Certificate of Public Convenience and Necessity Proponent's Environmental Assessment (PEA)

Proposed Water Service for the South Sutter County Service Area

> Docket No. Pending

Prepared for California Public Utilities Commission

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> > August 2008

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CH2MHILL

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Acronyms and Abbreviations

ac-ft	acre-feet
AFY	acre-feet per year
AHM	acutely hazardous material
ALJ	Administrative Law Judge
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ASWC	American States Water Company
bgs	below ground surface
ВМО	Basin Management Objective
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal-EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CASQA	California Storm water Quality Association
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH ₄	methane
CLUP	Comprehensive Land Use Plan
CNDDB	Natural Diversity Data Base
CNEL	Community Noise Equivalent level
CNPS	California Native Plant Society
СО	carbon monoxide

CO ₂	carbon dioxide
CO_{2e}	CO ₂ equivalents
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DFG	California Department of Fish and Game
DPH	California Department of Public Health
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EDR	Environmental Data Resources, Inc.
EIR	environmental impact report
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FRAQMD	Feather River Air Quality Management District
GHG	greenhouse gas
gpm	gallons per minute
GSWC	Golden State Water Company
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HCFCs	hydrochlorofluorocarbons
НСР	Habitat Conservation Plan
HFCs	hydrofluorocarbons
kHz	kilohertz
lb/day	pounds per day
L _{dn}	day-night average sound level
L _{eq} (h)	Hourly Equivalent Sound Level

M&I	municipal and industrial
MCL	maximum contaminant level
mg/L	milligrams per liter
mgd	million gallons per day
MIAPS	Master Infrastructure Advance Planning Study
MOU	Memorandum of Understanding
MS4s	municipal separate storm sewer systems
MSDS	Material Safety Data Sheets
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
Natomas	Natomas Central Mutual Water Company
NIC-CHRIS	Northeast Information Center of the California Historical Resources Information System
NO ₂	nitrogen dioxide
NOx	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTUs	nephelometric turbidity units
O ₃	ozone
Pb	lead
PEA	Proponent's Environmental Assessment
PFCs	perfluorocarbons
PG&E	Pacific Gas & Electric Company
PM ₁₀	particulate matter
PM _{2.5}	particulate matter
Porter-Cologne	Porter-Cologne Water Quality Control Act
RCRA	Resource Conservation and Recovery Act
RD 1000	Reclamation District 1000
Reclamation	U.S. Bureau of Reclamation

RFP	Reasonable Further Progress
ROG	reactive organic gasses
SACOG	Sacramento Area Council of Governments
SAFCA	Sacramento Area Flood Control Agency
SF ₆	sulfur hexafluoride
SFNA	Sacramento Federal Ozone Nonattainment Area
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SMF	Sacramento International Airport
SO ₂	sulfur dioxide
SR	State Route
SRWRS	Sacramento River Water Reliability Study
SVAB	Sacramento Valley Air Basin
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TDS	total dissolved solids
TMDL	total maximum daily load
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WDR	Waste Discharge Requirement
WSA	water supply assessment
YSD	Yuba-Sutter Disposal, Inc.

Executive Summary

Golden State Water Company (GSWC), through its parent company (American States Water Company [ASWC]), has an agreement with the Natomas Central Mutual Water Company (Natomas) to provide municipal and industrial (M&I) water service to a proposed service area in south Sutter County (the South Sutter County Service Area). To begin the process of developing M&I infrastructure in the service area, GSWC prepared a Master Infrastructure Advance Planning Study (MIAPS) (Wood Rodgers et al., 2008). The MIAPS report describes land use, planning and phasing of development to support the necessary water supply infrastructure and associated costs, and the treatment of groundwater and surface supplies in the service area.

The service area includes agricultural (primarily rice fields) and industrial uses, encompassing approximately 7,500 acres of south Sutter County. The general project area is bordered on the west by the Sacramento River, on the east by the Natomas East Main Drainage Canal, on the north by the Natomas Cross Canal, and on the south by the Sacramento County line. The Natomas Basin Conservancy Mitigation Lands are located west and south of the service area along the Sacramento River. The Natomas Cross Canal is located northwest of the service area. The proposed Sutter Pointe Specific Plan provides direction for a master-planned community proposed for future development in the service area.

To proceed with development in the area as identified in the MIAPS, GSWC must submit an application to the California Public Utilities Commission (CPUC) for a Certificate of Public Convenience and Necessity (CPCN). To briefly describe the process, a utility files an application with CPUC for a CPCN to construct a privately owned water facility. The CPCN application must include the Proponent's Environmental Assessment (PEA). Parties generally respond to or protest an application within 30 days of the filing of the application, or as set by the assigned Administrative Law Judge (ALJ). CPUC staff review the application and PEA for completeness and notify the application is deemed complete, the ALJ holds a pre-hearing conference to discuss issues including the proper scope of the proceedings. The process continues providing opportunity for qualified groups or individuals to seek compensation, discovery, and preparation of a scoping memo by the Assigned Commissioner. The CPUC must issue either an environmental impact report or a negative declaration under the California Environmental Quality Act.

Golden State Water Company is requesting a CPCN to establish a non-contiguous service area comprised of the southern, unincorporated portion of Sutter County that falls within the corporate boundaries of Natomas. In this new South Sutter County Service Area, GSWC intends to provide M&I water service to existing and future water service users in the area. This PEA is a component of the application for a CPCN.

1.1 Major Conclusions of the PEA

Environmental impacts are summarized in Table 1-1 and further discussed in detail in Section 5. Mitigation measures can be implemented to reduce potential impacts to a lessthan-significant level for all impact criteria. The proposed project may contribute to impacts determined to be cumulatively considerable, but the project contribution would be less than significant with mitigation (see Section 5.17). The proposed project would not be growth inducing because it would accommodate planned development as discussed in Section 5.18.

1.2 Areas of Controversy

The long-term yield and quality of groundwater in the basin is an issue of concern that is being addressed through a regional stakeholder planning group.

1.3 Major Issues to be Resolved

Providing M&I water service outside the Sutter Pointe development area is a potential issue to be resolved. The proposed facilities could serve broader development within Natomas's entire service area. The M&I water infrastructure potentially could remove a barrier for future development of M&I uses outside the Sutter Pointe Specific Plan. However, there is presently no institutional recognition that additional land outside of the Sutter Pointe Specific Plan would be developed.

1.4 Interagency Coordination

Efforts to coordinate with other agencies for the proposed project, including Natomas, Sutter County, and the CPUC, have been ongoing.

1.5 Public Outreach Efforts

GSWC participated in the Sutter County Water Event (April 2008) and has been involved in community outreach.

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.1 Aesthetics		
5.1-1: Construction of project features would be visible from public areas.	No mitigation required.	Less than significant.
5.1-2: Implementation of the project could affect scenic vistas.	No mitigation required.	Less than significant.
5.1-3: Implementation of the project could damage scenic resources within a State Scenic Highway.	No mitigation required.	No impact.
5.1-4: Implementation of the project could degrade the existing visual character or quality of the project site and its surroundings.	MM 5.1-4a: The facilities should be designed to minimize visual obtrusiveness by incorporating landscape screening, minimizing facility height, and using colors that blend in with the surroundings.	Less than significant.
	MM 5.1-4b: To the extent feasible based on design considerations, water treatment plant and wells should be constructed within the industrial area of the planned community.	
	MM 5.1-4c: Site design should include a landscape buffer around the periphery of well sites to screen the facilities and blend them with the surrounding environment.	
	MM 5.1-4d: Fencing around the site should be designed to complement the housing enclosure as well as the surrounding environment.	
	MM 5.1-4e: Design review should be required of all new development to determine whether the proposed development is consistent with the Sutter Pointe Specific Plan.	
	MM 5.1-4f: All mechanical and electrical equipment to be installed on structures or on the ground should be	

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
	adequately screened from public view. The screening should be considered an element of the overall design and must blend with the architectural design of the building or landscaping, as appropriate. Construction plans for buildings should indicate any fixtures or equipment to be located on the roof of the respective structure, equipment types, and design of the screening material.	
5.1-5: Implementation of the project would result in new sources of light and glare.	MM 5.1-5a: To ensure that the project's exterior lighting does not spill into adjacent areas, exterior light fixtures should be shielded or directed away from adjoining uses, pursuant to all applicable lighting standards and requirements.	Less than significant.
	MM 5.1-5b: If outdoor lighting is included, light intensity should be limited to that necessary for adequate security and safety.	
5.2 Agricultural Resources		
5.2-1: The project could convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to a nonagricultural use.	No mitigation required.	Less than significant.
5.2-2: The project could conflict with existing zoning or agricultural use or a Williamson Act	MM 5.2-2a: Pipeline infrastructure shall be built within or along existing roadways to the maximum extent possible.	Less than significant.
Contract.	MM 5.2-2b: Water storage tanks and treatment plant shall be built on land consistent with appropriate zoning and the General Plan.	
5.2-3: The project could involve other changes in the existing environment which, because of their locations or nature, could individually or cumulatively result in loss of farmland to nonagricultural use.	No mitigation required.	Less than significant.

TABLE 1-1	
Impact and Mitigation Measure Summary Table	

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.3 Air Quality		
5.3-1: Operation of the project would conflict with implementation of the air quality plan.	No mitigation required.	Less than significant.
5.3-2: Construction of the project could cause or contribute to a violation of an air quality standard.	MM 5.3-2a: Implement the FRAQMD Fugitive Dust Control Plan.	Less than significant.
	MM 5.3-2b: Construction equipment exhaust emissions shall not exceed FRAQMD Regulation III, Rule 3.0, Visible Emissions limitations (40 percent opacity or Ringelmann 2.0).	
	MM 5.3-2c: The primary contractor shall be responsible to ensure that all construction equipment is properly tuned and maintained prior to and for the duration of onsite operation.	
	MM 5.3-2d: To the extent feasible, use existing power sources or clean fuel generators rather than temporary power generators.	
5.3-3: Operation of the project could cause or contribute to a violation of an air quality standard.	No mitigation required.	Less than significant.
5.3-4: The project could expose sensitive receptors to substantial pollutant concentrations.	No mitigation required.	Less than significant.
5.3-5: The project could cause objectionable odors affecting a substantial number of people.	No mitigation required.	Less than significant.

TABLE 1-1	
Impact and Mitigation Measure Summary	Table

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.4 Biological Resources		
5.4-1: Implementation of the project would potentially result in significant temporary and/or permanent impacts on wetland habitats.	MM 5.4-1a: The project shall avoid areas of potentially jurisdictional wetland habitats to the maximum extent feasible through project siting and construction avoidance. The project shall implement best management practices during construction to minimize impacts associated with erosion and sediment deposition into wetland and aquatic habitats.	Less than significant.
	MM 5.4-1b: A wetland delineation per the U.S. Army Corps of Engineers' (Corps') Wetland Delineation Manual will occur prior to construction. A delineation report shall be prepared and submitted to the Corps for verification. Through this process, final calculations of wetland area present in the Project Area would be obtained for Project permitting. In addition, plans for proposed alteration to any watercourse shall be submitted to the California Department of Fish and Game (DFG) for review.	
5.4-2: Implementation of the project would potentially result in significant temporary and/or permanent impacts on sensitive riparian habitat.	MM 5.4-2: The project shall be designed in a manner that avoids and/or minimizes impacts on riparian habitats to the maximum extent feasible.	Less than significant.
5.4-3: Implementation of the project would potentially result in significant impacts from the removal of native trees.	No mitigation required.	Less than significant.
5.4-4: Implementation of the project would potentially result in significant impacts from direct mortality and/or disturbance of special-status plant populations.	MM 5.4-4: Consistent with the avoidance and minimization measures identified in the Natomas Basin HCP, preconstruction surveys shall be conducted by a qualified biologist of all suitable habitat for special-status plants. If special-status plants are identified through a preconstruction survey, notice shall be provided to the U.S. Fish and Wildlife Service (USFWS), DFG, and the California Native Plant Society. These agencies shall be consulted to determine appropriate measures to avoid and minimize loss of individuals (for example, transplanting plants prior to disturbance).	Less than significant.

TABLE 1-1	
Impact and Mitigation Measure Summary	Table

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.4-5: Implementation of the project would potentially result in significant temporary and/or permanent impacts on giant garter snake.	MM 5.4-5: The Natomas Basin HCP includes measures to avoid, minimize, and mitigate direct loss of giant garter snakes from construction activities associated with urban development. The measures related to construction include: timing restrictions, dewatering requirements, and construction monitoring, as well as restrictions on management and maintenance practices. By conducting construction during the summer months when snakes are active, there is a high probability that snakes in the construction area would be able to avoid construction equipment. By dewatering habitat between November 1 and April 1, snakes would not inhabit construction zones when they emerge from their winter retreats. If dewatering must occur after April 15, it must remain dry for 15 consecutive days prior to excavating or filling habitat. Snakes have been found to leave habitat within a few days of dewatering. By waiting for 15 days after dewatering, it is reasonable to expect that any snakes would have left the construction zone prior to the start of construction activities and injury to snakes would be avoided. Providing construction monitoring (including pre-construction surveys) by a qualified biologist would help ensure that any snakes remaining in the construction area would be relocated in accordance with USFWS and DFG procedures.	Less than significant.
5.4-6: Implementation of the project would potentially result in significant temporary and/or permanent impacts on Swainson's hawk.	 MM 5.4-6: The Natomas Basin HCP includes measures to avoid, minimize, and mitigate take of Swainson's hawk related to construction impacts of urban development, including: preconstruction surveys to determine locations of nest sites; timing restrictions to avoid disturbing Swainson's hawks during the breeding season; and onsite biologist to monitor construction activity that might cause nest abandonment or forced fledging. 	Less than significant.

	TABLE 1-1	
_	Impact and Mitigation Measure Summary Ta	able

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.4-7: Implementation of the project would potentially result in significant temporary and/or permanent impacts on valley elderberry longhorn beetle.	 MM 5.4-7: Potential impacts on valley elderberry longhorn beetle during urban development are addressed in the Natomas Basin HCP by requiring compliance with the USFWS' Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS, 1999b). Key aspects of the guidelines include: survey for the beetles and host shrubs by a qualified biologist through the required pre-construction survey; avoidance of occupied elderberry bushes with a 100-foot construction buffer area (may be reduced with the approval of the USFWS); and mitigation for loss of occupied elderberry bushes where avoidance is not possible. 	Less than significant.
5.4-8: Implementation of the project would potentially result in significant temporary and/or permanent impacts on tricolored blackbird.	MM 5.4-8a: As described in the Natomas Basin HCP, impacts on tricolored blackbird would be addressed through giant garter snake avoidance, minimization, and mitigation measures, given that this species shares some habitat similarities with the tricolored blackbird. Specific measures include: timing restrictions, dewatering requirements, and vegetation control management.	Less than significant.
	MM 5.4-8b: If a nesting colony of tricolored blackbirds is detected in the project area, nest avoidance measures will be implemented as described in the Natomas Basin HCP.	
5.4-9: Implementation of the project would potentially result in significant temporary and/or permanent impacts on white-faced ibis.	MM 5.4-9a: As described in the Natomas Basin HCP, impacts on white-faced ibis would be addressed through giant garter snake avoidance, minimization, and mitigation measures, given that this species shares some habitat similarities with the white-faced ibis. Specific measures include timing restrictions, dewatering requirements, and vegetation control management. MM 5.4-9b: If a nesting colony of white-faced ibises is detected in the project area, nest avoidance measures will be implemented as described in the Natomas Basin HCP	Less than significant.

Impact	Mitigation Measure(s)	Level of Significa
5.4-10: Implementation of the project would potentially result in significant temporary and/or permanent impacts on loggerhead shrike.	MM 5.4-10: If a loggerhead shrike nest is detected in the project area, nest avoidance measures will be implemented as described in the Natomas Basin HCP.	Less than significant.
5.4-11: Implementation of the project would potentially result in significant temporary and/or permanent impacts on burrowing owls.	MM 5.4-11: Potential impacts on burrowing owls during urban development are addressed in the Natomas Basin HCP by requiring compliance with DFG's Staff Report on Burrowing Owl Mitigation. Key aspects of the report include:	Less than significant.
	• surveys of the project site and a 500-foot buffer by a qualified biologist during both the wintering and the nesting seasons,	
	 avoidance of burrows with a 160-foot construction buffer area, and 	

	• mitigation where avoidance is not possible, including translocating owls to a permanent mitigation area.	
5.4-12: Implementation of the project would potentially result in significant temporary and/or permanent impacts on northwestern pond turtle.	MM 5.4-12: As described in the Natomas Basin HCP, impacts on northwestern pond turtle would be addressed through giant garter snake avoidance, minimization, and mitigation measures, given that this species shares some habitat similarities with the northwestern pond turtle. Specific measures include timing restrictions, dewatering requirements, vegetation control management, and the creation of managed marsh habitat.	Less than significant.

Level of Significance after Mitigation

TABLE 1-1	
Impact and Mitigation Measure Summary Ta	able

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.4-13: Implementation of the project would potentially result in significant temporary and/or permanent impacts on vernal pool species, including California tiger salamander, western spadefoot toad, vernal pool fairy shrimp, vernal pool tadpole shrimp, midvalley fairy shrimp, Boggs Lake hedge-hyssop, Sacramento Orcutt grass, slender Orcutt grass, Colusa grass, and legenere.	 MM 5.4-13: As described in the Natomas Basin HCP, the following measures will be implemented to avoid, minimize, and mitigate take of vernal pool species: report to USFWS development plans that affect vernal pools within the Natomas Basin, require developers to conduct biological surveys for vernal pool species in the Permit Areas and to have a qualified biologist identify whether or not jurisdictional waters subject to separate Section 404 permits are present, and if jurisdictional waters subject to Section 404 permit requirements of the Federal Clean Water Act are present, the applicant must apply for a 404 permit, and a separate consultation under Section 7 will be required if vernal pool obligate or associated species are discovered. However, all incidental take of vernal pool or wetland Covered Species, - whether found within jurisdictional Waters of the United States or not, will be authorized through the Incidental Take Permits and the applicant will be required to implement the take avoidance, minimization and mitigation measures provided for in the Natomas Basin HCP. 	Less than significant.
5.5-1: The project could cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.	MM 5.5-1: Prior to construction, Historic American Building Survey (HABS) or Historic American Engineering Record (HAER) recordation will be identified. To avoid environmentally sensitive areas, buildings or structures would be relocated to avoid cultural resources.	Less than significant.

TABLE 1-1	
Impact and Mitigation Measure Summary Ta	able

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.5-2: The project could cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.	MM 5.5-2a: Prior to final project design, a project-level archaeological survey will be conducted in the area and a report documenting resources will be completed. The report will include identification of environmentally sensitive areas and identify appropriate measures to avoid impacts. Measures may include additional research, subsurface testing, data recovery excavation, preparation of reports, and curation of artifacts and excavation records at a recognized repository or museum.	Less than significant.
	MM 5.5-2b: Prior to project construction, a project-level Native American consultation will be conducted.	
5.5-3: The project could directly or indirectly destroy a unique paleontological resource of site or unique geologic feature.	No mitigation required.	Less than significant.
5.5-4: The project could disturb any human remains, including those interred outside of formal cemeteries.	MM 5.5-4a: Human remains may be exhumed, if necessary, and reburied at another location (a Euro- American or Native American cemetery) as appropriate. Often, exhumation of human remains requires scientific non-destructive observations and written documentation by the archaeologists who remove the remains.	Less than significant.
	MM 5.5-4b: In the event of unearthing of human remains, all construction in the vicinity shall cease, and the county coroner shall be notified immediately (per California Health and Safety Code 7050.5). In addition, a qualified archaeologist shall be contacted to assess whether the remains are of Native American origin. If the remains are of Native American origin, the coroner shall notify the Native American Heritage Commission within 24 hours of identification.	
	MM 5.5-4c: Prior to construction, workers will be provided with sensitivity training to identify and address any unearthed human remains during construction.	

TABLE 1-1	
Impact and Mitigation Measure Summary T	able

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.6 Geology, Soils, and Seismicity		
5.6-1: Implementation of the project could expose people or structures to potential adverse effects, involving rupture of a known earthquake fault, strong seismic ground shaking, liquefaction or other seismic-related ground failure, or landslides.	MM 5.6-1a: Design and construction of the proposed municipal water supply facilities, including pipelines, treatment facilities, booster stations, storage tanks, and groundwater supply wells, should be in accordance with the Seismic Ranking for the area that is specified in the Uniform Building Code.	Less than significant.
	MM 5.6-1b: A detailed geotechnical investigation should be completed by a registered geologist or geotechnical engineer as part of a project-level analysis. Structures should be sited away from any areas that are identified in the geotechnical investigation as presenting a substantial seismic hazard.	
5.6-2 Construction of the project could result in substantial soil erosion or the loss of topsoil.	MM 5.6-2: Construction activities will conform to federal, state, and local requirements for erosion and sediment controls. Coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit will be obtained, and a SWPPP will be developed and implemented to effectively control erosion and sediment transport from the site.	Less than significant.
5.6-3: Operation of the project could result in substantial soil erosion or the loss of topsoil.	No mitigation required.	Less than significant.

TABLE 1-1	
Impact and Mitigation Measure Summary	/ Table

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.6-4 The project could be located on a geologic unit or soil that is unstable, or could become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.	MM 5.6-4a: Baseline monitoring will be conducted at a series of subsidence monitoring locations prior to groundwater pumping to provide a point of reference upon which future subsidence measurements would be compared.	Less than significant.
	MM 5.6-4b: If groundwater pumping is determined to substantially contribute to measured subsidence in the area, water supply sources would be evaluated to determine the appropriate conjunctive use (i.e., surface and groundwater mixed use) that would achieve water supply requirements and likewise reduce land subsidence.	
	MM 5.6-4c: Design and construction of the municipal water supply system would follow recommendations of a geotechnical soils report and the Uniform Building Code requirements to ensure adequate and uniform soil stability and suitable support for all facilities.	
5.6-5 The project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1994), and could create substantial risks to life or property.	MM 5.6-5: Recommendations from a geotechnical soils investigation and conformance to the Uniform Building Code would be followed for proper design and construction of the water supply pipeline and associated facilities on expansive soils.	Less than significant.
5.6-6: The project may be located in an area that has soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	No mitigation required.	No impact.

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.7 Hazards and Hazardous Materials		
5.7-1: Construction of the project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	MM 5.7-1a: During construction, hazardous materials stored onsite will be limited to small quantities of paint, coating and adhesive materials, and refueling containers. These materials will be stored in their original containers inside a flammable materials cabinet. Fuels, lubricants, and various other liquids needed for operation of construction equipment will be transported to the construction site on as as-needed basis by equipment service trucks.	Less than significant.
	MM 5.7-1b: An onsite safety officer will be designated to implement health and safety guidelines and, if necessary, contact emergency response personnel and local hospitals. Material Safety Data Sheets (MSDS) for each onsite chemical will be maintained and stored on site in the contractor's jobsite office. Employees will be made aware of the location of the MSDS sheets.	
	MM 5.7-1c: Project construction contractors will be required to implement standard operating procedures for servicing and fueling construction equipment. The procedures will at a minimum include:	
	 No smoking, open flames, or welding will be allowed in fueling/service areas. 	
	• Servicing and fueling of vehicles and equipment will occur only in designated areas. These areas will be in locations that allow for spill control.	
	 Fueling, service, and maintenance will be conducted only by authorized, trained personnel. 	
	 Refueling will be conducted only with acceptable pumps, hoses, and nozzles. 	

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
	 All disconnected hoses will be handled in a manner to prevent residual fuel and liquids from being released to the environment. 	
	 Drip pans will be placed under equipment to minimize potential spills during servicing. 	
	 All equipment will be maintained in good working order and equipment containing hazardous materials will be inspected periodically for signs of spills or leakage. 	
	 Service trucks will be equipped with fire extinguishers, personal protective equipment, and spill containment equipment such as absorbents. 	
	 Service trucks will not remain on the site after fueling and service are complete. 	
	 Spills that occur will be cleaned up immediately and contaminated soil will be containerized and disposed of properly. 	
	• Spills that occur will be reported in accordance with applicable federal, state, and local requirements.	
	• Emergency phone numbers will be available on site.	
	 All containers used to store hazardous materials will be properly labeled and kept in good condition. 	
5.7-2: Operation of the project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	MM 5.7-2a: Spill containment structures will be constructed surrounding each of the bulk chemical storage tanks. Each containment structure will be designed to contain the tank volume plus additional volume to contain a 25-year, 24-hour rainfall event to account for precipitation. Sumps will be provided within the containment structure(s) to easily remove collected	Less than significant.

rainwater and spilled chemicals.

TABLE 1-1	
Impact and Mitigation Measure Summary Tab	le

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
	MM 5.7-2b: Hazardous materials will be stored and handled in accordance with all local, state, and federal regulations and codes. A safety program will be implemented including safety training programs. A Hazardous Materials Business Plan will be prepared for approval by the Sutter County Environmental Health Department.	
	MM 5.7-2c: Visual monitoring during operations will be performed to determine compliance with and effectiveness of the proposed mitigation measures.	
5.7-3: Construction of the project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	MM 5.7-3a: If contaminated soil or groundwater is encountered during construction, the appropriate county's Hazardous Material Division and the local fire departments would be notified. This measure would minimize construction-period impacts related to hazardous materials.	Less than significant.
	MM 5.7-3b: If evidence of contaminated materials is encountered during construction, construction shall cease immediately and applicable requirements of the Comprehensive Environmental Release Compensation and Liability Act and the California Code of Regulations (CCR) Title 22 regarding the disposal of waste shall be implemented.	
	MM 5.7-3c: Mitigation measures 5.7-2b and 5.7-2c also will be implemented for this impact.	
5.7-4: Operation of the project could create a significant hazard to the public or the environment through reasonably foreseeable	MM 5.7-4a: Sodium hypochlorite delivery trucks will be unloaded in an unloading area designed to facilitate safe delivery of the chemical and spill containment features.	Less than significant.
upset and accident conditions involving the release of hazardous materials into the environment.	MM 5.7-4b: 5.7-2a through 5.7-2c also are applicable.	

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.7-5: The project could be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.	MM 5.7-5: Mitigations are the same as 5.7-3a, 5.7-3b, and 5.7-3c above.	Less than significant.
5.7-6: Operation of the project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	No mitigation required.	No impact.
5.7-7: A project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, could result in a safety hazard for people residing or working in the project area.	No mitigation required.	No impact.
5.7-8: The project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	No mitigation required.	No impact.
5.7-9: The project could expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	No mitigation required.	No impact.

TABLE 1-1	
Impact and Mitigation Measure Summary	Table

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.8 Hydrology and Water Quality		
5.8-1: Construction of the project could violate any water quality standards or waste discharge requirements by contributing sediments and other pollutants associated with construction activities to the Sacramento River or tributaries, and cause or contribute to a violation of water quality standards.	MM 5.8-1: Construction of water supply infrastructure should be covered under the State's General Construction Permit prior breaking ground. Storm water BMPs for erosion and sedimentation and for storm water and non-storm water discharges related to pollutants associated with equipment should be selected from the California Stormwater Quality Association Construction BMP manual and incorporated into a site-specific SWPPP. Implementation of the SWPPP should include site inspections to ensure BMPs are functioning properly. BMPs should be modified, as necessary, to ensure an adequate combination of erosion and sediment controls are implemented.	Less than significant.
5.8-2: Operation of the project could violate any water quality standards or waste discharge requirements by contributing sediments and other pollutants associated with construction activities to the Sacramento River or tributaries, and cause or contribute to a violation of water quality standards.	MM 5.8-2: GSWC will develop and implement an operation and maintenance program to prevent or reduce pollutant runoff from municipal operations into the storm sewer system. The program will include a pollution and prevention plan for areas that store utility equipment. Visual inspections will be conducted routinely, and employees will be trained on pollution prevention/good housekeeping techniques for municipal operations.	Less than significant.
5.8-3: Municipal well construction could violate any water quality standards or waste discharge requirements during well development.	MM 5.8-3: Well development water will be discharged to land if possible. If a discharge to surface water is the only viable option, a Notice of Intent will be filed with the Central Valley Regional Water Quality Control Board (CVRWQCB), and a Monitoring and Reporting Program will be implemented consistent with the NPDES permit requirements for a low-threat discharge to surface waters.	Less than significant.

TABLE 1-1		
Impact and Mitigat	tion Measure Summary Table	9

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.8-4: Groundwater pumping related to operation of the project may lower the groundwater table and reduce groundwater supplies over time, thereby reducing the amount of water available for irrigation and urban uses.	MM 5.8-4: A conjunctive water supply plan should be developed by Natomas and GSWC for ensuring consistent and adequate water supply for South Sutter County development. Groundwater levels should be regularly monitored (when the wells are not operating) in each of the seven proposed extraction wells. If levels show a consistent decline over multiple years, analysis of the groundwater budget should be performed to determine whether the M&I use is responsible. If M&I supply is found to be contributing to lowering groundwater levels beyond what is acceptable, alternatives should be implemented to reduce groundwater use or increase groundwater recharge, or both. With implementation of mitigation measures, impacts are anticipated to be less than significant.	Less than significant.
5.8-5: Construction of the project may substantially alter the existing drainage pattern of the service area in a manner that would result in substantial erosion or siltation onsite or offsite.	No mitigation required.	Less than significant.
5.8-6: Operation of the project may substantially alter the existing drainage pattern of the service area in a manner that would result in substantial erosion or siltation onsite or offsite.	MM 5.8-6: All booster stations, storage tanks, and treatment facilities should be designed and built outside the beds and banks of existing canals, drains, and streams. Facilities should be designed in such a way that storm water runoff from the facilities does not discharge as concentrated surface flows that would induce erosion.	Less than significant.
5.8-7: Construction and/or operation of the project would substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite.	No mitigation required.	Less than significant.

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.8-8: Construction and operation of the project would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems to control.	No mitigation required.	Less than significant.
5.8-9: The project could substantially degrade surface water or groundwater quality.	No mitigation required.	Less than significant.
5.8-10: The project could place structures such as water storage tanks and treatment facilities within a 100-year flood hazard area that would impede or redirect flood flows.	No mitigation required.	Less than significant
5.8-11: The project could expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.	MM 5.8-11: Until the area is removed from the 100-year flood hazard zone and the removal is certified by FEMA, a facility emergency plan should be developed and implemented. The plan would include measures to protect structures from potential flood damage. An emergency plan could contain measures such as construction of ring levees around all above-ground water supply facilities to protect structures from possible flood damage.	Less than significant.
5.8-12 The project could be subject to inundation by seiche, tsunami, or mudflow.	No mitigation required.	No impact.
5.9 Land Use		
5.9-1 The project potentially would conflict with existing land uses.	MM 5.9-1: Utility easements shall be required for encroachments into public rights-of-way and privately owned lands to ensure adequate access.	Less than significant.
5.9-2: The project would potentially conflict with applicable land use plans and policies.	No mitigation required.	Less than significant.
5.9-3: The project would potentially conflict with a habitat conservation plan or natural community conservation plan.	No mitigation required.	Less than significant.

TABLE 1-1
Impact and Mitigation Measure Summary Table
Impact
5.10 Mineral and Energy Resources

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.10 Mineral and Energy Resources		
5.10-1 The project could result in the loss of the availability of a known mineral that would be of value to the region and the residents of the state.	No mitigation required.	No impact.
5.10-2: The project could result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	No mitigation required.	No impact.
5.10-3: The project could result in the loss of availability of a known energy resource that could be of value to the region and the residents of the state.	No mitigation required.	Less than significant.
5.11 Noise		
5.11-1: Construction of the project could expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	 5.11-1: During construction of the components of the project, best management practices (BMPs) would be implemented to minimize noise impacts. Construction activity shall be restricted to the hours between 7 a.m. and 7 p.m. on weekdays. Work on weekends would need to be approved by the Planning Department upon request. Contractor shall locate all stationary noise-generating equipment as far as possible from nearby noise-sensitive receptors. Where possible, noise generating equipment shall be shielded from nearby noise-sensitive receptors by noise-attenuating buffers. Stationary noise sources located 500 feet from noise-sensitive receptors shall be equipped with noise-reducing engine housings. Portable acoustic barriers shall be placed around noise-generating equipment that is located less than 200 feet from noise-sensitive receptors. 	Less than significant.

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
	• Contractor shall assure that construction equipment powered by gasoline or diesel engines have sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment shall be permitted to have an un-muffled exhaust.	
	 Contractor shall assure that noise-generating mobile equipment and machinery are shut off when not in use. 	
5.11-2: Operation of the project could expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	MM 5.11-2a: For operation of the project, typical noise- reducing features for pump stations shall include the encasement or shielding of noisy equipment as appropriate. Pump stations and all pump motors shall be located within an enclosed concrete masonry structure with acoustical louvers and other noise control measures (if determined to be necessary during final detailed design). The structure will have an adequate setback and screening to achieve acceptable noise levels at the property lines of nearby sensitive receptors. Examples of noise screening include, but are not limited to, the use of vegetation, berms, wood, and masonry fencing. Enclosure of noise equipment, including pump motors, would reduce associated noise levels by approximately 20 dBA.	Less than significant.
	MM 5.11-2b: Proposed well sites shall be designed to minimize or eliminate noise impacts to potential sensitive receptors. Well facilities, such as the vertical turbine pumps and motors and motor control equipment, will be located in buildings constructed of concrete masonry to reduce noise.	

TABLE 1-1
Impact and Mitigation Measure Summary Table

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.11-3: Construction of the project could expose persons to or generation of excessive ground- borne vibration or ground-borne noise levels.	MM 5.11-3: The construction contract shall include conditions limiting construction activities to weekday hours between 7 a.m. and 7 p.m. All equipment shall be maintained in proper working order, including proper muffling.	Less than significant.
5.11-4: Operation of the project could create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	MM 5.11-4: Mitigation measures are the same as 5.11-2a and 5.11-2b.	Less than significant.
5.11-5: Construction of the project could cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	MM 5.11-5: Mitigation measures are the same as 5.11-1.	Less than significant.
5.11-6: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport, private airstrip, or public use airport; expose people residing or working in the project area to excessive noise levels.	No mitigation required.	No impact.
5.11-7: The project would be located within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.	No mitigation required.	Less than significant.
5.12 Population and Housing		
5.12-1: Construction of the project could indirectly affect population growth by providing municipal water infrastructure.	No mitigation required.	Less than significant.
5.12-2: The project could displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.	No mitigation required.	No impact.

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.12-3: The project could displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.	No mitigation required.	No impact.
5.13 Public Services		
5.13-1: Emergency access could affect police and fire response time during construction in major roadways.	MM 5.13-1: The contractor will have a traffic control plan in place and approved prior to construction. Construction schedules shall be submitted to the Sutter County Sheriff and the local fire department for review and comment, and updated as necessary.	Less than significant.
5.14 Recreation		
5.14-1: The project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	No mitigation required.	No impact.
5.14-2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	No mitigation required.	No impact.
TABLE 1-1		
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Impact and Mitigation Measure Summary	/ Table	

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.15 Transportation and Traffic		
5.15-1: Construction of the project may result in temporary traffic increases, affect traffic flow, and have the potential for level of service degradation during construction of the project transmission lines in roadways.	MM 5.15-1a: Prior to the start of the construction phase, the contractor shall submit a standard Traffic Management Plan to Sutter County for review and approval. The plan shall include signage posted in areas designated as temporary traffic control zones and speed limits to be observed within control zones.	Less than significant.
	MM 5.15-1b: During construction, the applicant shall implement traffic management measures as deemed necessary and applicable by a properly licensed engineer. Traffic management measures shall include:	
	 Temporary traffic lanes shall be marked, barricades and lights shall be provided at excavations and crossings. 	
	 Construction across on- and off-street bikeways shall be performed in a manner that allows for safe bicycle access or bicycle traffic will be safely re- routed. 	
	• Private driveways located within construction areas will remain open to maintain access to the maximum extent feasible. If it is anticipated that a trench will remain open in front of a private driveway for more than five days, metal plates shall be used to provide 24-hour access.	
	• Pipeline construction activities shall affect the least number of travel lanes as possible, with both directions of traffic flow being maintained at all times, to the extent feasible.	
	• Pipeline construction shall avoid the morning and evening peak traffic periods to the extent feasible.	

TABLE 1-1	
Impact and Mitigation Measure Summary	Table

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.15-2: The project could result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	No mitigation required.	No impact.
5.15-3: The project could substantially increase hazards to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment).	No mitigation required.	No impact.
5.15-4: Construction within roadway rights-of-way could affect emergency access and response.	MM 5.15-4: The contractor shall obtain all appropriate encroachment permits that include a traffic control plan to address emergency responder access. The traffic control plan will follow local/state requirements for traffic control, including flaggers, signage, etc.	Less than significant.
5.15-5: The project could result in inadequate parking capacity.	No mitigation required.	No impact.
5.15-6: Construction of the project may result in potential impacts on traffic and circulation because of the transportation of materials and workers to and from the project site.	MM 5.15-6: All impacts from truck traffic would be the same as for Impact 5.15-1 above and the mitigation measures would be the same (5.15-1a and 5.15-1b).	Less than significant.
5.15-7: The project could conflict with adopted policies, plans, or programs supporting alternative transportation (for example, bus turnouts, bicycle racks).	No mitigation required.	No impact.
5.16 Utilities and Service Systems		
5.16-1: The project could exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	No mitigation required.	Less than significant.

TABLE 1-1	
Impact and Mitigation Measure Summary	Table

Impact	Mitigation Measure(s)	Level of Significance after Mitigation
5.16-2: The project would result in the construction of new water treatment facilities, the construction of which could cause significant environmental effects.	No mitigation required.	Less than significant.
5.16-3: The project could require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	MM 5.16-3: Final water infrastructure design will consider and make efforts to avoid existing storm water facilities. In places where avoidance is not practical, facility design requirements will be implemented to have no impact on storm water facilities.	Less than significant.
5.16-4: The project would require sufficient water supplies available to serve the project from existing entitlements and resources, or require new expanded entitlements.	No mitigation required.	Less than significant.
5.16-5: The project could result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	No mitigation required.	Less than significant.
5.16-6: The project would need solid waste disposal to a landfill with sufficient permitted capacity to accommodate its disposal needs, including construction debris and ongoing daily operations waste.	No mitigation required.	Less than significant.
5.16-7: Debris from construction of the project could be disposed of in violation of federal, state, and local statutes and regulations related to solid waste.	MM 5.16-7: The contractor shall demonstrate a means of disposal that is in compliance with federal, state, or local laws and regulations.	Less than significant.

2.1 Overview

GSWC intends to provide M&I water service for anticipated growth and development in south Sutter County. GSWC is seeking a CPCN to establish a non-contiguous service area (South Sutter County Service Area) in the southern, unincorporated portion of Sutter County that falls within the corporate boundaries of Natomas. Through an M&I agreement. Natomas would transfer water to GSWC sufficient to meet M&I water needs.

The proposed project will provide M&I water to a proposed development project known as Sutter Pointe. Sutter County is considering adopting the Sutter Pointe Specific Plan (Sutter County, 2006). Adoption of a specific plan is a "project" subject to the California Environmental Quality Act (CEQA) and requires the preparation and consideration of an environmental impact report (EIR). That report is separate from this document and is being prepared for Sutter County. The EIR will include a programmatic analysis for the entire specific plan area and a project-level analysis for the first phase of development.

Historically, Natomas has provided water for agricultural use within its service area. Portions of the Natomas service area have experienced changes in land use in recent years, including the conversion of agricultural lands to urban use. This pattern is anticipated to continue, and Natomas expects the demand for water service within its historical service area to continue to change, evolving into urban, agricultural, and open space land uses distributed throughout the area.

Natomas currently provides water for irrigation associated with agriculture and habitat conservation to various landowners. Because of the expertise and capital investment required to provide M&I water service, Natomas requested that GSWC provide M&I service to the South Sutter County Service Area.

To execute the agreed-upon water services, GSWC must acquire a CPCN from the California Public Utilities Commission. The new South Sutter County Service Area M&I water infrastructure would be constructed consistent with the South Sutter County MIAPS (Wood Rodgers et al., 2008) and the Integrated Water Resources Management Plan (ASWC et al., 2006). The anticipated environmental consequences of developing the planned M&I water infrastructure are presented in this PEA.

2.2 Project Objectives

The proposed project intends to support the M&I water infrastructure needs in south Sutter County for planned growth consistent with the Sutter County General Plan. The purpose of the planned growth is to create a mixed-use development by generating employment opportunities and providing a variety of residential housing types. This analysis focuses on the area authorized for development by Sutter County (i.e., Sutter Pointe), which totals 7,500 acres. This is the South Sutter County Service Area described in the CPCN. The intended specific project that lies within the proposed South Sutter County Service Area is the Sutter Pointe development. The Sutter Pointe project will be split into residential/mixed-use development phases and employment center development phases and is anticipated to occur over approximately 30 years. The project is consistent with the community's desire to create jobs in Sutter County as indicated by voter approval of "Measure M" in November 2004. To bring employers and jobs to the area, critical infrastructure is required. The water infrastructure project will support the necessary water supply needs that are required to serve intended development in the area (Sutter County, 2006).

The proposed project would be phased to correspond with development of Sutter Pointe, and is anticipated to be constructed over approximately 30 years. The project is consistent with the community's desire to create jobs in Sutter County. An integrated network of water transmission and storage facilities is proposed to convey groundwater and surface water to the prospective development areas. The water infrastructure project would support the water supply needs for the intended development in the area.

At this time, the objective is to confirm that GSWC will be responsible for development, operation, and maintenance of the M&I water system within the project area. Pursuant to the Water Transfer Agreement of February 4, 2005, GSWC and Natomas have agreed to share water service obligations for the Natomas service area, with Natomas providing irrigation water service for its agricultural shareholders and GSWC providing M&I water service to new residential, commercial, and industrial development. Natomas has agreed further to waive its right under California Public Utilities Code Sections 1503 and 1506 to claim service duplication by GSWC and to deliver water to GSWC. Based on the vested water rights of Natomas and the capital and expertise of GSWC, the two companies will jointly provide integrated irrigation and M&I water services within the project area.

3.1 Project Location

The project is located in south Sutter County, north of the Sacramento metropolitan area (Figure 3-1). Land representing the proposed South Sutter County Service Area is presented in Figure 3-2. The proposed South Sutter County Service Area represents prospective growth areas consistent with the Sutter County General Plan and the Sacramento Area Council of Governments (SACOG) Blueprint Project for the region. The South Sutter County Service Area is 7,500 acres (Table 3-1). Sutter County is in the process of considering approval of a Specific Plan for this area, the Sutter Pointe Specific Plan.

TABLE 3-1

Proposed Development within Proposed South Sutter County Service Area

Development Area	Acres
Residential	2,900
Industrial West	1,600
Industrial East	2,000
Urban Reserve	1,000
Total	7,500

3.2 Existing System

Presently, the area has no facilities that provide M&I water service. The limited existing development (for example, the Sysco distribution center) is served by onsite wells and septic systems.

3.3 Project Objectives

Project objectives are described in Section 2.2.

3.4 Proposed Project

The proposed project will rely on a combination of seven groundwater wells and surface water sources to supply water to the South Sutter County Service Area. The conjunctive use of groundwater and surface water is planned. The M&I water infrastructure would include water treatment for groundwater and surface water facilities (including chemical injection and pressure filtration systems), an operations building, groundwater wells, water

transmission lines, water storage tanks, and associated pumps to process and distribute water. Specific project features are described below in Section 3.5, Project Components.

3.5 Project Components

To meet projected demand at buildout (estimated to be approximately 25,000 acre-feet per year [AFY]), a conjunctive water supply program will be developed. Groundwater wells will tap aquifers deep below the project area. Surface water will be obtained by converting the existing surface water rights used for irrigation to allow M&I use. Raw water from both services will be treated to meet drinking water standards. Proposed M&I infrastructure is shown in Figure 3-3.

3.5.1 Groundwater Production and Treatment

A groundwater wellfield system will be developed to yield approximately 7,500 AFY at a safe yield rate of 1 acre-foot per acre. This groundwater supply system will provide the initial water supply for the Sutter Pointe Specific Plan, serving the first several years of development (approximately 30 percent of the ultimate buildout of the planning area). In addition to the wellfield, the groundwater program will include a groundwater treatment plant capable of supplying more than 12 million gallons per day (mgd). It is proposed that the treatment plant would be developed in four phases of approximately 3 mgd per phase as development occurs.

It is anticipated that up to 35 percent of the total water supply at buildout would be extracted from the groundwater basin within the service area. This amounts to an average demand of approximately 7,500 AFY. With peak demand for groundwater estimated at 10,500 gallons per minute (gpm), approximately seven wells producing 1,500 gpm each would be required. During the early years of development the wells would provide 100 percent of the water supply. The distribution of the wells would be determined in conjunction with the layout of the primary water conveyance and distribution system. Each of the wells would be drilled and equipped with below-ground screens and casing, and pumps. The wells would be connected by conveyance piping to bring the raw water to the treatment plant.

The treatment facilities and process to treat raw (untreated) groundwater would consist of oxidation (by chlorine) for iron and manganese concentrations, and precipitate coagulated arsenic through filtration via pressure filter vessels with a combination of greensand and anthracite media.

3.5.2 Surface Water Production and Treatment

Surface water supply will be developed to serve the remaining approximately 17,500 AFY needs of the development. It is proposed that this program consist of a turnout from the new year-round river diversion facility under development by Natomas (the Sankey Diversion).





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Natomas plans to consolidate its five existing surface water diversions with a combined capacity of 630 cubic feet per second (cfs), located on the Sacramento River and the Natomas Cross Canal into two new diversions with state-of-the-art fish screens. The first of the new facilities, the Sankey Diversion of 420 cfs, would be located approximately 0.25 mile downstream of the confluence of the Natomas Cross Canal and the Sacramento River. The second, the Elkhorn Diversion of 210 cfs, would be located approximately 0.9 mile downstream of Elverta Road near the existing Elkhorn pumping plant. The projects are authorized under the Bay-Delta Environmental Restoration Program. For purposes of providing M&I water, only the Sankey Diversion would be used. The surface water diverted from the Sacramento River would require conventional treatment. Ultimately, a 40-mgd water treatment plant would be required to provide municipal water to full build-out of the Sutter Pointe development. The treatment plant will be constructed in stages.

An approximately 41-mgd raw water booster pump station would be constructed on the land side of the Sankey Diversion, and a 48-inch-diameter raw water transmission pipeline will be constructed to convey these flows. The proposed surface water treatment plant will be developed in four phases of approximately 10± mgd per phase as development within the planning area occurs.

The selection of the appropriate treatment process for Sacramento River water diverted at the Sankey site depends upon general water quality factors such as turbidity, color, total organic carbon, bacteriological contamination, and other upstream contamination. General guidelines have been established in the industry for applicability of the basic treatment process alternatives of conventional treatment, direct filtration, in-line filtration, two-stage filtration, and membrane filtration based upon basic water quality parameters.

Other criteria such as reliability, flexibility, ease of implementation, level of operator expertise, and waste solids handling also enter into the evaluation process. The overall quality of the Sacramento River at the Sankey Diversion site is relatively high. However, the raw water quality is generally not applicable for direct filtration, in-line filtration, two-stage filtration, and membrane filtration because of high turbidity episodes in the Sacramento River. As demonstrated by the performance of the existing City of West Sacramento Bryte Bend Water Treatment Plant, the conventional process train has no difficulty treating such water if adequate chemical feed, flocculation, and sedimentation time is provided. Because of the seasonal and sporadic nature of the raw water quality, utilizing conventional treatment for water diverted at the diversion site may be the desired technology.

3.5.3 Water Distribution and Storage

It is anticipated that groundwater will provide the initial water supply, and the surface water diversion structure and associated facilities would be planned, designed, and constructed thereafter. No public municipal water supply facilities exist within the project area; the few existing M&I uses are supplied by private wells. An extensive network of onsite water transmission and water storage facilities would be needed to convey the surface water diverted from the Sacramento River and groundwater extracted from the proposed wells to the prospective development areas. The system will include a series of interconnected water transmission and distribution pipelines varying in size from 8- to 36-inch diameter. The determination of the transmission pipe diameters is based upon flow delivered to the respective development areas, the velocity in the pipes, and delivery

pressure. The storage required will be approximately 32 million gallons to serve the full buildout of the area. Presented on Figure 3-3 is a general layout of the preliminary backbone transmission network determined to serve the Natomas M&I service area. Water tanks (single or dual to be identified during the design phase) will be erected at each location including booster pump stations and emergency/auxiliary backup generators. Booster pumps will provide adequate system pressure and flow.

A hydraulic model was run as part of the MIAPS process (Wood Rodgers et al., 2008). The model was established assuming maximum day demands and transmission main lines following existing roadways. The model assumed that 75 percent of the system demand would be supplied by surface water. Surface water conveyance from the proposed treatment plant site to the service area would require large-diameter mains.

The model did not locate exact groundwater sites. Initial development phasing will dictate the appropriate locations for groundwater well sites. Water storage requirements are based on the general design criteria used by GSWC. The M&I service area must have sufficient capacity to meet the operational, emergency, and fire flow requirements. More detailed flow requirements are discussed in the MIAPS report (Wood Rodgers et al., 2008).

3.6 Project Phasing

Phasing of water infrastructure will be implemented based upon demand and water treatment capacity over several years. The service area infrastructure was divided into three phases (Wood Rodgers et al., 2008) that coincide with the construction of major supply infrastructure.

Flexibility in phasing the development of infrastructure is imperative. As noted earlier, the initial phase of development is assumed to be supplied by groundwater. During this initial phase, design and construction of the surface water diversion and treatment facilities would begin. The treatment plant facilities would be phased to coincide with demands. The main processes can be staged, while other facilities would be sized to serve the future expansion. Initially, treatment facilities would be designed for one-half of the maximum treatment capacity. In addition, the treatment facilities would be designed as a two-train treatment system, which includes two flocculation basins, two sedimentation basins, and four gravity filters for each train. This design provides operational flexibility for maintenance and cleaning the basins.

3.6.1 Phase 1

Phase 1 includes the initial development, which is supplied by groundwater. The first 5 years of the phase represent a ramp-up period with slow initial water demand. The first groundwater treatment plant in south Sutter County would be designed and constructed during the initial ramp-up period, with seven wells supplying the needed water. It is assumed the groundwater treatment plant would be designed to supply a capacity of 10,500 gpm during maximum-day conditions. The treatment plant is assumed to have a 20-million-gallon capacity for the initial phase to serve the area.

Storage requirements may be met by constructing 8 million gallons of storage, for example, four 2-million-gallon storage tanks. It is assumed two tanks would be constructed per

location and one booster pump station would serve the two tanks. This configuration results in two storage tank sites in Phase 1. The twin 2-million-gallon tanks per site provide redundancy and reliability in storage. If one tank is taken offline for maintenance, the second tank would still be capable of providing service to the area.

3.6.2 Phase 2

Phase 2 includes the introduction of surface water into the service area. Average daily water demand is assumed to match or exceed the available groundwater limit. At this point, it is anticipated that surface water is required to supply the continued growth in the service area.

As noted earlier, the treatment plant is anticipated to be built to accommodate two phases of approximately 20 mgd each. The treatment facility would be expanded to process additional water incorporating surface water and expansion to meet the community water demand. A transmission main would be constructed to convey the water to the system.

Storage requirements would be met by the construction of eight 2-million-gallon storage tanks. Two tanks would be constructed per site, with one booster pump station serving the two tanks. This configuration results in four sites for storage in Phase 2.

3.6.3 Phase 3

Phase 3 represents the buildout of the service area and the completion of the surface water treatment plant capacity. The demands for the service area are anticipated to have reached the capacity of the groundwater and initial surface water supply.

The second phase of the surface water treatment plant would add another 20 million gallons of supply to the system for a combined total of 40 million gallons. A parallel transmission main would convey the remaining demands to the service area. Storage requirements are met by the construction of four 2-million-gallon storage tanks. Two tanks would be constructed per site, with one booster pump station would serve the two tanks. This configuration results in two sites for storage in Phase 3.

3.7 Right-of-Way Requirements

Right-of-way requirements will be identified during project design consistent with project phasing. Rights-of-way will be legally obtained for permanent utility easements and temporary construction easements prior to construction. Efforts will be made wherever possible to utilize existing utility or public easements. The criteria in choosing main location will, where feasible, avoid existing utilities, minimize repaying, and simplify traffic control.

Several easements traverse the proposed Sutter Pointe development area. Natomas and Reclamation District 1000 (RD 1000) have easements for irrigation and drainage ditches. Most of these easements fall within private road and canal reservations. These easements vary in width from 20 to 70 feet and follow the existing constructed ditches.

3.8 Construction

3.8.1 For All Projects

Staging Areas

Main staging areas are likely to be located in an easily accessible area. Arrangements will be made between the contractor and property owner for all stored construction and equipment materials. Temporary staging of raw materials may occur in existing rights-of-way when short-term storage is needed. Staging areas will be located in areas at least 100 feet from any water course or drainage. Consideration will be given to avoid sensitive areas, such as proximity to neighbors. Staging in any environmentally sensitive areas will be avoided. Site preparation for staging areas will incorporate appropriate measures to prevent unnecessary vegetation removal. Ingress and egress roads will be covered with rock base at a minimum to prevent off-tracking of dirt.

Main staging areas will be large enough to safely store heavy equipment, work crew vehicles, long-term storage of construction materials, and job site trailer(s). The long-term staging area(s) will be used for storage of construction equipment and materials, as a reporting location for workers, and as the location of the job site trailer and parking area for vehicles and equipment.

The contractor will be responsible for securing the job site with temporary chain link fencing or other fencing acceptable to the project engineer. Power to the job site will be provided by existing electrical utilities, if needed. The service area is flat and will not require grading or slope stabilization.

Work Areas

Specific work areas will be determined when a final workplan is submitted by the project contractor. The work areas to be disturbed are generally flat, will be linear for pipeline installation and will be determined during project design in areas where storage tanks and water treatment facilities will be located. Work areas are anticipated to be easily accessible by construction vehicles and equipment such as backhoes, excavators, and crane trucks. Required site preparation will be incorporated into the project specifications. Water storage sites will require tank foundations, security fencing, and access roadways. Trenching will be required for installation of water distribution pipe. Efforts will be made to avoid areas with pavement, curbs, and gutters. All disturbed sites will be restored to original or better condition.

Access Roads

Existing roadways are anticipated to be used during project construction. The proposed project is in an area with flat terrain that will not require grading or slope stabilization. Access roads will be identified during project design and may include existing dirt roadways, new permanent roadways, and overland access.

Vegetation Clearance

Specific amounts and types of vegetation to be removed will be identified as the project phasing moves forward with facilities design that will identify the project footprint. Mitigation measures will be implemented to reduce potential impacts of clearing vegetation.

Erosion and Sediment Control and Pollution Prevention during Construction

Temporary erosion control measures during construction will incorporate the following measures as appropriate to control storm water runoff from all construction areas:

- Minimize removal of existing vegetation.
- Provide temporary soil cover, such as hydroseeding, mulch/binder, and erosion control blankets, to protect exposed soil from wind and rain.
- Incorporate silt fencing, berms, and dikes to protect storm drain inlets and drainage courses.
- Rough-grade contours to reduce flow concentrations and velocities.
- Divert runoff from graded areas, using straw bale, earth, and sandbag dikes.
- Phase grading to minimize soil exposure during the October through April storm period.
- Install sediment traps or basins.
- Maintain and monitor erosion/sediment controls.
- Construct temporary or permanent detention basins in the watersheds sufficient to reduce estimated sediment generation to near pre-development levels. Construction of the detention basins should occur in conjunction with commencement of grading operations in the respective watersheds (Phase 1) and should be completed prior to the first rainy season after Phase 1 grading has begun.
- Ensure that all construction activities include proper management and disposal of concrete and other masonry wastes, paint solvents and rinse wastes, vehicle fuel and maintenance wastes (including oil), and other construction debris.

Appropriate notification will be provided prior to construction to the Central Valley Regional Water Quality Control Board (CVRWQCB), which is required for construction projects disturbing more than 1 acre of land.

A monitoring program to track the progress of the pollution and erosion control programs will be developed as part of the Storm Water Pollution Prevention Plan (SWPPP). This program will include monitoring the implementation of the control measures through the documentation of long-term storm and non-storm discharges associated with the construction area(s). The SWPPP will have a construction monitoring and a post-construction component.

Consistent with the CVRWQCB General Construction Storm Water Permit requirements, the contractor will perform visual monitoring for both storm water and non-storm-water

discharges during construction. Natural drainage patterns will be restored in affected construction areas. Areas disturbed by construction activities will be restored to original or better conditions.

3.8.2 Construction Workforce and Equipment

Anticipated construction personnel and equipment for Phase 1 are shown in Table 3-2. Subsequent project phases will likely use similar personnel and equipment quantities. The actual equipment used during construction would be determined by the contractor and the construction schedule. Listed equipment includes all aspects of construction for facility construction and materials handling. Passenger cars used for construction worker commuting are addressed in Section 5.3, Air Quality.

Activity	Personnel	Equipment/Quantity
Survey	3	1 pick up truck
Access Road Construction	3	1 D-8 bulldozer
		1 motor grader
		1 pickup truck
		1 water truck
Trenching	4	1 trencher
		1 dozer or excavator
		1 pickup truck
		1 wacker
Pipeline installation	4	1 trencher
		1 dozer or excavator
		1 pickup truck
		1 wacker
Material Haul	1	Transfer truck
Storage tank foundation	4	1 excavator
		1 dump truck
Storage tank erection	4	1 crane
		1 excavator
Well drilling	4	2 Bore/drill rig
		1 pick-up truck
Water treatment plant	4	1 dozer
		2 generator sets
		1 excavator
		1 dump truck
		1 pick-up truck
Right-of-way restoration/clean up	2	1 bulldozer/grader
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TABLE 3-2

Estimated Personnel and Equipment

3.8.3 Construction Schedule

The construction schedule depends on the timing of development proposed in the area and cannot be determined at this time. Project activities for scheduling would include preliminary and final engineering design, permits (construction and regulatory), right-of-way acquisition, construction, and start up.

3.9 Operation and Maintenance

Facilities will include monitoring equipment in compliance with state water regulations. Equipment will be identified in the design phase of the water treatment facilities. Staff assigned to the facilities will be sufficient to keep all water facilities in good working order and in compliance with regulations.

Staff will be able to access the site from roadways via normal transportation vehicles, such as utility trucks. Any new access required is anticipated to be from existing roadways or roadways that are constructed as a part of the Sutter Pointe Specific Plan. New access may be required and will be identified in the municipal water project design phase.

The planned facilities are permitted and regulated by the California Department of Public Health (DPH). The facility would require at least one certified water treatment plant operator and three support staff with the ability to operate a water treatment plant facility in compliance with state regulations.

4.1 Service Area

The proposed South Sutter County Service Area corresponds with the proposed Sutter Pointe Specific Plan area. It is bordered on the west by the Sacramento River, on the east by the Pleasant Grove Creek Canal and the Natomas East Main Drainage Canal, on the north by the Natomas Cross Canal, and on the south by the Sutter-Sacramento County line.

4.2 Soils and Climate

The service area lies within the southern region of the Sacramento Valley and is comprised mostly of alluvial plains. The land is virtually flat and has historically been utilized for agriculture. The soils within the service area are mostly alluvial soils deposited long before the levee system in the area was constructed.

The service area is located just north of Sacramento and has the same basic climatic characteristics. The area experiences cool, humid winters and hot dry summers, with average low and high daily temperatures ranging from 38 to 93 degrees. Sacramento's historical annual precipitation is approximately 30 inches, with a rainy season lasting from November to March. The average monthly precipitation during the winter is 2 to 3 inches, but can range from 0 to 10 inches. Relative humidity in the region varies between 29 and 90 percent. The summer months from May to September have generally low humidity, and the combination of hot and dry weather creates high water demand during the summer.

4.3 Water Distribution and Use

Natomas utilizes two different types of canal systems to distribute irrigation water throughout its existing service area, including gravity flow and pumping for delivery. The system of highline canals utilizes gravity flow to deliver water by maintaining water levels above the surrounding ground levels. The water is delivered from the highline canals directly to fields without additional pumping. RD 1000 owns the second type of canal system, which consists of drainage canals that are used during the irrigation season to distribute water to areas not served directly by highline canals. Because the drainage canals are set at elevations below that of the adjoining fields, the water must be pumped into a highline canal or directly onto fields. Since all fields drain to these drainage canals, Natomas is able to recapture and recirculate tailwater for irrigation purposes. Natomas may supply river water to the drainage canals to meet demands or, when there is excess tailwater, reduce diversions and re-circulate water into the highline canal system.

Natomas distributes water through five primary irrigation systems that are linked and used to support each other. Each irrigation system is served by a pumping facility located either along the Sacramento River or the Natomas Cross Canal. The five primary irrigation

systems include the Northern System, Bennett System, Central System, Elkhorn System, and Riverside System. The systems are further described in the Integrated Water Resources Management Plan (ASWC et al., 2006). In addition to the five primary irrigation systems, RD 1000 distributes irrigation water through a drainage canal system throughout the service area. The Verona Dam and lift pumps are located in the Natomas Cross Canal. The facility is used intermittently during low-flow periods on the Sacramento River. This facility is placed into service as needed to maintain sufficient water levels to operate the Bennett and Northern pumping plants. During times of high water and the end of irrigation season, the facility is taken out of service.

The primary use of water within the Natomas service area historically has been agricultural irrigation. Additional water uses within the service area are for habitat conservation management, including the provision of surface water to habitat reserves maintained by the Natomas Basin Conservancy. Additionally, Natomas provides water for landscape irrigation purposes, including golf course irrigation (Teal Bend Golf Course) and landscape irrigation at the Sacramento International Airport. Based on existing land uses within its service area, Natomas does not own or operate a water treatment system for M&I use.

The Natomas water distribution system provides access to surface water for more than 32,000 acres. Each irrigation season, Natomas supplies irrigation water for 20,000 to 27,000 acres of land. Cropping patterns vary based on market conditions. Much of the region is typically planted in rice because of the soil conditions. Rice and wild rice lands account for most of the applied water use in the area. Managed marsh represents the next highest use of applied water. The remaining acreage for applied water use is distributed among a variety of crops, with managed marsh, alfalfa, corn, and wheat being the larger users of applied water. More detailed information is available in the Integrated Water Resources Management Plan (ASWC et al., 2006).

Based on Natomas's available surface water supply, the amount of land that can be irrigated is substantially less than the total agricultural land within its service area. Historical peak monthly diversions have been limited to approximately 24,000 acre-feet (ac-ft). Based on current cropping patterns, this peak capacity limits the amount of acreage that can be irrigated to approximately 25,000 acres.

Applications for service are submitted to Natomas each year for the acreage of crops being planted by its shareholders. Recent trends show that, although there has been a slight reduction in total irrigable acreage within the service area because of conversion of farmland to urban uses, there has been an overall increase in acreage being irrigated. Variations in the amount of water use (ac-ft per acre) occur between different growing seasons. These variations, which may be substantial, are caused by external factors such as weather, crop demographics, rotations or multiple plantings within a given year, changes in chemical programs, changes in state and local regulations, and evolving agricultural practices.

Crop rotations (including fallowing) are implemented to allow for soil recovery from intensive farming. These rotations result in significantly reduced water demand during the years when no rice production occurs. Growing multiple crops within a single year also affects irrigation demands. An important variability in farming practices relates to the chemical programs for weed and pest control and for fertilizer application. Changes in state and local regulations concerning what chemicals may be applied, allowable methods of application, and new water quality regulations all affect the chemical programs used by growers.

4.4 Water Supply and Demand

Natomas's diversions for irrigation service typically begin after April 1. Demand gradually increases throughout the growing season with peak diversions occurring between April 15 and June 15, depending on weather conditions. Once crops are established, the diversion rate is nearly constant at approximately two-thirds of diversion capacity throughout the remainder of the irrigation season, with minor variations based on individual crop demands and weather conditions. Demand typically drops off at the end of August and declines at a more significant rate in September. Rice fields are flooded in the winter, typically from October to November, which requires monthly diversions varying between 2,500 and 5,000 ac-ft. Because of air quality concerns, winter re-flooding for decomposition of rice stubble as an alternative to burning has increased over the past 10 years and is expected to continue to increase.

As a mutual water company, Natomas provides water for agriculture, environmental, and landscaping uses only to shareholders. Other landowners within the service area are not shareholders and, therefore, are not eligible to receive Natomas water service except on a supplemental basis. Natomas and GSWC have been engaged in planning over the past few years to adapt the management of water resources in response to the anticipated land conversion within the project area.

The transition from agricultural to urban land use has been developing for many years. Over the past decade, agricultural lands served by Natomas have diminished by about 20 percent. Natomas's future water management activities are anticipated to reflect land conversion from agricultural uses to municipal development within the service area. Natomas anticipates that the future M&I water demands within its service area will be satisfied through the conjunctive use of surface water, groundwater, and recycled wastewater to meet the water demands within the Natomas service area. The configuration of the infrastructure to effectively manage the water resources available to Natomas will require further detailed analysis as each phase of development is planned. The primary infrastructure will include Natomas's proposed Sankey Diversion with groundwater wells strategically located within GSWC's proposed South Sutter County Service Area.

4.5 Responsible, Trustee, and Other Agencies

A Responsible Agency is a local or state agency that has discretionary approval over one or more actions involved with the implementation of the project. Trustee Agencies are state agencies having discretionary approval or jurisdiction by law over material resources affected by the project. Federal agencies, although not considered Responsible or Trustee agencies under CEQA, also may have an interest in the project. The responsible and trustee agencies, and other agencies that may be interested in the project, include:

- State Water Resources Control Board (SWRCB)
- Central Valley Regional Water Quality Control Board (CVRWQCB)

- California Department of Public Health (DPH)
- California Department of Fish and Game (DFG)
- California Department of Water Resources (DWR)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Bureau of Reclamation (Reclamation)
- U.S. Army Corps of Engineers (USACE)

Further detailed discussion of the local/regional environmental setting and regulatory context (federal, state, and local) is included in each resource section in Section 5.

SECTION 5 Environmental Impact Assessment Summary

To provide a detailed environmental analysis for the proposed project, this section considers criteria from the CEQA Guidelines to lead to a determination of whether the impacts of the project would be significant.

The CEQA Guidelines define a "significant effect" on the environment to mean a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." (CCR tit. 14, § 15382).

5.1 Aesthetics

5.1.1 Existing Conditions

Aesthetic or visual resources are the natural and cultural features of the landscape that can be seen and that contribute to the public's appreciative enjoyment of the environment. Aesthetic impacts are generally defined in terms of a project's physical characteristics and potential visibility and the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located.

The proposed project is the development of municipal water facilities to serve the South Sutter County Service Area, which contains the proposed Sutter Pointe master planned community. Sutter Pointe would consist of 7,500 acres of mixed-use residential, industrial, commercial, and recreational development.

The project area consists primarily of farmland. Natomas Basin Conservancy habitat preserves are currently located to the west and south of the project site along the Sacramento River. The Sacramento International Airport is located approximately 2 miles south of the project site.

The existing character of the project area is rural. Agriculture is the primary land use, but there are a few rural residences and industrial facilities. The industrial facilities, such as Sysco Corp and Holt Tractor, are clustered in the central portion of the site along Pacific Avenue. Presently, there are no public facilities within the project area.

The existing visual quality of the project area is moderate to moderately high. The project site is very flat and characterized by sweeping vistas of agricultural land with the backdrop of the Coast Ranges to the west, the Sierra Nevada mountains to the east, the Sutter Buttes to the north, and the Sacramento skyline to the south.

There are no officially recognized scenic roadways in Sutter County; however, many of the rural roads in the project area offer unobstructed views of expansive agricultural land and surrounding mountain ranges.

5.1.2 Regulatory Setting

Federal

None.

State

There are no highways with a state Scenic Highway designation in the proposed project area.

Local

There are currently no local regulations that govern visual resources in Sutter County.

5.1.3 Impacts and Mitigation Measures

Significance Criteria

The following criteria from the CEQA Guidelines were considered in determining whether the visual impacts of the project would be significant.

The CEQA Guidelines define a "significant effect" on the environment to mean a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including...objects of historic or aesthetic significance" (CCR tit. 14, § 15382).

Significance thresholds in this section are based on Appendix G (Environmental Checklist Form) of the CEQA Guidelines, which provides criteria for the assessment of potential impacts on aesthetics. An impact is considered potentially significant if the project would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

The project features evaluated in this analysis are water facilities, including a treatment plant, several large above-ground storage tanks, a wellfield, security fencing, and operations buildings. There also may be communications infrastructure such as antennae and repeaters. However, because neither the design nor the location of these facilities has been finalized, this analysis will focus solely on their compatibility with general design principles.

The water infrastructure may be visible from surrounding agricultural and rural residential land. However, because of the relatively small size of most of the features, they would not be visible for long distances. Additionally, because the infrastructure would be built together with the Sutter Pointe planned community, views toward water treatment features would likely be obstructed by intervening structures or vegetation. For these reasons, water treatment facilities likely would be visible only from locations that are at close range.

The project features have the potential to be seen by motorists on State Route (SR 99), which runs through the project area for approximately 6 miles. Project features also have the potential to be seen by motorists along Garden Highway along the west side of the project area; along Riego Road, which passes through the project site; or along Natomas Road, which forms the eastern boundary of the project site along the Natomas East Main Drainage Canal. Project features likely would not be visible from the airport because it is greater than 2 miles away. The level of visual sensitivity of roadway users is assumed to be moderate.

The project features also have the potential to be seen by current or future residents in the project area. The project area is currently sparsely populated. However, the proposed project would be built in conjunction with residential subdivisions, which would

significantly increase the population size and the potential degree of exposure to project features. The level of visual sensitivity of residents is assumed to be high.

Impact Analysis

Because neither the design nor the location of the proposed project features have been finalized, views of project features in specific locations were not analyzed. Instead, this analysis focuses solely on the project's likely compatibility with general design principles and planned land uses.

Impact 5.1-1 Construction of project features would be visible from public areas.

Analysis: Less than significant.

Short-term impacts would occur during construction. The proposed project construction would include a job site trailer, heavy equipment, and temporary fencing. These impacts would be visible during the anticipated construction period of approximately 6 months per phase. All construction equipment would be removed when the project is complete.

Mitigation: No mitigation required.

Impact 5.1-2 Implementation of the project could affect scenic vistas.

Analysis: Less than significant.

Because none of the features of the proposed project would be visible from a publicly accessible location that provides a scenic vista, the project would create no impacts under this criterion.

Mitigation: No mitigation required.

Impact 5.1-3 Implementation of the project could damage scenic resources within a State Scenic Highway.

Analysis: No impact.

The project site would be more than 10 miles from the closest officially designated State Scenic Highway and would not be visible from it.

Mitigation: No mitigation required.

Impact 5.1-4 Implementation of the project could degrade the existing visual character or quality of the project site and its surroundings.

Analysis: Less than significant with mitigation.

The facilities could affect the existing visual character and quality of the project area. Depending on the design and location of project features, they potentially could impart a more industrial character to the project area or degrade its visual quality. Because the project site already contains some industrial facilities and because the proposed project would occur in conjunction with the development of a master planned community, the visual impact of the proposed project could be marginal. Implementation of these mitigation measures would reduce potential visual impacts to a less-than-significant level.

Mitigation:

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and wells should be constructed within the industrial area of the planned community.
Site design should include a landscape buffer around the periphery of well sites to screen the facilities and blend them with the surrounding environment.
Fencing around the site should be designed to complement the housing enclosure as well as the surrounding environment.
Design review should be required of all new development to determine whether the proposed development is consistent with the Sutter Pointe Specific Plan.
All mechanical and electrical equipment to be installed on structures or on the ground should be adequately screened from public view. The screening should be considered an element of the overall design and must blend with the architectural design of the building or landscaping, as appropriate. Construction plans for buildings should indicate any fixtures or equipment to be located on the roof of the respective structure, equipment types, and design of the screening material.

Impact 5.1-5 Implementation of the project would result in new sources of light and glare.

Analysis: Less than significant with mitigation.

Night lighting for operation and safety could potentially create new sources of light and glare. Water treatment facilities could be operated 24 hours per day, 7 days per week and would require night lighting for safety and security. The lights would provide illumination for operation under normal conditions, for safety under emergency conditions, and for manual operations during a power outage. Implementation of these mitigation measures would reduce potential visual impacts to a less-than-significant level.

Mitigation:

MM 5.1-5a	To ensure that the project's exterior lighting does not spill into adjacent areas, exterior light fixtures should be shielded or directed away from adjoining uses, pursuant to all applicable lighting standards and requirements.
MM 5.1-5b	If outdoor lighting is included, light intensity should be limited to that necessary for adequate security and safety.

5.2 Agriculture Resources

Potential impacts on agricultural resources are specific to the water facilities planned to support proposed development in the area. Development of the water system is directly related to planned growth in the area and the need for M&I water to serve the development. Development of the proposed water facilities is not anticipated to have a significant impact on agricultural resources.

5.2.1 Existing Conditions

Sutter County is one of California's leading agricultural counties, with 83 percent of the county's total land acreage being used for agricultural purposes (PBS&J, 2008). Primary crops grown in the area include rice, safflower, wheat, barley, alfalfa, corn, tomatoes and fruit trees (City of Sacramento et al., 2003). Other farming includes pasture land. The primary crop grown in the area is rice. About 95 percent of all California rice is grown in the Sacramento Valley, and rice lands in the Natomas Basin account for about 3 percent of that total. Rice crops are grown in standing water for most of the season. Agricultural water is provided by groundwater or is diverted from the Sacramento River by Natomas. The Integrated Water Resources Management Plan (ASWC et al., 2006) discusses water availability in detail to continue to supply agricultural water in addition to M&I water. The report indicates that there is ample water to supply all uses in the project area.

As adopted General Plans are implemented, some agricultural lands will be converted to urban uses. This conversion is anticipated to occur over several years. In the Sutter County portion of the Natomas Basin, large areas of agriculture will likely endure. Under the current Sacramento County General Plan (1993), agriculture in unincorporated Sacramento County outside the two urban policy areas designated by the County (Metro Air Park and North Natomas Community Plan Area) will continue to exist. Because the Natomas Basin is partially urbanized, individual property owners of farmlands make decisions regarding type of crops and, in the case of rice, whether to fallow or drain fields frequently. This indicates that the acreage of agriculture by crop type is often dynamic.

For a more in-depth discussion of soil resources within the project area, please refer to Section 5.6, Geology, Soils, and Seismicity.

5.2.2 Regulatory Setting

Federal

There are no federal regulations applicable to agricultural resources.

State

California Land Conservation Act (Williamson Act)

The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of providing tax relief to specific parcels of land dedicated to agricultural or related open space use.

Local

Sutter County Zoning Ordinance - Agricultural Zoning Districts

The Sutter County zoning ordinance has five distinct zoning districts for agriculture, as well as an Agriculture Combining District to provide additional requirements in other districts, such as residential districts.

Sutter County Agricultural Operations Disclosure policy

The Sutter County Agricultural Operations Disclosure policy protects agricultural lands and operations within the county exclusively for agricultural use. This policy protects agricultural land and agricultural users from the impacts and restrictions that often occur when they are adjacent to residential development (PBS&J, 2008).

5.2.3 Impacts and Mitigation Measures

Significance Criteria

The CEQA Appendix G checklist provides criteria for the assessment of potential impacts on soil resources. An impact is considered potentially significant if the project would cause any of the following to occur:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a nonagricultural use.
- Conflict with existing zoning or agricultural use, or a Williamson Act contract.
- Involve any other changes in the existing environment which, due to their locations or nature, could individually or cumulatively result in loss of Farmland to nonagricultural use.

Impact Analysis

Impact 5.2-1 The project could convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a nonagricultural use.

Analysis: Less than significant.

Figure 5.2-1 shows important farmlands in the project area. The majority of the soil map units within the proposed project area are considered Prime or Farmland of Statewide Importance. The water treatment infrastructure facilities with permanent impacts, such as the wellheads, treatment plant, and storage tanks, would be above ground and are anticipated to affect less than 8 acres of non-contiguous agricultural land. Much of the proposed project lies within a planned development area (Sutter Pointe) where the land use would be urban. A portion of the water distribution pipeline lies outside the planned development area; however, it parallels Powerline Road and would not convert agricultural lands.

Mitigation: No mitigation is necessary.



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Impact 5.2-2 The project could conflict with existing zoning or agricultural use or a Williamson Act Contract.

Analysis: Less than significant with mitigation.

Although existing zoning is for agriculture, the project area is part of planned growth consistent with the Sutter County General Plan. Portions of the project area contain Williamson Act lands and prime farmland (California Department of Conservation, Division of Land Resource Protection, 2006). Underground pipeline infrastructure would require a permanent utility easement for operation and maintenance access. This easement will be approximately 15 feet wide and is not anticipated to have an impact. Above ground features, such as water storage tanks and the water treatment plant could impact existing zoning or agricultural use, or a Williamson Act contract.

Mitigation:

MM 5.2-2a	Pipeline infrastructure shall be built within or along existing roadways to the
	maximum extent possible.

MM 5.2-2b Water storage tanks and treatment plant shall be built on land consistent with appropriate zoning and the General Plan.

Impact 5.2-3 The project could involve other changes in the existing environment which, because of their locations or nature, could individually or cumulatively result in loss of farmland to nonagricultural use

Analysis: Less than significant.

The proposed M&I development would be the first step in the conversion of the project area from farmland to nonagricultural use. This development is consistent with the Sutter County General Plan and Measure M objectives.

Mitigation: No mitigation is necessary.

5.3 Air Quality

This section evaluates impacts on air quality that may result from construction and operation of the project. The section includes a discussion of criteria pollutants, toxic air contaminants (TACs), greenhouse gases (GHGs), regulatory requirements, and evaluation of air quality impacts from the project.

5.3.1 Existing Conditions

The project is located in southern Sutter County, which is part of the Sacramento Valley Air Basin (SVAB) and is bounded by the Coast Ranges to the west and the Sierra Nevada to the east. The Carquinez Strait, a sea-level gap in the Coast Ranges, is located 50 miles southwest of Sutter County, and the intervening terrain is very flat. The prevailing wind direction in the Sacramento region is southwesterly, resulting from marine breezes through the Carquinez Strait. During winter, when the sea breeze diminishes, northerly winds occur more frequently, but southerly winds predominate. A relatively stable high-pressure zone positioned off the coast diverts storms to the north, away from California, during the spring, summer, and early fall. The dry, warm, subsiding air of this system produces an atmospheric condition where warm air overlies cooler air, known as a subsidence inversion. Subsidence inversions may be several thousand feet deep and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog, of which the largest single component is ozone. In conjunction with the Eastern Pacific highpressure zone, a thermal trough (a low-pressure zone caused by intense surface heating) is normally positioned over the Central Valley. The relative positions of these pressure zones cause air to blow through the Carquinez Strait to the Sacramento Valley. This helps cool the region, but it also carries pollutants from upwind, urban sources. During the late fall, winter, and early spring, the Eastern Pacific high-pressure zone shifts to the south, allowing numerous storm fronts originating over the Pacific to sweep through the region. Typically, more than 60 of these storms can be expected per year. These storms account for virtually all of the 30 inches of precipitation Sutter County receives in a typical year (PBS&J, 2008). Periods of stagnation between storms are characterized by very light winds. Surface inversions, which can form under these conditions, are most often observed in the morning from October to February.

Pollutants

The air quality of a region is determined by the quantities and types of pollutants emitted, and by the concentrations and accumulations of those pollutants under the influences of the local meteorology and topography. Urban emission sources are considered the primary cause of existing air quality problems. Major sources of air pollutants in the Sutter County area are vehicle exhaust, pesticide application, petroleum production, industrial processes, and agricultural and waste burning (PBS&J, 2008). The automobile is the largest single-source category for carbon monoxide, hydrocarbons, particulate matter, oxides of nitrogen, and GHGs.

Federal and California ambient air quality standards have been established for criteria pollutants (see Table 5.3-1). The following presents a description of each criteria pollutant, TACs, and GHGs.

Ozone

Ozone is formed in the atmosphere in a complex photochemical process that involves oxides of nitrogen (NOx) and reactive organic gasses (ROG). Significant ozone generation requires 1 to 3 hours in a stable atmosphere with strong sunlight. For this reason, the months of April to October are the "ozone season." The "precursors" of ozone, NOx and ROG, are emitted into the air as byproducts of the combustion of fossil-based fuels. The evaporation of solvents, gasoline, and other hydrocarbon byproducts results in ROG emissions. Ozone is a public health concern because it is a respiratory irritant. Ozone causes substantial damage to the leaf tissues of crops and natural vegetation, and damages many materials by acting as a chemical oxidizing agent (Sacramento Metropolitan Air Quality Management District [SMAQMD], 1994).

Carbon Monoxide

Carbon monoxide (CO) is an odorless and colorless gas. It is formed by the incomplete combustion of fuels and is therefore generally highest near heavily traveled roadways. CO is primarily a winter-period pollution problem. CO levels are a public health concern because CO combines readily with hemoglobin and thus reduces the amount of oxygen transported in the blood stream, affecting the cardiovascular system and the central nervous system.

Particulate Matter

Respirable particulate matter (PM₁₀ and PM_{2.5}) refers to a wide range of solid or liquid particles in the atmosphere of less than 10 or 2.5 microns (respectively) in aerodynamic diameter. Major sources of particulate matter are from motor vehicle exhaust; woodburning stoves and fireplaces; dust from construction, roads, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; and windblown dust from open lands. The movement of vehicles on paved roads (which entrains dust) is a major source of particulate matter. Construction and farming are also sources and account for a major portion of daily emissions. Construction-generated particulate matter problems normally occur when a dust abatement program is not implemented with such activities. Health concerns associated with suspended particles focus on those particles small enough to reach the lungs when inhaled. Few particles larger than 10 microns in diameter reach the lungs. Ambient $PM_{10/2.5}$ standards are designed to prevent respiratory disease and protect visibility. Because $PM_{10/2.5}$ is typically composed of a wide variety of constituents, the potential health effects of $PM_{10/2.5}$ exposure are equally varied. Dust entrained from roadways, generated by agricultural tilling, or lofted during construction activities is generally chemically and biologically benign. Products of combustion or aerosols created by atmospheric chemical reactions (such as acid mists) are more powerful pulmonary irritants, and may have mutagenic or carcinogenic health effects.

Toxic Air Contaminants

TACs are airborne substances capable of causing short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. TACs can be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The project may include stationary sources, such as diesel standby engines, that would emit TACs. The stationary sources would be permitted through the

Feather River Air Quality Management District (FRAQMD) and would not be expected to result in adverse human health effects. Therefore, a health risk assessment is not presented in the impact assessment section.

Greenhouse Gas Emissions

Any gas that absorbs infrared radiation in the atmosphere is called a GHG (EPA, 2008). GHGs include, but are not limited to, water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), ozone (O₃), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). The most common GHG discussed is CO₂. GHG emissions are typically quantified in units of CO₂ equivalents (CO₂e) to account for the global warming potential of each gas. The primary sources of these emissions are vehicles, energy plants, and industrial and agricultural activities.

5.3.2 Regulatory Setting

The regulatory framework for air quality includes regulation at the federal, state, and local levels.

Federal

Federal air quality policies are regulated through the federal Clean Air Act (CAA). Pursuant to this act, the EPA has established National Ambient Air Quality Standards (NAAQS) for the following air pollutants (termed "criteria" pollutants): CO, O₃, nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter PM₁₀ and PM_{2.5}, and lead (Pb). The ambient air quality standards represent levels established to avoid specific adverse health and welfare effects associated with each pollutant. Table 5.3-1 summarizes the ambient air quality standards.

The EPA has designated each county within California as either attainment or nonattainment for each NAAQS. The attainment status for Sutter County is presented in Table 5.3-2.

State

The California Clean Air Act was approved in 1988 and requires each local air district in the state to prepare an air quality plan to achieve compliance with California Ambient Air Quality Standards (CAAQS). The Air Resources Board (ARB) oversees California air quality policies. California established the CAAQS in 1969. These standards are generally more stringent and include more pollutants than the NAAQS. Similar to the EPA, the ARB designates counties in California as attainment or nonattainment with respect to the CAAQS.

Local

The FRAQMD is the local agency charged with preparing, adopting, and implementing mobile, stationary, and area air emission control measures and standards.

The project would also be subject to FRAQMD rules and regulations during construction and operation. During construction, coating used would be required to comply with Rule 3.15, Architectural Coatings. During operation, specific emissions sources, such as

standby or emergency engines, would be required to comply with Regulation IV, Stationary Emissions Sources Permit System and Registration. The FRAQMD rules and regulations would be reviewed for applicability once the project design is complete.

		California	National St	tandards ^b
Pollutant	Averaging Time	Standards ^a	Primary ^c	Secondary ^d
Ozone (O ₃)	8 hour	0.07 ppm	0.08 ppm	0.08 ppm
	1 hour	0.09 ppm	—	—
Respirable	Annual Arithmetic Mean	20 µg/m³	—	—
particulate matter (PM ₁₀)	24 hour	50 µg/m ³	150 µg/m ³	150 µg/m ³
Fine particulate	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	15 µg/m ³
matter (PM _{2.5})	24 hour	—	35 µg/m ³	35 µg/m ³
Carbon monoxide	8 hour	9 ppm	9 ppm	—
(CO)	1 hour	20 ppm	35 ppm	—
Nitrogen dioxide ^e	Annual Arithmetic Mean	0.03 ppm	0.053 ppm	0.053 ppm
(NO ₂)	1 hour	0.18 ppm	—	—
Sulfur dioxide (SO ₂)	Annual Arithmetic Mean	—	0.03 ppm	—
	24 hour	0.04 ppm	0.14 ppm	—
	3 hour	—	—	0.5 ppm
	1 hour	0.25 ppm	—	—
Lead ^r	Calendar Quarter	—	1.5 μg/m ³	1.5 µg/m³
	30 Day Average	1.5 μg/m³	—	—
Visibility reducing Particles	8 hour	See Note g		—
Sulfates	24 hour	25 µg/m³	—	—
Hydrogen sulfide	1 hour	0.03 ppm	—	—
Vinyl chloride ^f	24 hour	0.01 ppm	—	—

TABLE 5.3-1 Ambient Air Quality Standards

Notes:

 μ g/m³ = micrograms/cubic meter ppm = parts per million (by volume) $PM_{2.5}$ = particulate matter less than 2.5 microns in aerodynamic diameter PM_{10} = particulate matter less than 10 microns in aerodynamic diameter

^aCalifornia standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 hour and 24 hour), nitrogen dioxide, and suspended particulate matter (PM₁₀, PM_{2.5}, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded.

^bNational standards, other than ozone, particulate matter, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

^cNational Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

^dNational Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

^eThe nitrogen dioxide ambient air quality standard was amended on February 22, 2007, to lower the 1-hour standard and to establish a new annual standard of 0.03 ppm. These changes become effective after regulatory changes are submitted and approved by the Office of Administrative Law.

^fARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. ARB made this determination following the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

⁹Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

Source: ARB, 2008

Pollutant	Averaging Period	Federal Status	California Status
Ozone	8 hour 1 hour	Nonattainment	Nonattainment Nonattainment
Carbon monoxide	8 hour	Attainment	Attainment
	1 hour	Attainment	Attainment
Nitrogen dioxide	1 hour	Attainment	Attainment
	Annual Arithmetic Mean	Attainment	^a
Sulfur dioxide	24 hour	Attainment	Attainment
	1 hour	—	Attainment
	Annual Arithmetic Mean	Attainment	—
PM ₁₀	24 hour	Unclassified	Nonattainment
	Annual Arithmetic Mean	—	Nonattainment
PM _{2.5}	24 hour Annual Arithmetic Mean	Proposed Nonattainment	Unclassified

TABLE 5.3-2

Federal and California Air Quality Attainment Status for South Sutter County

Notes:

^a Attainment status designations have not been made for the new California annual standard established in February 2007.

Source: FRAQMD, 2008a. http://www.fraqmd.org/2004%20Area%20Designations.htm.

5.3.3 Impacts and Mitigation Measures

The project is located in southern Sutter County, which is under the local jurisdiction of the FRAQMD. In addition, the project is located in the Sacramento Federal Ozone Nonattainment Area (SFNA), which includes all of Sacramento and Yolo counties and portions of Placer, El Dorado, Solano, and Sutter counties. Because FRAQMD does not have a formal impact assessment guidance document, the impact assessment was prepared primarily following SMAQMD guidance (SMAQMD, 2004 and 2007).

Significance Criteria

Significance thresholds in this section are based on Appendix G (Environmental Checklist Form) of the CEQA Guidelines, which indicates that a potentially significant impact could occur if implementation of the project would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

- Expose sensitive receptors (especially schools, day care centers, hospitals, retirement homes, convalescence facilities, and residences) to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Potential air quality impacts were assessed either qualitatively or quantitatively by comparison to the significance criteria described above. A separate analysis of potential impacts from construction and operation was necessary because the sources and duration of emissions from these activities would be different. The methods used to quantify emissions and characterize the significance of impacts from construction and operation activities are described below.

Construction Emission Calculation Methods

Construction emissions were calculated for exhaust emissions from construction equipment and vehicles (Table 5.3-3). Construction equipment exhaust and fugitive dust emissions were estimated using Rimpo and Associates' URBEMIS 2007 software (version 9.2.4). Construction activities include surveying, road construction, trenching, pipeline installation, hauling, storage tank construction, well drilling, water treatment plant construction, and clean-up. It was assumed construction activities would occur sequentially and equipment would operate 8 hours per day. This analysis assumes these types of construction activities could occur during the 30-year construction schedule. The construction activities were evaluated for the year 2010, which would have higher exhaust emissions than years beyond 2010 because stricter emission standards become effective and older engines are replaced with newer engines. Therefore, the emissions presented in Table 5.3-3 represent the peak daily emissions expected for each activity during the 30-year construction schedule. Construction equipment that may be utilized for this project's construction phases are listed in Section 3, Table 3-2. FRAQMD has not established a mass emission threshold for construction, so the SMAQMD threshold of 85 pounds per day of NOx was used to evaluate construction impacts.

TABLE 5.3-3

Construction Emissions

Construction Activity		Emissions (lb/day)	
	NOx	ROG	PM ₁₀
Survey	0.2	0.09	0.01
Access Road			
Construction	27.2	3.71	41.3
Trenching	21.2	3.06	1.2
Pipeline installation	21.2	3.06	1.2
Material Haul	4.9	1.01	0.3
Storage tank foundation	10.4	1.76	0.6
Storage tank erection	12.9	1.52	0.6
Well Drilling	54.2	4.7	1.9
Water Treatment Plant			
Construction	80.4	7.8	2.9
Right-of-Way			
Restoration/Clean-up	7.2	0.94	20.4
Threshold (lb/day)	85	NA	NA

lb/day=pounds per day

Operations Emission Calculation Methods

Operation emissions for the project would be minimal and would result from worker commute trips, as-needed repair or replacement of project facilities, and occasional emissions from standby or emergency engines. At this time, the operational requirements of the project have not been fully developed; therefore, operation emissions will be addressed qualitatively. Although construction of the municipal water facilities would support the phased infrastructure needs for planned growth in south Sutter County, the air quality impacts from these projects would be assessed in a separate environmental document.

Impact Analysis

Impact 5.3-1 Operation of the project would conflict with implementation of the air quality plan.

Analysis: Less than significant.

The Reasonable Further Progress (RFP) Plan for the Federal 8-hour Ozone State Implementation Plan, the North Sacramento Planning Area 2006 Air Quality Management Plan (AQMP), and the Sutter County General Plan Update Technical Background Report (PBS&J, 2008) were reviewed to determine whether the project would conflict with implementation of these plans. The RFP was prepared with input from the five local air districts: SMAQMD, FRAQMD, the Yolo-Solano Air Quality Management District, the Placer County Air Pollution Control District, and the El Dorado County Air Quality Management District. The RFP documents the strategy that will be used in the Sacramento region to make progress toward attaining the federal ozone standard through the year 2011. Although operation of the project would result in ozone emissions, the project would be consistent with the strategies and control measures in the RFP and AQMP because the main source of emissions from the project would be from motor vehicles or permitted sources. Compliance with strategies established by the plans also would provide consistency goals and policies for air quality in the Sutter County General Plan. Therefore, the project would not conflict with implementation of the applicable air quality plan.

Mitigation: No mitigation required.

Impact 5.3-2 Construction of the project could cause or contribute to a violation of an air quality standard.

Analysis: Less than significant.

Construction of the project would result in exhaust and fugitive dust emissions. Exhaust emissions from construction equipment used to construct the project would result in short-term emissions of the nonattainment pollutants, ozone precursors (NOx and ROG), and PM₁₀. Estimated peak daily construction emissions are presented in Table 5.3-3. Emissions of NOx for each construction activity would be less than the construction threshold. In addition, the construction equipment list (Section 3, Table 3-2) includes water trucks, which would be used to reduce fugitive dust emissions. Therefore, project construction would be expected to have a less-than-significant impact on air quality.

Mitigation: Although it is not likely that project construction would trigger any violation of air quality standards, the following mitigation measures to reduce short-term impacts are recommended:

- MM 5.3-2a Implement the FRAQMD Fugitive Dust Control Plan.
- MM 5.3-2b Construction equipment exhaust emissions shall not exceed FRAQMD Regulation III, Rule 3.0, Visible Emissions limitations (40 percent opacity or Ringelmann 2.0).
- MM 5.3-2c The primary contractor shall be responsible to ensure that all construction equipment is properly tuned and maintained prior to and for the duration of onsite operation.
- MM 5.3-2d To the extent feasible, use existing power sources or clean fuel generators rather than temporary power generators.

Impact 5.3-3 Operation of the project could cause or contribute to a violation of an air quality standard.

Analysis: Less than significant.

The long-term emissions associated with facility operations would include emissions generated by plant operations and vehicular emissions generated by worker commute trips. The operation of newly expanded water facilities is not expected to generate substantial traffic (estimated at less than four additional trips per day). The small increase in vehicle trips would not be expected to generate air emissions in excess of significance thresholds (25 lb/day of NOx or ROG and 80 lb/day of PM₁₀).

Plant operations would include portable or stationary standby generators necessary to provide continuous operations of the municipal facilities in the event of a power loss. The municipal facility needs are anticipated to include several water storage tank sites with booster pump stations, one water treatment plant, seven groundwater wells, and an offsite surface water intake with water intake facility. All facilities would normally operate on the power grid available in the area. The municipal water facilities also would be anticipated to require one stationary generator and two portable generators. These generators would be permitted or registered as required by FRAQMD rules and regulations. Operation emissions resulting from the additional vehicle trips and generators required for project operation would be expected to have a less-than-significant impact on air quality.

Mitigation: No mitigation required.

Impact 5.3-4 The project could expose sensitive receptors to substantial pollutant concentrations.

Analysis: Less than significant.

Sensitive receptors are facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors. The service area in south Sutter County is largely undeveloped and sensitive receptors are not located near areas where be construction activities are expected. Additionally, the project is not expected to result in substantial pollutant concentrations as presented in the discussion of

construction and operation emissions above. Therefore, the impact on sensitive receptors from project emissions would be less than significant.

Mitigation: No mitigation required.

Impact 5.3-5 The project could cause objectionable odors affecting a substantial number of people.

Analysis: Less than significant.

The types of facilities that generate odors during operation would be wastewater treatment plants, food processing plants, chemical plants, landfills, dairies, or rendering plants (SMAQMD, 2004). The project is a municipal water facility that would not be the type of facility expected to produce objectionable odors. Water treatment, either through physical processes such as gravitational settling, filtration, or through chemical treatment to disinfect the water, has some potential for odor generation. Odors may derive from organic material suspended in the water, from outgassing of dissolved gases used for disinfection, or from sludge that has been removed from the water during treatment. Because municipal water facilities typically do not result in objectionable odors, the air quality impact would be expected to be less than significant.

Mitigation: No mitigation required.

5.4 Biological Resources

This section presents the results of the biological resources analysis for the proposed project. The analysis includes a description of the existing biological resources in the project area, identification of the special-status botanical and wildlife species and sensitive habitats that occur or may occur in the project area, an assessment of the potential impacts on biological resources (including impacts from the construction of the proposed project), a description of the regulations and agency permits that may be required, and identification of avoidance and mitigation measures to reduce impacts.

Information concerning threatened, endangered, or other special-status species that may occur in the project area was collected from the California Department of Fish and Game (DFG) Natural Diversity Data Base (CNDDB)(DFG, 2008) and miscellaneous sources available through the USFWS, DFG, the California Native Plant Society (CNPS), and technical publications. Avoidance, minimization, and mitigation measures for federally and state-listed species are incorporated from the Natomas Basin Habitat Conservation Plan (HCP) (City of Sacramento et al., 2003).

5.4.1 Existing Conditions

Southern Sutter County, including the project area, is predominantly agricultural land. Immediately west and north of the project area is a riparian corridor along the banks of the Sacramento River and the Natomas Cross Canal. Although this habitat will not be affected by the project, it provides valuable nesting, foraging, roosting, and cover habitat for a variety of wildlife species that use habitats potentially affected by the project. Along the proposed alignment for the project infrastructure, existing land cover is dominated by rice fields as well as other crops such as wheat or alfalfa.

Rice fields, which are typically flooded for up to five months during late spring and early summer, create an artificial wetland habitat that is used by a variety of wildlife, including waterfowl, wading birds (herons and egrets), amphibians, and the federally and state-listed giant garter snake. Winter flooding of rice fields also provides habitat for migrating or wintering waterfowl and shorebirds. Waterfowl feed on the remaining rice, aquatic plants, and invertebrates.

Other agricultural crops provide foraging habitat and cover for a variety of wildlife. The value of the habitat depends on factors such as crop type, rotation period, and frequency and type of agricultural practices (e.g., irrigation and harvest). Idle fields and other ruderal uplands provide nesting habitat for birds such as the ring-necked pheasant, northern harrier, and mallard. Grain and row crops support high rodent populations that are prey for species such as the state-listed Swainson's hawk, burrowing owl, white-tailed kite, northern harrier, red-tailed hawk, red-shouldered hawk, California kingsnake, gopher snake, western yellow-bellied racer, and common garter snake.

In addition to the agricultural fields, temporary open-water aquatic habitats are found in canals, interior ditches, and drains that are used to convey agricultural water for irrigation, and where standing or slow moving water is typically less than 5 feet deep. Irrigation canals, ditches, and drains, such as the North Drainage Canal, provide aquatic habitat for wildlife when they contain water and also provide overwintering habitat for some species when dry.

Many of these features only carry water during the growing season (mid-April through the end of September) and in late fall when rice fields are flooded to support rice straw decomposition. The ditch and canal banks typically support annual grasses and other non-native plant species. Occasionally, patches of emergent vegetation such as broad-leaved cattail (*Typha latifolia*), tule (*Scirpus acutus*), and rushes (*Juncus* sp.) become established in the lower margins of these aquatic habitats, and sedges (*Carex* sp., *Cyperus* sp.) and vervain (*Verbena hastata*) grow in the upper margins. The conveyance capacity of interior canals and ditches is typically maintained by routine dredging. Vegetation on canal and ditch banks is managed primarily by mowing.

These temporary aquatic habitats are important to resident and migratory wildlife and may be used for nesting and breeding, foraging, and cover. Commonly observed species include the great egret, great blue heron, green heron, black-crowned night-heron, American coot, mallard, pied-billed grebe, belted kingfisher, song sparrow, bullfrog, western toad, and Pacific tree frog. Giant garter snakes use these canals and drains as habitat and as transit corridors during their active season, which coincides with the growing season. Giant garter snakes also use bankside burrows, crevices, and structures such as broken concrete and riprap within the canals, ditches, and drains as overwintering refugia.

The establishment of woody vegetation along most of the canals and drains in the project area is prevented by control techniques such as mowing, disking, burning, and spraying. However, isolated individuals or small groups of trees (for example, cottonwood, valley oak, and willow) occur in some locations. Himalayan blackberry, California wild rose, and poison oak also are sporadically distributed along the banks of these facilities.

Intermixed with the native trees and shrubs is an herbaceous component typically found in ruderal fields and non-native annual grasslands. Common plants include soft chess (*Bromus hordeaceus*), Mediterranean barley (*Hordeum marinum* ssp. gussoneanum), Bermuda grass (*Cynodon dactylon*), perennial ryegrass (*Lolium multiflorum*), slender wild oats (*Avena fatua*), field mustard (*Brassica rapa*), curly dock (*Rumex crispus*), chicory (*Cichorium intybus*), California mugwort (*Artemesia douglasiana*), and nut sedge (*Cyperus eragrostis*). Areas supporting herbaceous vegetation in the project area are typically found along levee crowns and side slopes, terraces below the levees, canal embankments, road shoulders, access easements, and power line rights-of-way. This habitat type is composed predominantly of non-native species, including all grasses and forbs listed above. Wildlife species that may use this habitat type include Swainson's hawk, gopher snake, common garter snake, American crow, burrowing owl, western meadowlark, European starling, Brewer's blackbird, killdeer, California vole, black-tailed jackrabbit, and California ground squirrel.

The project area no longer contains large intact vernal pool grassland complexes. Isolated vernal pool habitats may occur within the project area but are expected to be relatively small in extent and amount. A limited number of vernal pools exist on the eastern edge of the Natomas Basin, which may support special-status crustaceans (for example, vernal pool tadpole shrimp and vernal pool fairy shrimp), amphibians, and plants.

Special-status Species

Twenty-two species were identified in the Natomas Basin HCP as having the potential to be taken as a result of activities described in the HCP (City of Sacramento et al., 2003). These

species are referred to in the HCP as "Covered Species" and are considered special-status species for purposes of the proposed project (Table 5.4-1). Some of these species have recorded occurrences in the CNDDB (DFG, 2008) in the project area (Figure 5.4-1). Potential habitat exists on site for at least 10 of these species: Swainson's hawk (Buteo swainsoni), whitetailed kite (Elanus leucurus), burrowing owl (Athene cunicularia), loggerhead shrike (Lanius ludovicianus), white-faced ibis (Plegadis chihi), tricolored blackbird (Agelaius tricolor), giant garter snake (Thamnophis gigas), northwestern pond turtle (Emys marmorata marmorata), Sanford's arrowhead (Sagittaria sanfordii), and delta tule pea (Lathyrus jepsonii jepsonii). More information on several of these species is provided below.

TABLE 5.4-1 Special-status Species with Potential to Occur in the Project Area				
Species	Federal Status	State Status	Habitat Notes	
Cackling (Aleutian Canada) goose Branta hutchinsii leucopareia			Grazes in marshes and stubble fields, roosts on the water.	
Bank swallow <i>Riparia riparia</i>		т	Nests in river banks, forages for insects over open water, croplands, and grasslands.	
Burrowing owl Athene cunicularia		SSC	Prefers open, dry grassland and desert habitats.	
Loggerhead shrike <i>Lanius ludovicianus</i>		SSC	Prefers open habitats with scattered shrubs, trees, fences, and posts. Will use cropland.	
Swainson's hawk Buteo swainsoni		Т	Breeds in riparian forest; known nesting sites in trees along Sacramento River in Natomas Basin. Forages for small mammals in grasslands and croplands.	
Tricolored blackbird Agelaius tricolor		SSC	Nests in marshes with bulrush, blackberry, or cattails; three known occurrences in Natomas Basin. Forages on the ground in grasslands and croplands.	
White-faced ibis <i>Plegadis chihi</i>			Forages in flooded rice fields.	
Giant garter snake <i>Thamnophis gigas</i>	Т	Т	Forages in marshes, low-gradient open waterways, and flooded rice fields. Hibernates in canal berms and other uplands. Several known occurrences in the Natomas Basin.	
Northwestern pond turtle Emys marmorata marmorata		SSC	Lives in permanent bodies of water; requires floating vegetation, logs, rocks, or banks for basking. Hibernates and lays eggs in uplands.	
California tiger salamander Ambystoma californiense	Т	SSC	Winters in ground squirrel burrows or other holes; breeds in vernal pools, stockponds, and other seasonal wetlands.	
Western spadefoot toad Spea hammondii		SSC	Primary habitat is grasslands; breeds in shallow temporary pools.	

Species	Federal Status	State Status	Habitat Notes
Valley elderberry longhorn beetle Desmocerus californicus dimorphus	Т		Lives and reproduces on elderberry shrubs found along rivers and canals.
Midvalley fairy shrimp Branchinecta mesovallensis			Vernal pool obligate often found in small pools; likely to occur in project area.
Vernal pool fairy shrimp Branchinecta lynchi	Т		Vernal pool obligate; widely distributed in Sacramento County.
Vernal pool tadpole shrimp <i>Lepidurus packardi</i>	E		Vernal pool obligate; widely distributed in Sacramento County.
Boggs Lake hedge-hyssop Gratiola heterosepala		E	Low-terrace species found in shallow water margins of vernal pools.
Colusa grass Neostapfia colusana	Т	E	Occurs in large, deep pools with substrates of adobe mud but also in smaller pools; known in Yolo County.
Delta tule pea Lathyrus jepsonii var. jepsonii			Perennial twining vine occurs in riparian and marsh habitats.
Legenere Legenere limosa			Found in wet places or vernal pools below 400 feet in elevation.
Sacramento Orcutt grass Orcuttia viscida	E	E	Found in relatively large, deep vernal pools in eastern Sacramento County.
Sanford's arrowhead Sagittaria sanfordii			Tuberose perennial likely to occur in drainage or irrigation ditches.
Slender Orcutt grass Orcuttia tenuis	Т	E	Found in relatively large, deep vernal pools in eastern Sacramento County.
Enderal			

TABLE 5.4-1 Special-status Species with Potential to Occur in the Project Area

Federal:

E = Listed as endangered T = Listed as threatened

State:

E = Listed as Endangered

T = Listed as Threatened

SSC = Species of Special Concern

Giant Garter Snake

Giant garter snakes are found in the Sacramento Valley and isolated portions of the San Joaquin Valley. Populations in the Colusa, Butte, Sutter, and American basins are associated with rice production and occupy the agricultural water delivery and drainage ditches (58 FR 54053 October 20, 1993).



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The giant garter snake is endemic to emergent wetlands in the Central Valley (USFWS, 1999a). Habitats occupied by giant garter snakes contain permanent or seasonal water, mud bottoms, and vegetated dirt banks (Fitch, 1940; Hansen and Brode, 1980). Giant garter snakes typically emerge from winter retreats from late March to early April and remain active through October. The USFWS considers the active season for this species to be from May 1 through October 1 (USFWS, 1997). The timing of annual giant garter snake activity is subject to varying seasonal weather conditions. Irrigation canals provide an essential habitat component, but also create dispersal corridors allowing giant garter snakes to move from one area to another in search of mates, new territories, and summer habitat. Rice lands, associated waterways, and adjacent uplands provide the most important agricultural habitat for the giant garter snake, particularly in the Sacramento Valley portion of their range (USFWS, 1999a). Giant garter snakes may use vegetated portions along any of these waterways as permanent habitat. Conditions vary along rice land waterways and also vary over time at any particular location. Giant garter snakes respond to this dynamism by moving to more suitable locations as local conditions deteriorate along the channels they inhabit (such as following mowing, scraping, or herbicide applications, or after a particular location becomes popular with fishermen) (Hansen, 1998).

Giant garter snakes have been recorded at several locations within the Natomas Basin (Hansen and Brode, 1980; Brode and Hansen, 1992; Hansen and Brode, 1993; Wylie and Martin, 2002; Wylie et al., 2000; Wylie and Casazza, 2001; Wylie et al., 2004; Jones & Stokes, 2005, 2006, and 2007; DFG, 2008). Giant garter snakes are distributed throughout the Natomas Basin within the conveyance system of canals, ditches, and drains, and are well documented within the project area (Jones & Stokes, 2007; Wylie et al., 2000; Wylie and Casazza, 2001; Wylie and Martin, 2002; Wylie et al., 2004; Jones & Stokes, 2005, 2006, and 2007; DFG, 2008). Because most areas of the Natomas Basin are connected by a conveyance system of canals, ditches, and drains that may be used as migration corridors by giant garter snakes, the USFWS considers the entire basin to be potential supporting habitat. However, certain upland portions of the basin, including lands along the east side of the Garden Highway, do not constitute suitable habitat because they are planted in row crops (e.g., tomatoes, safflower, melons). Riparian habitats along the Sacramento River on the west side of the Garden Highway are also unsuitable for giant garter snakes because of the mature shaded overstory and lack of aquatic features, such as canals and ditches. Other interior areas of the basin, such as those planted in rice, provide the habitat characteristics necessary for giant garter snakes. All undisturbed uplands characterized by burrows, holes, or crevices within 200 feet of aquatic habitat provide overwintering habitat for giant garter snakes. This habitat is interspersed throughout the project area in the form of canal and ditch banks, levee slopes, and idle agricultural fields where below-round refugia and vegetative cover are present. Neither roadways nor cultivated fields where ground is routinely disturbed (e.g., disked) provide the type of refuge required by overwintering giant garter snakes.

Northwestern Pond Turtle

Western pond turtles are associated with suitable aquatic habitats ranging from western Washington south to Baja California, Mexico (Stebbins, 1985). They were historically found in most Pacific slope drainages between the Oregon and Mexican borders (Jennings and Hayes, 1994). In California, the western pond turtle is found at elevations ranging from sea level to mid-elevation Sierra Nevada areas up to 1,830 meters (6,000 feet) (Zeiner et al., 1988; Jennings and Hayes, 1994). There are two subspecies: northwestern pond turtle and southwestern pond turtle. They are distributed to the north and south of San Francisco Bay, respectively. The two subspecies may intergrade throughout the Delta and San Joaquin Valley (Stebbins, 1985). This is the only abundant turtle native to California (Zeiner et al., 1988).

Western pond turtles are generally associated with permanent or nearly permanent water in a variety of habitat types. Individuals are normally found in permanent ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams. The western pond turtle inhabits waters with little or no flow (Behler and King, 1998, as cited in Reclamation and DFG, 2008). The banks of inhabited waters usually have thick vegetation, but basking sites such as logs, rocks, or open banks also must be present (Zeiner et al., 1988). Turtles slip from basking sites to underwater retreats at the approach of humans or potential predators. Pond turtles lay their eggs in nests in upland areas, including grasslands, woodlands, and savannas. Turtles lay their eggs from March to August, depending on local conditions, and incubation lasts from 73 to 80 days (Zeiner et al., 1988). The home range of the turtle is normally quite restricted (Bury, 1970, and Bury, 1972) except for occasional long-distance movements to find suitable nest sites or to seek water following drying of aquatic habitat.

Northwestern pond turtles have been observed within the Natomas Basin on several occasions during field surveys conducted from 2000 to 2007 (Reclamation and DFG, 2008). Individuals have been observed in the North Drainage Canal east of RD 1000's Pumping Plant No. 2 near the Pullman Pumps, between Sankey and Riego roads, and south of Sankey Road. Pond turtles also were observed basking in the sediment retention basin and adjacent canal directly northeast of Reservoir Road and Garden Highway, on the landside of the Elkhorn Pumping Plant. Both adults and hatchlings have been observed in the North Drainage Canal. Additional nesting and refugia habitat may be present on unshaded southfacing slopes along portions of the interior canals and ditches (Reclamation and DFG, 2008).

Swainson's Hawk

The breeding range of the Swainson's hawk extends throughout most of western North America from southwestern Canada to northern Mexico (Godfrey, 1986; Semenchuk, 1992; Howell and Webb, 1995; Smith, 1996; England et al., 1997). Historically, the Swainson's hawk's breeding range in California included the Great Basin; the Sacramento and San Joaquin valleys; along the coast in Marin, Monterey, Ventura, Los Angeles, and San Diego counties; along Catalina Island; and a few scattered sites in the Colorado and Mojave deserts (Bloom, 1980). Today, Swainson's hawks nest in some previously occupied regions of the state, but the number of breeding birds has been greatly reduced throughout major portions of the species' range and the species has been extirpated in coastal central and southern California (Bloom, 1980; DFG, 1994). The region that supported the highest populations lies within the southern Sacramento Valley and northern San Joaquin Valley in Yolo, Solano, Sacramento, and San Joaquin counties (DFG, 1994).

Swainson's hawks migrate long distances, are highly gregarious, and are largely insectivorous during migration. During the breeding season, small mammals are the primary prey items (Estep, 1989). Birds typically return to nest sites in California from early March to April (later in more northern areas of the state). The natural foraging habitat of Swainson's hawks is relatively open stands of grass-dominated vegetation and relatively sparse shrub lands. Swainson's hawks can forage in many crops, and Schmutz (1987) found that the species is more abundant in areas of moderate cultivation than in either grassland or areas of extensive cultivation. However, in the Central Valley of California, Swainson's hawks are almost entirely associated with intensively farmed irrigated croplands and pasturelands. Swainson's hawks in the Central Valley forage primarily in agricultural habitats, particularly those that optimize availability of prey (e.g., alfalfa and other hay crops, some row and grain crops), but also use irrigated pastures and annual grasslands. The principal prey of Swainson's hawks in the Central Valley is the California vole (*Microtus californicus*), but other small mammals, birds, reptiles, and insects also are taken (Estep, 1989; England et al., 1997). In the Central Valley, Swainson's hawks nest in a variety of tree species and nesting habitat types associated with agricultural landscapes. Swainson's hawks commonly nest in riparian habitats, but also use remnant oak woodlands, roadside trees, isolated trees, tree rows, and trees associated with rural farm residences (Schlorff and Bloom, 1984; Estep, 1989). They occasionally nest in urban environments (England et al., 1995). The most common nest tree species include cottonwood, valley oak, willow, and black walnut; however, other native and nonnative trees also are used, including locust, eucalyptus, and deodar cedar.

Riparian forest along the Sacramento River and the Natomas Cross Canal and scattered mature trees on the landside of the Garden Highway provide nesting opportunities for Swainson's hawks and other raptors. At least five Swainson's hawk nesting territories have been documented in the project area, from approximately the Natomas Cross Canal south to the vicinity of the Elkhorn Pumping Plant (Reclamation and DFG, 2008). Swainson's hawks are present in the project area from about late March to late August/early September. They forage throughout the area in agricultural fields that provide suitable foraging conditions. They do not winter in the Natomas Basin. Although farming operations in the project area provide important wildlife habitat value for some species, overall wildlife habitat value varies seasonally and annually depending on crop type. Crops such as corn and safflower provide less value to raptors and other wildlife during the spring and summer months because prey is not available in the tall and dense vegetation. Rice fields do not provide suitable foraging habitat for Swainson's hawks.

Burrowing Owl

Burrowing owls breed in mid-western and western North America, and populations are present in appropriate habitats throughout California (Zeiner et al., 1990), including open dry grassland and desert, and the open shrub stages of piñon juniper and pine habitats. Except at high altitudes, the burrowing owl is resident in most areas of its breeding range (Grinnell and Miller, 1944). Burrowing owls are migratory raptors, protected under the Migratory Bird Treaty Act, the Raptor Protection Act, Fish and Game Code Sections 3503.5 and 3513, and CEQA Section 15380(d). This species was historically more abundant, but since the 1940s, numbers have been declining in all areas, although it is still locally common in the southeastern deserts, around agricultural fields, and along canal and ditch banks (Zeiner et al., 1990). The conversion of grasslands to agriculture, urbanization, and ground squirrel control programs have all contributed to the reduction in numbers.

Burrowing owls require open, dry, nearly level, treeless habitat, where they prey primarily on large insects and small reptiles and mammals. They hunt from perches and require perch sites of shrubs, fence posts, or mounds of earth higher than the surrounding terrain. Although natural habitats occupied by burrowing owls include deserts, open grasslands, prairies, and savannas, the species has adapted to human presence and uses open areas near developments such as airports, golf courses, and railroad rights-of-way (Ehrlich et al., 1988). In California, most burrowing owls roost and nest in small colonies, preferring abandoned burrows originally dug by ground squirrels or other mammals. Burrowing owls breed from March to August, peaking in April and May. They roost in burrows throughout the year, not just during the nesting season. They also roost and nest in roadside berms and cavities of railroad berm riprap and in pipes, culverts, and artificial nesting boxes (Zeiner et al., 1990).

Burrowing owls have been recorded historically in the Natomas Basin (DFG, 2008) and are known to occur on Natomas Basin Conservancy lands and on levees. Individual burrowing owls have been observed in the vicinity of Powerline Road and the Central Main Canal during recent years (Reclamation and DFG, 2008). Suitable habitat is present along some of the interior drainage canal and ditch banks within the project area, and burrowing owls could use these areas, especially where there are suitable burrows or active ground squirrel colonies.

Loggerhead Shrike

Loggerhead shrikes frequent lowlands and foothills throughout California in the winter and often remain throughout the year. During the winter, this species is more widespread than during the breeding season (Zeiner et al., 1990). In California, the breeding season generally extends from March into May, with the young leaving the nest after 18 to 19 days, and becoming independent in July or August. Loggerhead shrikes nest in shrubs or trees. They require hunting perches in open areas with grassy or herbaceous ground cover and bare areas where food is often found. Shrikes eat a variety of prey, including mice, small birds, reptiles, insects, and spiders.

Loggerhead shrikes occur year-round in the Natomas Basin. They can often be observed perching on fence posts or power lines. Loggerhead shrikes have been reported to nest at several Natomas Basin Conservancy reserves and elsewhere in the Natomas Basin (Jones & Stokes, 2007).

White-faced Ibis

In California, the white-faced ibis winters mainly in San Joaquin Valley and Imperial Valley, but is widely recorded as a transient. The white-faced ibis nests and winters at various locations in the Central Valley. They require freshwater marshes and other wetlands for nesting sites and for wintering foraging grounds. They forage in shallow waters, including seasonal wetlands and rice fields, or on muddy banks where they probe for invertebrates, small fish, and amphibians (Zeiner et al., 1990). The species nests from May to July in dense freshwater marsh vegetation near foraging areas (Zeiner et al., 1990). Nests are built among tall marsh plants out of dead tules or cattails. Ibises may also nest in very low trees (Cogswell, 1977).

Until recently, white-faced ibis were not known to nest anywhere in the Natomas Basin; however, a new nesting colony was established in 2007 at a preserve in the Natomas Basin Conservancy's Central Basin Reserve Area (EDAW, 2007). White-faced ibises commonly use the agricultural lands within the project area, especially flooded rice fields, as foraging habitat. White-faced ibis also may forage in flooded fields in the project area during the winter months and temporary stopovers during migration.

Sanford's Arrowhead

Sanford's arrowhead is a rhizomatous emergent herb in the water plantain family (*Alismataceae*). This CNPS List 1B species (plants considered rare, threatened, or endangered

in California and elsewhere) blooms from May to October. Suitable habitats include marshes and swamps, vegetated drainage ditches, and other shallow freshwater habitats. This species has not been documented in the project area, but the freshwater marsh habitat within the ditch/canal network of the project area provides potentially suitable habitat.

Delta Tule Pea

Delta tule pea is a perennial herbaceous member of the bean family (*Fabaceae*). This CNPS List 1B species occurs in both freshwater and brackish marshes and swamps. Delta tule pea has not been identified in the project area, but marsh-like conditions in the ditch/canal network of the project area potentially could provide suitable habitat.

5.4.2 Regulatory Setting

Wetlands, waters of the United States, and special-status species and communities are considered sensitive biological resources and fall under the jurisdiction of several regulatory agencies. Several federal, state, and local laws, regulations, and policies provide the regulatory framework that guides the protection of such biological resources, and projects that affect these resources often require permits from or agreements with regulatory agencies. The permits required vary, depending on the location of the project and the type and extent of impacts.

Federal

U.S. Army Corps of Engineers

The USACE administers Section 404 of the Clean Water Act (CWA). Section 404 of the CWA requires a USACE permit prior to discharging dredged or fill material into waters of the United States. The USACE jurisdiction under Section 404 of the CWA has been further clarified by guidance issued in response to the recent Supreme Court decision in *Rapanos v. United States* (USACE, 2007). If the proposed project involves discharges of dredged or fill material into waters of the United States, a USACE permit pursuant to Section 404 of the CWA would be required.

U.S. Fish and Wildlife Service

The USFWS has jurisdiction over the Federal Endangered Species Act (ESA), which provides protection for listed species. Programmatic ESA consultation is conducted for USACE issuance of 404 permits for projects. Projects may require formal or informal consultation by the USFWS depending on the actual impacts on listed species.

Section 9 of the federal ESA prohibits "take." Take is defined by the federal ESA as: "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" with respect to any federally listed endangered species. Threatened species are protected against take under the Code of Federal Regulations (CFR) (see 50 CFR 17.31). Under 50 CFR 17.3, the definition of "harm" in the take definition can also include "significantly impairing essential behavior patterns, including breeding, feeding, or sheltering." Takes not specifically allowed by federal permit under Section 10(a)(1)(B) of the federal ESA are subject to enforcement through civil or criminal proceedings under Section 11 of the federal ESA.

The project will be constructed in areas that provide habitat for listed species, and construction activities could result in the incidental take of individuals of these species.

State

DFG is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code (Section 1602) requires an entity to notify DFG of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake; use material from a streambed; or result in the disposal or deposition of debris, waste, or other material where it can pass into any river, stream, or lake.

Section 2081(b) of the California Fish and Game Code allows DFG to issue incidental take permits that allow activities which may otherwise result in take of individuals of a statelisted species. Additionally, drainages or waterways may be subject to regulation by DFG under Sections 1600 of the California Fish and Game Code. A stream is defined under these regulations as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that support fish or other aquatic life. Because the irrigation ditches in the project area receive irrigation-generated flows and have wildlife habitat value, they may fall under DFG jurisdiction.

Local

The Natomas Basin HCP was completed in April 2003. The HCP was prepared by the City of Sacramento, Sutter County, and the Natomas Basin Conservancy for the USFWS and DFG. The HCP fulfills one of the requirements of the ESA designed to support applications for federal permits under Section 10(a)(1)(B). The HCP also served as an application for incidental take permits under state law pursuant to Section 2081(b) of the California Fish and Game Code.

The purpose of the HCP is to promote biological conservation in conjunction with economic and urban development in the Permit Area. The HCP applies to the 53,537-acre area interior of the Natomas Basin. The Natomas Basin contains incorporated and unincorporated areas within the jurisdictions of the City of Sacramento, Sacramento County, and Sutter County. The Sacramento International Airport is located in the Natomas Basin.

The HCP establishes a multi-species conservation program to minimize and mitigate the expected loss of habitat values and incidental take of Covered Species (i.e., federally protected species, state protected species, and other species of concern) that could result from urban development, operation and maintenance of irrigation and drainage systems, and certain activities associated with the Natomas Basin Conservancy's management of its system of reserves established under the HCP. Water supplied by Natomas is the primary source for maintenance of conservation lands managed by the Natomas Basin Conservancy. The reserves, including wetland and upland components, are intended to support viable populations of giant garter snake, Swainson's hawk, and other Covered Species.

The project is consistent with and covered by the HCP. Foreseeable urban development was considered in the HCP, including 7,500 acres in Sutter County. The HCP provides "incidental take" coverage for land development in south Sutter County of up to 7,500 acres, consistent with the scale of all phases of the project and the proposed Sutter Pointe development. Conservation measures from the Natomas Basin HCP will apply to the planned facilities (see

mitigation measures below). Management activities established in the HCP include habitat management, monitoring, patrolling and rice production practices for enhanced habitat.

5.4.3 Impacts and Mitigation Measures

Significance Criteria

Significance thresholds in this section are based on Appendix G (Environmental Checklist Form) of the CEQA Guidelines, which indicates that a potentially significant impact on biological resources would occur if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFG or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by DFG or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impact Analysis

This section characterizes potential impacts and mitigation measures associated with the proposed project. The proposed project is limited to construction of water infrastructure for the Sutter Pointe development and does not include the Sutter Pointe development itself. Impacts on biological resources associated with the Sutter Pointe development are separately accounted for and addressed through conservation strategies (for example, habitat reserve system) detailed in the Natomas Basin HCP (City of Sacramento et al., 2003). All potential impacts on biological resources from the proposed project would be mitigated to less than significant by implementation of mitigation measures prescribed for activities covered by the Natomas Basin HCP (described below).

Impact 5.4-1 Implementation of the project would potentially result in significant temporary and/or permanent impacts on wetland habitats.

Analysis: Less than significant with mitigation.

Wetlands do not represent a common feature within the project area. The USACE has responsibility for Section 404 permitting for proposed activities involving depositing dredged or fill material into waters of the United States, including wetlands. Activities that may require permits include placement of fill material, ditch excavation, land clearing, land leveling and other construction. While unlikely, the installation of water infrastructure could result in the loss of some wetland habitat.

Mitigation:

- MM 5.4-1a The project shall avoid areas of potentially jurisdictional wetland habitats to the maximum extent feasible through project siting and construction avoidance. The project shall implement Best Management Practices during construction to minimize impacts associated with erosion and sediment deposition into wetland and aquatic habitats.
- MM 5.4-1b A wetland delineation per the USACE Wetland Delineation Manual will occur prior to construction. A delineation report shall be prepared and submitted to the USACE for verification. Through this process, final calculations of wetland area present in the project area would be obtained for project permitting. In addition, plans for proposed alteration to any watercourse shall be submitted to DFG for review.

Impact 5.4-2 Implementation of the project would potentially result in significant temporary and/or permanent impacts on sensitive riparian habitat.

Analysis: Less than significant with mitigation.

Riparian habitat occurs along the Sacramento River and Natomas Cross Canal. However, with the exception of isolated trees and groups of trees along some segments of the drainage system, riparian vegetation does not represent a common feature within the interior portion of the project area. While unlikely, the installation of water infrastructure could result in the loss of some riparian habitat.

Mitigation:

MM 5.4-2 The project shall be designed in a manner that avoids and/or minimizes impacts on riparian habitats to the maximum extent feasible.

Impact 5.4-3 Implementation of the project would potentially result in significant impacts from the removal of native trees.

Analysis: Less than significant.

There is limited potential for native trees to be removed as a result of development of the water infrastructure facilities. The habitat is almost entirely agricultural, with some ornamental trees in developed areas.

Mitigation: No mitigation required.

Impact 5.4-4 Implementation of the project would potentially result in significant impacts from direct mortality and/or disturbance of special-status plant populations.

Analysis: Less than significant with mitigation.

Boggs Lake hedge-hyssop, Sacramento Orcutt grass, slender Orcutt grass, Colusa grass, legenere, Sanford's arrowhead, and Delta tule pea are identified as plants considered rare, threatened, or endangered. Although suitable habitat exists in the project area for these species, none have been identified in the project area. While unlikely, the installation of water infrastructure could result in the loss of special-status plants.

Mitigation:

MM 5.4-4 Consistent with the avoidance and minimization measures identified in the Natomas Basin HCP, preconstruction surveys shall be conducted by a qualified biologist of all suitable habitat for special-status plants. If special-status plants are identified through a preconstruction survey, notice shall be provided to USFWS, DFG, and CNPS. These agencies shall be consulted to determine appropriate measures to avoid and minimize loss of individuals (for example, transplanting plants prior to disturbance).

Impact 5.4-5 Implementation of the project would potentially result in significant temporary and/or permanent impacts on giant garter snake.

Analysis: Less than significant with mitigation.

The giant garter snake has been documented in the proposed project area. Potential habitat suitable for the giant garter snake, as discussed above, includes rice lands, associated waterways, and adjacent uplands.

Depending on the specific locations for the water infrastructure and, therefore, the types of land uses affected, construction activities could result in a temporary and permanent loss of upland and/or aquatic habitat for giant garter snakes. Construction of the new wells, treatment facilities, and conveyance piping would require some excavation and trenching (for example, for installing underground pipe). Giant garter snakes could fall into open trenches and become trapped. In addition, well installation would create attractive nuisances, such as open well drill sumps. These sumps, used for the disposal of drilling waste, including potentially toxic contaminants, could trap wildlife. It is possible that the presence of open trenches and sumps during the construction period could result in mortality, and this potential impact is potentially significant. Should canals or other waterways require dewatering to support construction, dewatering would result in the temporary loss of aquatic habitat for giant garter snakes. Construction activities could temporarily affect upland habitats consisting of agricultural fields and disturbed areas adjacent to the canals. These areas might be used by giant garter snakes for basking during their active period or for hibernation. Temporarily affected areas would be unavailable to giant garter snakes during construction activities, but following construction activities would revert to pre-project conditions. This temporary loss of upland habitat could adversely affect giant garter snakes. In addition to the temporary loss of habitat, construction activities could directly kill or injure giant garter snakes. During the snakes' inactive period, excavation of upland habitat could

directly affect giant garter snakes that are hibernating in those areas. Snakes are believed to be able to avoid direct injury from construction activities that are conducted during their active period. Implementation of the proposed project could result in the permanent and temporary loss of potential habitat for the giant garter snake, and could result in direct injury or mortality.

Mitigation:

MM 5.4-5 The Natomas Basin HCP includes measures to avoid, minimize, and mitigate direct loss of giant garter snakes from construction activities associated with urban development. The measures related to construction include: timing restrictions, dewatering requirements, and construction monitoring, as well as restrictions on management and maintenance practices. By conducting construction during the summer months when snakes are active, there is a high probability that snakes in the construction area would be able to avoid construction equipment. By dewatering habitat between November 1 and April 1, snakes would not inhabit construction zones when they emerge from their winter retreats. If dewatering must occur after April 15, it must remain dry for 15 consecutive days prior to excavating or filling habitat. Snakes have been found to leave habitat within a few days of dewatering. By waiting for 15 days after dewatering, it is reasonable to expect that any snakes would have left the construction zone prior to the start of construction activities and injury to snakes would be avoided. Providing construction monitoring (including pre-construction surveys) by a qualified biologist would help ensure that any snakes remaining in the construction area would be relocated in accordance with USFWS and DFG procedures.

Impact 5.4-6 Implementation of the project would potentially result in significant temporary and/or permanent impacts on Swainson's hawk.

Analysis: Less than significant with mitigation.

Swainson's hawks have been documented in the project area. Swainson's hawks nest in large trees, typically in riparian zones, and forage in open habitats such as agricultural fields and grasslands. Riparian habitat occurs along the Sacramento River and Natomas Cross Canal. However, with the exception of isolated trees and groups of trees along some segments of the drainage system, riparian vegetation does not represent a common feature within the interior portion of the project area. While unlikely, the installation of water infrastructure could result in the loss of some riparian habitat. If Swainson's hawks currently nest in areas that would be affected, removal of the riparian habitat would result in the loss of a nesting territory. This constitutes a potentially significant impact.

Construction activities also could affect Swainson's hawks through disturbance. Swainson's hawks might nest in trees that are adjacent to construction areas but that would not be removed. Construction activities near active nest sites could disturb nesting birds and cause them to abandon the nest site or otherwise interfere with brood-rearing activities. This impact also would be potentially significant.

Construction of water infrastructure could result in the permanent and temporary loss of agricultural habitat. Because Swainson's hawks forage in some agricultural fields, depending

on the type of agricultural fields lost because of infrastructure construction, this reduction could influence foraging opportunities. However, the lost habitat is expected to be very small compared to the overall availability of agricultural habitat in the project area. Therefore, the small reduction in agricultural habitat potentially resulting from construction of new infrastructure would not significantly affect Swainson's hawks.

Mitigation:

- MM 5.4-6 The Natomas Basin HCP includes measures to avoid, minimize, and mitigate take of Swainson's hawk related to construction impacts of urban development, including:
 - preconstruction surveys to determine locations of nest sites;
 - timing restrictions to avoid disturbing Swainson's hawks during the breeding season; and
 - onsite biologist to monitor construction activity that might cause nest abandonment or forced fledging.

Impact 5.4-7 Implementation of the project would potentially result in significant temporary and/or permanent impacts on valley elderberry longhorn beetle.

Analysis: Less than significant with mitigation.

Isolated elderberry shrubs can occur along the margins of fields and along canals and drains. Construction of water infrastructure could require the removal of individual shrubs.

Mitigation:

- MM 5.4-7 Potential impacts on valley elderberry longhorn beetle during urban development are addressed in the Natomas Basin HCP by requiring compliance with the USFWS' Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS, 1999b). Key aspects of the guidelines include:
 - survey for the beetles and host shrubs by a qualified biologist through the required preconstruction survey;
 - avoidance of occupied elderberry bushes with a 100-foot construction buffer area (may be reduced with the approval of the USFWS); and
 - mitigation for loss of occupied elderberry bushes where avoidance is not possible.

Impact 5.4-8 Implementation of the project would potentially result in significant temporary and/or permanent impacts on tricolored blackbird.

Analysis: Less than significant with mitigation.

Although tricolored blackbird is not known to nest within the project area, it forages on the ground in grasslands and croplands. Construction of water infrastructure could result in the permanent and temporary loss of agricultural habitat. Because tricolored blackbirds forage in some agricultural fields, depending on the type of agricultural fields lost because of

infrastructure construction, this reduction could influence foraging opportunities. However, the lost habitat is expected to be very small compared to the overall availability of agricultural habitat in the project area. Therefore, the small reduction in agricultural habitat potentially resulting from construction of new infrastructure would not significantly affect tricolored blackbird.

Mitigation:

- MM 5.4-8a As described in the Natomas Basin HCP, impacts on tricolored blackbird would be addressed through giant garter snake avoidance, minimization, and mitigation measures, given that this species shares some habitat similarities with the tricolored blackbird. Specific measures include timing restrictions, dewatering requirements, and vegetation control management.
- MM 5.4-8b If a nesting colony of tricolored blackbirds is detected in the project area, nest avoidance measures will be implemented as described in the Natomas Basin HCP.

Impact 5.4-9 Implementation of the project would potentially result in significant temporary and/or permanent impacts on white-faced ibis.

Analysis: Less than significant with mitigation.

White-faced ibises commonly forage in the agricultural lands within the project area and have recently been observed to nest in the Natomas Basin. Construction of water infrastructure could result in the permanent and temporary loss of agricultural habitat. Because white-faced ibises forage in some agricultural fields, depending on the type of agricultural fields lost because of infrastructure construction, this reduction could influence foraging opportunities. However, the lost habitat is expected to be very small compared to the overall availability of agricultural habitat in the project area. Therefore, the small reduction in agricultural habitat potentially resulting from construction of new infrastructure would not significantly affect white-faced ibises.

Mitigation:

- MM 5.4-9a As described in the Natomas Basin HCP, impacts on white-faced ibis would be addressed through giant garter snake avoidance, minimization, and mitigation measures, given that this species shares some habitat similarities with the white-faced ibis. Specific measures include: timing restrictions, dewatering requirements, and vegetation control management.
- MM 5.4-9b If a nesting colony of white-faced ibises is detected in the project area, nest avoidance measures will be implemented as described in the Natomas Basin HCP.

Impact 5.4-10 Implementation of the project would potentially result in significant temporary and/or permanent impacts on loggerhead shrike.

Analysis: Less than significant with mitigation.

The project area supports marginal quality habitat for loggerhead shrikes, so construction of water infrastructure facilities is anticipated to have very little effect on the species.

Mitigation:

MM 5.4-10 If a loggerhead shrike nest is detected in the project area, nest avoidance measures will be implemented as described in the Natomas Basin HCP.

Impact 5.4-11 Implementation of the project would potentially result in significant temporary and/or permanent impacts on burrowing owls.

Analysis: Less than significant with mitigation.

Suitable burrowing owl habitat is present along some of the interior drainage canal and ditch banks within the project area. Construction activities associated with the water infrastructure facilities could pose a risk to burrowing owls, such as destruction of a nest site or active burrow. In addition to habitat loss, construction activities could trap owls in their burrows or directly kill or injure individual owls. Thus, implementation of the proposed project could result in the permanent and temporary loss of potential habitat for burrowing owls, and could result in direct injury or mortality.

Mitigation:

- MM 5.4-11 Potential impacts on burrowing owls during urban development are addressed in the Natomas Basin HCP by requiring compliance with the DFG Staff Report on Burrowing Owl Mitigation (1995). Key aspects of the report include:
 - surveys of the project site and a 500-foot buffer by a qualified biologist during both the wintering and the nesting seasons
 - avoidance of burrows with a 160-foot construction buffer area
 - mitigation where avoidance is not possible, including translocating owls to a permanent mitigation area.

Impact 5.4-12 Implementation of the project would potentially result in significant temporary and/or permanent impacts on northwestern pond turtle.

Analysis: Less than significant with mitigation.

Northwestern pond turtles occur in the Natomas Basin, and nesting and refugia habitat is present along portions of the interior canals and ditches within the project area. Construction activities associated with water infrastructure facilities could result in a temporary and permanent loss of upland and/or aquatic habitat for northwestern pond turtles. Construction of the new wells and conveyance piping would require some excavation and trenching (for example, installing underground pipe). Pond turtles could fall into open trenches and become trapped. Well installation also would create attractive nuisances, such as open well drill sumps. These sumps, used for the disposal of drilling waste, including potentially toxic contaminants, could trap wildlife. It is possible that the presence of open trenches and sumps during the construction period could result in mortality, and this potential impact is potentially significant. Should canals or other waterways require dewatering to support construction, dewatering would result in the temporary loss of aquatic habitat for northwestern pond turtles. Temporarily affected areas would be unavailable to northwestern pond turtles during construction activities, but following construction activities would be

revert to pre-project conditions. This temporary loss of aquatic habitat could adversely affect northwestern pond turtles.

Mitigation:

- MM 5.4-12 As described in the Natomas Basin HCP, impacts on northwestern pond turtles would be addressed through giant garter snake avoidance, minimization, and mitigation measures, given that this species shares some habitat similarities with the northwestern pond turtle. Specific measures include timing restrictions, dewatering requirements, vegetation control management, and the creation of managed marsh habitat.
- Impact 5.4-13 Implementation of the project would potentially result in significant temporary and/or permanent impacts on vernal pool species, including California tiger salamander, western spadefoot toad, vernal pool fairy shrimp, vernal pool tadpole shrimp, midvalley fairy shrimp, Boggs Lake hedge-hyssop, Sacramento Orcutt grass, slender Orcutt grass, Colusa grass, and legenere.

Analysis: Less than significant with mitigation.

Impacts on vernal pool species are expected to be limited because the project area no longer contains large intact vernal pool grassland complexes. Although ten species associated with vernal pool habitats are covered by the Natomas Basin HCP, only two of the species, vernal pool tadpole shrimp and vernal pool fairy shrimp, have been confirmed within the Natomas Basin. While unlikely, the installation of water infrastructure could result in impacts on some vernal pool species.

Mitigation:

- MM 5.4-13 As described in the Natomas Basin HCP, the following measures will be implemented to avoid, minimize, and mitigate take of vernal pool species:
 - report to USFWS development plans that affect vernal pools within the Natomas Basin
 - require developers to conduct biological surveys for vernal pool species in the Permit Areas and to have a qualified biologist identify whether or not jurisdictional waters subject to separate Section 404 permits are present
 - if jurisdictional waters subject to Section 404 permit requirements of the CWA are present, the applicant must apply for a 404 permit, and a separate consultation under Section 7 will be required if vernal pool obligate or associated species are discovered.

However, all incidental take of vernal pool or wetland Covered Species, whether found within jurisdictional waters of the United States or not, will be authorized through the Incidental Take Permits and the applicant will be required to implement the take avoidance, minimization and mitigation measures provided for in the Natomas Basin HCP.

5.5 Cultural Resources

This section addresses potential impacts associated with the proposed M&I water infrastructure and is based on a cultural resource site record and literature search conducted by the Northeast Information Center of the California Historical Resources Information System (NIC-CHRIS). NIC-CHRIS searched its records for known cultural resources located in the project area.

The results of the NIC-CHRIS record searches (Roeder, 2008a and 2008b) are used here to document the known/recorded cultural resource sites and describe the types of archaeological and historical resources that may be present in the vicinity. This NIC-CHRIS record search also identifies those areas not already surveyed for cultural resources, and forms the basis for assessing the likelihood that these areas may yield additional cultural resource sites.

5.5.1 Existing Conditions

A summary of the prehistoric, ethnographic, and historical background of the vicinity is provided below, along with a description of the previously conducted cultural resource studies and known/recorded sites.

The topography of the project area, like much of the Sacramento Valley, is flat with elevations ranging between 20 to 40 feet above mean sea level. Hydrological features include the Feather and Sacramento rivers, and an extensive network of irrigation canals and drains.

The environmental setting has been largely altered by human modification over the past 150 years. The introduction of non-native grasses, slough channelization, creation of elaborate levee systems to control the Sacramento River, and agricultural activities all have changed the pre-1850 environment. Prior to the development of valley agriculture, marshy wetlands surrounding sluggish waterways supported marshy or aquatic communities of tule, cottonwood, sycamore, and willow (Wallace, 1978). Oak groves along some waterways likely included interior live oaks and valley oaks, thus providing a portion of the vegetal food sources used by prehistoric populations.

Euro-American settlement has probably altered the variety of non-domesticated animal species found in the project area. Larger mammals such as black bear, black-tailed deer, mule deer, and mountain lion are now limited to the surrounding foothills and mountain ranges. Tule elk and pronghorn, once common throughout the valley, now exist in limited locations around the state (Jameson and Peeters, 1988).

The marshy wetlands once common in the area provided a rich habitat for migratory waterfowl. The remaining wetlands provide habitat for species that are still found in the valley, including the mallard duck, northern pintail, and blue-winged teal. Other birds include the Northern flicker woodpecker, great blue heron, red-tailed hawk, belted kingfisher, and red-winged blackbird. The Sacramento River supports populations of anadromous and freshwater fish including salmon, rainbow trout, river lamprey, and white sturgeon.

Nonnative trees are common in areas of historic homesteads. These species include English and black walnut, pecan, acacia, fruit trees, eucalyptus. Additionally, these areas have nonnative shrubs and flowers such as roses, wisteria, lilac, and azalea. Homesteads now present a sharp contrast to the modern intensive agricultural use that has created dramatic changes in the regional vegetation. Lands where native oaks and grasslands were once common are now dedicated to row crops, grain fields, and pasture (Maniery et al., 1994).

Prehistory

The project vicinity is in an area of moderate to high archaeological sensitivity. As described by Hart et al. (2001), only a few archaeological sites have been found in the Sacramento Valley that date prior to 5,000 years ago (even though the project vicinity and the greater Sacramento Valley have been occupied for about 12,000 years). Much of the evidence for human occupation is probably buried beneath alluvial sediments that accumulated quickly during the later Holocene epoch. Moratto (1984) estimated that as much as 10 meters of sediment accumulated along the lower stretch of the Sacramento Drainage during the last 5,000 to 6,000 years.

Three general patterns of prehistoric Indian resource exploitation have been identified for the time period 2,500 B.C. to A.D. 1,500 (Moratto, 1984). The earliest is the Windmiller Pattern that lasted from about 2,500 B.C. to 1,000 B.C. During this time, it is thought that there was a mixed economy of game procurements and exploitation of wild plant foods. The archaeological record contains numerous projectile points with a wide variety of faunal remains. The Windmiller toolkit contains fishing hooks and spears and the remains of sturgeon, salmon, and other fish are found in middens dating to this period (Moratto, 1984). Windmiller Pattern settlement patterns reflect seasonal adaptation; habitation sites in the valley were occupied during the winter, with populations moving into the foothills during the summer (Moratto, 1984).

Over a 1,000-year period from about 1,500 B.C. to 500 B.C., the Windmiller Pattern began to shift to a more specialized type of adaptive pattern called the Berkeley Pattern. A decrease in the number of manos and metates and an increase in mortars and pestles indicate a shift in resource use to greater reliance upon acorns. Mortars and pestles were used to break the tough outside shells of acorns and grind the nuts, while manos and metates were used mainly for grinding grains from different grasses. Berkeley Pattern sites located near water are found to have large shellmounds, indicating intensive use of marine and estuarine resources. Hunting was still an important activity in the Berkeley Pattern (Fredrickson, 1973).

After about 500 A.D., the Berkeley Pattern shifts to the Augustine Pattern with changes in subsistence and land use patterns beginning to reflect the use pattern known from historical period Native American groups in the area. This pattern demonstrates a shift to more elaborate ceremonial and social organization and the development of social stratification. Exchange networks were developed and more intensive emphasis was placed on acorn use.

Other elements of the material culture include flanged tubular smoking pipes, clam shell disk beads, small projectile point types known as Gunther Barbed (associated with bowand-arrow use), harpoons, and elaborate baked clay figurines and pottery vessels known as Cosumnes Brownware. Other traits include introduction of pre-interment burning of offerings in a grave pit during the mortuary ritual, increased village sedentism, population growth, and an incipient monetary economy in which beads were used as a medium of exchange (Moratto, 1984).

The broad adaptive patterns described above (Windmiller, Berkeley, and Augustine) are recognized here as being an important interpretive framework for understanding local prehistory. Also important are several taxonomic schemes that have been used over the past few decades to explain culture change through time as seen in the archaeological record of Central California.

Moratto (1984) suggested the Early Horizon dated to circa 4,500 to 3,500/3,000 years ago, with the Middle Horizon dating to circa 3,500 to 1,500 years ago, and the Late Horizon dating to circa 1,500 to 250 years ago. The Early Horizon is the most poorly known of the period with relatively few sites known or investigated. Early Horizon traits include hunting, fishing, use of milling stones to process plant foods, use of a throwing board and spear ("atlatl"), relative absence of culturally affected soils (midden) at occupation sites, and elaborate burials with numerous grave offerings.

Middle Horizon sites are more common and usually have deep stratified deposits that contain large quantities of ash; charcoal; fire-altered rocks; and fish, bird and mammal bones. Significant numbers of mortars and pestles signal a shift to plant foods from reliance on hunted animal foods. Middle Horizon peoples generally buried their dead in a fetal position and only small numbers of graves contain artifacts (and these are most often utilitarian). Increased violence is suggested by the number of burials with projectile points embedded in the bones or with other marks of violence.

The Late Horizon emerged from the Middle Horizon with continued use of many early traits and the introduction of several new traits. Late Horizon sites are the most common and are noted for their greasy soils (midden) mixed with bone and fire-altered rocks. The use of the bow-and-arrow, fetal-position burials, deliberately "killed" grave offerings, and occasional cremation are the best known traits of this horizon. Acorn and seed gathering dominated the subsistence pattern with short- and long-distance trade carried out to secure various raw materials. Compared to earlier peoples, Late Horizon groups were short in stature with finer bone structure, evidence perhaps of the replacement of original Hokan speaking settlers by Penutian speakers by ca. 1,500 years ago.

By the Proto-historic and Historic periods, fishing had become a primary subsistence activity for the Central Valley tribes, who had come to occupy relatively stable and well-defined territories centered on the major rivers (Barrett and Gifford, 1933; Goldschmidt, 1978; Kroeber, 1925; Johnson, 1978).

Ethnography

The project vicinity lies in the southwestern part of the former ethnographic territory of the Valley Nisenan (a subdivision of the southern Maidu), who held lands along the Sacramento River from just below the confluence with the American River, upstream to just beyond Yuba City/Marysville, and eastward along the American River into eastern Placer and El Dorado counties (Kroeber, 1925; Merriam and Talbot, 1974). The Valley Nisenan reportedly lived in large settlements along the American and Sacramento rivers: Kroeber (1929) lists 12 villages, apparently all Valley Nisenan, along the American River between its confluence

with the Sacramento River and Folsom, and many more upstream on the Sacramento River. The largest Nisenan villages may have had 500 to 1,000 occupants (Cook, 1976; Kroeber, 1925; Wilson and Towne, 1978).

The Valley Nisenan had access to diverse resources throughout their territory, and they scheduled their subsistence activities according to the seasonal availability of particular foods. Acorn was primary among these, as were fish (especially salmon and lamprey), large and small game animals, and many varieties of birds (Beals, 1933; Kroeber, 1925; Voegelin, 1942). These animals not only provided essential foods throughout the year, but their hides, feathers, bones, and sinew supplied necessary materials for clothing, blankets, and tools (Beals, 1933; Kroeber, 1925 and 1929; Voegelin, 1942; Wilson and Towne, 1978). These resources were augmented through trade with neighboring groups. The east/west trade routes generally followed the major streams, and major trails in Nisenan territory approximated the routes of Highway 50 and old Highway 40 (now partially rerouted Interstate 80) (Davis, 1961). Consequently, the locations where major streams converged in the Sacramento and Folsom areas may have been important trade centers.

The Nisenan also occupied areas in the foothills of Placer and El Dorado counties, west of the Sierra Nevada crest. The Hill Nisenan were hunter-gatherers, with a territory that was capable of supporting large, semi-permanent villages. Upland and foothill areas were occupied throughout the year, but occupants were more mobile in the more mountainous eastern areas, spending winter below the snow line and moving eastward to areas above the snow line during spring and summer.

Rituals for the dead were a prominent component of Nisenan religious expression. A funeral was performed upon the death of a community member. All of the deceased's property was burned with the body. When the ashes cooled, they were gathered together in a basket and buried in the cemetery, which was separate from the burning ground. Each settlement had its own burning ground, but not its own cemetery; apparently there were centralized cemeteries that were shared by several communities (Beals, 1933). In the precontact period, these cemeteries were on high knolls, but when grave robbing became a problem after contact, the Nisenan moved the cemeteries closer to their villages so they could protect them more effectively (Beals, 1933). Several months to a year after a funeral, the Nisenan held a mourning ceremony or "cry" for the deceased, at which clothing, baskets, and beads were burned in honor of the dead, while the participants mourned. Historic period "cry" sites are sometimes marked by the presence of burned and melted glass trade beads.

The indigenous patterns of Nisenan society were irrevocably changed with the arrival of Euro-Americans in California. By the 1830s, many non-Indians were coming to California, principally trappers who operated throughout the Central Valley. These expeditions also brought diseases, and in 1833 the Indian population was decimated by a pandemic thought to have been malaria (Cook, 1955). Also, by this time, the Mexican government was granting enormous tracts of land to its citizens and to a small number of other nationals, who used the local Indians as a labor force. Circumstances worsened for the Nisenan when gold was discovered at Sutter's sawmill in Coloma, on the south fork of the American River, in 1848. A year later, approximately 100,000 miners poured into the Sierran foothills, many of them through the Sacramento-Folsom area, disrupting Nisenan (and other Indian) life and often destroying villages and homes. The riverbeds were a major focus of mining activities;
consequently, Nisenan residents of the area would have borne a major brunt of the Gold Rush. It may be assumed that the Nisenan abandoned the Sacramento and Folsom area by the early 1850s to seek refuge in more remote locations, possibly in the foothills.

Euro-American History

Euro-American settlement of the Sacramento Valley essentially began in 1839 with the establishment of a fort near the confluence of the American and Sacramento rivers by Swiss immigrant Johann Sutter. The only permanent settlers before that time were the Native Californians and Mexican citizens who had been granted large tracts of land, or *ranchos*, by their government. The Central Valley ranchos, which followed the Sacramento River northward from Sutter's fort, were held primarily by Euro-Americans who had become Mexican citizens in order to own land.

The most pivotal event in the history of the Sacramento Valley and adjacent Sierran foothills was the discovery in January 1848 of gold at Sutter's sawmill in Coloma, on the south fork of the American River, roughly 20 miles above its confluence with the middle fork. A second gold discovery was made in May 1848 in the Auburn Ravine. These discoveries caused a rush of gold seekers and settlers into the area, largely by way of the ports of Yerba Buena (San Francisco) and New Helvetia (Sacramento). A large proportion of these immigrants were Euro-Americans, who rebelled against Mexican rule and helped to claim California for annexation by the United States.

Many towns along the American and Sacramento rivers developed as supply depots for the mines, with later economic development based on mining of coal, granite, iron, copper, quartz, and clay. Sacramento grew in a few short years from a miner's tent city into a bustling port centered along the Sacramento River waterfront, where the American River joined the Sacramento. As the city grew, it became necessary to protect it from the frequent flooding of the two rivers, by constructing levees and, eventually, by raising the level of the town itself. Timber and agriculture grew in stature, fed by mining industry needs.

By 1853, it had become clear to many people that producing and supplying food, lumber, and alcohol for the miners was more profitable than mining itself, and many of the farmers who had come to California to seek gold now turned back to agriculture. Large areas of the Sacramento and foothill area were soon planted in fruit, grain, and wine grapes. Timber mills sprung up; in 1869 in nearby Placer County alone, 15 mills produced 17 million board feet of lumber. The development of the timber and agriculture industries in northern California was aided greatly by the construction of railroad freight lines connecting Sacramento with other areas, and many farm towns sprang up along these lines. One of the largest impediments to agriculture in the region was the frequent and catastrophic flooding of the broad lowlands along the rivers. With the development of large-scale land reclamation projects between 1890 and 1930, however, the Sacramento area developed into one of the richest agricultural regions in the world.

Cultural Resources

The NIC-CHRIS records and literature search revealed the following:

- No prehistoric resources have been recorded in the project area.
- The project is located in a region utilized by Nisenan populations.

- Unrecorded prehistoric cultural resources may be located in the project area.
- Thirteen historic resources have been recorded within the project area:
 - CA-SUT-66H (Cemetery)
 - CA-SUT-80H (Refuse deposit)
 - CA-SUT-83H (World War II-era feed mill remains)
 - CA-SUT-84H (Natomas Cross Canal Levee/Pleasant Grove Creek Canal Levee)
 - CA-SUT-85H (East Levee)
 - CA-SUT-87H (Sacramento Northern Electric Railroad)
 - P-51-00096 (Residential complex with associated auxiliary structures)
 - P-51-000115 (Riego Road segment of RD 1000)
 - P-51-00135 (Residence, shed and refuse deposits)
 - CA-SUT-136H (Barn, three houses, and two sheds)
 - CA-SUT-137H (Residential complex with associated auxiliary structures)
 - CA-SUT-138H (Residential complex with associated animal stalls)
 - CA-SUT-139H (Residential complex with associated auxiliary structures)
- Unrecorded historic cultural resources may be located in the project area.
- The USGS Knights Landing, Davis, Fair Oaks, and Lincoln 15' (1952) quadrangle maps indicate that Cross Canal, East Side Canal, American Basin, Howsley Road, Pleasant Grove Cemetery, Pleasant Grove, Barney Mound, Sankey Road, Joe's Landing, Garden Highway, Powerline Road, North Drainage Canal, landing strips, North Main Canal, Curry Creek, Pleasant Grove Creek, Fifield Road, wells, Western Pacific Railroad, Sacramento Northern Railroad, Pacific Avenue, Sacramento River, Pleasant Grove Creek Canal, Natomas Road, Keys Road, Riego Road, Natomas East Main Drainage Canal, roads, and structures are located in the project area.
- Portions of the project area have been previously surveyed for cultural resources: Ashkar (1997), Bass (1983), Bell (2006), Bouey (1989), Cultural Resources Unlimited (1992a and 1992b), Derr (2002), Deitz (1998), Ebasco (1992), Egherman and Hatoff (2002), Foster and Foster (1992), Glover and Bouey (1990), Grant (2007, 2008), Gross (2007a and 2007b), Huddleston (2007), Jensen (1999, 2005), Johnson and Johnson (1974), Kaptain (2005), Nelson et al. (2000), Nilsson et al. (1994), Peak (2005), and Wilson (1978).
- Reviewed documents include:
 - National Register of Historic Places Listed Properties and Determined Eligible Properties (Computer listings 1966 through July 2000 by the National Park Service)
 - California Register of Historical Resources (2008)
 - California Points of Historical Interest (1992)
 - California Inventory of Historic Resources (1976)
 - California Historical Landmarks (1996)
 - Directory of Properties in the Historic Property Data File for Sutter County (2008)
 - Handbook of North American Indians, Vol. 8, California (1978)
 - Historic Spots in California (1966).

5.5.2 Regulatory Setting

The primary concern of reviewing agencies is to ensure that all potential impacts are identified and that conditions are set forth that ensure that impacts are mitigated below a level of significance under CEQA. If cultural resources are identified, the reviewing agency's staff determines whether there may be a project-related impact on identified resources and whether the resource is eligible for the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP). If eligible, agency staffs recommend mitigation to ensure that no significant impacts would occur and that mitigation measures reduce impacts on the cultural resource to a less than significant level. This project may have federal involvement if USACE permits are required for any wetland fills or impacts on navigable waters (for example, the Sacramento River).

Federal

Code of Federal Regulations, 36 CFR Part 61, Federal Guidelines for Historic Preservation Projects. The U.S. Secretary of the Interior has published a set of Standards and Guidelines for Archaeology and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archaeological and historic properties. The Secretary's standards and guidelines are used by federal agencies, such as the U.S. Forest Service, the Bureau of Land Management, and the National Park Service. The State Historic Preservation Office refers to these standards in its requirements for mitigation of impacts on cultural resources on public lands in California.

National Historic Preservation Act, 16 U.S.C. § 470. Commonly referred to as Section 106, this act requires federal agencies to take into account the effects of their undertakings on historic properties through consultations beginning at the early stages of project planning. Implementing regulations revised in 1997 (36 CFR Part 800 et. seq.) set forth procedures to be followed for determining eligibility of cultural resources, determining the effect of the undertaking on the historic properties, and how the effect will be taken into account. The eligibility criteria and the process are used by federal agencies. Very similar criteria and procedures are used by the state in identifying cultural resources eligible for listing in the CRHR.

State

California Code of Regulations, Title 14, Section 4852, defines the term "cultural resource" to include buildings, sites, structures, objects, and historic districts.

Public Resources Code, Section 5000, establishes the CRHR and determines significance of and defines eligible resources. It identifies any unauthorized removal or destruction of historic resources on sites located on public land as a misdemeanor. It also prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and establishes the penalty for possession of such artifacts with intent to sell or vandalize them as a felony. This section defines procedures for the notification of discovery of Native American artifacts or remains and states that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. CEQA (Public Resources Code, Section 21000 et seq.; Title 14, California Code of Regulations, section 15000 et seq.) requires analysis of potential environmental impacts of proposed projects and requires application of feasible mitigation measures.

Public Resources Code, Section 21083.2, states that the lead agency determines whether a project may have a significant effect on "unique" archaeological resources. If so, an environmental impact report shall address these resources. If a potential for damage to unique archaeological resources can be demonstrated, the lead agency may require reasonable steps to preserve the resource in place. Otherwise, mitigation measures shall be required as prescribed in this section. The section discusses excavation as mitigation; limits the applicant's cost of mitigation; sets time frames for excavation; defines "unique and non-unique archaeological resources"; and provides for mitigation of unexpected resources.

Public Resources Code, Section 21084.1, indicates that a project may have a significant effect on the environment if it causes a substantial adverse change in the significance of a historic resource. The section further defines a "historic resource" and describes what constitutes a "significant" historic resource.

CEQA Guidelines, Title 14, California Code of Regulations, Section 15126.4(b), prescribes the manner of maintenance, repair, stabilization, restoration, conservation, or reconstruction as mitigation of a project's impact on a historical resource; discusses documentation as a mitigation measure; and discusses mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place or by data recovery through excavation if avoidance or preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

CEQA Guidelines, Section 15064.5, defines the term "historical resources," explains when a project may have a significant effect on historical resources, describes CEQA's applicability to archaeological sites, and specifies the relationship between "historical resources" and "unique archaeological resources."

Penal Code, Section 622 ¹/₂, states that anyone who willfully damages an object or thing of archaeological or historic interest is guilty of a misdemeanor.

California Health and Safety Code, Section 7050.5, states that if human remains are discovered during construction, the project owner is required to contact the county coroner.

Local

Sutter County addresses the conservation and utilization of natural, cultural, historical, and archaeological resources within the community, including water, soils, minerals, air quality, and plant and animal resources, as part of its General Plan.

5.5.3 Impacts and Mitigation Measures

CEQA guidelines define an important resource as one listed on, or eligible for listing on, the CRHR (Public Resources Code, Section 5024). Resources that are found to be eligible for the CRHR "are to be protected from substantial adverse change." Such change is defined in Section 5020.1 as demolition, destruction, relocation, or alteration activities that would impair historical significance.

As reported above, thirteen historic resources are present within the project area. Because project design is conceptual at this time, it cannot be determined whether any of these thirteen historic resources would be subject to impact. Preliminary conceptual design indicates that none of these 13 resources would be affected.

Significance Criteria

Significance thresholds in this section are based on Appendix G (Environmental Checklist Form) of the CEQA Guidelines, which indicates that a potentially significant impact could occur if implementation of the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
- Directly or indirectly destroy a unique paleontological resource of site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

Impact Analysis

Impact 5.5-1 The project could cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.

Analysis: Less than significant with mitigation.

Thirteen historical resources are present within the project area according to the NIC-CHRIS record search. Much of the project area has not been surveyed for the presence of historical resources; therefore, unidentified resources could be present. Careful project design may result in the avoidance of impacts on historical resources. If impacts on historical resources cannot be avoided, the impact(s) could cause substantial adverse change in the significance of the historical resource(s) as defined in §15064.5. Mitigation measures can be developed to reduce impacts on historical resources to less-than-significant levels.

Mitigation:

MM 5.5-1 Prior to construction, Historic American Building Survey (HABS) or Historic American Engineering Record (HAER) recordation will be identified. To avoid environmentally sensitive areas, buildings or structures would be relocated to avoid cultural resources.

Impact 5.5-2 The project could cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.

Analysis: Less than significant with mitigation.

No known/recorded archaeological resources are present within the project area according to the NIC-CHRIS record search. Much of the project area has not been surveyed for the presence of archaeological resources; therefore, unidentified resources could be present. Careful project design may result in the avoidance of impacts on archaeological resources. If impacts on archaeological resources cannot be avoided, the impact(s) could cause substantial adverse change in the significance of an archaeological resource pursuant to §15064.5. Mitigation measures can be developed to identify and evaluate the significance of any archaeological resources identified during project-level environmental impact analysis. Native American consultation has not been conducted for the proposed project and will be completed during project design.

Mitigation:

MM 5.5-2a	Prior to final project design, a project-level archaeological survey will be conducted in the area and a report documenting resources will be completed. The report will include identification of environmentally sensitive areas and identify appropriate measures to avoid impacts. Measures may include additional research, subsurface testing, data recovery excavation, preparation of reports, and curation of artifacts and excavation records at a recognized repository or museum.
MM 5.5-2b	Prior to project construction, a project-level Native American

Impact 5.5-3 The project could directly or indirectly destroy a unique paleontological resource of site or unique geologic feature.

consultation will be conducted.

Analysis: Less than significant.

The entire project area consists of late Pleistocene- to early Holocene-age alluvially deposited sediments carried down into the lower Sacramento Valley by the Sacramento, Feather, and other major rivers. Valley sediments are known to be quite deep and can overlie late Pleistocene and early Holocene plant and animal fossils. The project area is essentially flat and featureless, and there are no known or discernable geological formations or features that would be considered unique.

Careful project design may result in the avoidance of impacts on paleontological resources (if any are identified through research and/or field investigations). Mitigation measures can be developed to identify and evaluate the significance of any paleontological resources identified during project-level environmental impact analysis.

Mitigation: No mitigation required.

Impact 5.5-4 The project could disturb any human remains, including those interred outside of formal cemeteries.

Analysis: Less than significant with mitigation.

Only one known/recorded location of human remains (a cemetery, CA-SUT-66H) is present the vicinity of the project area according to the NIC-CHRIS record search. CA-SUT-66H is located in Pleasant Grove, which lies less than 0.25-mile east of the Pleasant Grove Creek Canal. As such, it would not be affected by project developments located within the project area as defined in this section. Much of the project area has not been surveyed for the presence of archaeological resources; therefore, unidentified locations of human remains could be present. Careful project design may result in the avoidance of impacts on human remains. If impacts on human remains cannot be avoided, the remains would have to be relocated in accordance with California laws and regulations including but not limited to the Public Resources Codes and CEQA. Avoidance of human remains is the preferred approach. If the human remains are Native American, regulations administered by the California Native American Heritage Commission would be followed.

Mitigation:

- MM 5.5-4a Human remains may be exhumed, if necessary, and reburied at another location (a Euro-American or Native American cemetery) as appropriate. Often, exhumation of human remains requires scientific non-destructive observations and written documentation by the archaeologists who remove the remains.
- MM 5.5-4b In the event of unearthing of human remains, all construction in the vicinity shall cease, and the county coroner shall be notified immediately (per California Health and Safety Code 7050.5). In addition, a qualified archaeologist shall be contacted to assess whether the remains are of Native American origin. If the remains are of Native American origin, the coroner shall notify the Native American Heritage Commission within 24 hours of identification.
- MM 5.5-4c Prior to construction, workers will be provided with sensitivity training to identify and address any unearthed human remains during construction.

5.6 Geology, Soils, and Seismicity

This section has been developed using existing information on soils and geology included in the Sutter County General Plan Update Technical Background Report (PBS&J, 2008) and published soils information from the Natural Resources Conservation Service (NRCS). It also includes an assessment of impacts. Site-specific geotechnical study will be necessary to determine onsite conditions prior to construction of major new infrastructure such as water storage tanks.

5.6.1 Existing Conditions

Regional Setting

The proposed municipal supply infrastructure is located in the Natomas service area in southern Sutter County, just north of the Sacramento County line. This proposed infrastructure is intended to support the phased development of southern Sutter County consistent with the Sutter County General Plan. The proposed water supply facilities will provide M&I water to the proposed Sutter Pointe development, which is located entirely within the unincorporated area of Sutter County. Construction and operation of the proposed water supply system includes the installation of seven groundwater supply wells, transmission pipelines, a water treatment plant, booster stations, and water storage tanks. At present, there are no facilities in the area to provide municipal water service for future development.

The project area is comprised mostly of alluvial plain sediments. The alluvial plain is virtually flat, with little change in topography over a large area. Levees surround the area to the west, north, and east. Since construction of the Sacramento River levee system, the area has supported farming, and rice is the primary crop.

Soils

A description of the soils in the proposed project area was developed using the online Soil Survey of Sutter County, California (NRCS, 2007). Descriptions of the mapping units were developed from the soil survey and the online official soil series descriptions (NRCS, 2008). It should be noted that these soil descriptions were developed for native, undisturbed soils.

Soil map units for the project area are identified in Figure 5.6-1. Soil map unit characteristics for the area that would be potentially affected by construction of water supply facilities are summarized in Table 5.6-1. The table summarizes depth, texture, drainage, permeability, and water runoff. Actual soil conditions in the project area could differ from what is described in the generalized soil descriptions because of natural soil variation. For example, Capay is the dominant soil series in map unit 106 (85 percent); other soil components occupy up to 15 percent of the map unit, and these soils may have characteristics that are dissimilar to those described for the map unit.



during later project planning and construction.

- CH2MHILL

Golden State Water Company

Map Unit Description 106 Capay silty clay, frequently flooded, 0 to 2 percent slopes: Formation: In moderately fine and fine alluvium derived from mostly sand shale Typical profile: Silty clay over clay loam Shrink-swell capacity: High Depth and drainage: Very deep; moderately well drained Permeability: Slow to very slow Runoff: Negligible to high Taxonomic class: Fine, smectitic, thermic Typic Haploxererts 107 Capay silty clay, siltstome substratum, 0 to 2 percent slopes: Formation: In moderately fine and fine alluvium derived from mostly siltstomes and strainage: Shrink-swell capacity: High Depth and drainage: Deep to paralithic bedrock; moderately well drained Permeability: Slow to very slow Runoff: Negligible to high Taxonomic class: Fine, smectitic, thermic Typic Haploxererts 109 Capay clay, hardpan substratum, 0 to 2 percent slopes: Formation: In moderately fine and fine alluvium derived from sand shale Typical profile: Clay over cemented clay and clay loam Shrink-swell capacity: High	Soil Mapping Unit Descriptions and Characteristics				
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Taxonomic class. Fine, smectuic, mermic Xenc Endoaquens					
117 Columbia fine sandy loam, 0 to 2 percent slopes:					
Typical profile: Fine sandy loam over stratified fine and very fine sandy loam					
Shrink-swell capacity: Low					
Permeability: Very deep; moderately well drained					
Runoff: Negligible to medium					
Taxonomic class: Coarse loamy, mixed, superactive, nonacid, thermic Oxyaquic Xerofluvents					

Man I Init		Description	
120	Galt clay 0 to 2 percent slor		
123	Formation:	In fine textured alluvium from mixed but dominantly granitic rock sources	
	Typical profile: Shrink-swell capacity:	Clay over cemented clay and loam High	
	Depth and drainage: Permeability:	Moderately deep to duripan; moderately well drained Slow	
	Runoff: Taxonomic class:	Ponded to medium Fine, smectitic, thermic Aquic Durixererts	
137	Jacktone clay, 0 to 2 percen	t slopes:	
	Typical profile:	Clay over clay	
	Shrink-swell capacity:	High	
	Depth and drainage: Permeability:	Moderately deep to duripan; somewhat poorly drained Slow	
	laxonomic class:	Fine, smectitic, thermic Xeric Duraquerts	
145	Nueva loam, 0 to 1 percent s	slope:	
	Formation:	In alluvium from mixed sources	
	Typical profile:	Loam over stratified sandy loam to silt loam over clay loam	
	Depth and drainage:	LOW Very deep: somewhat poorly drained	
	Permeability:	Moderate in upper part, moderately slow in lower part	
	Runoff:	Very slow	
	Taxonomic class:	Fine loamy, mixed, superactive, thermic, Fluventic Haploxerolls	
158	San Joaquin sandy loam, 0	to 2 percent slopes:	
	Formation: Typical profile:	In alluvium derived from mixed but dominantly granitic rock sources Sandy loam over clay and stratified sandy loam to loam	
	Shrink-swell capacity: Depth and drainage: Bormospility:	Low over high Moderately deep to duripan; moderately well and well drained	
	Runoff	Medium to very high	
	Taxonomic class:	Fine, mixed, active, thermic Abruptic Durixeralfs	
160	San Joaquin-Arents-Duroch	repts complex, 0 to 1 percent slopes:	
	Formation:	In alluvium derived from granite	
	Shrink-swell capacity:	Low over high	
	Depth and drainage:	Very shallow to duripan; well drained	
	Permeability:	Very slow	
	Runoff:	Medium to very high	
	Taxonomic class:	Arents, Durochrepts, and Fine, mixed, active, thermic Abruptic Durixeralfs	
175	Yuvas loam, 0 to 2 percent slopes:		
	Formation:	In alluvium from mixed sources	
	lypical profile:	Loam over clay	
	Depth and drainage.	Moderately deep to duripan: moderately well drained	
	Permeability:	Moderate over very slow	
	Runoff:	Very slow to slow	
	Taxonomic class:	Fine, mixed, active, thermic Abruptic Durixeralfs	

Geology

According to the Sutter County General Plan Technical Background Report (PBS&J, 2008), alluvium is the primary geologic unit occurring in the project area. Alluvium consists of unconsolidated sediments deposited along active stream channels and on flood plains. Much of the area consists of stratified fine sediments; however, there are several units in the area consisting of stratified sands and coarser materials.

Active Faults

For purposes of the Alquist-Priolo Earthquake Fault Zoning Act, active faults are those fault traces that have shown movement within the past 11,000 years. According to the Sutter County General Plan Update Technical Background Report, there are no active faults in Sutter County. An inactive fault (pre-Quaternary), however, lies within the project area (see Figure 5.6-2). Pre-Quaternary faults are defined as no activity within the last 1.6 million years (Jennings and Saucedo, 1999).

5.6.2 Regulatory Setting

Federal

Federal Water Pollution Control Act of 1972 (Clean Water Act)

The Federal Water Pollution Control Act of 1972, commonly referred to as the CWA effectively prohibits discharges of pollutants to a water of the United States unless authorized under a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 CWA amendments established a framework for regulating municipal and industrial storm water discharges under the NPDES program. In 1990, the EPA published final regulations that established storm water permit requirements for specific industrial categories, including construction. The SWRCB is the NPDES permitting authority in California.

State

California Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code, Division 7; Porter-Cologne) is the state law governing water quality in California. Porter-Cologne designates responsibilities to the SWRCB and nine regional water quality control boards to coordinate and control water quality. In 1999, the SWRCB adopted a general NPDES permit in compliance with the CWA to regulate storm water discharges from construction sites greater than 1 acre in size. Sutter County lies within the jurisdiction of the CVRWQCB.

Construction of municipal water supply facilities will result in disturbance of more than one acre of soil; therefore, coverage under the General Construction Permit will be required for construction, along with development and implementation of a site-specific SWPPP, which identifies best management practices that are adequate to control erosion and sediment transport from the site. The requirements are described in greater detail in Section 5.8, Hydrology and Water Quality.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act became law in 1972. This law prohibits structures for human occupancy from being located across the trace of an active fault. It requires the State Geologist to delineate "Earthquake Fault Zones" along faults that are

"sufficiently active" and "well defined." Development permits cannot be issued for sites located in an Earthquake Fault Zone until geologic investigations demonstrate that the site is not at risk for surface displacement from future faulting. The proposed municipal water supply system location is not within an Earthquake Fault Zone.

Seismic Hazard Mapping Act

Seismic hazards can occur due to effects of strong ground shaking, liquefaction, landslides, ground failure or other earthquake related hazards. Under the Seismic Hazard Mapping Act, these hazards are to be identified and mapped to assist in land use planning by local governments. The California Geological Survey (CGS) has issued Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California, which provides guidance for evaluating and mitigating earthquake-related hazards for projects located within zones of required investigations (CGS, 1997). Seismic hazard zones within the Sutter County area have not yet been mapped by CGS, but general ground motions in the project area are expected to be small (Figure 5.6-3). (CGS, 2007).

California Building Code

The California Building Code regulates structural integrity in the state, and provides the minimum requirements for building, including provisions for grading, siting, seismic design, drainage and erosion control. Local building codes can be more restrictive, but are not permitted to be less restrictive. Sutter County has been designated Seismic Site Class D in the California Building Code, and must comply with building standards applicable to this ranking.

Local

Sutter County General Plan – Safety Element, 1996

Sutter County's General Plan serves as the framework for land use decision-making in the county. All new development, including construction and operation of the proposed municipal water supply infrastructure, must be consistent with the Safety element of the County's general plan, thereby ensuring the project(s) will meet the County's goals with respect safety. The safety element addresses issues related to soils, geology and seismicity.

Sutter County Building Codes and Ordinances

Sutter County codes and ordinances related to new development must be followed for construction of the proposed municipal water supply. Ordinances related to erosion and sediment controls during construction, and post-construction runoff controls may be applicable to construction of the proposed infrastructure.

Yuba City-Sutter County Storm Water Management Plan (SWMP), 2003

Development and implementation of a storm water management plan was required under Phase II NPDES regulations pertaining to small municipal separate storm sewer systems (MS4). The SWMP contains the County's plans for controlling construction runoff, and postconstruction storm water management.



EXPLANATION



LEGEND

Treatment Plant
 Water Lines
 Project Boundary

Faults shown solid where well located or strongly inferred; faults shown dotted where concealed.

Notes:

1. Reference citation: Simplified Fault Activity Map of California, Charles W. Jennings and George J. Saucedo.
 2. Source: Digital database of Faults from the Fault Activity Map of California and Adjacent Areas published in 1994 available from the CA Dept. of Conservation, Division of Mines and Geology. Digitized at 1:750,000 scale.
 3. Locations of proposed infrastructure may be modified during later project planning and construction.
 0
 2.5
 5
 Miles

Figure scale: 1:350,000

N



FIGURE 5.6-2 Seismic Hazards South Sutter County Service Area Golden State Water Company

SAC \\ZION\SACGIS\PROJ\GOLDENSTATEWATER\SUTTERPOINTE\MAPFILES\DRAFT\SEISMICHAZARDS.MXD MCLAY1 8/13/2008 14:10:09



Shaking (%g) Pga (Peak Ground Acceleration) *Firm Rock* < 10% 10 - 20% 20 - 30% 30 - 40% 40 - 50% 50 - 60% 60 - 70% 70 - 80% > 80% The unit "g" is

acceleration of gravity.

Notes:

 Based on the USGS/CGS Probabilistic Seismic Hazards Assessment (PSHA) Model, 2002 (revised April 2003).
 10% probability of being exceeded in 50 years.
 Seismic Shaking Hazards image data source: California Geological Survey Web Site, August 2008.

> FIGURE 5.6-3 Seismic Shaking Hazards in California South Sutter County Service Area Golden State Water Company

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5.6.3 Impacts and Mitigation Measures

Significance Criteria

Significance thresholds are from Appendix G of the CEQA Guidelines. An impact is considered to be potentially significant if construction and/or operation of the proposed municipal water supply system would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
 - Strong seismic ground shaking
 - Seismic-related ground failure, including liquefaction
 - Landslides
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Impact Analysis

Impact 5.6-1 Implementation of the project could expose people or structures to potential adverse effects, involving rupture of a known earthquake fault, strong seismic ground shaking, liquefaction or other seismic-related ground failure, or landslides.

Analysis: Less than significant with mitigation.

Active faults for purposes of the Alquist-Priolo Earthquake Fault Zoning Act, and as defined by the California Mining and Geology Board, are those faults that have caused soil and strata displacement with evidence of surface displacement during the Holocene epoch (i.e., within the last 11,000 years) (PBS&J, 2008). Sutter County is not in an area of active earthquake faults or recent seismic activity (Sutter County, 1996), although a non-active pre-Quaternary fault is located within the proposed project area (Figure 5.6-2). Although this fault is considered non-active, the potential for seismic activity still exists. Although not located in the immediate vicinity, active faults in the region could generate ground motion that would be felt in the county. Potential impacts from known earthquake faults to people or structures that would result from construction and operation of the municipal water supply are considered to be less than significant with mitigation.

Soils with large amounts of silts and sands that are saturated or nearly saturated can behave like liquids during large earthquakes and cause extensive structural damage; this is known as liquefaction. Liquefaction hazards are associated with soils dominated by low plasticity silts and sands, a water table within 50 feet of the ground surface with soils that are saturated or nearly saturated, and strong shaking to liquefy the soils. The area proposed for the municipal water supply infrastructure has a relatively high water table. Most soils in the area have relatively high clay contents and so the liquefaction hazard is likely to be relatively low. However, soils that are close to the Sacramento River can have high concentrations of silts and/or sands. Map Unit 117, Columbia Sandy Loam, contains substantial silts and/or sands and underlies the portion of the conceptual pipeline design adjacent to the Sacramento River. Although strong earthquake shaking is not expected in Sutter County, if it were to occur, then the area adjacent to the river may be prone to liquefaction. Potential liquefaction impacts resulting from construction and operation of the municipal water supply system are considered to be less than significant with implementation of MMs 5.6-1a and 5.6-1b.

Landslides also may occur in earthquake-prone areas; landslide hazards depend on slope, soil, bedrock, vegetation, precipitation, and proximity to areas undergoing rapid erosion (Sutter County, 1996). Because of its flat topography, most of Sutter County, including the area proposed for the municipal water supply infrastructure, is considered to be a landslide-free zone (PBS&J, 2008). No construction is proposed on the levees, which are the only local features where slope instability could occur in the study area. Therefore, construction and operation of the municipal water supply infrastructure will not result in any adverse impacts related to landslides.

Mitigation:

- MM 5.6-1a Design and construction of the proposed municipal water supply facilities, including pipelines, treatment facilities, booster stations, storage tanks, and groundwater supply wells, should be in accordance with the Seismic Ranking for the area that is specified in the Uniform Building Code.
- MM 5.6-1b A detailed geotechnical investigation should be completed by a registered geologist or geotechnical engineer as part of project design. Structures should be sited away from any areas that are identified in the geotechnical investigation as presenting a substantial seismic hazard.

Impact 5.6-2 Construction of the project could result in substantial soil erosion or the loss of topsoil.

Analysis: Less than significant with mitigation.

Topography of the area is generally flat, and runoff potential is low (Table 5.6-1). Nevertheless, activities associated with construction of the municipal water supply system could result in wind- or water-driven soil erosion. This impact could potentially be significant. Any impacts would be short term because soils would be stabilized with impervious surfaces or vegetation after installation of pipelines and construction of associated facilities. During project construction, the NPDES permit applicant would be required to follow conditions specified in the General Construction permit administered by the CVRWQCB. A site-specific SWPPP would need to be developed and implemented to provide an adequate combination of erosion and sediment controls. This potential impact is further described in Section 5.8, Hydrology and Water Quality.

Mitigation:

MM 5.6-2 Construction activities will conform to federal, state, and local requirements for erosion and sediment controls. Coverage under the NPDES General Construction Permit will be obtained, and a SWPPP will be developed and implemented to effectively control erosion and sediment transport from the site.

Impact 5.6-3 Operation of the project could result in substantial soil erosion or the loss of topsoil.

Analysis: Less than significant.

Topography of the area is generally flat, and runoff potential is low (Table 5.6-1). Operation of the proposed project would not result in wind- or water-driven soil erosion because soils would be stabilized with impervious surfaces or vegetation.

Mitigation: No mitigation required.

Impact 5.6-4 The project could be located on a geologic unit or soil that is unstable, or could become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

Analysis: Less than significant with mitigation.

Trenching and installation of water supply pipeline and associated infrastructure would not likely result in any change in soil stability. Facilities will be sited in accordance with recommendations outlined in a project-level geotechnical investigation and, therefore, no substantial impacts should occur from soil instability, lateral spreading, liquefaction, or collapse. The area is not subject to landslides. To date, subsidence associated with groundwater pumping in Sutter County is believed to be minimal because surface water use predominates and recharge rates are comparatively high (PBS&J, 2008); however, it is possible that with operation of the municipal water supply system, ground subsidence could occur and these impacts could be potentially significant. Damaging effects from subsidence could include gradient changes in water supply transmission lines, damage to water wells resulting from sediment compaction, and increased flooding of low-lying areas (PBS&J, 2008). With implementation of MM 5.6-4a through c, impacts would be reduced to levels that are less than significant.

Mitigation:

- MM 5.6-4a Baseline monitoring will be conducted at a series of subsidence monitoring locations prior to groundwater pumping to provide a point of reference upon which future subsidence measurements would be compared.
- MM 5.6-4b If groundwater pumping is determined to substantially contribute to measured subsidence in the area, water supply sources would be evaluated to determine the appropriate conjunctive use (i.e., surface and groundwater

mixed use) that would achieve water supply requirements and likewise reduce land subsidence.

MM 5.6-4c Design and construction of the municipal water supply system would follow recommendations of a geotechnical soils report and the Uniform Building Code requirements to ensure adequate and uniform soil stability and suitable support for all facilities.

Impact 5.6-5 The project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1994), and could create substantial risks to life or property.

Analysis: Less than significant with mitigation.

Expansive soils have the potential to increase or decrease in volume (shrink or swell) with changes in moisture content because of the amount and types of clay they contain. Based on data from NRCS, Table 5.6-1 shows that nearly all of the soil map units that are associated with the proposed municipal water supply system are expansive, with a high shrink-swell capacity. Construction on expansive soils can lead to cracking of driveways, roads, and foundations, and disruption of pipelines and other utilities. Without mitigating the potential adverse effects that could result from constructing the municipal water supply system on expansive soils, potentially significant impacts on property could occur. With implementation of MM 5.6-5, impacts on property resulting from construction on expansive soils are considered to be less than significant.

Mitigation:

MM 5.6-5 Recommendations from a geotechnical soils investigation and conformance to the Uniform Building Code would be followed for proper design and construction of the water supply pipeline and associated facilities on expansive soils.

Impact 5.6-6 The project may be located in an area that has soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Analysis: No impact.

The proposed project will be located in a planned development area. The development will dispose of wastewater into a municipal sewage collection system. Septic tanks or alternative wastewater disposal systems will not be implemented.

Mitigation: No mitigation is required.

5.7 Hazards and Hazardous Materials

5.7.1 Existing Conditions

The proposed water facilities are located on an undeveloped site surrounded by primarily agricultural uses to the north and east (unincorporated) and habitat preserve zones to the west. Sacramento International Airport and Metro Air Park (an industrial and business park) are located 2 to 3 miles southwest. Potential hazards associated with the proposed project relate primarily to the risk of accidental release of chlorine used in the water treatment process for disinfection. Construction-related chemicals that will be utilized include vehicle fluids such as diesel, hydraulic fluid, and petroleum products.

A hazardous material review of the project area was conducted to determine the existing conditions in the vicinity of the proposed project. This review focused on possible locations of contamination by hazardous materials or waste, and included a review of a database search report prepared by Environmental Data Resources, Inc. (EDR). Sites were identified in the report encompassing the proposed Sutter County M&I service area and extending out 1 mile as shown on Figure 5.7-1 (EDR, 2008). The sites identified include those that generate, transport, treat, store, or dispose of hazardous waste; release oil or hazardous substances; release toxic chemicals to the air, water, and land; receive solid waste; recycle materials; have an underground storage tank or a leaking underground storage tank; have onsite contamination; or are drycleaners or labs. Many of the located sites fall into more than one contaminant category. Table 5.7-1 gives a summary of findings based on the EDR data report, and Table 5.7-2 shows the sites with federal, state, and local listings.

5.7.2 Regulatory Setting

Federal

The principal agency regulating the generation, transport, and disposal of hazardous substances is the EPA, under the authority of the Resource Conservation and Recovery Act (RCRA). The EPA regulates hazardous substance sites under the Comprehensive Environmental Response Compensation and Liability Act.

State

The California Environmental Protection Agency (Cal-EPA) and the Office of Emergency Services of the State of California establish rules governing the use of hazardous substances. The Department of Toxic Substances Control (DTSC) has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency for the generation, transport, and disposal of hazardous substances under the authority of the Hazardous Waste Control Law.

The California Highway Patrol and the California Department of Transportation are the enforcement agencies for hazardous substances transportation regulations.

Local

Sutter County is responsible for enforcing the state regulations, and regulates the use, storage, and disposal of hazardous substances by issuing permits, monitoring regulatory compliance, investigating complaints, and performing other enforcement activities.

A Risk Management and Prevention Program for handling chlorine may be required. Storage of hazardous materials in quantities greater than 55 gallons (liquid), 500 pounds (solids), or 200 cubic feet of compressed gases requires an emergency plan. Such facilities must obtain a permit from the Sutter County Environmental Health Department. These programs include design safety, standard operating procedures, preventive maintenance, operating training, accident investigation procedures, hazard analysis, emergency response planning, and audit procedures for ensuring proper implementation of each program. A Risk Management and Prevention Program is required under the California Health and Safety Code for the purpose of reducing the risk of chemical accidents that have the potential for offsite consequences.

5.7.3 Impacts and Mitigation Measures

Construction and operation of any new or expanded facility would have some associated element of risk, so the facilities should be constructed and operated with features and measures that would ensure maximum protection for public health and safety. Risk-of-upset impacts associated with facility operations relate primarily to the use of chlorine, both in terms of transfer and storage.

For the purpose of this assessment, an impact is considered significant if the proposed project would expose the public or workers to new hazards or greater risks from facility construction or operations.



2. Inquiry number: 02280191.1r - 31 Jul 08

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TABLE 5.7-1

Summary of Regulatory Databases Searched and Search Results

Search Radius Database	Findings ^a
Federal Records (Within Any Distance ^b)	
National Priority List (NPL)	0
Proposed National Priority List Sites (Proposed NPL)	0
National Priority List Deletions (Delisted NPL)	0
Federal Superfund Liens (NPL RECOVERY)	0
Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	1
CERCLIS No Further Remedial Action Planned (CERC-NFRAP)	0
CERCLA Lien Information (LIENS 2)	0
Corrective Action Report (CORRACTS)	0
Resource Conservation and Recovery Act Information (RCRA-TSDF)	0
RCRA -Transporters, Storage, and Disposal (RCRA-TSDF)	0
RCRA - Large Quantity Generators (RCRA-LQG)	0
RCRA - Small Quantity Generators (RCRA-SQG)	4
RCRA Conditionally Exempt Small Quantity Generator (RCRA-SCEQG)	0
RCRA Non Generators (RCRA-NonGen)	1
Engineering Controls Sites List (US ENG CONTROLS)	0
Sites with Institutional Controls (US INST CONTROL)	0
Emergency Response Notification System (ERNS)	3
Hazardous Materials Information Reporting System (HMIRS)	0
Incident and Accident Data (DOTOPS)	0
Clandestine Drug Labs (US CDL)	0
Department of Defense Sites (DOD)	0
Formerly Used Defense Sites (FUDS)	0
A Listing of Brownfields Sites (US BROWNFIELDS)	0
Land Use Control Information System (LUCIS)	0
Superfund (CERCLA) Consent Decrees (CONSENT)	0
Records of Decision (ROD)	0
Uranium Mill Tailings Sites (UMTRA)	0
Open Dump Inventory (ODI)	0
Torrez Martinez Reservation Illegal Dump Site Locations (DEBRIS REGION 9)	0
Mines Master Index File (MINES)	0
Toxic Chemical Release Inventory System (TRIS)	1
Toxic Substances Control Act (TSCA)	0
Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA)/Toxic Substances Control Act (TSCA) Tracking System (FTTS)	0
FIFRA/TSCA Tracking System Administrative Case Listing (HIST FTTS)	0
Section 7 Tracking Systems (SSTS)	0
Integrated Compliance Information System (ICIS)	0
PCB Activity Database System (PADS)	0
Material Licensing Tracking System (MLTS)	0
Radiation Information Database (RADINFO)	0
Facility Index System (FINDS)	11
RCRA Administrative Action Tracking System (RAATS)	0

TABLE 5.7-1

Summary of Regulatory Databases Searched and Search Results

Search Radius Database	Findings ^a
State and Local Records (Within Any Distance ^b)	
Historical Calsites Database (HIST Cal-Sties)	0
Bond Expenditure Plan (CA BOND EXP. PLAN)	0
School Property Evaluation Program (SCH)	0
Toxic Pits Cleanup Act Sites (Toxic Pits)	0
Solid Waste Facilities/Landfill Sites (SWF/LF)	0
California Water Resources Control Board – Waste Discharge System (CAWDS)	5
Waste Management Unit Database System (WMUDS/SWAT)	0
Cortese Hazardous Waste and & Substances Sites	2
Recycling Facilities in California (SWRCY)	0
Leaking Underground Storage Tank Incident Reports (LUST)	2
Facility Inventory Database for Underground Storage Tanks (CA FID UST)	3
Statewide SLIC Cases (SLIC)	4
Sacramento County Contaminated Sites (CS)	0
Underground Storage Tanks (UST)	5
Historical Underground Storage Tanks (HIST UST)	9
Environmental Liens Listing (LIENS)	0
Aboveground Petroleum Storage Tank Facilities (AST)	4
Statewide Environmental Evaluation and Planning System (SWEEPS UST)	8
California Hazardous Material Incident Report System (CHMIRS)	4
Proposition 65 Records (Notify 65)	0
Deed Restriction Listing (DEED)	0
Voluntary Cleanup Program Properties (VCP)	0
Drycleaner-Related Facilities (DRYCLEANERS)	0
Well Investigation Program Case List (WIP)	0
Drug Lab Locations (CDL)	2
Sacramento County Master List (CA ML)	0
State Response Sites (RESPONSE)	0
Hazardous Waste Manifests (HAZNET)	7
Emissions Inventory Data (EMI)	1
EnviroStor Database (ENVIROSTOR)	1
Hazardous Substance Storage Container Database (HIST UST)	0
Registered Waste Tire Haulers Listing (HAULERS)	0
<i>Tribal Records</i> (Within Any Distance ^b)	
Indian Reservations (INDIAN RESERV)	0
Open dumps on Indian Lands (INDIAN ODI)	0
Leaking Underground Storage Tanks on Indian Land (INDIAN LUST)	0
Underground Storage Tanks on Indian Land (INDIAN UST)	0
Voluntary Cleanup Priority Listing (INDIAN VCP)	0
EDR Proprietary Records (Within Any Distance ^b)	
EDR Proprietary Manufactured Gas Plants	0

Source: Environmental Data Resources, Inc., 2008.

^a Note that this list overstates the number of sites because some sites are listed on more than one database.

^b The record search was a corridor search within 1-mile of the proposed facilities; therefore, "Within Any Distance" means "within 1 mile."

TABLE 5.7-2	
Locations of Listed Sites within Proposed Project	Area

Federal Records	Address	Map site ID
FINDS	3075 Howsley Road	1
ERNS	3201 Howsley Road	2
FINDS	2452 El Centro Boulevard	4
FINDS	3205 Fififield	5
ERNS	Natomas Road north of Keyes Road	6
CDL	Natomas Road and Keyes Road	6
ERNS	Garden Highway, 1.5 mile from Sankey Road	7
RCRA-SQG	7062 Pacific Avenue	9
FINDS	7310 Pacific Avenue	9
RCRA-SQG	7310 Pacific Avenue	9
FINDS	7339 Pacific Avenue	9
FINDS	7466 Pacific Avenue	9
TRIS	7466 Pacific Avenue	9
RCRA-SQG	7466 Pacific Avenue	9
CDL	7875 Pleasant Grove Road	11
RCRA-SQG	3387 Riego Road	15
CERCLIS	14130 County Road 117	18
State and Local Records		
LUST	3100 Howsley Road	1
HIST UST	3100 Howsley Road	3
HAZNET	3598 Howsley Road	3
HIST UST	2452 El Centro Boulevard	4
CHMIRS	6700 block of Garden Highway	7
CHMIRS	Garden Highway, 1.9 mile south of Sankey Road	7
CA FID UST	2942 Garden Highway	7
HIST UST	2942 Garden Highway	7
HIST UST	2942 Garden Highway	7
HIST UST	3131 Sankey Road	8
CAWDS	3131 Sankey Road	8
AST	7062 Pacific Avenue	9
HAZNET	7063 Pacific Avenue	9
CAWDS	7062 Pacific Avenue	9
HAZNET	7235 Pacific Avenue	9
SLIC	7310 Pacific Avenue	9
HAZNET	7310 Pacific Avenue	9
EMI	7339 Pacific Avenue	9
AST	7466 Pacific Avenue	9
HAZNET	7518 Pacific Avenue	9
HAZNET	7414 Pacific Avenue	10
SWEEPS UST	8000 Pleasant Grove Road	12
HAZNET	4425 W Riego Road	13
CHMIRS	0.25 mile east of Pacific Avenue	14
CHMIRS	0.25 mile east of Pacific Avenue	14
ENVIROSTOR	Riego Road and Pacific Avenue	14
UST	3387 Riego Road	16
CA FID UST	5341 W Riego Road	16
HIST UST	5341 W Riego Road	16
SLIC	10550 Lowell Street	17
SLIC	10550 Lowell Street	17
AST	14130 County Road 117	18
HIST UST	8628 Pleasant Grove Road	19

Significance Criteria

Significance thresholds in this section are based on Appendix G (Environmental Checklist Form) of the CEQA Guidelines, which indicates that a potentially significant impact could occur if implementation of the project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- Result in a safety hazard for people residing or working in the project area if the project is located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Impact Analysis

Construction Phase

Hazardous substances such as asbestos and lead-based paint may be associated with older structures and underground pipe that may be involved in demolition activities associated with project construction. Demolition is not expected to occur with this project and exposure to asbestos and lead based paint is not an impact of this project. However, if hazardous substances are identified from records searches, site reconnaissance, or other information, then a remedial investigation and remedial design studies will be conducted. Remedial investigation consists of sampling to help determine the extent of the contamination and includes a risk assessment that would help determine the extent of contamination and remediation needs. Asbestos also can be found as naturally occurring rock formations. There are no asbestos-bearing rocks in Sutter County (Department of Conservation, Division of Mines and Geology, 2000).

Hazardous materials that will be used during construction include gasoline, diesel fuel, oil, lubricants, and solvents and paints. There are no feasible alternatives to these materials for operation of construction vehicles and equipment. No acutely hazardous materials (AHMs) will be used or stored onsite during construction.

There is minimal potential for environmental impacts from hazardous material incidents during construction. Small volumes of hazardous materials will be temporarily stored onsite inside fuel lubrication service trucks. Paints and solvents will be stored in flammable materials cabinets. Maintenance and service personnel will be trained in handling these materials. The most likely incidents involving these hazardous materials are associated with minor spills or drips. Impacts from such incidents will be mitigated by cleaning minor spills as soon as they occur and having spill cleanup materials on site and available throughout construction.

Accidents involving release of small quantities of hazardous materials from construction equipment will be mitigated through an emergency response training program and procedures implemented by the project construction contractors and employees.

Equipment will remain in good working order to prevent spills. A SWPPP will be in place prior to the start of construction activities. The SWPPP will implement best management practices for pollution prevention.

Operational Phase

Diverted surface water will be treated with aqueous chlorine and other chemicals before it is distributed throughout the service area. The surface water treatment process, including coagulation, flocculation, sedimentation, and disinfection, requires chemical use. The chemicals will be stored onsite at the water treatment plant within containment structures adequate to provide accidental spill containment. Chemicals that may be used include:

- Alum coagulant
- Cationic polymer coagulant aid
- Anionic/nonionic polymer flocculant aid, filter aid, and waste washwater recovery aid
- Caustic soda for pH adjustment and corrosion control
- Lime for corrosion control
- Potassium permanganate for taste and odor control
- Chlorine for disinfection

Of the chemicals listed above, chlorine is the only acutely hazardous material. Aqueous chlorine is used by GSWC as a disinfectant in domestic water treatment. Disinfection is necessary to destroy all pathogenic bacteria and other harmful organisms that may be present in water. Elimination of these organisms is accomplished by the use of a chemical disinfecting agent. After disinfection, water must be kept in suitable tanks or other storage facilities to prevent recontamination. The desirable properties for a chemical disinfectant are high germicidal power, stability, solubility, economy, dependability, residual effect, ease of use and measurement, and availability. Chlorine satisfactorily complies with these desirable properties. Handling of chlorine at the water treatment plant and wells may pose an AHM accident risk. An AHM accident risk is defined as a potential for the release of an AHM into the environment, which could produce a significant likelihood that persons exposed may suffer acute health effects resulting in significant injury or death. For water treatment, the chlorine will be supplied from storage tanks. The chlorine will travel from the tanks through underground pipes to the building housing the chlorinators, which will emit or inject measurable amounts of the agent for water treatment. The GSWC has operating procedures to perform preventive maintenance on chlorine-handling equipment to reduce the risk of accidental exposure at their water treatment facilities. Chlorine-handling equipment and

safety equipment are inspected and tested regularly by trained, qualified maintenance technicians. Additionally, an emergency procedure manual explaining the specific procedure to be followed in the event of a chlorine leak is provided to all employees.

Aqueous ammonia will be delivered to the facilities in a chemical delivery tanker truck (approximately 6,000 gallons). Facilities will be designed for safe delivery of chemicals. The unloading area will be designed to minimize impacts from accidental spills that may occur during unloading and allow access for prompt cleanup. Chemicals will be stored in chemical storage vessels and tanks specifically designed for their individual characteristics. Small quantity chemicals will be stored in their original delivery containers to minimize risk of upset. Personnel working with chemicals will be trained in proper handling techniques and in emergency response procedures for chemical spills.

Bulk storage of hazardous materials will be surrounded by spill containment walls to hold the entire capacity of the tank plus an additional volume to contain a 25-year, 24-hour rainfall event. Any spilled materials will be collected and drained to a covered collection sump.

Impact Analysis

Impact 5.7-1 Construction of the project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Analysis: Less than significant with mitigation.

Hazardous materials utilized during construction potentially could result in hazardous impacts related to hazardous construction materials and supplies, storage and transport of hazards or hazardous materials including gasoline, diesel fuel, oil, lubricants, and solvents and paints. Hazardous materials or construction equipment fuels used during the course of construction might spill accidentally. Implementation of the mitigation measures listed below would reduce impacts to less than significant.

Mitigation:

- MM 5.7-1a During construction, hazardous materials stored onsite will be limited to small quantities of paint, coating and adhesive materials, and refueling containers. These materials will be stored in their original containers inside a flammable materials cabinet. Fuels, lubricants, and various other liquids needed for operation of construction equipment will be transported to the construction site on as as-needed basis by equipment service trucks.
- MM 5.7-1b An onsite safety officer will be designated to implement health and safety guidelines and, if necessary, contact emergency response personnel and local hospitals. Material Safety Data Sheets (MSDS) for each onsite chemical will be maintained and stored on site in the contractor's jobsite office. Employees will be made aware of the location of the MSDS sheets.

- MM 5.7-1c Project construction contractors will be required to implement standard operating procedures for servicing and fueling construction equipment. The procedures will at a minimum include:
 - No smoking, open flames, or welding will be allowed in fueling/service areas.
 - Servicing and fueling of vehicles and equipment will occur only in designated areas. These areas will be in locations that allow for spill control.
 - Fueling, service, and maintenance will be conducted only by authorized, trained personnel.
 - Refueling will be conducted only with acceptable pumps, hoses, and nozzles.
 - All disconnected hoses will be handled in a manner to prevent residual fuel and liquids from being released to the environment.
 - Drip pans will be placed under equipment to minimize potential spills during servicing.
 - All equipment will be maintained in good working order and equipment containing hazardous materials will be inspected periodically for signs of spills or leakage.
 - Service trucks will be equipped with fire extinguishers, personal protective equipment, and spill containment equipment such as absorbents.
 - Service trucks will not remain on the site after fueling and service are complete.
 - Spills that occur will be cleaned up immediately and contaminated soil will be containerized and disposed of properly.
 - Spills that occur will be reported in accordance with applicable federal, state, and local requirements.
 - Emergency phone numbers will be available on site.
 - All containers used to store hazardous materials will be properly labeled and kept in good condition.

Impact 5.7-2 Operation of the project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Analysis: Less than significant with mitigation.

The proposed project would use chlorine at the water treatment plant, which would require storage facilities, points of transfer between the storage tanks and chlorination facilities, and deliveries of chemicals to the plant site.
The level of risk associated with chlorine handling is reduced to the extent possible by implementing safeguards for chlorine handling. These include proper design, effective safety features, safe operation and maintenance practices, monitoring of process conditions, and detection of deviations. Implementation of the mitigation measures listed below would reduce impacts to a less-than-significant level.

Mitigation:

- MM 5.7-2a Spill containment structures will be constructed surrounding each of the bulk chemical storage tanks. Each containment structure will be designed to contain the tank volume plus additional volume to contain a 25-year, 24-hour rainfall event to account for precipitation. Sumps will be provided within the containment structure(s) to easily remove collected rainwater and spilled chemicals.
- MM 5.7-2b Hazardous materials will be stored and handled in accordance with all local, state, and federal regulations and codes. A safety program will be implemented including safety training programs. A Hazardous Materials Business Plan will be prepared for approval by the Sutter County Environmental Health Department.
- MM 5.7-2c Visual monitoring during operations will be performed to determine compliance with and effectiveness of the proposed mitigation measures.
- Impact 5.7-3 Construction of the project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Analysis: Less than significant with mitigation.

The release of hazardous materials or hazards to the public could occur during construction of the proposed project. Hazardous substances such as asbestos and lead-based paint may be associated with older structures and underground pipe that may be involved in demolition or reconstruction activities associated with expansion of water treatment plant facilities. Demolition is not expected to occur with this project, and exposure to asbestos and lead-based paint is not an impact of this project. Excavations may expose previously unknown hazards.

An environmental data Resources Report was obtained from EDR (EDR DataMap[™]) for the proposed project area. Information on the facility locations derived from record searches is provided on Figure 5.7-1 (EDR, 2008) and in Tables 5.7-1 and 5.7-2. Implementation of the mitigation measures would reduce impacts to a less-than-significant level.

Mitigation:

MM 5.7-3a If contaminated soil or groundwater is encountered during construction, the appropriate county's Hazardous Material Division and the local fire departments would be notified. This measure would minimize construction-period impacts related to hazardous materials.

- MM 5.7-3b If evidence of contaminated materials is encountered during construction, construction shall cease immediately and applicable requirements of the Comprehensive Environmental Release Compensation and Liability Act and the California Code of Regulations (CCR) Title 22 regarding the disposal of waste shall be implemented.
- MM 5.7-3c Mitigation measures 5.7-2b and 5.7-2c also will be implemented for this impact.
- Impact 5.7-4 Operation of the project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Analysis: Less than significant.

The proposed project would use chlorine at the water treatment plant, which would require storage facilities, points of transfer between the storage tanks and chlorination facilities, and receiving deliveries of chemicals to the plant site. Storage of chlorine at the plant site creates the potential for impacts from spills during chemical delivery and leaks in chlorine storage tanks. Although the risk of accidental escape of chlorine cannot be completely eliminated, continued adherence to the Risk Management and Prevention Program and use of onsite operational guides provide the best available means of minimizing hazards impacts to a less-than-significant level.

Mitigation:

- MM 5.7-4a Sodium hypochlorite delivery trucks will be unloaded in an unloading area designed to facilitate safe delivery of the chemical and spill containment features.
- MM 5.7-4b 5.7-2a through 5.7-2c also are applicable.
- Impact 5.7-5 The project could be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

Analysis: Less than significant with mitigation.

One site is on the Cortese List (pursuant to Government Code Section 65962.5) and mitigation measures above provide sufficient mitigation.

Mitigation:

MM 5.7-5 Mitigations are the same as 5.7-3a, 5.7-3b, and 5.7-3c above.

Impact 5.7-6 Operation of the project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within onequarter mile of an existing or proposed school.

Analysis: No impact.

The water treatment plant and wells that may utilize wellhead disinfection with chlorine products are the components of the project that could cause exposure to hazardous materials or substances. There are no school facilities, existing or proposed, within one-quarter mile of the water treatment facility and wells.

Mitigation: No mitigation is required.

Impact 5.7-7 A project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, could result in a safety hazard for people residing or working in the project area.

Analysis: No impact.

The proposed project is not within 2 miles of a public airport and would not result in a safety hazard. The tallest above ground facilities would be the water storage tanks with an approximate height of 25 feet. The closest public airport is Sacramento International Airport, which is 2.24 miles away. Sacramento International Airport has a Comprehensive Land Use Plan (CLUP). The Airport Land Use Commission is responsible for developing and maintaining comprehensive land use plans to protect public health and safety and ensure compatible land uses in areas around each airport. The Sutter Pointe Specific Plan (Sutter County, 2006) includes a review of applicable CLUP policies and goals for the development. Structure dimensions were not identified as an issue that warranted further analysis and, therefore, appear to be consistent with the CLUP. Water facility infrastructure would not present a safety hazard. Therefore, no impact would occur.

Mitigation: No mitigation is required.

Impact 5.7-8: The project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Analysis: No impact.

The proposed water infrastructure project would not interfere with an adopted emergency response plan or evacuation plan and would have no impact. Emergency access is addressed further in Section 5.14, Transportation and Traffic. No impact would occur.

Mitigation: No mitigation is required.

Impact 5.7-9 The project could expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Analysis: No impact.

The risk of wildfires in the vicinity of the proposed project is very low because of the low number of trees in the area. Development of the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, no impact would occur.

Mitigation: No mitigation is required.

5.8 Hydrology and Water Quality

This section evaluates impacts on hydrology and water quality that may result from construction and operation of the planned M&I water infrastructure in the project area. Infrastructure will include water treatment systems, water transmission and distribution pipeline system, water storage facilities (estimated to be approximately 32 million gallons at build-out), and pump stations. One water treatment plant, capable of treating both groundwater and surface water, is proposed for the area.

Water supply for the Sutter Pointe development will include a combination of groundwater and surface water sources to meet M&I needs. During the initial phase (referred to as Phase I), groundwater from seven new wells will provide 100 percent of M&I needs. Once surface water is available during Phase II of the development, 70 percent of the system demand is expected to be supplied by surface water (Wood Rodgers et al., 2008). More detailed information for the proposed phasing and integration of the water supply sources to support proposed development is in the MIAPS report (Wood Rodgers et al., 2008). Water supply approaches for each of these sources are discussed later in this section.

5.8.1 Existing Conditions

The project area lies within the alluvial plains of the southern portion of the Sacramento Valley. The topography is nearly flat, with a vertical change of about 15 feet across the site. Currently, the project area is in agricultural land use, and the predominant crop is rice, irrigated with surface water. Surface water is distributed for agricultural purposes via a network of pump stations and canals under the jurisdiction of Natomas and RD 1000. Water flows naturally from north to south through the drainage canals. Water levels in drainage canals are at their highest at the end of the irrigation season, when diversions from the Sacramento River are curtailed and fields are drained. If canal levels rise to the point where flooding may occur, RD 1000 uses drainage pumps to eliminate excess water from the basin (ASWC et al., 2006). The project area lies in the Natomas Basin, part of the larger Sacramento River watershed.

Surface Water

Sutter County is located between the Sacramento River on the west and the Feather River on the east, in the central portion of the relatively flat Sacramento Valley. Similar to Mediterranean climates, Sutter County's climate is generally characterized by hot, dry summers, with relatively moderate, wet winters. Precipitation rates are greatest during late fall to early spring, followed by the dry season from later spring to early fall. There are no significant water storage reservoirs in Sutter County; rainfall percolates into the soil, runs off into local streams and rivers, and evaporates. By late summer, most small creeks and streams are generally dry and the rivers are at their lowest levels. Sutter County lies entirely within the Sacramento River watershed, which includes the Feather and Bear rivers.

Supply Approach

Surface water will be incorporated into the water supply system during Phase II of the project. A new surface water diversion located on the Sacramento River (Sankey Diversion) is being developed by Natomas as a separate project. Surface water from the Sankey Diversion will be available in the future, however, to provide water to Sutter Pointe via a

pipeline to be constructed from the diversion to the proposed water treatment plant. Surface water treatment capacity is planned to be 40 mgd, constructed in two 20-mgd stages (Wood Rodgers et al., 2008).

Water Quality

The Sacramento River is generally of high quality and is used as a drinking water source by other potable water purveyors in the area, including the cities of Sacramento and West Sacramento. Alkalinity ranges from 70 to 80 milligrams per liter (mg/L) during the summer months and may drop to 30 mg/L during winter. Turbidity can increase to as high as 200 nephelometric turbidity units (NTUs) following heavy rainfall in the Sacramento Valley. The Sacramento River is listed on the CWA 303(d) list as being impaired for mercury and unknown toxicity in the reach between Knights Landing and the Sacramento-San Joaquin Delta. A mercury total maximum daily load (TMDL) is under development by the CVRWQCB (ASWC et al., 2006).

Farmers in Sutter County and to the north use various pesticides and herbicides to control plant diseases and pests and to enhance crop production. Agricultural herbicides, pesticides, and fertilizers historically have been documented at elevated concentrations in the Sacramento River. A diazinon TMDL to address pesticide impairment of the river between Knights Landing and the Delta was adopted by the CVRWQCB and approved by the EPA in 2003. With implementation of the TMDL and better agricultural management practices, recent monitoring has shown nondetectable pesticide concentrations in the river (ASWC et al., 2006).

Sutter County is regulated under a Phase II NPDES permit. NPDES regulations are intended to reduce the pollutants that are discharged to surface water bodies from point sources. Sutter County is developing a grading ordinance that will require review and adoption by the County Board of Supervisors. The grading ordinance, once adopted, will further protect water quality by preventing erosion from active construction sites (ASWC et al., 2006).

Groundwater

Sutter County is located in the greater Sacramento Valley Groundwater Basin and includes portions of the Sutter, East Butte, and North American Subbasins. Major surface water sources contribute to groundwater recharge in the groundwater subbasins in Sutter County. Other sources of groundwater recharge in Sutter County are from percolation of rainfall, agricultural irrigation, and subsurface inflow from adjacent groundwater basins. The project area is located in the North American Subbasin, which extends northward to the Feather River and westward to the Sacramento River. Based on groundwater levels for wells in the Natomas Basin range from 0 to 20 feet below ground surface (bgs). Groundwater levels have remained fairly constant over the 40-year period of record near the project area, but a few wells east of the proposed project have declining levels. Figure 5.8-2 shows the hydrographs of four local wells, including 10N05E05E001M, which had declining groundwater levels until the early 1980s. Conjunctive use plans of water agencies in the northern portion of Sacramento County may lead to some recovery of groundwater levels in the future through management practices.



FIGURE 5.8-1 Proposed Water Supply Approach South Sutter County Service Area Golden State Water Company

Source: Wood Rodgers, Inc., 2008

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Available groundwater data indicate that several distinct aquifers occur in the project area. Data from several sets of clustered monitoring wells monitored by DWR show distinct seasonal groundwater level responses and water quality conditions (Figure 5.8-3).

Supply Approach

The sustainable yield of the North American Subbasin in the project area has not been quantified. The sustainable yield described in the MIAPS for planning purposes is approximately 1 acre-foot per acre. Natomas will limit groundwater use for the proposed project for M&I purposes to yield within the footprint of the developed acreage resulting in a 7,500-AFY groundwater supply (Wood Rodgers et al., 2008).

Groundwater production is planned to provide the initial water supply for the first several years of project development (Phase I). Seven new groundwater wells are planned to be drilled near the water treatment plant. Each well is assumed to produce 1,500 gpm, based on production rates of other wells in the area. Once surface water is available to serve Sutter Pointe, both groundwater and surface water will meet project water demands. At build-out, groundwater is expected to supply 30 percent of the overall project demands. Groundwater treatment capacity at the water treatment plant is planned to be 13 mgd (14,680 AFY), constructed in two stages (Wood Rodgers et al., 2008).

Water Quality

Based on results of groundwater monitoring at locations in the service area, water quality constituents that may be of concern include total dissolved solids (TDS), manganese, arsenic, chloride, sodium, bicarbonate, boron, and iron (HDR, 2003). Some of these parameters may exceed maximum contaminant levels (MCLs) established by the California DPH. TDS in groundwater generally decreases toward the east. Water quality testing is required as part of the permitting process for new production wells.

Levees and Flood Control

Approximately 280 miles of levees protect Sutter County lands from flooding. Most of these levees are part of the Sacramento River Flood Control Project, which was constructed by the USACE and is now owned and maintained by the State of California. The state has delegated most of the operation and maintenance responsibility to local levee and reclamation districts. The levees provide Sutter County with protection against flooding from the Sacramento River, Feather River, Sutter Bypass, Tisdale Bypass, Wadsworth Canal, Bear River, Yankee Slough, Natomas Cross Canal, East Side Canal, and the Pleasant Grove Canal. Current flood maps published by the Federal Emergency Management Agency (FEMA) show that the levee systems, with some exceptions, protect the county from flooding during a 100-year storm event. Most of these flood maps are outdated and do not necessarily reflect the most recent flood studies. The project area includes Zone A flood hazard areas, defined by FEMA as "areas subject to inundation by the 1-percent-annualchance flood event." Figure 5.8-4 shows the 100-year floodplain. The Sacramento River watershed historically flooded from waters originating in the Sacramento, Bear, Feather, and American rivers and minor streams. With construction of levees and stream channel diversions, the American Basin normally does not flood.

The boundaries that define the Natomas Basin in the project area include the Sacramento River on the west, the Natomas Cross Canal on the north, Pleasant Grove Canal on the east, and the county line on the south. This area is shown on FEMA flood maps as having protection from a 100-year flood. However, in 2006, the USACE determined that the levees protecting the Natomas Basin do not meet the current levee underseepage criteria and, as a result, FEMA intends to update the floodplain maps for the basin (PBS&J, 2008). In September 2007, FEMA denied a request by Sutter County and others to provide an A99 designation for the Natomas Basin; instead FEMA suggested that an AR designation be obtained. An A99 designation would not place severe restrictions on development, while an AR designation would only allow infill development if structures are raised 3 feet above the existing ground (PBS&J, 2008). The Sacramento Area Flood Control Agency (SAFCA) in cooperation with the USACE and the State of California has developed a levee improvement project that is planned to restore 100-year flood protection to the basin by 2010 and increase the protection to a 200-year level by 2012 (PBS&J, 2008).

5.8.2 Regulatory Setting

Federal

Clean Water Act

The CWA (33 U.S.C. §1251 et seq.) is the primary federal law governing surface water quality. The goal of the CWA is to restore and maintain the physical, chemical, and biological integrity of the waters of the United States. The CWA requires the State to develop and adopt water quality standards for surface water bodies. Point source discharges of pollutants into waters of the United States are only authorized in accordance with an NPDES permit. In 1987, amendments to the CWA added section 402(p), which established a framework for regulating storm water discharges. In 1990, the EPA promulgated regulations for permitting storm water discharges from industry (including construction sites that were at least 5 acres in size) and from large municipal separate storm sewer systems (MS4s) that serve a population of at least 100,000 people (Phase I regulations); then, in 1999, additional regulations were promulgated by EPA that required permits for storm water discharges from small MS4s (<100,000 people) and construction sites between 1-5 acres in size (Phase II regulations). The NPDES program and issuance of permits under that program are administered by the SWRCB and Regional Water Quality Control Boards (Regional Boards). Under that program, general permits for storm water discharges have been issued for industrial and construction activities, as well as storm water discharges from small MS4s.

In California, the SWRCB, acting through its Regional Boards, implements these permits consistent with a Memorandum of Agreement with the EPA. For this reason, relevant NPDES permits are discussed below under State regulations.



DWR Water Data Library website:

http://wdl.water.ca.gov/gw/map/

2. Locations of proposed infrastructure may be modified during later project planning and construction.

FIGURE 5.8-2 Selected Historical Groundwater Data in the North Natomas Area South Sutter County Service Area Golden State Water Company

SAC \ZION\SACGIS\PROJ\GOLDENSTATEWATER\SUTTERPOINTE\MAPFILES\DRAFT\GROUNDWATERDATA.MXD MCLAY1 8/12/2008 14:27:19 WB082008001SAC Figure_5.8-2_v2.ai 08.12.08 sbm





WB082008001SAC Figure_5.8_3_v1.ai 08.14.08 sbm

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State

The SWRCB and CVRWQCB regulatory structure falls under the federal CWA (described above) and the state Porter-Cologne Water Quality Control Act (Porter-Cologne). Regulatory authority is given to the SWRCB and Regional Boards to coordinate and regulate surface and ground water quality in the state. Each Regional Board is responsible for developing a Water Quality Control Plan (Basin Plan) for its region. The proposed project is within the jurisdiction of the CVRWQCB. The CVRWQCB has established water quality standards for all of the surface and ground waters in the region, including designating the beneficial uses of waters, establishing numeric and narrative water quality objectives to ensure beneficial uses are achieved, and incorporating the State's antidegradation policy. In addition to administering the NPDES program, the SWRCB and Regional Boards also regulate discharges of waste to land. To protect ground water quality, land-based discharges of waste are regulated through issuance of Waste Discharge Requirements (WDRs). Irrigation and other uses of recycled municipal wastewater are regulated through WDRs that include Title 22 Water Reuse Criteria developed by the DPH.

Phase II NPDES Permits for Small Municipal Separate Storm Sewer Systems (MS4s)

Sutter County is regulated as a small MS4 under Phase II storm water regulations, described above. Sutter County developed a Storm Water Management Plan that, among other things, identifies water quality requirements for construction.

CWA Section 401 Water Quality Certification

A CWA Section 401 Water Quality Certification may be required for any project needing a federal license or permit. If a CWA Section 404 permit, issued by the USACE for dredge/fill impacts, is required for the project, a Water Quality Certification must first be obtained from the CVRWQCB.

CWA Section 303(d) – Impaired Water Bodies

Under Section 303(d) of the CWA, when ambient monitoring reveals that a water body is not achieving water quality standards, that water body is placed on a list of impaired waters. Placement on the 303(d) list is the trigger for the need to develop a TMDL, which is defined as the total amount of a pollutant that a water body can receive and still meet water quality standards. For most pollutants, the TMDL would be expressed as a mass-based annual load. The TMDL is allocated among all point and nonpoint sources.

NPDES General Permit for Storm Water Discharges Associated with Construction

In 1999, the SWRCB adopted an NPDES General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), CAS000002, Order No. 99-08-DWQ. The Construction General Permit regulates storm water and nonstorm water discharges from construction sites larger than 1 acre. It requires development and implementation of a site-specific SWPPP that identifies best management practices (BMPs) that, when implemented, will provide an effective combination of erosion and sediment controls. The Construction General Permit is currently under revision, and the revised permit is expected to be adopted by the SWRCB in late 2008. The revised permit is expected to contain a number of significant, new requirements, including action levels, effluent limits, monitoring and reporting, and others.

General Permit for Dewatering and Other Low-Threat Discharges

The CVRWQCB adopted a NPDES general permit (Order No. 5-00-175, NPDES No. CAG995001) for *de minimus* discharges in the region (CVRWQCB, 2000). Construction dewatering, well development water, pump/well testing, and other miscellaneous low-threat discharges may be covered under this permit. If construction dewatering is required to construct or operate the proposed municipal service facilities, coverage under this permit likely would be required.

California Department of Public Health

New potable drinking water well permits are required to receive a permit to operate after the well has been installed and tested according state and local requirements. The DPH administers this program. Water supply permitting requirements and activities are coordinated through the DPH Drinking Water Program district engineer, which for Sutter County is District 21, located in Redding.

Local

Sutter County Requirements

Construction Site Storm Water Discharges

According to the draft General Plan update (PBS&J, 2008) and consistent with the County's Storm Water Management Plan, the County manages construction site storm water discharges through its Department of Public Works Design Standards, Appendix B (Sutter County Department of Public Works, 2005). All construction sites are required to implement erosion control BMPs that are consistent with the California Storm water Quality Association's (CASQA's) Storm water Best Management Practices Handbook, Construction.

Well Design Standards

The Sutter County Public Works Department Design Standards govern the engineering and design of all domestic water systems intended for operation and maintenance. The County's design standards recommend compliance with Bulletin 74-81 "Water Well Standards: State of California." The county design standards require the quality of the water to conform to the EPA Drinking Water Act and the DPH Drinking Water Standards. Site selection must be approved by Sutter County.

Water Well Permit

Prior to drilling a water well, a permit application must be completed and submitted to the Sutter County Environmental Health Services Department.

5.8.3 Impacts and Mitigation Measures

Significance Criteria

CEQA provides criteria for the assessment of potential impacts on hydrological and water resources described in the CEQA Appendix G checklist. Significant impacts could occur if implementation of the project would:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (for example, the production rate of pre-existing nearby

wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite.
- Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite.
- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems to control or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place any structures within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Be subject to inundation by seiche, tsunami, or mudflow.

Impact 5.8-1 Construction of the project could violate any water quality standards or waste discharge requirements by contributing sediments and other pollutants associated with construction activities to the Sacramento River or tributaries, and cause or contribute to a violation of water quality standards.

Analysis: Less than significant with mitigation.

Construction activities will entail a substantial amount of earth movement, as well as use of heavy construction equipment to install pipes, booster stations, and related facilities. Without appropriate controls, construction activities could result in a substantial increase in storm-induced erosion and sedimentation in surface waters located downstream of the discharge. Furthermore, pollutants that are associated with equipment, such as lubricants and fuel, could migrate into receiving waters if appropriate management measures are not implemented. Erosion and sediment controls, including soil stabilizers, revegetation, tracking controls, bag barriers and silt fences, should be used to reduce sediment movement offsite. Other BMPs that would reduce the likelihood of construction-related pollutants from being discharged into canals, creeks, and the Sacramento River could include staging operations away from streams and providing containment for fuels, lubricants, and other materials.

Mitigation:

- MM 5.8-1 Construction of water supply infrastructure should be covered under the State's General Construction Permit prior breaking ground. Storm water BMPs for erosion and sedimentation and for storm water and nonstorm water discharges related to pollutants associated with equipment should be selected from the CASQA Construction BMP manual and incorporated into a site-specific SWPPP. Implementation of the SWPPP should include site inspections to ensure BMPs are functioning properly. BMPs should be modified, as necessary, to ensure an adequate combination of erosion and sediment controls are implemented.
- Impact 5.8-2 Operation of the project could violate any water quality standards or waste discharge requirements by contributing sediments and other pollutants associated with construction activities to the Sacramento River or tributaries, and cause or contribute to a violation of water quality standards.

Analysis: Less than significant with mitigation.

Activities associated with municipal operations, including utility yards, may cause polluted storm water runoff into drainages. Pollutants that are associated with equipment, such as lubricants and fuel, could migrate into receiving waters if appropriate management measures are not implemented.

Mitigation:

MM 5.8-2 GSWC will develop and implement an operation and maintenance program to prevent or reduce pollutant runoff from municipal operations into the storm sewer system. The program will include a pollution and prevention plan for areas that store utility equipment. Visual inspections will be conducted routinely, and employees will be trained on pollution prevention/good housekeeping techniques for municipal operations.

Impact 5.8-3 Municipal well construction could violate any water quality standards or waste discharge requirements during well development.

Analysis: Less than significant with mitigation.

Construction of municipal wells would require well development and water quality testing to occur for 24 hours or more for each well constructed. Water from well development would need to be discharged to an area of land or surface water that can accept the volume of water. Efforts would be made to find a location to discharge to land. Should a discharge to land be infeasible, a Notice of Intent would be filed with the CVRWQCB for a low-threat discharge to surface waters consistent with CVRWQCB's Order No. 5-00-175, NPDES NO. CAG995001 (CVRWQCB, 2000).

Mitigation:

MM 5.8-3 Well development water will be discharged to land if possible. If a discharge to surface water is the only viable option, a Notice of Intent will be filed with the CVRWQCB, and a Monitoring and Reporting Program will be

implemented consistent with the NPDES permit requirements for a low-threat discharge to surface waters.

Impact 5.8-4 Groundwater pumping related to operation of the project may lower the groundwater table and reduce groundwater supplies over time, thereby reducing the amount of water available for irrigation and urban uses.

Analysis: Less than significant with mitigation.

The proposed municipal and industrial water service system will be fully reliant on groundwater to supply residential and industrial water users during the Phase I portion of the development of Sutter Pointe. Total groundwater supply is expected to be about 7,500 AFY, equal to a safe yield of 1 acre-foot per acre, which has been found to be a reasonable estimate for planning purposes (Wood Rodgers et al., 2008). In later phases of development, conjunctive water use will reduce groundwater source contribution to about 25 percent of the overall water supply requirement of the South Sutter County development, and 75 percent of the total water supply requirement is expected to come from surface waters. This is illustrated on Figure 5.8-1. Water Code Section 10910-10915 requires lead agencies to identify the public water system that would supply water for a proposed development project and to request a water supply assessment (WSA) for the project. The WSA must demonstrate that the water system has sufficient supply to meet projected water demands for a period of 20 years. A water supply impact analysis will be conducted as part of the Sutter Pointe Specific Plan EIR that is under development.

According to the MIAPS and California's Groundwater Bulletin 118, groundwater levels in South Sutter County wells have remained fairly stable over time, although some wells have experienced declines (Figure 5.8-2). Operation of the project groundwater wells is not expected to substantially lower groundwater levels because groundwater extraction will be consistent with the estimated annual safe yield of 1 acre-foot per acre; however, it is possible that some lowering of groundwater could occur if net extraction is consistently greater than recharge over a sustained period of time.

Issues can be better addressed by participating in regional groundwater planning efforts, including studies to determine acceptable groundwater levels. Project production wells and groundwater monitoring will need to be operated and implemented so that groundwater level changes related to the new wells are consistent with potential guidelines that may be identified in the Sutter County Groundwater Management Plan being developed (Sutter County Water Resources Division, 2008). Additional evaluation of the potential effects on the operation of the groundwater wells will need to be fully evaluated prior to well operation.

Mitigation:

MM 5.8-4 A conjunctive water supply plan should be developed by Natomas and GSWC for ensuring consistent and adequate water supply for South Sutter County development. Groundwater levels should be regularly monitored (when the wells are not operating) in each of the seven proposed extraction wells. If levels show a consistent decline over multiple years, analysis of the groundwater budget should be performed to determine whether the M&I use is responsible. If M&I supply is found to be contributing to lowering groundwater levels beyond what is acceptable, alternatives should be implemented to reduce groundwater use or increase groundwater recharge, or both. With implementation of mitigation measures, impacts are anticipated to be less than significant.

Impact 5.8-5 Construction of the project may substantially alter the existing drainage pattern of the service area in a manner that would result in substantial erosion or siltation onsite or offsite.

Analysis: Less than significant.

During construction of the municipal water service, the natural drainage pattern of the site will be temporarily disrupted, and soils may be subjected to accelerated erosion, with sediments deposited in downstream receiving waters. The proposed project area is flat and construction of the project is not anticipated to substantially alter the existing drainage pattern in a manner that would result in significant erosion or siltation.

Mitigation: No mitigation required.

Impact 5.8-6 Operation of the project may substantially alter the existing drainage pattern of the service area in a manner that would result in substantial erosion or siltation onsite or offsite.

Analysis: Less than significant with mitigation.

The permanent location of booster stations, treatment plants, and other facilities necessary for operation of the municipal supply system will result in a small amount of impervious land surface, thereby increasing the amount of surface runoff and reducing the amount of water infiltrating into the soil. The amount of impervious surfaces that are created with construction of the municipal supply system is less than 1 percent of the project area because pipelines will be placed in existing roadway alignments, construction-related erosion and sedimentation impacts will be temporary in nature, and the water treatment plant will be less than 8 acres in size.

Mitigation:

- MM 5.8-6 All booster stations, storage tanks, and treatment facilities should be designed and built outside the beds and banks of existing canals, drains, and streams. Facilities should be designed in such a way that storm water runoff from the facilities does not discharge as concentrated surface flows that would induce erosion. With the implementation of these mitigation measures, impacts are anticipated to be less than significant.
- Impact 5.8-7 Construction and/or operation of the project would substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite.

Analysis: Less than significant.

The construction and operation of the M&I infrastructure will not alter the course of any surface water body and will not contribute substantially to an increase in runoff water. The pipeline will be constructed underground within existing road rights-of-way; thus, drainage patterns will not be altered by construction, and the pipeline will not generate additional impervious surfaces that would contribute to additional runoff that would lead to flooding.

Mitigation: No mitigation required.

Impact 5.8-8 Construction and operation of the project would create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems to control.

Analysis: Less than significant.

The construction and operation of the M&I infrastructure should not contribute to substantially higher runoff flows because the pipelines will be constructed underground within existing road rights-of-way; thus, the pipelines will not generate additional impervious surfaces that would contribute to additional runoff. The treatment facility, booster stations, and storage tank would not occupy sufficient land surface to generate a substantial amount of additional runoff. Less-than-significant impacts related to capacity of existing or planned storm water drainages systems are expected with construction and operation of the proposed municipal water system, and no mitigation is required.

Mitigation: No mitigation required.

Impact 5.8-9 The project could substantially degrade surface water or groundwater quality.

Analysis: Less than significant.

Based on available information, there is no substantial evidence that the alteration in pumping and water distribution resulting from the project will create degradation in the groundwater basin. Sutter County is in the process of preparing a Groundwater Management Plan (Sutter County Water Resources Division, 2008). The goal of the plan is to determine the quantity and quality of available groundwater and how to best manage the existing groundwater basins. This will be accomplished through development and implementation of Basin Management Objectives (BMOs) that will be a part of the Groundwater Management Plan. To date, BMOs have been identified to include monitoring and management of:

- Groundwater levels within the groundwater basin
- Groundwater quality degradation
- Inelastic land surface subsidence
- Changes in surface flow and surface quality that directly affect groundwater levels or quality or are caused by groundwater pumping in the basin

Pending completion of that study and adoption of any associated requirement, GSWC will consider adoption of best management practices consistent with the Sutter County Groundwater Management Plan.

The project will not significantly affect surface water or drainage. Although the area is identified as being within a 100-year floodplain, construction and operation of the system will not impede flood flow.

Mitigation: No mitigation required.

Impact 5.8-10 The project could place structures such as water storage tanks and treatment facilities within a 100-year flood hazard area that would impede or redirect flood flows.

Analysis: Less than significant.

According to FEMA, much of the proposed Sutter Pointe development area, including the location for placement of the proposed water supply pipeline and treatment facility, lies within the current 100-year flood hazard area (Figure 5.8-4). Prior to development approvals being granted under the Sutter Pointe Specific Plan, measures will need to be implemented to remove the area from the flood hazard zone. The proposed municipal water supply facilities include underground pipelines, booster stations, storage tanks, and a treatment facility. The total area occupied by above-ground facilities is insufficient to substantially impede or redirect flood flows. Therefore, less-than-significant impacts would occur as the result of structures impeding or redirecting flood flows.

Mitigation: No mitigation required.

Impact 5.8-11 The project could expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Analysis: Less than significant with mitigation.

To a large degree, existing flood risk in the area is because of inadequate levee protection on the east side of the project area (Figure 5.8-4). The primary method of flood protection is via a system of levees or earthen embankments along the Sacramento and Feather Rivers that contain high river flows within constructed channels. When the capacity of the river levee system is exceeded, the bypass system accommodates the additional flows. A bypass is an auxiliary channel used to pass floodwater and is used when potential high flow is larger than the primary river channel capacity. SAFCA has jurisdiction over any remedy or solution to the problem. SAFCA has a levee improvement project under way that is designed to provide 100-year flood protection to the Natomas Basin by 2010 and 200-year flood protection by 2012. Failure of levees protecting the area could cause major flooding. Should municipal supply infrastructure be built prior to removal of the area from the FEMA 100-year flood hazard area, measures will need to be implemented to protect water supply facilities (that is, treatment facilities, booster stations, and storage tanks) from possible flood damage and persons operating those facilities from possible harm caused by flooding. Additionally, if a breach were to occur within the existing levee system that protects the Natomas service area, flooding could occur that would potentially harm structures and people. The proposed project is in an area that may be subject to flooding and requires

appropriate flood control improvements to protect land uses from flooding. The County is actively working with several other agencies to ensure that the levee system that protects the area has adequate capacity, that the structural integrity of the levees is thoroughly evaluated, and that required repairs and maintenance are performed.

Mitigation:

MM 5.8-11 Until the area is removed from the 100-year flood hazard zone and the removal is certified by FEMA, a facility emergency plan should be developed and implemented. The plan would include measures to protect structures from potential flood damage. An emergency plan could contain measures such as construction of ring levees around all above-ground water supply facilities to protect structures from possible flood damage.

Impact 5.8-12 The project could be subject to inundation by seiche, tsunami, or mudflow.

Analysis: No impact.

The proposed project is inland on flat land and is not in a location that is subject to inundation by seiche, tsunami, or mudflow.

Mitigation: No mitigation required.

5.9 Land Use and Planning

5.9.1 Existing Conditions

This section provides an evaluation of potential land use effects and a discussion of the relationship of the project to the policies and procedures of the General Plans in the surrounding areas.

Existing land uses on the project site include agricultural and industrial uses, primarily rice fields but also a 50-acre Sysco Corporation warehousing and distribution center and a Holt Tractor manufacturing facility. The existing industrial uses are included in the proposed Sutter Pointe Specific Plan and will be buffered from proposed residential communities by extensive drainage basins, landscaping, or light industrial uses such as mini-storage, office, and parking.

The proposed project M&I service area encompasses approximately 17,200 acres of south Sutter County. Figure 5.9-1 shows the boundaries and present land uses of project service area.

Surrounding Land Uses and Designations

Land-use designations in the project area are shown on Figure 5.9-2. To the north of the project area are primarily agricultural uses in an unincorporated area regulated by Sutter County. To the west are habitat preserve zones (Natomas Basin Conservancy Mitigation Lands) along the Sacramento River. The Natomas Cross Canal is located north of the Specific Plan area.

Sacramento International Airport and Metro Air Park (an industrial and business park) are located 2 to 3 miles southwest of the project area. To the east are primarily agricultural uses in an unincorporated area regulated by Sutter County. Agriculture is the primary land use in the Natomas Basin.

Land Conversion in the Project Area

Land conversion has started mostly in Sacramento County just south of the proposed project service area. Over the last decade, there has been an approximate 5,000-acre reduction in the water service area served by Natomas. From the perspective of the dynamics of land conversion and water use, Sacramento County is already in the land transition period and, as more municipal development occurs, more lands will commence the land conversion cycle.

As development commences in south Sutter County, it will add to the dynamics of M&I transitional land fallowing in the project area. Municipal development is anticipated to move forward at modest rate through the year 2020. The majority of this land conversion is projected to occur in Sutter County.

In recent years, Natomas has experienced a conversion of land use within its boundaries from agricultural to municipal uses that is anticipated to continue in Sacramento and Sutter counties. Pursuant to the Natomas Basin HCP, each acre of land converted to urban use must be accompanied by a half-acre of mitigation lands. Mitigation can occur in one of three ways: managed agriculture where lands must grow crops (for example, rice) providing suitable habitat for endangered species; managed marshes; and upland habitat. Natomas anticipates that additional mitigation lands will be 50 percent managed agriculture, 25 percent managed marsh, and 25 percent upland habitat (converted row crop lands).

Road Networks

The proposed GSWC service area is bisected from north to south by SR 99. Other major roads in the project area include Sankey Road, Riego Road, and Powerline Road.

Waterways

The project area and vicinity are served by an extensive network of water delivery and drainage channels operated by Natomas and RD 1000. These channels, combined with the extensive rice fields in the basin, are important habitat areas for the giant garter snake and other wetland-associated species. There are approximately 245 miles of canals of various sizes and capacities.

Urban Development

Certain levels of urban development are planned within the service area. The Natomas Basin HCP (City of Sacramento et al., 2003) was written to support applications for federal permits under Section 10(a)(1)(B) of the Endangered Species Act. The Natomas Basin HCP also is intended to serve as the application for incidental take permits under state law pursuant to Section 2081(b) of the California Fish and Game Code. The purpose of the HCP is to promote biological conservation in conjunction with economic and urban development within the permit areas.

The Natomas Basin HCP recognizes the development of 7,500 acres in south Sutter County as authorized development.

5.9.2 Regulatory Setting

Federal

There are no specific federal regulations pertaining to land use and planning.

State

CEQA analyzes potentially significant effects on the physical environment but states that the "economic or social effects of a project shall not be treated as significant effects on the environment." However, an EIR may trace a chain of cause and effect from socioeconomic effects, such as changes in patterns of land use, to adverse physical changes in the environment caused by those effects (CEQA Guidelines, § 15131[a]).



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Local

The Sutter County Planning Department is responsible for land use and planning in Sutter County. The Sutter County General Plan agricultural element maintains a goal "to preserve high quality agricultural land for agricultural purposes." Section 3 of the Sutter Pointe Specific Plan includes a matrix of permitted land uses in the project area (Sutter County, 2006).

5.9.3 Impacts and Mitigation Measures

Significance Criteria

This analysis evaluates the potential effects of the project on the existing land use within the action area. This analysis evaluates whether direct or indirect adverse impacts on the physical environment could result from land use changes caused by the project by considering such factors as whether an action would:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Impact Analysis

Impact 5.9-1 The project potentially would conflict with existing land uses.

Analysis: Less than significant with mitigation.

The project could create conflicts with existing land use during construction. Construction equipment and staging areas may temporarily interfere with local landowner access. Installation of new conveyance and treatment infrastructure could disrupt agricultural land use practices in the northern portion of the Natomas service area. Local permitting and planning agencies will be included in the final design and construction phases to ensure that conflicts with existing land uses are minimized or avoided.

Mitigation:

MM 5.9-1 Utility easements shall be required for encroachments into public rights-ofway and privately owned lands to ensure adequate access.

Impact 5.9-2 The project potentially would conflict with applicable land use plans and policies.

Analysis: Less than significant.

Construction of the project would not conflict with existing land use plans or policies. Developing a water supply system to serve a 7,500 acre development in southern Sutter County is consistent with voter approved Measure M and the Sutter County General Plan.

Mitigation: No mitigation required.

Impact 5.9-3 The project potentially would conflict with a habitat conservation plan or natural community conservation plan.

Analysis: Less than significant.

The Natomas Basin HCP is germane to the proposed project. The HCP was developed to provide and implement a multispecies conservation program to minimize and mitigate impacts of planned urban development and management activities of the Natomas Basin Conservancy. The proposed project is consistent with the Natomas Basin HCP.

Mitigation: No mitigation required.

5.10 Mineral and Energy Resources

The proposed project includes facilities associated with municipal water supply, including transmission pipelines (underground), a surface water treatment plant, groundwater wells, a groundwater treatment plant, and water storage tanks. The proposed facilities would have no impact on mineral resources and will not be constructed in any local areas utilized for mineral recovery.

5.10.1 Existing Conditions

Portions of Sutter County have rich deposits in mineral resources. The county Surface Mining and Zoning codes permit the extraction of mineral resources from land under Sutter County's jurisdiction. Historical mining extraction has included kaolin and common clay, sand, soils, rock, pumice, and some gold. Construction aggregate is the county's main market for mining resources produced in the county and consists predominantly of sand, gravel, and crushed stone. The California Geological Survey (CGS, formerly the Division of Mines and Geology) has classified regions of the state according to the presence or absence of significant concrete-grade aggregate deposits. Sutter County has no deep-shaft mining activity; all mines are open-pit type or surface mines.

California Division of Oil, Gas, and Geothermal Resources records show eight plugged and abandoned natural gas wells and one closed well in the project area. Most of these wells are not part of a recognized gas field, but two (in the southwest corner of the project area) are within the Sacramento Airport gas field.

5.10.2 Regulatory Setting

Federal

There are no specific federal regulations pertaining to local mineral resources that would be applicable.

State

The Surface Mining and Reclamation Act (SMARA) (Public Resources Code Section 2710 et seq.) regulates open pit and surface mines for clay, sand, soils and rock.

The purpose of SMARA is to create and maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations. The goals of the regulation are achieved through land use planning by allowing a jurisdiction to balance the economic benefits of resource reclamation with the need to provide other land uses.

The California Division of Oil, Gas, and Geothermal Resources is the regulatory authority for oil, gas, and geothermal wells. The department regulates the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells.

Local

The Sutter County Surface Mining Code and the Zoning Code provide for the extraction of mineral resources from unincorporated lands.

5.10.3 Impacts and Mitigation Measures

Significance Criteria

Significance thresholds in this section are based on Appendix G (Environmental Checklist Form) of the CEQA Guidelines, which indicates that a potentially significant impact could occur if implementation of the project would:

- Result in the loss of availability of a known mineral that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Additionally, this section addresses whether the project would:

• Result in the loss of availability of a known energy resource that would be of value to the region and the residents of the state.

Impact Analysis

Impact 5.10-1 The project could result in the loss of the availability of a known mineral that would be of value to the region and the residents of the state.

Analysis: No impact.

The proposed project service area has no identified mineral resources according to the U.S. Geological Survey Mineral Resources Data System.

Mitigation: No mitigation required.

Impact 5.10-2 The project could result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Analysis: No impact.

The service area is not delineated as a mineral resource recovery site in by the Sutter County General Plan or any other local land use plan.

Mitigation: No mitigation required.

Impact 5.10-3 The project could result in the loss of availability of a known energy resource that could be of value to the region and the residents of the state.

Analysis: Less-than-significant impact.

The project area contains known natural gas resources. California Division of Oil, Gas, and Geothermal Resources records show eight plugged and abandoned natural gas wells and one closed well in the project area, indicating that the area is not currently in production. Development of water supply infrastructure, which would be distributed across a large project area, would not preclude the continued development of natural gas resources in the project area.

Mitigation: No mitigation required.
5.11 Noise

5.11.1 Existing Conditions

Noise Scales and Definitions

Sound is technically described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. Noise is typically described as unwanted sound. Several weighting scales are used to measure noise levels. Table 5.11-1 summarizes the technical noise terms used in this section.

TABLE 5.11-1

Definitions of Acoustical Terms	
Term	Definitions
Ambient noise level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	Noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content, as well as the prevailing ambient noise level.
Decibel (dB) sound pressure level	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the reference pressure to the sound pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.
Decibel A-weighted sound level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted unless stated otherwise.
Decibel C-weighted sound level (dBC)	The sound pressure level in decibels as measured on a sound level meter using the C-weighted filter network. The C-weighted filter does not de-emphasize the very low and very high frequency components of the sound. It is a flatter weighting in that each frequency has an almost equal weighting. It is therefore more sensitive to low frequencies than the A-weighting.
Equivalent noise level (L_{eq})	The energy average A-weighted noise level during the measurement period.
Percentile noise level (L _n)	The A-weighted noise level exceeded during n% of the measurement period, where n is a number between 0 and 100 (e.g., L_{90})
Community noise equivalent level (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after the addition of 5 decibels to sound levels from 7 p.m. to 10 p.m. and after the addition of 10 decibels to sound levels between 10 p.m. and 7 a.m.
Day-night noise level (L _{dn} or DNL)	The average A-weighted noise level during a 24-hour day, obtained after the addition of 10 decibels from 10 p.m. to 7 a.m.

Source: Beranek, 1988

The basic unit of measurement that indicates the relative amplitude of sound is the decibel (dB). The zero on the dB scale is based on the lowest sound level that healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dB represents a ten-fold increase in acoustic energy while an increase of 20 dB is 100 times more intense, and an increase of 30 dB is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-dB increase in sounds level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

In most environmental noise evaluations, the A-weighted decibel (dBA) is used as the unit of measurement. The A-weighting gives greater weight to the frequencies of sound to which the human ear is most sensitive by de-emphasizing lower frequency sounds below 1,000 Hz (1 kilohertz [kHz]) and higher frequency sounds above 4 kHz. Most community noise standards use A-weighting, as it provides a high degree of correlation with human annoyance and health effects. In practice, the level of a sound source is typically measured using a sound level meter that includes an electrical filter corresponding to the A-weighted curve.

Because sound levels can vary over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations is used. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. The metrics that are most commonly used to express noise levels are the Hourly Equivalent Sound Level $[L_{eq}(h)]$, day-night average sound level (L_{dn}) , and the Community Noise Equivalent level (CNEL).

The $L_{eq}(h)$ describes the average cumulative exposure experienced at a location from all noise-producing events over a 1-hour period. L_{dn} is the weighted average noise level over a 24-hour period, with a 10-dBA penalty applied to nighttime (10 p.m. to 7 a.m.) noise levels. The CNEL is the most common community noise rating scale used in California for land use compatibility assessments. The CNEL measurement represents the average of 24 hourly readings of L_{eq} based on an A-weighted decibel and adjusted upward to account for increased noise sensitivity in the evening and nighttime (10 p.m. to 7 a.m.). Table 5.11-2 shows typical A-weighted noise levels measured in the environment and in industry.

Ambient Noise Conditions

Land uses within Sutter County include a range of residential, commercial, institutional, industrial, recreational, agricultural, and open space areas. Although there are many noise sources within Sutter County, the primary noise source is traffic. Significant noise also occurs from airplane traffic, railroads, and various stationary sources.

Motor vehicle noise commonly causes elevated noise levels in the vicinity of busy roadways or freeways. Several highways run through Sutter County. These include SR 20, SR 70, SR 99, and SR 113. Sutter County also has many local roads that experience very high traffic volumes, particularly high truck-traffic volumes that contribute to traffic noise.

Noise Source at a Given Distance	A-Weighted Sound Level in Decibels*	Noise Environments	Subjective Impression
	140		
Civil defense siren (100 feet)	130		
Jet takeoff (200 feet)	120		Pain threshold
	110	Rock music concert	
Pile driver (50 feet)	100		Very loud
Ambulance siren (100 feet)			
	90	Boiler room	
Freight cars (50 feet)		Printing press plant	
Pneumatic drill (50 feet)	80	In kitchen with garbage disposal running	
Freeway (100 feet)	70		Moderately loud
Vacuum cleaner (10 feet)	60	Data processing center	
Department store			
Light traffic (100 feet)	50	Private business office	
Large transformer (200 feet)	40		Quiet
Soft whisper (5 feet)	30	Quiet bedroom	
	20	Recording studio	
	10		
	0		Threshold of hearing

TABLE 5.11-2

Typical Sound Levels Measured in the Environment and Industry

^{*}A-Weighted Sound Level, dB: The A-weighted filter de-emphasizes very low and very high frequency components of sound similar to the response of the human ear. All sound levels in this PEA are A-weighted. Source: Baraneck 1988

Sutter County is served by one publicly owned and operated airport, the Sutter County Airport. The airport is operated by the Sutter County Public Works Department. No commuter airlines use the Sutter County Airport because of the county's proximity to the Sacramento International Airport. There are two active rail lines that pass through Sutter County. The first is a Union Pacific (UP) route that is generally oriented in the north/south direction and enters Sutter County from Sacramento County in the south and exits into Yuba County in the north. The second UP route is generally oriented in the north/south direction and enters Sutter County from Yuba County and exits into Butte County to the north. In addition to the noise generated by the trains themselves, train crossings generate noise from warning bells used to alert motorists of a train's arrival.

A wide variety of stationary noise sources are present in Sutter County. Daily activity of industrial uses can generate noise, as well as other stationary noise sources, including natural gas extraction facilities, which are located throughout the county. Active agricultural activities can generate elevated noise levels from operation of large agricultural equipment.

Additionally, depending on the type of crop, certain harvest techniques often generate loud machine noise and require lighting for night work. For example, row crops often use large machines to harvest and work through the night. These activities can be a nuisance to urban uses that are adjacent to active agricultural areas.

To establish existing ambient noise levels in Sutter County, noise levels were monitored at ten selected locations in various portions of the county (PBS&J, 2008). Noise monitoring was conducted immediately north of the Sutter-Sacramento County line, approximately 1 mile from the Sacramento International Airport on Powerline Road between Riego Road and Elverta Road. This monitoring location (Location 1, Sacramento International Airport) is within the project area. The measurements were taken for 20 minutes at 1-second intervals. Table 5.11-3 shows the average L_{eq} and L_{min}/L_{max} for the reading at Location 1 in the vicinity of the project area.

TABLE 5.11-3

Daytime Noise Measurements in the Vicinity of the Project Site

		Noise Level Statistics		
Location	Noise Sources	L _{eq}	L_{min}	L _{max}
1 – Sacramento International Airport	Primary: Airplane flyovers	40.9	32.7	87.3
	Secondary: Vehicular traffic on Powerline Road			

L_{eq} is the average noise level over the measurement period.

L_{min} is the minimum instantaneous noise level during the measurement period.

 $L_{\mbox{\scriptsize max}}$ is the maximum instantaneous noise level during the measurement period.

Source: PBS&J, 2008

Surrounding Land Uses

The project site is in an undeveloped, agricultural area of unincorporated Sutter County. Current land use at the project site is large agricultural operations, mainly rice farms. The surrounding land uses to the north and east are primarily agricultural. To the west of the project site are habitat preserve zones (Natomas Basin Conservancy Mitigation Lands) along the Sacramento River. The Sacramento International Airport is located 2 to 3 miles to the south of the project site in Sacramento County.

Sensitive Receptors

Certain land uses are considered particularly sensitive to noise. Schools, hospitals, rest homes, parks and recreation areas are all considered sensitive receptors. Residential areas are also considered noise-sensitive, especially during the nighttime hours. Each of these land use types is present in Sutter County. Factors affecting the impact that a given noise will have on a person include the frequency and duration of the noise, the absorbency of the ground and surroundings, and the distance of the receptor from the noise source. The type of receptor and the usual background noise level also determine the degree of impact.

Noise effects fall into three general categories:

- 1. Subjective effects of annoyance, nuisance, and dissatisfaction
- 2. Interference with such activities as speech, sleep, and learning
- 3. Physiological effects such as startling and hearing loss

Noise-sensitive land uses include planned residential areas and schools, hospitals, rest homes, and parks within the Sutter Pointe development. Sensitive receptors would be persons adjacent to any facility associated with the proposed municipal water system, including transmission pipelines (underground), water treatment plants, or water storage tanks, either during construction or operation of the project. The Sutter Pointe development is proposed to be built in phases over approximately 30 years and includes residential/mixed-use development and employment centers.

5.11.2 Regulatory Setting

Federal

Federal legislation pertaining to noise includes:

- Noise Pollution and Abatement Act of 1970
- Trust Communities Act of 1978
- Noise Control Act of 1972
- Occupational Safety and Health Act of 1970

However, for the purposes of environmental impact evaluations of local projects, local noise ordinances and policies are generally used as guidance for setting noise-related significance standards.

State

California Environmental Quality Act

CEQA was enacted in 1970 and requires that all known environmental effects of a project be analyzed, including environmental noise impacts. Under CEQA, a project has a potentially significant impact if the project exposes people to noise levels in excess of standards established in the local general plan or noise ordinance. Additionally, under CEQA, a project has a potentially significant impact if the project substantially increases the ambient noise levels in the project vicinity above levels existing without the project. If a project has potentially significant impact, mitigation measures must be considered. If mitigation measures to reduce the impact to less than significant levels are not feasible because of economic, social, environmental, legal, or other conditions, the most feasible mitigation measures must be considered.

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the California Department of Public Health, presented in Table 5.11-4.

TABLE 5.11-4

California Land Use Compatibility Noise Guidelines

	Community Noise Exposure (CNEL)				
Land Use Category	Normally Acceptable ^a	Conditionally Acceptable ^b	Normally Unacceptable ^c	Clearly Unacceptable ^d	
Residential—low density, single-family, duplex, mobile homes	50–60	55–70	70–75	75–85	
Residential—multiple family	50–65	60–70	70–75	70–85	
Transient lodging	50–65	60–70	70–80	80–85	
Schools, libraries, churches, hospitals, nursing homes	50–70	60–70	70–80	80–85	
Auditoriums, concert halls, amphitheaters	NA	50–70	NA	65–85	
Sports arenas, outdoor spectator sports	NA	50–75	NA	70–85	
Playgrounds, neighborhood parks	50–70	NA	67.5–75	72.5–85	
Golf course, riding stables, water recreation, cemeteries	50–70	NA	70–80	80–85	
Office buildings, business commercial, professional	50–70	67.5–77.5	75–85	NA	
Industrial, manufacturing, utilities, agriculture	50–75	70–80	75–85	NA	

CNEL = Community Noise Equivalent Level

NA = Not applicable

^a Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal

conventional construction without and any special noise insulation requirements.

^bNew construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design.

^cNew construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.

^dNew construction or development should generally not be undertaken.

Source: Office of Planning and Research, 2003

Local

Sutter County

The Noise Element of the Sutter County General Plan (1996) contains the goals and policies for controlling and reducing environmental noise in Sutter County. Sutter County's Noise Element includes two policies that are applicable to this project:

- The County shall not allow development of new noise-sensitive land uses where the noise level due to non-transportation noise sources will exceed the noise level standards at the property line of the new noise sensitive land use unless noise mitigation measures have been incorporated into the project design to achieve the required standard.
- The County shall require that new non-transportation noise sources be mitigated to the noise level standards.

The existing noise level standards for Sutter County are given in Table 5.11-5. The General Plan is currently being updated; however, noise level standards are expected to remain unchanged from the current General Plan (PBS&J, 2008).

TABLE 5.11-5

Sutter County Noise Level Standards for New Non-transportation Sources

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L _{eq}	50	45
Maximum Level	70	64

Source: Sutter County, 1996

5.11.3 Impacts and Mitigation Measures

Significance Criteria

CEQA provides criteria for the assessment of potential noise effects to evaluate the significance of potential project impacts. Potential noise effects from a project could be considered significant if the project would cause any of the following to occur:

- Expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels.
- Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land use plan, or where such a plan has not been adopted within 2 miles of a public airport, private airstrip, or public use airport; expose people residing or working in the project area to excessive noise levels.
- The project could be located within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.

CEQA does not define what noise level increase would be considered substantial. Typically, an increase in the L_{dn} noise level resulting from the project at noise sensitive land uses of 5 dBA or greater would be considered substantial even though projected noise levels remain below those considered acceptable for the affected land use.

Short-term Construction Noise Impacts

Noise generated by project construction is expected to vary, depending on the construction phase. Table 5.11-6 lists the typical noise levels associated with common construction equipment at various distances.

	Typical Sound	Expected	Sound Pressur	e Level* at
Construction Equipment	Pressure Level at 50 feet	1,000 feet	2,500 feet	5,000 feet
Bulldozer (250 to 700 horsepower)	88	62	54	48
Front-end loader (6 to 15 cubic yards)	88	62	54	48
Truck (200 to 400 horsepower)	86	60	52	46
Grader (13- to 16-foot blade)	85	59	51	45
Shovel (2 to 5 cubic yards)	84	58	50	44
Portable generators (50 to 200 kilowatts)	84	58	50	44
Mobile crane (11 to 20 tons)	83	57	49	43
Concrete pumps (30 to 150 cubic yards)	81	55	47	41
Tractor (3/4 to 2 cubic yards)	80	54	46	40

TABLE 5.11-6

Noise Levels from Common Construction Equipment at Various Distances (dBA)

*The expected sound pressure levels were calculated from geometric divergence only. Other factors, such as atmospheric absorption and ground effects, should reduce the noise levels further.

Source: Barnes et al., 1976

In addition to construction noise from the project area, construction periods also would cause increased noise along access routes to the site because of movement of equipment and workers to and from the area. The primary heavy construction equipment and vehicles would be expected to be moved onside during the initial construction period and would have a less-than-significant short-term noise impact on nearby roadways. Daily transportation of construction workers would not be a substantial percentage of current daily traffic volumes in the area and would not be anticipated to increase traffic noise levels by more than 1 dBA.

Long-term Project Operation Noise Impacts

Groundwater System

The proposed project would be completed in phases to accommodate the development of Sutter Pointe. A groundwater system, including seven wells and a treatment plant, would supply water for the first phase of the Sutter Pointe development. The groundwater wells would supply raw water to the proposed treatment plant. Each of the wells would be drilled and equipped with below-ground screens, casing, and pumps. The wells would be connected by conveyance piping to bring the raw water to the treatment plant.

Potential noise sources of the groundwater wells include vertical turbine pumps and motors, as well as motor control equipment. However, pumps will be located within a concrete masonry structure with acoustical louvers and other noise control measures (if determined to be necessary during final detailed design), which would reduce noise to within the acceptable levels set forth in the Sutter County General Plan.

The treatment plant operations building would include chemical storage, a standby engine generator, and electrical equipment. Treated water storage tanks would be required, including backwash supply pumps and treated water booster pumps. These pumps will be located within a concrete masonry structure with acoustical louvers and other noise control

measures (if determined to be necessary during final detailed design), which would reduce noise to within the acceptable levels set forth in the Sutter County General Plan.

Surface Water System

The remaining phases of the proposed project include a surface water system to provide the water supply required by the later phases of the Sutter Pointe development. A new year-round diversion from the Sacramento River being proposed by Natomas (the Sankey Diversion Facility) would be the source of surface water for the proposed project.

A raw water booster pump station would be constructed near the proposed diversion facility, and a raw water transmission pipeline would be constructed to convey these flows to the proposed water treatment plant site in the project area. This surface water treatment plant is proposed to be located adjacent to the groundwater treatment plant. The treatment plant operations building would include chemical storage, a standby engine generator, and electrical equipment. Treated water storage tanks would be required, including backwash supply pumps and treated water booster pumps. These pumps will be located within a concrete masonry structure with acoustical louvers and other noise control measures (if determined to be necessary during final detailed design), which would reduce noise to within the acceptable levels set forth in the Sutter County General Plan.

Conveyance Infrastructure

An extensive network of onsite water transmission and water storage facilities would be needed to convey the surface water and groundwater to the Sutter Pointe development areas. The system would include a series of interconnected water transmission and distribution pipelines varying in diameter. The storage required to serve the full build out of the development would be approximately 32 million gallons. Water tanks (single or dual to be identified during the design phase) would be required and would include booster pump stations and emergency/auxiliary backup generators.

The pump stations would generate ongoing noise from everyday operation of the pumps and the pump motors. Operation would be intermittent throughout the day and night. Typical noise levels from operation of pumps and electric motor pump drives can vary widely depending upon the types and sizes of pumps and motors and their operating characteristics. The pump stations will be located within a concrete masonry structure with acoustical louvers and other noise control measures (if determined to be necessary during final detailed design), which would reduce noise to within the acceptable levels set forth in the Sutter County General Plan.

The back-up generators would produce noise primarily from the diesel engine that would drive the generator. However, the back-up generators will only be operated during routine maintenance checks and emergencies, such as power failure. Back-up generators would be the primary power source to the pump stations during power outages. Testing of the back-up generators will be conducted during the day, when ambient noise levels are higher. Back-up generator use would be very infrequent and would not result in a significant noise impact. An uncontrolled diesel engine generator set could potentially exceed the offsite noise limits. However, because the generator sets would be enclosed and equipped with a high performance exhaust muffler, noise levels would be within the guidelines set forth in the Sutter County General Plan.

Impact Analysis

Impact 5.11-1 Construction of the project could expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Analysis: Less than significant with mitigation.

Construction activities could reach 88 dB, which is higher than the generally acceptable noise level for industrial land use of 70 dB.

Mitigation:

- MM 5.11-1 During construction of the components of the project, BMPs would be implemented to minimize noise impacts.
 - Construction activity shall be restricted to the hours between
 7 a.m. and 7 p.m. on weekdays. Work on weekends would need to be approved by the Planning Department upon request.
 - Contractor shall locate all stationary noise-generating equipment as far as possible from nearby noise-sensitive receptors. Where possible, noise generating equipment shall be shielded from nearby noise-sensitive receptors by noise-attenuating buffers. Stationary noise sources located 500 feet from noise-sensitive receptors shall be equipped with noise-reducing engine housings. Portable acoustic barriers shall be placed around noise-generating equipment that is located less than 200 feet from noise-sensitive receptors.
 - Contractor shall assure that construction equipment powered by gasoline or diesel engines have sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment shall be permitted to have an un-muffled exhaust.
 - Contractor shall assure that noise-generating mobile equipment and machinery are shut off when not in use.

Implementation of these mitigation measures would reduce noise impacts to a less-thansignificant level.

Impact 5.11-2 Operation of the project could expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Analysis: Less than significant with mitigation.

Noise levels from permanent facilities including equipment such as pumps, motors and generators could expose the public to or generate noise levels in excess of established standards. The proposed project design will include appropriate noise attenuation buildings and equipment to achieve acceptable local noise levels.

Mitigation:

MM 5.11-2a For operation of the project, typical noise-reducing features for pump stations shall include the encasement or shielding of noisy equipment as appropriate. Pump stations and all pump motors shall be located within an enclosed

concrete masonry structure with acoustical louvers and other noise control measures (if determined to be necessary during final detailed design). The structure will have an adequate setback and screening to achieve acceptable noise levels at the property lines of nearby sensitive receptors. Examples of noise screening include, but are not limited to, the use of vegetation, berms, wood, and masonry fencing. Enclosure of noise equipment, including pump motors, would reduce associated noise levels by approximately 20 dBA.

MM 5.11-2b Proposed well sites shall be designed to minimize or eliminate noise impacts to potential sensitive receptors. Well facilities, such as the vertical turbine pumps and motors and motor control equipment, will be located in buildings constructed of concrete masonry to reduce noise.

Implementation of these mitigation measures would reduce noise impacts to a less-thansignificant level.

Impact 5.11-3 Construction of the project could expose persons to or generation of excessive groundborne vibration or groundborne noise levels.

Analysis: Less than significant with mitigation.

Mitigation:

MM 5.11-3 The construction contract shall include conditions limiting construction activities to weekday hours between 7 a.m. and 7 p.m. All equipment shall be maintained in proper working order, including proper muffling.

Impact 5.11-4 Operation of the project could create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Analysis: Less than significant with mitigation.

Mitigation:

MM 5.11-4 Mitigation measures are the same as 5.11-2a and 5.11-2b.

Impact 5.11-5 Construction of the project could cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Analysis: Less than significant with mitigation.

Mitigation:

MM 5.11-5 Mitigation measures are the same as 5.11-1.

Implementation of these mitigation measures would reduce noise impacts to a less-than-significant level.

Impact 5.11-6 For a project located within an airport land use plan, or where such a plan has not been adopted within 2 miles of a public airport, private airstrip, or public use airport; expose people residing or working in the project area to excessive noise levels.

Analysis: No impact.

The project is not within 2 miles of a public airport.

Mitigation: No mitigation required.

Impact 5.11-7 The project would be located within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.

Analysis: Less than significant.

There are five private airstrips in the project area. The noise exposure consistent with the proposed project would be intermittent from staff working at the water treatment plant and associated facilities. Noise exposure would be discontinuous and negligible. Based on the locations of the private airstrips, impacts would be less than significant.

Mitigation: No mitigation required.

5.12 Population and Housing

5.12.1 Existing Conditions

The California Department of Finance estimates that 93,919 people live in Sutter County as of January 2007. Communities in the county, including the incorporated cities, are located primarily along major transportation corridors such as SR 99. The project area is in Census Tract 511. The most current population data available from the SACOG as of January 1, 2001, indicates an estimated population of 2,482 in the general project vicinity. The population within the Sutter County portion of the proposed project service area is projected to be 39,000 residents with a workforce of 70,000 at full build-out of planned development (ASWC et al., 2006).

5.12.2 Regulatory Setting

There are no federal, state, or local regulations related to population and housing as applicable to the proposed project.

5.12.3 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this assessment, the proposed project would have a significant impact if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Impact Analysis

Impact 5.12-1 Construction of the project could indirectly affect population growth by providing municipal water infrastructure.

Analysis: Less than significant.

The proposed project would support planned growth and provide infrastructure, consistent with the Sutter County General Plan. The proposed project includes facilities associated with municipal water supply, including transmission pipelines (underground), a water treatment plant, and several water storage tanks. The proposed project would indirectly allow development and population growth in the area by providing municipal water infrastructure where none presently exists. Impacts could include inducing population growth, but those are addressed in Section 5.18, Growth-inducing Impacts.

The proposed water project would not be constructed without the proposed development in the area, and the Sutter Pointe project is the cause for the water infrastructure. The Sutter Pointe Specific Plan EIR will include a "project-level" analysis for the first phase of development. The EIR will evaluate all potential environmental impacts of the entire Sutter Pointe Specific Plan project and associated actions and entitlements (Sutter County, 2006). The EIR is anticipated to be released in late fall 2008 for public review and comment.

Mitigation: No mitigation required.

Impact 5.12-2 The project could displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

Analysis: No impact.

The proposed project will be constructed in an area that is undeveloped. The proposed project will not require displacement of existing housing.

Mitigation: No mitigation required.

Impact 5.12-3 The project could displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Analysis: No impact.

The proposed project will be constructed in an area that is undeveloped. The proposed project will not displace an existing population.

Mitigation: No mitigation required.

5.13 Public Services

The proposed project includes facilities associated with municipal water supply, including transmission pipeline (underground), a water treatment plant, and water storage tanks. The proposed facilities would have minimal public service impacts. The project will enhance public services for the planned Sutter Pointe development by providing infrastructure to support fire protection.

5.13.1 Existing Conditions

The Sutter County Sheriff's Department provides police protection services in unincorporated Sutter County. The California Highway Patrol provides traffic enforcement on SR 99. Fire protection and emergency services for the project area are provided by Sutter County Fire (County Service Area). The project area is in the Marcum-Illinois and Pleasant Grove Union School Districts. No other public services (for example, schools and parks) are in the project area.

5.13.2 Regulatory Setting

Federal

There are no federal policies that are directly applicable to police, fire services, school facilities, or parks within the project area.

State

The California Fire Code contains specialized regulations related to construction, maintenance, and use of buildings in relation to fire and safety. The extent of the code coverage pertains to fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazard safety, hazardous material storage and use, provisions to aid fire responders, industrial processes, and other fire-safety requirements for new and existing buildings.

California Health and Safety Code contains State fire regulations as set forth in Sections 13000 et seq. of the California Health and Safety Code, include regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

Local

The Building and Fire Division of the County of Sutter is a part of the Community Services Department and is charged with the enforcement of the Uniform Building Code and the Uniform Fire Code for the purposes of public health and safety.

5.13.3 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this assessment, the proposed project would have a significant impact if it would result in substantial adverse physical impacts associated with the provision of new

or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios for any of the following public services:

- Fire protection
- Police protection
- Schools
- Parks

The appropriate analysis of this issue is within the Sutter Pointe Specific Plan EIR that the County of Sutter is preparing on behalf of the applicant (Measure M Group). A program EIR will be prepared for the entire Sutter Pointe Specific Plan area. This area is the same as the GSWC proposed municipal water project. The EIR will include a "project-level" analysis for the first phase of development. The EIR will evaluate all potential environmental impacts of the entire Sutter Pointe Specific Plan project and associated actions and entitlements (Sutter County, 2006). The EIR is anticipated to be released in late fall 2008 for public review and comment.

The initial phase of the water infrastructure will be constructed prior to or coincident with the new proposed Sutter Pointe development. There may be impacts on the few existing residents and facilities and subsequent development phases. These impacts can be mitigated to less than significant and are applicable to:

- Roads
- Fire protection
- Police protection

Impact Analysis

Impact 5.13-1 Emergency access could affect police and fire response time during construction in major roadways.

Analysis: Less than significant with mitigation.

During project construction, it may be necessary to implement lane closures that could affect police and fire response. The contractor will be required by Sutter County to have a traffic control plan for work in the public right-of-way. Notification to local emergency service providers prior to construction will address impacts that could affect emergency response times and the impacts would be less than significant.

Mitigation:

MM 5.13-1 The contractor will have a traffic control plan in place and approved prior to construction. Construction schedules shall be submitted to the Sutter County Sheriff and the local fire department for review and comment, and updated as necessary.

5.14 Recreation

5.14.1 Existing Conditions

Numerous parks and recreation facilities are located within Sutter County and include state wildlife areas for hunting, fishing, hiking; river recreation areas for boating, picnicking, and fishing; parks for recreation and community events; and sports facilities for baseball, soccer, and golf.

The 1996 Sutter County General Plan included a goal of maintaining a ratio of 10 acres of parkland per 1,000 persons. Sutter County's current park ratio is 309 acres of parkland per 1,000 persons. This parkland ratio drops to approximately 1 acre of community and neighborhood parkland per 1,000 persons when wildlife areas are excluded. However, most of the population within the unincorporated areas of the county reside close to Live Oak or Yuba City and use park facilities in these two incorporated cities. Neighborhood parks in Sutter County serve dual purposes as local park areas serving residents within 0.5 mile, while also serving residents within a 2- to 3-mile radius. Although most of the community parks are located in the Yuba City, some of them are within easy access of unincorporated county areas. The West Walton Park, Holly Tree Park, Harter Park, and Happy Park provide adjacent unincorporated county residents with active recreation facilities in Yuba City. (Sutter County, 1996, and PBS&J, 2008.)

Although there are no officially established county park districts, park funding is allocated according to five designated "quadrants" within the county. Money for parks is collected through developer impact fees and is used in the quadrant where it was collected to develop new parks after forming a park assessment district. Currently, the county has two park assessment boundaries.

The State of California's Quimby Act mandates that for every 1,000 residents in a new development project, 3 acres of parkland shall be dedicated, or the equivalent value of park improvements shall be constructed, or in-lieu fees shall be paid to the jurisdictional agency, in this case Sutter County. The Quimby Act takes precedence over the County's General Plan policy. Because Measure M contains the mandated acreage of public facilities, the Sutter Pointe development has the potential to exceed the Quimby Act's required 3 parkland acres per 1,000 people. The Sutter Pointe Specific Plan establishes 4 parkland acres per 1,000 acres. Park requirements for Sutter Pointe will be fulfilled by the developer through dedication of land and improvements to neighborhood parks, trails, open space, and other recreational facilities. It is anticipated that all of the dedicated parkland and open space, in conjunction with improvements, will exceed Quimby requirements.

The proposed project includes facilities associated with municipal water supply, including transmission pipeline (underground), a water treatment plant, and water storage tanks in an area yet to be fully developed into a multi-use community. The project area is in a location that is generally agricultural with some industrial land use. Water infrastructure will be necessary to support proposed development in the area. Although implementation of the proposed Sutter Pointe development will require land resources devoted to passive and active recreational use, the proposed water infrastructure project is not subject to these requirements.

The Sutter Pointe Specific Plan addresses parks and recreation goals and objectives that will be implemented by Sutter County and the developer consistent with the General Plan.

5.14.2 Regulatory Setting

Federal

There are no specific federal regulations related to park facilities in Sutter County.

State

State Public Park Preservation Act

Under the Public Resource Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This results in no net loss of parkland and facilities.

State Street and Highway Code

The State Street and Highway Code assists in providing hiking and equestrian trails within the rights-of-way of county roads, streets, and highways.

Local

There are no specific local regulations related to park facilities in Sutter County. Sutter County does not have a park and recreation service district; however, the County Board of Supervisors assigned the Public Works/Support Service Committee to provide advice on existing park service expansions.

Public Works/Support Service Committee

The committee provides advice on policies and practices that offer opportunities for a full range of recreational activities and encourage development of natural resource areas. The committee makes recommendations on park and recreational planning and encourages development of recreational areas, including parkways, bike paths, off-road vehicle travel areas, wildlife preserves, and picnic and camping facilities. The committee also reviews updates of the Park and Recreation Element of the County's General Plan.

5.14.3 Impacts and Mitigation Measures

Significance Criteria

Significance thresholds in this section are based on Appendix G (Environmental Checklist Form) of the CEQA Guidelines, which indicates that a potentially significant impact could occur if implementation of the project would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impact Analysis

Impact 5.14-1: The project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Analysis: No impact.

The proposed water infrastructure project will not increase the use of existing neighborhood and regional parks or other recreational facilities.

Mitigation: No mitigation required.

Impact 5.14-2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Analysis: No impact.

The water infrastructure project will not require construction or expansion of recreational facilities.

Mitigation: No mitigation required.

5.15 Transportation and Traffic

5.15.1 Existing Conditions

The proposed project to supply M&I water to planned development in southeastern Sutter County is generally bound by Natomas Road on the east, the Sacramento-Sutter County line on the south, and the Sacramento River to the west. SR 99 divides the site. The area is served by a system of primarily rural roadways. SR 99 is one of the primary regional transportation corridors within Sutter County. SR 99 is of particular importance to Sutter County because it serves large volumes of truck traffic and connects Sutter County to Butte County and to the Sacramento metropolitan area (PBS&J, 2008).

The proposed project includes facilities associated with municipal water supply, including a transmission pipeline (underground), a water treatment plant, and water storage tanks.

5.15.2 Regulatory Setting

Federal

There are no federal regulations related to transportation and traffic as applicable to the proposed project.

State

The use of California State highways for other than normal transportation purposes requires written authorization from the California Department of Transportation (Caltrans). As the responsible department for protecting the public's investment in the state highway system, Caltrans reviews all requests from utility companies, developers, volunteers, nonprofit organizations, and others desiring to conduct various activities within the right-of-way. The proposed project is in Caltrans District No. 3. A permit is necessary for construction of any portions of the project within the SR 99 right-of-way. An encroachment permit would be required for the construction phase of the project, and a separate encroachment permit would be required after the construction project is complete for ongoing operations and maintenance work.

Prior to initiating a construction project in the state right-of-way, an encroachment permit application is required with engineered plans that will comply with Caltrans standards. The plans must be approved by Caltrans and an encroachment permit issued prior to construction. Traffic management standards that must be followed are a component of the encroachment permit (Traffic Management Plan). After construction is complete, GSWC would need to obtain and maintain appropriate encroachment permits to conduct routine or emergency maintenance on its water utilities within the Caltrans right-of-way.

Local

To conduct work within the Sutter County road right-of-way, an encroachment permit would be required from the Department of Public Works prior to construction and would be obtained by the licensed (California) contractor conducting the work. Depending on the level of work to be done, an approved traffic management plan may be a required component of the encroachment permit (for example, when lane closures are necessary). Ongoing maintenance related to operations of the water system once it is in place would require a separate encroachment permit typically obtained by the owner/operator of the water system.

5.15.3 Impacts and Mitigation Measures

The proposed facilities would have minimal ongoing transportation and traffic impacts. Traffic impacts would occur temporarily during construction. Encroachments should not create a public hazard, disrupt highway operations, pose a maintenance problem, restrict pedestrian facilities, or interfere with future highway construction. Consideration should be given to utility placement located in right-of-way that is planned for expansion. When encroachment permit projects impact traffic, the permittee assumes responsibility for financing and constructing traffic control and safety features. Traffic control for day or nighttime lane closures in Caltrans' right-of-way is governed by Caltrans' standard plans for Traffic Control Systems. The project will temporarily affect traffic flow, but would not generate additional traffic.

Significance Criteria

The CEQA Guidelines define a "significant effect" on the environment to mean a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including impacts on transportation and traffic (CCR tit. 14, § 15382). Significant impacts could occur if the project would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (that is, result in a substantial increase in the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).
- Exceed, either individually or cumulatively, a level of service standard established by the County Congestion Management Agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment).
- Result in inadequate emergency access.
- Result in inadequate parking capacity.
- Conflict with adopted policies, plans, or programs supporting alternative transportation (for example, bus turnouts, bicycle racks).

Impact Analysis

Impact 5.15-1 Construction of the project may result in temporary traffic increases, affect traffic flow, and have the potential for level of service degradation during construction of the project transmission lines in roadways.

Analysis: Less than significant with mitigation.

Mitigation:

- MM 5.15-1a Prior to the start of the construction phase, the contractor shall submit a standard Traffic Management Plan to Sutter County for review and approval. The plan shall include signage posted in areas designated as temporary traffic control zones and speed limits to be observed within control zones.
- MM 5.15-1b During construction, the applicant shall implement traffic management measures as deemed necessary and applicable by a properly licensed engineer. Traffic management measures shall include:
 - Temporary traffic lanes shall be marked, barricades and lights shall be provided at excavations and crossings.
 - Construction across on- and off-street bikeways shall be performed in a manner that allows for safe bicycle access or bicycle traffic will be safely re-routed.
 - Private driveways located within construction areas will remain open to maintain access to the maximum extent feasible. If it is anticipated that a trench will remain open in front of a private driveway for more than five days, metal plates shall be used to provide 24-hour access.
 - Pipeline construction activities shall affect the least number of travel lanes as possible, with both directions of traffic flow being maintained at all times, to the extent feasible.
 - Pipeline construction shall avoid the morning and evening peak traffic periods to the extent feasible.

Impact 5.15-2 The project could result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

Analysis: No impact.

The proposed project will have no impact on air traffic.

Mitigation: No mitigation required.

Impact 5.15-3 The project could substantially increase hazards to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment).

Analysis: No impact.

The project design will not include or exacerbate dangerous design features or incompatible land use.

Mitigation: No mitigation required.

Impact 5.15-4 Construction within roadway rights-of-way could affect emergency access and response.

Analysis: Less than significant with mitigation.

Mitigation:

MM 5.15-4 The contractor shall obtain all appropriate encroachment permits that include a traffic control plan to address emergency responder access. The traffic control plan will follow local/state requirements for traffic control, including flaggers, signage, etc.

Impact 5.15-5 The project could result in inadequate parking capacity.

Analysis: No impact.

The proposed project will not generate the need for additional parking in the area. The proposed project will have adequate parking at all facilities to meet its own needs.

Mitigation: No mitigation required.

Impact 5.15-6 Construction of the project may result in potential impacts on traffic and circulation because of the transportation of materials and workers to and from the project site.

Analysis: Less than significant with mitigation.

Mitigation:

MM 5.15-6 All impacts from truck traffic would be the same as for Impact 5.15-1 above and the mitigation measures would be the same (5.15-1a and 5.15-1b).

Impact 5.15-7 The project could conflict with adopted policies, plans, or programs supporting alternative transportation (for example, bus turnouts, bicycle racks).

Analysis: No impact.

The proposed project will not affect adopted policies, plans, or programs supporting alternative transportation.

Mitigation: No mitigation required.

5.16 Utilities and Service Systems

5.16.1 Existing Conditions

There are no public municipal water supply facilities or community wastewater facilities in the project area, which encompasses approximately 17,200 acres in the Natomas Basin. The nominal amount of development that exists in the project area is served by private, individual wells.

Privately owned septic systems provide for the treatment and disposal of wastewater throughout much of rural Sutter County. Sanitary sewer collection does not exist in the project area. A sewer collection system is planned to be constructed by the Sutter Pointe developer to provide wastewater disposal to the Specific Plan area.

Electricity is supplied in south Sutter County by Pacific Gas & Electric Company (PG&E). PG& E has a 155-kilovolt overhead transmission tower line abutting the eastern boundary of the planning area. PG&E serves the few homes and businesses in the area, and agricultural customers. Existing facilities are adequate to serve the existing community. PG&E also is the designated purveyor of natural gas, but does not have any gas service capability in the planning area. The nearest gas service is approximately 2 miles southeast of the planning area in the northern portions of Rio Linda.

The project area is within the Yuba-Sutter Disposal, Inc. (YSD) service area for solid waste disposal. YSD has the capacity to provide solid waste collection and disposal services to the proposed water facilities and to future Sutter Pointe residents and businesses. Several solid waste facilities are open and accepting waste, including the YSD materials recovery facility, household hazardous waste facility, the YSD recycling buy-back center, and the Ostrom Landfill.

5.16.2 Regulatory Setting

The regulatory setting subject to discussion for the proposed project is specific to water infrastructure. Regulations regarding other utility systems and services are not discussed because they are not within the realm of the proposed water infrastructure project.

Federal

See discussion of federal regulations in Section 5.8, Hydrology and Water Quality.

State

See discussion of state regulations in Section 5.8, Hydrology and Water Quality.

Local

Many of the irrigation districts have their own governing boards, and design, operations, and maintenance criteria. Existing irrigation districts that own or control local water conveyance canals within the service area boundary include the Natomas Central Mutual Water Company (a private mutual water company) and RD 1000 (a California special district).

5.16.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the CEQA Guidelines provides criteria for the assessment of potential impacts on utilities and service systems. These criteria were used to address whether the project would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new expanded entitlements.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Comply with federal, state, and local statutes and regulations related to solid waste.

Impact Analysis

Impact 5.16-1 The project could exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Analysis: Less than significant.

The impacts caused by the proposed water infrastructure would be minimal. Discharges to a sewer collection system would be from an employee restroom. Staffing requirements for the facility would be small. Other discharges from the water treatment facility could include some backwash water. No wastewater provider presently exists in the project area. A future wastewater system (associated with the Sutter Pointe project) would be designed with the capacity to handle wastewater from the proposed facilities in a manner consistent with Regional Water Quality Control Board requirements.

Mitigation: No mitigation required.

Impact 5.16-2 The project would result in the construction of new water treatment facilities, the construction of which could cause significant environmental effects.

Analysis: Less than significant.

The primary purpose of the project is to address water supply needs for proposed development in the area. Associated environmental considerations are discussed throughout this document.

Mitigation: No mitigation necessary.

Impact 5.16-3 The project could require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Analysis: Less than significant with mitigation.

Construction of the water system will avoid existing storm water facilities in the project area. Should it be necessary to construct pipelines traversing existing storm water facilities, the pipe will be placed so that it does not obstruct storm water conveyance. The project does not involve, nor will it affect, drainage capacity.

Mitigation:

MM 5.16-3 Final water infrastructure design will consider and make efforts to avoid existing storm water facilities. In places where avoidance is not practical, facility design requirements will be implemented to have no impact on storm water facilities.

Impact 5.16-4 The project would require sufficient water supplies available to serve the project from existing entitlements and resources, or require new expanded entitlements.

Analysis: Less than significant.

The project will not require additional water supplies. Water will be provided consistent with the agreement between Natomas and GSWC.

Mitigation: No mitigation required.

Impact 5.16-5 The project could result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Analysis: Less than significant.

The impacts caused by the proposed water infrastructure would be minimal. Discharges to a sewer collection system would be from an employee restroom. Staffing requirements for the facility would be small. Other discharges from the water treatment facility could include some backwash water. No wastewater provider presently exists in the project area. A future wastewater system (associated with the Sutter Pointe project) would be designed with the capacity to handle wastewater from the proposed facilities.

Mitigation: No mitigation required.

Impact 5.16-6 The project would need solid waste disposal to a landfill with sufficient permitted capacity to accommodate its disposal needs, including construction debris and ongoing daily operations waste.

Analysis: Less than significant.

Solid waste disposal facilities exist in the area and accept construction debris. Regular disposal service for the area would provide ongoing service to waste generated by daily operations.

Mitigation: No mitigation required.

Impact 5.16-7 Debris from construction of the project could be disposed of in violation of federal, state, and local statutes and regulations related to solid waste.

Analysis: Less than significant with mitigation.

The project may require disposal of construction debris, some of which could be contaminated. Debris from construction would be disposed of in a lawful manner consistent with federal, state, and local regulations. Construction and demolition debris is composed of a variety of waste materials, including steel, asphalt, concrete, and piping. Construction waste is accepted at local disposal facilities and recycling is encouraged.

Mitigation:

MM 5.16-7 The contractor shall demonstrate a means of disposal that is in compliance with federal, state, or local laws and regulations.

5.17 Cumulative Analysis

Cumulative impacts are the effects on the environment that result from the incremental impacts of the project when considered together with other closely related past, present, and reasonably foreseeable future projects. This PEA uses a CEQA-style template to evaluate cumulative impacts. Under CEQA, cumulative impacts are defined as:

"...two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (State CEQA Guidelines Section 15355)

CEQA provides two alternative methods for evaluating cumulative impacts (see State CEQA Guidelines, Section 15130), typically referred to as the "projections approach" or the "list approach."

- **Projections Approach.** A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or certified, that described or evaluated regional or area-wide conditions contributing to the cumulative impact.
- List Approach. A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.

The list approach was chosen as the most effective method of analyzing cumulative effects in this document. The following is a list of other projects anticipated to be constructed at the same time and considered in this assessment of cumulative effects:

- The Sutter Pointe Specific Plan provides direction for a 7,500-acre master-planned community (commercial, industrial, and residential developments) proposed for future development in the area. Cumulative impacts were analyzed within the context of concurrent development of the project with development of the surrounding land. The proposed project intends to provide M&I water for this development.
- Natomas's American Basin Fish Screen Project would consolidate five existing unscreened water diversions into two new screened water diversions, remove fish barriers and facilities from the Natomas Cross Canal, and improve Natomas Basin water conveyance canals (including reconstruction of North Canal located in the Sutter Pointe Specific Plan area). The American Basin Fish Screen Project includes the Sankey Diversion, which is projected to be completed in 2012; construction is proposed to begin in 2009. Cumulative impacts were analyzed within the context of concurrent development of the project with development of the American Basin Fish Screen Project facilities and related land-side improvements.
- Sacramento County Airport System is involved in a multi-phased planning effort to identify (plan and design) and implement the future vision for Sacramento International Airport (SMF). The SMF Master Plan was the first phase of this process and the final draft was approved in February 2004. Construction of a new Central Terminal B, designed to accommodate an estimated 10 million passengers annually, by November

2011 is the highest priority of the elements in the SMF Master Plan. Cumulative impacts were analyzed within the context of concurrent development of the project with construction of Central Terminal B that would accommodate an increased number of travelers.

- Metro Air Park, located just east of SMF, is a 1,892-acre, mixed-use, commercial and industrial park. It will ultimately include 20 million square feet of space under roof, as well as an 18-hole golf course. Development is planned to be completed in six phases. Phase 1, which brings basic infrastructure services to the site, has an anticipated completion date of mid 2009. Cumulative impacts were analyzed within the context of concurrent development of the project with development of the surrounding land.
- The Placer Vineyards Specific Plan project, 0.5-mile east of the project site, proposes a mixed-use master planned community. The plan provides for 14,132 new homes on 5,230 acres. At plan build out, projected to occur over a 20- to 30-year time frame, Placer Vineyards will have a population of approximately 33,000 people, 274 acres of commercial uses, 641 acres of quasi-public land uses, and 919 acres of park and open space land. The Placer County Board of Supervisors approved the plan on July 16, 2007. Cumulative impacts were analyzed within the context of concurrent development of the project with development of the surrounding land.
- On August 8, 2007, the Sacramento Board of Supervisors adopted the Elverta Specific Plan, an urban development area in eastern Elverta of approximately 1,744 acres of unincorporated land in north-central Sacramento County. The land use plan associated with the 1,744-acre site is intended to reflect a self-supporting village-scaled community with an eventual build-out of up to 4,950 new homes. Construction of the major backbone infrastructure of the Elverta Specific Plan is anticipated to start in 2010. Cumulative impacts were analyzed within the context of concurrent development of the project with development of the surrounding land.
- Since the 1960s, the SWRCB has been adopting water quality control plans and conditioning Reclamation and DWR water right permits with requirements to meet objectives, based on these plans, to protect beneficial uses of the Sacramento-San Joaquin Delta. In 1997, the SWRCB issued a notice of the water rights hearings to allocate responsibility for meeting the 1995 Delta Water Quality Control Plan objectives. The last phase of the water rights proceedings (Phase 8) was to allocate responsibility for satisfying the flow-related water quality objectives of the 1995 Delta Water Quality Control Plan among water right holders in the watersheds of the Sacramento, Cosumnes, and Calaveras rivers. These parties developed a cooperative water management partnership to better manage water and provide a mechanism for satisfying Delta water quality and flow objectives. This partnership led to the Short-Term Settlement Agreement and development of the Short-Term Sacramento Valley Water Management Program. Under this program, Natomas proposes coordinating operation of thirteen existing wells in its service area to provide approximately 15,000 ac-ft of water per year to project capacity. Four of the wells are located along the northern district boundary, two along the western, and eight along the eastern boundary near the Sutter-Sacramento County line.

- The 2005 Sacramento River Water Reliability Study's (SRWRS's) purpose is to develop a plan to implement a new Sacramento River diversion facility and pipeline to help meet the water supply needs of the Placer-Sacramento region and preserve the Lower American River. Four alternatives from the SRWRS were carried forward for further study development and environmental review. A portion of the new water pipeline alignment proposed in each alternative runs through the Sutter Pointe Specific Plan area.
- The Natomas Joint Vision is a collaborative effort between the City and County of Sacramento to develop a joint vision for urbanization for a substantial portion of the unincorporated Natomas Basin area within Sacramento County. A guiding principle in the December 10, 2002, Memorandum of Understanding (MOU) between the City and County of Sacramento is to proactively guide future urban growth for more efficient use of the land, while securing permanent preservation of open space/farmland at a mitigation ratio of at least one-to-one. The MOU recognizes the City of Sacramento as the agent of development and the County of Sacramento as the agent of permanent open space, habitat, and farmland/ranchland preservation.
- The Natomas Basin Conservancy acquires and manages mitigation land under the Natomas Basin HCP. The purpose of the HCP is to provide a sanctuary and refuge for species displaced by development in the Natomas Basin. Under the terms of the HCP, 8,750 acres of land are to be acquired to mitigate the loss of 17,500 acres of land to be developed. As 2006 came to an end, the Natomas Basin Conservancy had acquired approximately half the land needed to implement the HCP.

Implementing the list approach, the incremental effects of the project were examined to determine whether their contributions will be cumulatively considerable in each resource section.

5.17.1 Aesthetics

Over the last several years, the project vicinity has been subject to a transition from an agricultural region to a more developed, urbanized zone. Considering the proposed development of the Sutter Pointe Specific Plan, Placer Vineyards Specific Plan, and Elverta Specific Plan near the project area, the project's incremental effect on the area's visual quality and additional sources of light and glare could be cumulatively considerable to the collective visual impacts of the listed Specific Plans.

5.17.2 Agriculture Resources

The proposed project could convert Prime Farmland or Farmland of Statewide Importance to a nonagricultural use. The majority of the soil map units within the proposed project area are classified as such. Although existing zoning is for agriculture, the proposed project area is part of planned growth consistent with the General Plan and in support of Measure M objectives. Considering the acreages of the proposed developments of the Sutter Pointe Specific Plan, Placer Vineyards Specific Plan, and Elverta Specific Plan near the project area, the incremental effect of converting less than 8 acres of non-contiguous land to accommodate the project's infrastructure facilities is determined not to be cumulatively considerable.

5.17.3 Air Quality

Although there is likely to be simultaneous construction during development of the surrounding land according to the Sutter Pointe Specific Plan, emissions of NOx for the project's individual construction activities would be less than the construction threshold and thus would not be cumulatively considerable. In addition, water trucks would be used to reduce fugitive dust emissions.

Ozone emissions associated with project operation would be in compliance with applicable air quality plans that document the strategy to attain the federal ozone standard through the year 2011 in the Sacramento region. In addition, emissions generated by plant operations and vehicular emissions generated by worker commute trips would not be expected to generate air emissions in excess of FRAQMD significance thresholds (25 lb/day of NOx or ROG and 80 lb/day of PM₁₀). The incremental effect of emissions generated by the project to air quality is not considered to be cumulatively considerable.

In addition to nonattainment pollutants, GHG emissions also may contribute to a cumulative impact from the project. To date, local decision-making agencies, the state, and federal government have not developed specific GHG thresholds of significance for use in preparing environmental analyses. However, the SMAQMD recommends that environmental documents include a discussion of anticipated GHG emissions during the construction and operation phases of a project (SMAQMD, 2007). Therefore, a brief discussion of GHG emissions was included with the evaluation of cumulative impacts.

The primary GHG emitted during construction would be CO_2 . The maximum daily CO_2 emissions expected from construction would be 2,098 lbs CO_2/day . If these emissions were assumed to occur every day for 1 year, the annual CO_2 emissions from construction would be approximately 350 metric tons of CO_2 per year. Facilities that operate stationary combustion sources that emit more than 25,000 metric tons of CO_2 per year would be required to report the emissions to the ARB. Operation emissions from the project would be expected to be well below 25,000 metric tons of CO_2 per year.

5.17.4 Biological Resources

As described in Section 5.4, Biological Resources, construction-phase impacts on biological resources in the project area include the disturbance of sensitive upland habitats and riparian vegetation, loss of native trees, and potential impacts on special-status species, including loss of suitable habitat. These impacts are expected to be similar in extent to the impacts of the other proposed developments near the project area, which are mitigated by the Natomas Basin HCP's provision to acquire land for species displaced by development in the Natomas Basin.

There is no impact on biological resources from operation of the project; thus, there is no mechanism by where it can be cumulatively considerable.

5.17.5 Cultural Resources

Archaeological, historical, and paleontological resources and human remains are nonrenewable cultural resources. Because their numbers are finite and each cultural resource may be uniquely important for scientific or cultural reasons, loss of cultural resources may result in a cumulative impact.

As described in Section 5.5, Cultural Resources, improvements related to construction of the project could affect unknown subsurface cultural resources, and mitigation is prescribed. Mitigation requirements include the obligation to stop construction if potential archeological, historical, or paleontological resources are uncovered. This mitigation requirement is consistent with typical requirements for unknown cultural resources, and it is expected that all other construction projects in the area would follow the same standards. Because the potential impact is localized in nature (e.g., related to discrete finds of cultural resources), the incremental effect of the project is not cumulatively considerable.

5.17.6 Geology, Soils, and Seismicity

Implementation of the proposed project, and the associated mitigation measures prescribed in Section 5.6 would result in less than significant impact on geology, soils, and seismicity.

Although there is likely to be simultaneous construction during development of the surrounding land according to the Sutter Pointe Specific Plan, Placer Vineyards Specific Plan, and Elverta Specific Plan, potential construction-related wind- or water-driven soil erosion impacts would be controlled with best management practices to effectively control erosion and offsite transport of sediment and thus would not be cumulatively considerable.

Design and construction of the proposed municipal water supply facilities, including pipelines, treatment facilities, booster stations, storage tanks, and groundwater supply wells, would be in conformance to the Uniform Building Code to ensure adequate and uniform soil stability and suitable support for all facilities, proper design and construction of the water supply pipeline and associated facilities on expansive soils, and design of all facilities in accordance with the Seismic Ranking for the area. This mitigation requirement is consistent with typical mitigation requirements for construction of structures and other types of facilities, and it is expected that all other construction projects in the area would follow the same standards.

Groundwater levels would be regularly measured at designated locations to monitor changes in local groundwater conditions. If groundwater pumping is determined to substantially contribute to measured subsidence in the area, water supply sources would be evaluated to determine the appropriate conjunctive use (i.e., surface and groundwater mixed use) that would achieve water supply requirements and likewise reduce land subsidence.

It is expected the incremental effect of the project on geology, soils, and seismicity resources is not cumulatively considerable.

5.17.7 Hazards and Hazardous Materials

Section 5.7, Hazards and Hazardous Materials, identifies hazardous materials that would be used and stored on site during construction of the project. These hazardous materials are typically found on a construction site, and it is anticipated that similar hazardous materials would be present during construction of the proposed developments of the Sutter Pointe Specific Plan, Placer Vineyards Specific Plan, and Elverta Specific Plan near the project area. Historical use of a site may have included the use of hazardous substances, such as pesticides, potentially exposing construction workers to such hazardous materials. Although there is likely to be simultaneous construction during development of the surrounding land, potential construction-related hazardous material impacts would be controlled with best management practices for the transport, storage, use, and disposal of hazardous materials to prevent the release of hazardous materials into the environment and thus would not be cumulatively considerable. It is expected that all other construction projects (sized over 1 acre) in the area also would be required to follow the same statewide General Permit for construction activities and implement similar best management practices.

Design and construction of the proposed municipal water supply facilities would include effective safety measures for hazardous materials storage and usage areas. With implementation of the operations mitigation measures prescribed in Section 5.7, Hazards and Hazardous Materials, impacts are reduced to less than significant levels and the incremental effect of the project is not cumulatively considerable.

5.17.8 Hydrology and Water Quality

Construction-phase impacts on water resources associated with the project are described in Section 5.8, Hydrology and Water Quality, and include erosion/siltation and the discharge of water during well development. With regard to construction-related erosion and siltation of waterways and waste discharge, the project will be required to follow the detailed regulatory requirements of the Regional Water Quality Control Board, which are intended to mitigate the cumulative impacts of construction on a regional basis.

Impacts from activities associated with municipal operations would be controlled with best management practices outlined in the project site's Operation and Maintenance Program to prevent the release of polluted storm water runoff into drainages and thus would not be cumulatively considerable. In addition, considering the acreages of the other proposed developments near the project area, the incremental effect of converting less than 8 acres of permeable area into hardscape on storm water runoff is not considered to be cumulatively considerable.

A water supply impact analysis will be conducted as part of the Sutter Pointe Specific Plan EIR. There is a significant cumulative impact on groundwater in the basin from development of south Sutter County. The project's incremental contribution to the significant cumulative impact is potentially significant. As mitigation, GSWC will participate in regional groundwater planning efforts, including studies to determine acceptable groundwater levels (see MM 5.8-4).

The water infrastructure project will not be constructed without the proposed development in south Sutter County; however, prior to development approvals being granted under the Sutter Pointe Specific Plan, measures will need to be implemented to remove the area from the 100-year flood zone. The Sacramento Area Flood Control Agency is developing a levee improvement project that is designed to provide 100-year flood protection to the Natomas Basin by 2010 and 200-year flood protection by 2012. By implementation of the levee improvement project, the project site would no longer be in a flood hazard zone; thus, there is no mechanism whereby it can be cumulatively considerable.
5.17.9 Land Use and Planning

Although there is likely to be simultaneous construction during development of the surrounding land, it is expected that local permitting and planning agencies will be included in the final design and construction phases of all other construction projects in the area to ensure that conflicts with existing land uses are minimized or avoided. In addition, construction-related land use and planning impacts are temporary and thus would not be cumulatively considerable.

The proposed project area falls within the scope of the conservation planning efforts in the Natomas Basin, and is part of planned growth consistent with the General Plan and in support of Measure M objectives. There is no impact on land use and planning from operation of the project; thus, there is no mechanism whereby it can be cumulatively considerable.

5.17.10 Mineral Resources

Project construction activities would have no impact on mineral resources in the affected area; thus, there is no mechanism whereby it can be cumulatively considerable.

No known substantial mineral deposits or recovery sites are located at the project site, and project operations would not preclude the continued development of natural gas resources in the project area. It is expected the incremental effect of the project on mineral resources is not cumulatively considerable.

5.17.11 Noise

Although there is likely to be simultaneous construction during development of the surrounding land according to the Sutter Pointe Specific Plan, construction-related noise impacts are temporary and thus would not be cumulatively considerable. In addition, noise related to construction is exempted within the local noise ordinances given specific time periods, which corresponds to the work schedule as proposed.

The proposed well field will be located in an E1 or E2 (industrial-retail) land use designation in the Southern Employment Village located west of SR 99. SR 99 is situated between the well field and projected residential development. There are no long-term operational noise impacts associated with the project because of the location of the facilities and the incorporation of structural noise-reducing features for the pump stations and well facilities into the site design; thus, there is no mechanism whereby it can be cumulatively considerable.

5.17.12 Population and Housing

Project construction activities would have no impact on population and housing resources in the affected area; thus, there is no mechanism whereby it can be cumulatively considerable.

Sutter County's prospects for growth are closely tied to the growth potential of the Sacramento Area Council of Governments region. As one of the region's major growth areas for industrial, retail, and residential real estate, Sutter County benefits from economic expansion in Sacramento, Placer, and neighboring counties. A great deal of industrial and residential development is planned for south Sutter County. The proposed water project is an action to fill an infrastructure need for planned multi-use growth in accord with the Sutter Pointe Specific Plan, which is consistent with Sutter County's General Plan and in support of Measure M objectives. Project impacts could include inducing population growth by providing municipal water infrastructure where none presently exists, but those are addressed in Section 5.18, Growth-inducing Impacts.

5.17.13 Public Services

Although there is likely to be simultaneous construction during development of the surrounding land according to the Sutter Pointe Specific Plan, construction-related impacts on public services are temporary and thus would not be cumulatively considerable. In addition, developing a traffic control plan is a typical local municipality mitigation requirement for construction activities that could affect emergency services, and it is expected that all other construction projects in the area would follow the same standard.

Project operations would fill a water supply infrastructure need that supports Sutter Pointe Specific Plan's projected growth for the area. The project would not be constructed without the proposed development of the Sutter Pointe Specific Plan. The appropriate analysis of project operation impact on public services is within the Sutter Pointe Specific Plan EIR that Sutter County is preparing on behalf of the applicant (Measure M Group). A program EIR will be prepared for the entire Sutter Pointe Specific Plan area, which is the same as the GSWC proposed municipal water project. The EIR will evaluate all potential environmental impacts of the entire Sutter Pointe Specific Plan project and associated actions and entitlements (Sutter County, 2006).

5.17.14 Recreation

The project area is located in a generally agricultural area with some industrial land use. Project construction activities and operations would have no impact on recreational resources in the affected area; thus, there is no mechanism whereby it can be cumulatively considerable.

5.17.15 Transportation and Traffic

Although there is likely to be simultaneous construction during development of the surrounding land according to the Sutter Pointe Specific Plan, construction-related impacts on transportation and traffic are temporary and thus would not be cumulatively considerable. In addition, developing a traffic control plan is a typical City and County mitigation requirement for construction activities that could affect traffic and emergency services, and it is expected that all other construction projects in the area would follow the same standard.

Project operations would have no impact on transportation and traffic resources in the affected area; thus, there is no mechanism whereby it can be cumulatively considerable.

5.17.16 Utility and Service Systems

It is expected that with implementation of the construction mitigation measures prescribed in Section 5.16, Utility and Service Systems, impacts are reduced to less-than-significant

levels and the incremental effect of the project is not cumulatively considerable. The mitigation measures are consistent with federal, state, and local regulations, and it is expected that during development of the surrounding land according to the Sutter Pointe Specific Plan, all other construction projects in the area would follow the same standards.

Considering the comparatively large area of the proposed developments of the Sutter Pointe Specific Plan and associated demand on utility services, the incremental effect of the project's demand on existing or planned utility service systems in the area is determined not to be cumulatively considerable.

5.18 Growth-inducing Impacts

Growth-inducing impacts are best defined in the CEQA Guidelines. Specifically, Section 15126(g) of the CEQA Guidelines states:

"Discuss ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

The proposed project is intended to support the phased water infrastructure needs in South Sutter County for planned growth consistent with the General Plan and in support of Measure M objectives. Measure M is an advisory measure approved in 2004 by Sutter County voters expressing their support in planning for commercial, industrial, and residential development in the South Sutter County Industrial/Commercial Reserve.

The purpose of the planned growth is to create a mixed-use development by generating employment opportunities and providing a variety of residential housing types. In order to bring employers and deliver jobs, critical infrastructure is required. The intended specific project that lies within the existing Natomas service area is the Sutter Pointe development. The Sutter Pointe Specific Plan sets forth conceptual infrastructure plans for improvements, including potable water.

GSWC intends to provide M&I water service within the Natomas service area to provide infrastructure for planned growth. Because the project site is not urbanized, there are no public municipal water supply facilities in the project area. The proposed water infrastructure project would not be constructed without the proposed development in South Sutter County. It accommodates the planned development of the Sutter Pointe Specific Plan and associated demand for water infrastructure; therefore, the proposed project would not be growth inducing.

The applicant is developing the project recognizing that there may be future need for additional M&I uses within the boundary of the overall Natomas service area in south Sutter County. Considering that the M&I service area eventually may extend beyond the Sutter Pointe Specific Plan development area, the project could serve broader development within Natomas's entire service area. The M&I water infrastructure potentially could remove a barrier for future development of M&I uses outside the Sutter Pointe Specific Plan, converting prime agriculture land to M&I uses. However, there is presently no institutional recognition that additional land outside of the Sutter Pointe Specific Plan would be developed. In addition, amendments to the General Plan changing land use designations from agriculture would be required to clear the way for development of these lands. Further development in the Natomas Basin also would require coordination under the Natomas Basin HCP. Local government and Natomas Basin HCP process are too speculative at this time to consider. If Sutter County chooses to allow development in the Natomas service area outside the Sutter Pointe Specific Plan, then the environmental impacts of development on farmland would be evaluated as part of that decision-making process.

6.1 Mitigation Measures Proposed to Minimize Significant Effects

As required by the CPUC and CEQA, an Initial Study checklist was used to focus the impact analysis for the proposed project. The methodologies used for determining standards of significance of all impact categories analyzed in the PEA originate from Appendix G of the revised CEQA Guidelines and are described for each environmental topic in Section 5, Environmental Impact Assessment Summary.

The methodology used to determine the level of significance of potential impacts varies depending on the environmental topic. Local air quality, as an example, is regulated by quantitative standards promulgated by the air pollution control district, whereas other topics, such as aesthetics, require professional judgment to determine the level of significance of an impact. For some resource categories, it is clear that no potential impacts could result or that the impact category is not applicable to the project. In such cases, "no impact" is checked on the CEQA Guidelines form. In other cases, the potential impact has been analyzed and determined to be less than significant, so the "less than significant impact" box has been checked. When mitigation measures can be implemented that reduce the potential impact to a less-than-significant level, the "less than significant with mitigation incorporated" box is checked, the impact is analyzed, and the mitigation measures are listed in each subsection of Section 5. In instances where implementation of mitigation measures is not feasible or the measures would not reduce the impact." The determinations in this checklist are for the proposed project and not for the alternatives.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS Would the project:				
a) Have a substantial adverse effect on a scenic vista?			\sum	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				



c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

d) Expose sensitive receptors to substantial pollutant concentrations?

e) Create objectionable odors affecting a substantial number of people?

IV. BIOLOGICAL RESOURCES -- Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?



	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				\sum
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				
V. CULTURAL RESOURCES Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?		\sum		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		\sum		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			\sum	
d) Disturb any human remains, including those interred outside of formal cemeteries?		\sum		
VI. GEOLOGY AND SOILS Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				
ii) Strong seismic ground shaking?		\sum		
iii) Seismic-related ground failure, including liquefaction?				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
sion or the		\sum		
t or soil that ne unstable as ntially result ral spreading, apse?				
, as defined in uilding Code s to life or				
uately ks or systems for the				\square
DOUS ject:				
the public or utine zardous		\square		
o the public or ably conditions ous materials				
handle materials, -quarter mile ol?				
included on es compiled Section				

iv) Landslides?

b) Result in substantial soil erosion or the loss of topsoil?

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

VIII. HYDROLOGY AND WATER QUALITY -- Would the project:

a) Violate any water quality standards or waste discharge requirements?

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

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite?



d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

f) Otherwise substantially degrade water quality?

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

j) Inundation by seiche, tsunami, or mudflow?

IX. LAND USE AND PLANNING -- Would the project:

a) Physically divide an established community?

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
		\square	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?			\sum	
X. MINERAL RESOURCES Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				
XI. NOISE - Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?			\square	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?		\sum		
Police protection?		\sum		
Schools?				
Parks?				
Other public facilities?				\sum

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				
XV. TRANSPORTATION/TRAFFIC Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				
e) Result in inadequate emergency access?				
f) Result in inadequate parking capacity?				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				
XVI. UTILITIES AND SERVICE SYSTEMS Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			\boxtimes	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?				
f) Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs?				
g) Comply with federal, state, and local statutes and regulations related to solid waste?		\square		

indirectly?

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or				

Description of Project Alternatives 6.2

This section describes the alternatives to the proposed project that were developed and analyzed. Alternatives were formulated from public input, scientific information, and professional judgment in a manner consistent with CEQA. In November 2004, Measure M, an advisory measure regarding a proposed strategic plan for the region, was put before Sutter County voters and was overwhelmingly approved. The text of Measure M contained the following requirements for any future development of the project area:

- At least 3,600 acres for commercial and industrial to create new jobs in Sutter County as a condition of having residential units approved.
- At least 1,000 acres provided for schools, parks, open space, libraries, retail areas, and • other community facilities paid for by development.
- No more than 2,900 acres available for residential construction on land protected, at a • minimum, from a 100-year flood event.

- All necessary roads, bridge, water, drainage, sewer, and other improvements paid for by development.
- Ongoing law enforcement, fire, library, and other public services paid for by development, without reducing current service levels.

Alternatives to the project that were considered include:

- Use of only groundwater to supply water to the project area
- Use of only surface water to supply water to the project area
- Use of an alternative site for the water treatment facilities

This section also describes the No Project Alternative, or impacts associated with not implementing the proposed project.

6.2.1 No Project Alternative

Under the No Project Alternative, GSWC would not be granted authorization by the CPUC to be the water service provider in the project area and the proposed water supply infrastructure would not be developed. Any proposed development in the region would need to find an alternative provider of water to proceed with construction.

6.2.2 Groundwater Only Alternative (No Surface Water Component)

This alternative considered exclusive use of groundwater to supply the project with M&I water. Under this alternative, GSWC would develop groundwater within the project area for the purposes of meeting future water supply demands of urban development. Groundwater quality was analyzed for the IWRMP using data from existing wells in the service area. The report concluded that local groundwater is a permissible source of drinking water; however, treatment may be required for some constituents, depending on the location of the specific well.

According to the MIAPS (2008) and California's Groundwater Bulletin 118, groundwater wells in south Sutter County have remained fairly stable over time although some wells have experienced declines (Bulletin 118), based on groundwater data obtained from DWR. It is not expected that operation of the project wells would substantially lower groundwater levels because extraction will be consistent with the estimated annual safe yield of 1 acrefoot per acre. However, it is possible that some lowering of groundwater levels could occur if net extraction is consistently greater than recharge. Relying solely on groundwater for the project has the potential to affect safe groundwater yield within the basin.

6.2.3 Surface Water Only Alternative (No Groundwater Component)

The Surface Water Only Alternative considered the possibility that GSWC would supply all of the water needs for the project using existing surface water rights and allocations. For GSWC to utilize transferred surface water, it would need to undertake efforts to make transferred surface water available. There are several efforts that can be made by the transferring agency, including:

• Rescheduling of water deliveries

- Groundwater substitutions
- Land conversion
- Water conservation measures
- Land fallowing

This alternative would eliminate any impact on local groundwater levels; however, the infrastructure is not in place at this time to implement surface water delivery and treatment facilities for surface water are not yet designed or built. Limitations to delivery in July through September and permitting constraints could make this alternative less feasible than others. An alternative using groundwater and surface water would ultimately allow more flexibility, reliability, and immediate implementation of the proposed development.

This alternative may result in a delay of the proposed development.

6.2.4 Alternative Site for Surface Water Treatment Facility

This alternative included the consideration of a new treatment facility location on parcel number (APN) 035-140-026. The 7.8-acre parcel of property is located on the southwestern corner of Barney Mound on Powerline Road just north of Sankey Road. (Figure 6.2-1)

This alternative may have potential impacts on land use and planning because it is not located within the Sutter Pointe Specific Plan area and may conflict with the Sutter County General Plan and Natomas Basin HCP. Impacts on other resource areas would be similar because the project footprint would be generally the same size as other locations; however, use of this location may require additional biological mitigation. Impacts on cultural resources at this alternative site have not been analyzed.

6.3 Growth-inducing Impacts

Growth-inducing impacts are discussed in Section 5.18.



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CH2MHILL

7.1 Golden State Water Company

630 East Foothill Blvd. San Dimas, California 91773

Name	Responsibility
Lonnie Curtis	Development Services, Mergers and Acquisitions Manager
Roland Tanner	Vice President, Customer Support Services
Anna Brathwaite	Associate Corporate Counsel

7.2 CH2M HILL

2485 Natomas Park Drive, Suite 600 Sacramento, California 95833

Name	Responsibility	Years of Experience
Matthew Franck	Project Manager	18
Peggie King	Associate Project Manager, Sections 1 – 4; Section 5.1, Aesthetics; Section 5.2, Agriculture Resources; Section 5.3, Air Quality; Section 5.7, Hazards and Hazardous Materials; Section 5.10, Mineral Resources; Section 5.12, Population and Housing; Section 5.13, Public Services; Section 5.14, Recreation; Section 5.15, Transportation and Traffic; Section 5.16, Utilities and Service Systems.	16
Cinamon Vann	Editor	15
Michaun Clay	Maps/GIS	16
Jim Bard	Section 5.5, Cultural Resources	36
David Christophel	Section 5.4, Biological Resources	16
Amy Clymo	Section 5.3, Air Quality	7
Maria Elena Conserva	Section 5.1, Aesthetics	2
Doug Davy	Section 5.5, Cultural Resources	24

Name	Responsibility	Years of Experience
Wendy Haydon	Section 5.7, Hazards and Hazardous Materials	20
Jenny Krenz	Section 5.6, Geology, Soils, and Seismicity; Section 5.8, Hydrology and Water Quality	5
Catherine Lambert	Section 5.11, Noise	3
Toni Pezzetti	Section 5.6, Geology, Soils, and Seismicity; Section 5.8, Hydrology and Water Quality; Section 5.10, Mineral Resources	23
Tom Priestley	Section 5.1, Aesthetics	28
John Putrich	Section 5.5, Cultural Resources	2
Kathy Rose	Section 5.2, Agriculture Resources; Section 5.6, Geology, Soils, and Seismicity; Section 5.8, Hydrology and Water Quality; Section 5.10, Mineral Resources	17
John Schoonover	Section 5.9, Land Use; Section 6.2, Alternatives	5
Marie-Christine Sheffield	Section 5.12, Population and Housing; Section 5.17, Cumulative Impacts; Section 5.18, Growth-inducing Impacts	5
Craig Williams	Section 5.4, Biological Resources	9

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