K. WATER SUPPLY

This section was prepared by Cleath & Associates based on available published water supply information and the proposed project water demands. The proposed project site consists of two main areas: the West FRP and the East FRP. Based on the *Public Access and Management Plan*, actions on the West FRP would be limited to trail improvements and amenities, habitat restoration, signage, and parking areas. Water demand would be limited to dust control and minor irrigation, and would not require construction of infrastructure. Proposed actions on the East FRP would include a community park including sports fields, restrooms, and a community center, which would require a water source for both domestic and irrigation purposes. This EIR section focuses on the potential water supply demands and options for the East FRP.

The CCSD would provide water for the community park project on the East FRP from one of several potential sources. At this time, the sources to be used for the project have yet to be formally established. The *Public Access & Resource Management Plan* states that "No new water wells will be installed on the Ranch [Fiscalini Ranch Preserve (FRP)]". Existing wells will remain for monitoring and grazing purposes. The abandoned well used for the Fiscalini Ranch operations must be capped for public safety purposes." In addition, the plan states that "no new water supplies for District purposes will be developed on the Ranch [FRP]." Cleath & Associates re-evaluated the existing water supply facilities to determine if water resources can be protected while utilizing these facilities and sources for the proposed project, including the proposed park as shown in the Master Development Plan.

The proposed project could be served by historic water sources formerly serving the property or by CCSD water sources. CCSD current and potential water sources include the existing water sources in Santa Rosa Creek Valley and San Simeon Creek valley, the development of treated wastewater for non-potable use, and the potential development of desalinated water. This EIR section describes these alternatives, and addresses potential impacts that could result from the use of identified options.

1. REGULATORY SETTING

a. FEDERAL POLICIES AND REGULATIONS

1) Safe Drinking Water Act of 1974

The Safe Drinking Water Act implemented by the Environmental Protection Agency is the primary federal regulation controlling drinking water quality. The Safe Drinking Water Act grants the EPA the authority to establish and enforce guidelines for the achievement of minimum national water quality standards for every public water supply system serving 25 people or more.

The Act was originally implemented in 1974 with significant revisions in 1986. The Act originally set standards for 83 individual constituents, including pesticides, trihalomethanes, arsenic, selenium, radionuclides, nitrates, toxic metals, bacteria, viruses, and pathogens. The 1996 amendment to the Act made some significant changes, most of which resulted in more stringent application of control technology. The amended Act also adopted a more rigorous schedule for amending the Disinfectants/Disinfection By-Products Rule and the Enhanced Surface Water Treatment Rule, both of which took effect in 1998.

2) The Clean Water Act

The Clean Water Act (CWA) controls the discharge of toxic material into surface water bodies. Under this act, states are required to identify water segments impaired by pollutants and develop control strategy/management plans to reduce pollution and meet certain water quality standards.

b. STATE POLICIES AND REGULATIONS

The establishment and enforcement of water quality standards for the discharge into and maintenance of water throughout California is managed by the SWRCB and its nine Regional Water Quality Control Boards (RWQCB). The SWRCB enforces the federal Clean Water Act on behalf of the EPA. Most of the quantitative objectives are based on the California Code of Regulations (CCR), Title 22 - State Drinking Water Standards. Other considerations include the University of California Agricultural Extension Guidelines for Agricultural Irrigation Use, the Porter-Cologne Water Quality Control Act, the Water Quality Control Board's Non-degradation Policy, and the Endangered Species Act. The County of San Luis Obispo lies entirely within Region 3 - Central Coast Regional Water Quality Control Board. The RWQCB is the primary State agency ensuring that the quality of potable water supplies is protected from harmful effects by man.

The California Department of Health Services (DHS) is responsible for overseeing the quality of water once it is in storage and distribution systems. DHS oversees the self-monitoring and reporting program implemented by all water purveyors, performs inspections, and assists with financing water system improvements for the purpose of providing safer and more reliable service.

1) State Water Code

Section 10910 of the State Water Code requires the County of San Luis Obispo to identify the agency or entity responsible for providing water service to the area and to request that the agency determine whether the project was included within the current Urban Water Management Plan maintained by that water agency. If no such plan exists, or if the proposed project was not considered, then the agency must prepare a water supply assessment for the project. The assessment shall include a discussion as to whether the public agency or entities total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project. In addition, the agency's existing and planned future uses, including agricultural and manufacturing uses need to be taken into account. There are other specifications regarding the water supply assessment in the Water Code and the County must prepare the assessment if it is unable to identify a water supply agency. The implementation of this requirement is triggered by the County's determination that the project is subject to CEQA and is completed separate from but simultaneously to the CEQA process.

2) The Porter-Cologne Water Quality Control Act of 1987

The Porter-Cologne Water Quality Control Act provides the authority and method for the State of California to implement its water management program. The act establishes waste discharge requirements for both point and non-point source discharges, affecting surface water and groundwater.

3) Safe Drinking Water and Toxic Enforcement Act of 1986

The Safe Drinking Water and Toxic Enforcement Act prohibits the discharge or release of any significant amount of chemical known to cause cancer or reproductive toxicity into the drinking water supply, by any person in the course of doing business.

4) The Groundwater Management Act of 1992 (AB 3030)

The Groundwater Management Act was designed to provide local public agencies with increased management authority over groundwater resources in addition to existing groundwater management capabilities. A key element of this law is the development and implementation of groundwater management plans.

c. LOCAL POLICIES AND REGULATIONS

At the time of building permit issuance, the County determines a project's water demand and the availability of water for allocation to the project. County staff then evaluates existing water supply to see if it is sufficient to meet the increase in demand, accounting for adjustment of the adopted growth rate. The County influences the use of water for residential and non-residential purposes by considering the availability of water in the approval of development projects and has measures in place to reduce long-term impacts to water supply. Long-term water supply is analyzed annually as part of the County Resource Management System (RMS).

The San Luis Obispo County Division of Environmental Health is responsible under the provisions of Section 4.019.9 of the California Health and Safety Code for the regulation of water systems that fall under the state criteria of Public Water Systems. In 1991, the State assumed responsibility for regulation of these systems. However, budget problems have prevented the state from taking over as the actual service provider, and the State has contracted with County Health for continuation of these services. Environmental Health will continue to regulate systems with two to four connections under provisions of the County Code. Environmental Health also permits individual domestic wells.

Currently, all public water supply wells in the County are required by the local office of the Department of Health Services to be disinfected. They are charged with implementing the Groundwater Disinfection Rule that became effective in 2002.

The County Public Health Department regulates small water systems to assure that safe drinking water is provided to the public. Small water systems are defined as having between 15 to 199 service connections and regularly serving 25 or more individuals daily at least 60 days out of the year. The department also regulates small water systems that are defined as having between 5 to 14 service connections and not regularly serving more than an average of 25 individuals daily for more than 60 days out of the year.

2. EXISTING CONDITIONS

a. REGIONAL CONDITIONS

The primary source of domestic water supply for the community of Cambria is provided by the CCSD. The CCSD operates three wells located on San Simeon Creek, and three wells within the Santa Rosa Creek basin. Within the Santa Rosa Basin, the CCSD operates one temporary well located on a site leased from the Coast Union Unified School District at its high school. The CCSD's permanent Santa Rosa well field is located further down gradient from the high school, and is shut down due to the threat of MtBE (methyl tertiary butyl ether) contamination. MtBE is used as a fuel additive in motor gasoline to fulfill the oxygenate requirements set by Congress in the 1990 Clean Air Act Amendments (CAAA) (Environmental Protection Agency (EPA), 2006). A portion of the Santa Rosa Creek basin was contaminated by leaking gasoline storage tanks at the Chevron gasoline station located on Main Street. The Chevron-Texaco Corporation has been removing contamination at and around the gasoline station since 2000.

Water supply in Cambria is sensitive to drought conditions because ground-water basins provide the only source of water during the dry season and the basin capacity is small relative to the demand for water (*County of San Luis Obispo Annual Resource Summary Report 2005*, 2006). In November 2001, the CCSD Board imposed a moratorium on the issuance of new water commitments (Intent to Serve Letters), and a water Code 350 emergency was declared. California Water Code Sections 350-358 authorize public and private water purveyors to declare a water shortage emergency and to adopt regulations and restrictions to conserve water. The governing body may adopt regulations and restrictions on water delivery and use to conserve water for the greatest public benefit, with particular regard to domestic use, sanitation, and fire protection. This includes the authority to require an agency to continue its moratorium on new connections adopted pursuant to Water Code Sections 350 et seq. (State of California, 2007).

The CCSD determined that it had inadequate water resources to serve future customers as well as an inadequate water distribution system for fire suppression. Water conservation measures implemented by the CCSD include drought surcharges, replacement of water meters with new meters equipped with leak detectors, implementation of state-sanctioned Demand Management Measures, providing of rebates for the customer replacement of regenerative water softeners, and offering hot water circulation pumps to customers. The water conservation program resulted in a 28 percent reduction in water consumption compared to 1989 water usage data (County of San Luis Obispo, 2005).

The *2006 Resource Summary* Report, adopted annually by the County Board of Supervisors, determined that the CCSD water supply is ranked at a Level of Service III (existing water demand equals or exceeds the dependable supply). Based on water production data documented in the CCSD's *Urban Water Management Plan*, water production from the CCSD's groundwater well sources totaled 772.6 annual acre-feet in 2004 and would total approximately 800 acre-feet in 2005 (CCSD, 2005). The CCSD serves primarily residential and commercial connections, although approximately 96 acre-feet per year is unaccounted for (refer to Table V-1 below). The CCSD estimates that this is due to the age and condition of existing water meters. The CCSD completed a program to replace older meters in 2006 to ensure accurate water data.

TABLE V-37

CCSD Water Demand - 2005

Land Use Type	Number of Connections	Annual Acre-feet (2005)
Residential	3,764	512
Commercial	222	171
CCSD Operational Use	N/a	19
Unaccounted	N/a	96
Total		798

Source: Urban Water Management Plan (CCSD, 2005)

Based on the water rights diversion permits issued by the State Water Resources Control Board (SWRCB), the CCSD is allowed to divert a maximum of 1,118 acre-feet during the wet season and 630 acre-feet during the dry season (total 1,748 acre-feet per year). In addition to the SWRCB permits, an existing California Coastal Commission (CCC) development permit (132-18) that was issued when the CCSD developed its San Simeon well field and later amended in 1981 (428-10) limits the total annual diversion from both basins to no more than 1,230 acre-feet per year. Each diversion permit also contains specific conditions that could further limit the 1,118 and 630 acre-feet totals from both the San Simeon and Santa Rosa groundwater basins.

According to the CCSD, there are currently 666 positions on the CCSD residential water wait list. The waiting list was established in 1986, and was closed to new applications on December 31, 1990, in cooperation with the County's 1990 Growth Management Ordinance, which limited all new countywide growth to 2.3 percent annually. Due to concerns about Cambria's water availability, the County reduced Cambria's growth limit to one percent in 2000.

In addition to water conservation measures currently implemented and mandated by the CCSD, the CCSD has developed a phased build-out reduction plan and has worked with the County of San Luis Obispo and California Coastal Commission during development of the *Cambria and San Simeon Acres Community Plans of the North Coast Area Plan* (2006) to reduce the type and density of development in the community of Cambria, and subsequently reduce future water demand. ~~The *Community Plan* was approved by the County Board of Supervisors and is currently under consideration by the California Coastal Commission.~~ Under the adopted plan, the plan estimates approximately 4,650 total residential units, which includes 3,772 existing residential connections and 666 currently outstanding residential service commitments (Cori Ryan, 2008). Additional groundwater demand reduction measures implemented or under consideration by the CCSD include: continuing the retrofit program; continued CCSD staff training with the California Urban Water Conservation Council (CUWCC); implementation of surveys to develop accurate water data; expanding the public information program; limiting water service to the density allowed by existing deed restrictions and service agreements; acquiring future development rights; and, a voter-approved measure that limits the extension of water service outside the current CCSD boundaries. Long-term water supply projects alternatives under consideration by the CCSD include developing a recycled water program, and construction of a desalination plant. These programs and measures are discussed in detail in the CCSD's *Urban Water Management Plan* (2005). This document is available separate from the EIR at the CCSD office or on the CCSD website http://www.cambriacsd.org/cm/Home.html.

b. LOCAL CONDITIONS

The historic water sources on the proposed community park area include wells and springs that were developed for domestic and agricultural irrigation water supply for the previously named Fiscalini Town Ranch (Fiscalini Ranch Preserve) and the defunct Rancho Pacifica.

The domestic water sources on the FRP include wells and springs that served residences within the FRP. A small domestic well is located on the East FRP. This well historically served a residence (no longer present) and was used for stock watering at the "Rodeo Grounds". A 12-inch diameter steel well located on the East FRP is capped and has never been used. This well was drilled in 1984 for Rancho Pacifica and was airlift tested at 200 gallons per minute (gpm) from 120 feet depth (suggestive of a pumping test yield of 100 gpm). The well was designed according to potable water well standards, with perforations below a depth of 50 feet, a 50-foot annular seal and a setback distance of more than 200 feet from the creek. An additional water source of note is a spring that supplied the old Fiscalini ranch complex located on the west side of the highway in Santa Rosa Creek Valley. This spring flows from the elevated terrace deposits up the hill from the ranch complex, and was sufficient to serve the house and some stock watering troughs.

Prior to the 1970's, fifty to sixty acres of Santa Rosa Creek Valley area within the FRP was farmed for truck crops. An old irrigation system, including underground distribution lines and at least two wells, still exists in this area. One of the wells is a pit type well that is similar to some of the old wells at the Hearst San Simeon Ranch, with steel casing placed in a concrete pit. The other well is near Highway 1 and Santa Rosa Creek and is equipped with a deep well turbine pump sufficient to produce a few hundred gallons per minute. The amount of water that was used during this period of irrigation has been estimated to be between 180 and 300 acre-feet per year. Prior to the CCSD's purchase of the FRP, the owners of Rancho Pacifica (currently known as the Fiscalini Ranch Preserve) claimed a pre-1914 appropriative water right, which has not been recognized by the SWRCB. In addition, a Statement of Diversion and Use was submitted to the SWRCB documenting the use of 180 to 200 acre-feet per year of lower sub-basin underflow. The SWRCB considers the water right to be a riparian claim, and the riparian claim is superior to any appropriative right issued by the SWRCB. A riparian right is defined as the right to use water as a result of the ownership of property that abuts a natural stream, and the riparian right grants the landowner the right to divert water for reasonable, beneficial use on the subject property. A riparian right cannot be gained or lost due to use or discontinued use, but is a part and parcel of the land (*California Water*, 1995). The quantity of the water right may be limited to avoid adverse effects to other riparians, and during water shortage periods, all riparians are required to decrease water use and share the available water. An appropriative right is a water right issued by the SWRCB, and can be used to divert water from a natural channel, subterranean stream, spring water, and lakes. Appropriative rights attach only to the water used, require due diligence in the construction of necessary facilities and use of the water, and can be lost due to abandonment or forfeit.

The SWRCB decision on the CCSD's Application 28138 (Decision/Order 1624) states that: "The District's position is that the District will recognize the prior rights of the riparians. In acknowledging that nearby wells could be affected by CCSD diversions, the District stated that any such damage would be mitigated by a substitute water supply" and "the Board concludes that any permit issued on Application 28158 should be conditioned to require the District to

provide an alternate water supply for valid riparian uses from nearby wells, including any future increases in reasonable use, at such times the CCSD diversions render these wells unusable".

3. THRESHOLDS OF SIGNIFICANCE

CEQA *Guidelines* Appendix G (Environmental Checklist) states that a significant water resource impact would occur if the project:

- Substantially depletes groundwater supplies or interferes substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);

- Requires or results in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental issues; or,

- Did not have sufficient water supplies available to serve the project from existing entitlements and resources.

For the purpose of the project specific evaluation in this EIR, significant water supply and infrastructure impacts would occur if the demands placed on the area from this development exceeded the available water supply, or if water extraction significantly affected stream flow within Santa Rosa Creek.

4. IMPACT ASSESSMENT AND METHODOLOGY

The impacts of any proposed development project are evaluated based on an assessment of project-related impacts on existing water supply, utilities, and service systems, as well as an assessment of site activities based on the intended land uses. The impacts of the proposed project were evaluated based on proposed water use requirements, which were derived from the acreage of uses and types of facilities proposed in the *Community Park Master Plan*. As previously discussed, a specific water source has not been identified by the CCSD; therefore, potential options for water supply are discussed and assessed. Potential impacts associated with each possible option are identified below. Prior to finalization of the *Community Park Master Plan*, a specific source for water supply would need to be identified.

5. PROJECT-WIDE IMPACTS AND MITIGATION MEASURES

The project water demand for the Community Park was estimated based on the proposed project land use areas, published water use values developed for turf and landscaping, and residential water records. Operation of the proposed community park would require irrigation water for the sports fields and landscaping, and domestic water for restroom facilities (refer to Table W-1). The turf and open lawn areas would be ~~10.23~~ 9.8 acres in size, and the landscape area would consist of approximately 0.5 acre within the ~~1.92~~ 1.55-acre parking area. The restroom facility would have a water fountain as well as the toilet and hand washing basin. Assuming the average

applied water for the turf area is 2.66 feet per year, there would be a water demand of ~~27.2~~ 26.1 acre-feet per year (afy). The landscape water use factor depends on the type of landscaping; assuming that drought tolerant landscaping would be utilized, the water demand would be less than one foot of applied water. The water demand for the landscaping would be 0.5 afy. The restroom facilities are estimated to require 2 afy based on heavy weekend use and intermittent weekday use. The total water demand for the community park is estimated at approximately ~~30~~ 28.6 afy including ~~28~~ 26.6 afy of non-potable water demand and 2 afy of potable water demand.

TABLE V-38
East FRP Community Park
Estimated Water Supply Demand

Amenity	Area (acres)	Water Duty Factor (feet per year)	Estimated Demand (afy)
Field turf and open lawn	~~10.23~~ 9.8	2.66	~~27.2~~ 26.1
Landscaping	0.5	1.0	0.5
Restrooms	n/a	n/a	2.0

a. WATER SUPPLY IMPACTS

CEQA states that a significant water resource impact would occur if the project: 1) substantially depletes groundwater supplies or interferes substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the groundwater table level; or, 2) sufficient water supplies from existing entitlements and resources are not available to serve the project .

As discussed in Section V.K.1.a, Existing Conditions, water supply in Cambria is sensitive to drought conditions because ground-water basins provide the only source of water during the dry season and the basin capacity is small relative to the demand for water. The water supply is further restricted by MtBE contamination, and the presence of special-status aquatic species documented in Santa Rosa Creek. Of interest to this project is the potential for seasonal storage to augment District-wide ground water basins. Coast Union School District's recently constructed school included underground storage basins to store seasonal runoff during winter rains. During drought conditions, the school discovered that the seasonal storage was depleted early in the summer months. Diversion and storage of winter runoff is a sound idea but may not totally provide the necessary water to meet the critical July to October dry period, and this concept, due to cost, has not been carried forward as a potential means to provide the necessary water for the project; although, the concept should be considered on a District-wide basis.

Based on the information obtained on historic on-site water uses and CCSD water sources, the proposed community park could be served in any of several ways, including the Fiscalini Town Ranch wells. These wells are on the property and produce from underflow; therefore, they are riparian. CCSD water system sources within the basin (Santa Rosa Wells 1 and 3 are within the lower Santa Rosa Creek Valley groundwater basin); recycled water; or, from future developed water from a desalination system. Each of these options, potential constraints, potential impacts, and recommended mitigation measures and additional studies are discussed in the sub-sections

below. Regardless of the option selected by the CCSD, the proposed project would affect available water supply.

As shown in Table W-2 above, implementation of the proposed project, specifically the community park, would require a total of approximately ~~30~~ 28.6 acre-feet of water per year. As discussed in the previous section, the CCSD currently pumps approximately 800 acre-feet of water per year to meet its existing residential, commercial, and institutional demands. The California Coastal Commission limits the total diversion quantity at 1,230 acre-feet of water per year. Use of an additional ~~30~~ 28.6-acre feet of water to serve the park would not exceed the 1,230 acre-feet limit based on the conditions associated with the permit. The CCSD Board is the entity responsible for determining how to utilize water allotted for CCSD operational uses, such as the community park.

Water demand can be reduced by using an evaporative control system as discussed in the Kennedy-Jenks report on wastewater reuse incorporated in the *Water Master Plan Update* (incorporated by reference). This involves a subsurface system that is reported to result in 100 percent irrigation efficiency. The end result would be that the irrigation water use would be reduced from 2.66 feet per year to 1.6 feet per year (26.6 afy to 15.6 afy total), for a reduction of 11 acre-feet per year and a resulting water demand of ~~17~~ 13.6 acre-feet per year for the sports fields (8.2 acres).

WS Impact 1 **Development of the proposed project would potentially result in a direct impact to long-term water supply resources during prolonged drought conditions, resulting in a potentially, significant, adverse impact.**

Implement WS/mm-4.

WS/mm-1 Upon application for land use and construction permits from the County for development of sports fields, construction of restrooms, and installation of landscaping, and prior to site disturbance, the CCSD or project developer shall prepare plans showing the use of indoor and outdoor water conservation strategies and techniques to help offset the proposed anticipated water demand. These measures include but are not limited to:

a. Landscape plans shall show the extent of permeable and impervious landscape materials, the use of low-water use plant materials selected from an approved County plant list, and a landscape irrigation plan indicating the method for achieving low volume, high efficiency irrigation (i.e., drip irrigation systems with automatic controllers and auto rain shut-off devices).
b. If natural turf is proposed, the CCSD shall submit plans showing the use of an evaporative control system (or similar method) for irrigation.
c. Incorporate use of pit toilets or composting toilets in restrooms, portable restrooms, or closure of restrooms during drought periods.
d. Incorporate the use of hand sanitizers to avoid the use of water for restroom sinks.

Residual Impact With implementation of mitigation, the total water demand for the community park would be reduced to approximately ~~17~~ 16 acre-feet of water per year. Physically, water is available to serve the project; however, based on the current water moratorium and outstanding service commitment list, implementation of the project and use of CCSD water sources would be considered *significant, adverse, and unavoidable, Class I,* until alternative water supply resources are established by the CCSD. Use of water for the community park may reduce aquifer levels such that the CCSD could not support existing or proposed uses.

1) On-Site Wells as Water Supply

The existing wells on the ranch could be used to provide water for irrigation and for non-potable water uses. These wells have not been used for some time; if the CCSD proposes to utilize these wells, additional evaluation is required to determine actual water production and quality from each well. Water from the use of these wells would be considered riparian use.

Little is known about the old pit well, and it has not been used for many years. When observed during this study by the EIR consultant, the pit was filled with water to above the adjacent stream level indicating that the casing below the pit may be filled with sediment. It is unlikely that this well is currently suitable for use.

The irrigation well near Highway 1 (27S/8E-27G1) is located immediately adjacent to the stream gage on Santa Rosa Creek. Little is known about the design of the well. Due to its location, pumping from this well is likely to have an effect on stream flow. If this well is to be considered as a source for irrigation water, a pumping test for stream flow interference would be required.

The domestic well on the East FRP, within the area proposed for sports fields, is equipped with a small pump but may not be operational. This well's design is not known; however, based on the well casing size, a submersible pump fitting into the casing would be limited to less than 100 gpm.

The Rancho Pacifica well (27S/8E-27H2) was designed for potable water use. This well was constructed with an annular seal (50 feet) and a perforated interval between 50 and 120 feet. It is located more than 150 feet from the adjacent streambank of Santa Rosa Creek. Water quality testing would be required to determine the suitability of the water for domestic uses. The deep well drilled by Rancho Pacifica may not have as direct an effect on stream flow as the other wells. The well's deep perforations may avoid production from the upper alluvial gravels underlying the creek bed. Additional testing of this well and the other wells on the FRP would be helpful in determining the impacts of pumping on stream flow.

The water extractions and uses are either overlying (in terms of groundwater rights) or riparian (in terms of surface water underflow) in that the produced water would be used on the same parcel within the same watershed as the underlying water-bearing gravels. Therefore, pumping these wells would not be a part of the CCSD's appropriation under the State Decision conditions and would not alter the amount of water that is allowed in that Decision. Based on this understanding of on-site water supply sources, the use of on-site wells could supply all the demands of the park, except during periods of critical stream flow for steelhead migration. In

addition, stream flow is required during summer months to provide habitat for young-of-the-year steelhead that reside in Santa Rosa Creek year-round. During periods of low flow in Santa Rosa Creek, when extractions could impact stream flow, an alternative source of water may be needed to meet the demands of the project.

When water is pumped from a riparian water source, extraction potentially affects downstream water users. A County well that is used for irrigation at Shamel Park may be affected by this pumpage, in addition to the adjacent lagoon.

Both the domestic well and the Rancho Pacifica well are located within the footprint of the proposed sports fields. If on-site wells are utilized, these wells would need to be abandoned and replaced with other wells in the alluvial valley, or the sports fields would need to be redesigned. In addition, based on the location and design of existing wells near the creek, use of these wells would likely have a direct impact on stream flow. At least one new well would need to be designed to minimize stream flow impacts, with a sanitary seal to a clay bed below the elevation of the creek bed (at least 20 feet depth and a distance from the creek of 150 feet). The well should be pump tested to document any impacts to stream flow from operating the well. The water may need to be treated to due to potential MtBE or iron/manganese concentrations if the well is to be used for potable water supply. If the well is only to be used for irrigation, treatment may not be required.

The *East-West Ranch Public Access & Management Plan* states that "[no] new water wells will be installed on the Ranch. Existing wells will remain for monitoring and grazing purposes". If the CCSD elects to pursue use of on-site wells for non-potable water supply, the CCSD would be required to amend the *East-West Ranch Public Access & Management Plan*, which would require approval by the CCSD General Manager, Friends of the Fiscalini Ranch Preserve, and State Coastal Conservancy Project Manager. Such an approval would require further study of the on-site wells to ensure that Santa Rosa Creek, down-stream habitats, and species dependent on such aquatic habitat are not adversely affected.

WS Impact 2 **The capacity and quality of on-site wells is uncertain, and this possible water source may not adequately serve the proposed project, resulting in a potentially significant impact.**

Implement WS/mm-1.

WS/mm-2 Prior to CCSD Board approval of the *Community Park Master Plan*, if onsite wells are proposed for the water source, the CCSD shall conduct additional tests on each proposed well to determine flow rates, capacity, and quality of water. Based on the results of water quality tests, methods of treatment shall be identified. Tests shall demonstrate compliance with federal, state, and local standards regarding use of wells for non-potable supply and turf irrigation. The Master Plan shall not be implemented unless sufficient water supply is determined to be available.

WS/mm-3 Prior to CCSD Board approval of the *Community Park Master Plan*, if onsite wells are proposed for the water source, the CCSD shall identify which wells

would be utilized (existing and/or proposed), consistent with the adopted Deed of Conservation Easement.

Residual Impact With implementation of mitigation, impacts associated with the use of on-site wells for water supply would be considered *less than significant with mitigation, Class II*.

WS Impact 3 Use of on-site wells may affect stream flow within Santa Rosa Creek, resulting in a potentially significant adverse impacts to the riparian corridor and special-status habitat types, vegetation, and wildlife.

Implement WS/mm-1.

WS/mm-4 Prior to CCSD Board approval of construction plans for implementation of the *Community Park Master Plan*, if onsite wells are proposed for the water source, the CCSD shall develop plans for a new well from riparian water sources on the East FRP. Proposed plans shall be reviewed and approved by the Friends of the Fiscalini Ranch Preserve and State Coastal Conservancy, and the *Management Plan* shall be amended prior to well development. The well shall be designed to avoid stream flow impacts, and plans shall include a sanitary seal to a clay bed below the elevation of the creek bed, at least 20 feet in depth and a minimum of 150 feet from the creek bank. The well shall be pump tested during extended drought conditions (e.g., 75 percent or less of average rainfall for a minimum period of two years) to document whether there would be any potential effects to stream flow from during operation of the well. Use of on-site wells shall be prohibited if tests demonstrate any affect on stream-flow.

Residual Impact With implementation of mitigation, impacts associated with the use of on-site wells for water supply would be considered *less than significant with mitigation, Class II*.

2) Alternative of Using District Water Supply Wells

The CCSD operates existing water wells within the lower San Simeon Creek aquifer and the upper and lower Santa Rosa Creek aquifer. The Santa Rosa Creek Valley wells are not currently fully utilized due to MtBE contamination and stream impacts. The two wells in the lower Santa Rosa Creek Valley (Santa Rosa Wells 1 and 3) that have historically provided water from this groundwater basin are currently not being operated. These wells each have the capacity to produce more than 300 gpm and have been used in the past for community water supply. Maximum water use from the two CCSD wells in the lower Santa Rosa Creek Valley groundwater basin occurred in 1976, when 518 acre-feet was produced, with 260 acre-feet produced from May 1 to October 31 of that year. In 1999, water production from Wells SR-1 and SR-3 ceased in response to concerns regarding MtBE contamination from the Chevron gasoline station on Main Street. Since August of 2001, the well behind the high school in the upper Santa Rosa Creek Valley has been the only well operating on the Santa Rosa aquifer and has produced up to 160 afy (2004). If MtBE were not an issue for Well SR-1 (well 27S/8E-26D1) and Well SR-3 (27S/8E-26C5), and provided compliance with the Endangered Species

Act could be assured, additional water supply could be provided from Santa Rosa Creek Valley groundwater basin.

Water use from the CCSD's lower Santa Rosa Creek Valley groundwater basin wells is regulated by the SWRQB under its 1989 Decision 1624 on Application 28138. This decision limits production from these wells to 260 acre-feet between May 1 and October 31 and to 518 acre-feet per year. It also requires that diversions cease if: 1) the water level in the replacement well for well 27S/8E--21R3 is less than 5 feet above mean sea level, 2) the electrical conductivity of water from that well exceeds 1,600 micromhos per centimeter, or 3) the chloride concentration exceeds 250 parts per million. The decision also limits production to no more than 2 acre-feet per day between November 1 and April 30 when stream flow at the Highway 1 stream gage is between 2.5 cubic feet per second (cfs) and 10 cfs and to no more than 1.4 cubic feet per day when the stream flow is less than 2.5 cfs at the same gage. In addition, the CCSD is required to provide water to the subject parcel as well as to the Junge and Bretz & Williams properties if pumpage extraction impacts their wells.

Some subsidence was documented during the years of 1976 and 1977, when CCSD groundwater production of groundwater was at the highest historic level. The SWRCB Decision/Order established conditions that the appropriative right must conform to in response to the potential subsidence impact. Based on the limited production demands for the community park, subsidence is not likely to occur.

Use of CCSD wells is constrained by the potential for residential and fire flow water shortages, contaminants, and special-status biological habitats. The CCSD is not currently issuing intent to serve letters for water supply to new development. Due to the limitations described above, and the current demand for water service from these existing wells, implementation of this option would result in a potentially significant, adverse impact.

WS Impact 4 **The existing demand for water supply currently exceeds the available groundwater supply; therefore, use of existing CCSD wells within the Santa Rosa Creek and San Simeon Creek valleys for the proposed project would result in a potentially significant, adverse, unavoidable impact.**

Implement WS/mm-1.

Residual Impact Implementation of mitigation would reduce the project's demand for water supply; however based on the existing deficiency of water resources to serve the outstanding connection list, impacts associated with the use of on-site wells for water supply would be considered *significant, adverse, and unavoidable, Class I.* Therefore, until the CCSD has developed alternative sources of water, using District water wells is not recommended as a water source.

3) Desalination Alternative Water Source

At this time, the desalinated water option is in the planning stage~~, and actual implementation is considered speculative~~. The proposed desalination plant, as considered in the CCSD *Water Master Plan* (October 2005), would provide 602 acre-feet of water to the CCSD, and could serve

the proposed project. Additional project review, technical studies, CEQA compliance, and jurisdictional agency and approvals will be required prior to proceeding with this water supply development. The *Water Master Plan* estimates that the timeframe for initiation of this project is four to five years. However, project timing is also subject to regulatory approvals. The CCSD has made efforts to assess geological conditions to develop a subterranean intake alternative for a desalination plant in the past, and is currently in the permitting process for related geotechnical investigation activities. Major issues regarding the technical feasibility of the intake and outfall facilities and related environmental impacts will be assessed following the collection of geotechnical data. Based on the permitting delays to date and the CCSD's water planning calling upon the use of recycled wastewater effluent for irrigation, this analysis does not consider seawater desalination for future park irrigation. At such time when the desalination plant is constructed and in operation, the availability of this water and impacts of using this source should be assessed at a project-specific level. Based on consultation with the CCSD, desalinated potable water has less salts, or total dissolved solids, than the existing groundwater supply. Future use of desalinated potable water would improve the quality of recycled water, which may be used to serve the park (refer to Section V.K.5.a(4) below (Bob Gresens, 2009).

4) Recycled Water as an Alternative Water Supply Source

The CCSD prepared a *Recycled Water Distribution System Master Plan* (Kennedy/Jenks Consultants, July 2004) in association with the Water Master Plan Update. This report included planning for non-potable recycled water as an irrigation water source at the proposed community park. The use of recycled water in Cambria is interrelated to the development of a new potable water supply, such as desalination (described above). This interrelationship plays a role in determining how best to avoid certain potential environmental concerns associated with the development of a recycled water supply. Specifically, two water development scenarios are possible: 1) recycled water development precedes the start up of a new potable water supply (desalination), and 2) a new potable water supply (desalination) precedes development of a recycled water system.

The *Recycled Water Distribution System Master Plan* included an analysis of irrigation demands both with and without the use of a proprietary Evaporative Control Systems (ECS) technology (currently known as Environmental Passive Integrated Chamber [EPIC] system). This technology was included in the 2004 report to further reduce irrigation demands beyond those commonly associated with conventional irrigation systems. During completion of the 2004 RWMP report, the Coast Unified School District (CUSD) was also finalizing its planned ECS installation at the new grammar school. The ECS technology reduces irrigation demand by providing a hydroponic root-zone watering system, while also allowing for water storage below irrigated areas. The 2004 RWMP report, estimated the irrigated community park areas at 13 acres, which resulted in an irrigation demand of 34.23 acre-feet per year (AFY) without applying an ECS system, and at 20.69 AFY through the use of an ECS system. From review of Table III-3 of the Ranch MEIR, the total irrigated area within the currently planned Community Park is now 9.8 acres (multi-use sports fields plus picnic areas and open lawn). By using 9.8 acres of irrigated area, and applying the same irrigation demand factors used in the 2004 RWMP report, the future recycled water demand at the Community Park is approximately 25.8 AFY without an ECS system, and 15.6 AFY through the use of an ECS/EPIC system.

Besides the ECS/EPIC technology, the 2004 RWMP report also considered a no-net increase concept, where no net increase in diversions from the area's aquifers would occur during the summer dry season through the use of seasonal recycled water storage. This concept was developed to avoid potential riparian habitat concerns within the creeks and their associated downstream lagoons. The no-net increase in diversion concept included the use of the CCSD's existing Van Gordon storage reservoir (approximately 9 acre-feet in volume), and the existing storage basins at the CCSD's wastewater treatment plant (approximately 1.5 acre-feet in volume) for seasonal recycled water storage. These existing storage basins result in a total potential recycled water storage volume of 10.5 acre-feet during the rainy season, which could be used during the summer dry season. The 10.5 acre-feet of seasonal recycled water storage, would be about 5.1 acre-feet short of meeting a no-net increase in diversion concept when combined with a park demand based on using an ECS/EPIC irrigation system. Similarly, this would be about 15.3 acre-feet short of meeting a no-net increase goal when using conventional irrigation methods at the proposed community park. Means for addressing these potential shortfalls are described in the following scenarios.

Scenario 1: Avoiding Potential Impacts with Recycled Water Development Occurring Prior to a New Potable Water Supply. In developing demands with the ECS/EPIC system, and contrary to the approach used with the CUSD system, the 2004 *Recycled Water Distribution System Master Plan* conservatively assumed no harvesting of storm water would occur, or otherwise be applied, from areas outside of the immediate area being irrigated (i.e., only rainfall falling directly onto the area being irrigated by the ECS/EPIC was assumed to contribute towards the demand and underlying storage. Because the planned community park plan also includes approximately one acre of area for parking, the parking area could conceivably be used to harvest and store rainfall for use by an ECS/EPIC irrigation system. Such an approach would apply modern parking lot design concepts that reduce storm water runoff impacts while also providing storage (e.g., Rainstore3 and similar parking lot storage systems). By applying such low-impact development design concepts, the proposed parking lot area could be used to capture and store storm water that could further augment the use of recycled water, and further support a no-net increase in aquifer diversion concept. In addition to the potential use of ECS/EPIC and the existing CCSD storage basins, the 2004 *Recycled Water Distribution System Master Plan* mentions the potential use of the storm water retention area behind the Rabobank (old Mid-State Bank property) for seasonal recycled water storage. If the existing storm water storage basin were modified for such use (e.g., control gates on the outlet pipes to allow storing recycled water immediately following the winter rainy season), it could further increase storage to support the no-net increase in diversion concept. With an area of approximately 3.5 acres, the storm water storage area behind the Rabobank would hold approximately 14 acre-feet of water when at a depth of four feet. With some creative seasonal storage, possibly in combination with ECS/EPIC irrigation technology, the irrigated park areas could be served with recycled water while not having any increase in diversion from the area's groundwater aquifers during the summer dry season. Without increasing the existing storage basins volume, phasing of the community park to build only those irrigated areas that would be in balance with available seasonal storage could also be considered. With this latter approach, a second development scenario may also be considered as a means to further offset any additional irrigation demands that may be beyond the balance point achieved from using the CCSD's existing storage basins.

Scenario 2: Avoiding Potential Impacts with Recycled Water Development Occurring After a New Potable Water Supply. Should the CCSD complete a new potable water supply (desalination) before the development of a recycled water system, there will be additional water being treated by the CCSD's wastewater treatment plant. According to an earlier study by the US Geological Survey (1998 USGS report 98-4061), approximately 75 to 80 percent of Cambria's water supply is used internally, with the remainder being used outdoors. The proportion of water being used indoors typically ends up being treated at the CCSD's wastewater treatment plant before being recharged into the groundwater at percolation ponds located off of San Simeon Creek Road. From the 2000 United States census, the typical residential occupancy for Cambria was 1.66 persons per household (when including both occupied and vacant homes) and 2.21 persons per household (when not including vacant homes). In addition, the baseline water use in Cambria is approximately 90 gallons per person per day (Kennedy/Jenks, 2004). Assuming existing baseline flows, a typical Cambria residence will generate approximately 112 to 199 gallons per day depending upon occupancy, of which 75 to 80 percent passes into the CCSD wastewater treatment plant (a source of recycled water). To date, the CCSD has 666 residential homes on its existing water wait list for future connections. By assuming a new water supply will allow connecting approximately 30 homes per year over a 22 year build-out period, and only 75 percent internal water use, approximately 4.7 to 5.0 acre feet of additional recycled water supply water will become available each year. The additional wastewater created by the new connections could in turn be used to make up for any seasonal storage shortfall needed in meeting a zero-net increase in diversion goal. Thus, the timing of the new community park's irrigation demands (or its phased development) could be linked to the development of a new CCSD water supply to further avoid potential riparian impacts by maintaining a zero-net increase in aquifer diversions.

Implementing the zero-net water use option would avoid impacts to streamflow and lagoon water levels.

The CCSD's plan for using treated wastewater effluent water as a source of non-potable recycled water within the community has been partially constructed. Some minor hauling of recycled water is being practiced. As noted in the CCSD *Water Master Plan* assessment of long-term water supply alternatives, various improvements to existing wastewater treatment facilities would be required to generate wastewater suitable for reuse. The treated effluent not currently used as recycled water is discharged into percolation basins, and eventually percolates through the soil into the San Simeon Creek ground water basin. To date, the CCSD is in the process of analyzing how much treated effluent can be diverted from the wastewater treatment plant percolation basins without resulting in significant impacts to downstream riparian habitat. The CCSD anticipates that potential habitat concerns may be further addressed by seasonal off-stream storage of recycled water and water conservation measures (Kennedy/Jenks, 2004). Additional facilities including pump stations, reservoirs, treatment, and pipelines would be required. The timeframe to design these improvements, complete technical studies and CEQA compliance, obtain jurisdictional permits, and construction is estimated to be approximately three to four years.

As noted above, ~~T~~the *Recycled Water Distribution System Master Plan* identifies the community park as a "potential recycled water user". ~~As documented in the Water Master Plan, Kennedy/Jenks determined that there would be sufficient non-potable treated wastewater to~~

~~supply not only this project's irrigation water demand (using higher water demand figures (34.23 afy) than are included herein (30 afy)) but also other projects as well. This source of water would be available year-round.~~ Because the effluent is currently more saline than the underlying groundwater (refer to Table WS-3), the Kennedy/Jenks report recommends low pressure reverse osmosis (nanofiltration) as part of the recycled water effluent treatment process to address potential salt management concerns. With such treatment, percolated recycled water would not increase the groundwater salinity beyond background concentrations. Low-pressure reverse osmosis treated recycled water would essentially be blended within the treatment process to match background groundwater concentrations. The CCSD is also pursuing desalinated seawater to augment its existing groundwater supplies, which will be much lower in TDS concentration than its existing groundwater supplies. Therefore, future wastewater passing through the treatment plant should also have a lower TDS concentration than shown on Table WS-1 for the currently treated wastewater effluent.

TABLE V-39
Contaminant Concentrations in Water Sources

Parameter (mg/l)	Well SR-1	Wastewater Effluent
Total Dissolved Solids	726	860
Sodium	61	180
Chloride	81	253

Sources: 1) CCSD, 2005
2) For related discussion see Task 3: Recycled Water Distribution System Master Plan

WS Impact 5 **Use of recycled water for sports field and landscaping irrigation purposes may result in unacceptable levels of sodium and chloride in the underlying groundwater basin, if treatment to reduce salinity is not implemented.**

Implement WS/mm-1.

WS/mm-5 Upon application for land use and construction permits from the County for development of the sports fields, if natural turf is proposed, the CCSD shall demonstrate how recycled water would be treated to ensure that it would not increase the groundwater salinity beyond background concentrations (e.g.; use of low pressure reverse osmosis as part of the recycled water effluent treatment process, onsite infrastructure plans demonstrating how treatment of irrigation water would occur to lower concentrations (250 parts per million) of sodium and chloride). The CCSD shall submit a proposed water monitoring and testing program to be conducted for the life of the project.

Residual Impact With implementation of mitigation, impacts associated with the use of treated wastewater in conjunction with on-site water wells for water supply would be considered *insignificant with mitigation, Class II*.

5) Other Sources of Water

The CCSD has considered, and rejected, other sources of water for water supply for the proposed community park project including: importation of water from Nacimiento Lake; importation of water from the State Water Project; bedrock groundwater sources outside of the CCSD service boundary; and, surface water and off-stream sources. Importation of water from Nacimiento Lake or the State Water Project through pipeline or water wheeling arrangements are considered costly, and the proposed project alone would not be justification for the efforts required to obtain and pay for these imported sources. Bedrock groundwater sources exist in the hills east of Cambria but they are some distance from the CCSD boundaries and have not been developed by the CCSD, may have other environmental impacts, and may not yield a reliable long-term supply. Surface water sources and off stream reservoirs have been found to have major environmental constraints and siting concerns. Springs present on the FRP do not have sufficient flow to meet the water demands of the project. Due to the infeasibility of these options, potential impacts are not assessed in this document.

6) Synthetic Turf

As an alternative to most of the water supply options, synthetic turf can substantially reduce the water demand. Synthetic turf is composed of polyethylene plastic fiber surface with an infill mix of sand and rubber. The infill mix provides the "cushion" for the athletes, and the rubber is non-latex. The typical life of a synthetic turf surface is estimated to be ten years. Without the need to irrigate the ball fields, water demand would be reduced to approximately 2.5 acre-feet. If additional water conservation measures are implemented, such as installing pit toilets instead of standard restroom facilities, water demand could be reduced to landscaping needs only.

Maintenance of synthetic turf fields is much less than for natural grass because there are less repairs required, striping of the field is permanent and irrigation is not required. Maintenance is quite different than for natural turf. The infill material within the synthetic turf needs to be redistributed each season and the compaction tested. Leaves and debris need to be removed and, when flooding occurs because it is in the flood plain, damage to the artificial turf could be significantly more than to natural turf. Flooding frequency is estimated to be once every ten years. The City of Vista, California, installed a new synthetic turf sports field for soccer and public use; they stipulate that "food, drinks, chewing gum, skateboards, sunflower seeds, dogs/animals, glass/sharp objects, metal cleats, bicycles, smoking, trash, alcohol, illegal substances, and vehicles are not allowed on the field."

Sports field injuries on natural and synthetic turf have been studied. The newer synthetic turf consists of infill material and a porous substrate that can drain water, which reduces some of the problems related to the hard surface of earlier produced synthetic turfs (Synthetic Turf Frequently Asked Questions, no date). One study found that on artificial turf, 44 percent less long-term injuries (over 22 day recovery) occurred and 34 percent less short-term injuries (one to two day recovery period) occurred compared to natural grass turf (American Journal of Sports Medicine, October 2004).

An additional constraint associated with this option is economics: one cost comparison for a typical high school field (390 by 215 feet) in western North Carolina found that the installation cost of natural grass was $33,500 while a similar field of synthetic turf cost $73,500 (Clarkson,

2006). The synthetic turf manufacturers claim that it can withstand much higher use rates without repair, thereby reducing the cost per hour of use.

Implementation of this option would reduce the water demand for the community park to approximately 2.5 afy, to support the restroom facilities and landscaping. Water supply could be provided by the viable options listed above. Impacts associated with those options are assessed in each appropriate sub-section. A possible offset of the 2.5 afy needed for the community park could be replacement of irrigated turf at the local high school with artificial turf, thereby reducing overall water demands on the aquifer and resulting in no net increase in water demand to the Santa Rosa Creek aquifer from the proposed community park. The high school irrigation system is on a well separate from the CCSD system; however, the high school well and the CCSD system utilize the same aquifer.

6. CUMULATIVE IMPACTS

The proposed project would be supplied by the CCSD. The current demand for water supply within the District boundaries exceeds the safe yield of groundwater, as determined by the State Water Resources Control Board and California Coastal Commission. In response to the MtBE contamination, and additional environmental constraints due to special-status habitat within Santa Rosa Creek and San Simeon Creek, the CCSD issued a moratorium and initiated investigation and study of alternative water sources. The recommended planning includes water conservation, recycled water for non-potable irrigation and seawater desalination to further augment potable supplies. Implementation of these approaches would provide additional water sources to serve the proposed project and cumulative development of the community of Cambria; however, the timeframe for these projects is uncertain. If natural turf is utilized, implementation of the proposed project would result in a potentially significant, adverse, and unavoidable cumulative impact.

WS Impact 6 **Due to the current demand for water resources, and deficient available groundwater supply to meet the demand, implementation of the proposed project including the construction and maintenance of natural turf areas would result in a potentially significant, adverse, unavoidable impact.**

Implement WS/mm-1 through WS/mm-5.

Residual Impact Implementation of mitigation would reduce the project's demand for water supply; however based on the existing deficiency of water resources, impacts associated with the use of on-site wells for water supply would be considered *significant, adverse, and unavoidable, Class I,* unless all water could be provided on-site.

LIST OF ABBREVIATED TERMS

Abbreviation	Term
CAAA	Clean Air Act Amendments
CCC	California Coastal Commission
CCR	California Code of Regulations
CCSD	Cambria Community Services District
CEQA	California Environmental Quality Act
CUWCC	California Urban Water Conservation Council
CWA	Clean Water Act
DHS	Department of Health Services
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
Gpm	gallons per minute
MtBE	methyl tertiary butyl ether
RMS	Resource Management System
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board