Volume I – Report

CITY OF MERCED WASTEWATER TREATMENT PLANT EXPANSION PROJECT

Draft Environmental Impact Report

SCH No. 2005101135

Prepared by:
City of Merced

August 2006

August 14, 2006

Subject: Availability of Draft Environmental Impact Report Addressing the Proposed City of Merced Wastewater Treatment Expansion Project (SCH#2005101135)

To Whom It May Concern:

The City of Merced (City) has completed preparing a Draft Environmental Impact Report (DEIR) addressing the potential environmental consequences of expanding its existing wastewater treatment plant (WWTP) to meet future discharge requirements and demand in the City service area. The WWTP is located at 10260 Gove Road. As lead agency, in accordance with the California Environmental Quality Act (CEQA), the City is distributing the DEIR to interested public and regulatory authorities for review and comment.

As part of the proposed project, the City intends to submit an application for a loan from the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF). The SWRCB will be responsible for reviewing the loan application and issuing funds consistent with its policy for implementing the SRF program.

The DEIR consists of two volumes: Volume I contains the text of the DEIR, while Volume II contains a series of technical appendices providing supporting information for the findings presented in Volume I. The City is distributing Volumes I and II to all reviewing agencies and will make Volumes I and II available for review to interested persons at the City offices and local public libraries. All documents referenced in the DEIR are either available for review at the City offices or can be made available upon request.

Based on the analyses presented in the DEIR, the proposed project could result in the loss of 20 acres of land currently in agricultural production; short-term increase in air pollutant emissions (NOx) associated with construction equipment and vehicles during Project construction. These emission would contribute in a cumulative manner with pollutants from other sources to degrade regional air quality; and remove an obstacle to planned urban growth, as described in the City Specific Urban Development Plan and associated EIR, and the UC-Merced Campus Long-range Development Plan and associated EIR. These impacts are considered to be significant adverse effects on the enviroment.

The City will receive public/agency comments on the DEIR for a 51-day period beginning August 14, 2006 and ending on October 4, 2006. Written comments should be submitted to the following address:

Dave Tucker, City Engineer
City of Merced
Department of Planning and Community Development
678 West 18th Street
Merced, CA 95340

Comments may also be submitted via electronic mail to tuckerd@cityofmerced.org or sent via facsimile to 209-725-8775.

In addition, the City Planning Commission will hold a public meeting on October 4, 2006, at 7:00 p.m. in the City Council Chambers at the above-referenced location to receive oral and written comments from the public and interested regulatory agencies regarding the DEIR. The public is invited to attend this meeting and submit comments on the DEIR. The City is currently intending to hold a public meeting on December 4, 2006 before the City of Merced City Council and will consider certification of the Final EIR.

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Introduction

The City of Merced (City) is proposing to install improvements to its wastewater treatment plant (WWTP) that would achieve effluent quality capable of meeting current and anticipated future water quality standards and expand the WWTP capacity to 20 million gallons per day (mgd) for serving the planned demand within the City's Specific Urban Development Plan (SUDP) area and the adjacent University of California Merced (UC-Merced) Campus Long-Range Development Plan (LRDP) area. The City has prepared this draft environmental impact report (EIR) to provide the public and responsible and trustee agencies with information about the potential environmental effects of the proposed WWTP Expansion Project (Project). This Draft EIR was prepared in compliance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 *et seq.*) of 1970 (as amended), and the CEQA Guidelines (California Code of Regulations, Title 14).

The City intends to partially fund the construction of the Project with a loan from the State Water Resources Control Board (SWRCB) State Revolving Fund loan program. This program is partially funded by U.S. Environmental Protection Agency (USEPA), and therefore, the program is subject to federal environmental regulations. The USEPA and SWRCB have established specific requirements for complying with federal environmental regulations. These "CEQA-Plus" requirements expand the typical content requirements of an EIR to include additional information regarding federally designated endangered species, cultural resource protection, and conformity with applicable air quality management plans (SWRCB, 2004).

The City is the lead agency for completing the EIR and meeting the requirements of CEQA. The City will use this EIR to (a) support the decision to initiate construction and operation of the Project; (b) support the City's application(s) for various permits to construct the Project; and (c) support the issuance of federal, state, and local permits that are needed by the City to implement the Project.

The agencies with regulatory authority over portions of the Project that will rely on this document include, but are not limited to, the SWRCB, Central Valley Regional Water Quality Control Board, California Department of Fish and Game, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, State Historic Preservation Office, Merced County, and local agencies including the San Joaquin Unified Air Pollution Control District.

CEQA Process

Several steps are required to prepare and complete an EIR in accordance with CEQA. These steps include preparing a Notice of Preparation (NOP) enabling the public and interested agencies to submit comments on the content, format, and issues to be addressed in the document. This step is followed by preparation and distribution of a Draft EIR allowing the public and interested agencies to submit comments on the analyses conducted. The final step in preparing an EIR is the preparation and release of a Final EIR. The lead agency will use this document, along with the mitigation monitoring program report, statement of findings, and other materials composing the administrative record, to certify completion of the EIR.

The City encourages public participation in the planning and environmental review processes. Opportunities for the public to present comments and concerns regarding the Project and the adequacy of this Draft EIR will be provided during a public review and comment period. A public meeting to hear comments on this Draft EIR will be held at 7:00 p.m. on October 4, 2006 before the City Planning Commission at the City of Merced City Council Chambers, located at 678 West 18th Street, Merced, California.

At any time during the 51-day public review and comment period, August 14, 2006, through October 4, 2006, the public may submit its written comments on this Draft EIR to:

Dave Tucker, City Engineer
Department of Planning and Community Development
678 West 18th Street
Merced, CA 95340

Comments may also be submitted via electronic mail to tuckerd@cityofmerced.org or sent via facsimile to 209-725-8775.

Opportunities for Public Comment

The NOP was circulated for a 30-day public review on October 28, 2005, in accordance with Section 15082 of the CEQA Guidelines. The NOP included a preliminary analysis of the potential environmental effects of the Project.

As a result of this effort, the City received seven letters of comment, addressing 14 environmental issues. A copy of the Initial Study and the NOP can be found in Appendix A. Written comments received on the NOP were considered in the preparation of this DEIR and are included in Appendix B. Concerns, comments, and issues raised during this review period are summarized in Table ES-1. Those comments that are within the purview of CEQA are addressed within the Draft EIR.

Description of Proposed Project

The following information summarizes the key features of the Project. A detailed Project description is presented in Chapter 2 of this Draft EIR.

TABLE ES-1
SUMMARY OF COMMENTS RECEIVED
DURING THE NOTICE OF PREPARATION PUBLIC REVIEW PERIOD

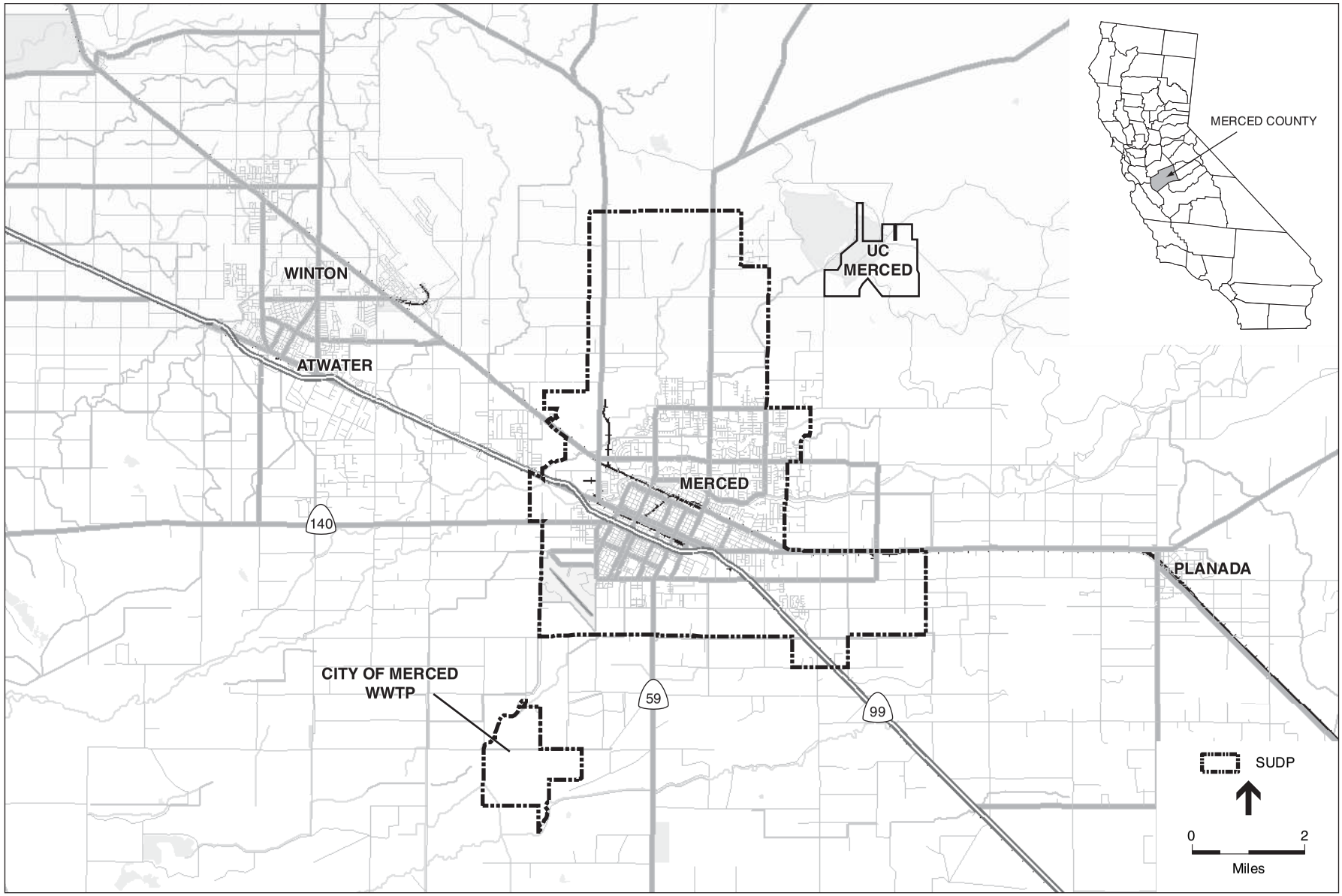
Commenter	Topic	Comments
Office of Planning and Research	Receipt of NOP filing	• Designates SCH# 2005101135
Central Valley Regional Water Quality Control Board	Water Quality	• Both onsite and offsite biosolids disposal options should be discussed. • An anti-degradation analysis for all discharges to surface and groundwater should be prepared. • An evaluation of effect on the salt total maximum daily load developed for the lower San Joaquin River should be discussed. • A General Permit for Discharge of Stormwater Associated with Construction Activity will be required. • If the Project will result in the dredge and/or fill of navigable waters or wetlands, the Central Valley Regional Water Quality Control Board will be responsible for issuing a Section 401 certificate.
California Department of Transportation	General Comment	• Encourages consultation with Native American Heritage Commission
Merced Irrigation District	Hydrology and Water Systems	• The district owns and operates Paden Drain and Hartley Lateral and other underground utilities in vicinity of the Merced Wastewater Treatment Plant. • An agreement between the City of Merced and the district is needed for relocation of the district's facilities.
Merced County Farm Bureau	Agricultural Lands	• EIR should consider mitigation for conversion of farmlands. • Analyze impact of planned growth on resource use and environment. • Assess effect of biosolids management on local water quality.
Community Systems, Associates, Inc. (Weaver Union School District)	Public Services (Schools)	• EIR should address Project-specific and cumulative effects on the school district. • EIR should address consistency of Project with General Plan goals, policies, and implementation actions. • EIR should present data and qualitative and quantitative analysis that provides evidence of consistency with General Plan.
San Joaquin Raptor Center and Protect Our Water	General Comment	• Please inform of progress of EIR for potential future comment.

Project Objectives

The City has two primary objectives for implementing the Project. The first is to install sufficient WWTP capacity to meet wastewater loads generated by planned population growth and development within the City's service area. The second includes installing additional levels of wastewater treatment sufficient to meet current and future effluent quality regulatory limits by replacing aged facilities and adding improved wastewater treatment technologies and processes.

Project Location

The WWTP is located within the City limits at the south end of Gove Road about 1.5 miles south of the main part of Merced. Figure ES-1 shows the relative location of the WWTP in relation to the Merced urban area.



SOURCE: ESRI, 2005; City of Merced; and ESA, 2005

City of Merced Wastewater Treatment Plant Improvement Project . 205087

Figure ES-1
Project Location Map

The Merced Municipal Airport is located approximately 2.0 miles north of the WWTP. Hartley Slough flows along the western perimeter of the WWTP property, while Miles and Owens Creeks separate the northern and southern portions of the property. Duck Slough borders the southern perimeter.

Description of Major Project Features

The WWTP currently provides secondary level treatment, disinfection of wastewater with subsequent discharge of treated effluent to Hartley Slough. The WWTP currently operates at a rate of 8.5 mgd, but has a permitted capacity to discharge up to 10 mgd. The City's WWTP site can readily accommodate expansion to meet the City's planned buildout capacity of 20 mgd. In order to comply with expected requirements of the National Pollution Discharge Elimination System (NPDES) permit, scheduled to be renewed by the California Regional Water Quality Control Board in December of 2006, several facility upgrades including tertiary filtration, UV disinfection, effluent re-aeration, as well as solids dewatering and stabilization will be required. The NPDES permits are on a 5 year compliance schedule and will require the City to have various improvements completed by the end of 2011.

The City has completed engineering studies (ECO:LOGIC, 2005) finding that the WWTP can achieve a treatment capacity of 11.5 mgd if an additional blowers is installed. This project is currently underway and planned to be completed in late 2006 to provide redundancy for the existing 10 mgd capacity. The 11.5 mgd of secondary treatment capacity would be available immediately upon issuance of a new NPDES permit and after certification of this EIR.

In addition to constructing necessary treatment process upgrades, the City will also expand the treatment capacity to served planned population growth and development in the City Specific Urban Development Plan (SUDP) area and adjacent UC-Merced Campus Long-Range Development Plan (LRDP) area. Full development of the SUDP is expected to increase wastewater flow to 17.1 mgd by about 2025. Development of the UC-Merced LRDP would generate about 2.25 mgd. The combined wastewater volume to be generated from planned land uses within the SUDP and UC-Merced campus planning area equals about 19.35 mgd.

The City is currently assessing the number of new sewer connections that would be established in the immediate future to determine the size of the first WWTP expansion increment beyond 11.5 mgd. If the City continues to experience high growth rates, it will expand WWTP facilities in a single phase from 11.5 to 16 mgd. A subsequent expansion phase from 16 to 20 mgd would be implemented in response to longer-term future growth.

If it is concluded that the City will grow at a slower rate, it may elect to limit the first phase of the WWTP Expansion Project to 12 mgd, followed by subsequent 16 mgd and 20 mgd capacity phases.

To accommodate the new facilities, the City would acquire about 46 acres of land immediately north and east of the WWTP and develop this area for the installation of the proposed WWTP facilities. An area of about 20 acres would be used for the expansion of the new WWTP

headworks, a combined administrative/laboratory building, and access to portions of the incoming City sewer. About 22-acres would remain in its undeveloped state and be used to provide access to the influent sewer line and as additional buffer lands, while the remaining 4 acres, consisting of two small parcels, are needed for reconstruction of the WWTP entrance and roadway. To dispose of Class A biosolids, the City may acquire an additional 300 acres to the northwest of the WWTP.

As part of the Project, a new outfall structure would be constructed in Hartley Slough about 3,000 feet upstream of the current WWTP effluent discharge. The structure would be a 54-inch pipe with a bar screen outlet to prevent unauthorized access into the pipe. As proposed, a single pipeline would be buried roughly 8 to 10 feet below the ground surface.

Summary of Environmental Impacts

Table ES-2 presents the conclusions developed for this Draft EIR. It identifies the potential impacts found to be significant or potentially significant and the proposed mitigation measures that are available to avoid or minimize these potential impacts. The level of significance of each environmental impact after the application of the recommended mitigation measure(s) is indicated. Chapter 4 presents a detailed discussion of Project impacts and mitigation measures, while Chapters 6 and 7 address Cumulative Effects and Growth-Inducing Effects, respectively. Provided below is a list of significant unavoidable effects that are identified in Chapters 4, 6, and 7 of this DEIR.

Significant Unavoidable Effects

The potential significant impacts that are associated with the construction and operation of the WWTP and that have been found to be significant and unavoidable include:

- The permanent conversion of 20 acres of Farmland, Unique Farmland or Farmland of Statewide Importance to non-agricultural use that would occur with the Project implementation.

- The significant unavoidable secondary effects associated with removing an obstacle to planned urban growth, as described in the SUDP and UC-Merced Campus LRDP associated EIRs. Based on findings adopted in conjunction with these planning documents, the implementation of the 20 mgd WWTP project would accommodate planned growth, thereby resulting in several significant and unavoidable environmental impacts associated with implementing the City's SUDP and the UC-Merced Campus LRDP to occur. These impacts include:

    - Loss of agricultural land
    - Loss of habitat
    - Increased traffic and traffic congestion
    - Air quality impacts
    - Increased traffic noise
    - Increased energy demand

- Alteration of the region's visual character
- Increased use of non-renewable fossil fuels

The 1997 Merced Vision 2015 General Plan contains policies that would reduce these potential environmental effects. Two impacts, however, would not be reduced to a less than significant level and were therefore considered to be significant and unavoidable. These impacts include:

- Effects to Air Quality. Implementation of the General Plan would contribute to the cumulative regional impact on PM_{10} and ozone concentrations that exceed the Attainment status of the San Joaquin Valley Air Basin.

- Loss of Agricultural Soils. Implementation of the General Plan would result in the loss of prime farmland as a consequence of conversion to urban land uses.

The EIR prepared for the UC-Merced LRDP identified significant impacts that could not be eliminated or reduced to a less-than-significant level by mitigation measures imposed by the university (UC-Merced, 2001). These significant and unavoidable impacts would result from development proposed under the build-out of the Phase 1 portion of the LRDP and include:

- Aesthetic Resources. Implementation of the Phase 1 Campus would create new sources of light or glare. Campus development, in combination with other community development, would change the visual character of the area and affect scenic vistas and other scenic resources.

- Aesthetic Resources. Lighting for Phase 1 Campus buildings and other facilities would create a new source of light or glare that could spill onto Lake Yosemite Regional Park and other sensitive areas.

- Agriculture. Implementation of the LRDP will result in the conversion of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland to nonagricultural use.

- Air Quality. Development of the Phase 1 Campus would generate increased emissions levels of carbon monoxide and ozone precursors (reactive organic gases and nitrogen oxides).

- Biological Resources. Development under the LRDP, in conjunction with other development would result in the loss or adverse modification of important native plant and wildlife habitat, including wetlands, vernal pool habitat, clay playa habitat, and annual grassland habitat, and adverse effects to special-status species associated with these habitats.

- Noise. Implementation of the Phase 1 Campus development would result in significant and unavoidable increased ambient noise levels because of increased traffic on the local roadways. Construction of the campus facilities could expose nearby receptors, especially users of the county park, to elevated noise levels.

- Public Services. The development of the Phase 1 Campus would generate demand for elementary and secondary educational services, which could result in physical effects on the environment.

- Recreation. Cumulative growth in area population will result in an increased demand for recreational facilities, which could cause a deterioration of the facilities.

- Traffic and Circulation. Implementation of the LRDP, in combination with the proposed University Community and regional growth in Merced County, would result in increased traffic levels in the vicinity of the campus and exceed the roadway level-of-service thresholds.

- Utilities. Implementation of the LRDP would induce substantial economic and population growth in the region and would result in the construction of additional housing.

In addition to these significant unavoidable effects, the university identified significant irreversible changes to the environment resulting from build-out of the Phase 1 Campus. These significant irreversible changes generally fall into three categories: (1) irretrievable commitment of materials and energy during construction and maintenance of the project; (2) loss of agricultural, biological, and cultural resources as undeveloped lands are converted to urban uses; and (3) increased use of natural resources due to increased population at and surrounding the campus site. In the context that the Project would accommodate a critical infrastructure component of both plans, this impact is identified as a significant and unavoidable effect of the Project for which no mitigation is available.

Effects That Are Less Than Significant with Mitigation

The potential significant impacts associated with the construction and operation of the Project that have been found to be less than significant with implementation of mitigation measures are summarized below and presented in detail in Table ES-2.

Alternatives to the Proposed Project

The CEQA Guidelines (Sections 15123(b)(3) and 15126(d)) requires that an EIR consider a range of alternatives that could feasibly attain the basic objectives of the project. As part of previous engineering and planning studies, the City concluded that alternative facility sizes less than 20 mgd would not meet the primary objective of the Project, which is to serve planned population and development that would occur in the SUDP and UC-Merced LRDP. Because reduced WWTP capacity alternatives would not meet this objective, they were eliminated from detailed discussion in this document.

The City evaluated several alternative treatment technologies, alternate locations including establishing satellite treatment facilities in the community, biosolids disposal options, and the No Project Alternative.

No Project Alternative

With the selection of the No Project Alternative, the Project would not be constructed. The No Project Alternative would avoid construction-related impacts to wetlands and local air quality impacts that are associated with the installation of the Project. Other impacts that would initially be avoided include land use conflicts, construction- and operation-related noise, potential erosion, conversion of prime agricultural land, and potential disruptions to traffic and emergency service. Wastewater flows would continue to be discharged into Hartley Slough at the current rate of approximately 8.5 mgd.

Environmentally Superior Alternative

The Project is considered to be the environmentally superior alternative. Although the No Project Alternative would avoid many of the potential environmental effects associated with the construction of the Project, the No Project Alternative would not achieve the long-term water quality improvements that are associated with the Project.

If the No Project Alternative were selected, the City would be unable to meet planned wastewater demands and to achieve improved effluent quality. The No Project Alternative would conflict with the City's General Plan objective to update the City's sanitary sewer infrastructure and facilitate continued implementation and buildout of the SUDP and the UC-Merced LRDP. In addition to local infrastructure objectives, the No Project Alternative would not enable the City to fulfill the objectives of the Central Valley Regional Water Quality Control Board to improve the water quality within Hartley Slough, which is classified as an effluent-dominated water body that ultimately drains toward the San Joaquin River.

TABLE ES-2
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
Water Quantity		
Impact 4.1.1: The change in point of discharge to Hartley Slough and increase in treated effluent flow would result in substantial adverse effects to the physical character and channel hydrology of Hartley Slough. (Potentially significant)	**Mitigation Measure 4.1.1:** The City shall develop and implement a monitoring program to determine if increased effluent discharges are inducing excessive stream channel erosion on Hartley Slough downstream of the effluent discharge to the location of the existing agricultural water diversion facility. If observed, bank stabilization practices and other Best Management Practices to control erosion shall be implemented. Measures could include placing riprap and planting stabilizing vegetation. If no substantial stream channel erosion is observed, the program may be terminated	LTS
Impact 4.1.2: The expanded WWTP would result in increased surface runoff resulting from new impervious surfaces, which could result in impacts to Hartley Slough. (Less than significant)	None required.	LTS
Impact 4.1.3: Implementation of the Project would deplete local groundwater supplies or interfere substantially with groundwater recharge. (Less than significant)	None required.	LTS
Water Quality		
Impact 4.2.1: Construction of the Project would result in increased erosion and degrade water quality in Hartley Slough and downstream waterways. (Potentially significant)	**Mitigation Measure 4.2.1a:** An Integrated Water Pollution Control Program (IWPCP) shall be developed and implemented to manage and control potential erosion and water quality degradation that would occur during Project construction. Additionally, the program shall describe monitoring during construction activities, dewatering operations, in-water construction activities, and specific best management practices (BMPs) to avoid and minimize impacts to water quality. The plan shall be approved by the City prior to commencement of construction and shall be made conditions of performance with the City's contractor selected to build the Project. The IWPCP shall incorporate control measures in the following categories: • Soil stabilization practices • Sediment and runoff control practices • Monitoring protocols • Non-storm water management and waste management and disposal control practices • Construction dewatering • Hazardous materials management Once approved by the City, the contractor shall be responsible throughout the duration of Project construction for installing, constructing, inspecting, and maintaining the control measures included in the IWPCP. **Mitigation Measure 4.2.1b:** The City will monitor groundwater that is collected during groundwater dewatering and, if it exceeds applicable surface water quality standards, will convey it into a water treatment system, where it will undergo treatment prior to its discharge to Hartley Slough. The water treatment system may use either temporary mobile	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
	treatment equipment or the WWTP. Either system would need to have applicable capability (i.e., activated carbon filtration or other suitable treatment technology) to treat and/or remove water quality constituents that exceed applicable surface water criteria	
Impact 4.2.2: The discharge of treated wastewater from the expanded WWTP would increase the receiving water temperature in Hartley Slough to exceed Basin Plan objectives. (Potentially significant)	**Measure 4.2.2:** The City shall assess and install a suitable effluent cooling system to comply with temperature receiving water objectives as identified in the Basin Plan (CVRWQCB, 1998). The selected system for effluent cooling, including use of the equalization basins, or installing mechanical chillers or cooling towers, would be sized to provide sufficient cooling to maintain effluent temperature within 5°F of the average annual ambient water temperature. The cooling system shall be constructed within the boundaries of the expanded WWTP site and not generate additional adverse effects to biological resources, wetlands, or sensitive habitats; would not pose a visual nuisance; or would not create obtrusive noise or other emissions. Cooling technologies will initially be sized for the 16 mgd capacity, with a provision to add additional units to accommodate the ultimate 20 mgd capacity.	LTS
Impact 4.2.3: The Project would eliminate chlorine disinfection from the wastewater treatment processes. As a result, several disinfection by-products would no longer be formed in the treated effluent as a result of wastewater disinfection. (Beneficial)	None required.	Beneficial
Impact 4.2.4: The Project would continue to discharge in the treated effluent other Criteria Pollutants, Non-Priority Pollutants, and 303(d) Listed Contaminants at levels consistent with the California Toxics Rule (CTR) and other applicable water quality standards. (Less than significant)	None required.	LTS
Impact 4.2.5: Expansion of the WWTP would increase the discharged salt load to downstream surface waters. (Less than significant)	None required.	LTS
Impact 4.2.6: The application of biosolids to lands within and surrounding the City's WWTP property would degrade local groundwater quality. (Less than significant)	None required.	LTS
Impact 4.2.7: Land application of disinfected tertiary treated water would result in degradation of groundwater quality, and over-application of disinfected tertiary water could result in direct runoff to surface water bodies. (Potentially significant)	None required.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
Air Quality		
Impact 4.3.1: Construction activities associated with development of the Project would generate short-term emissions of criteria pollutants, including suspended and respirable particulate matter (PM_{10}) and equipment exhaust emissions. (Potentially significant)	**Mitigation Measure 4.3.1a:** The City shall submit fees, consistent with the Rule 9510 offset program, to fund further reductions in regional NO_x emission sources; enabling consistency with SJVAPCD emission NO_x threshold.	LTS
Impact 4.3.2: The Project would result in an increase in operational emissions of criteria air pollutants (ROG, NO_x and PM_{10}) and other TACs from on-road motor vehicle traffic traveling to and from the Project area and onsite area sources associated with the Project. (Less than significant)	None required.	LTS
Impact 4.3.3: The Project could create objectionable odors affecting a substantial number of people. (Less than significant).	None required.	LTS
Geology		
Impact 4.4.1: In the event of a major earthquake in the region, seismic ground shaking could cause collapse or structural damage to the WWTP and associated facilities. Structural damage to Project components resulting from substantial displacement along various fault sources could indirectly result in significant injury to people and disruption of major services (e.g., sanitary sewer). (Less than significant).	None required.	LTS
Impact 4.4.2: The Project area could be subjected to geologic hazards, including liquefaction, differential settlement, total settlement, and minor slumping along Hartley Slough. (Less than significant)	None required.	LTS
Soils		
Impact 4.5.1: The presence of expansive and corrosive soils could result in structural damage to the proposed pipeline and associated facilities. (Less than significant)	None required	LTS
Vegetation		
Impact 4.6.1: Construction and/or operation of the Project would conflict with local policies or ordinances for protecting biological resources. (Potentially significant)	Implementation of Mitigation Measure 4.2.1a will reduce potential impacts from soil erosion to less than significant **Mitigation Measure 4.6.1a:** The City shall avoid spreading invasive plants that could impact biological resources in the Project area. The City will ensure that all fill material brought onto the Project area from offsite shall be from weed-free sources. The upland filled	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
	areas and upland areas disturbed by grading and excavation activities will be re-vegetated with appropriate native species to discourage the colonization of invasive plants in the Project study area. All seed for re-vegetation shall consist of 100 percent native plant species. The seed mix shall be premixed and packaged by a commercial seed supplier, labeled in accordance with the California Agricultural Code; shall be delivered to the site in original, unopened containers; and shall bear a dated guaranteed analysis. **Mitigation Measure 4.6.1b:** The City shall avoid unnecessary disturbance to native vegetation. In order to avoid and minimize potential impacts from trampling to established vegetation communities, construction activities will be limited to designated staging areas, construction footprints, and construction easements. These areas shall be reseeded with native plants (as prescribed in Mitigation Measure 4.6.1a).	
Impact 4.6.2: The Project would jeopardize or eliminate plant and wildlife habitats. (Less than significant)	None required.	LTS
Fish and Wildlife		
Impact 4.7.1: The expansion of the WWTP will not impede or interfere with the regional movement or migration of wildlife species in the area. (No impact)	None required.	NI
Impact 4.7.2: Expansion of the WWTP will not create new ponds or waterbodies that would attract waterfowl. (No impact)	None required.	NI
Impact 4.7.3: Proposed improvements to the WWTP treatment process will increase effluent volume and improve produce higher quality effluent. Changes to Hartley Slough aquatic species may occur as effluent quantity increases and quality improves. (Less than significant)	None required.	LTS
Aesthetic Resources		
Impact 4.8.1: The Project would adversely affect a scenic vista or scenic resources within a state scenic highway or a City scenic corridor. (No impact)	None required.	NI
Impact 4.8.2: The Project would modify the visual character of the Project area. (Less than significant)	None required.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
Impact 4.8.3: The Project would construct structures that would result in the creation of new sources of daytime glare and/or nighttime illumination. (Potentially significant)	**Mitigation Measure 4.8.3:** The City shall install security lighting with directional shields to concentrate lighting toward the Project site. The nighttime security and associated parking lighting fixtures will be equipped with directional shields that aim light downward and away from adjacent properties and public roadways. In addition, lighting fixtures will be placed to concentrate light onsite to avoid spillover onto adjacent properties and public roadways	LTS
Noise		
Impact 4.9.1: Project construction would temporarily increase noise levels at nearby sensitive receptor locations. (Potentially significant)	**Mitigation Measure 4.9.1:** The applicant shall implement the following measures: • Construction activities shall be limited to between 7:00 a.m. and 10:00 p.m. Monday through Saturday to avoid noise-sensitive hours of the day. Construction activities shall be prohibited on Sundays and holidays. • Construction equipment noise shall be minimized during Project construction by muffling and shielding intakes and exhaust on construction equipment (per the manufacturer's specifications) and by shrouding or shielding impact tools. • Construction contractors shall locate fixed construction equipment (such as compressors and generators) and construction staging areas as far as possible from nearby residences.	LTS
Impact 4.9.2: Project operational activities associated with traffic and WWTP equipment operation could increase ambient noise levels at nearby land uses. (Less than significant)	None required.	LTS
Recreation		
Impact 4.10.1: The Project would result in an increase in visitor use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. (No impact)	None required.	NI
Impact 4.10.2: The Project would substantially disrupt or conflict with the use of existing recreational facilities to the extent that it would affect the recreational value of such facilities. (No impact)	None required.	NI
Open Space		
Impact 4.11.1: The Project would displace about 20-acres of open space currently in an agricultural land use. (Potentially significant)	**Mitigation Measure 4.11.1:** (Same as Mitigation 4.14.1) The 20 acres of farmland within the WWTP expansion area, not required for the WWTP facility, shall remain in an agricultural land use. The City shall pay into a "farmland trust" fund for Merced County that will acquire agricultural conservation easements to compensate for the conversion of 18 acres of farmland within the WWTP expansion area. The farmland subject to the easements shall be of the same acreage, and at least the same category of farmland, as identified by the latest FMMP report, as that farmland affected at the WWTP.	SU

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
	With the implementation of Mitigation Measure 4.14.1, the impact to the remaining 22 acres would be reduced to a less-than-significant level. However, offsite conservation easements on existing farmland would not provide full mitigation, because they would not compensate for the loss or farmland resulting from the Project or replace the resources lost because they would not reduce the overall net loss of farmland by the WWTP. Therefore, the direct impact and permanent conversion of important farmlands as a result of the expanded WWTP would be significant unavoidable.	
Impact 4.11.2: The Project would conflict with an existing policy for managing open space or other agreement /easement for open space protection. (No impact)	None required.	NI
Impact 4.11.3: The Project would result in the loss of open space which acts as a buffer and could result in conflict between adjacent land uses. (No impact)	None required.	NI
Cultural Resources		
Impact 4.12.1: The Project would cause adverse effects to unknown historical resources, including unique archaeological resources. (Potentially significant)	**Mitigation Measure 4.12.1:** In the event of accidental discovery of cultural resources, such as structural features or unusual amounts of bone or shell, artifacts, human remains, architectural remains (such as bricks or other foundation elements), or historic archaeological artifacts (such as antique glass bottles, ceramics, etc.), work will be suspended and City staff will be contacted. A qualified cultural resource specialist will be retained and will perform any necessary investigations to determine the significance of the find. The City will then implement any mitigation deemed necessary for the recordation and/or protection of the cultural resources. In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the Project proponent will determine whether avoidance is feasible in light of the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) will be instituted. Work may proceed on other parts of the Project site while the mitigation for historical resources or unique archaeological resources is carried out. In addition, pursuant to Sections 5097.97 and 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code, in the event of the discovery of human remains, all work will be halted and the County Coroner will be immediately notified. If the remains are determined to be Native American, their treatment and disposition will adhere to the Native American Heritage Commission guidelines.	LTS
Impact 4.12.2: The Project would cause adverse effects on unknown paleontological resources. (Potentially significant)	**Mitigation Measure 4.12.2:** The City shall notify a qualified paleontologist of unanticipated discoveries, in order to document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in Section 15064.5 of the CEQA Guidelines. In the event a fossil is discovered during construction, activities that could potentially affect the find will be temporarily halted or diverted until the discovery is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
	The paleontologist will notify City to determine procedures to be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist will prepare an excavation plan for mitigating the effect of the Project on the qualities that make the resource important, and the plan will be implemented. The plan will be submitted to the City for review and approval.	
Threatened and Endangered Species		
Impact 4.13.1: Construction of the Proposed Project could result in impacts to the following special-status species: valley elderberry longhorn beetle, blunt-nosed leopard lizard, giant garter snake, Swainson's hawk, greater sandhill crane, and San Joaquin kit fox. (Potentially significant) **Impact 4.13.1a:** One elderberry shrub is located along an access road north of the firing range in the eucalyptus grove. As currently planned, construction of the proposed Project would require the removal of the one shrub located in the eucalyptus grove. This shrub contains five stems greater than 1 inch (but less than 3 inches) in diameter, does not have beetle exit holes, and is within historically riparian habitat. Without mitigation, this is considered to be a significant impact.	**Mitigation Measure 4.13.1a:** The one elderberry shrub that cannot be avoided by the project shall be transplanted following USFWS (1999) guidelines. Transplanting this shrub meets the definition of "take" of a federally-listed species and will require coordination with and approval from the USFWS. Transplanting shall only occur when the shrub is dormant (approximately November through the first two weeks in February) and shall follow the procedures described in USFWS (1999) as updated. The area that the shrub is transplanted to shall also be planted with at least 10 additional elderberry cutting or seedlings, and at least 5 associated native species, and shall be protected in perpetuity per USFWS (1999).	LTS
Impact 4.13.1b: Habitat for the blunt-nosed leopard lizard (alkali scrub and non-native annual grasslands) occurs in the former peach pit disposal area in the western portion of the Project study area. No Project construction would occur in the alkali or grassland habitat of this area. (Less than significant)	None required.	LTS
Impact 4.13.1c: Construction of the new roadway over Hartley Slough at the WWTP entrance and the new effluent outfall, the filling of the southern portion of the effluent channel, the rerouting of Hartley Lateral and Paden Drain, and subsequent dewatering of a portion of Hartley Lateral would involve work within potential giant garter snake aquatic and upland habitat and would result in 2.03 acres of temporary and 1.24 acres of permanent habitat loss.	**Mitigation Measure 4.13.1c:** The following mitigation measures shall be implemented to reduce Project impacts on giant garter snake: • All construction activity within giant garter snake habitat shall be conducted between May 1 and October 1. This is the active period for giant garter snakes and the potential for direct impacts are reduced because snakes are actively moving and avoiding danger. More danger is posed to snakes during their inactive period, because they are occupying underground burrows or crevices and are more susceptible to direct effects, especially during excavation. Between October 2 and April 30 contact the Service's Sacramento Fish and Wildlife Office to determine if additional measures are necessary to minimize and avoid take.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
In addition, inadvertent construction of the Project would result in temporary habitat degradation and, potentially, direct take. Permanent loss includes temporary impacts that span more than two seasons (one season is May 1 to October 1). Without mitigation, this is considered to be a potentially significant impact.	• Any dewatered habitat must remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat. • Construction personnel shall participate in a worker environmental awareness program. Under this program, workers shall be informed about the presence of giant garter snakes and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Federal Endangered Species Act (FESA). This instruction shall be conducted by a qualified biologist prior to construction activities. Proof of this instruction shall be submitted to the City. • Within 24 hours before construction activities begin in areas of giant garter snake habitat, the site shall be inspected by a qualified biologist. The biologist will provide the City with a field report form documenting the monitoring efforts within 24 hours of commencement of construction activities. The monitoring biologist shall be available thereafter; if a snake is encountered during construction activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities will be allowed to move away from construction activities on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current Service recovery permits pursuant to section 10(a)1(A) of FESA. The biologist shall be required to report any incidental take to the City immediately by telephone and by written letter within one working day. The Project area shall be reinspected whenever a lapse in construction activity of two weeks or greater has occurred. • Clearing of wetland vegetation will be confined to the minimal area necessary to excavate toe of bank for riprap or fill placement. Excavation of channel for removal of accumulated sediments will be accomplished by using equipment located on and operated from top of bank, with the least interference practical for emergent vegetation. • Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance. Preserved giant garter snake habitat shall be designated as Environmentally Sensitive Areas and shall be flagged by a qualified biologist and avoided by all construction personnel. • After completion of construction activities, any temporary fill and construction debris shall be removed and, wherever feasible, disturbed areas shall be restored to pre-project conditions. • Affected giant garter snake habitat shall be replaced or restored in kind at a 3:1 ratio (see Table 4-9). This table assumes that temporary impacts will only last one season. • All replacement habitats must include both upland and aquatic habitat components. Upland and aquatic habitat components must be included in the replacement habitat at a ratio of 2:1 upland acres to aquatic acres (see Table 4-9).	

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
	• Restored habitat shall receive one year of monitoring with a photo documentation report due to the City one year from implementation of the restoration with pre- and post-project area photos. • Monitoring replacement habitat with photo documentation report shall be conducted for five years and submitted to the City annually. The calculations of acres lost assumes no impacts to land north of the access road paralleling the north bank of the southern reach of the effluent channel; disturbance during only one season; and the revegetation of all temporarily disturbed areas.	
Impact 4.13.1d: A relatively small amount of potential foraging habitat would be lost to Project construction; however, nesting pairs of Swainson's hawks in the Project study area could be adversely affected by construction activities. (Potentially significant)	**Mitigation Measure 4.13.1d:** In order to avoid impacts to nesting Swainson's hawk, pre-construction surveys shall be conducted by a qualified biologist during the bird and raptor breeding season (March 1 to August 15), before the start of any construction activities. Similar to Mitigation Measure 4.13.2d, the Project applicant shall contract with a qualified biologist to conduct surveys in habitat suitable for nesting raptors. However, for Swainson's hawk, the survey area includes a one-half mile zone from any construction activities. Surveys may be combined with general raptor surveys as detailed in mitigation measure 4.13.2d and shall follow the same survey schedule. If nesting Swainson's hawk is detected within the survey area, the Project applicant shall install a one-half-mile buffer around the nests of Swainson's hawk. No construction activities shall be allowed within these buffers during active nesting. Buffers shall be marked in the field with stakes and flagging at all potential access points to the buffer. Buffers shall remain in place until the nest is no longer active, as determined by a qualified biologist. If a buffer distance needs to be reduced, a qualified biologist will determine if the reduction is appropriate, and what the reduced buffer distance will be. A reduction in buffer distance must be approved by the City of Merced, who may consult with CDFG. If the buffer is reduced, a qualified biologist shall be retained to monitor the nest daily during construction activity occurring within one-half-mile of the nest. The biologist shall inform the City's construction manager immediately if construction activities within the half mile buffer threaten to cause the nest to fail.	LTS
Impact 4.13.1e: Construction activities could cause the loss of foraging habitat for wintering greater sandhill crane within the Project study area. (Less than significant)	None required.	LTS
Impact 4.13.1.f: The Project would impact potential San Joaquin kit fox denning habitat in the grasslands and alkali scrub in the western portion of the Project study area or to the open areas within and surrounding the Project study area that may serve as movement or linkage habitat for San Joaquin kit fox. (No impact)	None required.	NI

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
Impact 4.13.2: The Project study area provides habitat for several species of concern. The species with potential to occur are: Sacramento splittail, western pond turtle, tricolored blackbird, burrowing owl, ferruginous hawk, mountain plover, white-tailed kite, loggerhead shrike, Merced kangaroo rat, San Joaquin pocket mouse, and American badger. Construction and/or operation of the proposed Project may temporarily or permanently impact fish and wildlife species or substantially reduce their habitats. This is a potentially significant impact. **Impact 4.13.2a:** Construction activities may affect nesting tricolored blackbird, potentially reducing reproductive success. Without mitigation, this is considered a significant impact.	**Mitigation Measure 4.13.2a:** Implement measures to avoid construction-related impacts to tricolored blackbirds. In order to avoid impacts to nesting tricolored blackbirds, pre-construction surveys shall be conducted in potential breeding habitat within 500 feet of construction by a qualified biologist during the breeding season (March 1 to July 15), before the start of any construction activities. The Project applicant shall contract with a qualified biologist to conduct surveys in habitat suitable for tricolored colonies. Any construction within the Project study area shall avoid active tricolored blackbird colonies by a 500 foot buffer. If warranted by site conditions (as evaluated and documented by a qualified biologist), this buffer may be reduced with the approval of the City, which may consult with CDFG.	LTS
Impact 4.13.2b: Construction within aquatic habitats in the Project study area may result in direct mortality of western pond turtle, as well as basking habitat for western pond turtle. Construction of the outfall in Hartley Slough would permanently remove about 0.1 acre of aquatic habitat. Relative to the availability of aquatic habitat, the loss of this habitat would be considered less than significant for this species.	**Mitigation Measure 4.13.2b:** Implement measures to avoid construction-related impacts to Sacramento splittail and western pond turtle. To avoid mortality of Sacramento splittail or western pond turtle during construction, a qualified biologist shall be onsite during any dewatering activities. This biologist shall remove any stranded Sacramento splittail or western pond turtles and shall release them to Hartley Slough.	LTS
Impact 4.13.2c: Several areas within the Project study area have potential to support burrowing owls. If burrowing owl is found to occupy the Project study area, then construction activities may result in direct habitat loss, take, or cause abandonment of the nest. Without mitigation, this is considered a significant impact.	**Mitigation Measure 4.13.2c:** Implement measures to avoid construction-related impacts to burrowing owl. The following mitigation will be implemented to avoid potential impacts from Project construction activities: • A pre-construction survey of suitable habitat and buffers will be conducted within 30 days prior to construction to ensure no additional burrowing owls have established territories since the initial surveys. If ground disturbing activities are delayed or suspended for more than 30 days after the preconstruction survey, the site shall be resurveyed. • No disturbance shall occur within 75 meters (~250 feet) of an occupied burrow during the breeding season (February 1 – August 31) or within 50 meters (~160 feet) during the non-breeding season.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
	• Foraging habitat contiguous with occupied burrow sites shall be permanently preserved at a ratio of 6.5 acres per pair of breeding or single unpaired resident burrowing owl; this is equivalent to a 100-meter (~300-foot) foraging radius around the burrow. The protected habitat shall be adjacent to occupied burrowing owl habitat and its configuration shall be approved by a qualified biologist. • When destruction of occupied burrows is unavoidable, existing unsuitable burrows shall be enhanced (enlarged or cleared of debris) or new burrows shall be created by installing artificial burrows at a ratio of 2:1 on the protected lands site. If owls must be moved away from the disturbance area, passive relocation with one-way doors shall be used, but only during the non-breeding season. Owls shall be excluded from burrows in the immediate impact zone and within a 50-meter (~160-foot) buffer zone by installing one-way doors in burrow entrances. One-way doors shall be left in place 48 hours to ensure that owls have left the burrow before excavation. Two natural or artificial burrows shall be provided for each burrow in the Project study area that will be rendered biologically unsuitable. The Project study area shall be monitored daily for one week to confirm owl use of the new burrows before excavating burrows in the immediate impact zone. Burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any animals within the burrow.	
Impact 4.13.2d: The Project area provides suitable nesting and foraging habitat for white-tailed kite, loggerhead shrike, and other birds. The approximately 18 acres of potential foraging habitat lost to Project construction is unlikely to affect the success of these birds. Therefore, the loss of foraging habitat is considered less than significant. However, nesting pairs of white-tailed kite, loggerhead shrike, and other birds in the Project study area may be adversely affected by construction activities. Failure of a raptor nest (protected under Fish and Game Code Section 3503) due to Project construction would be a significant impact.	**Mitigation Measure 4.13.2d:** Implement measures to avoid construction-related impacts to nesting raptors. In order to avoid impacts to nesting raptors, pre-construction surveys shall be conducted 30-days prior to the start of construction by a qualified biologist during the raptor breeding season (March 1 to August 15). The City shall have a qualified biologist conduct three surveys in habitat suitable for nesting raptors and other birds within 500 feet of any construction activities. These surveys shall be conducted by a qualified biologist with demonstrated bird and raptor nest-searching experience. If nesting raptors are detected within the survey area, the Project applicant shall maintain a 500-foot buffer around the nest. No construction activities shall be allowed in these buffers. Buffers shall be marked in the field with stakes and flagging at all potential access points to the buffer. Buffers shall remain in place until the nest is no longer active, as determined by a qualified biologist. If warranted by site conditions (as evaluated and documented by a qualified biologist), this buffer may be reduced with the approval of the City, which may consult with CDFG. The biologist shall submit the locations of nests detected during the surveys to the CNDDB.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
Impact 4.13.2e: The Project area and surrounding vicinity may provide foraging habitat for wintering ferruginous hawk and mountain plover. Given the abundance of available open habitat surrounding the Project study area, the loss of foraging habitat to construction within the Therefore, the loss of foraging habitat is considered less than significant. Potential year-round habitat exists in the Project area for Merced kangaroo rat, San Joaquin pocket mouse, and American badger. These species have potential to occur in the grassland and scrub habitat within the peach-pit disposal and wildlife area in the western portion of the Project study area, adjacent to Hartley Slough. No construction activities would occur in this area. Therefore, with respect to these species, the Project would have no impact.	None required.	LTS
Environmentally Sensitive Areas		
Impact 4.14.1: Implementation of the Project would result in the conversion of economically viable prime farmland and farmland of statewide importance to non-agricultural uses. This impact is considered significant and unavoidable.	**Mitigation Measure 4.14.1:** The 22 acres of farmland within the WWTP expansion area, not required for the WWTP facility, shall remain in an agricultural land use. The City shall pay into a recognized trust fund that will acquire agricultural conservation easements to compensate for the conversion of 20 acres of farmland within the WWTP expansion area. The farmland subject to the easements shall be of the same acreage, and at least the same category of farmland, as identified by the latest FMMP report, as that farmland affected at the WWTP. With the implementation of Mitigation Measure 4.14.1, the impact to the remaining 22 acres would be reduced to a less-than-significant level. However, offsite conservation easements over existing farmland would not provide full Project-level mitigation, because they would not compensate for the loss or farmland due to the Project or replace the resources lost because they would not reduce the overall net loss of farmland by the WWTP. Therefore, the direct impact and permanent conversion of important farmlands as a result of the expanded WWTP would be significant unavoidable.	SU
Impact 4.14.2: Construction and/or operation would affect federally protected wetlands, as defined by Section 404 of the Clean Water Act, by removal, filling, hydraulic interruption, or other disturbance. This impact would be potentially significant.	**Mitigation Measure 4.14.2a:** Permanent impacts to jurisdictional waters of the U.S. will be mitigated at a minimum 1:1 ratio consistent with the regulatory guidance of the Corps and/or other agencies with regulatory authority. Compensatory mitigation may include the purchase of mitigation credits at a Corps-approved wetland mitigation bank, or through other options consistent with the Section 404 regulatory program including “in-lieu-fee” mitigation in which the applicant provides funds to an in-lieu-fee sponsor such as the National Fish and Wildlife Foundation (NFWF), or onsite mitigation.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
	Mitigation Measure 4.14.2b: Construction activities shall avoid and minimize adverse impacts to jurisdictional waters of the U.S. the maximum practicable extent. Areas used for staging and temporary stockpiling during project construction shall be prohibited from being within such waters including wetlands, and shall be clearly defined on final construction plans. Storage of equipment and/or debris shall not occur within 25 feet of jurisdictional waters. Work within jurisdictional waters including trenching and bridge construction shall occur during low-flow or dry periods. Standard and appropriate BMPs including use of silt fences and/or straw bales shall be utilized to prevent incidental discharge of material into jurisdictional waters.	
Impact 4.14.3: Project construction and/or operation could impact sensitive natural communities identified by CDFG or USFWS. (No impact)	None required.	NI
Impact 4.14.4: The Project would conflict with an adopted HCP, NCCP, or other approved local, regional, or state plan for conservation of habitat. (No impact)	None required.	NI
Impact 4.14.5: Project construction on floodway that could impede floodwaters or expose structures to significant losses. (Less than significant)	None required.	LTS
Impact 4.14.6: Project construction could cause the loss of critical habitats. (No impact)	None required.	NI
Solid Waste and Energy		
Impact 4.15.1: Project construction and operation wastes would be disposed of in a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs. (Less than significant)	None required.	LTS
Impact 4.15.2: Construction of the Project would not conflict with federal, state, and local solid waste management statutes and regulations. (Less than significant)	None required.	LTS
Impact 4.15.3: Operation of the Project would use substantial amounts of energy, which in turn could create a substantial increase in demand upon existing sources of energy, or require construction of additional facilities for energy generation or distribution to meet the increased demand. (Potentially significant)	**Mitigation Measure 4.15.3:** The City will consult with MID to determine the appropriate energy facility upgrades needed to supply the expanded WWTP and in turn will obtain a will-serve letter from MID for energy supplies.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
Transportation and Circulation		
Impact 4.16.1: Construction of the Project would increase the number of daily vehicle trips on local roadways that provide access to the WWTP, in relation to existing traffic and roadway capacity. (Potentially significant)	**Mitigation Measure 4.16.1a:** Prior to the start of Project construction, a Traffic Control Plan shall be prepared addressing vehicle movement along Project-affected roadways and intersections. This plan shall designate haul routes for the Project in consultation with Caltrans and Merced County Department of Transportation. The plan should include the following measures: • Maintaining the maximum amount of travel lane capacity during non-construction periods. • If larger construction equipment or articulated trucks will have difficulty maneuvering at haul route-affected intersections, provide a flagman for traffic control at the access road on an as-needed basis. **Mitigation Measure 4.16.1b:** The City shall arrange for a 24-hour telephone hotline to address public questions and complaints during Project construction. **Mitigation Measure 4.16.1c:** Heavy trucks and other construction transport vehicles shall avoid the busiest commute hours (7 to 8 a.m. and 5 to 6 p.m. on weekdays) on highly congested roadways in the Merced community.	LTS
Impact 4.16.2: Operation of the Project would substantially increase the number of daily vehicle trips on local roadways that provide access to the WWTP, in relation to existing traffic and roadway capacity. (Potentially significant)	**Mitigation Measure 4.16.2:** Implement Mitigation Measures 4.16.1a and 4.16.1c.	LTS
Impact 4.16.3: Construction of the Project would affect general and emergency traffic access to the WWTP, the adjacent shooting range, and the Merced Wildlife Management Area. (Less than significant)	None required.	LTS
Impact 4.16.4: Construction of the Project would result in significant disruptions to transit service. (Less than significant)	None required.	LTS
Impact 4.16.5: Construction of the Project would generate a need for construction crew parking. (Less than significant)	None required.	LTS
Impact 4.16.6: Construction of the Project would increase wear and tear on the access routes used by construction vehicles to access the Project work site. (Potentially significant)	**Mitigation Measure 4.16.6:** Prior to construction, the City's shall assess current road conditions for the Project construction haul routes including the local access roads and identify post-construction road restoration requirements. An agreement shall be entered into by Merced County prior to construction that details suitable post-construction road restoration improvements. The City shall fund roadway repairs or rehabilitation as necessary such that post-construction requirements are met.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
Public Services		
Impact 4.17.1: The WWTP Expansion Project would generate the need to alter existing government facilities and services including fire protection, police protection, schools, parks and other public facilities. (Less than significant)	None required.	LTS
Public Health and Safety		
Impact 4.18.1: Construction of the Project may expose construction workers, the general public, and the environment to pre-existing hazardous materials contamination. (Potentially significant)	**Mitigation Measure 4.18.1a:** If contaminated soil and/or groundwater or suspected contamination were encountered during Project construction, work shall be halted in the area, and the type and extent of the contamination shall be identified. A contingency plan to dispose of any contaminated soil or groundwater should be developed through consultation with the appropriate regulatory agencies. If dewatering were to occur during Project construction, the RWQCB should be consulted for any special requirements such as containing the water until it can be sampled and analyzed to ensure that no contaminants are in the groundwater that could be released into the Merced Irrigation District drainage system. Hazardous materials associated with construction equipment, such as fuels, oils, antifreeze, coolants, and other substances could adversely affect water quality if released to surface waters. If precautions are not taken to contain contaminants, construction could produce contaminated stormwater runoff (nonpoint source pollution), a major contributor to the degradation of water quality. In addition, hazardous materials associated with construction equipment could adversely affect surface and groundwater quality if spilled or stored improperly. Without mitigation, construction of the Project could result in potentially significant impacts. **Mitigation Measure 4.18.1b:** Implement Mitigation Measure 4.2.1b.	LTS LTS
Impact 4.18.2: During construction, there is a risk of exposure to hazardous materials such as fuel and other chemicals used for excavation and construction activities. (Potentially significant)	**Mitigation Measure 4.18.2:** The City shall ensure, through the enforcement of contractual obligations, that all contractors transport, store and handle construction-related hazardous materials in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by the Department of Transportation, California RWQCB, the local fire departments, and the local environmental health department. Recommendations shall include as appropriate transporting and storing materials in appropriate and approved containers, maintaining required clearances, and handling materials using applicable federal, state and/or local regulatory agency protocols. In addition, all precautions required by the RWQCB issued NPDES construction activity stormwater permits would be taken to ensure that no hazardous materials enter any nearby waterways.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
	In the event of a spill, the City shall ensure, through the enforcement of contractual obligations, that all contractors immediately control the source of any leak and immediately contain any spill utilizing appropriate spill containment and countermeasures. If required by the local fire departments, the local environmental health department, or any other regulatory agency, contaminated media shall be collected and disposed of at an offsite facility approved to accept such media.	
Impact 4.18.3: The Project could interfere with an emergency response or evacuation plan. (Less than significant)	None required.	LTS
Impact 4.18.4: Construction of the Project would interfere with safe operations of the Merced Municipal Airport or result in a safety hazard for people residing or working in the Project area, due to its proximity to the airport. (No impact)	None required.	NI
Impact 4.18.5: Construction of the Project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires. (Potentially significant)	**Mitigation Measure 4.18.5a:** The City shall designate and ensure, through the enforcement of contractual obligations, that during construction, staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. The City shall keep these areas clear of combustible materials in order to maintain a firebreak. Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles, heavy equipment, and chainsaws. **Mitigation Measure 4.18.5b:** Construction crews shall be required to carry sufficient fire suppression equipment to ensure that any fire resulting from construction activities is immediately extinguished. All off-road equipment using internal combustion engines shall be equipped with spark arrestors.	LTS
Impact 4.18.6: The implementation of the WWTP Expansion Project could present additional vector concerns. (Less than significant)	None required.	LTS
Impact 4.18.7: The use of reclaimed wastewater effluent carries the potential for human contact. (Less than significant)	None required.	LTS
Population and Housing		
Impact 4.19.1 The Proposed Project would displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere. (No impact)	None required.	LTS
Land Use and Zoning		
Impact 4.20.1: The Project would be consistent with applicable land use goals, policies, and objectives of the City's and Merced County's General Plans. (Less than significant)	None required.	LTS

TABLE ES-2 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation **
Impact 4.20.2: Implementation of the Project would create land uses that are incompatible with current and planned land uses adjacent to Project facilities. (Less than significant)	None required.	LTS
Impact 4.20.3: Construction of the Project would not create an obstruction that could physically divide an established community. (No impact)	None required.	LTS
Impact 4.20.4: Implementation of the Project would not conflict with a Williamson Act contract or adjacent agricultural zoning. (No impact)	None required.	LTS
Impact 4.20.5: Construction of the Project could impact farmland and/or adjacent agricultural operations. Additionally, routine maintenance over the long term could potentially conflict with these operations. (Less than significant)	**Mitigation Measure 4.20.5:** The City shall consult with all affected landowners where the proposed expansion area would encroach onto productive farmland. As part of the easement acquisition process, the City and affected landowners shall negotiate an agreed-upon compensation for the loss of any existing pasture and/or row crops currently in production. During these consultations, the City shall also, in conjunction with landowners' input, identify areas within the expansion area that could be left in agricultural production. Compensation for the loss of crops and associated revenues will be up to the provisions of law.	NI

Notes: LTS = Less than significant; SU = Significant and unavoidable; NI = No impact

CHAPTER 1
Introduction

The City of Merced (City) has proposed installing new facilities at its wastewater treatment plant (WWTP) that would improve its effluent quality, operational reliability and increase its rated treatment capacity. The City of Merced Wastewater Treatment Plant Expansion Project (Project) consists of acquiring land adjacent to the WWTP, constructing and installing new equipment, modifying and increasing the footprint of the current WWTP layout, and changing the location of the effluent discharge.

The City will be the lead agency for purposes of complying with the requirements of the California Environmental Quality Act (CEQA). In this role, the City has determined that preparation of an environmental impact report (EIR) is appropriate to address the environmental consequences of implementing the Project and alternatives. It is intended that this Draft EIR provide the public and interested agencies with information identifying the potential environmental effects, both beneficial and adverse, on the local and regional environment.

The format and content of this document complies with the requirements of the *Environmental Review Process Guidelines for State Revolving Fund Loan* developed by the State Water Resources Control Board (SWRCB, 2004). These guidelines provide direction for preparing a CEQA document that satisfies the "CEQA-Plus" requirements contained in this guidance. Compliance with this guidance enables the document to simultaneously comply with requirements of the National Environmental Policy Act. The "CEQA-Plus" requirements specifically call for coordination and compliance with key federal regulations regarding protection and management of federal endangered species, cultural resources, and air quality conformance.

As appropriate, this Draft EIR identifies measures to minimize identified significant environmental effects of the Project, and describes a reasonable range of alternatives that would avoid or reduce any significant adverse effects of the Project (CEQA Guidelines Section 15121(a)). The City, as well as other regulatory authorities with jurisdiction over components of the Project, will use information provided in this Draft EIR, as a component of the total administrative record, to approve or deny implementation of the Project.

1.1 Opportunities for Public and Agency Comment

1.1.1 Initial Study and Notice of Preparation

In accordance with Sections 15063 and 15082 of the CEQA Guidelines, the City prepared an Initial Study (IS) and Notice of Preparation (NOP) for an EIR and published it on October 28, 2005. The IS/NOP was circulated for a 30-day period to solicit comments from the public, local, state, and federal agencies, and other interested parties regarding environmental issues to be addressed in the Draft EIR. Appendix A to this Draft EIR presents the IS/NOP materials released for public review. To date, seven comment letters have been received in response to the IS/NOP. These letters are presented in Appendix B to this Draft EIR.

1.1.2 Draft EIR

Upon completion of the Draft EIR, the public and interested agencies will be provided 45 days to submit comments on the adequacy of the document and its findings and conclusions. During this period, the City will conduct a public meeting to solicit and receive oral comments on the document.

In addition to submitting the Draft EIR to the Office of Planning Research and distributing a Notice of Availability, the City will place a notice advertising the availability of the document for public review in a newspaper with regional distribution.

1.1.3 Final EIR

Upon completion of the Draft EIR review period, the Final EIR will be prepared. It will contain corrections, changes, and revisions to the Draft EIR; comments on the Draft EIR and the responses to those comments; letters documenting agency consultation; and a mitigation monitoring and reporting program. The City will then hold a public meeting to consider certification of the Final EIR as complete, prior to making a decision on whether to implement the Project. The public will have opportunity to provide comments to the City at the public hearing.

1.1.4 Document Public Review

This document is being circulated to local, state, and federal agencies and to interested organizations and individuals who may wish to review and comment on it. Submittal of the Notice of Completion with the Office of Planning and Research marks the beginning of the 51-day[1] public review period. During this period, the City will hold a public hearing on the Draft EIR and receive written comments at the following address:

[1] State Revolving Fund guidance requires an additional six days for delivery of the document to interested parties; resulting in a 51-day comment period, as compared to the 45-day period required by CEQA.

Mr. Bill King
Merced Planning and Permitting Division
City of Merced
678 West 18th Street
Merced, CA 95340

The Draft EIR will also be available on the City's website at <http://ci.merced.ca.us/>. Copies of the Draft EIR will be available for public review at the following locations:

Merced County Library
2100 O Street
Merced, CA 95340

William J George Library
401 Lesher Drive
Merced, CA 95340

County of Merced, Gustine Branch Library
2115 Wardrobe Avenue
Merced, CA 95340

1.2 Terminology Used in the Draft EIR

This Draft EIR uses the following terminology to describe environmental effects of the Project.

- **Significance Criteria:** A set of criteria used by the lead agency to determine at what level or "threshold" an impact would be considered significant. Significance criteria used in this Draft EIR include those set forth in the CEQA Guidelines or that can be discerned from the CEQA Guidelines; criteria based on factual or scientific information; criteria based on the regulatory standards of local, state, and federal agencies; and criteria based on the goals and policies identified in the City of Merced and Merced County General Plans.

- **Beneficial Impact:** A Project impact is considered beneficial if it will result in the improvement of a physical condition in the environment (no mitigation required).

- **Less-than-Significant Impact:** A Project impact is considered less than significant when it does not reach the specified threshold of significance and would, therefore, cause no substantial change in the environment (no mitigation required).

- **Potentially Significant Impact:** A potentially significant impact is an environmental effect that may cause a substantial adverse change in the environment; however, additional information regarding the extent of the impact is needed to make the determination of significance. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact. Mitigation measures and/or Project alternatives are identified, when feasible, to reduce these effects to the environment.

- **Significant Impact:** A Project impact is considered significant if it results in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of Project effects in the context of the specified significance criteria. Mitigation measures and/or Project alternatives to reduce these effects to the environment are identified, when feasible.

- **Significant Unavoidable Impact:** A Project impact is considered significant and unavoidable if it would result in a substantial adverse change in the environment that cannot be avoided or mitigated to a less-than-significant level if the Project is implemented.

- **Cumulative Significant Impact:** A cumulative impact can result when a change in the environment results from the incremental impact of the Project when added to other related past, present, or reasonably foreseeable future projects. Significant cumulative impacts may result from individually minor but collectively significant projects. Mitigation measures for the significant cumulative impacts are identified, when feasible.

The EIR also identifies feasible mitigation measures that avoid or substantially reduce the Project's significant environmental effects (CEQA Guidelines Section 15126.4). The CEQA Guidelines (Section 15370) defines mitigation as:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

1.3 EIR Organization

This Draft EIR is organized into the following chapters consistent with the outline and guidance provided in *Environmental Review Process Guidelines for State Revolving Fund Loan* developed by the State Water Resources Control Board (SWRCB, 2004).

- **Executive Summary.** The Executive Summary presents a summary of the Project description, a description of issues to be resolved, the significant environmental impacts that would result from Project implementation, and mitigation measures proposed to reduce or eliminate those impacts.

- **Chapter 1, Introduction.** Chapter 1 describes the background and overall EIR process, opportunities for public comment and contents of the document.

- **Chapter 2, Project Description.** Chapter 2 describes the Project background, outlines the goals and objectives of the Project, and summarizes the major components of the current WWTP and the proposed facilities for its expansion.

- **Chapter 3, Environmental Setting.** Chapter 3 describes the current environmental setting for each environmental issue area.

- **Chapter 4, Environmental Analysis.** Chapter 4 discusses the environmental impacts associated with the construction and operation of the proposed WWTP expansion and identifies mitigation measures for potential significant impacts.

- **Chapter 5, Project Alternatives.** Chapter 5 describes alternatives to the Project at a level of detail consistent with CEQA requirements.

- **Chapter 6, Growth-Inducing Impacts.** Chapter 6 discusses the potential for the Project to induce urban growth and development. Secondary effects of growth are also discussed in this chapter.

- **Chapter 7, Other Statutory Considerations.** Chapter 7 discusses several issues required by CEQA, including a summary of alternatives, discussions of potential cumulative impacts, growth-inducing impacts, significant unavoidable impacts on the environment, and significant irreversible environmental changes.

- **Chapter 8, Report Preparers and Organizations and Persons Consulted.** Chapter 8 provides the names of the authors and agencies or individuals consulted during the preparation of the Draft EIR.

- **Chapter 9, Acronyms.** This chapter provides a list of abbreviations and acronyms that are used throughout the Draft EIR.

- **Chapter 10, References.** This chapter provides a list of reference materials and persons consulted during the preparation of the Draft EIR.

- **Appendices.** Appendices consist of materials that expand upon the content of the above-listed chapters.