29. Public Services and Utilities

29.1 Introduction

This chapter describes the public services and utilities setting for the Extended, Secondary, and Primary study areas. Descriptions and maps of these three study areas are provided in Chapter 1 Introduction. Public services include schools, hospitals/medical centers, and police and fire protection services. Utilities include water, wastewater, solid waste, natural gas, electricity, telephone, and cable providers.

Permits and authorizations for public services and utilities are presented in Chapter 4 Environmental Compliance and Permit Summary. The regulatory setting for public services and utilities is presented in Appendix 4A Environmental Compliance.

This chapter focuses primarily on the Primary Study Area. Potential impacts in the Extended and Secondary study areas were evaluated and discussed qualitatively. Potential local and regional impacts from constructing, operating, and maintaining the alternatives were described and compared to applicable significance thresholds. Mitigation measures are provided for identified potentially significant impacts, where appropriate.

29.2 Environmental Setting/Affected Environment

29.2.1 Methodology

The identification of existing public services and utilities for the three study areas was performed by conducting a review of planning documents, consultation of websites, and by telephone and email communications with representatives of area agencies to identify and describe existing public services (schools, fire protection/emergency medical services, and law enforcement) and existing utilities (water, wastewater, drainage, energy, solid waste disposal) facilities and systems.

29.2.2 Extended and Secondary Study Areas

29.2.2.1 Public Services

Schools

The counties, cities, and communities in the Extended and Secondary study areas have both public (alternative, magnet, thematic, and charter) and private (religious and non-religious) schools. The public schools are under the jurisdiction of various public school districts.

Medical Care

There are many medical centers that serve the counties, cities and communities within the Extended and Secondary study areas. These hospitals/medical centers provide general medical and surgical care, emergency services, women's health, children's health, imaging services, and outpatient services (USA Hospitals, 2010).

Police Protection

The counties in the Extended and Secondary study areas are served by County Sheriff's departments/offices that are responsible for law enforcement services in the unincorporated areas of the counties. The County

Sherriff departments typically administer the County Jails, function as the County Coroner/Crime Lab, and act as the Office of Emergency Services (USACOPS, 2010). Law enforcement services are also provided by police departments within the individual cities (USACOPS, 2010), and also by the California Highway Patrol (CHP). The CHP is the primary law enforcement agency for state highways and roads. Its services include law enforcement, traffic control, accident investigation, and the management of hazardous materials spill incidents.

Fire Protection

Various fire departments and fire districts serve counties, cities, and communities in the Extended and Secondary study areas. Fire department/districts are staffed by paid workers, and volunteers in some instances.

29.2.2.2 Utilities

Water

Various municipal and agricultural water districts serve the counties, cities, and communities in the Extended and Secondary study areas from a variety of surface and groundwater sources. The water is conveyed through pipelines to water treatment systems operated by various water districts (special service districts or municipalities). The treated water is then distributed through a grid system that serves the incorporated areas and some of the rural neighborhoods adjoining the incorporated areas. Irrigation water is conveyed through canals operated by irrigation water districts to the agricultural lands where the water is applied.

Wastewater

Wastewater in the Extended and Secondary study areas is treated and returned to the environment using both on-site disposal and centralized disposal. The areas served by on-site systems are generally rural or agricultural. More populous areas have a wastewater treatment facility (centralized disposal) in which a series of underground pipelines convey wastewater from residences and businesses to a wastewater treatment plant for treatment before release to local waterways.

Solid Waste

Solid waste in the Extended and Secondary study areas is disposed of by individual public works departments and contracted private waste handling companies in the counties. Solid waste in these areas is transported to commercial Class I, II, and III landfills. Class I sites may accept hazardous and nonhazardous wastes; Class II sites may accept “designated” and nonhazardous wastes; and Class III sites may accept nonhazardous wastes. Examples of Class I landfills are Chem Waste Management-Kettleman in Kings County, and Safety-Kleen-Buttonwillow in Kern County. Examples of Class II landfills are Altamont Sanitary Landfill in Alameda County, Aqua Clear Farms Inc. in Solano County, and Ostrom Road Landfill in Yuba County. Examples of Class III landfills are Kiefer Landfill in Sacramento County, Red Bluff Landfill in Tehama County, Weaverville Landfill in Trinity County, and West Central Landfill in Shasta County.

Natural Gas

Natural gas is provided via a system of underground pipelines of varying diameters to residences and businesses throughout the Extended and Secondary study areas by Pacific Gas and Electric Company

(PG&E), Southern California Gas, San Diego Gas & Electric, Southwest Gas, and several smaller natural gas utilities (California Public Utilities Commission, 2010).

Electricity

Electricity is provided to the residences and businesses throughout the Extended and Secondary study areas by a combination of overhead and underground transmission and distribution lines. High-voltage (> 230-kilovolt-ampere [kVA]) electricity is generated and transmitted throughout California (and also generated in other states, with some electricity being imported to California) and is stepped down in voltage for residential, commercial, and industrial land uses. Examples of providers include PG&E, San Diego Gas and Electric, municipal utilities, and San Francisco Public Utilities Commission.

Telephone

Telephone service (both land lines and cellular service) is provided by several companies in the Extended and Secondary study areas by a variety of providers such as AT&T, Comcast, Southern California Telephone Company, Sprint, Frontier Communications, Vonage, and Verizon.

Cable

Cable service for the television and internet is provided by a series of overhead and underground lines in the Extended and Secondary study areas. Service is provided by a variety of providers including AT&T, Comcast, and Time Warner Cable.

29.2.3 Primary Study Area

The Primary Study Area includes the areas where Sites Reservoir Project (Project) facilities would be constructed. For data collection purposes, public services, facilities, and utilities are discussed at the County level (Glenn and Colusa counties). In addition, the existing communication tower on Logan Ridge (located on the southeast side of the proposed Sites Reservoir) is not a Project facility; however, its access would be affected by the Project, so a new road to access it is included in the Project, and it is discussed as part of the Primary Study Area.

29.2.3.1 Public Services

Schools

Glenn County

In 2016, there were 26 public schools within Glenn County, including 11 elementary/primary schools, 2 junior high/middle schools, 4 high schools, 2 combined junior and senior high schools, and 7 other types of schools (including continuation, community day, juvenile court, and special education) (Ed-Data, 2016). Additional educational opportunities are provided through the Butte-Glenn Community College District. Table 29-1 characterizes each public school in the County. Table 29-2 lists the school bus routes for each of the public school districts in the county; however, these bus routes have historically been and are expected to continue to be subject to frequent change.

Table 29-1
Glenn County Schools

School Name	District	School Address	Lowest Grade	Highest Grade	Total # of Students	Full-time Staff*
Bidwell Point High (Continuation)	Stony Creek Joint Unified	300 Sanhedrin Road Elk Creek, CA	11th	12th	3	0
Capay Joint Union Elementary	Capay Joint Union Elementary	7504 Cutting Avenue Orland, CA	K*	8th	189	10
Elk Creek Elementary	Stony Creek Joint Unified	300 Sanhedrin Road Elk Creek, CA	K*	5th	49	3
Elk Creek Junior-Senior High	Stony Creek Joint Unified	300 Sanhedrin Road Elk Creek, CA	7th	12th	44	5
Ella Barkley High	Hamilton Unified	300 Hwy. 32 Hamilton City, CA	11th	12th	9	2
Fairview Elementary	Orland Joint Unified	1308 Fairview Street Orland, CA	3rd	5th	494	26
William Finch	Glenn County Office of Education	311 South Villa Avenue Willows, CA	1st	12th	64	6
Glenn County Juvenile Court	Glenn County Office of Education	311 South Villa Avenue Willows, CA	9th	12th	7	2
Glenn County Special Education School	Glenn County Office of Education	311 South Villa Avenue Willows, CA	K*	12th	63	39
Hamilton Community Day	Hamilton Unified	600 Canal Street Hamilton, CA	7th	12th	1	1
Hamilton Elementary	Hamilton Unified	277 Capay Street Hamilton City, CA	K*	8th	415	21
Hamilton High	Hamilton Unified	620 Canal Street Hamilton City, CA	9th	12th	314	18
Indian Valley Elementary	Stony Creek Joint Unified	5180 Lodoga Stonyford Road Stonyford, CA	6th	6th	6	1
Lake Elementary	Lake Elementary	4672 County Road N Orland, CA	K*	8th	174	10
Mill Street Elementary	Orland Joint Unified	102 Second Street Orland, CA	K*	3rd	505	26
Murdock Elementary	Willows Unified	655 W. French Street Willows, CA	K*	5th	637	29
North Valley High (Continuation)	Orland Joint Unified	220 Roosevelt Avenue Orland, CA	9th	12th	35	3
Orland Community Day	Orland Joint Unified	924 Second Street Orland, CA	7th	12th	7	1
Orland High	Orland Joint Unified	101 Shasta Street Orland, CA	9th	12th	694	35
Plaza Elementary	Plaza Elementary	7322 County Road 24 Orland, CA	K*	8th	190	8
Price Intermediate	Orland Joint Unified	1212 Marin Street Orland, CA	6th	8th	448	24
Princeton Elementary	Princeton Joint Unified	428 Norman Road Princeton, CA	K*	6th	67	7
Princeton Junior-Senior High	Princeton Joint Unified	473 State Street Princeton, CA	7th	12th	97	11

School Name	District	School Address	Lowest Grade	Highest Grade	Total # of Students	Full-time Staff*
Willows Community High	Willows Unified	823 W. Laurel Street Willows, CA	10th	12th	25	1
Willows High	Willows Unified	203 N. Murdock Avenue Willows, CA	9th	12th	443	22
Willows Intermediate	Willows Unified	1145 W. Cedar Street Willows, CA	6th	9th	330	17

*Indicates full-time equivalent teachers, administrators, and pupil services staff.

Note:

K = kindergarten

Source: Ed Data, 2016.

Table 29-2
Glenn County School Bus Routes

School District	School Bus Route
Stony Creek Joint Unified	County Road 36 and Hwy 162
Capay Joint Union Elementary	Post Avenue, 4th Avenue/Road T, Clark Avenue, 5th Avenue/County Road S, 7th Avenue, Moller Avenue, 6th Avenue/Capay Road/County Road 202, Walch Avenue, 3rd Avenue/County Road V, 2nd Avenue/Road W, Cutting Avenue/Road 2, Cutler Avenue/County Road 4, Capay Avenue/County Road 7, Lindsay Avenue/County Road 8, 1st Avenue
Hamilton Unified	NA
Lake Elementary	County Road M, County Road 9/Wyo Avenue, County Road 10, County Road N, County Road 6, County Road 8, County Road O, County Road P, County Road PP, County Road 11, County Road QQ
Orland Joint Unified	NA
Willows Unified	Hwy 162, County Road O, County Road QQ, County Road 48, County Road S, County Road. 46, County Road 45, County Road N, County Road KK, County Road 68, County Road D, County Road 50. County Road 44, County Road 40, County Road V, County Road WW, County Road W, County Road X, County Road VV, County Road U, County Road T, County Road 34, County Road 36, Main Street in Artois, County Road 33, County Road F, Murdock Avenue
Plaza Elementary	County Road S, County Road 30, County Road 25, County Road 24, County Road 20, County Road 19, County Road P, County Road U, County Road V
Princeton Joint Unified	County Road VV, Reservation Road Hwy 45, Dodge Road, Southam Road, Spencer Road, Hwy 162, County Road Y, County Road, 63, River Road, County Road 70, County Road Z, County Road 50, Killarney Street, Tehama Street, County Road 44, County Road 56, County Road 65, County Road 64, County Road 62, County Road WW, County Road 61

Note:

NA = data not available

Source: Azevedo, 2017, pers. comm.; Whitney, 2011, pers. comm.; Scribner, 2011, pers. comm.; Deitz, 2011, pers. comm.; Nunes, 2011, pers. comm.; Lopez, 2011, pers. comm.; Willows Unified School District, 2011.

Colusa County

In 2016, there were 19 public schools within Colusa County, including 6 elementary/primary schools, 3 junior high/middle schools, 3 high schools, 1 combined junior and senior high school, and 6 other types of schools (including alternative, juvenile court, opportunity, continuation, and special education) (Ed-Data, 2016). Table 29-3 characterizes each public school in the County. Table 29-4 lists the school

bus routes for each of the public school districts in the county; however, these bus routes have historically been and are expected to continue to be subject to frequent change.

Table 29-3
Colusa County Schools

School Name	District	School Address	Lowest Grade	Highest Grade	Total # of Students	Full-time Staff*
Arbuckle Alternative High (Continuation)	Pierce Joint Unified	966 Wildwood Road Arbuckle, CA	10th	12th	17	1
Arbuckle Elementary	Pierce Joint Unified	701 Hall Street Arbuckle, CA	K*	5th	627	29
Colusa Alternative High (Continuation)	Colusa Unified	817 Colusa Avenue Colusa, CA	10th	12th	18	1
Colusa Alternative Home	Colusa Unified	745 10th Street Colusa, CA.	2nd	12th	59	3
Colusa County Special Education	Colusa County Office of Education	946 Fremont Street Colusa, CA	K*	12th	108	36
Colusa High	Colusa Unified	901 Colusa Avenue Colusa, CA	9th	12th	371	24
George T. Egling Middle	Colusa Unified	813 Webster Street Colusa, CA	4th	8th	517	26
Grand Island Elementary	Pierce Joint Unified	551 Leven Street Grimes, CA	K*	5th	49	5
James M. Burchfield Primary	Colusa Unified	400 Fremont Street Colusa, CA	K*	3rd	497	24
Lloyd G. Johnson Jr. High	Pierce Joint Unified	938 Wildwood Road Arbuckle, CA	6th	8th	351	18
Maxwell Elementary	Maxwell Unified	146 W. North Street Maxwell, CA	K*	5th	155	11
Maxwell Middle	Maxwell Unified	146 W. North Street Maxwell, CA	6th	8th	66	4
Maxwell Senior High	Maxwell Unified	515 Oak Street Maxwell, CA	9th	12th	108	6
Mid Valley High (Continuation)	Williams Unified	1105 D Street Williams, CA	10th	12th	22	1
Pierce High	Pierce Joint Unified	960 Wildwood Road Arbuckle, CA	9th	12th	370	20
S. William Abel Community	Colusa County Office of Education	499 Marguerite St., Williams, CA	9th	12th	8	1
Williams Junior/Senior High	Williams Unified	222 11th Street Williams, CA	7th	12th	547	29
Williams Primary Elementary	Williams Unified	1404 E Street Williams, CA	K*	3rd	465	24
Williams Upper Elementary	Williams Unified	300 11th Street Williams, CA	4th	6th	309	15

*Indicates full-time equivalent teachers, administrators, and pupil services staff.

Note:

K = kindergarten

Source: Ed Data, 2016.

Table 29-4
Colusa County School Bus Routes

School District	School Bus Route
Pierce Joint Unified	NA
Colusa Unified	River Road, Dry Slough Road, Westcott Road/Walnut Tree Drive, Wilson Road, Ranch Road, Hwy 45, North Avenue, Neva Avenue, 14th Street, Clay Street, Wescott Road, County Club Drive, Woodhaven Drive, Florimond Drive, Fruitvale Avenue, Christie Lane
Maxwell Unified	Maxwell Sites Road, Sites Lodoga Road, Lodoga Stonyford Road, 3rd Street
Williams Unified	NA

Note:

NA = data not available

Source: Bailey, 2011, pers. comm.; Azevedo, 2011, pers. comm.

Medical Care

Glenn County

The Glenn Medical Center, located in Willows, provides medical care services in Glenn County. It provides general medical and surgical care, emergency services, outpatient chiropractic services, outpatient women's health center, outpatient sleep center, and imaging services. It is a 15-bed facility. It employs a total of 102 full-time facility personnel including registered nurses, licensed practical nurses, and licensed vocational nurses (McMillan, 2010, pers. comm.).

Colusa County

The Colusa Regional Medical Center, located in Colusa, provides medical care services in Colusa County. It provides general medical and surgical care, general intensive care, obstetrics, emergency services, specialized inpatient and outpatient care, and imaging services American Hospital Association, 2010). It is a 48-bed facility (American Hospital Association, 2010). It employs 32 full and part-time registered nurses, 11 full and part-time licensed practical nurses, and 143 total full- and part-time other facility personnel (Athenais, 2010, pers. comm.).

Police Protection

Glenn County

The Glenn County Sheriff's Department is located in Willows, California. It has 77 employees, of which 28 are sworn peace officers (Leath, 2010, pers. comm.). It provides law enforcement services within the unincorporated areas of the County in addition to providing backup and dispatch services for the Willows and Orland police departments. The Sheriff also shares law enforcement responsibilities within the National Forest with the Mendocino National Forest. The department administers the County Jail, Dispatch, functions as the County Coroner, patrols waterways, and acts as the Director of Emergency Services (Glenn County, 2008).

Law enforcement emergency services are also provided by the Orland Police Department, the Willows Police Department (USACOPS, 2010), and the CHP.

Colusa County

The Colusa County Sheriff's Office is located in Colusa, California. It has 75 employees, of which 32 are sworn peace officers (Dixon, 2010, pers. comm.). It is responsible for law enforcement in the unincorporated areas of Colusa County (i.e., the entire County except for the incorporated cities of Williams and Colusa). The Sheriff's Office has the following departments: Patrol, Investigations, Coroner, Animal Control, Drug Abuse Resistance Education Program, Narcotics Task Force, Special Operations and Response Team, Jail, Civil, Dispatch, Records, and Office of Prevention Services (Colusa County Sheriff's Office, 2009).

The Sheriff's Office also uses volunteer organizations to augment their paid staff for Search and Rescue, Sheriff's Mounted Posse, Volunteer Citizen Service Unit, Aero Squadron, and the Sheriff's Explorer Program (Colusa County Sheriff's Office, 2009).

Municipal police departments serve the cities of Williams and Colusa (USACOPS, 2010). The city police forces work closely with the County Sheriff's Office because many police matters cross jurisdictional boundaries. The cities and County participate jointly in search and rescue efforts. The U.S. Forest Service (USFS) District Ranger provides services for the Mendocino National Forest. California Department of Fish and Wildlife's (CDFW) Law Enforcement Division protects California's natural resources and provides public safety in the areas within its jurisdiction (CDFW, 2013). Wardens from the U.S. Fish and Wildlife Service provide similar law enforcement services on federal National Wildlife Refuges. The CHP patrols state roads in the County (Colusa County, 1989).

Fire Protection

Glenn County

Glenn County has 12 fire departments operating in 13 fire protection districts. All are independent of the California Department of Forestry and Fire Protection (CAL FIRE). The only paid personnel (five) in Glenn County are in the City of Willows. The fire departments are: Willows, Orland, Elk Creek, Artois, Kanawha, Butte City, Hamilton City, Capay, Bayliss, Glenn/Codora, and Ord Bend. CAL FIRE provides services from west of the electrical transmission lines located west of I-5 to the Mendocino National Forest (Norcalscan.org, 2009a).

Colusa County

Fire protection services in Colusa County are provided by rural districts, city fire departments, CAL FIRE, and USFS. There are mutual aid agreements between most of the agencies to ensure that adequate personnel and equipment can be provided when a fire occurs (Colusa County, 1989).

The Colusa Rural Fire District consolidated with Grand Island Fire District to form the Sacramento River Fire District. The Sacramento River Fire District provides fire protection services to the rural portions of Colusa County. The Sacramento River Fire District, as well as the fire districts that serve the towns in Colusa County, are dispatched by the Colusa County Sheriff's Department (Norcalscan.org, 2009b).

29.2.3.2 Utilities

Water

Glenn County

The eastern portion of the County overlies the Sacramento Valley Groundwater Basin, which contains abundant supplies of good quality groundwater to depths of 800 feet. Groundwater is the primary source of domestic water supply in the County, and is also used for irrigation in areas where surface water is not available (Glenn County, 1993a). There are 17 municipal wells serving Willows, Hamilton City, and Orland. These wells range in depth from an average of 250 to 500 feet. There are 46 industrial wells in the County; they have an average depth of 250 feet (Messina, 2010, pers. comm.).

The Sacramento River is the primary source of surface irrigation water in Glenn County; approximately 30 percent of the agricultural irrigation supply comes from groundwater. Water from the river is diverted into the Glenn-Colusa Irrigation District (GCID) Main Canal and Tehama-Colusa Canal. The majority of the County's total water supply from the Sacramento River and the GCID Main Canal is directed to agricultural uses. The breakdown of surface water and groundwater deliveries by land use are listed in Table 29-5.

Table 29-5
Glenn County Water Supply Statistics

Land Use	Applied Water (acre-feet)			Percent Surface Water	Percent Groundwater
	Surface	Ground	Total		
Agricultural	657,300	247,900	905,200	73	27
Municipal/Industrial	0	9,200	9,200	0	100
Total	657,300	257,100	914,400	72	28

Source: California Department of Water Resources (DWR), 2011.

The County has approximately 34 municipal water supply systems that serve approximately 89 percent of the County's residents. Table 29-6 lists the active water systems within Glenn County.

Table 29-6
Active Water Systems in Glenn County

Water System Name	Population Served	Primary Water Source Type	Water System ID
Community Water Systems[a]			
Artois Community Service District	100	Groundwater	CA1100203
Black Butte Mobile Home Park	94	Groundwater	CA1100405
Black Butte Water Company	249	Groundwater	CA1100404
Cal-Water Service Company-Willows	6,680	Groundwater	CA1110003
Country Leisure Mobile Estates	40	Groundwater	CA1100413
Elk Creek Community Service District	300	Surface water	CA1100616
Orland Estates Mobile Home Park	150	Groundwater	CA1100444
Orland Mobile Home Park	95	Groundwater	CA1100445
Shady Oaks Trailer Park	48	Groundwater	CA1100452
T&J Mobile Home Park	150	Groundwater	Ca1100436

Water System Name	Population Served	Primary Water Source Type	Water System ID
Voyles Trailer Park	15	Groundwater	CA1100254
Willow Glenn Mobile Home Park	150	Groundwater	CA1100237
Non-transient Non-community Water Systems[b]			
Capay Joint Union Elementary School	172	Groundwater	CA1100527
Golden Pheasant Inn	25	Groundwater	CA1100159
Haigh Field Industrial Park	30	Groundwater	CA1105003
Johns Manville	200	Groundwater	CA1100232
Lake Elementary School	150	Groundwater	CA1100440
Plaza Elementary School	150	Groundwater	CA1100448
River Valley Christian School	60	Groundwater	CA1100749
Valley View Conservation Camp	130	Groundwater	CA1110800
Transient Non-community Water Systems[c]			
Afton Store	25	Groundwater	CA1100709
Black Butte Lake, Orland Buttes Recreation Area, U.S. Army Corps of Engineers	150	Groundwater	CA1100642
Caltrans-Willows Reststop-Northbound	7,500	Groundwater	CA1100257
Caltrans-Willows Reststop-Southbound	7,500	Groundwater	CA1100258
Glenn Golf & Country Club	50	Groundwater	CA1100221
Irvine Finch River Access	200	Groundwater	CA1110300
Old Orchard RV Park	25	Groundwater	CA1100460
Orland Livestock Commission Yard, Inc.	100	Groundwater	CA1100443
River Glenn	25	Groundwater	CA1100208
Sacramento National Wildlife Refuge	500	Groundwater	CA1100250
South Willows Industrial Park	60	Groundwater	CA1105001
The Parkway RV Resort	25	Groundwater	CA1100439
Thunderhill Raceway Park – Sports Car Club of America, San Francisco Region	750	Groundwater	CA1100229
Uncle Chong's Chinese Restaurant	25	Groundwater	CA1100406

[a]Community Water Systems: Water systems that serve the same people year-round (e.g., in homes or businesses).

[b]Non-Transient Non-Community Water Systems: Water systems that serve the same people, but not year-round (e.g., schools that have their own water system).

[c]Transient Non-Community Water Systems: Water systems that do not consistently serve the same people (e.g., rest stops campgrounds, gas stations).

Note:

RV = recreation vehicle

Source: U.S. Environmental Protection Agency (USEPA), 2010.

Colusa County

Municipal and industrial water needs in Colusa County are primarily met by groundwater supply from an estimated 1,936 wells (DWR, no date). Supply is supplemented with approximately 27 percent surface water. Domestic water systems in Colusa County are supplied with groundwater from wells generally 100 to 500 feet deep. The County's water use is almost entirely agricultural. The breakdown of surface water and groundwater deliveries by land use are listed in Table 29-7.

Table 29-7
Colusa County Water Supply Statistics

Land Use	Applied Water (acre-feet)			Percent Surface Water	Percent Groundwater
	Surface	Ground	Total		
Agricultural	891,200	158,000	1,049,200	85	15
Municipal/Industrial	200	6,100	6,300	3	97
Total	891,400	164,100	1,055,500	84	16

Source: DWR, 2011.

The County has approximately 29 municipal water supply systems (USEPA, 2016). Water is supplied to Colusa County from the Tehama-Colusa Canal, the GCID Main Canal, the Colusa Basin Drain, the Sacramento River, and groundwater. The Tehama-Colusa Canal provides irrigation water to lands west of the cities of Maxwell, Williams, and Arbuckle. Agricultural water districts in Colusa County include irrigation districts, water districts, County districts, reclamation districts, levee districts, drainage districts, mutual water companies, and national wildlife refuges (Colusa County, 1989). Table 29-8 lists the active water systems within Colusa County.

Table 29-8
Active Water Systems in Colusa County

Water System Name	Population Served	Primary Water Source Type	Water System ID
Community Water Systems[a]			
Arbuckle Public Utility District	2,300	Groundwater	CA0610001
City of Colusa	5,625	Groundwater	CA0610002
City of Williams	5,250	Groundwater	CA0610004
Colusa County Service Area #1-Century Ranch	120	Groundwater	CA0600012
Colusa County Service Area #2-Stonyford	200	Groundwater	CA0600005
Colusa County Water District #1-Grimes	500	Groundwater	CA0600008
Colusa County Water District #1-Princeton	356	Groundwater	CA0600013
Del Oro Water Company-Arbuckle	136	Groundwater	CA0605011
Maxwell Public Utility District	850	Groundwater	CA0610003
Del Oro Water Co. – Walnut Ranch	182	Groundwater	CA0600011
Non-transient Non-community Water Systems[b]			
ADM Rice, Inc.	30	Groundwater	CA0605004
Colusa Industrial Properties	350	Groundwater	CA0600065
Morning Star Packing Company-Williams	355	Groundwater	CA0605002
Sun Valley Rice Company	90	Groundwater	CA0605007
Transient Non-community Water Systems[c]			
Arbuckle Golf Club	120	Groundwater	CA0600042
Caltrans-Maxwell Reststops	15,000	Groundwater	CA0600050
Colusa Landing	25	Groundwater	CA0600009
Grimes Boat and Landing	50	Groundwater	CA0600003
Kingdom Hall of Jehovah's Witness-Williams	100	Groundwater	CA0605005

Water System Name	Population Served	Primary Water Source Type	Water System ID
Menf-Fouts Springs Campground	500	Groundwater	CA0600076
Menf-Letts Lake Campground	100	Groundwater	CA0600056
Richmond Hunting Club-Arbuckle	63	Groundwater	CA0605009
Richmond Hunting Club-Maxwell	95	Groundwater	CA0605006
Terhel Farms Trailer Park 01	25	Groundwater	CA0600027
Ward's Boat Landing	25	Groundwater	CA0600001
Wilbur Hot Springs	65	Groundwater	CA0600016
Wilderness Unlimited	25	Groundwater	CA0600032
Willow Creek Mutual Water Company-Lambertville	30	Groundwater	CA0600033

[a]Community Water Systems: Water systems that serve the same people year-round (e.g., in homes or businesses).

[b]Non-Transient Non-Community Water Systems: Water systems that serve the same people, but not year-round (e.g., schools that have their own water system).

[c]Transient Non-Community Water Systems: Water systems that do not consistently serve the same people (e.g., rest stops campgrounds, gas stations).

Source: USEPA, 2016.

Wastewater

Glenn County

In Glenn County, wastewater is treated and returned to the environment using primarily on-site disposal and centralized disposal. The areas served by on-site systems are generally rural or agricultural. The centralized disposal systems are comprised of three wastewater treatment facilities and collection systems serving most of the urbanized portions of Glenn County: Willows, Orland, and Hamilton City (Glenn County, 1993b). All other waste disposal occurs in individual septic systems, with the exception of Caltrans' I-5 rest stop, Glenn Milk Producers, and Holly Sugar, which use industrial wastewater treatment ponds.

Colusa County

In Colusa County, wastewater is treated and returned to the environment using primarily on-site disposal and centralized disposal. The areas served by onsite systems are generally rural or agricultural. Although most onsite systems serve an individual dwelling or commercial establishment, some serve groups of homes or businesses. The onsite systems consist of a septic tank and a leach field (Colusa County, 1989).

Five communities are served by centralized systems: Arbuckle, Colusa, Maxwell, Princeton, and Williams. Community systems consist of a network of collection lines, a treatment facility, and a disposal system (typically evaporation ponds that are discharged to a stream or drainage channel). The Arbuckle Public Utility District provides sewer service to Arbuckle residents using a system of clay pipes that convey wastewater to a treatment plant north of town. The City of Colusa operates a wastewater treatment plant and evaporation pond system in an agricultural area approximately 1.5 miles southwest of downtown. Maxwell's wastewater treatment plant is located approximately 1 mile south of town; it has a collection system of concrete, clay, and PVC pipes. Princeton also has a wastewater treatment system. The City of Williams operates a wastewater treatment plant on a 30-acre site north of town (Colusa County, 1989).

Solid Waste

Glenn County

Glenn County has one landfill, located near Artois. The permitted site area is 356.4 acres and the permitted disposal area is 83 acres. It is permitted to receive 200 tons of waste per day. The Class III landfill has a design capacity of 2,400,000 cubic yards (cy) (California Integrated Waste Management Board [CIWMB], 2010); total estimated capacity remaining as of February 28, 2015 was 866,521 cy (CIWMB, 2016). The expected closure date was July 2016; however, the landfill was still actively operating as of December 2016. Glenn County has no plans to build a new landfill. A decision will be made by the County in the future regarding the selected method to manage waste disposal after its landfill closes. Glenn County is considering several options for replacing the landfill, including building a transfer station to transfer collected waste to landfills in other counties, using waste management companies that own or operate landfills in other counties, and adopting treatment technologies as an alternative to landfilling (Linhart, 2011, pers. comm.).

The Glenn County Public Works Department owns and operates the landfill. Collection services are provided by Waste Management of California, Inc. Self-haul loads are also accepted. The landfill only accepts "in-County" loads (Varga, 2004, pers. comm.).

In addition, in Glenn County, other active waste handling facilities include the Valley Gold Compost (composting operation for manure and green materials) (CIWMB, 2011a); Compost Solutions, Inc. (a composting operation that handles agricultural materials, green materials, and manure) (CIWMB, 2011b), and Caltrans Maintenance (a transfer and processing operation that handles metals, mixed municipal, tires, and wood waste) (CIWMB, 2011c).

Colusa County

There are four types of solid waste generated in Colusa County: residential, commercial, industrial, and natural resource byproducts[1] (Colusa County, 1989). Colusa County owns and operates the Stonyford Disposal Site, located on Lodoga Stonyford Road in Stonyford. The landfill is a 47-acre Class III facility that is permitted for up to 10 tons per day of non-hazardous waste. The mix of waste it receives includes agricultural, construction/demolition, mixed municipal, and tires. The landfill's design capacity is 149,219 cy, and the total estimated capacity used was 93,536 cy with the remaining estimated capacity of 55,683 cy as of April 30, 2001 (CIWMB, 2011d). As of 2001, the landfill's life expectancy was 63 years (closure date January 1, 2064). The landfill accepts only "in-County" loads.

Other active waste handling facilities in Colusa County include the Maxwell Transfer Station (transfer/ processing of agricultural, construction/demolition, mixed municipal, and tire waste) (CIWMB, 2011e) and Premier Mushrooms (a composting operation for agricultural waste and manure) (CIWMB, 2011f). In addition, a solid waste disposal facility is planned to be located south of the City of Colusa (CIWMB, 2011g).

Two facilities outside of Colusa County provide additional landfill capacity. Approximately 55 tons per year of waste from the City of Colusa are shipped by compactor truck to Norcal Waste Systems Ostrom

[1] Natural resource byproducts include rice stubble and straw, manure, gas well mud, cannery waste, and waste from prune dehydrators.

Road Landfill, Inc., located in Wheatland in Yuba County. In addition, the Maxwell Transfer Station sends 14,500 tons per year to the Anderson Landfill in Shasta County.

The Norcal Waste Systems Ostrom Landfill, Inc. is a 261-acre Class II facility, and can accept up to 3,000 tons of municipal solid waste per day. The facility has an expected closure date of December 31, 2066 (CIWMB, 2011h), with a total design capacity of 41,822,300 cy (CIWMB, 2002), and remaining capacity as of June 1, 2007, of 39,223,000 cy (CIWMB, 2011h).

The Anderson Landfill is a 246-acre Class III site with a design capacity of 16,353,000 cy (CIWMB, 2008). It has an expected closure date of January 1, 2055, and a total permitted capacity of 1,850 tons per day (CIWMB, 2011i). It is operated by Waste Management of California, Inc. Waste collection in Williams and in the unincorporated areas of the County is performed by Waste Management, Inc. The City of Colusa provides collection service in its jurisdiction (Colusa County, 2004).

Natural Gas

Glenn County

Natural gas is provided by PG&E in the more populated areas of Glenn County, and several propane companies serve the outlying areas of the County (Glenn County, 2010).

Colusa County

Natural Gas is provided by PG&E in the more populous areas of the County, and several propane companies serve the outlying areas in Colusa County (Colusa County, 2010). There is gas service to Maxwell, but none to the town of Sites or the proposed Sites Reservoir area. To the east of Funks Reservoir, aligned in a north/south orientation, PG&E operates two high-pressure arterial gas transmission lines that originate in Canada and serve most of northern and central California. These two lines are 42 and 36 inches in diameter, and have a right-of-way of 100 feet.

Electricity

Glenn County

Electricity is provided to the populated areas of Glenn County by PG&E (Glenn County, 2010).

Colusa County

PG&E provides electric service to Colusa County. Through the Project area in Colusa County, PG&E operates 12-kV distribution lines on rights-of-way that range from 10 to 30 feet wide. These lines serve the town of Sites and vicinity. Lines exist along the Maxwell Sites Road, and feed south in the general direction of Leesville via Huffmaster Road. In addition, the Western Area Power Administration (WAPA) operates two high-voltage transmission lines, aligned north/south and passing just east of Funks Reservoir. The 500-kV line occupies a 125-foot-wide right-of-way and is routed from the Olinda Substation to the Tracy Substation. The 230-kV line occupies a 160-foot-wide right-of-way, and is routed from Keswick to Elverta.

"Electric and magnetic field" (EMF) is a term used to describe electric and magnetic fields that are created by electric voltage (electric field) and electric current (magnetic field). EMF is a natural consequence of electrical circuits; all electric utility wires and devices generate EMFs. Electric fields are present whenever voltage is present on an energized conductor. The strength of the electric field increases

as voltage increases, and the strength of the electric field decreases as the distance between the observer and the conductor increases. Magnetic fields around transmission lines are produced by the electrical load, or the amount of current flow through the conductors, measured in terms of amperage. The strength of the magnetic field depends on the current in the conductor, the geometry of the construction, the degree of cancellation from other conductors, and the distance the observer is from the conductors or cables. However, unlike voltage, the amperage, and therefore the magnetic field around a transmission line, fluctuate hourly and daily, as current flow varies (Tri State Generation and Transmission Association, 2012). Overhead powerlines are located throughout the Primary Study Area.

Telephone

Glenn County

In Glenn County, telephone service is provided by AT&T and Comcast (Glenn County, 2010).

Colusa County

In Colusa County, telephone service is provided by AT&T, Comcast, and Frontier Communications Solutions (Colusa County, 2010).

In the Project vicinity, telephone service is provided by Frontier Communications via buried lines in the town of Sites and in the valley. On Maxwell Sites Road, from the town of Maxwell, there is buried cable in the County road easement west to the town of Sites. In the town of Sites, there is a combination of buried and overhead cable on power poles serving the existing homes. West toward Lodoga there is a buried telephone cable in the County road for approximately 1 mile, and then on to private property for approximately 1 mile. Facilities also are located south on Huffmaster Road within the County right-of-way for 6.5 miles. Taps serve local ranches and a radio antenna site on PG&E poles.

Cable

Glenn County

Cable service in Glenn County is provided both individually and in tandem with telephone service by Comcast Cable and AT&T. Cable is available in most urban and urban-rural areas (Glenn County, 2010).

Colusa County

In Colusa County, cable TV service is provided individually by Comcast Cable, and is also provided in tandem with telephone service by Comcast Cable. Cable is available in most urban and urban-rural areas, but is not provided to the town of Sites, or nearby. Internet service is provided by a variety of DSL and cable internet service providers, including HughesNet Services, People PC Online, and in tandem with telephone service by Comcast and Frontier Communications Solutions (Colusa County, 2010).

29.3 Environmental Impacts/Environmental Consequences

29.3.1 Evaluation Criteria and Significance Thresholds

Significance criteria represent the thresholds that were used to identify whether an impact would be potentially significant. Appendix G of the *CEQA Guidelines* suggests the following evaluation criteria for public services and utilities:

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 potentially significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
  - Fire protection?
  - Police protection?
  - Schools?
  - Parks?
  - Other public facilities?
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB)?
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause potentially significant environmental effects?
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause potentially significant environmental effects?
- Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?
- 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?

The evaluation criteria used for this impact analysis represent a combination of the Appendix G criteria and professional judgment that considers current regulations, standards, and/or consultation with agencies, knowledge of the area, and the context and intensity of the environmental effects, as required pursuant to the National Environmental Policy Act. For the purposes of this analysis, an alternative would result in a potentially significant impact if it would result in any of the following:

- A substantial adverse physical impact associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities (the construction of which could cause potentially significant environmental impacts) in order to maintain acceptable service ratios, response times, or other performance objectives for the following public services: fire protection, police protection, schools, parks, and/or other public facilities, and disruptions to local or regional utility services.
- A decline in property tax or fee revenues that would lead to a substantial decrease in public services
- Exceed the wastewater treatment requirements of the applicable RWQCB.

- The need for expansion of existing wastewater treatment, water treatment, stormwater, and/or landfill facilities.
- Require new or expanded water supply entitlements and resources.
- Non-compliance with federal, State, and local statutes and regulations related to solid waste.

29.3.2 Impact Assessment Assumptions and Methodology

Combinations of Project facilities were used to create Alternatives A, B, C, C_1, and D. In all resource chapters, the Sites Project Authority and Reclamation described the potential impacts associated with the construction, operation, and maintenance of each of the Project facilities for each of the five action alternatives. Some Project features/facilities and operations (e.g., reservoir size, overhead power line alignments, provision of water for local uses) differ by alternative, and are evaluated in detail within each of the resource areas chapters. As such, the Sites Project Authority has evaluated all potential impacts with each feature individually, and may choose to select or combine individual features as determined necessary.

Impacts associated with the construction, operation, and maintenance for Alternative C_1 would be the same as Alternative C and are therefore not discussed separately below.

29.3.2.1 Assumptions

The following assumptions were made regarding Project-related construction, operation, and maintenance impacts on public services and utilities:

- Direct Project-related construction, operation, and maintenance activities would occur in the Primary Study Area.
- Direct Project-related operational effects would occur in the Secondary Study Area.
- The only direct Project-related construction activity that would occur in the Secondary Study Area is the installation of two additional pumps into existing bays at the Red Bluff Pumping Plant.
- The only direct Project-related maintenance activity that would occur in the Secondary Study Area is the sediment removal and disposal at the intake location (Red Bluff Pumping Plant).
- No direct Project-related construction or maintenance activities would occur in the Extended Study Area.
- Direct Project-related operational effects that would occur in the Extended Study Area are related to San Luis Reservoir operation; increased reliability of water supply to agricultural, municipal, and industrial water users; and the provision of an alternate Level 4 wildlife refuge water supply. Indirect effects on the operation of certain facilities that are located in the Extended Study Area, and indirect effects on the consequent water deliveries made by those facilities, would occur as a result of implementing the alternatives.
- The existing bank protection located upstream of the proposed Delevan Pipeline Intake/Discharge Facilities would continue to be maintained and remain functional.
- No additional channel stabilization, grade control measures, or dredging in the Sacramento River at or upstream of the Delevan Pipeline Intake/Discharge Facilities would be required.

29.3.2.2 Methodology

Existing conditions and the future No Project/No Action alternatives were assumed to be similar in the Primary Study Area given the generally rural nature of the area and limited potential for growth and development in Glenn and Colusa counties within the 2030 study period used for this EIR/EIS as further described in Chapter 2 Alternatives Analysis. As a result, within the Primary Study Area, it is anticipated that the No Project/No Action Alternative would not entail material changes in conditions as compared to the existing conditions baseline.

With respect to the Extended and Secondary study areas, the effects of the proposed action alternatives would be primarily related to changes to available water supplies in the Extended and Secondary study areas and the Project's cooperative operations with other existing large reservoirs in the Sacramento watershed, and the resultant potential impacts and benefits to biological resources, land use, recreation, socioeconomic conditions, and other resource areas. The Department of Water Resources has projected future water demands through 2030 conditions that assume the vast majority of Central Valley Project (CVP) and State Water Project (SWP) water contractors would use their total contract amounts, and that most senior water rights users also would fully use most of their water rights. This increased demand in addition to the projects currently under construction and those that have received approvals and permits at the time of preparation of the EIR/EIS would constitute the No Project/No Action Condition. As described in Chapter 2 Alternatives Analysis, the primary difference in these projected water demands would be in the Sacramento Valley; and as of the time of preparation of this EIR/EIS, the water demands have expanded to the levels projected to be achieved on or before 2030.

Accordingly, existing conditions and the No Project/No Action alternatives are assumed to be the same for this EIR/EIS and as such are referred to as the Existing Conditions/No Project/No Action Condition, which is further discussed in Chapter 2 Alternatives Analysis. With respect to applicable reasonably foreseeable plans, projects, programs and policies that may be implemented in the future but that have not yet been approved, these are included as part of the analysis of cumulative impacts in Chapter 35 Cumulative Impacts.

The evaluation of potential Project-related construction, operation, and maintenance impacts on public services was conducted by comparing existing facilities and levels of services identified above for the Environmental Setting/Affected Environment (considered the Existing Conditions/No Project/No Action Condition for public services) discussion with anticipated Project construction, operation, and maintenance activities to assess the potential for service disruptions.

29.3.3 Topics Eliminated from Further Analytical Consideration

No Project facilities or topics that are included in the significance criteria listed above were eliminated from further consideration in this chapter.

29.3.4 Impacts Associated with Alternative A

29.3.4.1 Extended Study Area – Alternative A

Construction, Operation, and Maintenance Impacts

Agricultural Water Use, Municipal and Industrial Water Use, Wildlife Refuge Water Use, and San Luis Reservoir

Impact Services-1: A Substantial Adverse Physical Impact Associated with the Provision of New or Physically Altered Governmental Facilities or the 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 the Following Public Services: Fire Protection, Police Protection, Schools, Parks, and/or Other Public Facilities, and Disruptions to Local or Regional Utility Services

There would be no direct Project-related construction or maintenance occurring within the CVP and SWP service areas of the Extended Study Area. Therefore, implementation of Alternative A would not create demand for new or physically altered governmental facilities in the Extended Study Area, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Operation of San Luis Reservoir under Alternative A would result in surface water elevation fluctuations that are within the historical range. Project operation would also result in increased water supply reliability to agricultural, municipal, and industrial users and provide an alternate water supply source for the wildlife refuges in the Extended Study Area and increased SWP and CVP exports which could result in negligible increases to recreation visitors at these facilities. These operations, however, would not be expected to change the demand for public services or disrupt utility services to the extent that new or physically altered governmental facilities would be required, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-2: A Decline in Property Tax or Fee Revenues that Would Lead to a Substantial Decrease in Public Services

Project construction, operation, and maintenance activities would affect the regional economic condition (including property taxes and other revenues) of the Extended Study Area through operation expenditures occurring where SWP and CVP facilities are re-operated as a result of the Project. The magnitude of the economic impacts and their associated effects on public services would be negligible when compared to the regional economy of the Extended Study Area. Providing increased water supply reliability to agricultural, municipal, and industrial users, and an alternate water supply source for the wildlife refuges in the Extended Study Area would have no effect on property taxes or other revenues. Therefore, this would be a **less-than-significant impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-3: Exceed the Wastewater Treatment Requirements of the Applicable Regional Water Quality Control Board

Because no direct Project-related construction and/or maintenance work within the CVP and SWP service areas of the Extended Study Area is expected, there would be **no impact** on wastewater treatment agencies' abilities to meet wastewater treatment requirements.

The anticipated changes in San Luis Reservoir operation, the increased reliability of water supply, and an alternate water supply for wildlife refuges, from implementing Alternative A, are not expected to affect the amount of wastewater that is currently generated or treated, nor would they affect the wastewater treatment requirements in the Extended Study Area. They would also not affect the abilities of wastewater treatment agencies in the Extended Study Area to meet existing wastewater treatment requirements because existing population growth rates throughout the Extended Study Area are not expected to change as a result of implementing Alternative A. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

The potential increased recreation use at the export service area reservoirs within the Extended Study Area (refer to **Impact Services-1**) would be negligible and would not affect the amount of wastewater that is currently generated or treated, nor would it affect the wastewater treatment requirements in the Extended Study Area. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-4: The Need for Expansion of Existing Wastewater Treatment, Water Treatment, Stormwater, and/or Landfill Facilities

Because no direct Project-related construction and/or maintenance work within the SWP and CVP service areas of the Extended Study Area is expected, there would be **no impact** on utilities that manage wastewater treatment facilities, water treatment facilities, stormwater systems, and/or landfills when compared to the Existing Conditions/No Project/No Action Condition.

The predicted changes in San Luis Reservoir operation are not expected to change the public's recreation use at the reservoir, resulting in **no impact** on existing wastewater treatment, water treatment, stormwater, and/or landfill facilities in that area. Similarly, the increased reliability of agricultural and M&I water supply from implementing Alternative A, the alternate source of water supply to the wildlife refuges, and the water deliveries to SWP and CVP contractors are expected to result in **no impact** on wastewater treatment, water treatment, stormwater, or landfill facilities in the Extended Study Area when compared to the Existing Conditions/No Project/No Action Condition because existing population growth rates throughout the Extended Study Area are not expected to change as a result of implementing Alternative A.

Impact Services-5: Require New or Expanded Water Supply Entitlements and Resources

When compared to the Existing Conditions/No Project/No Action Condition, Project operation would result in a **beneficial impact** by providing an alternative source of water supply and subsequently reducing reliance on groundwater in the Extended Study Area in locations where water is provided by the SWP or CVP. With increased water supply reliability to SWP and CVP water contractors, shortages in deliveries may decrease if Alternative A is implemented.

In addition, the expected changes in San Luis Reservoir operation from implementing Alternative A, as well as providing an alternate water supply source for the wildlife refuges in the Extended Study Area, would not cause total deliveries to any contract to exceed existing contract quantities. San Luis Reservoir would be operated such that there would be more frequent and larger water level fluctuations than currently occurs as a result of the increases in deliveries associated with these contracts. Therefore, there would be **no impact** on water supply entitlements and resources when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-6: Non-compliance with Federal, State, and Local Statutes and Regulations Related to Solid Waste

Because no direct Project construction, operation, and/or maintenance work within the CVP and SWP service areas of the Extended Study Area would occur with implementation of Alternative A, complying with federal, State, and local statutes and regulations pertaining to solid waste in the Extended Study Area would not be an issue. There would, therefore, be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

The expected changes in San Luis Reservoir operation, the increased reliability of water supply from implementing Alternative A, and providing an alternate source of wildlife refuge water supply in the Extended Study Area are not expected to affect solid waste facilities or transporters located in or serving the Extended Study Area. In addition, they would not restrict the facilities or transporters from complying with federal, State, and local solid waste regulations. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

29.3.4.2 Secondary Study Area – Alternative A

Construction, Operation, and Maintenance Impacts

Trinity Lake, Lewiston Lake, Trinity River, Klamath River downstream of the Trinity River, Whiskeytown Lake, Spring Creek, Shasta Lake, Keswick Reservoir, Sacramento River, Clear Creek, Lake Oroville, Thermalito Complex (Thermalito Diversion Pool, Thermalito Forebay, and Thermalito Afterbay); Feather River; Sutter Bypass; Yolo Bypass; Folsom Lake; Lake Natoma; American River; Sacramento-San Joaquin Delta; Suisun Bay; San Pablo Bay; and San Francisco Bay

Impact Services-1: A Substantial Adverse Physical Impact Associated with the Provision of New or Physically Altered Governmental Facilities or the 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 the Following Public Services: Fire Protection, Police Protection, Schools, Parks, and/or Other Public Facilities, and Disruptions to Local or Regional Utility Services

No Project construction would occur within the Secondary Study Area at any of the above-listed facilities or areas. Therefore, implementation of Alternative A would not create demand for new or physically altered governmental facilities, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Implementation of Alternative A would result in operational changes to the SWP and CVP facilities, including altered flows and temperatures and improved storage conditions in Trinity Lake, Shasta Lake, and other recreational areas in the Secondary Study Area. These operational changes and any negligible increase in recreation use are not expected to disrupt local or regional utility providers or require new or physically altered governmental facilities, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-2: A Decline in Property Tax or Fee Revenues that Would Lead to a Substantial Decrease in Public Services

No Project construction would occur within the Secondary Study Area at any of the above-listed facilities or areas, so no change in property taxes or other revenues are expected that would affect public services. Therefore, **no impact** on public services is expected when compared to the Existing Conditions/No Project/No Action Condition.

Integrated Project operation with existing SWP and CVP facilities may affect the operations and maintenance costs of public services and utilities for those facilities within the Secondary Study Area. However, the magnitude of the economic impacts and their associated effects on public services would be minor and no change in property taxes or other revenues are expected. Therefore, **no impact** on public services is expected when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-3: Exceed the Wastewater Treatment Requirements of the Applicable Regional Water Quality Control Board

No Project construction would occur within the Secondary Study Area at any of the above-listed facilities or areas, so **no impact** on wastewater is expected when compared to the Existing Conditions/No Project/No Action Condition.

Alternative A would provide improved storage to Trinity Lake, Shasta Lake, and other recreational areas in the Secondary Study Area; however, the improved storage conditions are not expected to increase recreation use to a level that would affect the amount of wastewater that is currently generated or treated, nor would it affect the wastewater treatment requirements in the Secondary Study Area. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-4: The Need for Expansion of Existing Wastewater Treatment, Water Treatment, Stormwater, and/or Landfill Facilities

No Project construction would occur within the Secondary Study Area at any of the above-listed facilities or areas, so **no impact** on wastewater treatment, water treatment, stormwater, or landfill facilities is expected when compared to the Existing Conditions/No Project/No Action Condition.

The improved storage conditions at Secondary Study Area facilities that would be provided by Alternative A would not increase recreation use at the above-listed facilities to a level that would affect the amount of wastewater or refuse that is currently generated or treated/disposed of in the Secondary Study Area. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Depending on a given municipality or water user's needs, decisions will continue to be made related to recycling, conservation, and other improvements to their water systems to accommodate planned population growth and maintain reliability in their systems. Increased water supply reliability from the Project would be an additional alternative water supply option. This additional option would not be anticipated to substantially affect wastewater/water treatment, stormwater, and/or landfill facilities and as such there would be a **less-than-significant impact** on the need to expand existing facilities when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-5: Require New or Expanded Water Supply Entitlements and Resources

Implementation of Alternative A would result in operational changes to the CVP and SWP facilities (e.g., increased storage at reservoirs and altered flow regimes on rivers and in the bypasses) within the Secondary Study Area. These operational changes would not require new or expanded water supply entitlements/resources, resulting in a **beneficial impact** when compared to the Existing Conditions/No Project/No Action Condition.

Implementation of any of the alternatives would require authorization from the State Water Resources Control Board (SWRCB), Division of Water Rights (Division) in the form of a permit to divert and store water which would eventually be perfected to a license. The Authority is currently coordinating with the SWRCB Division related to previous water rights filings to support the proposed Sites Reservoir and operation. The filing would include submitting a petition for assignment, likely in the form of an application. Once filed, the SWRCB Division would notice the application which would provide an opportunity for public review. The process allows for the filing of protests based on perceived injury to legal users of water or based on environmental impacts. The Authority would be required to resolve all protests (which could result in a hearing to resolve concerns) prior to receiving authorization for the Project. Final authorization would require resolution of all concerns which would be included as terms and conditions in the water rights authorizing the Project. As such, there would be a **less-than-significant impact** to existing water supply entitlements and resources compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-6: Non-compliance with Federal, State, and Local Statutes and Regulations Related to Solid Waste

Because no direct Project construction and/or maintenance work at the above-listed facilities in the Secondary Study Area would occur with implementation of Alternative A, complying with federal, State, and local statutes and regulations pertaining to solid waste in the Secondary Study Area would not be an issue. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition. Increased storage at CVP and SWP reservoirs and altered flow regimes on rivers and in the bypasses in the Secondary Study Area is not relevant to solid waste regulations, so there would be **no impact** on compliance with such regulations when compared to the Existing Conditions/No Project/No Action Condition.

Pump Installation at the Red Bluff Pumping Plant

Impact Services-1: A Substantial Adverse Physical Impact Associated with the Provision of New or Physically Altered Governmental Facilities or the 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 the Following Public Services: Fire Protection, Police Protection, Schools, Parks, and/or Other Public Facilities, and Disruptions to Local or Regional Utility Services

The only direct Project-related construction that would occur in the Secondary Study Area is the installation of two pumps into existing bays at the Red Bluff Pumping Plant. These pumps would be installed at an existing plant, requiring few pieces of equipment, limited construction activities, and a short construction period. Therefore, the pump installation would not result in a substantial adverse physical impact from new or physically altered governmental facilities nor create demand for new or physically altered governmental facilities, resulting in **no impact** when compared to the Existing

Conditions/No Project/No Action Condition. The operation and maintenance activities associated with the new pumps, or as part of the larger pumping plant's operation, would also result in **no impact** on public services and utilities.

Impact Services-2: A Decline in Property Tax or Fee Revenues that Would Lead to a Substantial Decrease in Public Services

The installation of two pumps at the existing Red Bluff Pumping Plant would have minimal, if any, effects on property taxes and other revenues within the Secondary Study Area. In addition, the pump operation and maintenance, and continued sediment removal at the canal intakes, as part of the existing pumping plant's operation and maintenance, would not affect property taxes or revenues within the Secondary Study Area. Therefore, there would be **no impact** on public services when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-3: Exceed the Wastewater Treatment Requirements of the Applicable Regional Water Quality Control Board

The pump installation, operation, and maintenance, and continued sediment removal at the canal intakes, would have no effect on the wastewater treatment requirements for the Secondary Study Area. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-4: The Need for Expansion of Existing Wastewater Treatment, Water Treatment, Stormwater, and/or Landfill Facilities

The pumps would be installed at an existing pumping plant, requiring limited equipment, limited construction activities, and short construction duration. Its installation, operation, and maintenance, and continued sediment removal at the canal intakes, would not require expansion of utility facilities. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-5: Require New or Expanded Water Supply Entitlements and Resources

The pump installation, operation, and maintenance, and continued sediment removal at the canal intake, would not require new or expanded water supply entitlements and resources. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-6: Non-compliance with Federal, State, and Local Statutes and Regulations Related to Solid Waste

Complying with solid waste regulations is not related to the installation of pumps into an existing pumping plant, the maintenance of the pumps and the two canal intakes, or the pumps' operation. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

29.3.4.3 Primary Study Area – Alternative A

Construction, Operation, and Maintenance Impacts

Potential impacts on public services and utilities from construction, operation, and maintenance of the Project facilities are discussed below.

All Primary Study Area Project Facilities

Impact Services-1: A Substantial Adverse Physical Impact Associated with the Provision of New or Physically Altered Governmental Facilities or the 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 the Following Public Services: Fire Protection, Police Protection, Schools, Parks, and/or Other Public Facilities, and Disruptions to Local or Regional Utility Services

Schools, Police Protection, Fire Protection, and/or Other Public Facilities

During construction of the Sites Reservoir Inundation Area and Sites Dam, the existing western portion of Maxwell Sites Road and the portion of Sites Lodoga Road that currently crosses Antelope Valley would ultimately be demolished and removed. The proposed South Bridge would be constructed and operational prior to the portions of these roads being removed. The new route that would include South Bridge would be approximately 2 miles longer than the existing route. The slightly longer route would have a minimal effect on bus services provided by the Maxwell Unified School District and on emergency service response times and therefore would not require new or physically altered government facilities, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Access to the west side of the proposed Sites Reservoir, including to the town of Lodoga, from the east side and the southern portion of Sites Reservoir during the construction of South Bridge would be via the existing routes. Sulphur Gap Road would be constructed prior to the demolition and removal of the portion of Huffmaster Road that crosses the proposed Sites Reservoir footprint to maintain access to residences near the southern portion of the reservoir footprint and to the town of Leesville. Scheduling the construction of the South Bridge and Sulphur Gap Road early in the Project construction period, thus maintaining access within and across Antelope Valley, would allow emergency service providers to maintain acceptable response times during Project construction. Consequently, there would be no need for new or physically altered governmental facilities to maintain response times, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

During Project construction, traffic levels on local roads leading to all of the Project facilities would increase. This increased traffic could have an adverse effect on emergency service providers' ability to maintain acceptable response times during Project construction. However, construction traffic levels would not be expected to disrupt emergency service response to the point that would require the construction or expansion of government facilities, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Construction of all of the Project facilities associated with implementation of Alternative A would span a 10-year construction period. The temporary addition of construction workers during this period would not be expected to result in a substantial increase in demand for new or extended public services, or require additional schools. Similarly, Project operation and maintenance would require only 40 permanent employees, which would not be expected to result in a substantial increase in demand for public services or schools or generate traffic levels that would interfere with emergency services and, therefore, would not require new or altered governmental facilities, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

During construction, operation, and maintenance of Alternative A, adequate emergency access would be maintained to individual landowner properties located along routes to Project facilities that are outside of

the Sites Reservoir Inundation Area. Therefore, there would not be a need for new or altered government facilities, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Because Sites Reservoir is expected to attract approximately 200,000 recreationists per year during its operation, traffic is expected to increase on Maxwell Sites Road and County Roads 68, 69, and D during Project operation, primarily Fridays through Sundays during the recreation season (refer to Chapter 26 Navigation, Transportation, and Traffic). This increase in traffic levels would not be substantial enough to require the construction or expansion of government facilities to maintain adequate response times, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

The increased number of visitors to the area due to the new recreation opportunities would be unlikely to increase the demand for fire protection, police protection, or emergency medical services, given that visitation would be seasonal. The emergency and law enforcement response to Sites Reservoir and associated Project facilities would be provided by numerous, existing agencies, including the Glenn or Colusa county sheriff's departments, municipal police departments, CHP, USFS, CDFW State Parks, CAL FIRE, city fire departments, volunteer fire departments or fire protection districts, or a combination thereof through mutual aid agreements. Given that the seasonal increase in service calls generated by the Project would be spread among several agencies, the increased demand on public service providers is not expected to result in the need for new or altered governmental facilities to maintain adequate service ratios. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Local or Regional Utility Services

Construction of the Sites Reservoir Inundation Area and Sites Dam would eliminate the existing access to the communication tower array on Logan Ridge (southeast side of the proposed Sites Reservoir). However, an alternate new road (Com Road) would be constructed outside of the reservoir footprint to allow continued maintenance access to the communication tower and therefore would not result in a disruption to this utility requiring a new or expanded government facility. This would, therefore, result in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

The Project construction ground-disturbing activities, such as excavation and trenching, associated with the Delevan and terminal regulating reservoir (TRR) pipeline installation and the construction of the foundations for the South Bridge and high voltage Sites/Delevan Overhead Power Line towers have the potential to temporarily interrupt local electrical, cable, and gas utilities. However, these activities would not require the construction of new or physically altered government facilities, which would have the potential to result in potentially significant environmental impacts, in order to re-establish utility services; therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Construction of the Sites Reservoir Inundation Area and the associated Road Relocations and South Bridge is expected to disrupt operation of utilities and eliminate existing access roads at those facility locations. However, all parcels within the Sites Reservoir Inundation Area footprint would be acquired for the Project, and the structures within the Reservoir Inundation Area would be demolished. Therefore, new or expanded facilities would not be required, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Construction could require the relocation of several transmission lines, transmission towers, and natural gas pipelines; however, construction would be coordinated with WAPA, PG&E, and other appropriate entities to avoid potential disruption to either of these utilities. As such, no new or expanded government facilities would be required to restore utility services, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Additionally, CPUC has repeatedly recognized that EMF is not an environmental impact to be analyzed in the context of CEQA because there is no agreement among scientists that EMF creates a potential health risk, and there are no defined or adopted CEQA standards for defining health risk from EMF[2, 3, 4]. Preparation of a Field Management Plan that indicates the no-cost and low-cost EMF measures that will be installed as part of the final engineering design for the project is also required[5, 6]. The Field Management Plan typically evaluates the no-cost and low-cost measures considered for the project, the measures adopted, and reasons that certain measures were not adopted, and will be prepared during detailed project design.

Utilities such as PG&E minimize the potential for EMF generation as part of standard design. As there is no applicable EMF criteria, and EMF minimization measures will be implemented, the overhead power lines would be anticipated to result in a **less-than-significant impact** with respect to EMF when compared to the Existing Conditions/No Project/No Action Condition.

The Project Buffer would surround the Project facilities; within that buffer, during Project construction, all existing structures and utilities would be removed, and a perimeter fence would be installed. Because the buffer lands between the Project facility footprints and the buffer boundary would be acquired for the Project prior to the removal of utilities. Therefore, no new or expanded facilities would be required during Project construction, operation, or maintenance, and there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

During Project construction activities, all potential utilities would be identified and addressed, and these issues would be resolved prior to the commencement of operations and maintenance activities. Therefore, these activities would result in no need for new or expanded government facilities to restore service and **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-2: A Decline in Property Tax or Fee Revenues that Would Lead to a Substantial Decrease in Public Services

Project-related land acquisition required for implementation of Alternative A would result in a decrease in property tax receipts in the Primary Study Area. The annual property tax amount that would be removed from the Glenn County annual tax revenues would be $28,428, or approximately 0.033 percent, of the overall revenues for Glenn County. The annual property tax amount that would be removed from the Colusa County annual tax revenues due to the Project would be $252,366, or approximately 0.415 percent, of the overall revenues for Colusa County. These annual tax revenue losses are not expected to affect funding to the point where it would substantially decrease public services, resulting in a

2 CPUC Decision No. 04-07-027 (July 16, 2004)

3 Delta DPA Capacity Increase Substation Project Final Mitigated Negative Declaration and Supporting Initial Study (November 2006)

4 A. 05-06-022, Section B.1.14.1, page B-31, adopted in Decision 07-03-009 (March 1, 2007)

5 CPUC Decision No. D. 06-01-042 (January 26, 2006)

6 CPUC General Order 131-D, Section X(A) (June 8, 1994)

less-than-significant impact on public services when compared to the Existing Conditions/No Project/ No Action Condition.

Impact Services-3: Exceed the Wastewater Treatment Requirements of the Applicable Regional Water Quality Control Board

Project construction, operations, and maintenance of the proposed facilities included in Alternative A would not generate wastewater that would exceed RWQCB requirements. During Project construction, portable toilets would be located at Project facility sites and would be serviced by an appropriate provider, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

During Project operations and maintenance, minimal wastewater would be generated by the Project, with the majority generated at the Recreation Areas, and smaller amounts generated at the staffed Field Office Maintenance Yard, TRR Pumping/Generating Plant, and Delevan Pipeline Intake/Discharge Facilities. The Recreation Areas would have vault toilets, and the two recreation areas that would provide potable water would have their own water treatment systems. The Field Office Maintenance Yard would have its own septic system, and the TRR Pumping/Generating Plant and Delevan Pipeline Intake/Discharge Facilities would have portable toilets. These Project facilities would, therefore, have **no impact** on wastewater treatment agencies' abilities to meet wastewater treatment requirements when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-4: The Need for Expansion of Existing Wastewater Treatment, Water Treatment, Stormwater, and/or Landfill Facilities

During Project construction of the proposed facilities included in Alternative A, portable toilets would be provided at all proposed facility construction sites. Water would be provided by truck (or from the Sacramento River for in-river or near-river construction activities). No stormwater facilities exist at the Project facility locations. At most of the Project facility sites, minimal construction debris would be generated because the sites are currently undeveloped. In addition, excavated materials are expected to be re-used during Project construction to the extent feasible. Construction debris from the demolition of existing structures and fencing within the Sites Reservoir Inundation Area and from demolition of existing structures within the footprints of other Project facilities would be transported and disposed of at suitable landfills. Wood, metal, and other materials would be recycled. Adequate landfill capacity exists in the Primary Study Area to accommodate the construction debris that would be generated. Therefore, expansion of existing wastewater treatment, water treatment, and landfill facilities would not be needed, resulting in **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

During Project operations and maintenance, wastewater and solid waste would be generated at the Recreation Areas (vault toilets would be installed there) and the Field Office Maintenance Yard (which includes an on-site septic system). Wastewater would also be generated at the TRR Pumping Generating Plant and the Delevan Pipeline Intake/Discharge Facilities (portable toilets would be provided). Water treatment that would be needed at the two recreation areas that would provide potable water would have their own water treatment systems. Stormwater management is included in the Project to minimize erosion. The need to provide wastewater and solid waste utility services during Project operations and maintenance would not necessitate the expansion of existing local or regional wastewater treatment and/or landfill facilities. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Impact Services-5: Require New or Expanded Water Supply Entitlements and Resources

During Project construction of proposed facilities included in Alternative A, water that is needed at Project facility sites would be provided by truck or other local sources with agreements with local entities and/or landowners as necessary. No new or expanded water supply entitlements and resources would be necessary for Project construction, resulting in **no impact** when compared to the Existing Conditions/ No Project/No Action Condition.

The Project's operations and maintenance would require new or modified water rights, water supply, and operating agreements. The specific conditions of these rights and agreements are not known at this time. It is anticipated that these rights and agreements would be formulated to protect existing beneficial uses associated with existing water rights, and that the action to obtain new or modified water rights, water supply, and operating agreements would be evaluated pursuant to the State's water rights laws. Therefore, there would be **a less-than-significant impact** when compared to the Existing Conditions/ No Project/No Action Condition.

Impact Services-6: Non-compliance with Federal, State, and Local Statutes and Regulations Related to Solid Waste

Complying with federal, State, and local statutes and regulations pertaining to solid waste is not expected to be an issue for the Project because construction contractors would be required to dispose of construction waste in accordance with federal, State, and local regulations, as a requirement of the Project construction contract specifications. In addition, adequate landfill capacity exists in the Primary Study Area to accommodate the construction debris that would be generated. Therefore, would be **no impact** when compared to the Existing Conditions/No Project/No Action Condition.

Project operations, including trash removal at recreation areas and debris removal from boat ramps, reservoirs, and dam embankments, would not adversely affect solid waste facilities or transporters located in or serving the Primary Study Area because adequate capacity exists in existing local landfills, and waste would be delivered to the landfills using appropriate transporters. In addition, Project operations would not restrict the facilities or transporters from complying with federal, State, and local solid waste regulations. Therefore, there would be **no impact** when compared to the Existing Conditions/No Project/ No Action Condition.

29.3.5 Impacts Associated with Alternative B

29.3.5.1 Extended and Secondary Study Areas – Alternative B

Construction, Operation, and Maintenance Impacts

The impacts associated with Alternative B, as they relate to physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**); property tax or fee revenues affecting public services (**Impact Services-2**); wastewater treatment requirements of the applicable RWQCB (**Impact Services-3**); the need to expand existing wastewater treatment, water treatment, stormwater, and/or landfill facilities (**Impact Services-4**); water supply entitlements and resources (**Impact Services-5**); and compliance with federal, State, and local solid waste statutes and regulations

(**Impact Services-6**); would be the same as described for Alternative A for the Extended and Secondary study areas.

29.3.5.2 Primary Study Area – Alternative B

Construction, Operation, and Maintenance Impacts

Most Project facilities would be the same for Alternatives A and B (see Chapter 3 Description of the Sites Reservoir Project Alternatives, Table 3-1). These facilities would require the same construction methods and operation and maintenance activities regardless of alternative, and would therefore, result in the same construction, operation, and maintenance impacts on public services and utilities.

Alternative B includes the construction of a 1.8-million-acre-foot reservoir. The increased reservoir size necessitates the addition of two saddle dams and the movement of various associated Project features. The Alternative B Sites/Delevan Overhead Power Line would differ from Alternative A. Alternative B includes no overhead power line alignment between the Sacramento River and the WAPA/PG&E transmission line. The overhead power line would be approximately 3 miles long, from the proposed Sites Electrical Switchyard to the WAPA/PG&E transmission line. The Alternative B Road Relocations and South Bridge would differ slightly from those included for Alternative A. The lengths of the saddle dam access roads included in Alternative A would be reduced in Alternative B because the dams would be larger and would be located closer to the main roads. In addition, an extension of an access road would be constructed for Alternative B to provide access from Saddle Dam 3 to saddle dams 1 and 2. Alternative B would replace the Delevan Pipeline Intake/Discharge Facilities with the Delevan Pipeline Discharge Facility. The Delevan Pipeline would be operated as a release-only pipeline, so the associated Delevan Pipeline Discharge Facility would, therefore, not include a fish screen or any of the facilities needed for the pumping and generating operations that are included for Alternative A.

However, these differences in the size of the facility footprint, alignment, or construction disturbance area would not change the type of construction, operation, and maintenance activities that were described for Alternative A. They would, therefore, have the same physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**); property tax or fee revenues affecting public services (**Impact Services-2**); wastewater treatment requirements of the applicable RWQCB (**Impact Services-3**); the need to expand existing wastewater treatment, water treatment, stormwater, and/or landfill facilities (**Impact Services-4**); water supply entitlements and resources (**Impact Services-5**); and compliance with federal, State, and local solid waste statutes and regulations (**Impact Services-6**) as described for Alternative A.

The boundary of the Project Buffer would be the same for Alternatives A and B, but because the footprints of some of the Project facilities that are surrounded by the Project Buffer would differ between the alternatives, the acreage of land within the Project Buffer would also differ. However, this difference in the size of the area included within the buffer would not change the type of construction, operation, and maintenance activities that were described for Alternative A. It would, therefore, have the same physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**); property tax or fee revenues affecting public services (**Impact Services-2**); wastewater treatment

requirements of the applicable RWQCB (**Impact Services-3**); the need to expand existing wastewater treatment, water treatment, stormwater, and/or landfill facilities (**Impact Services-4**); water supply entitlements and resources (**Impact Services-5**); and compliance with federal, State, and local solid waste statutes and regulations (**Impact Services-6**) as described for Alternative A.

Despite the changes in Project facility locations and sizes mentioned above, Alternative B would result in approximately the same number of recreation visitors per year as Alternative A. Therefore, this recreation use would have the same physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**) as described for Alternative A.

29.3.6 Impacts Associated with Alternative C

29.3.6.1 Extended and Secondary Study Areas – Alternative C

Construction, Operation, and Maintenance Impacts

The impacts associated with Alternative C, as they relate to physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**); property tax or fee revenues affecting public services (**Impact Services-2**); wastewater treatment requirements of the applicable RWQCB (**Impact Services-3**); the need to expand existing wastewater treatment, water treatment, stormwater, and/or landfill facilities (**Impact Services-4**); water supply entitlements and resources (**Impact Services-5**); and compliance with federal, State, and local solid waste statutes and regulations (**Impact Services-6**); would be the same as described for Alternative A for the Extended and Secondary study areas.

29.3.6.2 Primary Study Area – Alternative C

Construction, Operation, and Maintenance Impacts

Many Project facilities would be the same for Alternatives A, B, and C (see Chapter 3 Description of the Sites Reservoir Project Alternatives, Table 3-1). These facilities would require the same construction methods and operation and maintenance activities regardless of alternative, and would, therefore, result in the same construction, operation, and maintenance impacts on public services and utilities:

The Sites/Delevan Overhead Power Line and Delevan Pipeline Intake/Discharge Facilities included in Alternative C are the same as those included in Alternative A. These facilities would require the same construction methods and operation and maintenance activities regardless of alternative, and would, therefore, result in the same construction, operation, and maintenance impacts on public services and utilities as described for Alternative A.

The Sites Reservoir Inundation Area and Dams and Road Relocations and South Bridge included in Alternative C are the same as included in Alternative B. These facilities would require the same construction methods and operation and maintenance activities regardless of alternative, and would, therefore, result in the same construction, operation, and maintenance impacts on public services and utilities as described for Alternative B.

The boundary of the Project Buffer would be the same for Alternatives A, B, and C, but because the footprints of some of the Project facilities that are surrounded by the Project Buffer would differ between the alternatives, the acreage of land within the Project Buffer would also differ. However, these differences in the size of the area included within the buffer would not change the type of construction, operation, and maintenance activities that were described for Alternative A. It would, therefore, have the same physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**); property tax or fee revenues affecting public services (**Impact Services-2**); wastewater treatment requirements of the applicable RWQCB (**Impact Services-3**); the need to expand existing wastewater treatment, water treatment, stormwater, and/or landfill facilities (**Impact Services-4**); water supply entitlements and resources (**Impact Services-5**); and compliance with federal, State, and local solid waste statutes and regulations (**Impact Services-6**) as described for Alternative A.

In addition to the comparisons of Project facilities mentioned above, Alternative C would result in approximately the same number of recreation visitors per year as Alternative A, an estimated 200,000. Therefore, this recreational use would have the same physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**) as described for Alternative A.

29.3.7 Impacts Associated with Alternative D

29.3.7.1 Extended and Secondary Study Areas – Alternative D

Construction, Operation, and Maintenance Impacts

The impacts associated with Alternative D, as they relate to physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**); property tax or fee revenues affecting public services (**Impact Services-2**); wastewater treatment requirements of the applicable RWQCB (**Impact Services-3**); the need to expand existing wastewater treatment, water treatment, stormwater, and/or landfill facilities (**Impact Services-4**); water supply entitlements and resources (**Impact Services-5**); and compliance with federal, State, and local solid waste statutes and regulations (**Impact Services-6**); would be the same as described for Alternative C for the Extended and Secondary study areas.

29.3.7.2 Primary Study Area – Alternative D

Construction, Operation, and Maintenance Impacts

Many Project facilities would be the same for Alternatives A, B, C, and D (see Chapter 3 Description of the Sites Reservoir Project Alternatives, Table 3-1). These facilities would require the same construction methods and operation and maintenance activities regardless of alternative, and would, therefore, result in the same construction, operation, and maintenance impacts on physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**); property tax or fee revenues

affecting public services (**Impact Services-2**); wastewater treatment requirements of the applicable RWQCB (**Impact Services-3**); the need to expand existing wastewater treatment, water treatment, stormwater, and/or landfill facilities (**Impact Services-4**); water supply entitlements and resources (**Impact Services-5**); and compliance with federal, State, and local solid waste statutes and regulations (**Impact Services-6**). Therefore, unless explicitly discussed below, Alternative D impacts at all Project facilities are anticipated to be the same as those for Alternatives A, B and C.

Sites Reservoir Complex

Alternative D would include the development of only two recreation areas (Stone Corral Creek Recreation Area and Peninsula Hills Recreation Area) instead of five for each of the other alternatives. Alternative D would include a boat ramp at the western side of the reservoir where the existing Sites Lodoga Road would be inundated. As a result of the modified recreation areas, the road segments providing access to Lurline Headwaters Recreation Area required for the other alternatives would not be required; however, Alternative D includes an additional 5.2 miles of roadway from Huffmaster Road to Leesville Road. The decreased number of recreation areas and slightly modified roadways would not be expected to substantially change the potential impacts related to public services and utilities, as compared to those described for the other alternatives.

Delevan Pipeline Complex

For Alternative D, the Delevan Pipeline alignment would be approximately 50 to 150 feet south of the alignment presented for Alternatives A, B, and C. The Alternative D alignment takes advantage of existing easements to reduce impacts on local landowners. The shift in alignment is not expected to change the potential impacts related to public services or utilities as compared to the other alternatives.

TRR Complex

Under Alternative D, the TRR would be slightly smaller (approximately 80 acres smaller for Alternative D) when compared to all other Project alternatives; however, this would not be expected to change the potential impacts related to public services or utilities as compared to the other alternatives.

Overhead Power Lines and Substations

Unlike the other alternatives, Alternative D includes a north-south alignment of the Delevan Overhead Power Line, rather than the east-west alignment between the TRR and the Delevan Pipeline Intake/Discharge Facility. Alternative D includes a proposed electrical substation west of Colusa in addition to the substation near the Holthouse Reservoir. The total length of the power line would be 1 mile longer than described for Alternatives A, B, and C; however, it would be aligned within an existing transportation and utility corridor. Despite these changes in facility footprint, the Alternative D design would require the same construction methods and operation and maintenance activities regardless of alternative, and would, therefore, result in the same construction, operation, and maintenance impacts on public services and utilities as described for Alternative A.

Project Buffer

The boundary of the Project Buffer would be the same for Alternatives A, B, C, and D, but because the footprints of some of the Project facilities surrounded by the Project Buffer would differ among the alternatives, the acreage of land within the Project Buffer would also differ. However, these differences in the size of the area included within the buffer would not change the type of construction, operation, and

maintenance activities described for Alternative C. Alternative D would, therefore, have the same physical impacts associated with new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**); property tax or fee revenues affecting public services (**Impact Services-2**); wastewater treatment requirements of the applicable RWQCB (**Impact Services-3**); the need to expand existing wastewater treatment, water treatment, stormwater, and/or landfill facilities (**Impact Services-4**); water supply entitlements and resources (**Impact Services-5**); and compliance with federal, State, and local solid waste statutes and regulations (**Impact Services-6**) as described for Alternative A.

Alternative D would result in approximately the same number of recreation visitors per year as the other Project alternatives, an estimated 200,000. Therefore, recreational use under Alternative D would have the same physical impacts as those described for Alternative A, associated with the following: new or physically altered governmental facilities or the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services and disruptions to local or regional utility services (**Impact Services-1**).

29.4 Mitigation Measures

Because no potentially significant impacts were identified, no mitigation is required or recommended. Environmental commitments, including construction management procedures associated with services and utilities are included in all Project alternatives and discussed in Chapter 3 Description of the Sites Reservoir Project Alternatives.