

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.

The regulatory setting for public services and utilities is discussed briefly in this chapter, and is presented in greater detail in Chapter 4 Environmental Compliance and Permit Summary.

This chapter focuses primarily on the Primary Study Area. Potential impacts in the Secondary and Extended 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 significant or 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 Sheriff departments typically administer the County Jails, function as the County

Coroner/Crime Lab, and act as the Office of Emergency Services (USA COPS, 2010). Law enforcement services are also provided by police departments within the individual cities (USA COPS, 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 PG&E, Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities (CPUC, 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-kV) 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 Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric (SDG&E), municipal utilities, and San Francisco Public Utilities Commission (SFPUC).

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 proposed 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 2009, there were 36 public schools within Glenn County, including 10 elementary/primary schools, two junior high/middle schools, five high schools, and 19 other types of schools (including continuation, community day, juvenile court, and special education) (Ed-Data, 2009). 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.

**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	9th	9th	1	0
Capay Joint Union Elementary	Capay Joint Union Elementary	7504 Cutting Avenue Orland, CA	K*	8th	146	7
Elk Creek Elementary	Stony Creek Joint Unified	300 Sanhedrin Road Elk Creek, CA	K*	4th	39	4
Elk Creek Junior-Senior High	Stony Creek Joint Unified	300 Sanhedrin Road Elk Creek, CA	7th	12th	40	4
Ella Barkley High	Hamilton Union High	300 Hwy. 32 Hamilton City, CA	10th	12th	16	1
Fairview Elementary	Orland Joint Unified	1308 Fairview Street Orland, CA	3rd	5th	520	24
William Finch	Glenn County Office of Education	311 South Villa Avenue Willows, CA	K*	12th	128	7
Glenn County Juvenile Court	Glenn County Office of Education	311 South Villa Avenue Willows, CA	9th	12th	13	1
Glenn County Opportunity School	Glenn County Office of Education	311 South Villa Avenue Willows, CA	7th	12th	31	5
Glenn County Special Education School	Glenn County Office of Education	311 South Villa Avenue Willows, CA	K*	12th	122	16
Hamilton Community Day	Hamilton Union High	600 Canal Street Hamilton, CA	11th	12th	2	1
Hamilton Elementary	Hamilton Union Elementary	277 Capay Street Hamilton City, CA	K*	8th	467	23
Hamilton Elementary Community	Hamilton Union Elementary	277 Capay Street Hamilton, CA	5th	6th	5	1
Hamilton Union High	Hamilton Union High	Hwy 32 and Canal Street Hamilton City, CA	9th	12th	309	13
Indian Valley Elementary	Stony Creek Joint Unified	5180 Lodoga Stonyford Road Stonyford, CA	5th	6th	15	1
Lake Elementary	Lake Elementary	4672 County Road N Orland, CA	K*	8th	124	6
Mill Street Elementary	Orland Joint Unified	102 Second Street Orland, CA	K*	3rd	515	29
Murdock Elementary	Willows Unified	655 W. French Street Willows, CA	K*	4th	676	36
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	8th	12th	7	1

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**Table 29-1
Glenn County Schools**

School Name	District	School Address	Lowest Grade	Highest Grade	Total # of Students	Full-Time Staff
Orland Elementary Community Day	Orland Joint Unified	930 Second Street Orland, CA	2nd	6th	4	1
Orland High	Orland Joint Unified	101 Shasta Street Orland, CA	9th	12th	666	30
Plaza Elementary	Plaza Elementary	7322 County Road 24 Orland, CA	K*	8th	135	6
Price Intermediate	Orland Joint Unified	1212 Marin Street Orland, CA	6th	8th	499	23
Princeton Elementary	Princeton Joint Unified	428 Norman Road Princeton, CA	K*	6th	112	6
Princeton Elementary Community Day	Princeton Joint Unified	428 Norman Road Princeton, CA	6th	6th	2	1
Princeton High Community Day	Princeton Joint Unified	428 Norman Road Princeton, CA	9th	12th	4	1
Princeton Junior-Senior High	Princeton Joint Unified	473 State Street Princeton, CA	7th	12th	118	8
Special Education	Glenn County Office of Education	525 West Sycamore Willows, CA	K*	12th	133	21
Stony Creek Community Day	Stony Creek Joint Unified	300 Sanhedrin Road Elk Creek, CA	8th	8th	1	1
Stony Creek Elementary Community Day	Stony Creek Joint Unified	300 Sanhedrin Road Elk Creek, CA	1st	2nd	4	1
Willows Community Day	Willows Unified	823 W. Laurel Street Willows, CA	7th	12th	6	1
Willows Community High	Willows Unified	823 W. Laurel Street Willows, CA	10th	12th	31	4
Willows Elementary Community Day	Willows Unified	655 West French Street Willows, CA	2nd	4th	5	1
Willows High	Willows Unified	203 N. Murdock Avenue Willows, CA	9th	12th	497	17
Willows High Community Day	Willows Unified	823 West Laurel Street Willows, CA	9th	11th	7	1
Willows Intermediate	Willows Unified	1145 W. Cedar Street Willows, CA	5th	9th	490	21
Willows Intermediate Community Day	Willows Unified	1145 W. Cedar Street Willows, CA	8th	8th	4	1

*K = Kindergarten

Source: Ed Data. 2009.

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**Table 29-2
Glenn County School Bus Routes**

School Name/Address	School District	School Bus Route
Bidwell Point High (Continuation) 300 Sanhedrin Road Elk Creek, CA	Stony Creek Joint Unified	County Road 36 and Hwy 162
Capay Joint Union Elementary 7504 Cutting Avenue Orland, CA	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
Ella Barkley High 300 Hwy 32 Hamilton City, CA	Hamilton Union High	NA
Lake Elementary 4672 County Road N Orland, CA	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
Mill Street Elementary 102 Second Street Orland, CA	Orland Joint Unified	NA
Murdock Elementary 655 W. French Street Willows, CA	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 7322 County Road 24 Orland, CA	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 Junior-Senior High 473 State Street Princeton, CA	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: Whitney, 2011; Scribner, 2011; Deitz, 2011; Smith, 2011; Nunes, 2011; Lopez, 2011; Willows Unified School District, 2011.

Colusa County

In 2009, there were 22 public schools within Colusa County, including six elementary/primary schools, three junior high/middle schools, four high schools, and nine other types of schools (including alternative, juvenile court, opportunity, continuation, and special education) (Ed-Data, 2009). 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.

**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	15	1
Arbuckle Elementary	Pierce Joint Unified	701 Hall Street Arbuckle, CA	K*	5th	562	29
Colusa Alternative High (Continuation)	Colusa Unified	817 Colusa Avenue Colusa, CA	10th	12th	26	1
Colusa Alternative Home	Colusa Unified	745 10th Street Colusa, CA.	K*	12th	85	3
Colusa County Community	Colusa County Office of Education	539 Oak Street Colusa, CA	7th	12th	11	1
Colusa County Opportunity	Colusa County Office of Education	345 Fifth Street, Suite DEF Colusa, CA	7th	12th	20	3
Colusa County Special Education	Colusa County Office of Education	946 Fremont Street Colusa, CA	K*	12th	86	21
Colusa High	Colusa Unified	901 Colusa Avenue Colusa, CA	9th	12th	343	19
Enid Prine High (Continuation)	Maxwell Unified	519 W. Oak Street Maxwell, CA	9th	12th	9	1
George T. Egling Middle	Colusa Unified	813 Webster Street Colusa, CA	4th	8th	473	21
Grand Island Elementary	Pierce Joint Unified	551 Leven Street Grimes, CA	K*	5th	77	3
James M. Burchfield Primary	Colusa Unified	400 Fremont Street Colusa, CA	K*	3rd	467	27
Juvenile Hall-Nielson	Colusa County Office of Education	1333 Fouts Road Colusa, CA	9th	12th	60	3
Lloyd G. Johnson Jr. High	Pierce Joint Unified	938 Wildwood Road Arbuckle, CA	6th	8th	272	10
Maxwell Elementary	Maxwell Unified	146 W. North Street Maxwell, CA	K*	8th	270	13
Maxwell High	Maxwell Unified	515 Oak Street Maxwell, CA	9th	12th	143	10
Mid Valley High	Williams Unified	1105 D Street Williams, CA	5th	12th	22	1
Pierce High	Pierce Joint Unified	960 Wildwood Road Arbuckle, CA	9th	12th	370	20
Williams High	Williams Unified	222 11th Street Williams, CA	9th	12th	354	21
Williams Junior	Williams Unified	222 11th Street Williams, CA	7th	8th	168	7
Williams Primary Elementary	Williams Unified	1404 E Street Williams, CA	K*	3rd	384	24
Williams Upper Elementary	Williams Unified	300 11th Street Williams, CA	4th	6th	290	12

*K = Kindergarten

Source: Ed Data. 2009.

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**Table 29-4
Colusa County School Bus Routes**

School Name/Address	School District	School Bus Route
Arbuckle Alternative High (Continuation) 966 Wildwood Road Arbuckle, CA	Pierce Joint Unified	NA
Colusa Alternative Home 745 10th Street Colusa, CA	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
Enid Prine High (Continuation) 519 W. Oak Street Maxwell, CA	Maxwell Unified	Maxwell Sites Road, Sites Lodoga Road, Lodoga Stonyford Road, 3rd Street
Mid Valley High 1105 D Street Williams, CA	Williams Unified	NA

Note:

NA = Data Not Available

Source: Bailey, 2011; Azevedo, 2011.

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 (RNs), licensed practical nurses (LPNs), and licensed vocational nurses (LVNs) (McMillan, 2010).

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 (AHA, 2010b). It is a 48-bed facility (AHA, 2010b). 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).

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). 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 California Highway Patrol.

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). 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 (D.A.R.E.) Program, Narcotics Task Force, Special Operations and Response Team (S.O.A.R), 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 District Ranger provides services for the Mendocino National Forest. CDFG's Law Enforcement Division protects California's natural resources and provides public safety in the areas within its jurisdiction (CDFW, 2013). Wardens from the USFWS provide similar law enforcement services on federal National Wildlife Refuges. The California Highway Patrol 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 the U.S. Forest Service. 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).

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) and Tehama-Colusa (T-C) canals. Approximately 99 percent of the County's total water supply from the Sacramento River and the GCID 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: 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

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**Table 29-6
Active Water Systems in Glenn County**

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, USACE	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

^aCommunity Water Systems: Water systems that serve the same people year-round (e.g., in homes or businesses).

^bNon-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).

^cTransient 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: USEPA, 2010a.

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

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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, 2010b). Water is supplied to Colusa County from the T-C Canal, the GCID Canal, the Colusa Basin Drain, the Sacramento River, and groundwater. The T-C 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	2,100	Groundwater	CA0610001
Colusa County Service Area #1-Century Ranch	120	Surface water	CA0600012
Colusa County Service Area #2-Stonyford	200	Groundwater	CA0600005
Colusa County Water District #1-Grimes	500	Groundwater	CA0600008
Maxwell Public Utility District	850	Groundwater	CA0610003
Princeton Water District	356	Groundwater	CA0600013
Del Oro Water Company – Walnut Ranch	182	Groundwater	CA0600011
Non-Transient Non-Community Water Systems^b			
ADM Rice, Inc.	30	Groundwater	CA0605004
SK Foods - Colusa Canning	31	Groundwater	CA0600061
Colusa Industrial Properties	350	Groundwater	CA0600065
Fouts Springs Youth Facility	120	Groundwater	CA0600041
Morning Star Packing Company-Williams	230	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

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**Table 29-8
Active Water Systems in Colusa County**

Water System Name	Population Served	Primary Water Source Type	Water System ID
Menf-Letts Lake Campground	100	Groundwater	CA0600056
Richmond Hunting Club-Arbuckle	63	Groundwater	CA0605009
Richmond Hunting Club-Maxwell	95	Groundwater	CA0605006
River Vista Farms	25	Groundwater	CA0600004
Squaw Creek Water System	25	Groundwater	CA0600072
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-Clarkville	110	Groundwater	CA0600007
Willow Creek Mutual Water Company-Lambertville	30	Groundwater	CA0600033

^aCommunity Water Systems: Water systems that serve the same people year-round (e.g., in homes or businesses).

^bNon-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).

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

Source: USEPA, 2010b.

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 one mile south of town; it has

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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 landfill has a design capacity of 2,400,000 cubic yards (cy) (CIWMB, 2010); total estimated capacity remaining as of June 8, 2010 was 348,223 cy (CIWMB, 2011a). It is a Class III facility, with an expected closure date of 2013. 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 to constructing a 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, pers. comm., 2011).

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, pers. comm. 2004).

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

Colusa County

There are four types of solid waste generated in Colusa County: residential, commercial, industrial, and natural resource byproducts¹ (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, 2011e). 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, 2011f) and Premier Mushrooms (a composting operation for agricultural waste and manure) (CIWMB, 2011g). In addition, a solid waste disposal facility is planned to be located south of the City of Colusa (CIWMB, 2011h).

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

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 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, 2011i), 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, 2011i).

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, 2011j). 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 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.

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 one mile, and then on to private property for approximately one 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 Regulatory Setting

Public services and utilities are regulated at the federal, State, and local levels. Primary management occurs by local governments or local or regional special districts. Federal regulatory agency involvement is typically limited to review of a provider's operation related to a specific area, such as the environment, public safety, waterways, and fisheries. Provided below is a list of the applicable public service/utility regulations. These regulations are discussed in detail in Chapter 4 Environmental Compliance and Permit Summary of this EIR/EIS.

29.1.1.1 Federal Plans, Policies, and Regulations

- Americans with Disabilities Act of 1990
- Critical Infrastructure Information Act of 2002
- National Fire Protection Association 1710 Standard

29.1.1.2 State Plans, Policies, and Regulations

- Health and Safety Code Sections 13000 et seq.
- Health and Safety Code Sections 13145 and 13146
- Health and Safety Code, Section 13801 et seq.
- California Government Education Code Section 17620

29.1.1.3 Regional and Local Plans, Policies, and Regulations

- Glenn County General Plan
- Colusa County General Plan

29.3.2 Evaluation Criteria and Significance Thresholds

Significance criteria represent the thresholds that were used to identify whether an impact would be 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 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?
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Have sufficient water supplies available to serve the Project from existing entitlements and resources, or 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

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pursuant to NEPA. For the purposes of this analysis, an alternative would result in a 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 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 Regional Water Quality Control Board.
- 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.

29.3.3 Impact Assessment Assumptions and Methodology

29.3.3.1 Assumptions

The following assumptions were made regarding Project-related construction, operation, and maintenance impacts to 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 an additional pump into an existing bay 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 two intake locations (i.e., GCID Canal Intake and 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 to the operation of certain facilities that are located in the Extended Study Area, and indirect effects to 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.

29.3.3.2 Methodology

The evaluation of potential Project-related construction, operation, and maintenance impacts was performed by comparing the facilities and services that were identified in the Environmental Setting/Affected Environment discussion with proposed Project construction, operation, and maintenance activities to assess the potential for service disruptions.

The methodology used to calculate the annual Recreation Visitor Days (RVDs²) and changes in property taxes per year for Alternatives A, B, and C are described in Chapter 22 Socioeconomics.

29.3.4 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.

29.3.5 Impacts Associated with the No Project/No Action Alternative

29.3.5.1 Extended, Secondary, and Primary Study Areas – No Project/No Action Alternative

Construction, Operation, and Maintenance Impacts

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

The No Project/No Action Alternative includes implementation of projects and programs being constructed, or those that have gained approval as of June 2009. The impacts of these projects have already been evaluated on a project-by-project basis, pursuant to CEQA and/or NEPA, and their potential to result in impacts to local and regional public services and utilities has been addressed in those environmental documents. Therefore, **there would not be a substantial adverse effect** on public services and utilities, when compared to Existing Conditions.

² An RVD is defined as a recreation visit by one person for part or all of one day.

Population growth is expected to occur in California throughout the period of Project analysis (i.e., 100 years), and is included in the assumptions for the No Project/No Action Alternative. A larger population could be expected to increase the demand for public services and utilities, as well as affect the existing levels of services that are currently provided. Public services and utilities are managed at the local level (e.g., cities and counties) in accordance with those agencies' regulations. Therefore, **there would not be a substantial adverse effect**, when compared to Existing Conditions

In addition, projects considered within the No Project/No Action Alternative are not located within the Primary Study Area, and therefore, **would not have a substantial adverse effect** on public services and utilities within that study area, when compared to Existing Conditions. Similarly, the Project would not be constructed if this alternative is implemented, so no temporary or permanent disruptions of or effects on public services and utilities would occur. Therefore, **there would not be a substantial adverse effect** on public services and utilities in any of the three study areas, when compared to Existing Conditions.

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

If the No Project/No Action Alternative is implemented, the fiscal condition of local governments in the Extended, Secondary and Primary study areas is expected to be similar to that described for Existing Conditions. Growth in population would be accompanied by a corresponding growth in tax revenues and government budgets. Therefore, **there would not be a substantial adverse effect** to public services as a result of property taxes or fee revenues, when compared to Existing Conditions.

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

Refer to the **Impact Services-1** discussion. That discussion also applies to the exceedance of wastewater treatment requirements.

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

Refer to the **Impact Services-1** discussion. That discussion also applies to the need for expansion of existing wastewater treatment, water treatment, stormwater, and/or landfill facilities.

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

Refer to the **Impact Services-1** discussion. That discussion also applies to the need for new or expanded water supply entitlements and resources.

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

Refer to the **Impact Services-1** discussion. That discussion also applies to non-compliance with federal, State, and local statutes and regulations related to solid waste.

29.3.6 Impacts Associated with Alternative A

29.3.6.1 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, there would be no disruptions to utility services in the Extended Study Area, and there would not be a substantial adverse physical impact from new or physically altered governmental facilities (nor would Alternative A create demand for new or physically altered governmental facilities), resulting in **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

Operation of San Luis Reservoir would be altered to accommodate Project operation, which would result in more frequent and larger surface water elevation fluctuations at the reservoir than currently occur there. In addition, Project operation would result in 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. These operations would not be expected to change the number of people living within the Extended Study Area (i.e., Alternative A would not induce population growth), and consequently are not expected to change the demand for public services or require new or physically altered governmental facilities. In addition, changes in reservoir operation would not be expected to disrupt utility services. Therefore, there would be **no impact** on public services and utilities from operations in the Extended Study Area, when compared to Existing Conditions and the No Project/No Action Alternative.

The increased SWP/CVP exports associated with implementation of Alternative A could potentially result in increased storage at some of the export service area reservoirs within the Extended Study Area. Small increases in storage at these reservoirs could result in slightly increased recreation use at these reservoirs. These effects on recreation use in the Extended Study Area would be negligible and would not disrupt utilities or result in increased demand for public services that would require new or physically altered governmental facilities, resulting in **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

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 direct Project construction and maintenance expenditures in Glenn and Colusa counties, operation expenditures occurring throughout the Extended Study Area where SWP and CVP facilities are re-operated as a result of the Project, and where Project facilities would be operated. In addition, the removal of agricultural land

from production at Project facility sites in Glenn and Colusa counties would affect revenues. The magnitude of the economic impacts and their associated effects on public services would be minor 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 Existing Conditions and the No Project/No Action Alternative.

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 predicted 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 Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

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 CVP and SWP service areas of the Extended Study Area is expected, there would be **no impact** to utilities that manage wastewater treatment facilities, water treatment facilities, stormwater systems, and/or landfills, when compared to Existing Conditions and the No Project/No Action Alternative.

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** to 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 is expected to result in **no impact** to wastewater treatment, water treatment, stormwater, or landfill facilities in the Extended Study Area, when compared to Existing Conditions and the No Project/No Action Alternative, because existing population growth rates throughout the Extended Study Area are not expected to change as a result of implementing Alternative A.

Providing an alternate source of water supply to the wildlife refuges, as part of operation of Alternative A, is not relevant to existing wastewater treatment or landfill facility operations, and would, therefore, have

no impact on wastewater treatment or landfill facilities operations, when compared to Existing Conditions and the No Project/No Action Alternative.

In addition, the water deliveries to SWP and CVP contractors as a result of Alternative A operation would be within the historical range of existing operations and no additional construction of water conveyance or treatment facilities would be needed, resulting in **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

Most of the water contractors within the Extended Study Area have alternative water supplies (e.g., local surface water or groundwater). In the future, they may add recycling, conservation, and other improvements to their water systems to accommodate planned population growth and maintain reliability in their systems. Adding a surface water supply option (such as from Alternative A) may reduce the need for these additional alternative water supply options. Thus, increased water supply reliability may result in a reduction in the future need for construction and operation of additional water treatment and distribution facilities. Therefore, there would be a **less-than-significant impact** on the need to expand existing wastewater treatment, water treatment, stormwater, or landfill facilities, when compared to Existing Conditions and the No Project/No Action Alternative.

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

When compared to Existing Conditions and the No Project/No Action Alternative, Project operation would result in a **potentially beneficial impact** by possibly reducing reliance on groundwater in the Extended Study Area in locations where water is provided by the CVP or SWP. With increased water supply reliability to CVP and SWP 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** to water supply entitlements and resources, when compared to Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

29.3.6.2 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-I: 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, so there would not be a disruption to utility services or a substantial adverse physical impact from new or physically altered governmental facilities (nor would Alternative A create demand for new or physically altered governmental facilities), resulting in **no impact** on public services or utilities at or near those locations with implementation of Alternative A, when compared to Existing Conditions and the No Project/No Action Alternative.

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 are not expected to disrupt local or regional utility providers, resulting in **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

Operational modeling for Alternative A, when compared to Existing Conditions and the No Project/No Action Alternative, indicates that Alternative A would provide improved storage conditions in Trinity Lake, Shasta Lake, and other recreational areas in the Secondary Study Area. Improved storage conditions can result in increased recreation use, but these operational changes are not expected to increase recreation use to a level that would require new or physically altered governmental facilities in the Secondary Study Area. Therefore, there would be **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

Altered flows and temperatures can result in an increased need for emergency response services to recreationists. However, the changes to the flow regime of the streams included in the Secondary Study Area would fall within the historic range of flows, and would not be expected to result in an increased need for emergency response at a level that would require new or physically altered governmental facilities. There would, therefore, be **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

Integrated Project operation with existing SWP and CVP facilities may affect the O&M costs of public services and utilities for those facilities within the Secondary Study Area and could affect regional economic conditions. However, the magnitude of the economic impacts and their associated effects on public services would be minor. Therefore, this would be a **less-than-significant impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

Increased water supply reliability could potentially result in a reduction in the future need for construction and operation of additional water treatment and distribution facilities. There could be a shift from more costly options (including high cost recycling and desalination) to the less expensive option of maintaining and operating the existing water treatment and conveyance systems that are already in use. Therefore, there would be a **potentially beneficial impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

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 **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative. 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 Existing Conditions and the No Project/No Action Alternative.

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 a pump into an existing bay at the Red Bluff Pumping Plant (RBPP). This pump would be installed at an existing plant, requiring few pieces of equipment, limited construction activities, and a short construction period. Therefore, the pump's installation would not disrupt local or regional utility services and would not result in a substantial adverse physical impact from new or physically altered governmental facilities (nor would Alternative A create demand for new or physically altered governmental facilities), resulting in **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative. The pump's operation, as part of the larger pumping plant's operation, would also result in **no impact** on public services and utilities.

The only direct Project-related maintenance activity that would occur with implementation of Alternative A is the maintenance of the pump and the continued removal of sediment from the existing T-C and GCID canal intakes as part of the pumping plant's maintenance activities. It is expected that contractors would transport and dispose of the sediment in accordance with all federal, State, and local regulations, in compliance with their contract specifications. These maintenance activities would not disrupt local or regional utility services and would not result in a substantial adverse physical impact from new or physically altered governmental facilities (nor would Alternative A create demand for new or physically altered governmental facilities), resulting in **no impact** on local public services and local/regional utilities, when compared to Existing Conditions and the No Project/No Action Alternative.

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

The installation of the pump at the existing RBPP would have minimal, if any, effects on property taxes and other revenues within the Secondary Study Area. In addition, the pump's 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 Existing Conditions and the No Project/No Action Alternative.

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

The pump's 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 Existing Conditions and the No Project/No Action Alternative.

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

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

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

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

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 a pump into an existing pumping plant, the maintenance of the pump and the two canal intakes, or the pump's operation. Therefore, there would be **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

29.3.6.3 Primary Study Area – Alternative A

Construction, Operation, and Maintenance Impacts

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

All Primary Study Area Project Facilities

Impact Services-I: 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 Alternative A 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 (needed to develop Sites Reservoir) would be demolished and removed. However, the South Bridge would be constructed and operating before the portions of these roads were demolished and removed. The new route that would include the South Bridge would be approximately two 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 Existing Conditions and the No Project/No Action Alternative.

Access to the west side of the proposed Sites Reservoir (including to the town of Lodoga) from the east side during construction of the South Bridge would be via the existing Maxwell Sites and Sites Lodoga roads (i.e., no change from the existing route). Access to the southern portion of Sites Reservoir during the construction of South Bridge would be via the existing Huffmaster Road (also no change from the existing route). 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 Existing Conditions and the No Project/No Action Alternative.

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 disrupt emergency service response to the point that would require the construction of new facilities to maintain adequate response times, resulting in **no impact** when compared to Existing Conditions and the No Project/No Action Alternative.

Construction of all of the Project facilities associated with implementation of Alternative A would require an estimated average workforce of 95 employees for the 10-year construction period. This temporary addition of people to the workforce is not 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 few permanent employees (35 employees), which would not be expected to result in a substantial increase in demand for public services or schools and therefore would not require new or altered governmental facilities. There would, therefore, be **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

During construction, operation, and maintenance of Alternative A, adequate emergency access would be maintained to individual landowner properties located along routes to proposed 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 Existing Conditions and the No Project/No Action Alternative.

Operation and maintenance of all of the Project facilities would result in the use of relatively few vehicles. This slight increase would not be expected to generate traffic levels that would interfere with emergency services. Consequently, there would not be a need for new or altered governmental facilities, resulting in **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

Because Sites Reservoir is expected to generate 360,975 RVDs 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 could adversely affect emergency response times. However, traffic levels would not be expected to disrupt emergency service response to the point that would require the construction of new facilities to maintain adequate response times, resulting in **no impact** when compared to Existing Conditions and the No Project/No Action Alternative.

The increased number of visitors to the area due to the development and presence of Sites Reservoir and the recreation opportunities that would be offered would likely increase the demand for fire protection, police protection, and emergency medical services. If demand were to increase substantially, existing government facilities may need to be expanded or new facilities may need to be constructed in order to maintain acceptable service ratios. However, the increased demand would be seasonal, and the emergency and law enforcement response to Sites Reservoir and associated Project facilities would be provided by numerous agencies and facilities. Depending on the location and type of service call, primary responsibility for response could fall under the jurisdiction of the Glenn or Colusa county sheriff's departments, municipal police departments, California Highway Patrol, U.S. Forest Service, CDFG, 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 proposed 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 Existing Conditions and the No Project/No Action Alternative.

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. This would, therefore, result in **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

Project construction ground-disturbing activities, such as excavation and trenching, have the potential to directly interrupt electrical, cable, and gas utilities. Activities associated with the Delevan and TRR pipeline installation and the construction of the foundations for the South Bridge and high voltage Delevan Transmission Line towers also have the potential to interrupt utilities. Disruptions of utility

services resulting from intentional de-energizing of lines, relocation or modification of existing utility infrastructure, or from unintentional damage to utility infrastructure during Project construction, operation, or maintenance activities would likely be localized because the majority of electrical, cable, and communication lines in the Primary Study Area serve the local population. Potential infrastructure damage is expected to be repaired soon after discovery and reporting of the damage. Thus, disruption to utility services is not expected to continue for extended periods of time, resulting in a **less-than-significant impact**, when compared to Existing Conditions and the No Project/No Action Alternative. A disruption to existing utilities, if it occurred for an extended period of time, would be a **significant impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

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. Within the Sites Reservoir Inundation Area (which includes the location of the South Bridge) and along several of the roads that comprise the routes to Project facility sites, there are buried and overhead cables and electric distribution lines. 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. Existing aboveground utility equipment would be removed as part of development of the Sites Reservoir (and underground utility equipment would be left in place). Operation of those utilities within the Sites Reservoir Inundation Area would, therefore, not be disrupted, resulting in **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

The footprint of the proposed Holthouse Reservoir would conflict with existing WAPA high-voltage 500-kV and 230-kV transmission lines. This conflict would require the relocation of eight transmission towers, resulting in a **significant impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

The proposed TRR and Delevan pipelines would cross an identified PG&E natural gas pipeline, as well as an existing PG&E high-voltage 230-kV transmission line. These crossings would be accomplished with the bore and jack construction method to avoid disruption of the gas pipeline and the transmission line towers. The proposed Delevan Transmission Line would also cross the existing natural gas pipeline and 230-kV transmission line. These crossings would be accomplished by siting transmission line towers away from the existing utilities, and maintaining required minimum clearances between the two transmission lines by using towers approximately twelve feet higher than the existing transmission towers. Although a disruption is not expected, if construction activities were to cause a disruption to either of these utilities, the disruption would result in a **significant impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

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, there would be **no impact** on existing utilities that are currently located within that buffer area, when compared to Existing Conditions and the No Project/No Action Alternative. In addition, operation and maintenance activities (i.e., fence maintenance and periodic boundary fuel break construction and maintenance) that would occur on the buffer lands between the Project facility footprints and the Project Buffer boundary would have **no impact** on existing utilities (because they would have been removed during Project construction), when compared to Existing Conditions and the No Project/No Action Alternative.

During Project construction activities, if any existing and currently unidentified utilities are discovered and Alternative A facilities would conflict with those utilities, the conflict would result in a **significant impact** on the utility, when compared to Existing Conditions and the No Project/No Action Alternative.

Project operations and maintenance would have a **less-than-significant impact** on utilities, when compared to Existing Conditions and the No Project/No Action Alternative, because once the Project utilities are installed, conflicts with existing utilities are not expected.

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 **less-than-significant impact** to public services, when compared to Existing Conditions and the No Project/No Action Alternative.

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 Regional Water Quality Control Board 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 Existing Conditions and the No Project/No Action Alternative.

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 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 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 Existing Conditions and the No Project/No Action Alternative.

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 proposed Project facilities would be transported and disposed of at suitable landfills, and recycling of wood, metal, and other materials would occur. 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 Existing Conditions and the No Project/No Action Alternative.

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 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 Existing Conditions and the No Project/No Action Alternative.

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 from the Sacramento River for in-river or near-river construction activities). No new or expanded water supply entitlements and resources would be necessary for Project construction, resulting in **no impact**, when compared to Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

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 Existing Conditions and the No Project/No Action Alternative.

29.3.7 Impacts Associated with Alternative B

29.3.7.1 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 (the construction of which could cause significant environmental impacts) in order 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 Regional Water Quality Control Board (**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.

29.3.7.2 Primary Study Area – Alternative B

Construction, Operation, and Maintenance Impacts

The following Project facilities are included in both Alternatives A and 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 to public services and utilities:

- Recreation Areas
- Sites Pumping/Generating Plant
- Sites Electrical Switchyard
- Tunnel from Sites Pumping/Generating Plant to Sites Reservoir Inlet/Outlet Structure
- Sites Reservoir Inlet/Outlet Structure
- Field Office Maintenance Yard
- Holthouse Reservoir Complex
- Holthouse Reservoir Electrical Switchyard
- GCID Canal Facilities Modifications
- GCID Canal Connection to the TRR
- TRR
- TRR Pumping/Generating Plant
- TRR Electrical Switchyard
- TRR Pipeline
- TRR Pipeline Road
- Delevan Pipeline
- Delevan Pipeline Electrical Switchyard

PRELIMINARY – SUBJECT TO CHANGE

Alternative B includes the construction of a 1.81-MAF reservoir. The increased reservoir size necessitates the addition of two saddle dams and the movement of various associated Project features. The Alternative B Delevan Transmission Line would differ from Alternative A. Alternative B includes no transmission line alignment between the Sacramento River and the WAPA/PG&E transmission line. The transmission line would be approximately three 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 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 (the construction of which could cause significant environmental impacts) in order 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 Regional Water Quality Control Board (**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 (the construction of which could cause significant environmental impacts) in order 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 Regional Water Quality Control Board (**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 changes in Project facility locations and sizes mentioned above, Alternative B would result in fewer RVDs at Sites Reservoir than for Alternative A (358,049 RVDs for Alternative B versus 360,975 RVDs for Alternative A). However, this difference in 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 (the construction of which could cause significant environmental impacts) in order 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.

29.3.8 Impacts Associated with Alternative C

29.3.8.1 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 (the construction of which could cause significant environmental impacts) in order 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 Regional Water Quality Control Board (**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.

29.3.8.2 Primary Study Area – Alternative C

Construction, Operation, and Maintenance Impacts

The following Primary Study Area Project facilities are included in Alternatives A, B, and C. 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 to public services and utilities:

- Recreation Areas
- Sites Pumping/Generating Plant
- Sites Electrical Switchyard
- Tunnel from Sites Pumping/Generating Plant to Sites Reservoir Inlet/Outlet Structure
- Sites Reservoir Inlet/Outlet Structure
- Field Office Maintenance Yard
- Holthouse Reservoir Complex
- Holthouse Reservoir Electrical Switchyard
- GCID Canal Facilities Modifications
- GCID Canal Connection to the TRR
- TRR
- TRR Pumping/Generating Plant
- TRR Electrical Switchyard
- TRR Pipeline
- TRR Pipeline Road
- Delevan Pipeline

PRELIMINARY – SUBJECT TO CHANGE

- Delevan Pipeline Electrical Switchyard

The Delevan Transmission Line and Delevan Pipeline Intake 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 to 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 to 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 (the construction of which could cause significant environmental impacts) in order 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 Regional Water Quality Control Board (**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 more RVDs at Sites Reservoir than for Alternative A (373,659 RVDs for Alternative C versus 360,975 RVDs for Alternative A). However, this difference in 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 (the construction of which could cause significant environmental impacts) in order 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.

29.4 Mitigation Measures

Mitigation measures are provided below and summarized in Table 29-9 for the impacts that have been identified as significant or potentially significant.

**Table 29-9
Summary of Mitigation Measures for
NODOS Project Impacts to Public Services and Utilities**

Impact	Associated Project Facility	LOS Before Mitigation	Mitigation Measure	LOS After Mitigation
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				
Impact Services 1a: Damage to or Disruption of Existing Utility Services	All Project Facilities	Significant	Mitigation Measure Services-1a: Avoid Damage to or Disruption of Existing Utility Services	Less than Significant
Impact Services-1b: Project Facility Siting Impacts to Utilities 500-kV and 230-kV Transmission Lines Gas Pipeline and 230-kV Transmission Line	Holthouse Reservoir (construction) Delevan Pipeline, TRR Pipeline, and Delevan Transmission Line(construction)	Significant Significant	Mitigation Measure Services-1b: Perform Utility Relocation or Modification Mitigation Measure Services-1a: Avoid Damage to or Disruption of Existing Utility Services	Less than Significant Less than Significant
Impact Services 1c: Project Facility Conflicts with Currently Unidentified Utility Systems	All Project Facilities	Significant	Mitigation Measure Services-1a: Avoid Damage to or Disruption of Existing Utility Services	Less than Significant

Note:
LOS = Level of Significance

Mitigation Measure Services-1a: Avoid Damage to or Disruption of Existing Utility Services

To minimize impacts to utility service providers by damage or disruption caused by the Project’s construction, operation, and/or maintenance, DWR and Reclamation shall implement the following measures during Project construction to minimize impacts to existing utility infrastructure (whether it is currently identified or is discovered during Project construction):

- **Permits:** The Construction Contractor shall obtain utilities excavation or encroachment permits, as necessary, before initiating any work with potential to affect utilities.
- **Locating Line:** Utility locations shall be identified through field surveys and the use of the Underground Service Alert services. Any buried utility lines shall be clearly marked before initiation of any ground-disturbing construction activity.

PRELIMINARY – SUBJECT TO CHANGE

- **Clearing Right-of-Way and Road Access:** If necessary, infrastructure shall be removed or reinforced in coordination with all potential service providers known to have, or potentially having, utility infrastructure in the vicinity of the Project facility.
- **Response Plan (Construction):** The Construction Contractor shall prepare a Response Plan to address potential accidental damage to utility infrastructure prior to the start of Project construction. The Response Plan shall identify chain of command rules for notification of authorities and appropriate actions and responsibilities to ensure the safety of the public and workers. The Response Plan shall be circulated to the potentially affected service system providers for review and approval prior to the start of the construction activities. Worker education training in response to such situations shall be conducted by the Contractor.
- **Response Plan (Operation and Maintenance):** DWR and Reclamation shall prepare a Response Plan to address potential accidental damage to utility infrastructure prior to the start of Project operation. The Response Plan shall identify chain of command rules for notification of authorities and appropriate actions and responsibilities to ensure the safety of the public and Project facility personnel. The Response Plan shall be circulated to the potentially affected service system providers for review and approval prior to the start of Project operation. Worker education training in response to such situations shall be conducted by DWR and Reclamation or such party that they designate.

Mitigation Measure Services-1b: Perform Utility Relocation or Modification

For each section of a utility line that would need to be relocated or modified as a result of Project construction and/or operation, DWR and Reclamation shall implement the following measures:

- **Permits:** The Construction Contractor shall obtain utilities excavation or encroachment permits, as necessary, before initiating any work with potential to affect utility lines.
- **Locating and Staking Line:** Locations for relocated utility lines shall be identified in coordination with affected service providers. As part of this effort, field surveys shall be conducted and the Underground Service Alert services shall be used to ensure that there are no conflicts with other existing utility lines. After the alignment of the line has been determined, a survey shall be conducted to map the route of the line. The results of the survey shall be plan and profile drawings, which shall be used to spot the poles and/or towers. After exact positions have been fixed, a stake shall be driven to indicate the center of the structure or pole.
- **Utilities Modification and Relocation Plan:** The Construction Contractor shall prepare a Utilities Modification and Relocation Plan prior to the start of Project construction. The Utilities Modification and Relocation Plan shall identify chain of command rules for notification of authorities and appropriate actions and responsibilities to ensure the safety of the public and workers and include a description of how utilities infrastructure shall be modified or relocated and identification of precise alignment where utility lines shall be relocated. The Utilities Modification and Relocation Plan shall be circulated to the potentially affected service system providers for review and approval prior to the start of the Project construction activities. Worker education training in response to such situations shall be conducted by the Construction Contractor.
- The Construction Contractor shall stage utility line modifications and relocations in a manner that minimizes interruption of service.

- The Construction Contractor shall follow local, State, and federal regulations regarding utilities and service systems location and construction to minimize potential disruption of services and damage to the utilities and service system infrastructure.

Implementation of **Mitigation Measure Services-1a** and **Services-1b** would reduce the level of significance of Project impacts to **less-than-significant**.

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