ESD per Day [d]	Available Capacity in 2020 (ESDs)	Total Projected Increase in ESDs by 2020	ESD Surplus or Deficit Based on 2020 Projection
Sea Ranch Central	0.027	0.004	0.023	0.027	200	115	13	102
Sea Ranch North	0.130	0.019	0.111	0.130	200	554	140	414
Bodega Bay	0.355	0.240	0.115	0.430	200	1,136	440	696
Occidental	0.050	0.017	0.033	0.050	66	495	57	438
Geyserville	0.092	0.054	0.038	0.092	200	188	261	-73
Forestville	0.100	0.064	0.036	0.130	140	473	326	147
Russian River	0.710	0.295	0.415	0.710	120	3,462	1,077	2,384
Airport-Larkfield-Wikiup	0.900	0.672	0.228	1.200	280	1,884	4,866	-2,982
Graton	0.140	0.099	0.041	0.140	150	270	361	-90
Sonoma Valley	3.000	2.525	0.475	3.000	200	2,377	3,514	-1,137

Sanitation District	Current Contracted Capacity (MGD)	Current Flows (MGD)	Remaining Capacity in 2003 (MGD)	Planned Capacity in 2020 (MGD)	Gallons per ESD per Day	Total Projected Increase in ESDs by 2020	ESD Surplus or Deficit Based on 2020 Projection
South Park	0.700	NA [e]	NA	0.700	233	3,334	NA

Sanitation Zone	Current Contracted Capacity (Persons)	Current Flows (MGD)	Gallons per ESD per Day	Current Flow (ESDS)	Current Contracted Capacity (ESDs)	Remaining Capacity in 2003 (ESDs)	Total Projected Increase in ESDs by 2020	ESD Surplus or Deficit Based on 2020 Projection
Penngrove	3,000	0.087	180	484	1,091	607	357	250

a MGD = Million Gallons per Day
b Average dry weather flow is the lowest average total flow over a period of 30 consecutive days.
c Planned Capacity by 2020 reflects projects underway in 2003.
d Equivalent Single Family Dwelling. One ESD is the expected wastewater generation from a typical single family dwelling. In this table, ESD data includes waste water from commercial, industrial, and other users, expressed as ESDs.
e NA = Not Available.

Source: Sonoma County PRMD, Sonoma County Water Agency, and Bodega Bay Public Utilities District

The Airport-Larkfield-Wikiup Sanitation Zone (ALWSZ) currently operates at a permitted capacity of 0.9 MGD. [30] Planned improvements (i.e., a new aeration lagoon) would allow a dry weather capacity of 1.2 MGD and result in excess capacity capable of serving an additional 1,884 ESDs, for a total of 5,246 ESDs. [31] Projected growth would require capacity to serve 8,228 ESDs and therefore result in a deficit of 2,982 ESDs. The actual amount of development that would occur however, would be constrained by the California American Water Company's ability to acquire significant new water sources in order to accommodate either projected growth or buildout of the land use map. [32]

The Geyserville Sanitation Zone (GSZ) currently serves 272 ESDs with excess capacity to serve an additional 187 ESDs, for a total of 459 ESDs. The GSZ treatment facility does not have a master facility plan or plans for capacity expansion beyond this level. Projected growth would require capacity to serve 533 ESDs, representing a deficit of 73 ESDs.

The Occidental USA is served by the Occidental County Sanitation District (OCSD). Potential demand from new commercial and residential development would be low as most commercial lots are developed. The existing treatment facility requires significant upgrades in order to meet both existing and planned flows. [33] The OCSD is currently under a Cease and Desist and Time Schedule Order from the RWQCB which requires the design and construction of a new wastewater treatment facility that would serve both Occidental and Camp Meeker.

The Sonoma Valley County Sanitation District (SVCSD) serves a combination of city and county areas including the City of Sonoma, Glen Ellen, Eldridge, Fetters Hot Springs, Agua Caliente, Boyes Hot Springs, El Verano, and the Temelec areas. SVCSD staff has indicated that existing treatment and disposal facilities have capacity to serve an additional 2,377 ESDs. However, SVCSD also serves the City of Sonoma, which develops approximately 100 ESDs per year under its growth management plan and projects an additional 150 ESDs through commercial buildout. This would result in 1,850 new ESDs by 2020. Implementation of the *Draft GP 2020* would therefore result in a deficit of 1,137 ESDs due to projected growth by the SVCSD for the entire service area. Improvements to disposal capacity would be required to accommodate projected development and a restriction on annexation of new lands into the SVCSD is currently in effect.

The Monte Rio Wastewater Pollution Control project was initiated in 1997 to improve public health hazards related to malfunctioning septic systems. The project proposes the construction of a new wastewater treatment facility that would serve 455 existing residences and allow development of 131 existing vacant residential parcels at a projected rate of ten per year. The facility would also serve existing commercial development and allow new development on ten vacant commercial properties.

Three facilities identified in **Exhibit 4.9-8** as adequate with concerns either have the capacity to serve projected growth (but not buildout) under the *Draft GP 2020* or would likely resolve capacity issues

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30 MGD - Million Gallons per Day

31 ESD - Equivalent Single Family Dwelling (service recipients) – one ESD is the expected wastewater generation from a typical single family dwelling.

32 *Water and Sewer Capacities: Final Report*, CAC Memo, Richard Rogers, Sonoma County PRMD, October 16, 2003

33 *Water and Sewer Capacities: Final Report*, CAC Memo, Richard Rogers, Sonoma County PRMD, October 16, 2003

within the time horizon of *GP 2020*.[34] The Russian River USA, served by the Russian River County Sanitation District (RRCSD) faces limitations in disposal capacity and would require the construction of improvements to accommodate projected development. The Graton Community Services District (GCSD) would need to develop additional storage and capacity needs or increase transfer of secondary effluent to the Forestville wastewater treatment facility.[35] South Park County Sanitation District's (SPCSD) ability to adequately meet increased capacity demands resulting from implementation of both the *Draft GP 2020* and the City of Santa Rosa General Plan would also be of concern. Quantifying capacity impacts to this area; however, would be speculative as the proportion of projected growth or buildout that would occur prior to annexation by the City of Santa Rosa is unknown.

Several policies of the *Draft GP 2020* would reduce wastewater impacts by addressing the service provider's ability to meet increased capacity requirements resulting from projected growth during the planning process. Policy **PF-1a** would require planning, designing and construction of new sewer services to correlate with projected growth consistent with the *Draft GP 2020*. Policy **PF-1c** would require discretionary project applications to obtain written certification that existing wastewater services would be available prior to project approval.

Policy **PF-1b** would encourage the preparation of master facility plans (MFPs) for wastewater management systems. MFPs are long range planning documents specific to the wastewater treatment provider's unique parameters in terms of size, geography, topography, age of equipment, rate structure, and development potential within the service area. This policy would specify a minimum of five areas the MFP must address. Treatment providers would be requested to establish and delineate service area boundaries, to project future growth within the service area, and identify needed improvements and associated costs, system design parameters and assumptions, and monitoring and mitigation measures.

Preparation of MFPs would help reduce wastewater impacts by examining potential solutions to existing and projected facility needs. Long range planning in these five areas would help Sonoma County avoid approving zoning changes, land use amendments and new development for which service is either not available (i.e., outside of the service area boundary) or planned for within the MFP. Implementation of this policy would therefore protect services to existing residents and ensure each provider is capable of meeting RWQCB treatment requirements at capacities not exceeding facility limits. In practice however, not all facilities currently have MFPs and the County does not typically have the authority to require them. Instead, long range planning often occurs in environmental documents for major facility improvements. Treatment providers find this approach more cost-effective as opposed to preparing an additional EIR during the MFP process. Of the 12 wastewater treatment providers in unincorporated Sonoma County only the Bodega Bay Public Utilities District (BBPUD) has an MFP. Occidental CSD, Forestville SSZ, Russian River CSD, Monte Rio, Airport-Larkfield-Wikiup SZ, Graton CSD, and Sonoma Valley CSD have some level of facilities planning contained in various facility-related EIRs. South Park CSD, Penngrove SZ, and Geyserville CSZ have no known planning documents.[36]

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[34] *Water and Sewer Capacities: Final Report*, CAC Memo, Richard Rogers, Sonoma County PRMD, October 16, 2003.

[35] *Water and Sewer Capacities: Final Report*, CAC Memo, Richard Rogers, Sonoma County PRMD, October 16, 2003.

[36] *Water and Sewer Capacities: Final Report*, CAC Memo, Richard Rogers, Sonoma County PRMD, October 16, 2003.

Additionally, as some providers rely on various treatment agreements between providers to meet discharge standards, coordination of MFPs is essential to long-term wastewater impact reduction. For example, the Graton CSD is able to comply with Basin Plan requirements for discharge to Russian River tributaries through a transfer agreement with Forestville WD. The Forestville facility, with current excess capacity, is able to treat the secondary effluent from the Graton facility to tertiary standards before discharge into Atascadero Creek.

Implementation of policy **PF-1f** would avoid wastewater extension of public sewer services outside of either a LAFCO adopted sphere of influence (SOI) or an urban service area (USA). USAs and LAFCO mandated SOIs establish and maintain a boundary beyond which only uses compatible with preserving agriculture and open space resources are allowed. This policy would continue to be a useful tool, especially when accompanied by definitive urban growth boundaries (UGBs), to ensure that premature urbanization and other development does not occur in open space and agricultural areas. By directing growth to urban areas, Sonoma County would save on infrastructure related costs, maintain levels of wastewater treatment service to existing residents, and avoid future wastewater capacity impacts. Exceptions to this policy include: when necessary to resolve a public health hazard (e.g., malfunctioning septic systems), to serve development permitted under Policy **OSRC-1c**, or when necessary to serve new moderate to low income housing development.

Policy **PF-1g** would place additional guidelines upon exceptions allowed by Policy **PF-1h** including requiring a property to be adjacent to the urban service boundary, design of sewage facilities at a scale to serve land uses and development consistent with the *GP 2020*, and that written certification of adequate service capacity is available. This policy would appropriately scale as well as limit approval of new development that could generate wastewater flows exceeding treatment capacity.

Policy **PF-1k** would limit the consideration of new conventional and package wastewater treatment facilities to serving agricultural support facilities consistent with the Agricultural Element, or to resolve existing public health hazards provided that availability would not result in land uses and development inconsistent with the *Draft GP 2020*,or the plant is owned and operated by a public agency. Package wastewater treatment plants are a technology that can reduce water quality problems from development as well as provide service to address public need. Growth inducing impacts that might result from use of these plants are addressed in ***Section 6.1 Growth Inducing Impacts***.

In conclusion, current project review procedures and policies and programs of the *Draft GP 2020* would strive to secure adequate wastewater services for unincorporated USAs through expansion and / or improvement of collection, treatment, and disposal systems as necessary to accommodate planned growth. These policies and programs would improve the likelihood that the increased demand for these services would be met, but their success depends upon the decisions of service providers who are not under jurisdiction of the County.

As development proceeds over time, public wastewater system providers are afforded the opportunity to review projects within their district boundaries and to determine whether or not the capacity to serve is available. At any time that sufficient capacity is not available, the supplier can notify the County of that fact and provide the basis for County denial of a project or projects until service capacity is available.

Nonetheless, the uncertainty over long-term capacity of some districts as noted above combined with the lack of direct County jurisdiction over wastewater service providers would result in a level of uncertainty about the adequacy of capacity in some districts. Therefore, this would be a significant impact.

Mitigation Measure 4.9-4 No mitigation available beyond the *Draft GP 2020* policies discussed in the impact analysis above.

Significance After Mitigation This would be a significant unavoidable impact. (**SU**)

Impact 4.9-5 New or Expanded Wastewater Facilities

Land uses and development consistent with the Draft GP 2020 could result in the need for increased wastewater facilities, either through the construction of new facilities or through the expansion or retrofitting of existing facilities. Construction of these facilities could result in site-specific impacts. This would be a significant impact. ***(S)***

As the demand for wastewater treatment increases with population and job growth, the need for additional facilities will also increase. These facilities could include wastewater collection, treatment, and disposal facilities, pipelines, pumphouses, etc.

The site specific impacts of these facilities cannot be determined until such time that that the facilities are proposed and subjected to environmental review. Typical impacts would likely be construction related noise, dust, grading and water pollution. The fact that wastewater facilities may be located near streams or water bodies would mean that impacts to fish and wildlife, erosion, and stream flow may also occur.

The *Draft GP 2020* includes a number of policies and programs that would help limit potential impacts related to the construction of needed wastewater facilities. For example Policy **OSRC-8c**, would reduce potential impacts to riparian corridors by requiring future development be sited a minimum of 50 feet (or up to 200 feet in certain circumstances) from the top of banks of streams. Policies **OSRC-11b** and **WR-1h** would reduce potential water quality impacts due to erosion at construction sites. The policies require including control measures for projects involving construction or grading near waterways or on steep slopes and that grading plans include measures to avoid soil erosion and sedimentation in storm water to the maximum extent practical. Policy **OSRC-16c** would, through project review by the local air quality district, help minimize air pollution.

While these and other policies and programs of the *Draft GP 2020* would likely reduce many of the environmental impacts related to the construction and expansion of wastewater treatment facilities to a less-than-significant level, analysis of potential impacts without identified sites and complete designs would be speculative and would be addressed at the time that the facilities are proposed. Additionally the completion of master facilities plans, improvements to existing facilities, and the construction of new wastewater treatment plants would be beyond the control of Sonoma County and would be the responsibility of the wastewater treatment provider. Sonoma County cannot be certain that the master facilities plans would be developed, additional facilities would be constructed, or that construction related mitigation would be completed. It should be noted however, that the impacts of facility construction are evaluated at the program level throughout this EIR since these facilities are considered to be part of the *Draft GP 2020*. As a result, this would be a significant impact.

Mitigation Measure 4.9-5 No mitigation available beyond the *Draft GP 2020* policies discussed in the impact analysis above.

Significance After Mitigation This would be a significant unavoidable impact. (**SU**)

Solid Waste Management Services – Environmental Setting

Solid waste is generated from a mix of residential, commercial, and industrial sources in the county. In 2003, a solid waste characterization study showed that 55 percent of the 1,165,936 tons of solid waste generated in the county was diverted from landfills through recycling, composting, and other waste diversion methods. [37]

There are both public and private sector recycling programs. In the private sector, recyclables are collected by local haulers, drop-off and buy-back operations, and material reuse and recovery programs. A few companies conduct other commercial recycling. Recyclables collected in the county are transported to larger facilities outside the county and are sold to both domestic and overseas end-use markets.

The remainder of this waste stream, or 523,400 tons of solid waste, was disposed of in the county landfill. [38] **Exhibit 4.9-11** summarizes the documented amount of disposal and diversions for the Sonoma County Waste Management Agency in 2003.

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37 *Sonoma County Solid Waste Generation Study*, R3 Consulting Group and the Sonoma County Waste Management Agency, 2003.

38 *Sonoma County Solid Waste Generation Study*, R3 Consulting Group and the Sonoma County Waste Management Agency, 2003.

Exhibit 4.9-11
Solid Waste Diversion and Disposal

Diversion Categories	*Tons of Documented Diversion*
Residential Curbside Recycling and Greenwaste (Franchises)	101,594.4
Buyback Centers	5,851.8
Drop-Off Centers	49,124.5
Commercial Recycling Programs	26,821.8
Grasscycling	3,657.0
Backyard Composting	3676.0
Business Audits – Source Reduction	939.1
Business Audits – Recycling	340,412.1
Business Audits - Composting	66,406.7
Sludge Composting and Land Application	3,708.0
Alternative Daily Cover	29,236.7
Construction and Demolition Collection and Drop-Off Programs	2,513.5
Scrap Metal	8,587.1
Subtotal 2003 Diversion	**642,528.7**
Disposal Summary	*Tons of Documented Disposal*
Total Disposal	544,757.0
Credit for Contaminated Soil Disposed at Central Landfill	-20,196.4
Credit for Indian Lands Waste	-1,153.2
Subtotal 2003 Disposal	**523,407.4**
Total Generation (Disposal + Diversion)	**1,165,936.1**
2003 Diversion Rate (Diversion / Total Generation)	**55.1 %**

Source: *Sonoma County Solid Waste Generation Study*, R3 Consulting Group and the Sonoma County Waste Management Agency, 2003

The existing solid waste management system in Sonoma County includes a mix of public and private sector haulers, facilities, and facility operators. Solid waste transfer and disposal facilities are owned by the County and serve the cities and unincorporated portions of the county. These include four transfer stations (Healdsburg, Annapolis, Guerneville, and Sonoma), the Central Disposal Site, and the Sonoma Compost Facility, which is located at the Central Disposal Site.[39] The County system is managed by the Sonoma County Integrated Waste Division of the Department of Transportation and Public Works. **Exhibit 4.9-12** shows the features and capacity of each facility.

[39] The Occidental Transfer Station was closed in January 2005.

The Central Landfill is the only operating landfill within Sonoma County. The landfill is owned by the County, and is permitted to accept up to 2,500 tons per day of non-hazardous municipal solid waste. Seventy-five percent of the waste disposed at the landfill is generated by the nine incorporated cities in the county. In 2003, the average daily tonnage was 1,433 tons per day.

Household hazardous wastes are those products that have the potential to harm people, animals or the environment.[40] A new permanent Household Toxic Waste Facility located at the Central Landfill opened in January 2005. Residents are able to drop-off toxics for free and qualifying small quantity business generators are charged hazardous waste disposal fees depending on material and quantity.[41]

Exhibit 4.9-12
Sonoma County Refuse Disposal Sites

Facility	Features	Service Areas	Capacity / Throughput		
			Permitted (Tons Per Day)	2000 Average (Tons Per Day)	2000 Total (Tons)
Annapolis Transfer Station	- Disposal - Recycling - Yard debris	Northwest Unincorporated County; Annapolis; Sea Ranch	50	12.6 (peak: 33 tons)	2,890 (9/99-8/00)
Healdsburg Transfer Station	- Disposal - Recycling	Northern Unincorporated County; Cloverdale; Healdsburg; Windsor; Geyserville	450	199.2 (1998 average)	71,500 (1998 total)
Guerneville Transfer Station	- Disposal - Recycling - Yard debris	Russian River Area Unincorporated County; Guerneville; Monte Rio	160	64.3	23,083
Sonoma Transfer Station	- Disposal - Recycling - Yard debris	Southeast Unincorporated County; Sonoma	760	247 (peak: 493 tons)	88,696
Central Landfill	- Disposal - Recycling/Reuse	Sonoma County only	2,500	1,378 (peak: 2,500 tons)	494,843
Sonoma Compost Facility	- Composting - Finished mulch & compost for sale to public	Sonoma County	300		55,300 (1999 total)

Sources: *Annual Report 2001*, Sonoma County Waste Management Agency; and *Sonoma County Solid Waste Management Alternatives Analysis Project, Final Report*, SCS Engineers, Sonoma County Department of Transportation and Public Works, December 29, 2000.

Of the total disposed waste, 60 percent is taken directly to Central Landfill; the remaining tonnage passes through the transfer stations. Although most of the yard wastes are composted at the County's green waste composting operation at Central Landfill, approximately 40 percent of the waste stream

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40 Hazardous products have four classifications: flammable, poisonous, corrosive and reactive (explosive). Federal law requires that products with hazardous ingredients be labeled. The label also indicates the degree of hazard. In order of worst to least hazardous, the labels are: Poison, Danger, Warning, Caution and Precautionary statements.

41 *Household Toxics*, Sonoma County Waste Management Agency, accessed online at http://www.recyclenow.org/r_householdtoxics.html , December 2002.

disposed in the landfill consists of organic materials such as food, wood, textiles and paper. [42] **Exhibit 4.9-13** shows the breakdown of waste generation by sector and type of waste.

Exhibit 4.9-13
Waste Generation by Sector and Type

WASTE GENERATION BY SECTOR	
Residential	39.6 %
Commercial	32.5 %
Self-Haul Residential	12.6 %
Self-Haul Commercial	8.7 %
Mixed Residential / Commercial	6.8 %

WASTE GENERATION BY TYPE	
Other Organic	41.7 %
Paper	27.1 %
Other Inorganics	9.7 %
Plastics	7.8 %
Metals	7.6 %
Glass	3.6 %
Special Wastes	2.1 %
Household Hazardous	0.4%

Source: *Sonoma County Solid Waste Management Alternatives Analysis Project, Final Report,* SCS Engineers, Sonoma County Department of Transportation and Public Works, December 29, 2000.

In 1998, the County certified an EIR and approved an expansion plan for specific landfill construction projects, including the East Canyon and West Canyon areas. These expansions would provide an additional 3,300,000 tons of capacity accommodating the County's solid waste disposal needs through 2015. [43]

In May 2003, the County detected leachate and gas constituents beneath the landfill liner in the expansion area of the Central Landfill. This occurrence has delayed construction of expansion projects at the Central Landfill. Although this does not change the capacity estimates, it has changed when the capacity will be available. Landfill operations will be suspended in the fall of 2005, for a two to three year period. During the interim closure of the landfill, all waste received at county disposal sites will be transported to out-of-county landfill(s) with sufficient permitted capacity for disposal. Current efforts to identify the source of contaminants and remediate them, appear to be successful. The environmental impacts of the temporary out-haul are currently under study and the appropriate CEQA documents are in progress.

Solid Waste Management Services – Regulatory Setting

COUNTY REGULATIONS

The County approved an amended Countywide Integrated Waste Management Plan (CoIWMP) in 2003 which set forth solid waste planning strategies through the Year 2050. The 2003 CoIWMP is a

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42 *Sonoma County Solid Waste Management Alternatives Analysis Project, Final Report,* SCS Engineers, Sonoma County Department of Transportation and Public Works, December 29, 2000.

43 *Central Disposal Site Improvement Program Final Environmental Impact Report,* URS Greiner Woodward Clyde, Sonoma County Department of Transportation and Public Works, December 8, 1998.

regional solid waste planning document for all of the nine Sonoma County cities and the unincorporated County area. [44]

STATE REGULATIONS [45]

The California Integrated Waste Management Board is one of the six agencies under the umbrella of the California Environmental Protection Agency (Cal / EPA). Its creation, authority, and responsibilities were shaped by two pieces of legislation (AB 939 and SB 1322) signed into law as the Integrated Waste Management Act of 1989. The Act established a new approach to managing California's waste stream, the centerpiece of which mandated goals of 25 percent diversion of each city's and county's waste from disposal by 1995 (accomplished), and 50 percent diversion by 2000 (not accomplished), along with a process to ensure environmentally safe disposal of waste that could not be diverted. The statewide diversion rate started at about ten percent in 1989 and reached 37 percent in 1999.

Legislation has been signed affording local jurisdictions time extensions to meet the diversion mandate. Senate Bill 1066, in particular, enables the Board to grant extensions of up to five years beyond 2000 to jurisdictions that are struggling to meet the mandate but have in place a plan to comply with the law within the period of the extension.

The Integrated Waste Management Act, along with Title 14 and Chapter 15 of California's environmental regulations, also provided the foundation to put the State on course to comply with federal standards (Subtitle D) for managing solid waste, including the design, construction and operation of landfills. In 1993, California became one of the first states to receive federal approval to assume authority over its solid waste activities, having actually exceeded the federal standards through the adoption of more stringent State regulations.

Solid Waste Management Services – Significance Criteria

According to the *State CEQA Guidelines*, the project would have a significant solid waste services impact if it would:

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Not comply with federal, State, and local statutes and regulations related to solid waste. **No significant impact**, **see *Appendix 7.4 Initial Study***.

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44 *Sonoma County Countywide Integrated Waste Management Plan*, Sonoma County Waste Management Agency, October 15, 2003

45 *The History of the California Environmental Protection Agency; Integrated Waste Management Board*, California Environmental Protection Agency, accessed online at http://www.calepa.ca.gov/about/History01/ciwmb.htm, December 2002.

Solid Waste Management Services – Impacts and Mitigation Measures

Impact 4.9-6 Increased Solid Waste Disposal Demand

*Land uses and development consistent with the Draft GP 2020 would generate solid waste streams that would exceed the disposal capacity of the Sonoma County Central Landfill. After this date, the transport of solid waste to landfills outside of Sonoma County with sufficient permitted capacity would commence. Due to the lack of certainty regarding the county's future landfill capacity, this would be a significant impact. (**S**)*

The existing *General Plan* projected the solid waste disposal capacity of the Central Disposal Site (Central Landfill) would be exceeded in 2004. As a result, improvements to the Central Landfill proposed by the Sonoma County Department of Transportation and Public Works Integrated Waste Management Division were approved by the County in 1998. Such improvements would have provided capacity through 2015.

The 1998 environmental review of the Central Landfill expansion project identified several significant unavoidable project specific and cumulative impacts. [46] These included impacts associated with the conversion of agricultural land to a non-agricultural use, odor and air emissions of nitrous oxide and reactive organic gases, adverse visual impacts associated with litter and views from surrounding roads, and project specific and cumulative traffic impacts to intersections along Stony Point Road.

The 2003 environmental review of the Sonoma County CoIWMP also identified significant unavoidable impacts as well as cumulative impacts. [47] The approval of the 2003 CoIWMP included the adoption of mitigation measures and a statement of overriding concerns related to land use, soils and agricultural resources, hydrology and water quality, public safety, transportation, air quality, noise, vegetation and wildlife, and visual resources. [48]

Long-term planning goals and policies governing the reduction of solid waste disposal as well as the siting of additional facilities to meet capacity demand subsequent to 2015 are contained in the CoIWMP. The CoIWMP contains four elements including the Source Reduction and Recycling Element (SRRE), the Household Hazardous Waste Element (HHWE), the Non-Disposal Facility Element (NDFE), and the Siting Element.

The 2003 CoIWMP reflects a strategy that would reduce and divert the amount of solid waste by 50 percent from entering the landfill and provide adequate capacity for future demand through the expansion and / or construction of new landfill facilities. The CoIWMP strategy includes: (1) the expansion of the Central Landfill beyond its permitted capacity within site and regulatory constraints; (2) the siting of an integrated waste resource management facility which includes organics processing (i.e., anaerobic digestion or biorefining), green waste composting, and landfilling in order to further reduce waste stream volume; (3) the formal agreement among all cities and the County to direct flow

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46 *Sonoma County Central Disposal Site Improvement Program, Revision to Draft EIR*, Sonoma County PRMD, July 1998.

47 *Sonoma County Integrated Waste Management Plan Final Supplemental Program EIR*, Sonoma County Waste Management Agency, October 2003.

48 *Sonoma County Countywide Integrated Waste Management Plan*, Sonoma County Waste Management Agency, October 2003.

of refuse and green waste to the new integrated resource management facility; and (4) mandatory source separation of recyclables from the solid waste of residential, commercial, industrial, and institutional waste generators. [49]

At this time Sonoma County does not have flow control agreements in place with each of the cities. In April 2004, the City of Petaluma decided to direct their contracted garbage collection to deliver their waste to a private landfill.

Although the *Draft GP 2020* contains the broad enabling language for implementation of the CoIWMP, several of its policies pertain specifically to solid waste disposal. Policy **PF-2a** would appropriately scale future solid waste services by requiring such services be planned, designed, and constructed in accordance with projected growth consistent with the *Draft GP 2020* except as provided for in Policy **LU-4d**. Policy **PF-2b** directs the County to work with cities through mechanisms such as the CEQA process, annexations, and redevelopment and revenue sharing agreements which would generate fair share revenues from incorporated development projects to pay for disposal services.

Policies **PF-2r** and **PF-2s** encourage the agricultural application of wastewater sludge (i.e., biosolids) to enhance agricultural land uses while reducing the amount of such material requiring landfill disposal. While diverting this material from landfill disposal would be beneficial, this action would have no effect on the capacity of the Central landfill as no biosolids are currently disposed of there. Due to costs, it would be expected that all biosolids generated in Sonoma County that are not stored on-site, composted, or applied to agricultural lands would continue to be exported to the Redwood Landfill in Novato. [50] While a countywide estimate of biosolids production is not available, the Laguna Subregional Plant for example, which serves Santa Rosa, Rohnert Park, Cotati, Sebastopol and some unincorporated areas, generated approximately 36,600 wet tons (wt) of biosolids in 2003. Of this, approximately 16,000 wt were applied to agricultural lands, 11,000 wt were composted, and 9,500 wt were disposed of at the Redwood Landfill. [51] The County and Cities are in the midst of a feasibility study for a joint biosolids / Green Waste composting facility as part of the Waste Agencies Siting Study for a new compost facility.

The *Draft GP 2020* also contains policies to reduce impacts associated with incompatible land uses resulting from development projects being located adjacent to existing or new solid waste disposal facilities. **Policy PF-2p** requires review of projects located on or near designated solid waste facility sites. **Policy PF-2q** directs the County, when opportunity arises, to acquire lands adjacent to solid waste facilities as buffer zones. This would reduce local impacts, limit potential conflicts related to land use compatibility, and provide land for potential environmental mitigation.

In addition, the **Residential Use**, **Commercial Use**, and **Industrial Use** policies (sections 2.2 through 2.4 of the Land Use Element), policies **LU-2a**, **LU-3c**, **LU-3d**, **LU-5b**, **LU-5d**, **LU-6a**, as well as policies that pertain to specific Planning Areas, would reduce the need for additional solid waste

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49 *Solid Waste Facilities*, CAC memo, Denise Peter, Planner III, Sonoma County PRMD, November 21, 2002.

50 Nichols · Berman communication with Ken Wells, Integrated Waste Manager, Sonoma County Department of Transportation and Public Works, June 2004.

51 Nichols · Berman communication with Bob Swift, Senior Environmental Health Specialist, Department of Health Services - Solid Waste Local Enforcement Agency, June 2004.

disposal facilities by maintaining low residential densities and limited commercial and industrial development outside of the USAs.

As previously discussed, the County approved an expansion plan for the landfill in 1998 which included over 3,300,000 tons of additional capacity that would be sufficient to meet solid waste disposal needs through the year 2015. In 2003, an amended CoIWMP was approved by the County and Cities, which determined that expansion of the Central Landfill could provide capacity through the Year 2015. The CoIWMP further indicated that with additional land acquisition adjacent to the landfill and expansion combined with new recycling and waste transformation technology the Central Landfill could conceptually provide disposal capacity through the Year 2050. Because the CoIWMP identified sufficient onsite disposal capacity through 2015, it deferred discussion of disposing of solid waste offsite. It noted that it would discuss issues related to offsite disposal in future reviews "when it is clear that the Central Disposal site has reached full capacity, and there are no new sites available for establishing new disposal or transformation capacity".

Additionally, the County has recently detected leachate and gas constituents beneath the liner in the expansion area of the Central Landfill. Current efforts to identify the source of contaminants and remediate them appear to be successful. This occurrence has delayed construction projects at the Central Landfill. Although this does not change the capacity estimates, it has changed when the capacity would be available. Landfill operations will be suspended in the fall of 2005, for a two to three year period while construction plans are being revised and the appropriate agency approvals are being obtained. During the interim closure of the landfill, all waste received at county disposal sites will be transported to an out-of-county landfill with sufficient permitted capacity for disposal. The County has identified at least 11 potential out of county landfill sites.

As a result of the delay of construction projects to expand landfill capacity (as described in the Environmental Setting section), increased regulatory compliance costs, and the loss of the waste stream from the City of Petaluma, the Solid Waste disposal system has suffered financially. As a result, the County has hired a consultant to reassess the long-term waste plan as established in the 2003 CoIWMP and make recommendations to the County Board of Supervisors as to whether the existing plan is still feasible or whether it needs to be modified in order to maintain an environmentally sound and cost-effective system for the County and cities of Sonoma County. The results of this re-assessment are not available at this time, and therefore, no policy decisions to deviate from the current 2003 CoIWMP have been made.

If the re-assessment clearly finds that the landfill has reached its full capacity in consideration of recent changes in circumstances related to fiscal, environmental, and regulatory requirements, then in accordance with Section 6.7 of the CoIWMP, new long term disposal strategies would be developed and the CoIWMP amended.

In conclusion, future land fill capacity remains uncertain. As a result, future land uses and development consistent with the *Draft GP 2020* would generate solid waste streams that would require that either additional capacity be located and permitted within the county, or that solid waste be transported to an undetermined permitted-site outside of the county. This lack of sufficient and permitted solid waste disposal capacity would represent a significant impact. The following mitigation measure would therefore be required.

Mitigation Measure 4.9-6 Add a policy to the Public Facilities and Services Element that would provide guidance to the County Integrated Waste Management Plan to provide for future landfill capacity needed to meet the county's future demands for waste disposal.

> Policy **PF-2bb**: Amend the County Integrated Waste Management Plan as necessary to continue to address potential shortfalls in future landfill capacity.

Significance After Mitigation Adoption of this policy may reduce solid waste impacts associated with insufficient capacity. However, due to the described uncertainties in future land fill capacity, it would not reduce them to a less-than-significant level. Therefore, this would remain a significant unavoidable impact. (**SU**)

Responsibility and Monitoring The Sonoma County Board of Supervisors would be responsible for adopting this policy as part of the *GP 2020*.

Parks and Recreation Services – Environmental Setting

Within Sonoma County there are two State Park Districts, the United States Army Corps of Engineers (Corps) Lake Sonoma Recreation Area, the County Regional Park System, the park and recreation departments of five cities, and three special park districts that together provide a variety of parklands serving both residents and visitors. In addition, there are a handful of facilities operated by private non-profit organizations. **Exhibit 4.9-14** provides a summary of publicly accessible acreage in Sonoma County. Approximately two-thirds of the accessible land is provided by State Park Districts, with the Corps (Lake Sonoma) and the County Parks Department the other major providers.

Exhibit 4.9-14
Publicly Accessible Lands in Sonoma County, 2000

Agency	*Acres*
Federal	14,865
State	31,604
County	4,331
City	1,005
Local Recreation District	47
School District	905
Others [a]	106
Total	***52,863***

[a] Includes non-profit organizations and homeowners associations that provide recreation facilities.

Source: *Draft Sonoma County Outdoor Recreation Plan,* Sonoma County Regional Parks Department, Water Agency, and Agricultural Preservation and Open Space District, March, 2003.

Exhibit 4.9-15 is a matrix of the four main types of outdoor recreation facilities, showing existing acres, acreage per 1,000 residents, and the primary characteristics of each type of facility. Parklands are classified as Community and Neighborhood Parks, Regional Recreation Areas, Regional Open

Space Parks, and Other Lands, depending on the size, location, and other characteristics of the park lands. [52]

The relative increase in visitor use has increased faster than county population over the past decade, indicating that the latent demand for outdoor recreation facilities may exceed that of population growth. User trends also indicate high levels of visitor use of Sonoma County Regional Park facilities; total visitor use of all County owned and operated outdoor recreation facilities increased 66 percent from 11,562,148 in 1988 / 89 to 2,599,619 in 1996 / 97. Total visitor use in all categories has increased, with the highest increases on Regional Trails from 4.2 percent to 12.1 percent of total visitors and Open Space Parks, from 7.5 percent to 12.7 percent of total visitors in the nine year period studied. Public desires surveyed in 1995 indicate that future acquisition and development of County park facilities should emphasize open space, trails, and other forms of passive recreation. [53]

In 2003, the Sonoma County Regional Parks Department, in partnership with the Sonoma County Agricultural Preservation and Open Space District (SCAPOSD) and the Sonoma County Water Agency, published the *Draft Outdoor Recreation Plan* (*Draft ORP*) to help guide future public outdoor recreation in Sonoma County. The *Draft ORP* contains a parkland needs assessment for the year 2010 for the six Park Planning Areas for use by the SCAPOSD, the SCWA, and the Regional Parks Department for planning purposes. Although the *Draft ORP* has yet to be adopted, it recommends proposed expansions of existing recreation areas and open space parks, new regional parks, new open space parks, trails, neighborhood / community parks, as well as recommendations for State and federal parks and preserves.

The *Draft ORP* uses the same boundaries for the Park Planning Areas as does the County for its Planning Areas but in some cases combines the County Planning Areas. For example, the North County Park Planning Area is comprised of the County's Cloverdale and Healdsburg Planning Areas.

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[52] Other Lands include State Parks, Federal Parks, and Preserves, and are areas with significant natural or cultural features or resources that merit preservation for public enjoyment and education. State and federal lands generally protect areas with National or State-wide significance. Essential features of a Preserve may be wilderness or other natural or historic resources where recreation is not the dominant use. These lands may vary in size.

[53] *Draft Sonoma County Outdoor Recreation Plan*, Sonoma County Regional Parks Department, Water Agency, and Agricultural Preservation and Open Space District, March 2003.

Exhibit 4.9-15
Outdoor Recreation Plan Parkland Classification Matrix

Facility Type	Existing Acreage	Acres per 1,000 pop [a]	Service Area	Primary Providers	Defining Characteristics
Community & Neighborhood Parks	1,998	5	< 30 minute drive	• Non-profit organizations • Public Schools • Cities • County Service Area • Special Districts	• ≤ 25 acres • Play Areas • Sports Fields • Picnicking
Regional Recreation Area	1,181	5	30-60 minute drive	• County	• >25 acres • usually ± 200 acres • 10% of the area active recreation
Regional Open Space Parks	3,105	15	Region	• County	• ≥ 200 acres • Resource Management • Public Access
Other Lands	46,469	n/a	Nation, State, Region	• Federal Agencies • State Agencies • Non-profit organizations	• State and federal Parks or Preserves • State-wide or nationally significant lands • Preserves offer limited access

[a] There are a variety of guidelines for determining parkland needs for any given population. Generally, guidelines relate to the "number of acres per thousand population" for different types of parkland.

Source: *Draft Sonoma County Outdoor Recreation Plan,* Sonoma County Regional Parks Department, Water Agency, and Agricultural Preservation and Open Space District, March 2003.

Parks and Recreation Services – Regulatory Setting

COUNTY REGULATIONS

Acquisition of land for and construction of parks and recreation facilities in the unincorporated area is subject to County review for consistency with the Sonoma County General Plan under Section 65402 of the Government Code. While many public agency sponsors will strive to develop facilities that are consistent with the General Plan, they have the authority to override the County's determination and proceed with acquisition and construction.

The Open Space and Public Facilities and Services Elements of the existing *General Plan* govern the development of County Parks and Trails. The existing *General Plan* uses the National Recreation and Parks Administration standards as the minimum Standards for determining Park needs. The National Recreation and Parks Association (NRPA) Guidelines have been among the most commonly used guidelines over the last two decades and were used as a starting point for the guidelines used in the *Draft ORP*.

Following the hearings of the Planning Commission and the Board of Supervisors, if an Outdoor Recreation Plan is adopted, its recommendations would be incorporated into the *GP 2020* through the passage of a General Plan amendment as well as necessary amendments to Area and Specific Plans and the Local Coastal Plan.

The following agencies would be responsible for implementing the adopted Outdoor Recreation Plan. The Sonoma County Regional Parks Department is charged with acquiring, developing, and managing regional parks and trails and community parks in the unincorporated portion of Sonoma County. The

Sonoma County Water Agency (SCWA) owns several recreation sites in Sonoma County including: Spring Lake Park, Wohler Bridge Fishing access, Russian River access, the Brush Creek Reservoir and others. In addition, some of the SCWA flood control channel maintenance roads are currently used by the public as trails. Finally, the Sonoma County Agricultural Preservation and Open Space District preserves agricultural land use and opens space primarily through the purchase of development rights using funds generated from a voter approved sales tax.

Parks and Recreation Services – Significance Criteria

According to the *State CEQA Guidelines*, the project would have significant parks and recreation services impact if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or

- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Parks and Recreation Services – Impacts and Mitigation Measures

Impact 4.9-7 Increased Demand for Parks and Recreation Services and Facilities
Implementation of the Draft GP 2020 would require new or expanded Community and Neighborhood Parks, Regional Recreation Areas, and Regional Open Space Parks in order to achieve recognized park planning standards. The construction of these facilities could result in adverse physical effects on the environment. This would be a significant impact. ***(S)***

Analysis of impacts to park and recreational facilities from implementation of the *Draft GP 2020* relies on the parkland needs assessment contained in the *Draft ORP*. **Exhibit 4.9-16** summarizes the existing acreage of Community and Neighborhood parks, Regional Parks (including County Open Space and Regional Recreation Areas) as well as the demand for new facilities to achieve recognized park planning guidelines described in **Exhibit 4.9-15**.

The 2020 demand for community and neighborhood parks was evaluated based upon a projected unincorporated population of 147,660 persons. Based on a guideline of five acres per 1,000 persons, a total of 738 acres of community and neighborhood parks would be required to achieve this guideline. Therefore, implementation of the *Draft GP 2020* would result in a deficit of 377 acres of such park facilities. All six of the Park Planning Areas would have need of additional community and neighborhood park facilities with Park Planning Area 4 (Santa Rosa) showing the greatest deficiency. [54]

The 2020 demand for both Regional Park lands including Regional Recreation Areas (active recreation) and Regional Open Space Parks (passive recreation) was evaluated based on the total

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54 *Draft Sonoma County Outdoor Recreation Plan*, Sonoma County Regional Parks Department, March 2003.

projected county population (unincorporated and incorporated areas) of 546,030 persons. According to the acreage guideline of five acres per 1,000 persons for Regional Recreation Areas, 2,730 acres of Regional Park lands would be required to achieve this guideline. Therefore, implementation of the *Draft GP 2020* would result in a deficit of 1,549 acres of such park lands by 2020. All Park Planning Areas except the Sonoma Coast demonstrate a need for additional facilities with projected demand for such facilities being greatest in the Santa Rosa and Sonoma Valley Park Planning Areas. `

Exhibit 4.9-16
Parkland Needs Assessment for 2020

Park Type and Guidelines	Population 2020	Existing Parks 2001 (Acres) [a]	Additional Park Land Required by 2020 (Acres)	Acreage Required to Meet Guideline in 2020 (Acres)	ORP Proposed Parks (Acres) [a]
Regional (Unincorporated and Cities)					
Open Space Parks (15 acres/1,000 pop.)	546,030	3,105	5,085	8,190	9,145
Regional Recreation Areas (5 acres/ 1,000 pop.)	546,030	1,181	1,549	2,730	3,094
Community and Neighborhood Parks (Unincorporated Area Only)					
Parks [b]	147,660	361	377	738	760

a Draft ORP estimates of existing parkland and proposed park acreage.

b Comprised of County Parks, School sites, and Other (Non-profits, Special District, ,and Homeowners Associations

Source: *Draft Sonoma County Outdoor Recreation Plan,* Sonoma County Regional Parks Department, Water Agency, and Agricultural Preservation and Open Space District, March 2003.

Similarly, 8,190 acres of Regional Open Space Parks would be required by 2020 to meet the acreage guideline of 15 acres per 1,000 persons. Therefore, implementation of the *Draft GP 2020* would result in a deficit of 5,085 acres of Regional Open Space Parks by 2020. Nearly all of the six Park Planning Areas would have need of additional facilities with projected demand for such park lands being greatest in the Santa Rosa and Sonoma Valley Park Planning Areas. As previously mentioned, if an Outdoor Recreation Plan is adopted and implemented, its policies and recommendations for additional parklands would be incorporated into the *GP 2020* through passage of a General Plan amendment as well as necessary amendments to Area Specific Plans and the Local Coastal Plans (LCP). [55]

The *Draft ORP* recommended a number of projects that would result in the development of 399 additional acres of Community and Neighborhood Parks throughout all six Park Planning Areas. If

55 *Draft Sonoma County Outdoor Recreation Plan,* Sonoma County Regional Parks Department, March 2003.

adopted and implemented, this would bring the total amount of such facilities to 760 acres and would exceed the amount necessary to satisfy the five acres per 1,000 persons guideline through 2020. [56]

Draft ORP recommended projects would also result in the development of 1,913 additional acres of Regional Recreation Areas throughout all six Park Planning Areas. If adopted and implemented, this would bring the total amount of such lands to 3,094 acres and would exceed the amount necessary to satisfy the five acres per 1,000 persons guideline through 2020.

Similarly, the *Draft ORP* recommended a number of projects that would result in the development of 6,040 additional acres of Regional Open Space Parks throughout all six Park Planning Areas. If adopted and implemented, this would bring the total amount of such lands to 9,145 acres and would exceed the amount necessary to satisfy the five acres per 1,000 persons guideline through 2020.

In addition, the *Draft ORP* proposes 63 new or expanded trails within the unincorporated portion of Sonoma County. Such projects, if adopted and implemented, would increase trail mileage from a 2001 level of 31 miles, to a 2010 level of 490 miles, or 0.91 miles per 1,000 persons. [57] Population increases through 2020 would slightly reduce this ratio to 0.90 miles per 1,000 persons. Unlike parks, there is no guideline with respect acreage or mileage per unit of population.

However, as the *Draft ORP* is currently being updated, there is no guarantee that it will be adopted or that its recommended projects would be realized. Therefore, this analysis assumes that implementation of the *Draft GP 2020* would result in deficiencies in parkland acreages for its residents by 2020.

In order to meet the future demand for parks and recreation services, additional facilities will need to be constructed. Construction of these facilities may result in a range of environmental impacts, including traffic, loss of agricultural lands, erosion and sedimentation, and noise and dust associated with construction activities. In general, the impacts of parks and recreation uses are evaluated at a program level throughout this EIR since these uses are considered to be part of the land uses and development consistent with the *Draft GP 2020*. The site specific impacts of these facilities cannot be determined until such time that they are proposed and undergo environmental review.

However, the *Draft GP 2020* includes a number of policies and programs that would help reduce potential impacts related to the construction of needed parks and recreation facilities. For example, Policy **OSRC-8c**, would reduce potential impacts to riparian corridors by requiring future development be sited to a minimum of 50 feet (or up to 200 feet in certain circumstances) from the top of banks f streams. Policies **OSRC-11b** and **WR-1h** would reduce potential water quality impacts due to erosion at construction sites. The policies require including control measures for projects involving construction or grading near waterways or on steep slopes and that grading plans include measures to avoid soil erosion and sedimentation in storm water to the maximum extent practical. Policy **OSRC-16c** would, through project review by the local air quality district, help minimize air pollution. In

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56 While the *Draft Outdoor Recreation Plan* has a time horizon for implementation of projects through 2010, it is recognized that some projects would be developed through 2020. Recommended projects (i.e., total acreage) for each park category would exceed acreage guidelines for the projected 2020 population and would not likely require the construction of additional facilities.

57 *Draft Sonoma County Outdoor Recreation Plan*, Sonoma County Regional Parks Department, March 2003.

addition, the *Draft ORP* includes a range of mitigation measures that if adopted and implemented, may reduce the impacts of development and use of parks and recreational facilities.

Implementation of the *Draft GP 2020* would result in deficiencies in parkland acreage and require new or expanded parks and recreational services / facilities; the construction of which could result in adverse physical effects on the environment. This would be a significant impact. The following mitigation would be required.

Mitigation Measure 4.9-7 Add a new policy to the Public Facilities and Services Element as follows:

> Policy **PF-2cc** Adopt and implement an Outdoor Recreation Plan with parks and recreation facilities necessary to meet the needs of the *Draft GP 2020*.

Significance After Mitigation While these policies and mitigation measure 4.9-7 would reduce these impacts, adoption of an Outdoor Recreation Plan cannot be assured, and the impacts of construction of new facilities cannot be determined at a site-specific level. As a result this would be a significant unavoidable impact. (**SU**)

Responsibility and Monitoring The Sonoma County Board of Supervisors would be responsible for adopting this policy as part of the *GP 2020*. The Regional Parks Department would be responsible for acquisition, design, planning and development of County parks and recreation facilities.

Public Education Services – Environmental Setting

There are 40 school districts in Sonoma County: 31 elementary districts, three high school districts, and six unified districts.[58] The districts vary significantly in size, ranging in enrollment from 12 students in the smallest district to over 12,000 in the largest. There are 169 public schools in Sonoma County, including 92 elementary schools, 20 middle / junior high school, 15 high schools, 29 alternative schools,[59] and 20 charter schools.[60] From 1992 to 2001 K-12 enrollments increased steadily in Sonoma County's public schools. The 1992-92 enrollment was 64,854, which grew to 73,991 in 2000-01, and declined to 72,991 students in 2001-02.[61] Enrollment increased slightly in 2002-03 to 73,045. The State Department of Finance has projected that public k-12 school enrollment in the county will range from 72,597 in 2003-04, to 72,555 in 2012-13. The growth rate statewide has

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58 Horicon and Kashia are unique in that these elementary districts feed into an out-of-county district, Point Arena Joint Union High School District in Mendocino County.

59 Alternative schools include one upgraded special education school, eight continuation schools, ten necessary small schools, five community day schools, two independent study schools, one magnet school, and two countywide programs.

60 Twenty locally approved charted schools enrolled students in 2005. Two additional charter schools, approved by districts in other counties, are currently operating in Sonoma County.

61 *Sonoma County Education Facts 2002*, Sonoma County Office of Education, accessed online at http://www.scoe.org/schools/pdf/scfacts_2002.pdf , December 2002.

subsided since 1996 and is expected to continue to slow chiefly because smaller birth cohorts are entering school. [62]

The average class size for Sonoma County public schools in 2000-01 was 25.7, as compared to the state average of 26.5. The racial and ethnic makeup of the students showed that 65.7 percent of the students were in the ethnic majority, with 34.2 percent in the ethnic minority. [63] Average expenditures per student for academic year 2000-01 were $7,247. [64] **Exhibit 4.9-17** details countywide funding sources for the 2000-01 academic year. The availability of classrooms and new school facilities is influenced not only by population growth and location, but also by the amount of State funding available to school districts, in addition to other factors. When school revenue is reduced, as is occurring in 2003, average classroom sizes increase because there is less revenue available for teacher salaries and the number of teachers must be reduced. School modernization needs will continue to rely on several sources, including state bonds, local bonds, special taxes, and developer fees.

Exhibit 4.9-17
Countywide General Fund Income by Source for K-12 Education 2000-01

Source	Amount ($)	Percent
State	245,099,806	43.3
Property Taxes	205,217,642	36.3
Federal	22,236,907	3.9
Other	93,100,914	16.5
Total	***565,655,269***	***100***

Source: *Sonoma County Education Facts 2002,* Sonoma County Office of Education, *http://www.scoe.org/schools/pdf/scfacts_2002.pdf,* December 2002.

Charter Schools

In the last decade the charter school movement has grown in California and across the country. The first charter school law was passed in Minnesota in 1992 and California was the second state to enact charter legislation the same year. A charter school is a public school and may provide instruction in any of grades K-12. A charter school is usually created or organized by a group of teachers, parents and community leaders or a community-based organization and is usually sponsored by an existing local public school board or county board of education. Specific goals and operating procedures for the charter school are detailed in an agreement (or "charter") between the sponsoring board and charter organizers to operate the school for a fixed period of time (generally 5 years). A charter school is

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62 *Projected California Graded Public K-12 School Enrollment by County By School Year*, Demographic Research Unit, State Department of Finance, accessed online at http://www.dof.ca.gov/HTML/DEMOGRAP/K12G.HTM.

63 Racial and Ethnic Diversity of K-12 Students, 2001-02: 65.7 percent White, 1.3 percent Native American, 2.5 percent African American, 4.8 percent Asian, Pacific Islander and Filipino, 24.3 percent Hispanic, 1.3 percent Multiple Response.

64 *District Information*, Sonoma County Office of Education, accessed online at http://www.scoe.org/schools/charts/districtchart.html December 2002.

generally exempt from most laws governing school districts, except where specifically noted in the law. [65] [66]

The first charter school in Sonoma County was opened in 1994 and there are now currently 20 charter schools in Sonoma County, mostly enrolling kindergarten and elementary school students. The schools range in size from 33 students (the Kid Street Charter School in Santa Rosa) to 600 students (the Pathways Charter School in Occidental).

Public Education Services – Regulatory Setting

COUNTY REGULATIONS

Acquisition of land for and construction of public education facilities in the unincorporated area is subject to County review for consistency with the Sonoma County General Plan under Section 65402 of the Government Code. While many public agency sponsors will strive to develop facilities that are consistent with the General Plan, they have the authority to override the County's determination and proceed with acquisition and construction.

STATE REGULATIONS

The California Department of Education (CDE) administers California's public education system at the State level and the State Board of Education, by statute, is the governing and policy-determining body of the CDE. Among other things, the Board adopts rules and regulations for the government of the state's public schools, adopts curriculum frameworks in core subject-matter areas, approves academic standards for content and student performance in the core curriculum areas, and adopts tests for the Standardized Testing and Reporting (STAR) program and the California High School Exit Examination.

Public Education Services – Significance Criteria

According to the *State CEQA Guidelines*, the project would have a significant public education services impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered educational facilities, the need for new or physically altered educational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for any public education services.

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65 *About Charter Schools,* California Department of Education, accessed online at http://www.cde.ca.gov/charter/about.html , December 2002.

66 *Frequently Asked Questions About Charter School Fundamentals,* Charter Schools Development Center, accessed online at http://www.csus.edu/ier/charter/faqs.html , December 2002.

Public Education Services – Impacts and Mitigation Measures

Impact 4.9-8 Demand for Public Education Services

*Implementation of the Draft GP 2020 would not generate a substantial demand for school services beyond the existing public school capacity and would not result in the need for additional facilities. This would be a less-than-significant impact. (**LTS**)*

This analysis is based upon PRMD's research with the County Office of Education, as well as data from the State Department of Finance. Based on both sources, enrollment in Sonoma County schools in the unincorporated area would be expected to decline through 2020. The projected number of K-12 students within the unincorporated portion of Sonoma County is summarized for each of the nine planning areas in **Exhibit 4.9-18**. Also, as previously noted in the environmental setting, projections for K-12 students by the State Department of Finance are expected to decline from 72,597 students in 2003 / 2004 to 71,548 students in 2009 / 2010 before increasing slightly to 72,555 students in 2012 / 2013.

As shown in **Exhibit 4.9-18**, declining enrollments of approximately two to four percent are expected to occur within the Sonoma Coast, Cloverdale, Russian River, Santa Rosa, Sebastopol, and Petaluma Planning Areas. Increases in enrollment would be expected to occur in the Healdsburg, Rohnert Park – Cotati, and Sonoma Valley Planning Areas, however; it is unclear exactly how the projected increases would impact any specific grade levels, schools, or districts due to the general nature of the information available.

Exhibit 4.9-18
Existing and 2020 Projected Student Enrollment

Planning Area	*Baseline Number of Students (K-12)*	*2020 Projected Number of Students (K-12)*	*Percent Change*
Sonoma Coast	1,284	1,242	-3.3
Cloverdale	1,123	1,089	-3.0
Healdsburg	2,776	2,845	+2.5
Russian River	2,772	2,689	-3.0
Santa Rosa	6,073	5,840	-3.8
Sebastopol	2,225	2,187	-1.7
Rohnert Park - Cotati	1,922	2,260	+17.6
Petaluma	607	594	-2.1
Sonoma Valley	1,715	1,735	+1.2
Totals	**20,497**	**20,481**	**-0.0**

Sources: *Planning Area Data by Traffic Assignment Zones*. Sonoma County PRMD, September 5, 2001.

The Sonoma County Office of Education anticipates increased school closures resulting from declining enrollments throughout the county. [67] Recent school closures include the Richard Crane Elementary School in Rohnert Park and the Harmony Elementary School in Occidental. While the Office assists the School Districts in projecting student enrollment, it is difficult to predict school enrollment on an annual basis, particularly a decline in enrollment. Therefore, currently it is not possible to determine which schools may close within a certain time frame or by 2020. [68]

The *Draft GP 2020* does contain policies related to Public Education Services. Policies **PF-2a**, **PF-2b**, and **PF-2j** through **PF-2l** would encourage school planning to meet the needs of future residents.

Given the available data, as illustrated in **Exhibit, 4.9-18**, the overall decline in student population would not result in the need for new or expanded public schools as capacity and service standards would not reasonably be expected to be adversely affected by implementation of the *Draft GP 2020*. This would be a less-than-significant impact.

Mitigation Measure 4.9-8 None required.

67 Land Use Element - Reuse of Public Properties, CAC memo, Lisa Posternak, Sonoma County PRMD, January 16, 2002.

68 Nichols • Berman communication with Patty Bernstein, Sonoma County Office of Education, July 2004.

Fire Protection & Emergency Services – Environmental Setting

Fire Protection Agencies

Fire protection in Sonoma County is provided by a total of at least 29 different agencies. There are 15 Volunteer Fire Companies that comprise Community Service Area 40 (CSA 40). CSA 40 is funded primarily through donations, with equipment and administrative support provided by the County Department of Emergency Services. There are 17 Fire Protection Districts (FPDs) funded through County taxes and operated by the Fire Division of the Department of Emergency Services. In addition, the cities of Cloverdale, Healdsburg, Petaluma, Santa Rosa, Sebastopol, and Sonoma operate independent Fire Departments funded through local property taxes. The Occidental and Cazadero County Service Districts (CSDs) fund fire protection services. Four other agencies provide fire protection through other means: the Sonoma Developmental Center's 1600 acre campus provides its own fire protection; the Two Rock Coast Guard provides its own fire protection; the Rohnert Park's fire protection is provided by the Rohnert Park Department of Public Safety; and additional fire protection services in the unincorporated parts of the county are provided by the California Department of Forestry and Fire Protection (CDF). [69]

Wildland Fires

The CDF has mapped areas in Sonoma County with the potential for large wildland fires. Areas with "very high or high potential for wildland fires" include over half of the county. The highest potential for large wildland fires is in the mountainous areas where there is an abundance of fire fuel vegetation and fire potential is enhanced by steeper slopes. [70]

In the period between 1989 and 2000 there were 21 wildland fires over 100 acres in size in Sonoma County. Nine fires were between 100 and 200 acres, nine fires were between 200 and 1,000 acres, and the remaining three fires ranged from 1,200 to 6,125 acres. Ninety seven percent of the wildland fires over 50 acres since 1989 were caused by human activities or facilities. [71]

Emergency Services

The Emergency Medical Services (EMS) system in Sonoma County is a blend of first responder agencies, ground and air ambulance providers, EMS - Fire Dispatch Center, and acute care receiving facilities. The County's EMS system contains an Exclusive Operating Area (EOA) ambulance franchise, assessment district ambulance providers, fire department based ambulance providers, privately owned ambulance providers, a privately owned air ambulance (helicopter) service, and a law enforcement based ALS rescue helicopter. Additionally, the County's EMS system has one of the State's only public-private partnership based EMS - Fire Dispatch Centers which provides Emergency

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69 Nichols • Berman communication with Teresa Russo, Sonoma County Department of Emergency Services, December 2002.

70 *Public Safety Element – Fire Hazards,* CAC memo, Lisa Posternak, Sonoma County, June 20, 2002.

71 *Public Safety Element – Fire Hazards,* CAC memo, Lisa Posternak, Sonoma County, June 20, 2002.

Medical Dispatch (EMD) instructions to callers utilizing the 9-1-1 system. The County's EMS system also has a Level II Trauma Center (Santa Rosa Memorial Hospital) among its eight acute care hospitals. [72]

Requests for emergency medical care are routed through jurisdictional Public Safety Answering Points (PSAP), also known as dispatch centers, to the EMS - Fire Dispatch Center (Redwood Empire Communications Authority [REDCOM]), which is run by American Medical Response (AMR) through a contract with the REDCOM Joint Powers Authority. The PSAP dispatch centers relay medical assistance requests (as well as fire related calls) to the REDCOM Dispatch Center. REDCOM directly dispatches the following: Bell's Ambulance Service (north central), Bodega Bay FPD (southwest), Coast Life Support District (north coast), Russian River FPD (Guerneville area), City of Sonoma Fire Department (east county), and Sonoma Life Support. Cloverdale Ambulance Service and Petaluma Fire Department are dispatched by Cloverdale and Petaluma, respectively. Overall, the EMS system in Sonoma County is currently providing adequate response and patient care to those citizens requesting emergency medical care through the 9-1-1 system. [73] However, the system is operating at peak efficiency and any population growth would necessitate matching growth in services offered. [74]

Fire Protection & Emergency Services – Regulatory Setting

COUNTY REGULATIONS

Acquisition of land for and construction of fire and emergency services facilities in the unincorporated area is subject to County review for consistency with the Sonoma County General Plan under Section 65402 of the Government Code. While many public agency sponsors will strive to develop facilities that are consistent with the General Plan, they have the authority to override the County's determination and proceed with acquisition and construction.

The Sonoma County Department of Emergency Services enforces Fire Safe Standards for new residential or commercial building in unincorporated State Responsibility Areas. A booklet titled *Vegetation Management Planning Requirements* informs permit applicants about compliance with the Vegetation Management section of the fire standards. An on-site fire hazard assessment and consultation conducted by Department of Emergency Services' staff is required. The staff assessment results in a report describing the minimum requirements for the project's Vegetation Management and Defensible Space Plan.

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72 *2002 Annual Report on Emergency Medical Services*, Coastal Valleys EMS Agency, 2002.

73 *2002 Annual Report on Emergency Medical Services*, Coastal Valleys EMS Agency, and Nichols • Berman conversation with Mike Duvall, Sonoma EMS Coordinator, Coastal Valleys Regional EMS Agency, March 21, 2003.

74 Nichols • Berman communication with Mike Duvall, Sonoma EMS Coordinator, Coastal Valleys Regional EMS Agency, March 2003.

Sonoma County Ordinances 5373 and 5402 require the installation of automatic fire sprinkler systems in all new residential and commercial buildings and conditionally require such systems at the time of the expansion of existing residential and commercial buildings. [75]

Fire Protection & Emergency Services – Significance Criteria

According to the *State CEQA Guidelines*, the project would have a significant fire protection and emergency services impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection and emergency facilities, the need for new or physically altered fire protection and emergency facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services; or

- Expose people or structures to risk of loss, injury, or death involving wildland fires.

Fire Protection & Emergency Services – Impacts and Mitigation Measures

Impact 4.9-9 Increased Demand for Fire Protection and Emergency Services Facilities
Implementation of the Draft GP 2020 would increase the demand for fire protection and emergency services and require the construction of new or expanded fire protection and emergency services facilities. This would be a significant impact. ***(S)***

There is no single master facilities plan or other comprehensive long range planning document that addresses the need for new fire or emergency services. The lack of available planning data makes quantifying the demand for fire and emergency facilities difficult. However, there is an ongoing effort by providers to consolidate fire services in order to improve efficiency and reprioritize funding from administration functions to service delivery.

The ability of County Department of Emergency Services (DES) to maintain acceptable response times within CSA 40 would be adversely affected by implementation of the *Draft GP 2020.* Declining funding combined with several trends including increasing costs such as insurance premiums and workers compensation, and more stringent State requirements pertaining to volunteer training and minimum availability, has made the retention of volunteers and paid staff increasingly difficult. Such difficulties will likely reduce the number of volunteer companies from 15 to ten or eight within five years and could mean an end to volunteer fire companies altogether. [76] The ability to provide emergency services within CSA 40 is already at a deficit with low levels of staffing and average response times between 20 to 30 minutes. Response to emergency calls within Sonoma County

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75 Ordinances 5373 and 5402 became effective on May 27, 2003.

76 Nichols • Berman communication with Vern Losh, Director, and Jack Rosevear, Fire Marshall, Department of Emergency Services, September 2004.

generally requires the dispatch of multiple agencies in all areas outside the City of Santa Rosa. [77] In addition, the duplication of services by multiple agencies in some areas contributes to deficiencies in services provided in other areas. [78]

Land uses and development consistent with the *Draft GP 2020* in the unincorporated area and especially within CSA 40, would exacerbate these deficiencies. While it would be reasonable to assume that providing fire and emergency services in CSA 40 areas would increasingly become the responsibility of the 17 neighboring Fire Protection Districts or that of newly formed ones, it is not entirely clear how increased demand for services may result in the need for new or expanded emergency services facilities. If Fire Protection Districts were required to widen their service areas, then the expansion of their existing facilities could be required. If new districts are formed, the construction of new facilities could be required in CSA 40 areas as volunteer fire companies do not own the facilities from which they operate. These facilities range from leased buildings to barns, to the homes of its volunteers. [79]

The *Draft GP 2020* contains policies in both the Public Safety and Public Services and Facilities Elements that would provide funding and reduce some of the demand for new or expanded fire and emergency services facilities. Policies **PF-2a** and **PF-2b** require that fire and emergency services be planned, designed, and constructed in accordance with projected growth and coordinated with that of the cities of Sonoma County. Policies **PF-2f** and **PS-3n** would require the dedication of land or in-lieu fees and consider additional impact or mitigation fees, to offset the cost of providing services to new development. Policy **PF-2m** would prepare a Fire Services Master Plan which would likely reduce current problems associated with the duplication of services and identify the need for new or expanded facilities required to maintain acceptable service ratios and response times. Policy **PF-2n** would deny the approval of discretionary projects if fire and emergency services are not sufficiently available.

In addition, the **Residential Use**, **Commercial Use**, and **Industrial Use** policies (sections 2.2 through 2.4 of the Land Use Element), policies such as **LU-2a**, **LU-3c**, **LU-3d**, **LU-5b**, **LU-5d**, **LU-6a**, as well as policies that pertain to specific Planning Areas, would reduce the need for additional fire protection and emergency services facilities by maintaining low residential densities and limited commercial and industrial development outside of the USAs.

Based on current trends, however, it is likely that the construction of new or expanded facilities by newly formed and / or existing Fire Protection Districts would be required despite such policies. The construction of such facilities necessary to maintain adequate service ratios and response times generated by implementation of the *Draft GP 2020* would potentially result in secondary construction-related impacts. These impacts would likely include noise, dust, and erosion and sedimentation from construction and grading activities. In general, the operational impacts of these facilities are evaluated at a program level throughout this EIR since these uses are considered to be part of the land uses and development consistent with the *Draft GP 2020.*

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[77] Nichols • Berman communication with Vern Losh, Director, and Jack Rosevear, Fire Marshall, Department of Emergency Services, September 2004.

[78] Nichols • Berman communication with Vern Losh, Director, and Jack Rosevear, Fire Marshall, Department of Emergency Services, September 2004.

[79] Nichols • Berman communication with Vern Losh, Director, and Jack Rosevear, Fire Marshall, Department of Emergency Services, September 2004.

The *Draft GP 2020* includes a number of policies and programs that would help limit potential impacts related to the construction of needed fire protection and emergency service facilities. For example Policy **OSRC-8c**, would reduce potential impacts to riparian corridors by requiring future development be sited a minimum of 50 feet (or up to 200 feet in certain circumstances) from the top of banks of streams. Policies **OSRC-11b** and **WR-1h**i would reduce potential water quality impacts due to erosion at construction sites. The policies require including control measures for projects involving construction or grading near waterways or on steep slopes and that grading plans include measures to avoid soil erosion and sedimentation in storm water to the maximum extent practical. Policy **OSRC-16c** would, through project review by the local air quality district, help minimize air pollution.

While these and other policies and programs of the *Draft GP 2020* would likely reduce many of the environmental impacts associated with the construction or expansion of fire protection and emergency services facilities, analysis of potential impacts without identified sites and complete designs would be speculative. Therefore, this would be a significant impact.

Mitigation Measure 4.9-9 No mitigation available beyond the *Draft GP 2020* policies discussed in the impact analysis above.

Significance After Mitigation This would be a significant unavoidable impact. (**SU**)

Impact 4.9-10 Wildland Fire Hazards

*Implementation of the Draft GP 2020 would expose people or structures to risk of loss, injury, or death involving wildland fires. This would be a significant impact. (**S**)*

As previously mentioned, High and Very High Wildland Fire Hazard Areas cover more than half of Sonoma County. These hazard areas also lie within, adjacent, or in close proximity to nearly every unincorporated USA including Sea Ranch, Occidental, Geyserville, Russian River, Forestville, Monte Rio, Graton, and the Sonoma Valley USAs.

Additionally, in spite of land use limitations on future rural development, businesses and residences have been and would continue to be constructed and / or expanded in the unincorporated area with implementation of the *Draft GP 2020*. The DES has expressed concern that it is very difficult to maintain the ability of County firefighters to protect this development due to the following: increase in distances, hence response times, to rural properties; lack of sufficient water; heavy brush and forest-covered lands; substandard road systems; addressing problems; and in many cases, the lack of on-site fire detection and suppression. [80]

The response time to a fire is critical to the success of fire suppression - the greater the distance and time to a fire, the greater the potential for the fire to escape and become large and difficult to control. Therefore, due to previously discussed deficiencies in the ability of DES to maintain acceptable service ratios and response times that are expected to worsen given current trends, it is expected that implementation of the *Draft GP 2020* would expose people or structures to risk of loss, injury, or death involving wildland fires.

The Public Safety Element of the *Draft GP 2020* contains a number of existing and new policies and programs that if adopted and implemented would reduce such exposure to wildland fire hazards.

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[80] *Sonoma County General Plan 2020 Update Issue Summaries*, Sonoma County PRMD, October 28, 2004.

Polices **PS-3a**, **PS-3b**, **PS-3c**, **PS-3e** and **PS-3f** require the ongoing consideration of fire safety during planning activities as well as the update of the Uniform Building Code with contemporary fire safe practices. In view of the high percentage of fires caused by human activities policies **PS-3j** and **PS-3k** would reduce the wildland fire hazard by providing residents with educational materials and outdoor advertising related to fire safety. Policies **PS-3g**, **PS-3h**, and **PS-3i** encourage the cooperation with CDF to enforce fire safety standards, and identify and reduce fuel loads within High and Very High Wildland Fire Hazard Areas. Policy **PS-3i** would standardize the County's street addressing system to improve response times by fire agencies, thereby limiting the fire's potential to escape control.

The **Residential Use**, **Commercial Use**, and **Industrial Use** policies (sections 2.2 through 2.4 of the Land Use Element), policies **LU-2a**, **LU-3c**, **LU-3d**, **LU-5b**, **LU-5d**, **LU-6a**, as well as policies that pertain to specific Planning Areas, would also reduce the exposure of people or structures to risk of loss, injury, or death involving wildland fires by maintaining low rural residential densities and limited commercial and industrial development outside of the USAs.

Sonoma County Ordinances 5373 and 5402 require the installation of automatic fire sprinkler systems in all new residential and commercial buildings and conditionally require such systems at the time of the expansion of existing residential and commercial buildings. In addition, the *Draft GP 2020* Policies **PS-3d** and **PS-3m** would require on-site detection and suppression, including automatic sprinkler systems where available services do not provide acceptable levels of suppression and consider requiring such measures in all new residential and commercial structures with minor exceptions.

While these existing policies and programs, combined with new programs related to addressing and on-site detection, would do much to reduce the exposure of new land uses and development, fire danger would still present an emergency response challenge to fire service agencies. Even with sufficient funding and staff resources, an unlikely prospect, this would be a significant impact. Since onsite detection is the most effective means of reducing this impact, the following mitigation measure would be required.

Mitigation Measure 4.9-10 Revise Policy **PS-3m** as follows:

> **Policy PS-3m**: ~~Consider requiring~~ Require automatic fire sprinkler systems in all new residential and commercial structures, with exceptions for detached utility buildings, garages, and agricultural-exempt buildings. Require automatic fire sprinkler systems at the time of expansion of existing residential and commercial buildings except as provided for in the Sonoma County Code.

Significance After Mitigation While Mitigation Measure 4.9-10 as well as other policies and programs of the *Draft GP 2020* would likely reduce the exposure of people or structures to risk of loss, injury, or death involving wildland fires, funding of fire and emergency services to remote rural areas is not expected to be sufficient to reduce potential exposure to less-than significant levels. Therefore, this would remain a significant unavoidable impact. (**SU**)

Responsibility and Monitoring The Sonoma County Board of Supervisors would be responsible for adopting this revised policy as part of the *GP 2020*. PRMD would be responsible for enforcement during the design review and construction phases of individual development projects.

Criminal Justice Services – Environmental Setting

Police protection in the unincorporated portion of Sonoma County is primarily provided by the County Sheriff's Department. Since 1993 the County Sheriff's Department has also provided law enforcement services to the Town of Windsor under a contract most recently renewed in 1998 for a ten year period. [81] The County Sheriff's Department also provides coroner and correctional services county wide. [82]

The Sheriff maintains a 24-hour patrol force operating from five substations and the Main Office. As of February, 2003 there were a total of 159 peace officers, including deputies who work in patrol, administration, the helicopter unit, the boating unit, and the civil bureau with 37 deputies working in investigations for a total of 196 officers. [83] The Sheriff's Department currently maintains a service ratio of approximately 1.01 officers per 1,000 residents, less than the 2.0 officers per 1,000 residents set by the Federal Bureau of Investigation.

There are a number of other agencies that also provide law enforcement in Sonoma County. These agencies include the college and university police, city police departments, State agencies, and federal law enforcement agencies. [84]

The Sonoma County Sheriff's Department moved into the newly constructed Main Office Headquarters in April of 2002. This two-story, concrete block structure, approximately 66,000 square feet in size, houses the Sheriff's Administrative staff, Investigations Bureau, Dispatch Bureau, Crime Scene Investigation Laboratory and is where the majority of patrol staff work. [85]

The Detention Division of the Sheriff's Department provides care and custody of inmates in two facilities: The Main Adult Detention Facility (MADF) and the North County Detention Facility (NCDF). The MADF is primarily a pre-sentenced facility for those awaiting court while the NCDF is

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81 *Sonoma County Sheriff's Department; Department Functions*, Sonoma County Sheriff's Department, *http://www.sonomasheriff.org/*, December 2002.

82 *Sonoma County Sheriff's Department; Department Information*, Sonoma County Sheriff's Department, *http://www.sonomasheriff.org/*, December 2002.

83 Nichols • Berman communication with Ed Hoener, Sonoma County Sheriff's Department, Personnel Service Bureau, February 24, 2003.

84 *Sonoma County Sheriff's Department; Allied Agencies*, Sonoma County Sheriff's Department, accessed online at http://www.sonomasheriff.org/ , December 2002.

85 Excerpt from the Sonoma County Sheriff website, accessed online at www.sonomacountysheriff.org

primarily for sentenced, minimum security inmates. [86] Currently, the MADF has 755 beds and the NCDF has 412 beds. [87]

State and county crime trends are affected by demographics, economic conditions and values, lifestyles, and residential patterns, as well as by the provision of law enforcement. Numerous factors can influence crime rates, including the age of residents, the density and size of jurisdictions, the mobility of residents, economic and family conditions, strength and effectiveness of the law enforcement agencies, crime reporting practices, and most importantly, the laws and criminal justice policies of the jurisdictions. The crime rated peaked in California in 1980, declined for four years, and began to increase in 1985. Since 1992, the crime rate has been in a general decline, reaching a 34-year low in 1999. Property crime, which accounts for the bulk of crime in California, grew at a slower rate (55 percent) than violent crime (299 percent) since 1952. Since 1982, the property crime rate has decreased by 57 percent, while violent crimes decreased by 26 percent. [88] **Exhibit 4.9-19** shows the crime rates for Sonoma County following similar trends.

Exhibit 4.9-19
Sonoma County Crime Rates, 1993 – 2002 (crimes per 100,000 population)

	1993	***1994***	***1995***	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***
Violent Crimes	507	474	466	439	402	352	292	292	276	312
Property Crimes	1,465	1,503	1,284	1,058	1,165	1,019	714	776	841	977
Total	**1,972**	**1,977**	**1,750**	**1,496**	**1,567**	**1,371**	**1,005**	**1,068**	**1,117**	**1,289**

Source: *Reported Crimes and Crime Rates by Category and Crime, Sonoma County*, State Department of Justice, State Attorney General's Office, http://justice.hdcdojnet.state,ca,us/cjsc_stats/prof02/49/1.htm.

Criminal Justice Services – Regulatory Setting

COUNTY REGULATIONS

Acquisition of land for and construction of criminal justice services facilities in the unincorporated area is subject to County review for consistency with the Sonoma County General Plan under Section 65402 of the Government Code. While many public agency sponsors will strive to develop facilities

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86 *Sonoma County Sheriff's Department; Allied Agencies*, Sonoma County Sheriff's Department, accessed online at http://www.sonomasheriff.org/ , December 2002.

87 *Sonoma County Sheriff's Department; Main Adult Detention Facility* and *North County Detention Facility*, Sonoma County Sheriff's Department, accessed online at http://www.sonomasheriff.org/ , December 2002.

88 *Crime in California*, Criminal Justice Statistics Center, State Department of Justice, Attorney General's Office, accessed online at http://caag.state.ca.us/cjsc/publications/candd/cd02/cdintro.htm.

that are consistent with the General Plan, they have the authority to override the County's determination and proceed with acquisition and construction.

Criminal Justice Services – Significance Criteria

According to the *State CEQA Guidelines*, the project would have a significant criminal justice services impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered criminal justice facilities, the need for new or physically altered criminal justice facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for criminal justice services.

Criminal Justice Services – Impacts and Mitigation Measures

Impact 4.9-11 Demand for Additional Criminal Justice Facilities
*Implementation of the Draft GP 2020 would increase the demand for new or expanded Sheriff's Department substations and detention facilities the construction of which could cause significant environmental impacts. This would be a significant impact. (**S**)*

The Sonoma County Sheriff's Department currently maintains an acceptable service level ratio of 1.01 deputies per 1,000 county residents within its service area which includes the unincorporated area of Sonoma County and the Town of Windsor and City of Sonoma.[89] The Sheriff's Department is expected to hire two deputies per year between 2003 and 2020 for a total of 230 deputies by 2020.[90]

Although the number of deputies that would be deployed specifically within the unincorporated portion of Sonoma County in 2020 is unknown, the service level ratio of deputies per 1,000 residents within the department's service area can be determined. As demonstrated in **Exhibit 4.9-20**, population within the department's service area would be expected to increase to 192,550 residents by 2020 which would result in a ratio of 1.19 deputies per 1,000 residents.

While the Department would prefer to maintain a higher service level ratio of two deputies per 1,000 residents, implementation of the *Draft GP 2020* would not be expected to lower the service level ratio below its current level of 1.01 deputies per 1,000 residents in any area of the Sonoma County.[91]

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89 Nichols · Berman communication with Richard Sweeting, Captain, Sonoma County Sheriff's Department – Administration Division, July 2004.

90 Nichols · Berman communication with Richard Sweeting, Captain, Sonoma County Sheriff's Department – Administration Division, July 2004.

91 Nichols · Berman communication with Richard Sweeting, Captain, Sonoma County Sheriff's Department – Administration Division, July 2004.

Exhibit 4.9-20
Sonoma County Sheriff's Department - 2020 Service Level

Service Area	*Population 2020 (Persons)*
Unincorporated Area	147,660
Town of Windsor	30,300
City of Sonoma	14,590
Total	192,550
Number of Deputies in 2020	230
Ratio of Deputies per 1,000 Population for Sheriff's Department Service Area in 2020	1.19

Source: *Table LU-1: Population Trends and Projections, Sonoma County General Plan 2020 Public Hearing Draft*, Sonoma County PRMD, 2004.

With respect to the need for new facilities, The Main Office Headquarters facility was designed and built with internal expansion space to accommodate departmental growth through 2007.[92] This facility is expected to undergo in-place expansion subsequent to 2007.[93] No current planning document addresses the department's needs for additional main office facilities beyond this timeframe.

The Sheriff's Department maintains two substations in the communities of Guerneville and Sonoma Valley. Increased demand for Sheriff's Department services due to implementation of the *Draft GP 2020* would require the construction of a new Sonoma Valley substation.[94] This project, currently in the funding phase, would be expected to provide sufficient space for approximately ten to 15 years.[95] Several Capital Improvement Plans (CIPs) have recommended the in-place expansion of the Guerneville substation, but funding has not yet been allocated for improvements.[96] Development of these projects could result in significant environmental impacts related to their construction.

In recent years, the Sheriff's Department has maintained a community presence from two leased storefront locations in Roseland and Larkfield. The Roseland storefront location has closed as the City of Santa Rosa assumes increased patrol responsibilities and the Sheriff's Department experiences budget constraints. The Larkfield station is projected to remain operational for the foreseeable future.

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92 *Final Report: Buildings Utilization Plan*, County of Sonoma General Services - Architecture Division, July 1998.

93 Nichols · Berman communication with Robert Kambak, County Architect, Sonoma County General Services Architecture Division, May 2004.

94 Nichols · Berman communication with Robert Kambak, County Architect, Sonoma County General Services Architecture Division, May 2004.

95 Nichols · Berman communication with Robert Kambak, County Architect, Sonoma County General Services Architecture Division, May 2004.

96 Nichols · Berman communication with Robert Kambak, County Architect, Sonoma County General Services Architecture Division, May 2004.

The use of additional storefront locations (e.g., to serve a new large residential development) could reduce the need to construct new or expanded facilities. [97]

The demand for future detention facilities cannot be quantified at this time. Previous planning studies completed in 1998 and 2001 proved to be inaccurate by projecting a higher jail population than actually occurred. For example, although the actual average daily population for 2003 was 1045; the 1998 study projected a level of 1150 inmates while the 2001 study projected a level of 1294 inmates. The Sheriff and General Services Departments, under the oversight of the County Administrator's Office, are in the process of studying the long-term need for detention facilities and developing suitable expansion plans to accommodate projected demand . [98] While recommendations for future facilities are unknown, expansion would likely occur in one of two scenarios. [99] The first scenario would involve the expansion of the MADF as well as the expansion and replacement of NCDF in its current location. The second scenario would entail the closure of the NCDF and the consolidation of detention services at an expanded MADF.

While the *Draft GP 2020* contains no policies specific to criminal justice services, policies contained in the Land Use and Public Services and Facilities Elements would reduce some of the demand for additional law enforcement facilities. Policy **LU-4a** would reduce demand impacts to criminal justice services by allowing the application of zoning regulations to assure that development shall occur only if public services (including law enforcement) are adequate so as to maintain an acceptable level of service. Policies **LU-4d** and **LU-4f** would require assurances that development consistent with the land use plan could be accommodated by public services, that facilities would be sufficiently planned for, and that new development pay its fair share toward provision of public services.

In addition, the **Residential Use**, **Commercial Use**, and **Industrial Use** policies (sections 2.2 through 2.4 of the Land Use Element), policies **LU-2a**, **LU-3c**, **LU-3d**, **LU-5b**, **LU-5d**, **LU-6a**, as well as policies that pertain to specific Planning Areas, would reduce the demand for new criminal justice services facilities by maintaining low residential densities and limited commercial and industrial development outside of the USAs.

Although these policies could reduce some of the demand for such facilities, implementation of the *Draft GP 2020* would still require additional Sheriff's Department facilities in order to maintain acceptable service standards, the construction of which could cause significant site-specific environmental impacts. Such impacts could include dust, noise, erosion and sedimentation from construction and grading activities. In general, these impacts are addressed at a program level throughout this EIR since these facilities are considered to be part of the land uses and development consistent with the *Draft GP 2020.*

The *Draft GP 2020* includes a number of policies and programs that would help limit potential impacts related to the construction of needed Sheriff's Department facilities. For example Policy

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[97] Nichols • Berman communication with Robert Kambak, County Architect, Sonoma County General Services Architecture Division, May 2004.

[98] Nichols • Berman communication with Robert Kambak, County Architect, Sonoma County General Services Architecture Division, May 2004.

[99] Nichols • Berman communication with Robert Kambak, County Architect, Sonoma County General Services Architecture Division, May 2004.

OSRC-8c, would reduce potential impacts to riparian corridors by requiring future development be sited a minimum of 50 feet (or up to 200 feet in certain circumstances) from the top of banks of streams. Policies **OSRC-11b** and **WR-1h** would reduce potential water quality impacts due to erosion at construction sites. The policies require including control measures for projects involving construction or grading near waterways or on steep slopes and that grading plans include measures to avoid soil erosion and sedimentation in storm water to the maximum extent practical. Policy **OSRC-16c** would, through project review by the local air quality district, help minimize air pollution.

While these and other policies and programs of the *Draft GP 2020* would likely reduce many of the environmental impacts associated with the construction or expansion of Sheriff's Department facilities, analysis of potential impacts without identified sites and complete designs would be speculative and would be identified during the environmental review of each project. Therefore, this would be a significant impact.

Mitigation Measure 4.9-11 No mitigation available beyond the *Draft GP 2020* policies discussed in the impact analysis above.

Significance After Mitigation This would be a significant unavoidable impact. **(SU)**

Library Services – Environmental Setting

Sonoma County has a centralized regional library system operated as the Sonoma County Library under a Joint Powers Agreement from 1975. [100] The Joint Powers Agreement is between Sonoma County, the incorporated cities of Sonoma County, and the Sonoma County Library. The library is governed by a Library Commission appointed by the Sonoma County Board of Supervisors, and the cities of Santa Rosa and Petaluma. [101]

Branch Libraries

There are 13 branch libraries: Santa Rosa Central, Cloverdale Regional, Forestville (El Molino High School), Guerneville Regional, Healdsburg Regional, Occidental, Petaluma Regional, Rohnert Park-Cotati Regional, Santa Rosa Northwest Regional, Santa Rosa Rincon Valley Regional, Sebastopol Regional, Sonoma Valley Regional, and Windsor. Most of the branch libraries are open Monday through Saturday, except Occidental, which is only open Tuesday, Wednesday and Saturday, Forestville, which is closed Friday through Sunday, and Santa Rosa Central, which is open every day. [102]

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100 *Sonoma County General Plan Draft Environmental Impact Report*, Sonoma County, December 1986.

101 *Sonoma County Library; About the Library*, Sonoma County Library, accessed online at http://www.sonoma.lib.ca.us/about.htm , December 2002.

102 *Sonoma County Library; Branch Location, Hours, and Phone Numbers* Sonoma County Library, accessed online at http://www.sonoma.lib.ca.us/branches.html , December 2002.

Special Collections

Sonoma County Library operates several special programs, including the Community Resources File, the Genealogy and Local History Library, and the Wine Library. The Community Resources File provides information on local service and non-profit organizations in Sonoma and adjacent counties. The file is updated weekly and accessible through the Library Catalog. The Genealogy and Local History Library is located in the Annex behind the Central Branch, and houses the Genealogy and Local History Resources, as well as the Photo Archive which includes over 26,000 historical photographs. The Wine Library is operated out of the Healdsburg Regional Library. The Wine Library has a collection of 5,000 books on wine and related subjects and subscriptions to over 80 wine-related periodicals. The Wine Library has also developed Winefiles.org, a project to make the Wine Library collection accessible on the internet. [103] [104]

Special Programs

The Library system also hosts a number of classes and workshops for adults, an adult literacy program, and provides a number of resources for young children and teens. It has extensive online resources including online book renewal, online catalog access, and public internet access stations in the branch libraries.

A *Strategic Plan* for the Sonoma County Library was finished in 2000. Its priorities are staff development, expanding its collections, and enhancing system services, hours, and facilities. The plan is updated annually; its success depends in part on the funding available. [105]

Library Services – Regulatory Setting

COUNTY REGULATIONS

Library services are overseen by the Sonoma County Library Commission, by a joint powers agreement among the County and cities. Acquisition of land for and construction of County library facilities in the unincorporated area is subject to County review for consistency with the Sonoma County General Plan under Section 65402 of the Government Code. While many public agency sponsors will strive to develop facilities that are consistent with the General Plan, they have the authority to override the County's determination and proceed with acquisition and construction.

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[103] This Project is supported by the U.S. Institute of Museum and Library Services under the provisions of the Library Services and Technology Act, administered in California by the State Librarian, and by several Wine Industry Groups.

[104] *Sonoma County Library; Special Collections.* Sonoma County Library, accessed online at http://www.sonoma.lib.ca.us/collections.html , December 2002.

[105] *Strategic Plan, Sonoma County Library,* Sonoma County Library Strategic Planning Committee, accessed online at http://sonomalibrary.org/stratplan0.html., December 2002

Library Services – Significance Criteria

According to the *State CEQA Guidelines*, the project would have a significant library services impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for library services.

Library Services – Impacts and Mitigation Measures

Impact 4.9-12 Increased Demand for Library Facilities
Implementation of the Draft GP 2020 would result in the demand for new or expanded County Library facilities in order to maintain acceptable service levels. This would be a significant impact. ***(S)***

The Sonoma County Library (County Library) has identified five goals guiding future library efforts. Three of these goals, "to provide excellent collections and services, to utilize user friendly technology, and to provide welcome environments", are directly related to library size and infrastructure. In 2003, the County Library completed a Facilities Master Plan (FMP) to evaluate its ability to meet level of service standards and agency goals.

The County Library has been unable keep pace with the growing size and changing diversity of Sonoma County's population. Since 1980, county population has increased by 53 percent while the combined size of County Library facilities has grown by only 25 percent.

According to the FMP, current facilities, designed to serve population levels of the 1980's no longer provide adequate levels of service or sufficient space in terms of seating, shelving area, and public meeting rooms. In order to meet County Library service standards, building sizes should ideally provide 0.55 – 0.68 square feet per capita. However, based on population projections contained in the *Draft GP 2020*, the year 2000 system-wide average of 0.43 square feet per capita would decline to 0.33 square feet per capita by 2025. In addition to space deficiencies, many facilities lack an adequate number of computers and do not have data and power infrastructure to support the number of devices now used to gather process and store information. Also, increasing diversity among Sonoma County residents requires a collection that addresses the needs of different age groups, learning abilities and ethnicities- especially to serve the county's growing Hispanic community. Implementation of the *Draft GP 2020* would likely increase these system-wide deficiencies.

While the County Library has made some improvements (e.g., an online system) to meet the increased demand for services, expansion of existing branches as well as construction of new facilities would be required to maintain an acceptable level of service. The FMP plans for the creation of three new service areas in the unincorporated communities of Sea Ranch – Annapolis, Bodega Bay, and

Southwest Santa Rosa where construction of new facilities would occur. In-place expansion of facilities in other unincorporated areas would occur in Occidental and Forestville. [106]

Although the *Draft GP 2020* contains no policies relevant to library services, policies contained in the FMP would reduce some impacts related to the construction of new libraries by requiring new facilities be sited within existing urban service areas, be compatible with local planning regulations, and be accessible by public transport. Also, providing library access to the coastal communities of Bodega Bay and Sea Ranch – Annapolis would reduce long vehicle trips to other library facilities by residents in these areas, thereby reducing the associated impacts to traffic and air quality.

Nevertheless, implementation of the *Draft GP 2020* would require new or expanded County Library facilities in order to maintain acceptable service ratios. The construction of these facilities could result in significant environmental impacts. Such impacts could include dust, noise, erosion and sedimentation from construction and grading activities. Libraries may also generate additional traffic at the site. In general, these impacts are addressed at a program level throughout this EIR since these facilities are considered to be part of the land uses and development consistent with the *Draft GP 2020.*

The *Draft GP 2020* includes a number of policies and programs that would help limit potential impacts related to the construction of needed County Library facilities. For example Policy **OSRC-8c**, would reduce potential impacts to riparian corridors by requiring future development be sited a minimum of 50 feet (or up to 200 feet in certain circumstances) from the top of banks of streams. Policies **OSRC-11b** and **WR-1h** would reduce potential water quality impacts due to erosion at construction sites. The policies require including control measures for projects involving construction or grading near waterways or on steep slopes and that grading plans include measures to avoid soil erosion and sedimentation in storm water to the maximum extent practical. Policy **OSRC-16c** would, through project review by the local air quality district, help minimize air pollution.

These and other policies and programs of the *Draft GP 2020* would likely reduce many of the environmental impacts associated with the construction or expansion of County Library facilities. However, analysis of potential impacts without identified sites and complete designs would be speculative and would be identified during the environmental review of the project. Therefore, this would be a significant impact.

Mitigation Measure 4.9-12 No mitigation available beyond the *Draft GP 2020* policies discussed in the impact analysis above.

Significance After Mitigation This would be a significant unavoidable impact. **(SU)**

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106 *Sonoma County Library Facilities Master Plan*, Sonoma County Library, May 7, 2003. Available online at: http://www.sonoma.lib.ca.us/doc/Sonoma_MP_Report.pdf

Human Services – Environmental Setting

Sonoma County Human Services Department

The Human Services Department includes five organizational divisions: the Administration / Fiscal Services Division, the Adult and Aging Division, the Economic Assistance Division, the Employment and Training Division, and the Family, Youth and Children Division. The department works with federal, State, and local agencies as well as private business to find solutions to human needs. The department has programs to assist aging and / or disabled adults and veterans, assist low-income or otherwise disadvantaged residents in obtaining food, shelter, medical and dental care, job training programs, and supportive social services for children under 18. [107]

Sonoma County Office of Commissions

Additionally, Sonoma County has an Office of Commissions that supports the work of the Commission on Human Rights, Commission on the Status of Women, and the Human Services Commission. [108] The Commission on Human Rights promotes better human relations among all people in Sonoma County through education and advocacy. [109] Established by the Sonoma County Board of Supervisors in 1975, the Commission on the Status of Women works to eliminate discrimination on the basis of sex in the areas of education, employment, health, housing community service and other related fields by providing information and services to women and the community on women's rights and issues. [110] The Board of Supervisors established the Sonoma County Human Services Commission in 1978 to promote the coordination of planning, funding, and delivery of countywide human services by both public and private agencies. [111]

Human Services – Regulatory Setting

COUNTY REGULATIONS

Acquisition of land for and construction of County Human Services facilities in the unincorporated area is subject to County review for consistency with the Sonoma County General Plan under Section

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[107] *Divisions & Services*, Sonoma County Department of Human Services, accessed online at http://www.sonoma-county.org/Human/division.htm , December 2002.

[108] *Office of Commissions*, Sonoma County Office of Commissions, accessed online at http://www.sonoma-county.org/ooc/index.htm , December 2002.

[109] *Commission on Human Rights*, Sonoma County Office of Commissions, accessed online at http://www.sonoma-county.org/ooc/chr.htm , December 2002.

[110] *Commission on the Status of Women*, Sonoma County Office of Commissions, accessed online at http://www.sonoma-county.org/ooc/csw.htm , December 2002.

[111] *Human Services Commission*, Sonoma County Office of Commissions, accessed online at http://www.sonoma-county.org/ooc/hsc.htm , December 2002.

65402 of the Government Code. While many public agency sponsors will strive to develop facilities that are consistent with the General Plan, they have the authority to override the County's determination and proceed with acquisition and construction.

Human Services – Significance Criteria

According to the *State CEQA Guidelines,* the project would have a significant human services impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered human services facilities, the need for new or physically altered human services facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for human services.

Human Services – Impacts and Mitigation Measures

Impact 4.9-13 Increased Demand for Human Services Facilities
Implementation of the Draft GP 2020 could exceed the ability of the County's Human Services Department to maintain an acceptable level of service within its present level of funding and facilities and therefore could result in the expansion or construction of new Human Services facilities. This would be a significant impact. ***(S)***

The goal of the Youth and Family Services portion of the Public Facilities and Services Element of the *Draft GP 2020* is to address youth and family issues related to land use while supporting the creation of a secure and healthy environment in which all can reside. As the County Human Services Department administers youth and family service programs on behalf of State and federal agencies, the scope of these programs flex based upon agency budgets, mandates, and program regulations. Policies contained in the *Draft GP 2020* express a broad statement of County support for services to children, youth, and families. However, as budgets have and will likely continue to experience significant cuts and shortfalls, the *Draft GP 2020* does not attempt to establish County funding or budgetary obligations for Youth and Family Services. [112]

Current budgetary deficiencies and staff reductions within the County Human Services Department have hindered efforts to prepare long term planning documents that adequately assess its future needs. As a result, little information was available to analyze impacts to County Human Services that could result from implementation of the *Draft GP 2020*. Instead current conditions are analyzed and assumed to be exacerbated by both declining budgets and increased population growth for the foreseeable future.

Projected increases in county population by 2020 would result in an increased number of children that require children's protective services. Currently, 1.5 children per 1,000 residents require protective

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[112] *Public Facilities and Services Element: Children and Family Policies,* CAC memo, Richard Rogers, Sonoma County PRMD, December 19, 2002.

services as administered by the Family, Youth and Children's Services division.[113] This division currently receives approximately 3,000 calls per year requiring child abuse investigation. In general, Family, Youth and Children's Services case workers make home or in-school visits. With budget shortfalls resulting in staff reductions for the foreseeable future it would not be reasonable to expect that Family, Youth and Children's Services would require new facilities; rather, it is likely that a reduced staff would be required to shoulder increased caseloads.

The Temporary Assistance for Needy Families (TANF) program, which provides welfare for county families, is experiencing an increase in cases since 2002.[114] The program had previously seen a continuous decline from a high of 6,523 cases in 1996, to a low of 2,308 cases in 2001. Caseloads increased steadily in both 2002 and 2003 to its present level of 3,353 cases.[115]

With respect to the demand for new facilities, an attempt to build a new consolidated and expanded facility for Human Services in southwest Santa Rosa was abandoned in 2001. If the plan had been implemented, all of Human Services would have been relocated to this new county-leased building, including the workgroups that are currently at the County Center.[116] Since that time, Human Services has and will continue to experience a reduction in staff for the foreseeable future. Therefore, with the exception of the Valley of the Moon Children's Home, Human Services facility planning has not been renewed. Presently, the County General Services Department does not possess any current facilities planning documents for Human Services.[117]

Human Services oversees the county children's home. In 2002, both space limitations and additional State licensing requirements demonstrated to County officials that the existing Valley of the Moon Children's Home (VMCH) could not accommodate the needs of the county's abused, abandoned, or neglected children. The Human Services Department in conjunction with County General Services proposed the construction of a new and expanded VMCH with a capacity twice that of the existing home. The VMCH provided services for 316 children (with an average daily population of 26 children) in the 2003 fiscal year.

Phase I of the Valley of the Moon Children's Home is currently under construction. This phase consists of the construction of a 19,000 square feet housing and food service facility designed to accommodate 72 children ranging from infants to 18 years of age. The second and final phase of the VMCH project (currently unfunded) would provide an additional 27,000 square feet of administration space, medical and mental health services. The facility will also contain the Redwood Children's Center, which functions to evaluate and document cases of child abuse. A Mitigated Negative

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[113] Nichols • Berman communication with Carol Bauer, Director, Sonoma County Family, Youth and Children's Services, July 2004.

[114] *Fifth Annual Sonoma Works Report*, Sonoma County Human Services Department, October 21, 2003.

[115] *FY 2003-04 Monthly Caseload Data Summary*, Sonoma County Human Services Department, June 2004.

[116] Nichols • Berman communication with Robert Kambak, County Architect, Sonoma County General Services Architecture Division, August 2004.

[117] Nichols • Berman communication with Robert Kambak, County Architect, Sonoma County General Services Architecture Division, August 2004.

Declaration (MND), prepared in 2002, found this project would not have a substantial adverse impact on the environment provided identified mitigation measures were incorporated in the project design.

While the Youth and Family Services portion of the Public Facilities and Services Element contains numerous policies which express broad support for the welfare of the Sonoma County's families, children, and elderly residents, these policies would not likely reduce the need for improved Human Services or facilities in the face of declining funding. However, several policies would reduce the need for additional county facilities and programs by shifting some of the responsibility of care to existing community organizations like public schools. Policies **PF-3i**, **PF-3o**, and **PF-3s** encourage community and school based health services programs, the creation of child care facilities as a condition of approval for new development projects, and the provision by schools of recreation programs before and after school. In addition, the "Restorative Justice" program as described in Policy **PF-3w** would, if developed, reduce the inflow of youths into the Juvenile Hall facility by encouraging reparations to the victim and community through public service.

In addition, the **Residential Use** policy (section 2.2 of the Land Use Element), policies such as **LU-2a**, **LU-3c**, **LU-3d**, **LU-5b**, **LU-5d**, **LU-6a**, as well as policies that pertain to specific Planning Areas, would reduce the need for new human services facilities by maintaining low residential densities and limited the opportunities for development outside of the USAs.

If Human Services programs are funded and delivered in the same way as existing programs, then it is reasonable to expect that the demand for Human Services would continue to increase at a greater rate than available funding under the *Draft GP 2020*. Such demand would increase the need for the expansion of human services facilities and could result in the construction of new facilities.

The construction of these facilities could result in significant environmental impacts. Such impacts could include dust, noise, and erosion and sedimentation from construction and grading activities. Human Services facilities may also generate additional traffic at the site. In general, these impacts are addressed at a program level throughout this EIR since these facilities are considered to be part of the land uses and development consistent with the *Draft GP 2020.*

The *Draft GP 2020* includes a number of policies and programs that would help limit potential impacts related to the construction of needed County Human Services facilities. For example Policy **OSRC-8c**, would reduce potential impacts to riparian corridors by requiring future development be sited a minimum of 50 feet (or up to 200 feet in certain circumstances) from the top of banks of streams. Policies **OSRC-11b** and **WR-1h** would reduce potential water quality impacts due to erosion at construction sites. The policies require including control measures for projects involving construction or grading near waterways or on steep slopes and that grading plans include measures to avoid soil erosion and sedimentation in storm water to the maximum extent practical. Policy **OSRC-16c** would, through project review by the local air quality district, help minimize air pollution.

These and other policies and programs of the *Draft GP 2020* would likely reduce many of the environmental impacts associated with the construction or expansion of County Human Services facilities. However, analysis of potential impacts without identified sites and complete designs would be speculative and would be identified during the environmental review of the project. Therefore, this would be a significant impact.

Mitigation Measure 4.9-13 No mitigation available beyond the *Draft GP 2020* policies discussed in the impact analysis above.

Significance After Mitigation This would be a significant unavoidable impact. (**SU**)