3. PROJECT DESCRIPTION

3.1 INTRODUCTION

The proposed project consists of developing reclaimed water uses to beneficially reuse tertiary treated wastewater from the City of Hollister Domestic Wastewater Treatment Plant (DWTP) (**Figure 3-1**). Five sites have been identified for potential use. These sites consist of the Hollister Municipal Airport, Brookhollow Ranch, Pacific Sod Farm, San Juan Oaks Golf Club, and the proposed Riverside Park (**Figure 3-2**). Under the proposed project, one or more of these sites comprising a total of 200-350 acres would be supplied with reclaimed water. As discussed further in **Section 6.4**, Alternatives, of this SEIR, two additional sites were considered but have been eliminated from further evaluation at this time due to anticipated adverse environmental consequences and the inability to meet project objectives.

The potential uses of reclaimed water evaluated in this SEIR consist of two types: 1) application to non-irrigated sites for the cultivation of turf and/or grass hay (Hollister Municipal Airport, Brookhollow Ranch, and the proposed Riverside Park site), and 2) application to currently irrigated areas to supplement groundwater and/or Central Valley Project (CVP) use (Pacific Sod Farm and San Juan Oaks Golf Course). The proposed project implements reclaimed water uses identified for Phase I of the City of Hollister's Long-Term Wastewater Management Plan (LTWMP) (discussed in **Section 3.2.1**). Water quality improvements resulting from implementation of Phase II of the LTWMP in 2014 would enable a broader range of beneficial uses, in particular, the irrigation of high value crops.

3.2 PLANNING CONTEXT

The proposed project is part of a series of on-going efforts to manage water resources in the region. These efforts are guided by four plans: the City of Hollister (City) ~~Long-Term Wastewater Management Plan~~ LTWMP, which presents the City's plan for wastewater treatment and effluent management; the Groundwater Management Plan for the San Benito County Part of the Gilroy-Hollister Groundwater Basin, which identifies a range of programs to manage water resources in the region; the City of Hollister Urban Area Water and Wastewater Master Plan, which will identify specific water and wastewater system improvements; and the San Benito County Regional Recycled Water Project, which addresses the long-term use of recycled water in San Benito County (County). The relationship of the proposed project to these plans is described below.

3.2.1 HOLLISTER LONG-TERM WASTEWATER MANAGEMENT PLAN

The City of Hollister's ~~Long-Term Wastewater Management Plan (~~LTWMP~~)~~ identifies the City's plans for treating and disposing of its domestic and industrial wastewater. The LTWMP identifies improvements to the City's DWTP including a membrane bioreactor (MBR) tertiary treatment facility, septage receiving station, and seasonal storage reservoir. Construction of these facilities was initiated in early 2007, and the MBR facility is expected to be operational in 2008. The LTWMP also identifies two phases of effluent disposal. The first interim phase consists of sprayfield development and a seasonal storage reservoir. The second phase consists of the implementation of the Regional Recycled Water Project and assumes that the City's municipal groundwater supply would be demineralized consistent with the draft Water and Wastewater Master Plan.

Insert Figure 3-1

Insert Figure 3-2

As identified in **Section 1.4**, the 2006 EIR addressed the construction of improvements to the DWTP, including a MBR facility, septage receiving station, and seasonal storage reservoir. The 2006 EIR also addressed effluent disposal, including the interim use of sprayfields, and the eventual use of recycled water for agricultural and urban irrigation. However, when the City approved the DWTP improvements, it deferred approval of sprayfield development until additional CEQA review was completed for potential reclamation sites. Accordingly, this SEIR expands the project-specific analysis to include additional reclamation sites. The proposed project consists of the development of reclaimed water projects for the first phase of effluent management as presented in the LTWMP, although it should be noted that several reclaimed water projects evaluated in this SEIR would be suitable for continued use during the second phase of the LTWMP. Please refer to **Section 3.3.1**, Project Timeline and Phasing, for further discussion of effluent management strategies presented in the LTWMP.

3.2.2 GROUNDWATER MANAGEMENT PLAN

The Groundwater Management Plan for the San Benito County Part of the Gilroy-Hollister Groundwater Basin (GWMP) is the principal plan for the management of groundwater in the region (SBCWD & WRASBC, 2004a). The GWMP was last updated in 2004 by the Water Resources Association of San Benito County (WRASBC). The WRASBC includes the City of Hollister, the City of San Juan Bautista, the San Benito County Water District (Water District), and the Sunnyslope County Water District. The GWMP identifies existing groundwater quantity and quality concerns and presents a range of alternative methods to address them. Groundwater issues addressed in the GWMP include the imbalance of groundwater levels, inadequate disposal of wastewater, and the accumulation of salts and nitrates in the basin. The GWMP identifies an extensive list of programs and projects to address these concerns. These range from conservation measures and education programs to the development of higher quality water sources and water import/export management. One of the projects identified in the GWMP consists of the recycling of municipal and industrial wastewater for direct reuse. The GWMP identified possible sources of recycled effluent as the City of Hollister DWTP, San Juan Bautista WWTP, and the Sunnyslope County Water District WWTP. The GWMP states that direct reuse would be beneficial as it would serve to conserve a valuable water supply and provide a disposal mechanism that would reduce the impact of effluent percolation on groundwater levels (SBCWD & WRASBC, 2004a). The proposed project would assist in the management of groundwater levels by allowing effluent percolation at the City of Hollister DWTP and IWTP to remain at or below existing levels (refer to the Section 3.3.3 below for details).

3.2.3 HOLLISTER URBAN AREA WATER AND WASTEWATER MASTER PLAN

In 2004, the City of Hollister, the San Benito County Water District, and San Benito County entered into a Memorandum of Understanding (MOU) for the development of the Hollister Urban Area Water and Wastewater Master Plan (Master Plan). The Master Plan, which is currently being drafted, is intended to provide a comprehensive plan and implementation program to meet the existing and future water resource needs of the Hollister Urban Area. The Master Plan will address water quality, water supply reliability, water and wastewater system improvements, and the regional balance of water resources. The Master Plan will analyze conceptual approaches to address water resource issues including: the increased use of imported surface water, utilization of local surface water supplies, demineralization of urban wells, and utilization of water from high groundwater basins.

While the Master Plan is not complete at this time, the MOU identifies principles on which the Master Plan will be based. These principles have guided the design of the proposed project, and the selection of potential reclamation sites. The following discussion identifies the principles relevant to specific issues and summarizes how the proposed project addresses these issues.

MOU Issue: Water Quality	**How the proposed project addresses this issue:**
2.1.2 The standards for the quality of the wastewater to be discharged (percolated, reused or discharged to surface water) shall be developed and agreed to by the City Hollister, San Benito County and the San Benito County Water District and shall include appropriate consideration of regional issues. These standards shall be the most stringent of local standards, state or federal regulations and shall include careful consideration of anticipated future regulation. 2.2.3 Recycled wastewater shall have a target TDS of 500 mg/L and shall not exceed 700 mg/L TDS. To meet this objective, the wastewater treatment plant(s) shall include provision(s) for demineralization. This objective shall be met first by rigorous source control including, but not limited to, the elimination of on-site regenerating water softeners and second by demineralization. Blending recycled water with San Felipe water is ONLY an interim measure for achieving recycled wastewater quality objectives. The recycled wastewater objective shall be met by two measures identified above and the objectives of Section 2.2.2 as soon as practical and not later than by 2015.	The proposed project would provide for the beneficial reuse of treated effluent that meets the California Department of Health Services' recycled water standards (Title 22) for disinfected tertiary recycled water. Operation of the reclaimed water projects would be subject to Waste Discharge Requirements (WDRs) set by the Regional Water Quality Control Board (RWQCB). The proposed project may utilize the blending of treated wastewater with San Felipe (CVP) water or groundwater to meet irrigation water quality objectives. However, this would only be used as an interim measure until target salinity levels are met through source control and demineralization; thereby allowing unblended use.

MOU Issue: Treatment and Disposal	**How the proposed project addresses this issue:**
2.1.3 The selection of wastewater treatment processes and disposal methods shall include careful consideration of future wastewater disposal requirements and provision for maximum reuse of wastewater. The selection of wastewater disposal options and sites shall be agreed to by the City of Hollister, San Benito County and San Benito County Water District provided that disposal shall not: a. Impact drinking water supplies or negatively impact adjacent land uses or property values unless fully mitigated to the satisfaction to the City of Hollister,	The selection of potential reclaimed water project sites was made by the City of Hollister based on the evaluation of potential sites by the Master Plan Governance Committee. The Governance Committee was formed as a condition of the MOU, and is comprised of two elected officials from City, County and Water District. The selection of specific reclaimed water project sites by the City will be informed by the analysis presented in this SEIR.

San Benito County and San Benito County Water District, or b. Be inconsistent with applicable General Plans or Policies including preservation of agricultural land, or c. Be or result in conditions inconsistent with the quantity, quality, or groundwater levels objectives of groundwater management plans for the area of disposal.		

MOU Issue: Impact Assessment		**How the proposed project addresses this issue:**
2.1.7 The impacts of water supply and treatment and wastewater treatment and disposal including reclamation on the culture, economy and environment of the City of Hollister and San Benito County shall be carefully evaluated and negative impacts minimized. The impacts considered shall include, but not be limited to, impacts on air quality, surface water and groundwater quality and quantity, rates and charges including connection/impact fees, property values, industry and business, preservation of agriculture and agricultural land, and aesthetics.		This SEIR analyzes the potential environmental impacts from the construction and operation of the proposed development of reclaimed water projects. Categories of impacts addressed include air quality, water quality, agriculture, biological resources, cultural resources, hazards and hazardous materials, geology and soils, and land use and planning impacts to residents located in proximity to proposed facilities. Impacts from changes in rates and fees are not addressed in this SEIR, as these changes are not expected to result in changes to the natural or human environment. Such fiscal impacts are addressed by the capital planning and rate analyses conducted by the City of Hollister.

MOU Issue: Water and Wastewater Management		**How the proposed project addresses this issue:**
2.1.5 Surface water and groundwater supplies shall be managed to sustain the area water supply and manage groundwater levels to avoid negative impacts on overlying land uses. 2.1.8 Water and wastewater management to protect and sustain the local surface and groundwater supplies of San Benito County. 2.2.8 Marketing and distribution of recycled water for agricultural purposes and for any purpose outside the city limits of the City of Hollister shall be the responsibility of the San Benito County Water District.		Potential reclaimed water project sites have been selected to avoid or minimize negative impacts to water resources and land uses. Only sites that would benefit from reclaimed water use have been identified. The City and the Water District are working cooperatively to market and distribute reclaimed and recycled water in the region. For projects outside of the city limits, the Water District is the primary agency responsible for marketing and distributing recycled water. This SEIR provides analysis regarding potential water resource impacts and land use conflicts. This analysis will be used for final site selection.

Master Plan Governance Committee

As a condition of the MOU, the Master Plan Governance Committee was formed and is comprised of two members each from the City, County, and Water District. To identify and review potential reclaimed water irrigation sites, the Governance Committee formed a site-selection subcommittee to establish criteria to guide the selection of potential sites evaluated in this SEIR. A detailed discussion of the site selection process is included in the Alternatives Chapter, **Section 6.4.1**.

3.2.4 SAN BENITO COUNTY REGIONAL RECYCLED WATER PROJECT

The San Benito County Regional Recycled Water Project (RWP) is an ongoing planning effort undertaken by the Water District in association with the WRASBC. In 2005, a draft *Feasibility Study Report* was completed for the RWP that outlined the potential agricultural use of recycled water in the San Juan Valley (RMC, 2005). The RWP was analyzed on a programmatic level in the 2006 EIR, including the development of Phase I reclaimed water use at the San Juan Oaks Golf Course and Pacific Sod Farm; however, the RWP as described in the *Feasibility Study Report* has not been approved by the Water District or the WRASBC. The Water District is in the process of reviewing plans for the RWP to address the long-term distribution of recycled water. The proposed project would provide for the beneficial reuse of treated wastewater prior to the City meeting its salinity reduction goals for the DWTP effluent (by 2015). When the goals are met, recycled water would be distributed in accordance with an approved RWP for agricultural and urban irrigation.

3.3 DESCRIPTION OF THE PROPOSED PROJECT

3.3.1 PROJECT TIMELINE AND PHASING

As described in detail below, the operational timeline for the proposed project will extend over two phases of the LTWMP, distinguished by the quality, quantity, and use of DWTP treated effluent. The development of reclaimed water projects at one or more of the sites evaluated in this SEIR would be initiated in Phase I. During Phase II, use of lower value reclaimed water projects evaluated in this SEIR may be gradually eliminated to allow for higher value re-use of reclaimed water under the Recycled Water Project. To provide a contextual overview of the proposed project, **Table 3-1** illustrates the breakdown of LTWMP components and phasing, although it should be noted the proposed project evaluated in this SEIR is limited to the development of reclaimed water projects.

3.3.2 PROJECT LOCATION AND SETTING

Reclaimed water projects would be developed in proximity to the DWTP, which is located in the western portion of the City of Hollister (**Figure 3-1**). **Figure 3-2** shows the location of the DWTP and the five potential locations that have been identified. The Hollister Municipal Airport is located north of Hollister on San Felipe Road approximately three miles from the DWTP. Brookhollow Ranch is located west of State Route 156 approximately one mile northwest of the DWTP. The Pacific Sod Farm is located south of the San Benito River approximately ¼ mile west of the DWTP. The San Juan Oaks Golf Club is located off Union Road approximately two miles south of the DWTP. The proposed Riverside Park site is located off the San Juan-Hollister Road near the San Benito River and the IWTP, approximately one mile southeast of the DWTP.

3.3.3 PROJECT OBJECTIVES

The proposed project has been planned in order to meet the objectives outlined below.

- Provide additional wastewater disposal capacity by spring of 2009;
- Provide sufficient wastewater disposal capacity to serve planned population growth through 2015 as identified in the City of Hollister 2005 General Plan;

TABLE 3-1. LTWMP EFFLUENT DISPOSAL COMPONENTS AND PHASING

Phase I **2008 – 2013**	**Phase II** **2014 - 2023**
Salinity Management	
Implementation of the salinity education program, industrial salt control in municipal wastewater, and water softener ordinance.	Demineralization to occur not later than the year 2015.
Percolation at the DWTP and IWTP	
Continued percolation at the DWTP, not to exceed existing rate	Reduced DWTP percolation.
Continued percolation at the IWTP, not to exceed existing rate	Gradual elimination of percolation at the IWTP
Reclaimed/Recycled Water Use	
Reclaimed water irrigation projects would be developed to provide disposal capacity at the DWTP and beneficial re-use where possible.	Recycled Water Project - Phase I projects suitable for long-term beneficial re-use would continue; however, low-value irrigation uses developed during Phase I would be phased out and recycled water use would transition to high value food crops.
Source: AES, 2007.	

- Implement recycling of treated DWTP effluent as identified in the GWMP in order to manage water resources in a manner consistent with regional goals;
- Manage the amount of water entering the groundwater basin by maintaining or reducing the amount of effluent disposed of by percolation at the DWTP and IWTP, in order to protect land uses in the region from high groundwater levels;
- Treat wastewater as a resource rather than a waste product by recycling effluent consistent with the California Department of Health Services (DHS) criteria for recycled water (Title 22, Division 4, Chapter 3 of the California Administrative Code);
- Assist in the attainment of regional groundwater management goals in a manner that is feasible;
- Comply with the City's obligations under the ACL Order No. R3-2002-0097 and CDO No. R-3-2002-0105, which require the City to fully implement the Long Term Wastewater Management Program (LTWMP);
- Make efficient use of existing public facilities in order to reduce infrastructure costs;
- Make efficient use of infrastructure investments to facilitate long-term goals for water management in the region;

- Implement project elements that avoid or minimize adverse impacts to biological resources, including riparian habitats, habitats supporting sensitive plant or animal species, and to archaeological/historic sites;
- Implement project elements that avoid or minimize adverse impacts to existing and planned land uses including agriculture;
- Identify projects capable of being permitted and implemented in a timely fashion; and
- Identify project elements that are financially feasible.

3.3.4 PROJECT CONDITIONS

Reclaimed/Recycled Water Quality

The new MBR and chlorine disinfection system at the DWTP will produce a high-quality effluent appropriate for reuse. Effluent from MBR and chlorine disinfection systems meets DHS recycled water regulations, which define treatment processes, water quality criteria, and treatment reliability requirements for the public use of recycled water. These regulations are contained in Title 22, Division 4, Chapter 3 of the California Administrative Code and are more commonly referred to as Title 22. The MBR and chlorine disinfection facility would produce effluent meeting the category of disinfected tertiary recycled water. Allowable uses for disinfected tertiary recycled water include, but are not limited to, irrigation of the edible portion of food crops, schoolyards, golf courses and residential landscaping. Effluent from the MBR and chlorine disinfection system would not have an odor or color that would readily distinguish it from other water sources. However, the Phase I treated effluent is projected to have an average salinity level of approximately 1,200 mg/L of TDS through 2014 (**Table 3-2**). The elevated salinity level of the effluent is primarily a result of naturally occurring mineral content of the City's municipal groundwater supply.

TABLE 3-2. EXPECTED RECLAIMED/RECYCLED WATER QUALITY

Constituent	Phase I Reclaimed Water 2008 - 2014	Phase II Recycled Water By 2015
Total Dissolved Solids	1,204 mg/L	500 mg/L [a]
Chloride	287 mg/L	121 mg/L [b]
Sulfate	252 mg/L	85 mg/L [b]
Sodium	253 mg/L	121 mg/L [b]
Boron	0.7 mg/L	0.7 mg/L [c]
Nitrate	< 5 mg/L	< 5 mg/L
Coliform [d]	< 2	< 2

Notes: All concentrations are expressed as averages with the exception of nitrate and coliform.
a Target level of 500 mg/L and a not to exceed level of 700 mg/L by 2015
b Based on achievable reduction efficiencies of reverse osmosis process for a target TDS level of 500 mg/L.
c Based on average boron levels reported for the Hollister water supply (City of Hollister, 2005).
d Most probable number of colonies; assumes disinfection with chlorine.
Source: RMC, 2006. AES, 2007

As discussed in **Section 3.2.3**, the City has committed to reducing the salinity level of the DWTP treated effluent through goals established in the MOU between the Water District and San Benito County for the development of the ~~Hollister Urban Area Water and Wastewater Master Plan (~~Master Plan~~)~~. Accordingly,

for the purposes of this SEIR it is assumed that by 2015, Phase II treated effluent would have an average salinity level of 500 mg/L and would not exceed 700 mg/L TDS, as specified in Section 2.3.2 of the MOU. For the purposes of this SEIR, before these salinity targets are met, treated effluent in Phase I is referred to as reclaimed water. The term, recycled water, is used in this SEIR to distinguish treated effluent that would meet salinity targets in Phase II. It should be noted that both Phase I reclaimed and Phase II recycled water referred to in this SEIR would meet Title 22 standards for tertiary treated wastewater.

Water Balance

Currently, all treated domestic wastewater is disposed through percolation at the DWTP and IWTP. With the development of the proposed project, existing percolation volumes at the DWTP and IWTP would be maintained. The disposal capacity provided by reclamation would allow for growth projected to occur in the service area in accordance with the Hollister General Plan and the Long-Term Wastewater Management Plan. From the period of 2008 to 2014, reclamation would provide most of the required additional disposal capacity. Around 2015, when the treated effluent has met the target salinity levels, a broader range of beneficial uses would be feasible. In particular, the irrigation of high value crops would be feasible, and would be capable of utilizing all of the recycled water produced at the DWTP. As a result of these conditions, 2013, just prior to the City meeting its water quality objectives would represent peak demand for reclamation and accordingly is used as the design condition for the proposed project. In 2013, approximately 0.72 MGD or 803 AFY would be reclaimed. Beginning in 2014 it is expected that the Regional Recycled Water Project would be implemented and that by 2023 approximately 85% of DWTP effluent would be recycled. **Table 3-3** illustrates the manner in which treated domestic effluent or reclaimed/recycled water would be managed. Please see **Appendix D** for detailed annual water balances.

TABLE 3-3. EXISTING AND PROPOSED WATER BALANCE

Year	Annual Domestic Wastewater Flows	Annual Percolation at DWTP	Annual Percolation at IWTP [a]	Combined Percolation	Reclamation/ Recycled Water Use
Existing [b]					
MGD	2.72	1.97	0.75 [c]	2.72	0
AFY	3,047	2,207	840 [c]	3,047	0
2008					
MGD	2.97	1.97	0.75	2.72	0.27
AFY	3,326	2,207	840	3,047	302
2013					
MGD	3.41	1.97	0.75	2.72	0.72
AFY	3,819	2,207	840	3,047	803
2014					
MGD	3.51	1.97	0.75	2.72	0.82
AFY	3,931	2,207	840	3,047	914
2023					
MGD	4.5	0.75	0	0.75	3.81
AFY	5,040	840	0	840	4,272

Notes: a Domestic flows diverted to IWTP for treatment and disposal; does not include industrial flows.
b Estimated from 2004 flows minus domestic diversions to the IWTP.
c Annual average based on 2003-2006 data.
Proposed flows assume wastewater flows from the Sunnyslope County Water District.
Total disposal volumes shown exceed annual wastewater flows for 2014 and 2023; this is due to the increase in stored volume due to precipitation in the reservoirs. Please see Appendix D for detailed water balances.
Source: HydroScience, 2007. AES, 2007

The following conditions are the basis of the water balance:

Existing Condition The existing domestic wastewater flows are defined by the recorded annual wastewater flows for 2004. Domestic flows peaked in 2004 at average flow of 2.72 MGD. By 2006, flows decreased approximately 4% to 2.60 MGD; however, 2004 flows are used as a conservative estimate to account for current hook-ups and the fluctuation of flows over time.

DWTP Percolation The existing DWTP percolation has been calculated by subtracting the average annual volume of domestic wastewater diverted to the IWTP for treatment and disposal from the 2004 wastewater flow. Under project conditions, percolation at the DWTP would not exceed 1.97 MGD / 2,207 AFY.

IWTP Percolation The existing IWTP percolation of 0.75 MGD / 840 AFY has been calculated as the annual average from 2003 to 2006. The annual volume of wastewater diverted has ranged from 662 AFY in 2005 to 951 AFY in 2004. Under project conditions, percolation of DWTP effluent at the IWTP would not exceed the existing annual average of 0.75 MGD / 840 AFY.

Reclamation/ Recycled Water Use All treated wastewater flows in excess of 2.72 MGD would be disposed by reclamation until recycled water uses are developed. As shown in **Table 3-3**, in the first year of operation (2008) it is estimated that 0.27 MGD / 302 AFY of treated effluent would need to be reclaimed. It should be noted that this factor assumes contributing flows from the Sunnyslope County Wastewater District (SSCWD) of 0.25 MGD in 2008. The City and the SSCWD currently do not have an agreement for the treatment of SSCWD wastewater flows at the DWTP. SSCWD flows have been included as a conservative assumption in the event that an agreement is reached and necessary infrastructure for connection is installed. Regardless of whether flows from the SSCWD are received in 2008, seasonal storage capacity at the DWTP is expected to be sufficient to store excess treated wastewater until 2009. As a result, it is expected that reclamation would not need to be utilized until 2009.

Reclamation is expected to peak in 2013 at 0.72 MGD / 803 AFY. As the salinity levels in the treated effluent are met (by 2015), the recycled water would be suitable to irrigate a wide variety of crops. This would allow for the expansion of recycled water use and a significant reduction in percolation at the DWTP and IWTP. Accordingly, by 2023 it is assumed

that percolation at the DWTP would be reduced to 840 AFY and the percolation of treated domestic wastewater at the IWTP would be eliminated.

3.3.5 PROJECT COMPONENTS

Reclamation

The amount of treated effluent disposed by reclamation is expected to peak at approximately 0.72 MGD / 803 AFY in 2013. The area required to provide sufficient disposal capacity would depend on the type of crop irrigated, site characteristics, and the operational constraints of specific sites. One or more sites would be developed to provide the necessary disposal capacity. Five potential reclamation sites are fully evaluated in this SEIR. A comparison of the alternative site characteristics is provided in **Table 3-4**, and a detailed discussion of each site is included below. At this time, a preferred reclamation site option has not been identified. The process for identification of potential reclaimed water sites and the selection of a preferred site option is discussed in detail in **Section 6.0** of this SEIR, Alternatives.

TABLE 3-4. RECLAMATION SITE COMPARISON

Site Characteristic	Hollister Municipal Airport		Brookhollow Ranch	Riverside Park	Pacific Sod Farm	San Juan Oaks Golf Club[1]
	Airport Only	Expanded				
Total Acreage	260	541	2,800 ±	50	275	1,993
Irrigable Acreage	247	382	272	45	258	120
Crop Type	Turf Grass	Grass Hay/ Turf	Grass Hay	Turf	Turf	Turf
Proposed Land Use	Public Facility	Public Facility	Agriculture	Public Park Irrigation	Agriculture	Golf Course
Annual Disposal Capacity[1] (AF)	803	1,306	1,109	157	908	78 - 357
Maximum Flow Accommodated[2] (MGD)	0.85	1.38	0.99	0.14	0.81	0.08 – 0.37
Percentage of Design (2013) Disposal Requirement	100%	163%	138%	20%	113%	10% - 44%

Notes: 1 Disposal capacity varies based on blending ratio that will be utilized on site.
2 Calculated for 95% rainfall year.
Source: CH2M Hill, 2007; RMC, 2006; AES, 2007.

Alternative Locations

Site 1 - Hollister Municipal Airport

Site 1 is located approximately three miles northeast of the DWTP site and consists of the Hollister Municipal Airport property, and approximately 148 acres of adjacent private property currently farmed for vegetable and grain crops that could be leased by the City for reclaimed water irrigation. Within the airport property, approximately 81 acres of infields and areas near the runways are assumed to be available for turf irrigation and the 179 acres in the outfield areas of the airport are available for irrigation of grass hay. It is estimated that setbacks from runways, roads, and drainages would reduce the irrigated areas by 5%, so that the total irrigated areas would be 77 acres of turf and 170 acres of grass hay. With the adjacent property identified, the total area available for irrigation is estimated to be 382 acres.

The preliminary layout plan for proposed reclaimed water irrigation system at Site 1 is provided in **Figure 3-3**. Consultation with the Federal Aviation Administration (FAA) is currently ongoing to ensure that the proposed irrigation system and associated facilities meet their criteria for safety and security. The use of treated effluent to irrigate these lands would be incorporated into the update of the airport's existing Airport Layout Plan, which would be submitted to the FAA for review and approval (Gere, 2007).

Turf irrigation would be accomplished through the installation of a permanent sprinkler system. The existing drainage system at the airport, including ditches located between runways and taxiways, would be maintained. Turf irrigation would occur during the nighttime and be controlled by an automatic timing system. The airport site would require approximately 8 to 12 turnouts and distribution laterals from the reclaimed water main.

Storage

Reclaimed water use at the airport would require the development of a circular storage tank that would be constructed of concrete or steel material. The storage tank height would be 23 feet above existing grade and would allow for two feet of free board. The tank would have a capacity of approximately 800,000 gallons and would occupy an approximately 10,000 square foot footprint. A pump station would be situated on a square concrete slab (30 ft. by 30 ft.) adjacent to the tank and would include three 40 hp pumps and associated appurtenances. Each of the pumps would have a pumping capacity of 650 gallons per minute. This pump station would booster irrigation supply for use at the airport site. The tank and pump station would be located on the airport property in the southeastern corner, approximately 550 feet from the edge of the nearest runway.

Disposal Capacity

Reclaimed water irrigation on the airport property alone would provide a capacity of approximately 803 AFY for reclaimed water irrigation, accommodating a maximum water flow of 0.85 MGD. With development of the adjacent property, the airport site would be able to dispose of 1,306 AFY and accommodate a maximum reclaimed water flow of 1.38 MGD. This airport site could provide between 100% to 163% of the capacity needs identified for reclamation. These estimates are based on a high rainfall year, which is defined as 95th percentile annual rainfall.

Insert Figure 3-3

Site 2 - Brookhollow Ranch

Brookhollow Ranch is located in the Flint Hills west of State Route 156 approximately one mile northwest of the DWTP. Most of the approximately 2,800 acre site consists of hillsides used for dry land grazing. Two specific sub-areas have been identified for sprayfield development as shown in **Figure 3-4**. The northern site (sub-area A) consists of approximately 166 acres located adjacent to Brookhollow Road. The southern site (sub-area B) consists of approximately 106 acres located in the southeastern portion of the ranch. Together the sites contain 272 acres of land with minimal slopes. These sites are located in currently non-irrigated areas and would be used to grow grass hay for either cutting and bailing or grazing. These standards specifically allow for irrigation of fodder crops. It is expected that the area would be irrigated with a wheel line system.

Storage

Reclaimed water use at Site 2 may require that development of a 1,500,000 gallon storage tank. This tank would be constructed at a high elevation point to provide sufficient pressure for the proposed reclaimed water irrigation system. The preliminary location for this storage tank is shown in **Figure 3-4**.

Disposal Capacity

It is estimated that under high rainfall conditions the sprayfields developed at Brookhollow Ranch would be able to dispose of 937 AFY and accommodate a maximum reclaimed water flow of 0.99 MGD. This site could provide approximately 117% of the capacity needs identified for reclamation.

Site 3 - Riverside Park

This potential reclamation site is comprised of about 50 acres located off the San Juan-Hollister Road near the San Benito River that could be developed as an irrigated public park. The City of Hollister Industrial Wastewater Treatment Plant (IWTP) is located across the river to the north. Existing land uses on the site consist of rural residential housing and non-irrigated pastureland. Presently, the topography of the site is unbalanced, and consists of an elevated terrace to the south, with a low lying area adjacent to the San Benito River levee in the northern area of the site. Development of the site could include the importation of approximately 200,00 cubic yards of soil excavated during construction of the seasonal storage basin at the DWTP. This fill would be placed in low-lying areas to balance the earthwork on the site. It is assumed that approximately 90% of the site, or 45 acres, could be irrigated to support turf for sport fields, picnic areas, and other use areas. This area would be irrigated through the installation of a permanent sprinkler system.

The preliminary layout plan for proposed reclaimed water irrigation system at Site 3 is provided in **Figure 3-5**. For purposes of this SEIR, it is assumed that the site would be graded and planted with turf. It should be noted that the eventual use of the Site 3 as a City public park would require additional planning efforts and environmental review beyond the scope of this EIR.

Disposal Capacity

Under high rainfall conditions, Riverside Park would be able to dispose of 133 AFY and accommodate a maximum reclaimed water flow of 0.14 MGD. This site could provide approximately 17% of the capacity needs identified for reclamation.

Insert Figure 3-4

Insert Figure 3-5

Site 4 - Pacific Sod Farm

The Pacific Sod Farm is a commercial operation located in the San Juan Valley on Flint Road near the San Benito River. The sod farm comprises approximately 275 acres, of which approximately 94% or 258 acres is irrigated. Currently all the irrigation needs of the sod farm are met with groundwater, which has salinity levels similar to that of the initial salinity levels of the reclaimed water. To ensure that the sod farm's water quality needs are met, blending with CVP water may be necessary. Blending would occur in an existing irrigation management pond located at the sod farm. A CVP supply pipeline would be extended approximately 1.1 miles from the existing CVP network south of State Route 156. Proposed facilities and reclaimed water use areas at Site 4 are shown in **Figure 3-6**.

The sod farm operator utilizes a hand-move sprinkler irrigation system and it is assumed that this irrigation method would continue to be used. Substantial changes to the operation of the sod farm are not expected.

Disposal Capacity

Under high rainfall conditions, Pacific Sod Farm would be able to dispose of 770 AFY and accommodate a maximum reclaimed water flow of 0.81 MGD. This site could provide approximately 96% of the capacity needs identified for reclamation.

Site 5 - San Juan Oaks Golf Club

The San Juan Oaks Golf Club is an existing 18-hole golf course located approximately 2.5 miles southwest of the DWTP site. The existing 18-hole course occupies approximately 238-acres; however, San Juan Oaks owns approximately 1,993 acres and has approved expansion plans to include a second 18-hole golf course, a 9-hole executive course, 200 residential units, and a 200-room resort hotel. As a condition of approval, San Juan Oaks is required to limit groundwater use to 15% of its landscaping irrigation demand. The intent of this limitation was to limit pumping and possible depletion of groundwater supplies in the area. To comply with this limitation, San Juan Oaks blends groundwater with CVP water in an onsite pond to supply the irrigation system. The current irrigated acreage is approximately 120 acres with an approximate water usage of 357 AFY. With the expansion of facilities, the water demand is expected to increase to 790 AFY.

Water reclamation at the San Juan Oaks Golf Club would consist of supplementing the existing sources of irrigation supply for the existing golf course. No additional areas would be irrigated. Treated effluent would be delivered via pipeline to San Juan Oaks's existing and planned blending ponds. Proposed facilities and reclaimed water use areas at Site 4 are shown in **Figure 3-7**. Blending of reclaimed water with their existing CVP water and groundwater may be used to achieve an applied TDS concentration of 500 mg/L. This would result in a blend of 22% reclaimed water and 78% CVP water/groundwater. However, it is possible that reclaimed water with a TDS level of up to 1,200 mg/L may be applied on the golf course property. Both treated effluent and CVP water would be used to fill the ponds and provide a blended supply of irrigation water to meet golf course needs. The amount of treated effluent used at the site would offset the equivalent CVP water use. Facilities required to serve San Juan Oaks would consist of pipelines and a turnout (valved pipe connection).

Insert Figure 3-6

. Insert Figure 3-7

Disposal Capacity

Depending on the blend ratios, existing land uses at the San Juan Oaks Golf Club would be able to dispose of between 79 - 357 AFY and accommodate a maximum reclaimed water flow of between 0.08 to 0.37 MGD. This site could provide between 10% to 44% of the capacity needs identified for reclamation.

Irrigation Methods

Water reclamation would consist of networks of pipelines and sprinklers similar to existing agricultural and urban irrigation practices used in the region. Operation of the reclamation sites would comply with the California Department of Health Services' (DHS) Title 22 recycled water regulations and the California Regional Water Quality Control Board's (RWQCB) Waste Discharge Requirements (WDRs) and Reclamation Permit conditions. The application rate of reclaimed water at sites would be determined by the irrigation demand of specific crops (e.g. grasses hay, turf) to limit runoff. Irrigation would not occur during rain events or during the winter months. The irrigation would use either a permanent, hand-move or wheel line sprinkler system. For additional details on irrigation methods please refer to Section 2.4 of the Phase I Effluent Management Project Preliminary Design TM included in **Appendix E**.

Permanent Sprinkler Irrigation

A permanent, buried sprinkler system is commonly used in locations where there is frequent access and use, such as golf courses or athletic fields, or places where access is limited for operation of a hand-move irrigation system. These systems are typically installed in zones so that only a portion of the overall area is being irrigated at any one time. Changing between zones is typically done with an automated control system and valves.

Hand Move Sprinkler Irrigation

A hand-move sprinkler system consists of a main supply line that can be either buried or placed on the surface of the ground. Hydrants are located along the main line at regular intervals. Lateral hand-move lines extend perpendicular from a hydrant on the main supply line to the field edges. The hand move pieces of pipe are disconnected, moved to a new hydrant set and then reconnected.

Wheel Line Sprinkler Irrigation

As with hand-move sprinkler irrigation a wheel line uses a main supply line with hydrants. The wheel line acts very similar to a hand move system in irrigation method; however is different in movement. Once the wheel line is finished irrigating a section of field, a motor is started on the wheel line and the entire structure is rolled to the next set.

Reclaimed Water Pipelines

The development of pipelines would be required to deliver reclaimed water to the selected site(s). Most of the pipelines would be located beneath or along existing right-of-ways. The proposed pipeline routes are shown in **Figure 3-2** and described below.

Site 1 - Hollister Municipal Airport Route

The proposed pipeline routed to the airport would be approximately 7.2 miles long. From the DWTP the pipeline is routed north along State Route 156 for approximately half a mile. The pipeline immediately crosses the San Benito River, where an existing pipe located in the bridge would be utilized for crossing the river. The pipeline continues very briefly east along Buena Vista Road, then very briefly north along a dirt road, then

east along Wright Road for approximately 1.4 miles, then north for approximately 1.1 miles along the road that begins as Briggs Drive and continues for about a third of the distance. The road becomes a dirt road for another third of the distance, and becomes Aerostar Way for the final third. The pipeline continues briefly west along Aerostar Way around the perimeter of the airport, then briefly northwest continuing along the perimeter, then approximately 1.1 miles northwest further along the perimeter, and finally ending approximately 0.8 miles northeast along State Route 156.

Site 2- Brookhollow Ranch Route

Three potential pipeline routes have been identified to serve Brookhollow Ranch. Option A is a southern route that would extend west from State Route 156 along Buena Vista Road. At the end of Buena Vista Road, the pipeline would extend approximately 0.8 miles west before turning north and run approximately 0.8 miles to the southern Brookhollow Ranch sprayfield area. From the southern sprayfield area, the pipeline would follow an unpaved road approximately 1.5 miles to the northern sprayfield area. Option B is a northern route that would either run 2 miles along State Route 156 to the intersection with the Union Pacific railroad line, or run along Wright Road alignment (as described under the airport route), and turn north along a proposed easement to connect with the railroad line. With either option, the pipeline would continue approximately 1.5 - 2 miles along the railroad before turning southwest along Hudner Lane and continue along Hudner Lane and Brookhollow Road approximately 2 miles to the northern sprayfield area. From the northern area the pipeline would extend to the southern area as described for the southern route. Option C would extend north along Wright Road to the intersection with Union Pacific railroad line, where it would follow the same general alignment as Option B.

Site 3 - Riverside Park Route

A pipeline to the IWTP is being constructed to deliver effluent treated at the DWTP to the IWTP for percolation. Under the proposed project a lateral would be extended from the IWTP pipeline and would be approximately 100 feet long.

Site 4 - Sod Farm Route

Two potential pipelines routes have been identified for the transport of reclaimed water to the Pacific Sod Farm. Option A to the Pacific Sod Farm would be approximately 1.4 miles long. From the DWTP, the Option A pipeline is routed south along State Route 156, then briefly west along a dirt road, then very briefly south along Mitchell Road, then west along Freitas Road. The pipeline turns north along Central Ave to end at the sod farm. Option B to the Pacific Sod Farm would be approximately 0.5 miles long. From the DWTP, the Option B pipeline would extend directly west through privately owned agricultural lands currently used as a walnut orchard to connect to the Pacific Sod Farm. This pipeline option would require the acquisition of easements.

Site 5 - San Juan Oaks Golf Club Route

The proposed pipeline routed to the San Juan Oaks Golf Club would be approximately 3 miles long. From the DWTP the pipeline is routed south along State Route 156 for just over one mile, then south along Union Road for just under half a mile, then briefly south along a dirt road that turns into San Juan Oaks Drive. San Juan Oaks Drive continues south for approximately 1.4 miles to the San Juan Oaks Golf Course where the pipeline ends. Immediately prior to entering the San Juan Oaks Golf Course property, the pipeline route (along Nothing Road) crosses an

unnamed, intermittent drainage.

Pump Station

A distribution pump station located at the DWTP would supply reclaimed water to the selected site(s). Improvements to the DWTP currently underway include an effluent pump station with three vertical turbine pumps (two duty and one standby) that would provide approximately 1,750 GPM each for a combined capacity of 3,500 GPM. The portion of the chlorine contact basin structure where these pumps will be installed will have room for one additional pump. This effluent pump station would be utilized to deliver flows to the Hollister Municipal Airport, Brookhollow Ranch, San Juan Oaks Golf Club or the Pacific Sod Farm. In addition, two 1,400 GPM pumps (one duty and one standby) are provided to deliver reclaimed water to the IWTP for percolation. If the Riverside Park site is selected, these pumps would provide reclaimed water to the site via the IWTP pipeline.

An additional booster pump station may be required at the Hollister Municipal Airport to provide adequate pressure for the irrigation system. This booster station is described under the Hollister Municipal Airport above.

Seasonal Storage

Operation of the reclamation project would be regulated by WDRs set by the RWQCB. The RWQCB will generally not allow the application of reclaimed water for irrigation when saturated soil conditions exist that would result in potential co-mingling of treated effluent with stormwater runoff. Therefore, due to local meteorological conditions, plant physiology, and RWQCB permitting constraints, the disposal of effluent by irrigation can be assumed to be limited to the warmer and drier months. Generally, these months run from about April until about October. Because the City would only be able to use reclamation during the dry months, seasonal storage is required to store effluent during the wet season. Improvements to the DWTP currently underway include the development of a seasonal storage reservoir between 800 and 1,500 acre-feet in capacity. The environmental impacts of this reservoir were evaluated in the 2006 EIR. Accordingly, this SEIR does not analyze the construction of the reservoir currently under design at the DWTP or the construction of additional seasonal storage reservoirs. Please refer to **Appendix D** for detailed annual water balances.

A storage tank may be required at the Hollister Municipal Airport to provide reserve operational capacity for the irrigation system. This storage tank is described under the Hollister Municipal Airport above, and is analyzed within this SEIR.

3.4 IMPLEMENTATION

3.4.1 CONSTRUCTION

Construction Methods

Development of the reclamation project, including pipelines, irrigation systems and storage facilities would require general construction activities including grading, excavating, and trenching. Three potential methods would be utilized to construct pipelines: trenching, jack and bore tunneling, or directional drilling. The majority of proposed pipelines would be installed underground within existing road right-of-ways. Lane closures along roadways could be necessary in some instances. Interruptions to existing utilities,

including sewer lines or other pipelines, would be minimized to the extent feasible. Approximate groundwater levels would be determined prior to construction activities to determine the extent of dewatering required for installation of pipelines. Discharges from construction activities and trench dewatering would comply with the RWQCB requirements.

Trenching

In areas where sensitive biological resources are not present, pipelines would be installed using open cut trenching. Open cut trenching requires clearing of the construction site, saw cutting pavement where applicable, excavation of the trench, pipeline installation, backfill operations, and re-paving where necessary. In undeveloped areas or low use sections of roadways, a wide construction corridor of up to 50 feet could be utilized where possible to maximize construction efficiency. In these areas, it is estimated that construction of pipelines would occur at a rate of up to approximately 300 to 400 feet per day. In areas encumbered by existing improvements, high volume roadways, or environmentally sensitive areas, a narrower construction corridor of approximately 25 feet could be utilized. In these areas, the construction rate is estimated to average up to approximately 100 to 200 feet of pipeline per day.

Where feasible, native material generated during trenching would be retained for backfill. Excavated materials that cannot be utilized for backfill would be hauled to appropriate disposal facilities, and backfill material would be imported. Depending on site conditions or terms of the encroachment permit (for construction in roadways), trenches would be secured at the end of each workday by either covering with steel plates, backfill material, or installing barricades to restrict access. If the area were paved prior to construction, a trench patch or covering would be used.

Jack and Bore Tunneling

Jack and bore tunneling would be utilized for installing underground pipelines for short distances without disturbing the ground surface. This method would be utilized in areas where trenching methods are not feasible due to limited space, the presence of sensitive biological resources such as stream crossings and riparian habitat, geotechnical conditions, or other environmental constraints. It is a multi stage process consisting of constructing a temporary horizontal jacking platform in an entrance pit at a desired elevation. The pipeline casing is then jacked by manual control along the alignment with simultaneous excavation of the soil being accomplished by a rotating cutting head. The ground up soil is transported back to the entrance pit by a rotating auger inside the pipeline casing. Each jack and bore under-crossing would require a pit approximately 30 feet by 10 feet that typically would be excavated to a depth of approximately 10 feet. Pipeline installation by this method would require approximately one to two weeks per waterway or sensitive area crossing.

Directional Drilling

Directional drilling is another method used for installation of pipelines without disturbing the ground surface. It is conducted similar to jack-and-bore, with the exception that it is remotely controlled guided pipe jacking process. Pipeline installation by this method would require approximately one to two weeks per waterway or sensitive area crossing.

Surface Restoration

Surface restoration techniques would be employed in the final phase of construction. In most cases this would involve repaving of roadways. If required by the encroachment permit, an asphalt overlay, slurry seal, or chip seal may be utilized. Final restoration would be done after segments of pipeline construction are completed. Roadways would be restored to pre-project conditions and unpaved areas would be restored by planting grasses and native vegetation. A permanent right-of-way, approximately 20 feet wide, would be required for pipelines in areas outside of roadways.

Staging Areas

Staging areas would be utilized in areas near construction sites to store reclaimed water pipelines, construction equipment, and other necessary items. Short-term temporary easements for staging areas would be negotiated by contractors prior to construction. Staging areas would typically be located every three miles along the pipeline alignment. These areas shall be located in previously disturbed areas where sensitive biological resources are not present. The maximum size of staging areas would be approximately one acre.

Construction Schedule

Construction of reclaimed water pipelines and reclamation components is anticipated to begin in late 2007 and last for approximately 9 months.

3.4.2 OPERATION

The City of Hollister would function as the operator of selected reclamation projects on City-owned sites, including the Hollister Municipal Airport, and the proposed Riverside Park. If selected, the City may contract irrigation and crop management of these sites to a private party. If reclamation projects are selected for development on privately owned sites, including the San Juan Oaks Golf Course, Pacific Sod Farm, and Brookhollow Ranch, these would be operated by private landowners under the management and oversight of the City in accordance with regulatory requirements described below.

Operation of water reclamation project at the selected sites would be subject to WDRs issued by the RWQCB. Additionally, a Reclamation Permit would be required for the discharge of reclaimed water at each of the selected sites. Individual Reclamation Permits may be obtained for the selected site(s), or the City may obtain a Master Reclamation Permit, which would eliminate the need for private users of reclaimed water to acquire individual WDRs and permits.

Waste Discharge Requirements

The owner or operator of any facility or activity that discharges, or proposes to discharge waste that may affect groundwater quality, must first obtain WDRs from the RWQCB. When adopting WDRs, the RWQCB sets effluent limitations as a condition of approval. The limitations ensure that the discharge would not harm beneficial uses, such as public water supplies or agricultural and industrial water use. In addition to effluent limitations, WDRs include receiving water limitations, monitoring and reporting requirements, and operational requirements. The DWTP is permitted by the RWQCB through WDRs. The City is currently in the process of amending its WDRs to reflect the operation of the MBR facility

currently under construction and changes in the proposed means of disposal, including the proposed reclamation project.

The Central Coast RWQCB has not adopted a specific order outlining the requirements for discharge of treated wastewater over land. However, based on recent WDRs for similar reclaimed water projects, the following operational procedures would likely be required:

- A fully operational tail water return system. At a minimum, a tail water sump area will likely be required even if tail water is not anticipated.
- No discharge to surface waters through the irrigation system, including irrigation runoff commingling with storm water runoff during wet weather.
- No discharge to any non-permitted or off-site areas.
- A cap on the amount of irrigation based on hydraulic or nutrient loadings and water balance estimates.
- Soil moisture and chemistry monitoring.
- Plant tissue monitoring.
- Groundwater monitoring to ensure no degradation relative to native (i.e. up gradient) groundwater conditions.
- Strict operations and maintenance of any tempering basins that may require lining, monitoring dissolved oxygen content, etc.
- Design of irrigation system based on 95- or 100-year precipitation return frequency.
- Draining of any tempering or storage ponds annually.
- Limitations on a variety of effluent constituents of concern for mass loadings.
- Supplemental irrigation water.
- Intensive crop management.
- Drying/Resting periods between irrigations.
- "Dry" periods before and after storms, especially in the winter.
- Avoidance of standing water.
- Appropriate setbacks from roads, drain ways and surface water bodies.
- A series of reporting requirements and intensive record keeping.

Master Reclamation Permit

Depending on the site or sites selected, the City may obtain a Master Reclamation Permit (MRP) from the Central Coast RWQCB. The MRP would include, at a minimum, five provisions regulating production, use, and monitoring of reclaimed water generated at the City's DWTP:

1. WDRs establishing the quantity and quality requirements of reclaimed water generated by the City for distribution.
2. Requirements that the City's DWTP comply with the uniform statewide reclamation criteria established by the California Department of Health services (DHS).
3. Requirements for the City to establish and enforce regulations for uses of reclaimed water generated by the City to ensure users comply with the uniform statewide reclamation criteria. These regulations would include restrictions and regulation on use as well as regulations governing the design and construction of reclaimed water use facilities.

4. Requirement that the City submit quarterly reports summarizing reclaimed water use, including the total amount of reclaimed water supplied, the total number of reclaimed water use sites and the location of these sites, including the names of the underlying hydrologic areas.
5. Requirement that the City perform periodic facility inspections of reclaimed water users contracted with the City to ensure compliance with uniform statewide reclamation criteria and the requirements of the master reclamation permit.

Under State Law, landowners would be required to ensure that reclaimed water would be utilized within the limits of the City's MRP permit. This would include adhering to WDRs obtained from the RWQCB as specified within the requirements of the MRP.

Soil Salinity Management

The best way to manage soil and irrigation water salinity is through providing an adequate leaching fraction in excess of the leaching requirement of crops and/or by growing more salt tolerant crops. The leaching fraction is the amount of irrigation that is allowed to percolate below the rootzone carrying salt ions below the reach of plants. To maintain acceptable soil salinity levels, it is estimated that a leaching fraction of 18 percent would be necessary for common grasses (e.g. Ryegrass). During operation, soil salinity levels would be monitored and the irrigation durations may be adjusted to result in a greater actual leaching fraction. Alternatively, more salt tolerant grass species such as Jose Tall Wheat Grass may be planted to allow for elevated soil salinity levels. It should be noted that winter precipitation, even in dry years, results in annual leaching of salts from the soil profile, and would be taken into account in managing sites.

Management of excess sodium in the irrigation water supply would be accomplished through the introduction of calcium and/or magnesium by irrigation water additions or soil amendments. If necessary for particular sites, the addition of appropriate levels of calcium and/or magnesium would provide a suitable ratio of sodium to calcium and magnesium that would result in avoidance of soil dispersion caused by elevated sodium levels. Gypsum addition is common in the farming practices of the Hollister area. Gypsum supplies the calcium necessary to maintain a healthy sodium adsorption ration (SAR). Addition of gypsum would likely be required on a frequent basis when using reclaimed water due to the somewhat elevated sodium levels relative to existing groundwater concentrations. The frequency of application would depend highly on soil type, irrigation management, the crop being grown and the results of regular soil sampling efforts.

3.5 ENVIRONMENTAL COMMITMENTS

The City would implement applicable mitigation measures identified for the development of sprayfields and recycled water pipelines in the 2006 EIR during construction and operation of the proposed project. Relevant environmental commitments identified as mitigation measures in the 2006 EIR are presented in **Appendix C**. These measures are incorporated into the project description.

3.6 REGULATORY REQUIREMENTS, PERMITS AND APPROVALS

As part of implementation of the proposed project, the following permits and approvals may be necessary:

City of Hollister

- Certification of this SEIR under the requirements of CEQA.
- Adoption of a Mitigation Monitoring and Reporting Plan that incorporates the mitigation measures identified in this document.

Regional Water Quality Control Board

- General Construction Stormwater NPDES Permit.
- Waste Discharge Requirements for effluent disposal.
- Reclamation Permit or Master Reclamation Permit.

California Department of Health Services

- Review of engineering report for reclaimed water use.

California Department of Transportation (Caltrans)

- Encroachment Permit for pipeline construction under or within the right-of-way of State Route 156.
- Review of water reclamation at the Hollister Municipal Airport.

San Benito County

- Encroachment Permit for pipeline construction along County roads.
- Grading Permits for construction of pipelines and reclamation sites.

U.S. Army Corps of Engineers

- Section 404 Permit under the Federal Clean Water Act (potential impacts to waters of the U.S. and wetlands along pipeline routes).

California Department of Fish and Game

- Streambed Alteration Agreement for pipelines that cross small drainages.

U.S. Fish and Wildlife Services

- Consultation under Section 7 of the Federal Endangered Species Act if a Section 404 permit is required.

Federal Aviation Administration (FAA)

- Review and approval of Wildlife Habitat Plan for the Hollister Municipal Airport.
- FAA Approval of Airport Layout Plan update.