

Hazards and Hazardous Materials

This chapter discusses existing characteristics in the Plan Area and Areas of Additional Analysis (described in Chapter 1, *Introduction*) as they pertain to hazards and hazardous materials; regulations applicable to the use, storage, and disposal of hazardous materials; the potential effects on the public and the environment from hazards and hazardous materials associated with implementation of the proposed alternatives; and potential mitigation measures to reduce the severity of these effects.

24.1 Environmental Setting/Affected Environment

24.1.1 Potential Environmental Effects Area

This section discusses the hazards and hazardous materials study area (the area in which impacts may occur) which consists of the Plan Area (the area covered by the BDCP), which is largely formed by the statutory borders of the Delta, along with areas in Suisun Marsh and the Yolo Bypass; and Areas of Additional Analysis.

The study area is primarily an inland delta, and consists of lowlands and wetlands formed by the confluence of the Sacramento and San Joaquin Rivers and other tributaries. Surficial sediments, described in Chapter 9, *Geology and Seismicity*, are generally Quaternary-age, with older sediments extending to depths of at least 9,000 feet. These deeper sedimentary units contain petroleum reserves, and oil and natural gas are produced (analyzed further in Chapter 26, *Mineral Resources*).

The Delta is characterized as a multi-use landscape, with agriculture accounting for approximately 75% of land use within the study area. Other land uses include industrial/manufacturing, transportation, recreation, habitat conservation, and residential, as described in Chapter 13, *Land Use*. The built environment of the study area contains a variety of roads, transportation facilities, waterways and canals, utilities, petroleum production and processing facilities, urban lands, and other structures. As described in Chapter 19, *Transportation*, the study area is home to several major transportation arteries, such as Interstate (I-) 5 and other highways in the region. Shipping centers include the Ports of Sacramento and Stockton, and several national and regional railroads operate within the study area.

A discussion of historical and existing land uses with the potential to result in hazardous conditions is provided below, in the Hazardous Materials section.

The Delta contains rich wetlands, fertile soil, and an abundant variety of plant and animal life. The availability of fresh water and arable land has resulted in most of the Delta's conversion to farm land. The study area's hydrologic characteristics are typical of lowlands with shallow groundwater and a system of gaining and losing streams. A detailed description of the study area's hydrogeologic setting is provided in Chapter 7, *Groundwater*.

24.1.2 Potential Hazardous Materials in the Study Area

This section describes naturally occurring and anthropogenic hazards in the study area. Historic agricultural, industrial and urban/recreational activities in the study area and, in some cases, upstream of the study area, have resulted in the presence of hazardous materials in soils, sediments, and groundwater in the study area. Additionally, current agricultural, industrial, urban, and recreational activities (e.g., boating) within the study area use and introduce hazardous materials (e.g., pesticides, fertilizers, industrial waste). Further, infrastructure, such as crude oil and natural gas pipelines, is present throughout the study area. These materials have the potential to be released into the environment during the construction and operational phases of the proposed alternatives. Specific types of hazards and hazardous materials are discussed in greater detail below.

24.1.2.1 Naturally Occurring Hazards

Historic geologic conditions in the study area have led to the formation of peat and other organic soils with thicknesses of up to approximately 55 feet on the western side of the Delta; peat deposits are not commonly found on the eastern side. The thick organic soils and peat have the potential to generate flammable gases such as methane that can pose hazards to workers during deep excavations and tunneling. In addition, petroleum deposits underlying the study area could result in the migration of oil and/or natural gas from deep reservoirs into shallow strata that may be disturbed during construction. Additional information on organic soils and oil and gas deposits in the study area are provided in Chapter 9, *Geology and Seismicity*; Chapter 10, *Soils*; and Chapter 26, *Mineral Resources*.

Much of the study area consists of lowlands capable of supporting insects such as mosquitos, which can be vectors for infectious diseases. The potential hazards associated with vector-borne diseases are discussed in Chapter 25, *Public Health*.

24.1.2.2 Hazards from Agricultural Practices

Agriculture has been the primary land use in the study area for more than a century. As described in Chapter 13, *Land Use*, approximately 538,000 acres of the 738,000 acres of the study area are used for agriculture.

A wide variety of pesticides, including insecticides, herbicides, and fungicides, have been used throughout the study area for decades, and may be present in and near agricultural lands. Table 24-1 provides an evaluation of the pesticides used most prevalently in 1974 and 2008 and the crops with which they were associated. While some pesticides that were used in 1974 were still in use in 2008 (e.g., sulfur, petroleum oils, 1,3-dichloropropene, diuron, and carbaryl), a number of new pesticides, such as chloropicrin, chlorpyrifos and propanil, are available and in use currently. Notably, a number of pesticides prevalently used in the 1970s are no longer prevalently used: dinoseb, chlordane, dibromochloropropane (DBCP), ethylene dibromide, parathion, and toxaphene.

1 **Table 24-1. Pesticides and Crop Associations in 1974 and 2008**

Pesticide/Crop	Rice, Corn, Barley,	Hay	Fruit Trees	Grapes	Other Fruits	Nuts	Beans (Dry)	Vegetables	Pasture and Rangeland	Seed Crops
1,3 Dichloropropene			●	❖		●		●		
2,4-D, all formulations	●	❖	●		❖	●		●	●	
Azinphos-methyl			□			□		□		
Captafol	❖		❖			❖		❖		
Carbaryl	●	❖	●	□	□	●		●	❖	
Chlordane, all formulations	❖		❖	❖	❖		❖	❖		
Chloropicrin			□		□	□		□		
Chlorpyrifos	□	□	□			□		□		□
Copper, inorganic and organic complexes	●	●	●	●	●	●	❖	●	❖	
DBCP, all formulations	❖	❖	❖	❖		❖	❖	❖		
Dicofol	❖	❖	●	●	❖	●	●	❖		
Dinoseb, all	❖	❖		❖	❖		❖	❖		
Diuron	□	●	□	□		●			●	
Endosulfan	●		❖	❖	❖			●		
Ethylene dibromide					❖			❖		
Glyphosate, all complexes	□	□	□	□	□	□	□	□	□	□
Kaolin			□		□	□		□		□
Lime-sulfur			●	●		●				
Malathion	●	❖	❖		●	●	❖	●	❖	
Mancozeb			□		□			□		
Metam-sodium	□			□				□		□
Methomyl	□	□		●	●			●		
Methyl bromide	●		●			●	●	●		
Mineral Oil			●	●		●		❖		
Molinate	●									
Oryzalin			□	□		□				
Oxyfluorfen	□	□		□		□	□	□		
Paraquat dichloride	●		●	●	●	●		●		●
Parathion	❖	❖	❖	●	❖	❖	❖	❖	❖	
Pendimethanlin		□	□			□	□	□		
Petroleum oils, all	●	●	●	❖	●	●	❖	●		●
Potassium n-methyldithiocarbamate					□			□		
Propanil	□									
Propargite	□	□		□		□	□			
Propylene oxide						□				
S-Metolachlor	□	□					□	□		□
Sulfur	●		●	●	❖	●	❖	●		
Sulfuryl fluoride	●					●				
Toxaphene	❖	❖	❖		❖		❖	❖		
Trifluralin	□		□			□	□	□		□
Xylene	❖	❖	❖	●	❖	●	❖	●	❖	

Source: California Department of Pesticide Regulation 2010.

❖ = indicates use in 1974

□ = indicates use in 2008 only

● = indicates use in both years

2

1 The wide variety of pesticides that has been applied, the numerous crops grown in the region, and
2 the fact that predominant land use across the Delta supports agriculture indicate that pesticides and
3 their residues are likely to be found in the soils throughout the Delta. While organochlorines,
4 arsenates, and mercury compounds are the most persistent, chemicals that have been widely and
5 historically applied (e.g., DBCP) may also continue to persist within the soils. Because of their
6 relatively low water solubility, persistent pesticides and compounds generally accumulate in the
7 environment in sediment and soil, as well as in the fatty tissue of terrestrial and aquatic animals and
8 humans. Human exposure to organochlorine pesticides is primarily through diet consisting of fatty
9 foods, such as meat, fish, poultry, and dairy products. Studies have indicated that organochlorine
10 pesticides are endocrine disruptors, neurotoxicants, and carcinogens (Verreault et al. 2004; Sagiv et
11 al. 2010; Kleanthi et al. 2008). Arsenic is also found in certain pesticides, fertilizers, and feed
12 additives used in commercial agricultural operations (Saracino-Kirby 2000; U.S. Environmental
13 Protection Agency 2009). The effects of exposure to any hazardous substance depend on many
14 variables, including the dose, duration and route of exposure.

15 No comprehensive area-wide soil or sediment sampling program is known to have been conducted
16 to evaluate pesticide residues from agricultural use. Further discussion of the fate, transport, and
17 bioaccumulative properties of pyrethroid, organochlorine, and organophosphate pesticides that
18 have been applied to study area crops is provided in Chapter 8, *Water Quality*.

19 Pesticide and fertilizer supply companies, including facilities that sell, store, concentrate, dilute, or
20 distribute agricultural chemicals, are present throughout the Delta. These facilities may be large-
21 volume supply businesses that have large tanks with thousands of gallons of these agricultural
22 chemicals, which are sold to farmers or distributors for local use. These facilities may also be farm-
23 level batch plants, which take the raw material from a supply yard or tanker and temporarily store
24 the material prior to loading into distribution equipment. The main difference between a supply
25 business and a batch plant is the volume and duration of storage. Another important distinction is
26 that supply businesses often have extensive spill-containment equipment and specially trained staff.
27 A batching operation is often less sophisticated regarding spill containment. A farmer may or may
28 not have specific training for handling these chemicals.

29 In addition to the activities in the agriculture environs that generate hazards from pesticides,
30 herbicides and fertilizers, there are, other activities associated with farming that can generate
31 hazardous materials. Most farming properties have land that is not engaged directly in crop
32 production. These areas may contain a barn formerly used for working animals but more commonly
33 used now for equipment storage and maintenance. These areas often contain both aboveground and
34 underground storage tanks (AST, UST) for various materials used in the operations of the farm. In
35 addition to the pesticides, herbicides, and fertilizers discussed previously, storage of petrochemical
36 products is prevalent. Farms also have a waste disposal area, where waste crop material may be
37 stored for later offsite disposal, composting, or final disposal. These areas often contain drums of
38 lubricants, agricultural chemicals, or any other item that a farmer might wish to discard.

39 Most farms also have an area where their product is either stored or processed onsite prior to offsite
40 shipping for consumptive use. The study area has a wide variety of processing facilities related to
41 the variety of crops grown there (e.g., pears and asparagus). Contaminants of concern for these
42 types of properties vary, but are primarily limited to pesticides, herbicides, fertilizers, and chemicals
43 for maintaining farm equipment (e.g., solvents, grease, oil, gasoline). The waste disposal areas may
44 have petroleum products (e.g., waste materials from equipment maintenance) or agricultural
45 chemicals (spillage from containers containing residual volumes of chemicals such as pesticides).

1 Health studies of petroleum products have shown effects on lungs, the central nervous system, the
2 immune system, reproduction, skin, and eyes (Agency for Toxic Substances and Disease Registry
3 1999). The effects of exposure to any hazardous substance depend on many variables, including the
4 dose, duration and route of exposure.

5 **24.1.2.3 Hazards from Oil and Gas Production and Processing**

6 Active oil and gas extraction fields are present throughout the Delta. Petroleum production
7 throughout the study area mainly consists of natural gas extraction, though minor quantities of
8 crude oil and condensate are also produced.

9 Petroleum production has occurred in the study area at least since the discovery of the Rio Vista gas
10 field in 1936. Approximately 3,400 oil and gas wells have been drilled throughout the study area;
11 many of these wells are present along the proposed water conveyance facilities alignments under
12 consideration for the BDCP alternatives (Department of Conservation 2010). Oil and natural gas
13 production emits benzene, toluene, ethylbenzene, and xylenes (BTEX compounds) as well as n-
14 hexane and other volatile organic compounds. Exposure to these compounds in the short-term can
15 result in nose, throat, eye, skin and gastric irritation, nausea, vomiting and neurological effects.
16 Chronic exposure can result in blood disorders, birth defects, developmental disorders, neurological
17 effects, respiratory problems, and cancer (U.S. Environmental Protection Agency 2011a). The
18 locations of active wells can be determined with relative ease; however, older oil and gas wells may
19 have been abandoned or shut-in without highly detailed location data. Chapter 26, *Mineral*
20 *Resources*, provides the locations of known oil and gas wells drilled throughout the study area.

21 Petroleum processing facilities include a wide range of facilities and equipment that generally fall
22 into two categories: in-field facilities and pipeline/transport facilities. In-field facilities enhance
23 petroleum and gas extraction and distribution (or storage) prior to linkage to larger regional
24 pipelines. In-field facilities contain equipment that may be used for a specific well or set of wells, or
25 may include sub-regional or regional facilities that service a wide area. Pipeline/transport facilities
26 contain pump stations, pressure regulation equipment, or storage tanks used to facilitate the orderly
27 feed of petroleum gathered from individual wells into a larger pipeline for transport to a refinery.

28 Historic oil and gas well fields may include areas that may have contaminated soil and/or
29 groundwater. In addition to production facilities, an active producing well field may have areas used
30 during exploration that may result in soil or groundwater contamination. For example, during
31 typical drilling activities, mud pits have served as surface impoundments for drilling fluids that can
32 contain hazardous materials (e.g., cadmium, mercury, chromium, naphthalene, and fluorine),
33 resulting in a potential source of contamination. Drilling fluids often contain petroleum compounds
34 in both raw (crude) form and refined form (drilling enhancement additives). Generally, mud pits are
35 a series of open tanks, usually made of steel plates, through which the drilling mud is cycled to allow
36 sand and sediments to settle out. Former mud pits, although usually lined, may be a historic source
37 for hydrocarbon contamination.

38 Other oil and gas exploration and production activities that can release hazardous materials into the
39 environment where they may be encountered during excavation or construction include drilling,
40 production, treatment and temporary storage areas, piping to gathering points, and storage and
41 shipment to refineries and processing facilities. Petroleum facilities include pump stations, pressure
42 regulation equipment, or storage tanks used to facilitate the orderly feed of petroleum gathered
43 from individual wells into a larger pipeline for transport to a refinery. Figure 24-1 displays the

1 locations of known oil and gas processing facilities in the study area for which sufficient data were
2 available.

3 Additionally, active, abandoned, and shut-in oil and gas wells may be present in areas where
4 excavation is planned. Improperly sealed natural gas wells have the potential to act as natural gas
5 conduits from deep reservoirs to shallow strata where flammable gases may pose hazards to
6 excavation or tunneling activities. The locations of many abandoned or shut-in wells may be
7 unknown due to inadequate or missing data or poor record-keeping.

8 **24.1.2.4 Hazards from Historical Mercury Mining**

9 Mercury has been identified as a chemical of concern in Delta area sediments, resulting from gold
10 and mercury mining operations in the watersheds upstream of the Delta. Mercury was used
11 extensively upstream of the study area in mining to extract gold from ores and placer gravel
12 deposits. Mercury released into the environment by historic gold mining practices has been flowing
13 into the study area via water, primarily from the Sacramento River watershed, and sediments since
14 the mid-1800s and is expected to continue to enter the study area. An unknown amount of mercury
15 is present in sediments within the study area, but estimates of mercury flowing into the study area,
16 mainly associated with suspended sediment (Alpers et al. 2008:10), range from approximately 200–
17 400 kg/yr (Central Valley Regional Water Quality Control Board 2008:116). A discussion of mercury
18 and other metals and their bioaccumulative properties is provided in Chapter 8, *Water Quality*, and
19 Chapter 25, *Public Health*.

20 **24.1.2.5 Urban, Residential, and Recreational Land Use**

21 In general, hazardous materials releases from cities and towns are associated with stormwater
22 runoff and primarily affect water bodies. Cities and towns account for approximately 9% of the total
23 study area. Urban stormwater discharges are generally characterized by varying levels of metals and
24 hydrocarbons that can accumulate in river sediments over time. Historically, polychlorinated
25 biphenyls (PCBs) have been associated with urban discharge, and these contaminants have been
26 detected in fish tissues in San Francisco Bay.

27 Urban areas have many facilities with the potential for hazardous materials releases, including gas
28 stations, dry cleaners, automotive repair facilities, and, in larger towns, manufacturing facilities.
29 Stockton, for example, has large shipping and port facilities, as well as federal facilities with a history
30 of hazardous materials use, storage, and releases. Antioch and Oakley, located on the south side of
31 the San Joaquin River in the southern end of the study area, have major power-producing facilities
32 and several active or former industrial facilities with known groundwater impacts. Possible
33 contaminants of concern from urban land uses are extensive, but the most common contaminants in
34 soil and groundwater are petroleum and associated compounds (typically gasoline and diesel
35 releases from USTs as the source), chlorinated solvents and degreasers (from dry cleaning and
36 vehicle repair facilities), and various heavy metals, such as arsenic and lead. The variety of
37 contaminants that can exist in groundwater beneath urban land uses depends on the sources and on
38 the geologic conditions present that might accelerate or limit dispersion of contaminants in soil and
39 groundwater media. Wastewater discharges from treatment plants also are associated with urban
40 and suburban land use. A detailed discussion of water quality is provided in Chapter 8, *Water*
41 *Quality*. Given the small percentage of urban land in the study area, urban-related toxicants are of
42 less concern than other potential sources of hazardous materials.

1 In addition, large marinas, service houseboats, pleasure craft, and commercial craft are present
 2 throughout the study area. Marinas typically include bulk fuel storage and overwater fueling,
 3 various boat repair/maintenance facilities, stores, boat storage, and camping facilities. Typical
 4 chemicals associated with marinas include fuels, lubricants, cleaners, anti-fouling paints, and
 5 fiberglass components.

6 **24.1.2.6 Hazardous Materials Transportation**

7 The study area and surrounding region are home to important urban centers, including the cities of
 8 Antioch, Stockton, Sacramento, and San Francisco. Major east-west surface transport routes and ship
 9 channels cross the Delta. These transportation corridors move a variety of products, including
 10 hazardous materials. Transportation of hazardous materials involves some risk of spillage and
 11 subsequent contamination of soil, water, or sediments.

12 Hazardous materials transported through the study area include a variety of commodities. However,
 13 detailed information is not available due to security and proprietary reasons. Attempts to obtain
 14 detailed information were met with non-disclosure responses, presumably due to proprietary and
 15 security concerns. In the wake of the terrorist attacks of September 11, 2001, the Department of
 16 Transportation's (DOT) Research and Special Programs Administration (RSPA), which has
 17 regulatory authority over all modes of hazardous materials transportation, published the HM-232
 18 final rule on March 25, 2003. Codified at 49 CFR 172, HM-232 requires entities that transport certain
 19 types and quantities of hazardous materials to develop and implement security plans (Batelle and
 20 TotalSecurity.US n.d.). "En route" security is one of three required sections of security plans,
 21 specified in Section 172.802. Security plans are considered "security sensitive information,"
 22 available only on a "need to know" basis to those with relevant responsibilities or appropriate
 23 security clearance (Batelle and TotalSecurity.US n.d.: 31; 49 CFR 172, Section 172.802[c]). While
 24 non-disclosure of information concerning materials and routes is not a specific requirement of HM-
 25 232, it is a common feature of security plans (Coleman pers. comm.).

26 Information provided in this section on the types of hazardous materials transported is therefore
 27 limited to publicly available information.

28 Assuming hazardous materials transportation corresponds reasonably with overall freight flows,
 29 hazardous materials move by water, pipeline, rail, and road through the Delta. The hazardous
 30 materials shippers and transporters must comply with specific requirements of 49 CFR 171
 31 including proper classification, labeling, packaging, and handling. Figure 24-2 displays the locations
 32 of designated and restricted hazardous materials transportation routes, including rail, within the
 33 study area.

34 **Transported Commodities of Concern**

35 The following commodities are known to be transported through the study area by one or more
 36 modes of transportation. Acute, short-term health effects of exposure to these chemicals
 37 (commodities) are briefly described below. The effects of exposure to any hazardous substance
 38 depend on many variables, including the dose, duration and route of exposure.

- 39 • Anhydrous ammonia is commercially used directly or indirectly in production of
 40 pharmaceuticals. Anhydrous ammonia is also used in the production of fertilizer. It is a caustic
 41 or corrosive, colorless gas. Ammonia is an irritant and corrosive to the skin, eyes, respiratory

1 tract and mucous membranes. Exposure to liquid or rapidly expanding gases may cause severe
2 chemical burns and frostbite to the eyes, lungs and skin (Tanner Industries, Inc. 2011).

- 3 ● Crude oil, or petroleum, is a naturally occurring, combustible liquid. It is the base product that is
4 processed to produce other petroleum products.
- 5 ● Diesel, or petro-diesel, is a product of crude oil used as fuel for vehicles, trucks, ships, and
6 generators. It is a volatile and flammable liquid. Direct contact with diesel fuel causes severe
7 skin irritation. Inhalation of diesel fuel can result in lung damage (Phillips Petroleum Company
8 2012).
- 9 ● Gasoline is a product of crude oil used primarily as engine fuel. It is a volatile and flammable
10 liquid. Typical gasoline contains about 150 different chemicals, including BTEX compounds.
11 Many adverse health effects of gasoline are due to individual chemicals in gasoline, mainly BTEX,
12 that are present in small amounts. Breathing small amounts of gasoline vapors can lead to nose
13 and throat irritation, headaches, dizziness, nausea, vomiting, confusion and breathing
14 difficulties. Symptoms from swallowing small amounts of gasoline include mouth, throat and
15 stomach irritation, nausea, vomiting, dizziness and headaches. Some effects of skin contact with
16 gasoline include rashes, redness and swelling. Being exposed to large amounts of gasoline can
17 lead to coma or death (Agency for Toxic Substances and Registry 1996).
- 18 ● Natural gas consists primarily of methane and is a colorless and nearly odorless gas. It is used in
19 building heating/cooling, water heaters, and clothes dryers, and as an alternative automobile
20 fuel. Natural gas is volatile and flammable. Acute dizziness may result immediately or shortly
21 after exposure to methane with oxygen levels of less than 15% in air; no long-term health effects
22 are known to be associated with exposure to methane (State of Wisconsin 2010).
- 23 ● Propane is normally a colorless gas, but it can be compressed into a transportable liquid. It is
24 used as a fuel for barbecues, portable stoves, and residential central heating. It is known as
25 liquefied petroleum gas (LPG or LP gas) when it is used as a vehicle fuel. Propane is volatile and
26 flammable. Potential health effects associated with short-term exposure to propane include:
27 dizziness, disorientation, excitation (hallucinations, euphoria); nausea and vomiting;
28 unconsciousness; cardiac arrest; and frostbite (contact with liquid) (U.S. Department of Labor
29 Occupational Health and Safety Administration 2003).
- 30 ● Ethanol, also known as ethyl alcohol, pure alcohol, and grain alcohol, is used as a solvent of
31 substances intended for human consumption, including flavorings, colorings, and medicines. It is
32 also used as a fuel for heat and light, and as a fuel additive for internal combustion engines. It is
33 a volatile, flammable, colorless liquid. Pure ethyl alcohol (200 proof) is a skin, eye, and lung
34 irritant (Sciencelab.com, Inc. 2013).
- 35 ● Coal fly ash is a residue generated in the combustion of coal. The main components of coal fly
36 ash are oxides of silicon, aluminum, iron, and calcium, with lesser amounts magnesium, sulfur,
37 sodium, and potassium. Other metals and metal-like elements are found in trace quantities –
38 arsenic, cadmium, beryllium, thallium, nickel, lead, manganese, chromium, selenium, zinc, cobalt,
39 mercury, and other metals. Some fly ash is recycled and used in Portland cement and asphalt
40 cement, and is used as an engineering material for soil stabilization and embankment
41 construction. *In vitro* studies have shown a link between coal fly ash exposure and DNA damage
42 (Borm 1997), and occupational studies have indicated that prolonged exposure to coal ash
43 results in decreased lung function (Schilling et al. 1988).

- 1 • Radioactive material occurs in many forms. Radioactive material is commonly used in industrial
2 processes, to measure moisture, thickness, or other process parameters, and for such
3 applications as inspecting welds, and in medicine in diagnostic and therapeutic procedures. The
4 type and severity of adverse health effects from radiation are dependent on the amount and
5 duration of radiation exposure. Adverse health effects from radiation exposure generally range
6 from acute exposure effects including skin burns, nausea, weakness, hair loss, or diminished
7 organ function, to DNA mutations and cancer (U.S. Environmental Protection Agency 2011b).
- 8 • Common acids and bases used in industry and research include sodium hydroxide; ammonium
9 hydroxide; potassium hydroxide; hydrochloric acid; sulfuric acid; nitric acid; perchloric acid;
10 and phosphoric acid. Strong acids and bases such as these are corrosive to skin, as well as nasal
11 and lung tissue (if inhaled).

12 **Pipelines**

13 Pipelines are generally present throughout the study area and several pipelines are aligned west to
14 east across the study area's southern half. Figure 24-3 displays the locations of study area oil and
15 gas pipelines.

16 The main commodities transported through the pipelines are crude oil, refined petroleum products,
17 and natural gas. A small portion of the pipelines carry more than one commodity. Pipeline depths
18 could not be determined from publicly available mapping information.

19 Most of the study area pipelines are owned and operated by Pacific Gas and Electric Company. Other
20 owners include Chevron Texaco, Standard Pacific Gas Line Inc., Sacramento Municipal Utility
21 District, Kinder Morgan, and Equilon Pipeline Company LLC.

22 **Rail**

23 Union Pacific Railroad (UPRR) and BNSF Railway (formerly Burlington Northern Santa Fe Railway)
24 (BNSF Railway) are the major railroads in the Delta. Two smaller railroads operate locally: the
25 Central California Traction Company (CCT) and the Sierra Northern Railway. Both are short-line
26 railroads at the Ports of Stockton and West Sacramento, respectively. These railroads provide
27 service to UPRR and BNSF at the respective ports of their operations (Central California Traction
28 Company 2010; Sierra Northern Railway 2010). For locations of railroads in the Delta and
29 immediate vicinity, please refer to Figure 24-2. Chapter 19, *Transportation*, provides additional
30 information on rail transport in the study area.

31 On their national rail network, BNSF carries liquefied petroleum gas, ethanol, plastics and chemicals,
32 and other unspecified hazardous materials (BNSF Railway 2010). On its California routes, UPRR
33 transports various chemicals, manufactured goods, agricultural products, industrial products, and
34 energy products (Union Pacific Railroad 2010).

35 The exact types, quantities, or volumes of commodities transported through the study area by UPRR
36 and BNSF Railway are not publicly available, presumably a function of hazardous materials security
37 plans required by DOT, described in Section 24.1.2.6. Such non-disclosure is also consistent with
38 definitions and regulations pertaining to protection of sensitive security information at 49 CFR
39 1520, Sections 1520.5(a)(3) and (8)(i); and 1520.9, applicable to maritime, rail and aviation
40 transportation. It is assumed that commodities carried on the short-line railroads would be
41 transferred to the main railroad companies; however, for the same reasons this cannot be confirmed

1 because of the safety and proprietary issues restricting access to commodity information from the
2 ports, and state and federal agencies.

3 The short-line Sierra Northern Railway handles approximately 7,000 cars annually. Publicly-
4 available information indicates commodities carried by Sierra Northern Railway includes
5 unspecified chemicals, ethanol, and propane (Sierra Northern Railway 2010). Another short line
6 railroad, the CCT, carries commodities such as plastics, unspecified chemicals, anhydrous ammonia,
7 fly ash, fertilizer, ethanol, and calcium chloride. (Central California Traction Company 2010).

8 **Federal, State, and County Roadways**

9 Designated hazardous materials transportation routes avoid population centers, environmentally
10 sensitive areas, narrow bridges, and tunnels. These routes are generally wider to provide easier
11 access for first responders en route to an event (e.g., accident, release, or spill). Figure 24-2 shows
12 the California designated routes for hazardous materials.

13 Designated hazardous materials routes in the study area are listed below.

- 14 ● I-5, generally along the east side of the Delta boundary, and extending from Sacramento to south
15 of Tracy.
- 16 ● I-80, along the northern Delta boundary, and extending to Sacramento.
- 17 ● I-680, generally along the western boundary of the Suisun Marsh boundary.
- 18 ● I-205, aligned from west to east across the southern portion of the study area.
- 19 ● State Route (SR) 113, on the west Delta boundary, where it intersects with SR 12.
- 20 ● SR 12, aligned from west to east across the northeastern most boundary of Suisun Marsh, and
21 then across the central study area from Rio Vista to Lodi.
- 22 ● SR 4, generally aligned from west to east across the southern portion of the study area from
23 Pittsburg to Stockton.
- 24 ● SR 33, at the southernmost portion of the study area, is a south-north trending highway.
- 25 ● Byron Highway, a county road along the southwestern boundary of the study area; it intersects
26 with SR 4 and trends southeasterly to the intersection with I-205.
- 27 ● West Grant Line Road, a county road along the southern boundary of the study area and just
28 south of I-205. It is a west–east trending highway.
- 29 ● Mountain House Parkway, a county road at the southern Delta boundary. It is a south–north
30 route that extends from the intersection with I-580 to the intersection with Byron Highway.
- 31 ● South Chrisman Road, a county road in the southernmost portion of the study area and
32 extending from the intersection with I-580 to the intersection with West Grant Road.

33 Restricted hazardous materials routes are those that are not ideal as hazardous materials
34 transportation corridors because of their proximity to population centers or environmentally
35 sensitive areas, or because they contain narrow bridges, tunnels, or features that would limit access
36 in the event of a hazardous materials release. The Federal Motor Carrier Safety Administration
37 identifies non-radioactive hazardous materials restricted routes. These routes are identified on
38 Figure 24-2.

1 A portion of I-80 (San Francisco-Oakland Bay Bridge) is identified as a hazardous materials
 2 restricted route for specified hazardous materials. There are a number of alternative highway routes
 3 within and around the study area in the event of a hazardous materials accident and/or release.
 4 Refer to Chapter 19, *Transportation*, for more detail about highways in the Delta.

5 **Marine Transportation**

6 Ships using ports in the study area transport hazardous materials by the Sacramento River, the San
 7 Joaquin River, the Sacramento River Deep Water Ship Channel (SRDWSC), and Stockton Deep Water
 8 Ship Channel (SDWSC). Ships enter the mainland at the Port of San Francisco, travel through San
 9 Pablo Bay, Suisun Bay, and Honker Bay before making their way to either the Sacramento River or
 10 the San Joaquin River, where they travel the SRDWSC or SDWSC to the port of choice. The Port of
 11 West Sacramento and the Port of Stockton lie within the study area.

12 The Port of West Sacramento is located on the Sacramento River and the SRDWSC. This port's
 13 location provides for immediate access to major highways and rail service. I-80 is approximately
 14 0.25 miles from the front gate of the port. BNSF, UPRR, and Sierra Northern Railway provide rail
 15 service to the port. Intermodal services provided at the port are receiving from and loading out to
 16 ship, truck, or rail car. Typical cargoes at the Port of West Sacramento include cement, bulk and
 17 bagged fertilizer, pelletized Kaolin clay, and anhydrous ammonia (City of West Sacramento 2010).

18 The Port of Stockton is located on the SDWSC, approximately one mile from I-5 and other
 19 interconnecting major highway systems. It is centrally located, providing service for shipment and
 20 warehouse storage facilities for containerized and liquid bulk and dry bulk cargo. BNSF and UPRR
 21 serve these facilities. Commodities that are brought through the Port of Stockton include bulk
 22 materials, such as aggregate, coal, petroleum coke, ores, clay, sulfur, and anhydrous ammonia (Port
 23 of Stockton 2010).

24 **24.1.2.7 Wildfire Hazards**

25 In general, wildfire is a serious hazard in undeveloped areas with extensive areas of non-irrigated
 26 vegetation. Fire hazard classification varies by areas in and around the study area. For example, a
 27 portion of Yolo County west of Esparto and Winters is classified as having moderate to very high
 28 wildfire risk; the very high risk areas are concentrated in the northwest portion of the county
 29 bordering Lake, Colusa, and Napa counties and are outside of the study area. Most of the remaining
 30 undeveloped lands in Yolo County are unzoned and represent minimal to moderate fire risk. In
 31 Solano County, the foothills and mountainous watershed areas are classified as very high fire hazard
 32 severity zones. The Cordelia Hills, Potrero Hills, Cement Hills, and western English Hills are all
 33 designated as high-risk fire areas (Solano County 2008). As another example, fire hazards are
 34 considerable throughout Contra Costa County because of highly vegetated areas containing wildlife
 35 habitats. The threat of brush fires is greatest during late summer. These fires burn hot and rapidly,
 36 and, combined with winds, can become destructive crown fires (fires that advance through canopy
 37 fuels more or less independently of surface fires). In Alameda County, the potential for destructive
 38 wildland fires is relatively high throughout the county's undeveloped hill areas because of the
 39 rolling to rugged terrain, continuous flammable vegetation cover, and long and dry summers with
 40 high wind conditions.

24.1.3 Airports within 2 miles of the Water Conveyance Option Footprints or Restoration Opportunity Areas

There were three public and eight private airports within the Plan Area identified as being within 2 miles of one or more of the five water conveyance alignment footprints. These airports are described briefly below.

24.1.3.1 Public Airports

Byron Airport. This airport is located 2 miles south of Bryon, and is owned by the county of Contra Costa. Byron Airport has two runways, and averages 164 operating aircraft per day, based on a 12-month period ending December 31, 2012 (AirNav, LLC 2013a). There is no control tower. Fuel is sold on site.

Lost Isle Seaplane Base. This airport is located approximately 8 miles northwest of Stockton, and is owned by the California State Lands Commission. The Lost Isle Seaplane Base has one runway, and averages approximately 12 operating aircraft per year, based on a 12-month period ending February 5, 2012 (AirNav, LLC 2013b). There is no control tower.

Franklin Field Airport. This airport is located approximately 4 miles southeast of Franklin, and is owned by the county of Sacramento. The Franklin Field Airport has two runways, and averages approximately 89 operating aircraft per day, based on a 12-month period ending January 31, 2013 (AirNav, LLC 2013c). There is no control tower.

24.1.3.2 Private Airports

Delta Air Park. This airport is located approximately 3 miles northeast of Brentwood, in Oakley.

Garibaldi Brothers. This airport is located in Benicia, and has one grass runway. There is no control tower.

Maine Prairie Airport. This airport is located 3 miles south of Dixon, and has one, gravel-surfaced runway. There is no control tower, and permission is required to land. Maine Prairie Airport supports primarily agricultural aircraft operations (AirNav, LLC 2013d).

Borges-Clarksburg Airport. This airport is located approximately 2 miles northeast of Clarksburg, and has one turf runway. There is no control tower, and permission is required to land. The Borges-Clarksburg Airport averages approximately 57 operating aircraft per week, based on a 12-month period ending December 31, 2001 (AirNav, LLC 2013e).

Spezia Airport. This airport is located approximately 3 miles southwest of Walnut Grove and has one dirt runway. There is no control tower, and permission is required to land (AirNav, LLC 2013f).

Walnut Grove Airport. This airport is located in Isleton, and has one runway.

Flying B Ranch Airport. This airport is located approximately 3 miles southeast of Franklin, and has one turf runway. There is no control tower, and permission is required to land (AirNav, LLC 2013g).

Funny Farm Airport. This airport is located approximately 3 miles northeast of Brentwood, and has a single asphalt runway. There is no control tower, and permission is required to land (AirNav, LLC 2013h).

24.2 Regulatory Setting

This section describes federal and state statutes that provide the regulatory basis for conducting assessments of the potential hazardous materials, hazardous waste, or hazardous constituents that may be present at and potentially released into the Delta. This section also discusses local general plan policies and actions related to hazards and hazardous materials.

24.2.1 Federal Plans, Policies, and Regulations

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for the enforcement of federal regulations associated with hazardous materials. The primary legislation governing hazardous materials are the Comprehensive Environmental Response, Compensation, and Liability Act; the Resource Conservation and Recovery Act; and the Superfund Amendments and Reauthorization Act.

24.2.1.1 Comprehensive Environmental Response, Compensation and Liability Act, as Amended

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 United States Code [USC] Section 9601 et seq. 1980) provides federal funds to clean up uncontrolled or abandoned hazardous waste sites, accidents, spills, discharges, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, EPA was given authority to seek out those parties responsible for any hazardous release and assure their cooperation in the cleanup.

24.2.1.2 Resource Conservation and Recovery Act, as Amended

The Resource Conservation and Recovery Act (RCRA) (42 USC Section 6901 et seq. 1976) provides EPA with the authority to control hazardous waste from cradle-to-grave. This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. The 1984 federal Hazardous and Solid Waste Amendments to RCRA focus on waste minimization and phasing out land disposal of hazardous waste, as well as corrective actions for releases. Other mandates of this law include increased enforcement authority for EPA, more stringent hazardous waste management standards, and a comprehensive UST program. The 1986 RCRA amendments enabled EPA to address environmental problems from underground tanks storing petroleum and other hazardous substances. RCRA also sets forth a framework for the management of non-hazardous solid wastes. RCRA Section 3006 allows EPA with to authorize state hazardous waste programs. Once authorized, the state program operates in lieu of the federal program, although EPA retains enforcement authority even after a state program has been authorized.

24.2.1.3 Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definition clarifications, and technical requirements were added to the statute, including additional enforcement authorities. Title III of SARA authorized the Emergency Planning and Community Right-to-Know Act (EPCRA). The objective of the EPCRA is to: (1) allow state and local planning for chemical emergencies, (2) provide for notification of emergency releases of chemicals, and (3) address communities' right-to-know about toxic and hazardous chemicals. The four major

1 provisions of the EPCRA regulations (40 Code of Federal Regulations [CFR] Parts 350-372) are listed
2 below.

- 3 • Emergency Planning (Sections 301 – 303)
- 4 • Emergency Release Notification (Section 304)
- 5 • Hazardous Chemical Storage Reporting (Sections 311 – 312)
- 6 • Toxic Chemical Release Inventory (Section 313)

7 **24.2.1.4 Toxic Substances Control Act**

8 The Toxic Substances Control Act of 1976 (TSCA) (15 USC 2601 et seq. 1976) gives the EPA
9 authority to establish reporting, recordkeeping and testing requirements, and restrictions relating
10 to chemical substances and/or mixtures. TSCA addresses the production, import, use, and disposal
11 of specific chemicals, including PCB, asbestos, radon, and lead-based paint.

12 **24.2.1.5 National Emissions Standards for Hazardous Air Pollutants**

13 The Federal Clean Air Act (Clean Air Act) (42 USC 7401 et seq. 1970) requires the EPA to develop
14 and enforce regulations to protect the general public from exposure to airborne contaminants that
15 are known to be hazardous to human health. In accordance with Section 112 of the Clean Air Act,
16 EPA established National Emissions Standards for Hazardous Air Pollutants (NESHAP) to protect the
17 public. Asbestos was one of the first hazardous air pollutants regulated under Section 11240 CFR,
18 Subpart M, Section 61.145. Asbestos is a naturally occurring fibrous material that was historically
19 used in many building materials for fire-proofing and insulation. In general, buildings constructed
20 prior to 1980 have the potential for asbestos-containing materials. The EPA has classified asbestos
21 as a Group A, known human carcinogen.

22 The California Air Resources Board, under The Asbestos Program, enforces compliance with
23 NESHAP and investigates all related complaints, as specified by the California Health and Safety
24 Code Section 39658(b)(1). Of the 35 air districts in California, 19 do not have an asbestos program
25 in place. In these "non-delegated" districts, a demolition/renovation notification is required for
26 compliance with the Asbestos NESHAP.

27 **24.2.1.6 Federal Insecticide, Fungicide and Rodenticide Act**

28 The federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 USC 136 et seq. 1996) provides
29 for federal regulation of pesticide distribution, sale, and use. All pesticides distributed or sold in the
30 United States must be registered (licensed) by EPA. Before EPA registers a pesticide under FIFRA,
31 the applicant must show that, among other things, use of the pesticide according to specifications
32 "will not generally cause unreasonable adverse effects on the environment." FIFRA imposes
33 pesticide-labeling requirements; controls when and under what conditions pesticides can be
34 applied, mixed, stored, loaded or used; specifies when fields can be reentered after pesticide
35 application; and identifies when crops can be harvested. Under FIFRA, registrations and product
36 labeling may restrict uses of pesticides. As a part of the pesticide registration, EPA classifies the
37 product or some uses of the product as "restricted use" if it may cause unreasonable adverse effects
38 even when used as directed on the product labeling. Only certified pesticide applicators may use
39 restricted-use pesticides.

1 **24.2.1.7 Hazardous Materials Transportation Act**

2 The Hazardous Materials Transportation Act (HMTA) (49 USC 5101–5127) was enacted in 1975.
 3 HMTA’s primary objective is to provide adequate protection against risks to life and property
 4 inherent in commercial transportation of hazardous materials by improving the regulatory and
 5 enforcement authority of the Secretary of Transportation. Hazardous materials, as defined by the
 6 Secretary of Transportation are any “particular quantity or form” of a material that “may pose an
 7 unreasonable risk to health and safety or property.” Among the material designated as hazardous
 8 are explosives; radioactive materials; infectious substances; flammable or combustible liquids,
 9 solids, or gases; toxic, oxidizing, or corrosive materials; and compressed gases in specified forms and
 10 quantities. The regulations cited in the HMTA apply, but are not limited to, a person who transports
 11 hazardous materials, designs containers for, or prepares or accepts hazardous materials for
 12 transportation. HMTA governs safety aspects, including security, of the transportation of hazardous
 13 materials that the Secretary of the DOT considers appropriate.

14 Enforcement of the HMTA is shared by each of the following administrations under delegations from
 15 the Secretary of the DOT:

- 16 • RSPA Responsible for container manufacturers, reconditioners, and retesters and shares
 17 authority over shippers of hazardous materials.
- 18 • Federal Highway Administration (FHWA) enforces all regulations pertaining to motor carriers.
- 19 • Federal Railroad Administration (FRA) enforces all regulations pertaining to rail carriers.
- 20 • Federal Aviation Administration (FAA) enforces all regulations pertaining to air carriers.
- 21 • Coast Guard enforces all regulations pertaining to shipments by water.

22 **24.2.1.8 The Clean Water Act**

23 The Clean Water Act (33 USC 1251 et seq.) (described in greater detail in Chapter 8, *Water Quality*),
 24 establishes the institutional structure for EPA to regulate discharges of pollutants into the waters of
 25 the United States, establish water quality standards, conduct planning studies, and provide funding
 26 for specific grant projects.

27 The EPA has provided most states with the authority to administer many of the provisions of the
 28 Clean Water Act. In California, the State Water Resources Control Board (State Water Board) has
 29 been designated by EPA to develop and enforce water quality objectives and implementation plans.
 30 The State Water Board has delegated specific responsibilities for the development and enforcement
 31 actions to the Central Valley Regional Water Quality Control Board (Central Valley Water Board).

32 Section 402 of the CWA (33 USC 1342) establishes the National Pollutant Discharge Elimination
 33 System (NPDES) permit program to regulate point source discharges of pollutants into waters of the
 34 United States (discussed in greater detail in Chapter 8, *Water Quality*). A NPDES permit sets specific
 35 discharge limits for point sources discharging pollutants into waters of the United States and
 36 establishes monitoring and reporting requirements, as well as special conditions. Typically, NPDES
 37 permits are issued for a five-year period by the Regional Water Quality Control Boards (RWQCBs).

38 **24.2.1.9 Safe Drinking Water Act**

39 The Safe Drinking Water Act (SDWA) (42 USC 300f et seq. 6939b; 15 USC 1261 et seq.) was
 40 originally passed by Congress in 1974 to protect public health by regulating the nation's public

1 drinking water supply. SDWA authorizes EPA to set national health-based Maximum Contaminant
 2 Levels (MCLs) for drinking water to protect against both naturally occurring and human-made
 3 contaminants that may be found in drinking water. EPA, state regulatory agencies, and water
 4 systems managers then work together to ensure these standards are met. The law was amended in
 5 1986 and 1996 and requires many actions to protect drinking water and its sources, including
 6 rivers, lakes, reservoirs, springs, and groundwater wells. EPA protects underground sources of
 7 drinking water, and many environmental regulations use the MCLs for environmental clean-up
 8 standards.

9 **24.2.1.10 Oil Pollution Act of 1990**

10 The Oil Pollution Act of 1990 (33 USC 2701–2762) is an amendment to the Clean Water Act. It
 11 requires certain on- and off-shore facilities, which store and use oil and fuels and which could
 12 reasonably be expected to cause substantial harm to the environment, to prepare plans to respond
 13 to a worst-case discharge of oil and threats of such a discharge to navigable waters or adjoining
 14 shorelines. Under the Oil Pollution Act, the Spill Prevention, Control, and Countermeasure (SPCC)
 15 Rule (40 CFR 112) regulates non-transportation-related onshore and offshore facilities that could
 16 reasonably be expected to discharge oil into navigable waters of the United States or adjoining
 17 shorelines. The act requires the preparation and implementation of site-specific SPCC plans to
 18 prevent and respond to oil discharges that could affect navigable waters.

19 **24.2.1.11 Federal Railroad Administration**

20 The Federal Railroad Administration (FRA) is responsible for promulgating and enforcing rail safety
 21 regulations. These regulations are codified at Title 49 CFR Part 200–299. The FRA administers a
 22 safety program that oversees the movement of hazardous materials (including dangerous goods),
 23 such as petroleum, chemical, and nuclear products, throughout the United States’ rail transportation
 24 system, including shipments transported to and from international organizations.

25 **24.2.1.12 Occupational Safety and Health Act**

26 The Occupational Safety and Health Administration (OSHA) administers the Occupational Safety and
 27 Health Act, (29 USC 15) which requires special training of handlers of hazardous materials,
 28 notification to employees who work in the vicinity of hazardous materials, and acquisition from the
 29 manufacturer of material safety data sheets (MSDS). An MSDS describes the proper use of hazardous
 30 materials and is intended to provide workers and emergency personnel with procedures for
 31 handling or working with that material. The Act also requires the training of employees to remediate
 32 any hazardous materials accidental releases.

33 **24.2.1.13 Safe, Efficient Use and Preservation of Navigable Airspace**

34 In administering Title 14 of CFR Part 77, the prime objectives of the FAA are to promote air safety
 35 and the efficient use of navigable airspace. Proponents of projects near an airport must provide the
 36 FAA with a Notice of Proposed Construction or Alteration for review prior to initiating construction.
 37 Title 14 CFR 77.9 states that any person/organization who intends to sponsor any of the
 38 construction or alterations listed below must notify the Administrator of the FAA.

- 39 • Any construction or alteration exceeding 200 feet above ground level at its site.

- 1 • Any construction or alteration that exceeds an imaginary surface extending outward and
2 upward at any of the following slopes:
 - 3 ○ 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest
4 runway of each airport described in paragraph (d) of Section 77.9 with its longest runway
5 more than 3,200 feet in actual length, excluding heliports.
 - 6 ○ 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway
7 of each airport described in paragraph (d) of Section 77.9 with its longest runway no more
8 than 3,200 feet in actual length, excluding heliports. within 5,000 feet of a public use
9 heliport which exceeds a 25:1 surface.
 - 10 ○ 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing
11 and takeoff area of each heliport described in paragraph (d) of Section 77.9.
- 12 • Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted
13 upward 17 feet for an Interstate Highway that is part of the National System of Military and
14 Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical
15 distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object
16 that would normally traverse the road, whichever is greater, for a private road, 23 feet for a
17 railroad, and for a waterway or any other traverse way not previously mentioned, an amount
18 equal to the height of the highest mobile object that would normally traverse it, would exceed a
19 standard of paragraph (a) or (b) of this section.
- 20 • Any construction or alteration on any of the following airports and heliports:
 - 21 ○ A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific
22 Chart Supplement of the U.S. Government Flight Information Publications.
 - 23 ○ A military airport under construction, or an airport under construction that will be available
24 for public use.
- 25 • An airport operated by a federal agency or the Department of Defense.
- 26 • An airport or heliport with at least one FAA-approved instrument approach procedure.

27 There is no need to file a notice for construction or alteration in any of the instances listed here.

- 28 • Any object that will be shielded by existing structures of a permanent and substantial nature or
29 by natural terrain or topographic features of equal or greater height, and will be located in the
30 congested area of a city, town, or settlement where the shielded structure will not adversely
31 affect safety in air navigation.
- 32 • Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or
33 meteorological device meeting FAA-approved siting criteria or an appropriate military service
34 siting criteria on military airports, the location and height of which are fixed by its functional
35 purpose.
- 36 • Any construction or alteration for which notice is required by any other FAA regulation.
- 37 • Any antenna structure of 20 feet or less in height, except one that would increase the height of
38 another antenna structure.

39 Aeronautical studies are conducted by the FAA based on information provided by project
40 proponents to ensure construction equipment and facilities will not interfere with air traffic. In

1 addition, standards describing marking and lighting structures, such as buildings, chimneys, antenna
2 towers, cooling towers, storage tanks, and supporting structures of overhead wires, are provided.

3 The California Department of Transportation (Caltrans), Division of Aeronautics performs safety
4 functions with regard to the state's navigable airspace which are not FAA's responsibility:

- 5 • Permit and inspect over 300 public-use and special-use airports. In addition, under contract for
6 the FAA, the Division conducts federal Airport Master Record inspections at non-commercial,
7 public use airports in conjunction with the Division's periodic airport permit compliance and
8 safety inspection program.
- 9 • Permit and inspect over 460 hospital and other special-use heliports. Conduct a periodic permit
10 compliance and safety inspection program for hospital heliports.
- 11 • Authorize helicopter landings at or within 1000 feet of schools (K-12).
- 12 • Evaluate the acquisition of proposed public schools (K-12), community college, and State
13 building sites within two miles of an airport runway.

14 **24.2.2 State Plans, Policies, and Regulations**

15 **24.2.2.1 California Hazardous Substance Account Act**

16 The California equivalent to CERCLA, the Carpenter-Presley-Tanner Hazardous Substance Account
17 Act (California Health and Safety Code, Chapter 6.8), was adopted in 1999. This act requires past and
18 present owners and operators to assume liability for the remediation of hazardous waste sites
19 within California. The regulations also contain the provisions listed below.

- 20 • Response authority for releases of hazardous substances, including spills and hazardous waste
21 disposal sites.
- 22 • Compensation for medical expenses and lost wages or business income resulting from injuries
23 caused by exposure to releases of hazardous substances.
- 24 • Funds for the state to assure payment of its 10% share of the costs mandated pursuant to
25 Section 104(c)(3) of the federal act (42 USC Section 9604(c)(3)).

26 Similar to the 1996 CERCLA amendments that encourage cleanup of contaminated sites, the
27 California Land Reuse and Revitalization Act of 2004 was codified in the Health and Safety Code,
28 Division 20, Chapter 6.82, Sections 25395.60–25395.105. This chapter encourages the development
29 or redevelopment of urban properties, provides processes that ensure remediation to protect public
30 health, safety, and the environment, and relieves innocent owners, bona fide prospective
31 purchasers, and owners of property adjacent to contaminated sites of liabilities and responsibilities
32 that should be borne by those who caused or contributed to the contamination.

33 The Health and Safety Code Section 25356.1 requires that the California Department of Toxic
34 Substances Control (DTSC) prepare or approve remedial action plans for sites where hazardous
35 substances were released to the environment if they are listed as Superfund sites. RWQCBs have the
36 responsibility to make decisions regarding cleanup and abatement goals and objectives for the
37 protection of water quality (Section 24.2.2.9, *Water Code*). RWQCBs also regulate the disposal of
38 contaminated soil.

1 **24.2.2.2 California Hazardous Waste Control Law**

2 The California Hazardous Waste Control Law (California Health and Safety Code Chapter 6.5 of
3 Division 20) is the basic hazardous waste statute in California and is administered by DTSC. This law
4 is similar to, but generally more stringent than, RCRA, and applies to a broader range of hazardous
5 wastes, and requires recycling and waste reduction programs. Under this law, DTSC is authorized to
6 administer California’s hazardous waste program and implement the federal program in California.
7 Title 22, Division 4.5 contains DTSC’s hazardous waste regulations.

8 **24.2.2.3 Hazardous Waste Program**

9 Generation, transportation, treatment, storage, and disposal of characteristic and listed hazardous
10 wastes are regulated under the Health and Safety Code, Sections 25100 to 25250.28. As part of
11 hazardous waste regulation, Health and Safety Code Sections 25250 through 25250.28 regulate
12 PCBs in used oil and prohibit used oil recycling or reuse if the oil contains 5 parts per million or
13 greater of PCBs.

14 **24.2.2.4 Hazardous Materials Release Response Plans and Inventory**

15 Similar to SARA, the Hazardous Materials Release Response Plans and Inventory was codified in the
16 Health and Safety Code Division 20, Chapter 6.95, Sections 25500–25520. This code requires certain
17 businesses to prepare plans relating to the handling and release or threatened release of hazardous
18 materials. This act establishes minimum statewide standards for contents of plans, including
19 location, type, quantity, and health risks of hazardous materials handled, used, stored, or disposed
20 of, which could be accidentally released into the environment. It ensures that firefighters, health
21 officials, planners, public safety officers, health care providers, regulatory agencies, and other
22 interested persons have access to the plans.

23 **24.2.2.5 California Underground Storage Tank Program**

24 The California Underground Storage Tank Program is designed to: (1) prevent contamination from
25 the improper storage of hazardous substances stored underground, (2) ensure that existing tanks
26 are properly maintained, inspected, tested, and upgraded, and (3) ensure that new USTs meet
27 appropriate standards. The California regulations are codified in the Health and Safety Code,
28 Division 20, Chapter 6.7, Sections 25280–25299.8.

29 **24.2.2.6 Aboveground Petroleum Storage Act (APSA) of 2007**

30 California adopted a statewide program to determine the amount and type of hazardous substances
31 being stored in aboveground tanks under the Health and Safety Code Division 20, Chapter 6.67,
32 Sections 25270–25270.13. APSA applies to storage tank facilities with aggregate petroleum storage
33 capacities greater than 1,320 gallons and requires development and implementation of a SPCC Plan
34 consistent with 40 CFR 112. Facilities must submit annual Tank Facility Statements and, depending
35 on Certified Unified Program Agency (CUPA) requirements, may be required to submit to periodic
36 inspection.

37 **24.2.2.7 California Solid Waste**

38 Solid waste in California is regulated under Title 14, Division 7 and Title 27, Division 2 of the
39 California Code of Regulations (CCR). These regulations establish minimum standards for the

1 handling and disposal of solid wastes. Both the State Water Board and the California Integrated
 2 Waste Management Board have oversight and approval authority over local enforcement agencies
 3 that permit and take enforcement action on solid waste management facilities. Public Resources
 4 Code Sections 43200–43219, 43020, 43020.1, 43021, 43030, 43101, and 43103 govern the local
 5 enforcement agencies.

6 Prior to disposal at a landfill facility, contaminated solids must be properly characterized in
 7 accordance with EPA publication SW-846, Test Methods for Evaluating Solid Waste,
 8 Physical/Chemical Methods. Based on the analytical results, material will likely be classified as one
 9 of the following:

- 10 • Nonhazardous waste
- 11 • Non-RCRA hazardous waste (state regulated)
- 12 • RCRA hazardous waste (federally regulated)

13 Each waste classification has unique requirements for assessment, handling, and disposal. Many
 14 options exist for the disposal of contaminated soils including treatment, recycling, and disposal at a
 15 permitted facility or landfill. Landfills in California accepting contaminated solids are classified as:

- 16 • Class I – Accepts wastes classified as RCRA hazardous by the CCR
- 17 • Class II – Accepts hazardous waste (RCRA or non-RCRA) designated as having a lower risk, or
 18 nonhazardous waste that significantly threatens water quality
- 19 • Class III – Accepts nonhazardous waste and inert material

20 **24.2.2.8 Control of Pesticides**

21 The California Legislature enacted Food and Agricultural Code sections similar to the EPA FIFRA
 22 program to promote and protect the agricultural industry, and to protect public health, safety, and
 23 welfare. Divisions 6 and 7, Sections 11401–14155 of the Food and Agricultural Code, regulate pest
 24 control operations, application of pesticides, and applicators, and restrict the use of some pesticides
 25 and are implemented by the CalEPA, Department of Pesticide Regulation.

26 **24.2.2.9 Water Code**

27 The state Water Code Division 7, Chapter 5 requires the State Water Board and DTSC to establish
 28 policies and procedures for investigation of, and remediation and abating the effects of, a hazardous
 29 substance discharge that creates, or threatens to create, a condition of contamination, pollution, or
 30 nuisance. The policies and procedures must be consistent with the policies and procedures
 31 established pursuant to the Health and Safety Code, Section 25355.7. The policies and procedures
 32 are established in State Water Board Resolution No 92-49.

33 The Porter-Cologne Water Quality Control Act (codified at Division 7 of the California Water Code)
 34 allows the State Water Resources Control Board to impose water pollution control requirements on
 35 discharges (see Chapter 6 of this document, *Surface Water*, for more information on the Porter-
 36 Cologne Act).

1 **24.2.2.10 State Water Board Resolution No. 92-49**

2 The State Water Board adopted Resolution Number 92-49, Policies and Procedures for Investigation
 3 and Cleanup and Abatement of Discharges, under Water Code Section 13304. This resolution
 4 establishes policies and detailed procedures for all investigations and remediation of any discharge
 5 (release) that causes, or threatens to cause, conditions of soil, water pollution, or nuisance
 6 associated with the migration of waste or fluid from waste management units. The resolution also
 7 requires coordination among other agencies, including DTSC, the EPA, and local governances.

8 **24.2.2.11 California Law for Conservation of Petroleum**

9 The California Law for Conservation of Petroleum (Division 3, Oil and Gas, Chapter 1, Oil and Gas
 10 Conservation) regulates operators of oil wells and oil production facilities. Sections within Chapter 1
 11 govern notices of intent to drill wells, proper abandonment of oil wells to ensure protection of
 12 surface and groundwater, and abandonment of old wells that pose a present danger to life, health, or
 13 natural resources (land, air, and water). Sections also establish emergency reporting requirements
 14 for oil discharges to land.

15 **24.2.2.12 California Department of Conservation, Division of Oil, Gas, and** 16 **Geothermal Resources Construction-Site Plan Review Program**

17 The Division of Oil, Gas, and Geothermal Resources (DOGGR) regulates drilling, operation,
 18 maintenance, and abandonment of oil, gas, and geothermal wells. Plugging and abandonment of oil
 19 and gas wells is to be done according to Title 14 CCR, Division 2, Chapter 4, Subchapter 1, Article 3,
 20 Sections 1723–1723.8. As part of DOGGR’s responsibilities for implementing Section 3208.1 of the
 21 Public Resources Code (PRC), districts have developed the Construction-Site Plan Review Program
 22 to assist local agencies in identifying and reviewing the status of oil or gas wells near proposed
 23 development. The program is aimed at addressing potentially dangerous issues associated with
 24 development near oil or gas wells. DOGGR serves in an advisory role to make relevant information
 25 available to local agencies. Section 3208.1 of the PRC states that if any property owner, developer, or
 26 local permitting agency either fails to obtain an opinion from DOGGR or fails to follow the advice of
 27 DOGGR when development occurs near an oil or gas well, then the owner of the property on which
 28 the well is located may be responsible for re-abandonment costs should a future problem arise with
 29 the well. To use the DOGGR Well Review Program, the developer or property owner submits a
 30 completed Well Review Program Application to DOGGR. Before issuing building or grading permits,
 31 local permitting agencies review and implement DOGGR’s preconstruction well requirements.
 32 Interaction between local permitting agencies and DOGGR helps resolve land-use issues and allows
 33 for responsible development in oil and gas fields.

34 **24.2.2.13 California Occupational Safety and Health Act**

35 The California Occupational Safety and Health Administration (Cal-OSHA) regulates worker safety
 36 similar to federal OSHA but also requires preparation of an Injury and Illness Prevention Program,
 37 an employee safety program of inspections, procedures to correct unsafe conditions, employee
 38 training, and occupational safety communication. In addition, Cal-OSHA regulations indirectly
 39 protect the general public by requiring construction managers to post warnings signs, limit public
 40 access to construction areas, and obtain permits for work considered to present significant risk of
 41 injury or to worker health, such as work in tunnels under potentially hazardous conditions and
 42 asbestos and lead abatement.

1 **Tunnel Safety Orders of the California Code of Regulations**

2 CCR Title 8, Division 1, Chapter 4, Subchapter 20, Sections 8400 through 8469 "Tunnel Safety
3 Orders," sets forth safety standards and provisions, intended to protect workers during tunneling
4 operations. Section 8425, "Operation of Gassy and Extrahazardous Tunnels" identifies safety
5 measures, as follows, to ensure safe work in tunnels classified as "gassy" or "extrahazardous" by Cal-
6 OSHA's Mining and Tunneling Unit.

7 (a)(1) Before any electrical equipment or services are installed or used in places classified as Gassy
8 or Extrahazardous, they shall be permissible, approved, or in accordance with Title 8, Electrical
9 Safety Orders and acceptable to the Division of Occupational Safety and Health (the Division).

10 EXCEPTION: In tunnels where the classification is based on toxic gas(es) which does not present a
11 fire or explosive hazard, the provisions which address a source of ignition shall not be applied.

12 (2) Before any internal combustion engine is permitted to enter any place classified as Gassy or
13 Extrahazardous, the internal combustion engine shall be of an approved, permissible safe design
14 acceptable to the Division.

15 (b) Smoking shall be prohibited and the employer shall be responsible for collecting all personal
16 sources of ignition such as matches, lighters, cameras and radios from all persons entering the
17 tunnel.

18 (c) Welding, cutting, or other hot work and/or spark producing operations shall not be permitted
19 while a probe hole is being drilled or when the tunnel face is being excavated, and shall only be done
20 in atmospheres containing less than 10 percent of the lower explosive limit (LEL) and under the
21 direct supervision of qualified persons. Tests for gas and vapors shall be made before the start and
22 continuously during such operations.

23 (d) Tests for flammable gas shall be conducted in the return air and measured not less than a
24 distance of 12 inches from any surface in any open workings.

25 (e) Tests for flammable petroleum vapors shall be conducted in the return air and measured at a
26 distance not less than 3 inches from any surface in any open workings.

27 (f) Whenever gas levels in excess of 10 percent of the LEL are encountered, the Division shall be
28 notified immediately. Any work therein shall be conducted with extra care and steps shall be taken to
29 increase ventilation.

30 (g) A fixed system of continual automatic monitoring equipment shall be provided for the heading,
31 muck handling, transfer points and return air of tunnels using mechanical excavators. The monitors
32 shall have sensors so situated that they will detect any anticipated gas encountered and shall signal
33 the heading, give visual and audible warning and shut down electric power in the tunnel, except for
34 acceptable ventilation and pumping equipment necessary to evacuate personnel, when 20 percent or
35 more of LEL is encountered. In addition, a manual shut down control shall be provided near the
36 heading.

37 (h) In tunnels driven by conventional drill and blast methods, the air shall be tested for gas prior to
38 re-entry after blasting and continuously when employees are working underground.

39 (i) The main ventilation systems shall exhaust flammable gas or vapors from the tunnel, shall be
40 provided with explosion relief mechanisms, and shall be constructed of fire-resistant materials.

41 (1) In any tunnel classified Extrahazardous, the main ventilation system shall contain a cutoff switch
42 capable of stopping all electrical machinery underground automatically should the fan fail or its
43 performance fall below minimum power needed to maintain a safe atmosphere.

44 (j) A refuge chamber or alternate escape route shall be maintained within 5,000 feet of the face of a
45 tunnel classified as gassy or extra-hazardous. Workers shall be provided with emergency rescue
46 equipment and trained in its use. Refuge chambers shall be equipped with a compressed air supply, a

1 telephone, and means of isolating the chamber from the tunnel atmosphere. The emergency
2 equipment, air supply, and rescue chamber installation shall be acceptable to the Division.

3 (k) At a tunnel classified as Gassy or Extrahazardous, the Division shall permit the tunnel to operate
4 up to but not exceeding 20 percent of the LEL without further notification if the required
5 precautionary measures are in effect and permission is given in writing.

6 **Asbestos Standard for Construction**

7 Cal-OSHA regulations prohibit asbestos emissions from demolition and construction activities;
8 require medical examinations and monitoring of employees engaged in activities that could disturb
9 asbestos; specify precautions and safe work practices to minimize the potential for release of
10 asbestos; and require notice to federal and local government agencies before beginning demolition
11 or construction activities that could disturb asbestos.

12 CCR Title 8, Subchapter 4, Article 4, Section 1529 regulates asbestos exposure in all construction
13 work as defined in Section 1502 including but not limited to the following.

- 14 ● Demolition or salvage of structures where asbestos is present.
- 15 ● Removal or encapsulation of materials containing asbestos.
- 16 ● Construction, alteration, repair, maintenance, or renovation of structures, substrates, or
17 portions thereof, that contain asbestos.
- 18 ● Installation of products containing asbestos.
- 19 ● Asbestos spill/emergency cleanup.
- 20 ● Transportation, disposal, storage, containment of and housekeeping activities involving asbestos
21 or products containing asbestos, on the site or location at which construction activities are
22 performed.
- 23 ● Excavation which may involve exposure to asbestos as a natural constituent which is not related
24 to asbestos mining and milling activities.
- 25 ● Routine facility maintenance.
- 26 ● Erection of new electric transmission and distribution lines and equipment, and alteration,
27 conversion and improvement of the existing transmission and distribution lines and equipment.

28 **24.2.2.14 Safe Drinking Water and Toxics Enforcement Act**

29 The Safe Drinking Water and Toxics Enforcement Act (also known as Proposition 65) was
30 established in the California Health and Safety Code in Division 20, Chapter 6, Sections 25249.5–
31 25249.13 in 1986. The Act requires the state to publish a list of chemicals known to cause cancer,
32 birth defects, or other reproductive harm. The list must be updated at least once a year and included
33 approximately 800 chemicals in 2011. The Act requires California businesses to notify the public
34 about significant quantities of chemicals released into the environment at levels exceeding identified
35 risk levels. Under the Act, California businesses are prohibited from knowingly discharging
36 substantial quantities of listed chemicals into drinking water sources. The Office of Environmental
37 Health Hazard Assessment (OEHHA) administers the Proposition 65 program. OEHHA is part of the
38 California Environmental Protection Agency (Cal EPA) and evaluates all currently available scientific
39 information on substances considered for inclusion on the Proposition 65 list.

1 **24.2.2.15 Accidental Release Prevention Law**

2 In 1986, California adopted the La Follette Bill, which was the predecessor to the Accidental Release
3 Prevention Law. The La Follette Bill regulated “acutely hazardous materials” and was intended to
4 expand control over materials that can produce toxic clouds after fires, explosions or other
5 accidents. In 1996, the state codified the programs created under the La Follette Bill into the
6 Accidental Release Prevention Law in Sections 25531–25543.3 of the California Health and Safety
7 Code. The Accidental Release Prevention Law provides consistency with federal laws (i.e., EPRCA
8 and the Clean Air Act) that allow local oversight of both the state and federal programs. The state
9 and federal laws are similar in their requirements; however, the California threshold planning
10 quantities for regulated substances are lower than the federal values. Local agencies may set lower
11 reporting thresholds or add chemicals to the program.

12 Beginning in 1997, the Accidental Release Prevention Law has been implemented by the state’s local
13 CUPAs. The California Accidental Release Prevention (CalARP) program was implemented on
14 January 1, 1997 by CalEMA and replaced the California Risk Management and Prevention Program
15 (RMPP). The purpose of the CalARP program is to prevent accidental releases of substances that can
16 cause serious harm to the public and the environment, to minimize the damage if releases do occur,
17 and to satisfy community right-to-know laws. This is accomplished by requiring businesses that
18 handle more than a threshold quantity of a regulated substance listed in the regulations to develop a
19 Risk Management Plan (RMP). An RMP is a detailed engineering analysis of the potential accident
20 factors present at a business and the mitigation measures that can be implemented to reduce this
21 accident potential.

22 The CalARP program is implemented at the local government level by CUPAs also known as
23 Administering Agencies (AAs). The CalARP program is designed so these agencies work directly
24 with the regulated businesses. The CUPAs determine the level of detail in the RMPs, review the
25 RMPs, conduct facility inspections, and provide public access to most of the information.
26 Confidential or trade secret information may be restricted.

27 **24.2.2.16 Fire Hazard Severity Zones**

28 In accordance with Public Resources Code sections 4201 to 4204 and Government Code sections
29 51175 to 51189, the California Department of Forestry and Fire Prevention (CAL FIRE) has mapped
30 areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. The
31 zones are referred to as Fire Hazard Severity Zones and represent the risks associated with wildland
32 fires. Under CAL FIRE regulations, areas within very high fire hazard severity zones must comply
33 with specific building and vegetation requirements intended to reduce property damage and loss of
34 life.

35 **24.2.3 Local Plans, Policies, and Regulations**

36 **24.2.3.1 Certified Unified Program Agencies**

37 The Unified Program consolidates, coordinates, and makes consistent the administrative
38 requirements, permits, inspections, and enforcement activities of six environmental and emergency
39 response programs. The Cal EPA and other state agencies set the standards for their programs, and
40 local governments implement the standards. These local implementing agencies are called CUPAs.
41 For each county, CUPAs regulate and oversee these documents and activities.

- 1 • Hazardous materials business plans.
- 2 • California accidental release prevention plans or federal risk management plans.
- 3 • The operation of ASTs and USTs.
- 4 • Universal waste and hazardous waste generators and handlers.
- 5 • Uniform Fire Code implementation.
- 6 • Onsite hazardous waste treatment.
- 7 • Inspections, permitting, and enforcement.
- 8 • Proposition 65 reporting.
- 9 • Emergency response.

10 **24.2.3.2 County General Plans**

11 This section identifies relevant policies and actions related to hazards and hazardous materials in
 12 local general plans of the counties within the study area: Alameda, Contra Costa, Sacramento, San
 13 Joaquin, Solano, and Yolo.

14 **Alameda County**

15 **East County Area Plan**

16 The *East County Area Plan* (Alameda County 2000) was adopted as part of the general plan by the
 17 County in May 1994. The policies from that plan's Environmental Health and Safety Element
 18 relevant to the BDCP are listed here.

19 **Policy 291:** The County shall strive to meet federal and state air quality standards for local air
 20 pollutants of concern. In the event that standards are exceeded, the County shall require appropriate
 21 mitigation measures on new development.

22 **Policy 294:** The County shall require new development projects to include traffic and air pollutant
 23 reduction measures to help attain air quality standards. For non-residential projects, these
 24 measures could include Transportation Demand Management programs such as ridesharing and
 25 transit promotion; for residential projects, these measures could include site plan features to reduce
 26 traffic trip generation such as mixed use development and transit-oriented development.

27 **Policy 300:** The County shall review proposed projects for their potential to generate hazardous air
 28 pollutants.

29 **Policy 303:** The County shall incorporate the provisions of the Association of Bay Area
 30 Government's (ABAG) Bay Area Air Quality Plan and the Bay Area Air Quality Management District's
 31 (BAAQMD) Air Quality and Urban Development Guidelines into project review procedures.

32 **Policy 304:** The County shall notify cities and the BAAQMD of proposed projects which may
 33 significantly affect air quality.

34 **Policy 320:** The County shall consider, in reviewing development projects and subdivision of
 35 agricultural lands, the severity of natural fire hazards, potential damage from wildland and

1 structural fires, the adequacy of fire protection services, road access, and the availability of an
2 adequate water supply and pressure.

3 **Policy 324:** The County shall require the use of fire resistant building materials, fire-resistant
4 landscaping, and adequate clearance around structures in “high” and “very high” fire hazard areas.

5 **Policy 306:** The County shall protect surface and groundwater resources by:

- 6 • preserving areas with prime percolation capabilities and minimizing placement of potential
7 sources of pollution in such areas;
- 8 • minimizing sedimentation and erosion through control of grading, quarrying, cutting of trees,
9 removal of vegetation, placement of roads and bridges, use of off-road vehicles, and animal-
10 related disturbance of the soil;
- 11 • not allowing the development of septic systems, automobile dismantlers, waste disposal
12 facilities, industries utilizing toxic chemicals, and other potentially polluting substances in
13 creekside, reservoir, or high groundwater table areas when polluting substances could come in
14 contact with flood waters, permanently or seasonally high groundwaters, flowing stream or
15 creek waters, or reservoir waters; and,
- 16 • avoiding establishment of excessive concentrations of septic systems over large land areas.

17 **Sacramento County**

18 The Hazardous Materials and Safety Elements of the Sacramento County general plan, *Sacramento*
19 *County General Plan of 2005 – 2030* (Sacramento County 2011) set forth goals and policies intended
20 to help identify and assess the potential for hazards to occur in the county; to provide public
21 preparedness and protection; and reduce threats to public safety. The following policies are relevant
22 to the BDCP.

23 **Hazardous Materials Element**

24 **HM-2.** Improve cooperation, information gathering, and information availability within existing
25 County programs.

26 **HM-4.** The handling, storage, and transport of hazardous materials shall be conducted in a manner
27 so as not to compromise public health and safety standards.

28 **HM-7.** Encourage the implementation of workplace safety programs and to the best extent possible
29 ensure that residents who live adjacent to industrial or commercial facilities are protected from
30 accidents and the mishandling of hazardous materials.

31 **HM-8.** Continue the effort to prevent ground water and soil contamination.

32 **HM-10.** Reduce the occurrences of hazardous material accidents and the subsequent need for
33 incident response by developing and implementing effective prevention strategies.

34 **HM-9.** Continue the effort to prevent surface water contamination.

35 **HM-11.** Protect residents and sensitive facilities from incidents which may occur during the
36 transport of hazardous materials in the County.

1 **HM-12.** Continue the effort through the Sacramento Metropolitan Air Quality Management District
2 (AQMD) to inventory and reduce toxic air contaminants as emission standards are developed.

3 **HM-14.** Support local enforcement of hazardous materials regulations.

4 **Safety Element**

5 **SA-23.** The County shall require that all new development meets the local fire district standards for
6 adequate water supply and pressure, fire hydrants, and access to structures by firefighting
7 equipment and personnel.

8 **SA-24.** The County shall require, unless it is deemed infeasible to do so, the use of both natural and
9 mechanical vegetation control in lieu of burning or the use of chemicals in areas where hazards from
10 natural cover must be eliminated, such as levees and vacant lots.

11 **SA-27.** The County shall require, where appropriate, the use of fire resistant landscaping and
12 building materials for new construction developments that are cost effective.

13 **SA-28.** The County shall encourage and require, to the maximum extent feasible, automatic fire
14 sprinkler systems for all new commercial and industrial development to reduce the dependence on
15 fire department equipment and personnel.

16 **SA-29.** The County and fire districts will work together to regulate hazardous materials to mitigate
17 emergency responses.

18 **Yolo County**

19 The Health and Safety Element of the Yolo County general plan (*2030 Countywide General Plan*
20 [County of Yolo 2009]) establishes a goal, policies, and, as part of the implementation program,
21 actions to ensure safety from hazardous materials in and around the county. The plan contains three
22 policies relevant to the BDCP.

23 **Policy HS-4.1:** Minimize exposure to the harmful effects of hazardous materials and waste. Protect
24 the community and the environment from hazardous materials and waste.

25 **Policy HS-4.2:** Inspect businesses regularly for compliance with their Hazardous Materials
26 Inventory and Hazardous Materials Business Emergency Response Plan.

27 **Policy HS-4.3:** Encourage the reduction of solid and hazardous wastes generated in the county.

28 **Solano County**

29 The Public Health and Safety Element of the Solano County general plan, 2008 Solano County
30 General Plan (Solano County 2008), sets forth goals and policies intended to help protect people and
31 property from natural and human-made hazards, promote public health, and preserve air and water
32 quality. Policies that may be applicable to the BDCP are as follows.

33 **HS.P-20:** Require that structures be built in fire defensible spaces and minimize the construction of
34 public facilities in areas of high or very high wildfire risk.

35 **HS.P-21:** Prohibit non-farm-related development and road construction for public use in areas of
36 extreme wildfire risk.

1 **HS.P-22:** Require new developments in areas of high and very high wildfire risk to incorporate fire-
2 safe building methods and site planning techniques into the development.

3 **HS.P-26:** Minimize the risks associated with transporting, storing, and using hazardous materials
4 through methods that include careful land use planning and coordination with appropriate federal,
5 state, or County agencies.

6 **HS.P-44:** Minimize health impacts from sources of toxic air contaminants, both stationary (e.g.,
7 refineries, manufacturing plants) as well as mobile sources (e.g., freeways, rail yards, commercial
8 trucking operations).

9 **San Joaquin County**

10 The Public Health and Safety element of the San Joaquin County general plan, *San Joaquin County*
11 *Countywide General Plan*, contains policies intended to minimize the risks from natural and man-
12 made hazards (San Joaquin County 1992). Policies that may be applicable to the BDCP are listed
13 below.

14 **Fire Safety**

15 **Policy 2:** New development shall have water systems which meet County fire flow requirements or
16 shall provide adequate onsite water storage, as determined by the County Fire Warden or by the
17 local fire district having jurisdiction, if the district has a fire prevention bureau.

18 **Policy 3:** In areas with high and extreme wildfire hazards, the County shall limit development to
19 rural residential densities or lower, or encourage cluster development and require on-site fire
20 suppression measures.

21 **Policy 5:** All development shall have adequate access for fire fighting and emergency equipment.

22 **Hazardous Materials and Wastes**

23 **Policy 1:** Hazardous materials and wastes shall not contaminate air or water resources or soils.

24 **Policy 2:** The use, storage and disposal of hazardous materials and wastes shall be controlled to
25 prevent harm to individuals.

26 **Policy 3:** Land uses and structures which contain hazardous materials or wastes which may be a
27 safety hazard for nearby areas shall be located away from existing and planned populated areas.

28 **Policy 4:** The use of hazardous materials and the creation of hazardous wastes shall be minimized.

29 **Policy 5:** All development shall be consistent with the County's Waste Management Plans.

30 **Contra Costa County**

31 A comprehensive update to the *Contra Costa County General Plan 2005–2020* was adopted on
32 January 18, 2005 to guide future growth, development, and resource conservation through 2020
33 (Contra Costa County 2005). The Safety Element established policies and programs to protect the
34 community from risks associated with seismic, geologic, flooding, wildfire, and other hazards.
35 Policies that may be relevant to the BDCP are listed below.

- 1 **10-61:** Hazardous waste releases from both private companies and from public agencies shall be
2 identified and eliminated.
- 3 **10-62:** Storage of hazardous materials and wastes shall be strictly regulated.
- 4 **10-63:** Secondary containment and periodic examination shall be required for all storage of toxic
5 materials.
- 6 **10-64:** Industrial facilities shall be constructed and operated in accordance with up-to-date safety
7 and environmental protection standards.
- 8 **10-67:** In order to provide for public safety, urban and suburban development should not take place
9 in areas where they would be subject to safety hazards from oil and gas wells. Development near oil
10 and gas wells should meet recognized safety standards.
- 11 **10-68:** When an emergency occurs in the transportation of hazardous materials, the County Office
12 of Emergency Services shall be notified as soon as possible.

13 **24.3 Environmental Consequences**

14 This section evaluates the potential effects of hazards and hazardous materials that could result
15 from implementation of BDCP alternatives. An analysis of the consistency of the alternatives with
16 applicable regulations is included. This analysis separates each of the alternatives' proposed impacts
17 into three categories.

- 18 • Potential impacts occurring during the approximate 9-year span of water conveyance facilities
19 construction (Conservation Measure 1).
- 20 • Potential impacts occurring during the long-term operation and maintenance of the water
21 conveyance facilities (CM1).
- 22 • Potential impacts occurring during implementation of Conservation Measures 2-22.

23 Impacts associated with water conveyance facilities construction and operation and maintenance
24 associated with CM1 are analyzed at a project level. Impacts associated with the restoration actions
25 or Conservation Measures 2-22 are analyzed at a programmatic level.

26 Project effects associated with hazards or hazardous materials are not anticipated outside of the
27 study area, in the Upstream of the Delta, including State Water Project (SWP) and Central Valley
28 Project (CVP) waterways and reservoirs, or in the SWP/CVP Export Service Areas because hazards
29 and hazardous materials effects are primarily associated with constructing and operating the
30 proposed conveyance facilities. Because of this, SWP and CVP waterways and reservoirs and the
31 SWP/CVP Export Service Areas are not discussed in this section.

32 Additionally, four proposed conservation measures related to reducing other stressors (listed below
33 and described in detail in Chapter 3, *Description of the Alternatives*), would be implemented under
34 all action alternatives but are not anticipated to result in any meaningful effects associated with
35 hazards and hazardous materials in the study area. The actions implemented under these
36 conservation measures do not entail physical activities that are likely to release hazardous materials
37 to the environment, nor would they be expected to result in any direct or indirect, permanent or

1 substantial impacts creating hazards to the public or environment. As such, these measures will not
2 be addressed further in this impact analysis:

- 3 • CM17 Illegal Harvest Reduction
- 4 • CM20 Recreational Users Invasive Species Program
- 5 • CM21 Nonproject Diversions
- 6 • CM22 Avoidance and Minimization Measures

7 **24.3.1 Methods for Analysis**

8 This section addresses the assessment methods used for the analysis of potential environmental
9 impacts associated with construction and operation/maintenance of the proposed alternative. As a
10 result of alternative implementation, potential impacts would be generated and/or created by
11 reasonably foreseeable accident conditions involving the release of hazardous materials; routine
12 transport, use, and disposal of hazardous materials; construction activities; and routine operation
13 and maintenance activities.

14 In general, the analysis methodology was developed by reviewing various technical reports and
15 other data sources including a Phase I Initial Site Assessment (ISA) and the BDCP conceptual
16 engineering reports (CERs [discussed in Section 24.3.1.2]) that would be implemented as part of
17 construction and operation/maintenance of the BDCP. A description of the ISA and other data
18 sources relative to their use for the analysis of potential impacts are discussed below.

19 **24.3.1.1 Phase I Initial Site Assessment**

20 In May 2009 an ISA titled “Bay Delta Conservation Plan Draft Phase I Initial Site Assessment,” was
21 prepared by HDR, Inc. The ISA is included with this document as Appendix 24A, *Draft Phase 1 Initial*
22 *Site Assessment*. The purpose of the ISA was to identify potential risk sites for contamination.

23 This ISA identified “Recognized Environmental Conditions” (REC) for three conveyance alignment
24 options (“East Alignment”, “West Alignment” and “Through Delta Alignment”), as they were known
25 prior to May 2009, that may adversely affect construction or alternative alignment right-of-way
26 acquisition (if required). The locations of these three alignments under consideration in 2009 differ
27 somewhat from the four alignments being considered in this impact analysis. As such, once a BDCP
28 conveyance alternative is chosen, a conveyance-alignment-specific (i.e., site-specific) Phase 1 ISA
29 will be performed prior to construction. The information provided in the 2009 ISA is sufficient to
30 identify the range of hazards and hazardous materials that should be considered in the study area.

31 In 2009, the ISA was conducted in the initial review of the Delta to determine if there were any areas
32 that could be identified in the environmental record search. This ISA was conducted in general
33 conformance with the scope and limitations of the American Society for Testing and Materials
34 (ASTM) Standard Practice for Environmental Site Assessments (ESA): Phase I Environmental Site
35 Assessment Process E 1527-05. The primary deviation from the E 1527-05 standard practice was
36 the lack of owner interviews. Details regarding any additional exceptions or deletions from the
37 standard practice are described in Appendix 24A.

38 Although the ISA identified RECs, the limited scope of this ISA allowed only for recognition of “sites
39 of concern” (SOCs). Many of these SOCs constitute RECs for the study area, while others that might
40 be RECs have insufficient information at this time to make that determination. A final determination

1 of whether a site constitutes a REC will be made later in the process, when a corridor-specific ISA is
2 performed that includes more detailed site-specific investigation.

3 The ISA includes the results of environmental database searches that obtained location information
4 for sites on regulatory hazardous materials databases. Maps corresponding with the East Alignment,
5 West Alignment, and Through Delta Alignment (Separate Corridors) alternative corridor options
6 were prepared in February 2009. These maps display the locations of historical and/or existing
7 facilities that are listed on federal, state, and local hazardous materials databases. The results were
8 generally used to determine if and where any component of the three alignment options would
9 potentially encounter a facility listed on a hazardous materials database.

10 In addition, the ISA characterized the onsite and offsite impact probability for each SOC as either
11 intermediate, low, medium, or high. The impact probability determinations of the ISA were used to
12 determine if and where any component of the BDCP would potentially encounter a facility identified
13 as a SOC. The findings of the ISA provided information on the potential for accidental releases of
14 contaminants that were used historically, used currently, or exist at a given location due to
15 construction activities associated with the BDCP. How this ISA was used in this analysis for the
16 purpose of determining the potential for encountering an SOC during construction of the action
17 alternatives is described below in Section 24.3.1.3, *Construction Effects*.

18 **24.3.1.2 Conceptual Engineering Reports**

19 The CERs were consulted for information on construction methods and materials, planned
20 operational and maintenance parameters, and detailed information on potential features in the
21 study area that may present hazards to the construction workers, the public and the environment.

22 **24.3.1.3 Construction Effects**

23 As discussed above, construction could potentially cause effects associated with the creation of
24 hazards and accidental release of hazardous materials, as well as the routine transport, use, and
25 disposal of hazardous materials. Specifically, potential effects would occur if construction resulted in
26 one of the following conditions.

- 27 ● Encounter contaminated soils, sediment, or groundwater resulting from historical land use
28 practices (Figure 24-4).
- 29 ● Release hazardous constituents into the environment as a result of the disturbance of previous
30 or existing oil and gas wells (Figure 24-5).
- 31 ● Release hazardous constituents into the environment as a result of the disturbance of pipelines
32 or other subsurface infrastructure (Figure 24-3).
- 33 ● Increase the risk of releases from vehicles carrying hazardous materials as a result of re-routing
34 such vehicles around the construction activities.
- 35 ● Improper use and/or disposal of hazardous materials.

36 Potential effects were determined using a variety of resources and standards as described below.

37 **Release of Hazardous Materials**

38 Construction impacts related to potential upset or accident conditions regarding transportation of
39 hazardous materials via truck, trains, ships, and pipelines were evaluated qualitatively. Designated

1 and restricted transportation routes were mapped and compared with the construction footprint
2 and the study area boundaries to evaluate the increased potential for releases/spills of hazardous
3 materials as a result of traffic re-routing.

4 **Potential Rerelease of Soil or Groundwater Contamination from Sites of Concern**

5 Using GIS methods, mapped locations of SOCs identified in the 2009 ISA (Appendix 24A) were
6 overlain with the current alignment alternatives for each of the water conveyance facilities
7 construction footprints to assess the relative risk of encountering contaminated soil or groundwater
8 during clearing, grading, excavation, and construction of the BDCP action alternatives. For the
9 purpose of the impact analysis presented below, a conservative approach was taken, and SOCs
10 within 0.5 mile of the construction footprint were considered to have the potential to pose a hazard
11 due to migration of contaminants in groundwater. DTSC's Hazardous Waste and Substances Sites
12 ("Cortese List"), compiled pursuant to California Government Code 65962.5, make up a subset of the
13 mapped SOCs.

14 **Oil and Gas Wells and Processing Facilities**

15 Mapped locations of oil and gas wells and processing facilities were overlain with the construction
16 footprints (Figure 24-5) to assess the relative risk of disturbing a well or encountering petroleum
17 products or processing chemicals in soil or groundwater, respectively. The number of oil and gas
18 wells within the construction footprints was obtained from engineering documents and the CERs.
19 The relative risk to each alternative from encountering such point sources was assessed by
20 determining whether wells had been identified by engineering staff or whether a processing facility
21 is within one-half mile of the construction footprint.

22 **Regional Pipelines and Electrical Transmission Lines**

23 Mapped locations of regional pipelines and electrical transmission lines were overlain with the
24 construction footprint (Figures 24-3 and 24-6, respectively) to assess the relative risk of disturbance
25 of these utilities during construction. The relative risk to each alternative from encountering
26 pipelines was assessed by determining whether pipelines or electrical transmission lines were
27 within the construction footprint of the alternative. If so, the risk was assumed to be high.

28 **Reusable Tunnel Material**

29 Reusable tunnel material (RTM) is the by-product of tunnel excavation using an earth pressure
30 balance tunnel boring machine. RTM from water conveyance facilities construction would be a
31 mixture of soil cuttings and soil conditioning agents (water, foaming agents, and/or polymers).
32 Tunnel boring operations would require the use of additives in order to control the behavior of
33 excavated material. The additives would include water, surfactant foam, polymers, bentonite, or any
34 combination thereof, although modern practice uses foams and polymers that are more
35 environmentally friendly than bentonite, non-toxic and biodegradable. Surfactant foam is essentially
36 a mixture of air and diluted foaming agent in water. Foam and/or polymers enhance the tunnel
37 boring machine's ability to control face pressure. They are also used to reduce the level of torque
38 required to cut the ground, which, in turn, reduces the required power input to the motors. Foam
39 makes the cuttings more plastic and less permeable. Polymers are used to condition the soil, either
40 by absorbing water or by affecting the deformation and flow characteristics of the soil. The main
41 purpose of polymers is to help support the face and encourage loose, coarse-grained soils to move

1 smoothly through the excavation chamber. Polymers can also be used to reduce the tendency of
2 soils with large amounts of highly plastic clay to stick to the cutterhead.

3 RTM may require chemical or physical treatment, in addition to drying, prior to returning to the
4 environment. Environmental impacts associated with RTM management were analyzed based on
5 stated toxicity of the additives, estimates of the volume of anticipated residue, and the CERs.

6 **Sensitive Receptor Analysis**

7 For the purposes of this analysis, schools, hospitals, and parks are considered sensitive receptors.
8 Parks and schools not only provide a location for people to congregate, but generally these are
9 places where sensitive populations, in terms of health, such as the elderly and children congregate
10 when outdoors (parks) or indoors (children in school). Hospitals are areas where the infirm are
11 housed, which, like children and the elderly, are more susceptible to the adverse effects of exposure
12 to toxic chemicals and other pollutants/contaminants due to compromised immune systems, for
13 example. For the purposes of this analysis, "parks" were limited to local community-type parks
14 where the density of people would likely be greater than other areas that might be defined as a
15 "park" for the purposes of recreation, such as marinas, wildlife areas, etc.

16 The proximity of the water conveyance facilities to schools, parks and hospitals was calculated using
17 GIS methods to determine the distance from the construction footprints to sensitive receptors in the
18 study area.

19 **Wildland Fire Hazard Analysis**

20 Wildland fire safety hazards were analyzed using GIS methods to map Fire Hazard Severity Zones.
21 GIS maps were obtained from the California Department of Forestry and Fire Protection Fire Hazard
22 Severity Zone Re-Mapping Project. County fire hazard maps from Alameda, Contra Costa,
23 Sacramento, San Joaquin, Solano, and Yolo Counties were combined with alignments for each of the
24 water conveyance facilities construction footprints and Restoration Opportunity Area (ROA)
25 locations to assess the relative risk of wildland fire hazard throughout the study area.

26 **Air Safety Hazard Analysis**

27 Locations of airports were overlain with alternative footprints, and all airports within two miles of
28 the construction footprint were identified. The airports were then evaluated to determine whether
29 they were classified as public use airports by the FAA.

30 **Routine Transport, Use, or Disposal of Hazardous Materials**

31 The CERs and accompanying documentation were reviewed to determine construction materials
32 and methods.

33 **24.3.1.4 Operation/Maintenance Activities Impacts**

34 The CERs were consulted for information on operation and maintenance activities, frequencies and
35 materials, and expected operational and maintenance parameters that may present hazards to
36 operations and maintenance workers, the public and the environment.

1 **24.3.1.5 Cumulative Impacts Related to Hazards and Hazardous Materials**

2 In addition to direct and indirect impacts, the section contains an analysis of the cumulative effects
 3 specific to hazards and hazardous materials. Cumulative impact assumptions include programs,
 4 projects, and policies included in Existing Conditions, No Action Alternative, and reasonably
 5 foreseeable probable future programs and projects (See Appendix 3D, *Defining Existing Conditions,*
 6 *the No Action/No Project, and Cumulative Impact Conditions,* for a list of the programs, projects, and
 7 policies considered in the cumulative analyses).

8 **24.3.2 Determination of Effects**

9 Potential impacts associated with hazards and hazardous materials were evaluated based on the
 10 eight criteria listed below. Each of these criteria was in turn used to capture potential effects during
 11 construction, operation, and maintenance of the water conveyance facilities (CM1), and
 12 implementation of the conservation measures (CM2–CM22), as applicable. Based on these criteria,
 13 implementation of one of the alternatives could result in an adverse effect (under NEPA) and a
 14 significant impact (under CEQA) if it would result in any one of the following conditions.

- 15 ● Create a substantial hazard to the public or the environment through the routine transport, use,
 16 or disposal of hazardous materials or disruption of known road, rail, or river hazardous
 17 materials transport routes. For the purposes of this analysis, a “substantial hazard” is defined as
 18 the direct exposure of the public, including construction or operation and maintenance
 19 personnel, or surface water and groundwater to physical and/or chemical hazards (i.e.,
 20 hazardous materials as defined by Title 22 of the California Code of Regulations, Division 4.5)
 21 through construction or operational activities or interference with hazardous materials
 22 transport routes.
- 23 ● Create a substantial hazard to the public or the environment through reasonably foreseeable
 24 upset and accident conditions involving the release of hazardous materials to the environment.
 25 For the purposes of this analysis, a “substantial hazard” related to “the release of hazardous
 26 materials to the environment” is defined as circumstances in which construction or operational
 27 activities involving the use of hazardous materials or release of hazardous materials are located
 28 in, or where these hazardous materials could directly or indirectly negatively affect surface
 29 water bodies or groundwater or the public.
- 30 ● Expose sensitive receptors (e.g., schools, hospitals or parks) located within 0.25 mile of a
 31 construction site to hazardous materials, substances, or waste.
- 32 ● Be located on a known hazardous materials site or conflict with a known hazardous materials
 33 site and as a result would create a substantial hazard to the public or the environment through
 34 activities that could release materials from that site.
- 35 ● Result in a safety hazard associated with an airport or private airstrip. For the purpose of this
 36 analysis, air “safety hazards” are defined as conditions in which high-profile construction
 37 equipment (200 feet or taller) or project structures could be located within two miles of an
 38 airport and would potentially result in aircraft accidents. Further, increasing the risk of bird-
 39 aircraft strikes as a result of BDCP implementation would also be considered an air safety
 40 hazard.
- 41 ● Expose people or structures to a substantial risk of loss, injury or death involving wildland fires,
 42 including where wildlands are adjacent to urbanized areas or where residences are intermixed

1 with wildlands. For the purpose of this analysis, “substantial risk of loss, injury or death
 2 involving wildland fires” is defined as circumstances in which construction or operational
 3 activities would increase the potential for wildland fire hazards or would occur within an area
 4 designated as a High or Very High Fire Hazard Severity Zone.

5 The analysis of other resources that may be affected by hazards or hazardous materials, or are
 6 relevant to the analysis herein, are described in these nine chapters of this document and are not
 7 discussed further in this chapter’s analysis.

- 8 • Chapter 6, *Surface Water*, describes the potential for an increase in exposure of people or
 9 structures to flooding due to construction or operations of the conveyance facilities or
 10 implementation of the habitat restoration facilities.
- 11 • Chapter 8, *Water Quality*, describes the potential changes in water quality and beneficial uses of
 12 water in the study area as a result of implementing the BDCP. Further, bioaccumulation models
 13 that link the concentration of methylmercury in the water to resultant concentrations in fish
 14 tissues for methylmercury are also presented in Chapter 8.
- 15 • Chapter 11, *Fish and Aquatic Resources*, discusses the potential for increased exposure of
 16 covered fish species in the study area to methylmercury as a result of implementing the BDCP
 17 action alternatives.
- 18 • Chapter 14, *Agricultural Resources*, describes agricultural practices that may have resulted in the
 19 release of agricultural chemicals including pesticides and herbicides.
- 20 • Chapter 22, *Air Quality and Greenhouse Gases*, describes potential public health risks related to
 21 hazardous emissions during construction and operation of the alternatives.
- 22 • Chapter 25, *Public Health*, discusses bioaccumulation of toxicants (e.g., methylmercury) in fish
 23 and aquatic organisms consumed by humans; the potential for BDCP action alternatives to
 24 mobilize or increase bioaccumulative constituents in the study area; pathogens in recreational
 25 waters; electromagnetic fields (EMFs) from proposed transmission lines that could potentially
 26 affect the public; potential drinking water quality issues related to the proposed BDCP actions;
 27 and potential hazards associated with vector-borne diseases.
- 28 • Chapter 26, *Mineral Resources*, describes the occurrence and production of hazardous materials
 29 such as oil and natural gas.
- 30 • Chapter 28, *Environmental Justice*, describes fish consumption rates in minority populations and
 31 concerns that these populations in the Delta have about potential mercury and pesticide
 32 contamination in the fish they consume.

33 **Compatibility with Local Plans and Policies**

34 Constructing the proposed water conveyance facilities (CM1) and implementing conservation
 35 measures CM2–22 could result in potential incompatibilities with local plans and policies related to
 36 protecting communities and the environment from hazards such as the release of hazardous
 37 materials and wildfire. Plans and policies of counties that coincide with the study area provide
 38 guidance related to various hazards and safety issues, as detailed in Section 24.2.3, *Local Plans,*
 39 *Policies, and Regulations*. This section summarizes ways in which BDCP is compatible or
 40 incompatible with those plans and policies. Potential incompatibilities with local plans or policies, or
 41 with those not binding on the state or federal governments, do not necessarily translate into adverse
 42 environmental effects under NEPA or CEQA. Even where an incompatibility “on paper” exists, it does

1 not by itself constitute an adverse physical effect on the environment, but rather may indicate the
2 potential for a proposed activity to have a physical effect on the environment. The relationship
3 between plans, policies, and regulations and impacts on the physical environment is discussed in
4 Chapter 13, *Land Use*, Section 13.2.3.

5 The general plans of Alameda County (*East County Area Plan*), Sacramento, Yolo, Solano, San
6 Joaquin, and Contra Costa Counties have elements addressing health, safety, and hazardous
7 materials. They variously address concerns about traffic management; wildfire risk; protecting soils
8 and surface and groundwater resources from contamination; and protecting individuals from
9 harmful exposure to hazardous substances. Policies and regulations for hazardous materials may
10 require or advocate information sharing among programs and prompt contact with emergency
11 services offices in event of accidents; safe handling, transportation, and storage of hazardous
12 materials; workplace safety programs that protect residents and properties adjacent to worksites
13 involving hazardous materials; efforts to prevent groundwater, surface water, and soil
14 contamination; hazardous materials accident prevention; and protecting sensitive residents and
15 facilities from transportation incidents involving hazardous materials. They advocate minimizing
16 use of hazardous substances and creation of waste; appropriate location and containment;
17 adherence to the most up-to-date safety standards for construction and operation; and inspecting
18 businesses for compliance with Hazardous Materials Inventory and Hazardous Materials Business
19 Emergency Response Plans. Regarding fire safety, the counties variously require or encourage new
20 developments to meet fire district standards; have adequate water systems and access for
21 firefighting and emergency equipment; use natural and mechanical methods of vegetation control
22 (in lieu of burning or chemicals) to eliminate fire hazards; to use fire resistant landscaping and
23 building materials and methods; and the use of automatic fire sprinkler systems.

24 BDCP is compatible with these county policies. The selected alternative would include mitigation
25 measures and environmental commitments designed to avoid or minimize hazards to people and
26 the environment. To protect soil, surface water, groundwater, and sensitive receptors (effects on
27 which are assessed under Impacts HAZ-1, HAZ-2, HAZ-6, HAZ-7) during construction, operations,
28 and maintenance of the water conveyance facilities and conservation measures, BDCP proponents
29 would implement Mitigation Measure HAZ-1a to identify and remediate for soil and groundwater
30 contaminants prior to beginning construction. Mitigation Measure HAZ-1b would survey potential
31 demolition sites for hazardous materials prior to demolition, and dispose of them according to
32 federal, state, and local regulations. Mitigation Measure HAZ-6 would ensure dewatered solids are
33 tested prior to disposal and disposed of in accordance with federal, state, and local regulations,
34 thereby avoiding release of hazardous substances into the environment. BDCP proponents would
35 also implement Mitigation Measure TRANS-1a: *Implement a site specific construction traffic*
36 *management plan*, which, among other traffic-related measures (discussed in Chapter 19,
37 *Transportation*) would help minimize BDCP construction-related disruption to and/or interference
38 with hazardous materials transport routes in the study area. Mitigation Measure UT-6a: *Verify*
39 *locations of utility infrastructure* and UT-6c: *Relocate utility infrastructure in a way that avoids or*
40 *minimizes any effect on worker and public health and safety*, address safety issues related to oil and
41 gas wells and pipelines, and electrical transmission lines (as discussed under Impact HAZ-3). In
42 addition, Mitigation Measure HAZ-8: *Consult with individual airports and USFWS, and other relevant*
43 *organizations* will minimize, to the greatest extent possible, hazards related to increased bird-
44 aircraft strikes as a result of implementing conservation measures in the vicinity of airports (this
45 hazard is analyzed under Impact HAZ-8).

1 BDCP proponents also would incorporate environmental commitments intended to avoid, prevent,
 2 or minimize hazardous spills related to water conveyance construction or implementing
 3 conservation measures, and/or mitigate for such occurrences (these potential effects are discussed
 4 under Impacts HAZ-1, HAZ-6, HAZ-7). Environmental commitments include developing and
 5 implementing Stormwater Pollution Prevention Plans (SWPPPs); Spill Prevention, Containment, and
 6 Countermeasure Plans (SPCCPs); Hazardous Materials Management Plans (HMMPs); and a Barge
 7 Operations Plan. Furthermore, environmental commitments include employing best management
 8 practices to treat, reuse, or dispose of spoils, RTM, and dredged material in accordance with
 9 applicable regulations. The BDCP proponents will also coordinate planning, engineering, design and
 10 construction, operation, and maintenance phases of the alternative with the appropriate agencies.

11 BDCP would also be compatible with county plans and policies in terms of fire protection because
 12 the proposed water conveyance facilities would not be located in a High or Very High Fire Hazard
 13 Severity Zone (as described under Impact HAZ-5). Precautions would be taken to prevent wildland
 14 fires during construction, operation, and maintenance of the water conveyance facilities, in full
 15 compliance with Cal-OSHA standards for fire safety and prevention. Furthermore, an environmental
 16 commitment, *Develop and Implement a Fire Prevention and Control Plan* (FPCP) would ensure that
 17 people or structures would not be subject to a substantial risk of loss, injury or death involving
 18 wildland fires. Appendix 3B, *Environmental Commitments*, provides details on all environmental
 19 commitments that would be incorporated into the BDCP.

20 **24.3.3 Effects and Mitigation Approaches**

21 **24.3.3.1 No Action Alternative**

22 As described in Chapter 3, *Description of Alternatives*, the No Action Alternative describes expected
 23 future conditions resulting from a continuation of existing policies and programs by federal, state,
 24 and local agencies in the absence of the BDCP alternatives as of the year 2060. The No Action
 25 Alternative assumptions are limited to those assumptions consistent with Existing Conditions,
 26 programs adopted, permitted or under construction during the early stages of development of the
 27 EIR/EIS, and foreseeable changes in development that would occur with or without the BDCP. For
 28 the BDCP, the No Action Alternative includes clearly defined management or operational plans,
 29 including facilities under construction as of February 13, 2009. For a full description of conditions
 30 under the No Action Alternative, see Appendix 3D, *Defining Existing Conditions, No Action*
 31 *Alternative, No Project Alternative, and Cumulative Impact Conditions*.

32 A selection of the programs, plans, and projects included under the No Action Alternative are
 33 summarized in Table 24-2, along with their anticipated effects regarding hazards and hazardous
 34 materials. A complete list and description of programs and plans considered under the No Action
 35 Alternative is provided in Appendix 3D, *Defining Existing Conditions, the No Action/No Project*
 36 *Alternative, and Cumulative Impact Conditions*.

1 **Table 24-2. Hazards and Hazardous Materials Effects from the Plans, Policies, and Programs under the**
 2 **No Action Alternative**

Agency	Program/ Project	Status	Description of Program/Project	Hazards and Hazardous Materials Effects
Contra Costa Water District	Contra Costa Canal Fish Screen Project	Completed in 2011.	The project installed a fish screen at the Contra Costa Canal diversion at Rock Slough.	Potential for release of hazardous materials (e.g., fuel and oil) to surface water and adjacent land during installation of fish screen.
Contra Costa Water District, U.S. Bureau of Reclamation, and California Department of Water Resources	Middle River Intake and Pump Station (previously known as the Alternative Intake Project)	Completed in 2011.	The project includes a 250 cfs pump station, a screened intake structure along Victoria Canal on Victoria Island, and a pipeline across Victoria Island tunneled under Old River to the District's Old River Pump Station where it connects to existing conveyance facilities.	Potential for release of hazardous materials (e.g., fuel and oil) to Middle River and adjacent land during construction of intake and pump station, as well as disturbance of contaminated soil during construction activities (e.g., grading and excavation).
Freeport Regional Water Authority and U.S. Bureau of Reclamation	Freeport Regional Water Project	Completed in 2010.	The project includes an intake/pumping plant near Freeport on the Sacramento River and a conveyance structure to transport water through Sacramento County to the Folsom South Canal. The pumping plant diverts 185 million gallons per day.	Potential for release of hazardous materials (e.g., fuel and oil) to Sacramento River and land in project area during construction, as well as disturbance of contaminated soil during construction activities (e.g., grading and excavation).
City of Stockton	Delta Water Supply Project (Phase 1)	Completed in 2012.	This project consists of a new intake structure and pumping station adjacent to the San Joaquin River; a water treatment plant along Lower Sacramento Road; and water pipelines along Eight Mile, Davis, and Lower Sacramento Roads.	Potential for release of hazardous materials (e.g., fuel and oil) to the San Joaquin River and adjacent areas where construction and maintenance occur, as well as disturbance of contaminated sediment and soil during construction.
Reclamation District 2093	Liberty Island Conservation Bank	Completed in 2011.	The project consists of restoration of 186 acres on Liberty Island in unincorporated Yolo County. Restoration was focused on enhancing and creating tidal aquatic habitat suitable for special-status fish species (including salmon and delta smelt).	Potential for release of hazardous materials (e.g., fuel and oil) to adjacent water bodies and land during construction/ restoration activities (e.g., grading), as well as disturbance of contaminated soil during construction.
Tehama Colusa Canal Authority and U.S. Bureau of Reclamation	Red Bluff Diversion Dam Fish Passage Project	Completed in 2012.	Proposed improvements include modifications made to upstream and downstream anadromous fish passage and water delivery to agricultural lands within CVP.	Potential for release of hazardous materials (e.g., fuel and oil) to the Sacramento River and land during construction of the fish ladders and pump station, as well as disturbance of contaminated soil and sediment during construction activities (e.g., grading and excavation).

Agency	Program/ Project	Status	Description of Program/Project	Hazards and Hazardous Materials Effects
U.S. Bureau of Reclamation and State Water Resources Control Board	Battle Creek Salmon and Steelhead Restoration Project	Construction is being implemented in three phases and is currently underway. The final phase is estimated to occur between 2013 and 2015.	This project includes modification of facilities at Battle Creek Hydroelectric Project diversion dam sites located on the North Fork Battle Creek, South Fork Battle Creek, and Baldwin Creek. Fish screens and ladders will be installed at various location; a fish barrier will be installed on Baldwin Creek; an Inskip Powerhouse tailrace connector and bypass will be installed on the South Fork; a South Powerhouse tailrace connector will be installed; and Lower Ripley Creek Feeder, Soap Creek Feeder, Coleman and South diversion dams, and appurtenant conveyance systems will be removed.	Potential for release of hazardous materials (e.g., fuel and oil) to Battle Creek, six tributaries, and construction areas during construction/restoration activities, as well as disturbance of potentially contaminated sediment.
U.S. Bureau of Reclamation, California Department of Fish and Wildlife, and Natomas Central Mutual Water Company	American Basin Fish Screen and Habitat Improvement Project	Completed 2012.	This three-phase project includes consolidation of diversion facilities; removal of decommissioned facilities; aquatic and riparian habitat restoration; and installing fish screens in the Sacramento River. Total project footprint encompasses about 124 acres east of the Yolo Bypass.	Potential for release of hazardous materials (e.g., fuel, solvents, and oil) to the Sacramento River and construction areas during installation of fish screens and construction/restoration activities, as well as disturbance of contaminated soil and sediment.
U.S. Bureau of Reclamation	Delta-Mendota Canal/California Aqueduct Intertie	Completed in 2012.	The purpose of the intertie is to better coordinate water delivery operations between the California Aqueduct (state) and the Delta-Mendota Canal (federal) and to provide better pumping capacity for the Jones Pumping Plant. New project facilities include a pipeline and pumping plant.	Potential for release of hazardous materials (e.g., fuel, oil, paints, solvents) during construction, and hazards to the public due disturbance of infrastructure (California-Oregon Transmission Project transmission lines).
Zone 7 Water Agency and Department of Water Resources	South Bay Aqueduct Improvement and Enlargement Project	Completed in 2012.	This project includes upgrades to the South Bay Pumping Plant; raised linings on open channel sections of the aqueduct; the addition of a 450 acre-foot Dyer Reservoir; and 4.5 miles of pipeline connecting to the South Bay Pumping Plant	Potential for release of hazardous materials (e.g., fuel, oil, solvent, paints) to surface waters and construction areas construction activities, as well as disturbance of potentially contaminated soils during grading, excavation, and other ground-disturbing activities.
NMFS/USFWS	2008 and 2009 Biological Opinions	Ongoing.	The Biological Opinions issued by NMFS and USFWS establish certain RPAs and RPMs to be implemented requiring habitat restoration	Potential for release of hazardous materials (e.g., fuel and oil) in construction areas during construction/restoration activities, as well as disturbance of potentially contaminated sediment. Additionally, restoration for wildlife may create a risk of increased bird-strikes at local airports.

1 Any projects that are planned or currently under way that involve construction and operation and
2 maintenance activities may result in potential hazards to the environment or public, and the
3 potential exists for similar effects analyzed in this EIR/EIS. Further, projects under the No Action
4 Alternative occurring in the study area may encounter contaminated soils and groundwater during
5 construction. As described in Section 24.1, past industrial and agricultural practices have
6 contaminated soils and/or groundwater in the study area. If contamination exists, rerelease of these
7 contaminants could present hazards to project construction worker, the general public, and/or the
8 environment. Known and suspected contaminated soils may require sampling and analysis to
9 determine appropriate handling in accordance with regulations in place at the time of construction.
10 Where known or suspected contaminated groundwater would be encountered and managed during
11 construction, sampling and determination of handling options would be required. Other potential
12 environmental consequences related to hazards and hazardous materials from activities
13 (construction and/or operations and maintenance) associated with programs, projects, and policies
14 in the study area included in the No Action Alternative could include the following.

- 15 ● Release of hazardous materials (including flammable gases) from disturbance of regional fuel
16 pipelines during construction of any projects requiring excavation in the study area.
- 17 ● Accidental releases of hazardous materials (e.g., fuels, solvents, and lubricants) and/or improper
18 disposal of hazardous materials during construction and/or operations and maintenance of any
19 projects in the study area.
- 20 ● Release of oils, solvents, and fuels from maintaining and cleaning equipment or vehicles
21 associated with the construction or operations and maintenance of any program and project
22 activities.

23 The relative risks of release of hazardous constituents or subjecting the environment and public to
24 other hazards from construction, operations, and maintenance of projects and programs under the
25 No Action Alternative cannot be determined at this time; however, they would be similar in nature,
26 but may vary in magnitude, to the risks identified for the BDCP action alternatives. For instance,
27 construction activities requiring the use and maintenance of construction equipment would be
28 anticipated to require similar hazardous materials, including fuel, oils, and lubricants. Hazardous
29 materials like paints, solvents, and sealants would also be anticipated to be used in the construction
30 and maintenance of structures (e.g., pumping plants, intakes) associated with the projects,
31 programs, and plans considered under the No Action Alternative. As under the BDCP action
32 alternatives, these materials could be accidentally released into the environment during their use.
33 Projects requiring demolition, excavation or grading would also carry risks similar to those
34 identified for the BDCP action alternatives. In the course of these activities, construction crews may
35 encounter hazardous materials in existing structures (i.e., agricultural storage facilities) and
36 infrastructure (i.e., transmission lines or pipelines) or may encounter contaminated soil,
37 groundwater, or sediment. Depending on the location for the implementation of these activities,
38 sensitive receptors could be affected by the release of hazardous materials.

39 Relative to the BDCP, it is reasonable to assume that the risks of release of hazardous chemicals or
40 exposing the public or environment to hazards during construction and operation of smaller scale
41 projects, for example the Delta Water Supply Project (Phase 1), would be lower. The BDCP is a large-
42 scale project involving extensive construction of water conveyance features over an expansive area
43 and a relatively long time period (9 years); thus, it is reasonable to assume that the potential for
44 hazard or hazardous materials exposure risks associated with BDCP construction and operations
45 would be substantially greater relative to a smaller scale project or program. However, were any of

1 the aforementioned environmental consequences to occur during implementation of the No Action
2 Alternative, depending on the nature and severity of the impact, an adverse effect could nonetheless
3 result, albeit potentially smaller in scale and more confined in geographic scope. Generally, though,
4 impacts would be avoided through adherence to applicable federal, state, and local regulations;
5 project-specific design; and implementation of best management practices (BMPs), environmental
6 commitments, and/or mitigation, including HMMPs, SWPPPs, and SPCCPs. These
7 practices/measures are intended to avoid, prevent, or minimize hazardous spills and construction-
8 related hazards and/or mitigate for such occurrences. Each project implemented under the No
9 Action Alternative would require its own separate environmental compliance process. Therefore,
10 there would be no adverse effect related to hazards or hazardous materials with regards to
11 implementation of the No Action Alternative absent a catastrophic event related to climate change
12 or a seismic event (discussed below).

13 **Climate Change and Catastrophic Seismic Risks**

14 The Delta and vicinity are within a highly active seismic area, with a generally high potential for
15 major future earthquake events along nearby and/or regional faults, and with the probability for
16 such events increasing over time. Based on the location, extent and non-engineered nature of many
17 existing levee structures in the Delta area, the potential for significant damage to, or failure of, these
18 structures during a major local seismic event is generally moderate to high. In the instance of a large
19 seismic event, levees constructed on liquefiable foundations are expected to experience large
20 deformations (in excess of 10 feet) under a moderate to large earthquake in the region. (See
21 Appendix 3E, *Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies* for more
22 detailed discussion) To reclaim land or rebuild levees after a catastrophic event due to climate
23 change or a seismic event would potentially create a substantial hazard to the public or the
24 environment through the release of hazardous materials or by other means during construction. In
25 the instance of levee failure causing flooding, inundation could result in the release of a range of
26 hazardous materials including, but not limited to, fuel, chemicals, fertilizers, and pesticides. A large
27 scale seismic event could also rupture gas and oil pipelines resulting in exposure to hazardous
28 materials. Thus, there would be a potential for adverse effects to the environment and public in the
29 case of a catastrophic event due to climate change or a seismic event.

30 **CEQA Conclusion:** Implementation of programs, policies, and projects under the No Action
31 Alternative in the study area would have the potential for significant impacts on the public or the
32 environment related to hazards and/or hazardous materials (e.g., through the inadvertent release of
33 fuels or lubricants during construction). However, these impacts would be smaller in scale and more
34 confined in geographic scope relative to the BDCP action alternatives. Projects implemented under
35 the No Action Alternative would require their own separate environmental compliance processes;
36 would be required to adhere to applicable federal, state, and local regulations; and would
37 incorporate applicable BMPs, environmental commitments, and/or mitigation intended to avoid,
38 prevent, or minimize hazardous spills and construction-related hazards and/or mitigate for such
39 occurrences, which would help ensure that these types of impacts are less than significant.

24.3.3.2 Alternative 1A—Dual Conveyance with Pipeline/Tunnel and Intakes 1–5 (15,000 cfs; Operational Scenario A)

Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the Release of Hazardous Materials or by Other Means during Construction of the Water Conveyance Facilities

NEPA Effects: This impact describes and addresses, for the duration of construction of the water conveyance facilities, potential hazards associated with the routine use of hazardous materials; natural gas accumulation in tunnels; existing contaminants in soil, groundwater or sediment; hazardous constituents present in RTM; infrastructure containing hazardous materials; and the routine transport of hazardous materials.

Routine Use of Hazardous Materials

As described in Chapter 3, *Description of Alternatives*, during construction of Alternative 1A, five locations would be designated as fueling stations. Each fueling station would occupy approximately two acres and would be located adjacent to a concrete batch plant; both the fueling station and the batch plant would be temporary and would only be in place for the duration of construction. Fueling station locations are shown in Figure 24-7 and in Figure M3-1 in the Mapbook Volume. Two fueling stations would be established in currently rural areas on the northern end of the Alternative 1A water conveyance alignment. One would be located less than 0.5 miles northwest of Intake 2, just east of SR 160 across the Sacramento River from Clarksburg, and the other would be located between Intakes 4 and 5, southeast of SR 160. In addition, two fueling stations would be located along the length of the tunnel alignment (one on southeastern Tyler Island and one on northeastern Bacon Island), and one fueling station would be located immediately southeast of Byron Tract Forebay near the intersection of the Byron Highway and Mountain House Road. It is anticipated that equipment and vehicles would be maintained in the field and at on-site maintenance facilities. Bulk fuel would be stored at fueling stations and would potentially pose the risk of vehicle fueling spills and leakage from above-ground storage tanks at fueling stations.

In addition to fuel use and bulk fuel storage, oils, lubricants, and other hazardous materials would be stored onsite and used in equipment, such as compressors, generators, pile drivers, cranes, forklifts, excavators, pumps, or soil compactors throughout the study area during construction. Spills and releases could occur during transfer and use of these materials in the field and over water or adjacent to waterways. Hazardous materials, including paints, solvents, and sealants, would be used in construction of water conveyance facilities features (e.g., intakes, pumping plants, conveyance piping). Fueling and transfer of oils, lubricants and other materials would be performed on work barges and watercraft used for building temporary and permanent in-river facilities, such as intake structures, and could be spilled or otherwise released to the environment and result in a hazard.

Construction equipment maintenance is expected to be performed in the field and in central maintenance facilities operated by contractors during construction of the water conveyance facilities. While equipment could be maintained at any work area identified for this alternative, the highest risk of hazards related to maintenance activities would be anticipated to occur at those sites where the duration and intensity of construction activities would be greatest, including intake and intake pumping plant sites along the east bank of the Sacramento River, an intermediate forebay (and pumping plant) site west of South Stone Lake and east of the Sacramento River, and the site of Byron Tract Forebay adjacent to and south of Clifton Court Forebay. Construction equipment

1 maintenance activities would also be expected to be performed at work areas related to main tunnel
2 construction shaft sites on the northern Brannan-Andrus Island, southern Tyler Island, western
3 Venice Island, eastern Bacon Island, and western Victoria Island. For a map of all permanent
4 facilities and temporary work areas associated with this conveyance alignment, see Figure M3-1 in
5 the Mapbook Volume. Equipment maintenance activities at these facilities would likely include
6 rebuilding pumps or motors, maintaining equipment hydraulic systems, minor engine repairs and
7 routine lubrication, and replacing worn parts. Spills and other accidental releases of degreasers,
8 fuels, oils or lubricants could result in minor, temporary hazards to workers immediately adjacent to
9 these releases. However, because these chemicals would be used in small quantities by trained
10 personnel, and because BMPs to minimize the potential for these types of accidents and to contain
11 and remediate hazardous spills, should they occur, would be implemented, as set forth in Appendix
12 3B, *Environmental Commitments*, it is unlikely that the general public or the environment would be
13 adversely affected.

14 As described in Appendix 3B, *Environmental Commitments*, SWPPPs, HMMPs, and SPCCPs would be
15 developed and implemented by DWR as part of the construction process for Alternative 1A. The
16 SPCCPs would minimize effects from spills of oil, oil-containing products, or other hazardous
17 chemicals during construction and operation of the project. The plan would be comprehensive in
18 that it would address actions used to prevent spills and specify actions that will be taken should any
19 spills occur, including emergency notification procedures. BMPs to be implemented as part of the
20 SPCCPs include, but would not be limited to the following.

- 21 • Personnel will be trained in emergency response and spill containment techniques, and will also
22 be made aware of the pollution control laws, rules, and regulations applicable to their work.
- 23 • When transferring oil or other hazardous materials from trucks to storage containers, absorbent
24 pads, pillows, socks, booms or other spill containment material will be placed under the transfer
25 area.
- 26 • Absorbent pads, pillows, socks, booms, and other spill containment materials will be maintained
27 at the hazardous materials storage sites for use in the event of spills.
- 28 • Contaminated absorbent pads, pillows, socks, booms, and other spill containment materials will
29 be placed in leak-proof sealed containers until transport to an appropriate disposal facility.
- 30 • In the event of a spill, personnel will identify and secure the source of the discharge and contain
31 the discharge with sorbents, sandbags, or other material from spill kits. In addition, regulatory
32 authorities (e.g., National Response Center) will be contacted if the spill threatens navigable
33 waters of the United States or adjoining shorelines, as well as other response personnel.
- 34 • Equipment used in direct contact with water would be inspected daily to prevent the release of
35 oil.
- 36 • Oil-absorbent booms would be used when equipment is used in or immediately adjacent to
37 waters.
- 38 • All reserve fuel supplies would be stored only within the confines of a designated staging area.
- 39 • Fuel transfers would take place a minimum distance from exclusion/drainage areas and
40 streams, and absorbent pads would be placed under the fuel transfer operation.
- 41 • Equipment would be refueled only in designated areas.

- 1 • Staging areas would be designed to contain contaminants such as oil, grease, and fuel products
2 so that they do not drain toward receiving waters or storm drain inlets.

- 3 • All stationary equipment would be positioned over drip pans.

4 Containment and cleanup of spills from equipment storage, oil storage, fueling, and maintenance
5 would be managed in accordance with the plans summarized below and presented in detail in
6 Appendix 3B, *Environmental Commitments*.

7 The SWPPP objectives would be to: (1) identify pollutant sources associated with construction
8 activities and operations that could affect the quality of stormwater; and (2) identify, construct, and
9 implement stormwater pollution prevention measures to reduce pollutants in stormwater
10 discharges during and after construction. It is anticipated that multiple SWPPPs will be prepared for
11 the overall BDCP project construction, with a given SWPPP prepared to cover a particular water
12 conveyance component (e.g., intermediate forebay) or groups of components (e.g., intakes).
13 Generally, the SWPPP would include the provisions listed below.

- 14 • A description of potential stormwater pollutants from erosion.
- 15 • A description of the management of dredged sediments and hazardous materials present on site
16 during construction (including vehicle and equipment fuels).
- 17 • Details of how the sediment and erosion control practices would comply with state and federal
18 water quality regulations.
- 19 • A visual monitoring program and a chemical monitoring program for "non-visible" pollutants if
20 the BMPs are breached.

21 BMPs in the SWPPPs would include but not be limited to the following measures.

- 22 • Capture sediment via sedimentation and stormwater detention features.
- 23 • Implement concrete and truck washout facilities and appropriately sized storage, treatment, and
24 disposal practices.
- 25 • Clean or replace sanitation facilities (as necessary) and inspect regularly for leaks/spills.
- 26 • Cover waste disposal containers during rain events and at the end of every day.
- 27 • Store chemicals in watertight containers.
- 28 • Reclaim or land-apply construction site dewatering discharges to the extent practicable, or use
29 for other construction purposes (e.g., dust control).
- 30 • Implement appropriate treatment and disposal of construction site dewatering from
31 excavations to prevent discharges to surface waters.
- 32 • Equipment and materials for cleanup of spills shall be available on site.
- 33 • Spills and leaks shall be cleaned up immediately and disposed of properly.
- 34 • Ensure that there are trained spill response personnel available.

35 The HMMPs would provide detailed information on the types of hazardous materials used or stored
36 at all sites associated with the water conveyance facilities (e.g., intake pumping plants, maintenance
37 facilities); phone numbers of city, county, state, and federal agencies; primary, secondary, and final
38 cleanup procedures; emergency-response procedures in case of a spill; and other applicable

1 information. The HMMPs would include measures to minimize the possible environmental impacts
 2 associated with spills or releases of hazardous materials (e.g., solvents, paints) during routine
 3 construction and operations and maintenance activities. These measures would include but not be
 4 limited to those listed here (see Appendix 3B, *Environmental Commitments* for additional detail).

- 5 • Fuel, oil, and other petroleum products will be stored only at designated sites.
- 6 • Hazardous materials containment containers will be clearly labeled with the material's identity,
 7 handling and safety instructions, and emergency contact.
- 8 • Storage and transfer of hazardous materials will not be allowed within 100 feet of streams or
 9 sites known to contain sensitive biological resources except with the permission of Department
 10 of Fish and Wildlife.
- 11 • The accumulation and temporary storage of hazardous wastes will not exceed 90 days.
- 12 • Soils contaminated by spills or cleaning wastes will be contained and removed to an approved
 13 disposal site.
- 14 • Hazardous waste generated at work sites, such as contaminated soil, will be segregated from
 15 other construction spoils and properly handled, hauled, and disposed of at an approved disposal
 16 facility by a licensed hazardous waste hauler in accordance with state and local regulations. The
 17 contractor will obtain permits required for such disposal.
- 18 • Emergency spill containment and cleanup kits will be located at the facility site. The contents of
 19 the kit will be appropriate to the type and quantities of chemical or goods stored at the facility.

20 Implementation of BMPs in these plans would reduce the potential risk of a release of stored fuels,
 21 oils, lubricants or other hazardous materials used during construction and construction equipment
 22 operation and maintenance.

23 **Natural Gas Accumulation in Water Conveyance Tunnels**

24 Under Alternative 1A, deep water conveyance tunnels would be constructed. One tunnel would run
 25 from south of Scribner Road, east of the Sacramento River in Sacramento County and would run
 26 south to the intermediate forebay, south of the community of Hood and northwest of South Stone
 27 Lake. Another tunnel would reach from north of Lambert Road (west of South Stone Lake), crossing
 28 Pierson District, Grand Island, Brannan-Andrus Island, Tyler Island, Staten Island, Bouldin Island,
 29 Venice Island, Mandeville Island, Bacon Island, Woodward Island, Victoria Island, and Coney Island,
 30 before ending south of Clifton Court Forebay. For a map of the proposed tunnel alignment, see
 31 Figure M3-1 in the Mapbook Volume. During construction, the potential to encounter gases, which
 32 could enter and accumulate to flammable or explosive concentrations in tunnel bores or other
 33 excavations, could exist. These gases could include methane generated by peat and organic soils or
 34 other natural gases, which could seep from deep natural gas reservoirs either through improperly
 35 sealed boreholes or natural conduits such as faults and fractures. As previously described, the
 36 thickness of peat and organic soils increases to the west across the Delta, and approximately 3,400
 37 oil and gas wells are located throughout the study area. Engineering reconnaissance indicates six
 38 active and 19 inactive oil or gas wells present within the construction footprint for the Alternative
 39 1A water conveyance alignment (California Department of Water Resources 2010a:13-1); oil and
 40 gas wells along the water conveyance facilities alignments are shown in Figure 24-5. Gas fields in the
 41 United States are typically located at depths greater than 3,000 feet (U.S. Energy Information
 42 Administration 2012). Because the tunnels would be approximately 150 to 160 feet below ground, it

1 is unlikely that a gas field would be encountered during tunneling. However, an evaluation of how
2 these gas fields could affect the constructability of the tunnels would be prepared during the
3 geotechnical investigations performed in the design phase of the water conveyance facilities. For
4 water conveyance facilities construction under Alternative 1A, the water conveyance tunnels may
5 receive a Cal-OSHA classification of “gassy or extrahazardous” due to the presence of natural gas
6 wells along the alignment. If the tunnels receive a “gassy or extrahazardous” classification,
7 specialized tunneling equipment, which would need to be approved by the Mine Safety and Health
8 Administration (MSHA), would be required, as would gas detection equipment on the tunnel boring
9 machines, an automatic shutoff of the equipment if gas were detected, and fireproof construction
10 equipment. In addition, the contractor would be required to follow gas monitoring and fire
11 prevention requirements mandated by Cal-OHSA based on the tunnel gas classification in
12 accordance with The Tunnel Safety Orders set forth in the California Code of Regulations (Title 8,
13 Division 1, Chapter 4, Subchapter 20, Article 8, “Tunnel Classifications” [see Section 24.2.2.13]). The
14 tunnel ventilation system would include steel ducts capable of reversing the direction of air in order
15 to help control potential fires in the tunnel. Tunnels would be ventilated according to Cal-OSHA
16 requirements. Cal-OSHA requires providing at least 200 cubic feet per minute (fpm) of fresh air per
17 person working underground. Additionally, a minimum air velocity of 60 fpm is required to dilute
18 any contaminated gas present within the tunnel. Further, ventilation hardware would comply with
19 Cal-OSHA requirements. The hardware would include steel ducts and be capable of reversing the
20 direction of air flow (for fire control within the tunnel). Adherence to these regulations would
21 reduce the potential for hazards from the accumulation of natural gas in tunnels.

22 **Existing Contaminants in Soil, Groundwater, or Sediment**

23 There may be contaminated areas within the study area that have not been previously identified
24 because of inadequate or missing data or poor record keeping. During construction of Alternative
25 1A, contaminated soils, sediments and groundwater may be encountered where historical releases
26 have occurred, such as former storage and distribution facility locations.

27 The lateral and vertical extent of any historical soil-, sediment- or water-based contamination within
28 or near the construction footprint is unknown. Although, where it exists, soil contamination is likely
29 to be highly localized, while groundwater contamination could have migrated substantial distances
30 and therefore be more widespread than soil contamination. Locations of known oil and gas
31 processing facilities (Figure 24-1) are considered a separate category of SOC due to the potential for
32 spills and leaks at these locations. The lateral and vertical extent of any existing contamination that
33 may be present at these sites is unknown. The number of SOCs may change during right-of-way
34 evaluation, land acquisition and preconstruction site-clearance investigations or during
35 construction. Additional SOCs may be identified during these activities, and currently identified
36 SOCs may be determined innocuous after site-specific field investigation and testing.

37 It is likely that contaminated sediments (e.g., persistent pesticide- and mercury-contaminated
38 sediments) would be resuspended during sediment-disturbing activities related to in-river
39 construction activities (e.g., cofferdam construction at intake sites). However, concentrations of
40 potential contaminants in the sediments where in-river construction activities would be taking place
41 are not known; therefore, the associated risk cannot be identified. In general, sediment-bound
42 pesticide concentrations in rivers and estuaries vary by season (with rain and the seasonal variation
43 in pesticide applications) and are episodic; pesticide concentrations in sediment are generally
44 higher during rainy season at the onset of winter rains (Bergamaschi et al. 2007). One study
45 suggests that the mercury concentration in suspended sediment at Freeport, just upstream of the

1 intake locations, is less than 10 ng/l, below the recommended criterion of 50 ng/l (Domagalski
2 2001). Also, mobilization of potentially contaminated sediments would be directly related to levels
3 of turbidity and suspended sediments resulting from construction activities. Although resulting
4 turbidity has not been modeled, it is anticipated to be low given the permit requirements for
5 controls stipulating that dredging activities be conducted and monitored such that turbidity not
6 increase in receiving waters, measured 300 feet downstream or that silt curtains be used to control
7 turbidity and reduce the associated mobilization of potentially contaminated sediments.

8 Mobilization of potentially contaminated sediments is unlikely to be a hazard concern for
9 construction workers because it is not expected that workers would be in direct contact with
10 sediments during in-river construction activities. Similarly, resuspension of potentially
11 contaminated sediment is unlikely to pose a hazard to the general public or the environment
12 because it would be confined to a relatively small area during construction and would be temporary
13 (occurring during in-river work and potentially for a few hours following cessation of in-river
14 construction activities). Further, as described in Appendix 3B, *Environmental Commitments*, for any
15 BDCP dredging activity, the BDCP proponents would prepare and implement a site-specific pre-
16 dredge sampling and analysis plan (SAP), which would be developed and submitted by the
17 contractors required per standard DWR contract specifications Section 01570. As part of the SAP,
18 prior to any dredging activities, sediment would be evaluated for contaminants that may impact
19 water quality from the following discharge routes.

- 20 ● In-stream discharges during dredging.
- 21 ● Direct exposure to contaminants in the material through ingestion, inhalation or dermal
22 exposure.
- 23 ● Effluent (return flow) discharge from an upland disposal site.
- 24 ● Leachate from upland dredge material disposal that may affect groundwater or surface water.

25 Additionally, BMPs, including those listed below, would be implemented during in-river
26 construction activities to ensure that disturbed sediment was contained, thus reducing the risk of
27 sediment dispersal away from the immediate area (see Appendix 3B, *Environmental Commitments*).

- 28 ● Conduct dredging activities in a manner that will not cause turbidity increases in the receiving
29 water, as measured in surface waters 300 feet down-current from the project, to exceed the
30 Basin Plan objectives beyond an averaging period approved by the RWQCB and Department of
31 Fish and Wildlife.
- 32 ● If turbid conditions generated during dredging exceed the agreed-upon implementation
33 requirements for compliance with the Basin Plan objectives, silt curtains will be utilized to
34 control turbidity.
- 35 ● Conduct in-river construction activities during low-flow periods to the extent practicable.

36 To the extent feasible, action alternative design would minimize the need to acquire or traverse
37 areas where the presence of hazardous materials is suspected or has been verified. In addition,
38 under Mitigation Measure HAZ-1a (described below), remediation and/or containment prior to
39 discharge or disposal of contaminated soil and groundwater, as identified in preconstruction
40 surveys, would be performed prior to construction of the proposed water conveyance facilities at
41 known contaminated sites or in areas where contamination is suspected.

1 **Constituents in Reusable Tunnel Material**

2 RTM would consist of materials excavated from the tunnel bore, which would be advanced at a
3 depth of approximately 100 feet below ground surface (bgs) and 160 feet bgs under Delta water
4 channels. As described in Section 24.2.1.3, biodegradable soil conditioners or additives would be
5 added during tunneling activities to facilitate the process, and RTM would be transported from the
6 tunnel through the launching shaft to the surface and then by conveyor belt to RTM work areas. At
7 the RTM areas, decant liquids from the RTM would be leached, collected and evaporated. RTM areas
8 would be located just north of Scribner Road, east of the Sacramento River, on northern Brannan-
9 Andrus Island, on southeastern Tyler Island, on eastern Bacon Island, and on northwestern Victoria
10 Island. For a map of proposed RTM areas, see Figure M3-1 in the Mapbook Volume.

11 As described in Chapter 9, *Geology and Seismicity*, the geologic materials encountered during
12 tunneling are expected to comprise alluvial sediments consisting of a mixture of clay, silt, sand,
13 gravel and minor amounts of organic matter, all deposited prior to the arrival of settlers to
14 California and subsequent mining, agricultural and urban land uses that have produced potential
15 contaminants of concern, as discussed above. Approximately 25 million cubic yards of RTM are
16 expected to be generated during construction of the Alternative 1A water conveyance facilities.

17 It is anticipated that all tunnel boring additives would be non-toxic and biodegradable. Regardless,
18 before the RTM could be re-used or returned to the environment, it would be managed and at a
19 minimum go through a drying/water-solids separation process and a possible physical or chemical
20 treatment. Depending on the composition of the RTM and type of conditioning agents used, there
21 would be many options for management of the RTM prior to reuse. Management could be done in
22 several ways, including chemical flocculation, settlement/sedimentation, handling at a treatment
23 plant, chemical conditioning or controlled storage. The method of controlled storage (described in
24 Appendix 3C, *Details of Water Conveyance Facilities Components*), similar to landfill storage, would
25 be the method with the broadest impacts because a designated area large enough to store the RTM
26 may be required permanently. If controlled storage is necessary, the RTM would be deposited
27 within designated RTM storage areas. To ensure that the RTM is contained within the designated
28 area, a retaining dike would be built around the perimeter of the RTM area. RTM ponds would aid in
29 RTM management and facilitate the dewatering. Several of the ponds would be designated as
30 leachate ponds. The leachate would be pumped from the drainage system to the leachate ponds for
31 possible additional treatment. To ensure that underlying groundwater is not contaminated, the
32 invert of the RTM pond would be a minimum of 5 feet above the seasonal high groundwater table,
33 and an impervious liner would be placed on the invert of the RTM pond and along the interior slopes
34 of the berms to prevent any contact between the RTM and the groundwater.

35 Prior to reuse, the RTM would undergo chemical characterization. RTM would be tested in
36 accordance with the methods outlined in EPA publication SW-846, as required by state and federal
37 regulations prior to reuse (e.g., RTM in levee reinforcement) or disposal. Similarly, RTM decant
38 liquid would also require testing prior to discharge to meet NPDES or Construction General Permit
39 (Order 2010-0014-DWQ) requirements. Should constituents in RTM or associated decant liquid
40 exceed discharge limits, these tunneling byproducts would be treated to comply with permit
41 requirements. At a minimum, a final clean soil cover would be placed over the dewatered RTM in
42 order to isolate any contaminants in the RTM and then seeded. Decant liquids from RTM may
43 require additional chemical or physical treatment, such as flocculent addition to precipitate
44 suspended sediment, prior to discharging to surface water.

1 As part of a Material Reuse Plan (MRP), prior to construction, draining, and chemical
2 characterization of RTM, the BDCP proponents would identify sites for reusing this material to the
3 greatest extent feasible, in connection with BDCP construction activities, habitat restoration
4 activities, as well as for potential beneficial uses associated with flood protection and management
5 of groundwater levels within the Plan Area. The BDCP proponent will undertake a thorough
6 investigation to identify sites for the appropriate reuse of RTM, and will consult relevant parties,
7 such as landowners, reclamation districts, flood protection agencies, state agencies with jurisdiction
8 in the Delta, and counties, in developing site-specific material reuse plans, as described in Appendix
9 3B, *Environmental Commitments*. Following removal of RTM from the temporary RTM areas,
10 stockpiled topsoil would be reapplied, and disturbed areas would be returned, to the extent feasible,
11 to preconstruction conditions. In some instances it may be infeasible to transport and reuse RTM
12 due to factors such as distance and cost, and/or any environmental effects associated with transport
13 (e.g., unacceptable levels of diesel emissions). In such instances, RTM sites would be evaluated for
14 the potential to reapply topsoil over the RTM and to continue or recommence agricultural activities.
15 If, in consultation with landowners and any other interested parties, BDCP proponents determine
16 that continued use of the land for agricultural or habitat purposes would be infeasible, the potential
17 for other productive uses of the land would be examined, as described in Appendix 3B.

18 **Electrical Transmission Lines**

19 There are 9 overhead power/electrical transmission lines along the proposed Alternative 1A water
20 conveyance facilities alignment (Table 24-3 and Figure 24-6). Disturbance of this infrastructure
21 during construction activities that employ high-profile equipment, such as cranes, could result in
22 safety hazards for construction workers in the immediate vicinity of an energized line. The most
23 significant risk of injury from any power line is the danger of electrical contact between an object on
24 the ground and an energized conductor. Generally, there is less risk of contact with higher voltage
25 lines as opposed to low-voltage lines because of the height of the conductors. When work is
26 performed near transmission lines, electrical contact can occur even if direct physical contact is not
27 made, because electricity can arc across an air gap. DWR would be required to comply with Title 8
28 CCR, Section 2300 (“Low Voltage Electrical Safety Orders”) and Section 2700 (“High Voltage
29 Electrical Safety Orders”) so that worker and public safety is ensured during work on or in
30 immediate proximity to low- and high-voltage transmission lines. Other hazards associated with
31 electrical transmission lines include potential health risks exposure to EMFs. These potential effects
32 are described and assessed in Chapter 25, *Public Health*.

33 **Infrastructure Containing Hazardous Materials**

34 Infrastructure in the study area containing hazardous materials (e.g., natural gas pipelines) could
35 pose hazards to the environment and the public if disturbed by construction activities. As described
36 in Section 24.1.2, pipelines carrying fluids with hazardous characteristics (e.g., petroleum products)
37 cross the Alternative 1A conveyance alignment and construction footprint (Figure 24-3). The
38 number of regional pipeline crossings within the construction disturbance footprint of the all
39 conveyance alternatives is provided in Table 24-3. Natural gas pipelines cross the conveyance
40 alignment between Intakes 1 and 2, near a main tunnel construction shaft on Tyler Island, and near
41 a main tunnel construction shaft on Bacon Island. Other product pipelines cross the alignment on
42 the northern part of Woodward Island and along the southwestern side of the proposed Byron Tract
43 Forebay and nearby spoil area. Further, hazardous materials storage vessels, such as tanks or other
44 bulk containers used for processing, storage and distribution of fuels, pesticides or other hazardous
45 materials may be present in the Alternative 1A water conveyance facilities construction footprint.

1 Active and inactive oil wells are present throughout the Delta and their locations are shown in
 2 Figure 24-5. Several active wells are proximate to the conveyance alignment where it crosses
 3 Brannan-Andrus and Tyler Islands.

4 **Table 24-3. Number and Type of Pipelines and Electrical Transmission Lines Crossing All Alignments**

Utility Operator and Type	Pipeline/ Tunnel Option (Alt. 1A, 2A, 3, 5, 6A, 7, and 8)	Modified Pipeline Tunnel Option (Alt. 4)	East Option (Alt. 1B, 2B, and 6B)	West Option (Alt. 1C, 2C, and 6C)	Separate Corridor Option (Alt. 9)
Electrical Transmission Lines					
Western Area Power Administration 69 kV	1	1	1	1	0
Western Area Power Administration 230 kV	2	2	2	1	2
Pacific Gas & Electric 115 kV	2	2	2	2	2
Pacific Gas & Electric 500 kV	3	3	3	4	0
Transmission Agency of Northern California/ Western Area Power Administration for the California-Oregon Transmission Project 500 kV	1	1	1	1	1
Pipelines					
Pacific Gas & Electric (size unspecified) Natural Gas	5	6	3	5	0
Chevron Texaco (7" diameter) Petroleum Product	1	1	1	0	0
Chevron Texaco (9" diameter) Petroleum Product	2	1	2	0	0
Kinder Morgan Pacific Region (10") Petroleum Product	2 ^a	2 ^a	2 ^a	0	2 ^a
kV: kilovolts					
^a These Kinder Morgan product lines run parallel to one another					

5

6 In addition, certain residential, agricultural, recreational (e.g., pools and docks) and other types of
 7 structures (e.g., power/utility structures, bridges, and other types of infrastructure) within the
 8 Alternative 1A water conveyance facilities footprint would need to be removed. Approximately 204
 9 permanent structures would be removed or relocated within the water conveyance facility footprint
 10 under this alternative. This includes approximately 59 residential buildings; 15 recreational
 11 structures; 120 storage and agricultural support structures; and 10 other types of structures. One
 12 fire station in the community of Hood would also be affected. Most of these existing structures fall
 13 within the physical footprints of the intake facilities and their associated conveyance pipelines.
 14 These structures may contain hazardous materials in the form of building materials containing
 15 asbestos or lead-based paint, stored liquid paints and solvents, and household or industrial-strength
 16 maintenance chemicals and cleaners. Asbestos-containing material is regulated both as a hazardous
 17 air pollutant under the Clean Air Act (Chapter 22, *Air Quality and Greenhouse Gases*) and as a
 18 potential worker safety hazard by Cal-OSHA (see Section 24.2.2.13). Were these types of hazardous
 19 materials to be encountered during structure demolition, the potential for their release and the
 20 consequent adverse effects on the public, construction workers, and the environment would exist.
 21 To prevent adverse effects, DWR would implement Mitigation Measure HAZ-1b, which would

1 require that DWR coordinate with existing property owners to identify existing potentially
2 hazardous infrastructure and infrastructure containing potentially hazardous materials, and that
3 DWR perform pre-demolition surveys in order to identify and characterize hazardous materials to
4 ensure the safe and appropriate handling and disposal of these materials.

5 There are five natural gas pipelines, five petroleum product pipelines, 19 known inactive and six
6 active oil or gas wells within the construction footprint of the proposed Alternative 1A water
7 conveyance alignment (Table 24-3, and Figures 24-3 and 24-5). In addition to the regional pipelines
8 in the study area, there are networks of minor oil and gas gathering pipelines, which connect
9 individual oil or gas wells to small storage and preliminary processing facilities operated by the
10 different oil and gas companies working in the study area. Disturbance of this infrastructure during
11 construction of the water conveyance facilities could result in hazards to the environment as well as
12 physical and chemical hazards to the construction workers or the nearby public due to fires,
13 explosions, and release of natural gas or petroleum products. The potential for disturbing oil and gas
14 fields during excavation or tunneling activities is minimal because these fields are typically located
15 at depths greater than 3,000 feet (U.S. Energy Information Administration 2012). Effects would be
16 more likely to occur if utilities were not carefully surveyed prior to construction, including contact
17 with local utility service providers. California Government Code Sections 4216–4216.9 require that
18 anyone planning to excavate contact the appropriate regional notification center at least two
19 working days (but not more than 14 calendar days) before beginning to excavate. Implementation of
20 pre-construction surveys, and then utility avoidance or relocation if necessary, would minimize any
21 potential disruption and hazardous effects due to disruption. Mitigation Measures UT-6a: Verify
22 locations of utility infrastructure, and UT-6c: Relocate utility infrastructure in a way that avoids or
23 minimizes any effect on worker and public health and safety (described in Chapter 20, *Public*
24 *Services and Utilities*) address these effects.

25 **Routine Transport of Hazardous Materials via Trucks, Trains, and Ships**

26 Generally, the transportation of hazardous materials via trucks, trains and ships poses potential
27 risks associated with the accidental release of these materials to the environment. Alternative 1A
28 would require a heavy volume of materials to be hauled to the construction work areas, increasing
29 the amount of trucks using the transportation system in the study area. Rerouting vehicular traffic
30 carrying hazardous materials during construction of the water conveyance facilities could increase
31 the risk of accidental release due to inferior road quality or lack of driver familiarity with the
32 modified routes. This includes the risk of release of hazardous products or wastes being transported
33 routinely or specifically for construction of the water conveyance facilities, and the corresponding
34 risk of release of fuels (gasoline and diesel) from vehicular accidents. Three designated hazardous
35 materials transportation routes cross the Alternative 1A alignment—State Highways 4, 12, and
36 Byron Highway (Figure 24-2 and Table 24-4). It is not anticipated that traffic on any of these
37 highways will need to be rerouted. Routes anticipated to be affected during construction of the
38 water conveyance facilities are described in Chapter 19, *Transportation*. As described in Chapter 19,
39 *Transportation*, under Mitigation Measure TRANS-1a, a site-specific construction traffic
40 management plan, taking into account land (including rail) and marine hazardous materials
41 transportation, would be prepared and implemented prior to initiation of water conveyance
42 facilities construction. Mitigation Measure TRANS-1a includes stipulations to avoid or reduce
43 potential circulation effects, such as such as providing signage, barricades, and flag people around
44 construction work zones; notifying the public, including schools and emergency service providers of
45 construction activities that could affect transportation; providing alternate access routes, if

1 necessary, to maintain continual circulation in and around construction zones; and requiring direct
2 haulers to pull over in the event of an emergency.

3 **Table 24-4. Number and Type of Designated Hazardous Materials Routes and Railroads Crossing All**
4 **Water Conveyance Facilities Alignments**

Route or Rail	Pipeline/Tunnel Option (Alt. 1A, 2A, 3, 5, 6A, 7, and 8)	Modified Pipeline Tunnel Option (Alt. 4)	East Option (Alt. 1B, 2B, and 6B)	West Option (Alt. 1C, 2C, and 6C)	Separate Corridor Option (Alt. 9)
Designated Hazardous Materials Routes					
State Highway 4	1	1	1	1	1
State Highway 12	1	1	1	1	0
Byron Highway	1	1	0	1	0
Railroads					
Union Pacific Railroad	2	2	2	2	0
Burlington Northern-Santa Fe Railroad	1	1	1	1	1
Abandoned Railroad	0	0	0	1	0

5

6 As described in Chapter 19, *Transportation*, shipping routes to ports in West Sacramento and
7 Stockton are unlikely to be affected by barge traffic transporting equipment and materials for water
8 conveyance facilities construction. However, barges supporting water conveyance facilities
9 construction may also transport hazardous materials such as fuels and lubricants or other
10 chemicals. The potential exists for accidental release of hazardous materials from BDCP-related
11 barges. To avoid effects on the environment related to this issue, BMPs implemented as part of a
12 Barge Operations Plan (for detail see Appendix 3B, *Environmental Commitments*), including the
13 following, would avoid and/or minimize this potential adverse effect.

- 14 • All tugboats operating at the intake construction sites and the barge landings will keep an oil
15 spill containment kit and spill prevention and response plan on-board.
- 16 • In the event of a fuel spill, report immediately to the California Department of Fish and Wildlife
17 Office of Spills Prevention and Response: 800-852-7550 or 800-OILS-911 (800-645-7911).
- 18 • When transporting loose materials (e.g., sand, aggregate), barges will use deck walls or other
19 features to prevent loose materials from blowing or washing off of the deck.

20 Finally, the proposed Alternative 1A conveyance would cross under the existing BNSF/Amtrak San
21 Joaquin line between Bacon Island and Woodward Island. Maintaining freight and passenger service
22 on the BNSF line is included in the project design, and the effect of this crossing would be minimal to
23 nonexistent because the proposed conveyance would traverse the railroad in a deep bore tunnel.
24 The UPRR Tracy Subdivision (branch line) runs parallel to Byron Highway, between the highway
25 and the proposed new forebay adjacent to the existing Clifton Court Forebay. The construction of
26 the new forebay is unlikely to disrupt rail service because much of this line has not been in service
27 recently. The UPRR may return it to freight service in the future. Any potential effects on rail traffic
28 during construction would be reduced with implementation of Mitigation Measure TRANS-1a, which
29 would include stipulations to coordinate with rail providers to develop alternative interim

1 transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger
2 service during any longer term railroad closures and daily construction time windows during which
3 construction would be restricted or rail operations would need to be suspended for any activity
4 within railroad rights of way. This would minimize the potential risk of release of hazardous
5 materials being transported via these railways (see Chapter 19, *Transportation*, for a description).

6 In summary, during construction of the water conveyance facilities, the potential would exist for
7 direct effects on construction personnel, the public and/or the environment associated with a
8 variety of potentially hazardous conditions because of the intensity of construction activities at the
9 north Delta intakes, forebays, conveyance pipelines, and tunnels, and the hazardous materials that
10 would be used in these areas. Many of these activities would occur in close proximity to the towns of
11 Hood and Courtland, and would involve multiple years of use of hazardous construction materials.
12 Additionally, large-scale construction activities involving the use of hazardous materials would be
13 located in and near water bodies. Potential hazards include the routine transport, use or disposal of
14 hazardous materials; natural gas accumulation in water conveyance tunnels; the inadvertent release
15 of existing contaminants in soil and groundwater, or hazardous materials in existing infrastructure
16 to be removed; disturbance of electrical transmission lines; and hazardous constituents present in
17 RTM. Additionally, there is the potential for the construction of the water conveyance facilities to
18 indirectly result in the release of hazardous materials through the disruption of existing road, rail, or
19 river hazardous materials transport routes because construction would occur in the vicinity of three
20 hazardous material transport routes, three railroad corridors, and waterways with barge traffic and
21 would require construction traffic that could disrupt these routes. These potential effects are
22 considered adverse because they would potentially result in direct exposure of the public (including
23 construction personnel), and surface water and groundwater to physical and/or chemical hazards
24 as discussed. Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20,
25 *Public Services and Utilities*) and TRANS-1a (described in Chapter 19, *Transportation*), combined
26 with the previously described environmental commitments are available to address these effects.
27 Therefore, there would be no adverse effects.

28 **CEQA Conclusion:** During construction of the water conveyance facilities, the potential would exist
29 for direct impacts on construction personnel, the public, and/or the environment associated with a
30 variety of hazardous physical or chemical conditions. Such conditions may arise as a result of the
31 intensity and duration of construction activities at the north Delta intakes, forebays, conveyance
32 pipelines, and tunnels and the hazardous materials that would be needed in these areas during
33 construction. Potential hazards include the routine use of hazardous materials (as defined by Title
34 22 of the California Code of Regulations, Division 4.5); natural gas accumulation in water
35 conveyance tunnels; the inadvertent release of existing contaminants in soil and groundwater, or
36 hazardous materials in existing infrastructure to be removed; disturbance of electrical transmission
37 lines; and hazardous constituents present in RTM. Many of these physical and chemical hazardous
38 conditions would occur in close proximity to the towns of Hood and Courtland during construction
39 of the north Delta intakes and the intermediate forebay.

40 Additionally, the potential would exist for the construction of the water conveyance facilities to
41 indirectly result in the release of hazardous materials through the disruption of existing road, rail, or
42 river hazardous materials transport routes because construction would occur in the vicinity of three
43 hazardous material transport routes, three railroad corridors, and waterways with barge traffic and
44 would require construction traffic that could disrupt these routes. For these reasons, this is
45 considered a significant impact. However, with the implementation of the previously described
46 environmental commitments (e.g., SWPPPs, HMMPs, SPCCPs, SAPs, and a Barge Operations Plan)

1 and Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public*
 2 *Services and Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*), construction of the
 3 water conveyance facilities would not create a substantial hazard to the public or the environment
 4 through the routine transport, use, or disposal of hazardous materials or the upset/accidental
 5 release of these materials.

6 The severity of this impact would be reduced with the implementation of these environmental
 7 commitments and mitigation measures by identifying and describing potential sources of hazardous
 8 materials so that releases can be avoided and materials can be properly handled; detailing practices
 9 to monitor pollutants and control erosion so that appropriate measures are taken; implementing
 10 onsite features to minimize the potential for hazardous materials to be released to the environment
 11 or surface waters; minimizing risk associated with the relocation of utility infrastructure; and
 12 coordinating the transport of hazardous materials to reduce the risk of spills. Accordingly, these
 13 impacts would be less than significant.

14 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 15 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 16 **Construction Footprint, and Remediate and/or Contain Contamination**

17 BDCP proponents will identify potential areas of hazardous materials and remediate and/or
 18 contain contamination in order to reduce the likelihood of hazardous materials being released
 19 into the environment. The BDCP proponents will perform preconstruction hazardous waste
 20 investigations at properties to be acquired for construction associated with the BDCP. Areas to
 21 be excavated as part of construction (e.g., for water conveyance facilities, shaft locations,
 22 concrete batch plants, intake locations, RTM areas, staging areas, forebays, borrow and spoil
 23 sites, barge unloading, restoration activities, and other appurtenant facilities) where historical
 24 contamination has been identified (e.g., SOCs) or where contamination is suspected (e.g., as
 25 evidenced by soil discoloration, odors, differences in soil properties, abandoned USTs) will
 26 undergo soil and/or groundwater testing at a certified laboratory. Where concentrations of
 27 hazardous constituents, such as fuel, solvents or pesticides in soil or groundwater exceed
 28 applicable federal or state thresholds contaminated areas will be avoided or remediated and
 29 contained in compliance with applicable state and federal laws and regulations. Groundwater
 30 removed with the dewatering system would be treated, as necessary, and discharged to surface
 31 waters under an NPDES permit (see Chapter 8, *Water Quality*).

32 Implementation of this mitigation measure will result in the avoidance, successful remediation
 33 or containment of all known or suspected contaminated areas, as applicable, within the
 34 construction footprint, which would prevent the release of hazardous materials from these
 35 areas into the environment.

36 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 37 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 38 **Dispose of Them in Accordance with Applicable Regulations**

39 BDCP proponents will perform surveys and characterize and dispose of hazardous materials in
 40 order to reduce the likelihood that hazardous materials are released into the environment.
 41 Where demolition of existing structures is necessary, measures will be implemented to ensure
 42 hazards are avoided or minimized and that the release of hazardous materials, such as residual

1 fuel in underground fuel storage tanks, or lead-based paint or asbestos-containing materials in
2 buildings, is avoided. These measures will include the following practices.

- 3 • Perform pre-demolition surveys to identify all potentially hazardous materials, including
4 asbestos-containing material and lead-based paint.
- 5 • Coordinate with owners of property to be acquired by BDCP proponents to help identify
6 potentially hazardous infrastructure and/or infrastructure containing potentially hazardous
7 materials.
- 8 • Characterize and separate hazardous materials from structures before demolition and
9 ensure that such materials are disposed of at an approved disposal site according to
10 applicable regulations.
- 11 • Remove underground fuel storage tanks and contents to a licensed disposal site where the
12 tanks will be scraped and the contents disposed of in accordance with applicable
13 regulations.
- 14 • Disposal of materials containing PCBs will comply with all applicable regulations, codes, and
15 ordinances. Disposal of large quantities of PCB waste will occur at incinerators approved for
16 burning of PCB-containing waste.
- 17 • Implement proper handling and disposal procedures for potentially hazardous materials,
18 such as solvents and household or industrial-strength maintenance chemicals and cleaners
19 in buildings to be demolished.
- 20 • As applicable, a Cal-OSHA-certified asbestos and lead-based paint contractor will prepare a
21 site-specific asbestos and/or lead hazard control plan with recommendations for the
22 containment of asbestos and/or lead-based paint materials during demolition activities, for
23 appropriate disposal methods and locations, and for protective clothing and gear for
24 abatement personnel. Site-specific asbestos abatement work would meet the requirements
25 of both the federal Clean Air Act and Cal-OSHA (CCR Title 8, Subchapter 4, Article 4, Section
26 1529). If asbestos-containing materials are found, contractors licensed to conduct asbestos
27 abatement work will be retained and will direct the abatement. In addition, the applicable
28 Air Quality Management District(s) will be notified 10 days prior to initiation of demolition
29 activities of asbestos-containing materials.
- 30 • Containers suspected of, or confirmed as, containing lead-based paint will be separated
31 from other building materials during the demolition process. Separated paint will be
32 classified as a hazardous waste if the lead content exceeds 1,000 parts per million and
33 will be disposed of in accordance with applicable regulations.
- 34 • Sewer lines will be plugged with concrete to prevent soil and/or groundwater
35 contamination, and the end of the lines will be flagged above ground for future location and
36 identification.
- 37 • Gas lines will be plugged or capped and the end of the lines will be flagged above ground for
38 future location and identification.
- 39 • The use of explosives for demolition will not be allowed.
- 40 • Hazardous waste, including contaminated soil, generated at demolition sites will be handled,
41 hauled, and disposed of at an appropriately licensed disposal facility under appropriate
42 manifest by a licensed hazardous waste hauler.

- Implementation of this mitigation measure will ensure that hazardous materials present in or associated with structures being demolished will not be released into the environment.

Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure

Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in Chapter 20, *Public Services and Utilities*.

Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or Minimizes Any Effect on Worker and Public Health and Safety

Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in Chapter 20, *Public Services and Utilities*.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative 1A in Chapter 19, *Transportation*.

Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance Facilities

NEPA Effects: An adverse effect may occur if a construction work site is located within 0.25 mile of an existing or proposed school or other sensitive receptor (for this analysis, a hospital or park) and releases hazardous materials that pose a health hazard. However, there are no schools, parks or hospitals located within 0.25 mile of the Alternative 1A water conveyance alignment (Figure 24-8). Therefore, there would be no effect due to exposure of sensitive receptors to hazardous materials, substances or waste during construction of the water conveyance facilities. Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and Greenhouse Gases*.

CEQA Conclusion: There are no schools, parks or hospitals located within 0.25 mile of the Alternative 1A water conveyance alignment, therefore, there would be no impact due to exposure of sensitive receptors to hazardous materials, substances or waste during construction of the water conveyance facilities. No mitigation is required. Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and Greenhouse Gases*.

Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result, Create a Significant Hazard to the Public or the Environment

NEPA Effects: As described in Section 24.1, the storage and use of bulk quantities of hazardous materials, such as pesticides, fuels and solvents, is common throughout the study area. The locations of known or suspected SOCs that may have contaminated soils and/or groundwater were identified in the study area during the ISA and are presented in Figure 24-4. SOCs within 0.5 mile of the construction footprint, as well as those within the construction footprint, for this alternative are identified in Table 24-5. The number of SOCs may change during right-of-way evaluation, land acquisition and preconstruction site-clearance investigations or during construction. Additional SOCs may be identified during these activities, and currently identified SOCs may be determined innocuous after site-specific field investigation and testing.

1 **Table 24-5. Sites of Concern within 0.5 Mile of Conveyance Alignments**

Site Name	Associated Databases ^a	Summary	Site Within Conveyance Option Construction Footprint
Pipeline/Tunnel Alignment (Alternatives 1A, 2A, 3, 5, 6A, 7, and 8)			
Circle K Ranch	LUST, UST, HIST LUST, CORTESE	The site had petroleum and constituents in soil and groundwater above cleanup standards. Sacramento County made a "No Further Action" determination for this site on September 15, 2008.	No
D-Gas	LUST/UST/HIST LUST, CORTESE	Industrial maintenance facility and pumping station; No regulatory listing	No
Woodward Drilling		Drilling company yard with vehicle maintenance; Open LUST case;	No
Hamatani Farms, Inc.	LUST, STATE UST, CORTESE	Two 1,500 gallon USTs were removed from this site in 1992. The most recent groundwater monitoring report from third quarter 2008 indicates that groundwater in this vicinity contains petroleum products in excess of cleanup standards.	No
Modified Pipeline/Tunnel Alignment (Alternative 4)			
Excelsior Middle School	ENVIROSTOR	Previously used for agricultural purposes, potential arsenic contamination in soil.	No
Bay Standard	ENVIROSTOR, CERCLIS/CERCLIS NFRAP, RCRA	Metal and metal plating manufacturing plant.	No
Circle K Ranch	LUST, UST, HIST LUST, CORTESE	The site had petroleum and constituents in soil and groundwater above cleanup standards. Sacramento County made a "No Further Action" determination for this site on September 15, 2008.	No
East Alignment (Alternatives 1B, 2B, and 6B)			
Circle K Ranch	LUST, STATE UST, CORTESE	The site had petroleum and constituents in soil and groundwater above cleanup standards. Sacramento County made a "No Further Action" determination for this site on September 15, 2008.	No
Paradise Point Engine and Boat Repair	ENVIROSTOR, VCP, CA WDS, CORTESE, SLIC	Spent sand blast grit containing copper and zinc was disposed of at this site. The grit was removed in 2004 and remaining concentrations in soil were below the soil cleanup standards.	No
Kinder Morgan Energy	SLIC	Pipeline access station; SLIC; Refined petroleum products pipeline	Yes
D&D Flying Service	SLIC	A 1990 inspection report indicates that this site had no rinsewater containment for its agricultural spraying operation. No files were found to indicate that any investigation or cleanup was undertaken.	No

Site Name	Associated Databases ^a	Summary	Site Within Conveyance Option Construction Footprint
Hamatani Farms, Inc.	LUST, STATE UST, CORTESE	Two 1,500 gallon USTs were removed from this site in 1992. The most recent groundwater monitoring report from third quarter 2008 indicates that groundwater in this vicinity contains petroleum products in excess of cleanup standards.	No
Sarale Farms	LUST, STATE UST, CORTESE	A 10,000 gallon UST was removed from this site in 1992. Soil and groundwater contain petroleum products in excess of cleanup standards. The San Joaquin County Environmental Health Department issued a letter in December 2008 requiring continued monitoring of groundwater and additional assessment of groundwater for petroleum.	Yes
Dump Site A	LUST, STATE UST, CORTESE	Current service station; Sacramento County Contaminated Site case	No
Woodward Drilling		Drilling company yard with vehicle maintenance; Open LUST case;	No
Stockton Naval Communications	RCRA CORRACTS/TSD, CERCLIS/NFRAP, RCRA INFO, PADS, RESPONSE, HIST-CAL, CORTESE	United States Navy communications facility	No
West Alignment (Alternatives 1C, 2C, and 6C)			
JR Simplot	CERCLIS/NFRAP, ENVIROSTOR, STATE UST, CA WDS, CORTESE, SLIC	This is a former fertilizer plant in Courtland. Prior to ownership by Simplot, it was owned by Occidental Chemical, and based on file review appears to have stored or formulated pesticides on-site. No files from after 1996 were available. At that time, low levels of pesticides were present in soils and groundwater, and groundwater contained levels of nitrates in excess of cleanup standards. The site is undergoing phytoremediation; no monitoring data were available to review the status of cleanup in 2009.	No
Norm's Auto Garage		Closed/vacant auto repair facility; Closed LUST case	No
Woodward Drilling		Drilling company yard with vehicle maintenance; Open LUST case;	No
Agricultural Chemical Operation A		Agricultural chemical storage/batch plant; No regulatory listing; ASTs located inside and outside of secondary containment. Drums stored onsite. Staining inside secondary containment.	No
Marine Emporium	CA WDS	Marine repair shop; Contra Costa Contaminated Site List	No

Site Name	Associated Databases ^a	Summary	Site Within Conveyance Option Construction Footprint
Mill Site A		Agricultural mill; No regulatory listing; Large agricultural mill with outbuildings, considerable debris. Historical aerial photographs indicate presence of facility since 1972. Most of the debris has accumulated since the 1999 aerial photograph	Yes
Clarksburg Diesel Fuel Spill	SLIC	Site is located at a vineyard, and was the result of a 500-gallon spill of diesel fuel onto soil in December 2006. Fifteen tons of soil was removed in 20-by-50-foot area. No confirmation sampling data were found in the file.	No
Reclamation District 999 Yard		Industrial maintenance facility and pumping station	No
Bethel Island Golf Course	LUST/UST/HIST LUST	Petroleum releases have occurred from USTs at this site. Soil and groundwater contain petroleum products in excess of cleanup standards. Remediation is ongoing.	No
Through Delta/Separate Corridors (Alternative 9)			
Unocal Bulk Plant	RCRA INFO, SLIC	The site operated as a bulk storage and distribution facility for petroleum products from 1922 to 1980, with 11 ASTs and underground pipelines. Products were shipped by barge on the Sacramento River. The latest monitoring report from third quarter 2008 indicates that groundwater contains petroleum products above cleanup standards.	Yes
Former BC Stocking Bulk Plant	RCRA INFO, SLIC	The site operated as a bulk storage and distribution facility for petroleum products for an unknown period of time, with six ASTs and underground pipelines. A sampling investigation from 2008 indicates that groundwater contains petroleum products in excess of cleanup standards.	No
Crop Production Services		Agricultural chemical supply company; No regulatory listing; Historical aerial photographs show site presence since at least the 1950s	No
D-Gas	LUST/UST/HIST LUST, CORTESE	Industrial maintenance facility and pumping station; No regulatory listing	No
^a A summary of the federal and state database searches performed in the Phase 1 ISA (May 2009) is provided in Appendix 24A, <i>Bay Delta Conservation Plan Draft Phase 1 Initial Site Assessment</i> .			

1

2 California Government Code 65962.5 directs DTSC to compile a list, known as the "Cortese List," of
3 hazardous materials sites. These sites consist of leaking underground storage tanks, solid waste
4 facilities, landfills and sites with potential or confirmed hazardous substance releases. Although this
5 list is no longer updated by the state, it nonetheless provides valuable information to developers to

1 prevent the re-release of hazardous materials resulting from excavation or disturbance of hazardous
2 materials by preventing unanticipated disturbance of these sites. “Cortese List” sites make up a
3 subset of the mapped SOCs.

4 There are no “Cortese List” sites or known SOCs within the construction footprint of Alternative 1A
5 (Table 24-5 and Figure 24-4), and therefore there would be no conflict pertaining to a known
6 hazardous materials site during construction of the water conveyance facilities, and thus, no related
7 hazard to the public or the environment. For those hazardous materials sites identified within the
8 0.5-mile radius, but which are not within the construction footprint, there would be no potential for
9 the construction of the water conveyance facilities to disturb those sites such that there would be a
10 re-release of hazardous materials that would create a hazard for the public or environment.
11 Therefore, there would be no effect. The potential for encountering unknown hazardous materials
12 sites during the course of construction is discussed under Impact HAZ-1.

13 **CEQA Conclusion:** Because there are no known SOCs within the construction footprint of the water
14 conveyance facility under this alternative, there would be no conflict with known hazardous
15 materials sites during construction of the water conveyance facilities, and therefore, no related
16 hazard to the public or the environment. Accordingly, there would be no impact. No mitigation is
17 required. The potential for encountering unknown hazardous materials sites during the course of
18 construction is discussed under Impact HAZ-1.

19 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
20 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
21 **Study Area during Construction of the Water Conveyance Facilities**

22 **NEPA Effects:** Development around an airport, particularly in the approach and departure paths, can
23 create obstructions in the airspace traversed by an approaching or departing aircraft. Additionally,
24 certain land uses have the potential to create hazards to aircraft such as a distracting glare, smoke,
25 steam, or invisible heat plumes. Safety impacts from aircraft accidents near airports are typically
26 avoided by specifying the types of land uses allowed, and thereby limiting the number of people who
27 would be exposed to the risk of an accident, and avoiding land uses that could create hazards to air
28 traffic. Airspace protection primarily involves limitations on the height of objects on the ground near
29 airports.

30 High-profile construction equipment, such as tall cranes for installation of pipelines, placement of
31 concrete fill in intake piles, and removal of cofferdam sheet piles, for example, and pile drivers, such
32 as would be used during the construction of the intakes, have the potential to result in safety
33 hazards to aircraft during takeoff and landing if the equipment is operated too close to runways. It is
34 not yet known what the maximum height of the high-profile construction equipment that would be
35 used would be. Tower cranes, for example, may be required, and a typical tower crane can have a
36 total height greater than 200 feet—a height that could be considered an obstruction or hazard to
37 navigable air space if located near an airport. Similarly, tall structures, such as the surge towers at
38 the pumping plants for Intakes 1 and 2, could also pose a risk to air safety. As shown in Figure 24-9
39 and Table 24-6, three private airports (Borges-Clarksburg Airport, Walnut Grove Airport, and Spezia
40 Airport) and one public airport (Byron Airport) are located within 2 miles of the water conveyance
41 facilities for Alternative 1A. The Borges-Clarksburg Airport, located 2 miles northeast of the town of
42 Clarksburg, is within 0.5 miles of a proposed intake work area (Intake 1) and less than one mile
43 from the intake. These are water conveyance feature construction areas where high-profile
44 construction equipment may be used.

1 **Table 24-6. Distance between Airports within the Study Area and the Water Conveyance Facilities**
 2 **Alignments (miles)**

Airport	Pipeline/ Tunnel Alignment (Alt. 1A, 2A, 3, 5, 6A, 7 and 8)	Modified Pipeline/ Tunnel Alignment (Alt. 4)	East Alignment (Alt. 1B, 2B, and 6B)	West Alignment (Alt. 1C, 2C, and 6C)	Through Delta/ Separate Corridors (Alt. 9)
Delta Air Park (private)	5.8	4.8	11.2	0.2	6.5
Garibaldi Brothers Airport (private)	29.0	30.0	31.4	14.4	23.5
Maine Prairie Airport (private)	14.9	15.7	14.9	10.2	17.9
Borges-Clarksburg Airport (private)	0.4	1.6	0.4	0.3	11.4
Spezia Airport (private)	0.1	1.9	3.4	3.2	1.6
Byron Airport (public)	1.5	1.2	1.5	0.9	3.5
Lost Isle Seaplane Base (public)	4.0	3.0	0.6	8.0	3.5
Walnut Grove Airport (private)	0.3	2.3	3.9	2.8	2.0
Flying B Ranch Airport (private)	3.7	1.4	3.1	4.8	5.6
Funny Farm Airport (private)	5.4	2.5	9.6	0.5	4.1
Franklin Field Airport (public)	4.3	0.6	2.3	6.1	4.7

3
 4 Walnut Grove and Spezia Airports, on Andrus Island and Tyler Island, respectively, are within 2
 5 miles of the following proposed features or areas: a temporary 69 kV transmission line; a permanent
 6 230 kV transmission line; a RTM area; the tunnel; a tunnel work area; and the main construction
 7 shaft for the tunnel. Byron Airport, less than 1.5 miles west of Clifton Court Forebay, is within 2
 8 miles of a proposed 12 kV temporary transmission line; a proposed 230 kV permanent transmission
 9 line; Byron Tract Forebay; and a borrow and/or spoils area. With the exception of the proposed
 10 transmission lines, construction of these features or work in these areas would not require the use
 11 of high-profile construction equipment. Because construction of the proposed transmission lines
 12 would potentially require high-profile equipment (e.g., cranes), and because construction of the 230
 13 kV transmission line would require the use of helicopters during the stringing phase, the safety of
 14 air traffic arriving or departing from either of these airports could be compromised during
 15 construction of the proposed transmission lines.

16 To help ensure protection of airspace, under 14 CFR Part 77, the FAA requires project proponents to
 17 inform them about proposed construction or alteration of objects within 20,000 feet of a public-use
 18 or military runway and having a height exceeding a 100:1 imaginary surface (1 foot upward per 100
 19 feet horizontally) beginning at the nearest point of the runway for runways greater than 3,200 feet
 20 in length. For shorter public-use or military runways, the notification surface has a 50:1 slope and
 21 extends 10,000 feet from the runway. Exceptions to this notification requirement are made for “any
 22 object that would be shielded by existing structures of a permanent and substantial character or by
 23 natural terrain or topographic features of equal or greater height, and would be located in the
 24 congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the
 25 structure so shielded would not adversely affect safety in air navigation.” Notice must be provided
 26 for temporary objects such as construction cranes and any object more than 200 feet in height above
 27 ground level or above the established airport elevation. Notification of the FAA enables them to

1 evaluate the effect of the proposed object on air navigation through an aeronautical study
2 (Obstruction Evaluation/Airport Airspace Analysis [OE/AAA]). The OE/AAA will indicate whether
3 the project would have a “substantial adverse effect” on air safety. If it is determined that the
4 proposed structure or structures exceeds obstruction standards or will have an adverse effect on
5 navigable airspace, the project proponent is given the opportunity to amend the project proposal to
6 avoid the impact; adjustments to aviation requirements that would accommodate the project are
7 investigated as well. The State Aeronautics Act (Public Utilities Code, Section 21001 et seq.)
8 authorizes Caltrans and local governments to protect navigable airspace and prohibits the
9 construction of any structure or permitting any natural growth of a height which would constitute a
10 hazard to air navigation unless Caltrans first issues a permit (Public Utilities Code, Section 21659).
11 The permit is not required if the FAA has determined that the structure or growth does not
12 constitute a hazard to air navigation or would not create an unsafe condition for air navigation.
13 Caltrans requires notification, in writing, for proposed construction of any state building or
14 enclosure within 2 miles of any airport before an agency acquires title to the property for the
15 building or enclosure or for an addition to an existing site (Public Utilities Code, Section 21655).
16 Caltrans would respond with a written investigation report of the proposed site and provide
17 recommendations, as necessary, to reduce potential hazards to air navigation. DWR would adhere to
18 these recommendations, which would reduce the potential for adverse effects on air safety (e.g.,
19 recommendations for the marking and/or lighting of temporary or permanent structures exceeding
20 an overall height of 200 feet above ground level), as would compliance with the recommendations of
21 the OE/AAA. Therefore, this effect would not be adverse.

22 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
23 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
24 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
25 example, and potentially pile drivers, such as would be used during the construction of the intakes,
26 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
27 is operated too close to runways. Three private airports (Borges-Clarksburg, Spezia, and Walnut
28 Grove Airports) and one public airport (Byron Airport) are located within 2 miles of the
29 construction footprint of Alternative 1A. DWR would coordinate with Caltrans’ Division of
30 Aeronautics prior to initiating construction and would comply with its recommendations based on
31 its investigation(s), as well as complying with the recommendations of the OE/AAA (for Byron
32 Airport). These recommendations, which could include limitations necessary to minimize potential
33 problems, such as the use of temporary construction equipment, supplemental notice requirements,
34 and marking and lighting high-profile structures would reduce the potential for impacts on air
35 safety. Accordingly, this impact would be less than significant. No mitigation is required.

36 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
37 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
38 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
39 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

40 **NEPA Effects:** As shown in Figure 24-10, no portion of Alternative 1A is located in or near an area
41 designated as a High or Very High Fire Hazard Severity Zone. The northernmost and southernmost
42 portions of Alternative 1A, where intake facilities and fueling stations, and the Byron Tract Forebay,
43 respectively, would be located, are near Moderate Fire Hazard Severity Zones (Figure 24-10).
44 Construction, operation, and maintenance of the water conveyance facilities would involve the use
45 of equipment and ignitable materials, and would involve activities that could potentially start fires.

1 For example, as discussed in Chapter 3, *Description of Alternatives*, facility maintenance would
2 consist of activities such as painting, cleaning, repairs, and other routine tasks. Some of these
3 activities would involve the use of flammable chemicals, such as fuels and solvents, which could be
4 inadvertently ignited by sparks from equipment/machinery if proper safety measures were not
5 employed. Further, during construction, fires could be caused by a variety of factors, including
6 vehicle exhaust, welding activities, parking on dry grass, and accidental ignition of fuel. However, as
7 previously discussed, the study area mainly consists of agricultural lands with pockets of rural
8 residential land uses that are not adjacent to wildlands, as well as residential areas that are
9 intermixed with wildlands. The potential for construction or operation and maintenance activities to
10 generate hazards associated with wildland fires would be minimal. Further, as described in
11 Appendix 3B, *Environmental Commitments*, measures to prevent and control wildland fires would be
12 implemented by DWR during construction, and operation and maintenance of the water conveyance
13 facilities in full compliance with Cal-OSHA standards for fire safety and prevention. These measures
14 would include, but not be limited to, the following.

- 15 ● Construction sites will have an adequate onsite supply of water and all-weather access for
16 firefighting equipment and emergency vehicles.
- 17 ● A list of all major fire hazards, proper handling and storage procedures for hazardous materials,
18 potential ignition sources and their control, and the type of fire protection equipment necessary
19 to control each major hazard.
- 20 ● No fires will be allowed at work sites. Smoking will be allowed only in areas designated for
21 smoking, and these areas will be cleared of vegetation, or in enclosed vehicles. Cigarette butts
22 are to be disposed of in car ashtrays or other approved disposal containers and dumped daily in
23 a proper receptacle off the work site.
- 24 ● The contractor will be responsible for maintaining appropriate fire suppression equipment at
25 the work site including an all-wheel drive water truck or fire truck with a water tank of at least
26 3,000 gallon capacity. Fire extinguishers, shovels and other firefighting equipment will be
27 available at work sites and on construction equipment. Each vehicle on the ROW will be
28 equipped with a minimum 20 pound (or two 10 pound) fire extinguisher(s) and a minimum of 5
29 gallons of water in a fire fighting apparatus (e.g., bladder bag).
- 30 ● At the work site, a sealed fire toolbox will be located at a point accessible in the event of fire.
31 This fire toolbox will contain: one back-pack pump-type extinguisher filled with water, two axes,
32 two McLeod fire tools, and enough shovels so that each employee at the work site can be
33 equipped to fight fire.
- 34 ● Gasoline-powered construction equipment with catalytic converters will be equipped with
35 shielding or other acceptable fire prevention features. Internal combustion engines will be
36 equipped with spark arrestors.
- 37 ● Welding sites will include fire prevention provisions.
- 38 ● The contractor will maintain contact with local firefighting agencies throughout the fire season
39 for updates on fire conditions, and such fire conditions will be communicated to the contractor's
40 employees daily.
- 41 ● Vehicles will be restricted to the work site unless otherwise allowed for fire control procedures.
- 42 ● Depending on the characteristics of the construction site, the dimensions and use of the rooms,
43 the on-site equipment, the physical and chemical properties of the substances present and the

1 maximum potential number of workers present, an adequate number of appropriate basic fire-
 2 fighting devices and, where required, automatic fire extinguishing systems shall be provided at
 3 the site.

- 4 ● Basic fire-fighting devices and automatic fire extinguishing systems shall be regularly
 5 maintained, checked and tested.
- 6 ● Basic fire-fighting devices shall be positioned in a visible place which is free from obstruction.
- 7 ● The location of fire-fighting equipment shall be indicated by fire safety signs. The signs shall be
 8 sufficiently resistant and placed at appropriate points.
- 9 ● If substances which can cause combustion or substances the use of which may produce
 10 explosive dust or gas are used or preserved on a construction site, special protective measures
 11 (ventilation, prohibition on the use of open fire, etc.) shall be applied in order to prevent the risk
 12 of fire and explosion.
- 13 ● Every person at work on a construction site shall, so far as is reasonably practicable, be
 14 instructed in the correct use of any fire-fighting equipment which it may be necessary for him to
 15 use.

16 These measures and potentially others will be guided by implementation of a FPCP in coordination
 17 with federal, state, and local agencies, as part of the project as an environmental commitment
 18 (Appendix 3B, *Environmental Commitments*). Because development and implementation of
 19 measures under the FPCP would help ensure that people or structures would not be subject to a
 20 substantial risk of loss of property, personal injury, or death involving wildland fires and because
 21 the proposed water conveyance facilities would not be located in a High or Very High Fire Hazard
 22 Severity Zone, this effect would not be adverse.

23 **CEQA Conclusion:** People or structures would not be subject to a substantial risk of loss, injury or
 24 death involving wildland fires during construction or operation and maintenance of the water
 25 conveyance facilities because the BDCP would comply with Cal-OSHA fire prevention and safety
 26 standards; DWR would implement standard fire safety and prevention measures, as part of a FPCP
 27 (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities would not
 28 be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would be less
 29 than significant. No mitigation is required.

30 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
 31 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
 32 **Water Conveyance Facilities**

33 **NEPA Effects:** During long-term operation and maintenance of the water conveyance facilities, the
 34 transport, storage, and use of chemicals or hazardous waste materials may be required. Hazardous
 35 waste generated at facility sites will be handled, hauled, and disposed of at an appropriately licensed
 36 disposal facility under appropriate manifest by a licensed hazardous waste hauler (see Appendix 3B,
 37 *Environmental Commitments*). Maintenance requirements for several of the water conveyance
 38 facilities features (e.g., tunnels) have not yet been finalized. However, the operation and
 39 maintenance of certain alternative features, such as the intake pumping plants and the intermediate
 40 pumping plant, would require the use of hazardous materials, such as fuel, oils, grease, solvents, and
 41 paints. For example, planned maintenance at pumping facilities would include checking oil levels,
 42 replacing oil in the pumps and greasing pump bearings. Additionally, routine facility maintenance

1 would involve painting of pumping plants and appurtenant structures, cleaning, repairs, and other
2 routine tasks that ensure the facilities are operated in accordance with design standards.

3 Facility equipment maintenance would be required for the intake pumping plants, sedimentation
4 basins and solids lagoons, the intermediate forebay and pumping plant, and Byron Tract Forebay.
5 Timing of maintenance activities would be variable and would be dictated by the schedule and day-
6 to-day requirements of specific components being maintained. Maintenance activities at the intakes
7 would include debris and sediment removal, biofouling and corrosion prevention, and repairs
8 following physical impacts to the intake structures. Sediment and solids removal from the
9 sedimentation basins and solids lagoons, respectively, is expected to be an ongoing process during
10 operation of the water conveyance facilities. During operation of the water conveyance facilities,
11 water would enter sedimentation basins at five intakes along the east bank of the Sacramento River
12 in the north Delta. Settled sediment would then be pumped to solids lagoons where it would be
13 dewatered and removed for disposal off site; sediment pore water would be pumped back into the
14 sedimentation basins. The dewatered solids, like sediment dredged at the intakes, may contain
15 pesticides from agricultural and urban areas, metals or organic compounds from urban stormwater
16 runoff and mercury from historic mining upstream of the Delta. The wide variety of pesticides that
17 has been applied, the numerous crops grown in the region, and the fact that predominant land use
18 across the Delta supports agriculture indicate that persistent pesticides that have been widely
19 applied (e.g., organochlorines) and are likely to be found in the soils and potentially sediment
20 throughout the Delta. Because of their relatively low water solubility, persistent pesticides and
21 compounds generally accumulate in the environment in sediment and soil, as well as in the fatty
22 tissue of terrestrial and aquatic animals and humans. Human exposure to organochlorine pesticides
23 is primarily through the diet. No comprehensive area-wide soil or sediment sampling program is
24 known to have been conducted to evaluate pesticide residues from agricultural use. Thus, it is not
25 known if persistent pesticide concentrations in dewatered solids from the solids lagoons, or in
26 dredged sediment from around the intakes would exceed applicable federal or state standards. As
27 previously described, although the concentration of mercury in sediment throughout the study area
28 is not known, one study indicated that the mercury concentration in sediment (suspended) at
29 Freeport, just upstream of the intake locations, was less than 10 ng/l, below the recommended
30 criterion of 50 ng/l (Domagalski 2001).

31 Based on a worst-case scenario, considering the throughput of the intakes at a maximum flow of
32 3,000 cfs, an estimated 137,000 dry pounds of solids per day would be pumped to the solids lagoons.
33 During periods of high sediment load in the Sacramento River, the daily mass of solids would be
34 expected to increase to up to 253,000 dry pounds per day. The annual volume of solids is anticipated
35 to be approximately 486,000 cubic feet (dry solids). An anticipated 18,000 cubic yards of dry
36 sediment/solids would be produced annually as a result of maintenance of the solids lagoons.
37 Potentially contaminated solids could pose a hazard to the environment if improperly disposed of.
38 Implementation of Mitigation Measure HAZ-6 (described below) would help ensure that there are
39 no adverse effects on soil, groundwater or surface water due to improperly disposed of lagoon
40 solids. Dewatered solids may require special management to meet discharge/disposal requirements.
41 To ensure that potentially contaminated sediment from maintenance dredging activities at the
42 intakes would not adversely affect soil, groundwater or surface water, a SAP would be implemented
43 prior to any dredging activities, as described under Impact HAZ-1 for this alternative. All sediment
44 would be characterized chemically prior to reuse and/or disposal to ensure that reuse of this
45 material would not result in a hazard to the public or the environment.

1 To the extent practicable, scheduled routine and emergency maintenance activities associated with
2 equipment at the intakes and intermediate pumping plant would be conducted at a permanent
3 maintenance facility at the intakes and intermediate pumping plant. The intake facilities
4 maintenance facility would be located at one of the five intakes locations; the precise location has
5 not yet been determined. The maintenance facility, and activities performed, at the intermediate
6 pumping plant would likely be similar to the maintenance facility at the intakes; however, there
7 would be no sedimentation basin (California Department of Water Resources 2010a:7-24).
8 Replacement of erosion protection on the levees and embankments would also occur periodically.

9 Some of the materials used in routine facility and equipment maintenance may include hydraulic oil
10 for lubricating machinery, fuel, batteries for vehicles and equipment, nitrogen, carbon dioxide or
11 clear agent fire suppression, paints, cleaning solvents and chemicals, and pesticides and herbicides
12 for grounds maintenance. Some of these materials, for example, bulk fuel and lubricants, would
13 likely be stored in the maintenance facilities. Vehicle fueling that occurs during operations and
14 maintenance activities and could pose the risk of fueling spills and leakage from bulk fuel storage
15 tanks. Accidental release of fuels, lubricants, solvents, grounds care chemicals (e.g., fertilizers,
16 pesticides and herbicides), and other hazardous materials could potentially have adverse effects if
17 not contained or if released in large enough quantities, as described under Impact HAZ-1 above.
18 However, under normal use, the inadvertent release of these types of chemicals would likely only
19 have the potential to result in minor, temporary hazards to workers immediately adjacent to these
20 releases. Because these chemicals would be used in small quantities and inadvertent releases would
21 be localized, and because, as discussed under Impact HAZ-1, environmental commitment measures
22 implemented as part of the HMMPs, SPCCPs, and SWPPPs, including equipping facility buildings with
23 spill containment and cleanup kits; ensuring that hazardous materials containment containers are
24 clearly labeled with identity, handling and safety instructions, and emergency contact; and requiring
25 that personnel be trained in emergency response and spill containment techniques, would minimize
26 the potential for the accidental release of hazardous materials and would help contain and
27 remediate hazardous spills should they occur, it is unlikely that the general public or the
28 environment would be adversely affected due to these types of activities.

29 The locations of airports with respect to Alternative 1A are provided in Figure 24-9. The Borges-
30 Clarksburg, Walnut Grove, and Spezia Airports (all private air facilities), and the Byron Airport (a
31 public airport), are within 2 miles of the Alternative 1A construction footprint (Figure 24-9 and
32 Table 24-6), as discussed under Impact HAZ-1 for this alternative. With the exception of power
33 transmission lines supplying power to pumps, surge towers, and other equipment used for water
34 conveyance facilities operation and maintenance, water conveyance facilities operations and
35 maintenance are not anticipated to require high-profile equipment (i.e., equipment with a vertical
36 reach of 200 feet or more), the use of which near an airport runway could result in an adverse effect
37 on aircraft. DWR would adhere to all applicable FAA regulations (14 CFR Part 77) and coordinate
38 with Caltrans' Division of Aeronautics prior to initiating maintenance activities requiring high-
39 profile equipment to assess whether a site investigation is necessary. If a site investigation is
40 performed, DWR would adhere to Caltrans' recommendations in order to avoid any adverse effects
41 on air safety. Further, compliance with the results of the OE/AAA for Byron Airport would reduce
42 the risk for adverse effects on air traffic safety by implementing recommendations which could
43 include limitations necessary to minimize potential problems, supplemental notice requirements,
44 and marking and lighting high-profile structures.

45 In summary, during routine operation and maintenance of the water conveyance facilities the
46 potential would exist for the accidental release of hazardous materials and other potentially

1 hazardous releases (e.g., contaminated solids and sediment), and for interference with air safety
 2 should high-profile equipment be required for maintenance of the proposed transmission lines near
 3 an airport. Accidental hazardous materials releases, such as chemicals directly associated with
 4 routine maintenance (e.g., fuels, solvents, paints, oils), are likely to be small, localized, temporary
 5 and periodic; therefore, they are unlikely to result in adverse effects on workers, the public, or the
 6 environment. Further, BMPs and measures implemented as part of SWPPPs, SPCCPs, and HMMPs
 7 would be developed and implemented as part of the BDCP, as described above under Impact HAZ-1,
 8 and in detail in Appendix 3B, which would reduce the potential for accidental spills to occur and
 9 would result in containment and remediation of spills, should they occur. In addition, under
 10 Mitigation Measure HAZ-6, solids from the solids lagoons would be sampled and characterized to
 11 evaluate disposal options, and disposed of accordingly at an appropriate, licensed facility. These
 12 measures would ensure that this effect would not create a substantial hazard to the public or the
 13 environment during operation and maintenance of the water conveyance facilities, and therefore
 14 there would be no adverse effect.

15 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
 16 operation and maintenance of the water conveyance facilities and the potential interference with air
 17 safety through the use of high-profile equipment for maintenance of proposed transmission lines
 18 could have impacts on the public and environment. However, implementation of the BMPs and other
 19 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
 20 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
 21 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
 22 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
 23 profile equipment within 2 miles of an airport, which would include implementation of
 24 recommendations to provide supplemental notice and/or equip high-profile structures with
 25 marking and lighting, would ensure that operation and maintenance of the water conveyance
 26 facilities would not create a substantial hazard to the public, environment or air traffic safety.
 27 Therefore this impact would be less than significant.

28 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
 29 **and/or Disposal**

30 BDCP proponents will ensure that dewatered solids from the solids lagoons are sampled and
 31 tested/characterized at a certified laboratory prior to reuse and/or to evaluate disposal options.
 32 All dewatered solids would be disposed of in accordance with applicable regulations.

33 Implementation of this measure will ensure that dewatered solids do not reintroduce hazardous
 34 constituents to the environment if they are reused and that they are disposed of properly if they
 35 do contain hazardous levels of contaminants such as persistent pesticides and mercury.

36 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
 37 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
 38 **Measures CM2–CM11, CM13, CM14, CM16 and CM18**

39 **NEPA Effects:** Construction, and operation and maintenance of the proposed conservation measures
 40 as part of Alternative 1A could have effects related to hazardous materials and potential hazards
 41 that are similar in nature to those discussed above for construction, and operation and maintenance
 42 of proposed water conveyance facilities. Although similar in nature, the potential intensity of any
 43 effects would likely be substantially lower because the nature of the activities associated with

1 implementing the conservation measures would be different (e.g., deep excavation for pipelines and
2 tunnels would not be required), less heavy construction equipment would be required, and the
3 activities would be implemented in a shorter time frame. Further, potential effects from
4 implementation of the conservation measures would be dispersed over a larger area and would
5 generally involve substantially fewer construction and operation effects associated with built
6 facilities.

7 Implementing habitat restoration and enhancement projects in conservation zones that have
8 proposed restoration opportunity areas would require use of construction equipment necessary to
9 excavate restoration sites, and to construct or modify levees on and adjacent to Delta waterways.
10 Use and maintenance of this equipment is expected to result in the potential for hazards related to
11 the transport, use, and disposal of hazardous materials, such as fuels, oils, lubricants, paints and
12 other hazardous substances. Other activities, including the intentional demolition of existing
13 structures (e.g., buildings) and reuse of spoil, dredged material and/or RTM, would also present the
14 potential to generate hazards or release hazardous materials, or activities resulting in the damage or
15 disruption of existing infrastructure such that hazardous conditions were created. In addition,
16 certain operations and maintenance activities, such as controlling for terrestrial and aquatic
17 nonnative vegetation will require the use of potentially hazardous herbicides, for example. These
18 activities would occur in sensitive Delta waterways and upland areas or could occur in and around
19 areas potentially hazardous for construction workers and operations and maintenance workers.
20 Reasonably foreseeable upset and accident conditions related to these materials would also create a
21 potential hazard to the public or environment.

22 As discussed in Chapter 8, *Water Quality*, Chapter 11, *Fish and Aquatic Resources*, and Chapter 25,
23 *Public Health*, Alternative 1A habitat restoration actions (particularly CM2, *Yolo Bypass Fisheries*
24 *Enhancement*; CM4, *Tidal Natural Communities Restoration*; CM5, *Seasonally Inundated Floodplain*
25 *Restoration*; CM6, *Channel Margin Enhancement*; and CM7 *Riparian Natural Community Restoration*)
26 are likely to result in increased production, mobilization, and bioavailability of methylmercury in the
27 aquatic system due to biogeochemical processes. CM12, *Methylmercury Management* provides for
28 site-specific assessment of restoration areas, integration of design measures to minimize
29 methylmercury production, and site monitoring and reporting.

30 Some of the proposed restoration activities that would occur under CM2 – CM11 could involve the
31 conversion of active or fallow agricultural lands to natural landscapes, such as vernal pools,
32 floodplains, grasslands, and wetlands. As described in Section 24.1.2.2, a wide variety of pesticides
33 has been used throughout the study area for decades, and may be present in agricultural lands (e.g.,
34 in the soil). As described in Chapter 8, *Water Quality*, in the short-term, tidal and non-tidal wetland
35 restoration, as well as seasonal floodplain restoration (i.e., CM4, CM5, and CM10) over former
36 agricultural lands may result in contamination of water in these restored areas with pesticide
37 residues contained in the soils or other organic matter. Present-use pesticides typically degrade
38 fairly rapidly, and in such cases where pesticide containing soils are flooded, dissipation of those
39 pesticides would be expected to occur rapidly. Additionally, significant increases in organochlorine
40 and other persistent legacy pesticides are not expected in the water column because these lipophilic
41 chemicals strongly partition to sediments. Also, concentrations in the water column should be
42 relatively short-lived because these pesticides settle out of the water column via sediment
43 adsorption in low-velocity flow. Accordingly, restoration activities on former agricultural lands,
44 particularly tidal and non-tidal wetland restoration, and seasonal floodplain restoration, would not
45 create a substantial hazard to the public or environment through pesticide release.

1 Additionally, construction of other conservation measures related to reducing ecosystem stressors
2 could result in the unintended release of hazardous materials as a result of constructing facilities
3 near Delta waterways. For example, under CM16 and CM18, non-physical fish barriers and fish
4 hatchery facilities, respectively, would be constructed and could result in effects associated with use
5 of materials during construction that could create hazardous conditions for construction workers
6 and affect sensitive habitat in Delta waterways or on agricultural land. Further, operations and
7 maintenance of CM14 would require the transport, storage and use of liquid oxygen for the existing
8 Stockton Deep Water Ship Channel aeration facility. BMPs already in place for the existing transport,
9 storage and use of liquid oxygen would continue. Thus, no adverse effects related to this aspect of
10 CM14 are anticipated.

11 The potential also exists for release of hazardous substances within 0.25 mile of a school or other
12 sensitive receptors (i.e., hospitals and parks) depending on the selected locations for implementing
13 the conservation measures. Potential effects would vary according to the equipment used in
14 construction and/or operation and maintenance of a specific conservation measures (i.e., whether
15 hazardous materials are necessary on site), the location and timing of the actions called for in the
16 conservation measure, and the air quality conditions at the time of implementation. Proposed
17 conservation measures would be designed to avoid sensitive receptors, and BMPs to minimize the
18 potential for the accidental release of hazardous materials and to contain and remediate hazardous
19 spills, as part of the SWPPPs, SPCCPs, and HMMPs, should they occur, would be implemented, as set
20 forth in Appendix 3B, *Environmental Commitments*, and therefore, it is unlikely that school children
21 and staff would be at risk or adversely affected.

22 Constructing conservation measures that could result in a physical change in the environment could
23 also create conflicts or encounters with known or unknown hazardous materials sites located on or
24 in the vicinity of conservation component construction sites. For example, implementing CM2–CM11
25 for habitat restoration and enhancement purposes could potentially result in effects associated with
26 agricultural and industrial-type hazardous materials at known sites that are listed on the “Cortese
27 List.” However, because locations within the eleven conservation zones (described in Chapter 3,
28 *Description of the Alternatives*) for implementing most of the conservation measures have not yet
29 been determined, it is not known if the conservation measures would be implemented on or near
30 “Cortese List” sites. Project design would minimize, to the extent feasible, the need to acquire or
31 traverse areas where the presence of hazardous materials is suspected or has been verified.
32 Implementation of conservation measures could also involve dredging Delta waterways and other
33 activities that could disturb contaminated sediments that hold mercury, pesticides, or other
34 constituents. Concentrations capable of posing hazards or exceeding regulatory thresholds could
35 present a hazard to the construction workers and any contaminated soil or groundwater would
36 require proper handling or treatment prior to discharge or disposal. Chapter 8, *Water Quality*,
37 provides further discussion of these potential contaminants.

38 Other potential hazards that could result from implementing conservation measures involve the
39 potential for safety hazards related to construction in the vicinity of a public or private airport, and
40 the potential for wildfire hazards in the vicinity of construction sites. There are 11 airports within
41 the study area (Table 24-6) and nine airports within two miles of the water conveyance alignments
42 (Figure 24-9). With the exception of the Lost Isle Seaplane Base, Franklin Field Airport and Byron
43 Airport, these are private facilities. The Garibaldi Brothers Airport is located within the Suisun
44 Marsh ROA, just south of Fairfield. Additionally, the Delta Air Park is proximate to the West Delta
45 ROA east of Oakley. Because locations for some of the habitat restoration and enhancement
46 activities have not yet been determined, the potential exists for some of these activities to occur at

1 locations within 2 miles of a private or public airport. High-profile construction equipment (i.e., 200
2 feet or taller), such as cranes, could result in potential safety hazards to aircraft if operated in the
3 vicinity of a runway; however, it is unlikely that this type of equipment would be employed in the
4 types of habitat restoration, enhancement and protection activities that would be implemented as
5 part of the conservation measures. As described for Impact HAZ-4, effects on air safety due to BDCP
6 implementation would be avoided because BDCP proponents would adhere to all applicable FAA
7 regulations (14 CFR Part 77) and would coordinate with Caltrans' Division of Aeronautics prior to
8 initiating maintenance activities requiring high-profile equipment to assess whether a site
9 investigation is necessary. If a site investigation is performed, BDCP proponents would adhere to
10 Caltrans' recommendations in order to avoid any adverse effects on air safety. Finally, construction
11 occurring within 10,000 feet of a public airport may be subject to an OE/AAA to be performed by the
12 FAA. Compliance with the results of the OE/AAA would reduce the risk for adverse effects on air
13 traffic safety. Potential safety hazards to air traffic related to the potential for increased bird-aircraft
14 strikes as a result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

15 The potential for conservation component implementation to result in or be subject to substantial
16 risk of wildfires is possible, but the risk is expected to be low because many of the activities would
17 be located in or near Delta waterways and adjacent to managed agricultural land. Additionally,
18 construction activities would be managed using standard construction practices to reduce the
19 potential for creating wildfires. Precautions would be taken to prevent wildland fires during
20 construction, and operation and maintenance of the conservation measures would be done in full
21 compliance with Cal-OSHA standards for fire safety and prevention. Additionally, in an effort to
22 reduce the potential for fire hazards, the BDCP proponents would develop and implement BMPs
23 (described under Impact HAZ-5 for this alternative and in Appendix 3B, *Environmental*
24 *Commitments*) under a FPCP, in coordination with federal, state, and local agencies, as part of the
25 environmental commitments.

26 The potential exists for CM2–CM11, CM13, CM14, CM16, and CM18 to result in effects related to the
27 release of or exposure to hazardous materials or other hazards. The potential for these kinds of
28 effects is considered adverse because implementation of these conservation measures would
29 involve extensive use of heavy equipment that could unintentionally result in the release of
30 hazardous substances or that could expose construction workers or members of the public to
31 hazards. Construction of restoration projects on or near existing agricultural and industrial land
32 may result in a conflict or exposure to known hazardous materials.

33 In summary, this alternative has incorporated environmental commitments (as described above),
34 and Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a are available to reduce these
35 potential effects so that they are not adverse.

36 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
37 public to hazardous substances or conditions during construction, operation, and maintenance of
38 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
39 implementation would involve extensive use of heavy equipment during construction, and/or the
40 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
41 for nonnative vegetation control). These chemicals could be inadvertently released and could expose
42 construction workers or the public to hazards. Construction of restoration projects on or near
43 existing agricultural and industrial land and/or SOCs may result in a conflict or exposure to known
44 hazardous materials. The use of high-profile equipment (i.e., 200 feet or higher) in close proximity to
45 airport runways could result in safety hazards to air traffic. However in addition to implementation

1 of SWPPPs, HMMPs, SPCCPs, SAPs, and fire prevention and fire control BMPs as part of a FPCP,
 2 Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be implemented, all of
 3 which would ensure that there would be no substantial hazards to the public or the environment
 4 due to implementation of the conservation measures. As such, this impact would be less than
 5 significant.

6 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 7 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 8 **Construction Footprint, and Remediate and/or Contain Contamination**

9 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1.

10 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 11 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 12 **Dispose of Them in Accordance with Applicable Regulations**

13 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1.

14 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

15 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 16 Chapter 20, *Public Services and Utilities*.

17 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 18 **Minimizes Any Effect on Worker and Public Health and Safety**

19 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 20 Chapter 20, *Public Services and Utilities*.

21 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 22 **Plan**

23 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 24 1A in Chapter 19, *Transportation*.

25 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
 26 **Conservation Measures That Create or Improve Wildlife Habitat**

27 **NEPA Effects:** Implementation of CM2–CM11, measures which would create or improve wildlife
 28 habitat and therefore, potentially attract waterfowl and other birds to areas in proximity to existing
 29 airport flight zones, could increase the opportunity for bird-aircraft strikes, which could result in
 30 impacts on public safety. The following airports, because they are in relatively close proximity
 31 (within 2 miles) to the ROAs and/or conservation zones could potentially be affected: Travis Air
 32 Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International Airport, and
 33 Byron Airport.

34 The FAA funds research and mitigation development, including a bird strike database managed by
 35 the Wildlife Services Program of the U.S. Department of Agriculture under terms of an interagency
 36 agreement. The database currently contains data from January 1990 through August 2008,
 37 recording over 100,000 wildlife strikes. Based on these data, most bird strikes occur during daylight
 38 hours between July and October when aircraft are approaching and landing. Most bird strikes (92%)

1 occur at or below 3,000 feet altitude. Since 1990, 52 U.S. civil aircraft were either destroyed or
2 damaged beyond repair due to wildlife strikes, accounting for 23 fatalities. The FAA discourages the
3 improvement of wildlife habitat in proximity to public-use airports to lessen the risk of bird-aircraft
4 strikes. If restoration actions are located within 5,000 feet of airports used by propeller-driven
5 aircraft or within 10,000 feet of those used by jet-driven aircraft (known as the Critical Zone), the
6 risk of bird-aircraft strikes would likely increase. The FAA recommends that these distances be
7 maintained between the Air Operations Area (AOA) and land uses deemed incompatible with safe
8 airport operations (i.e., hazardous wildlife attractants), including agriculture, water management
9 facilities, and active wetlands. Public use airports within the study area are located in areas of mixed
10 land uses. Some are located in proximity to urban uses, but all are located within five miles of
11 substantial existing agricultural lands and wetlands. Thus, all of the public use airports in the study
12 area are currently located in areas with existing wildlife hazards. The effect of increased bird-
13 aircraft strikes during implementation of CM2–CM11 would be adverse because it could potentially
14 result in an air and public safety hazard. Mitigation Measure HAZ-8 would reduce the severity of this
15 effect through the development and implementation of measures to reduce, minimize and/or avoid
16 wildlife hazards on air safety. However, this effect is would remain adverse.

17 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
18 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
19 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
20 significant impacts on public safety. Airports that could be potentially affected would include Travis
21 Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International Airport;
22 and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact through the
23 ultimate development of implementation of measures to reduce, minimize and/or avoid wildlife
24 hazards on air safety, but not to a less-than-significant level. As such, the impact is significant and
25 unavoidable.

26 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant** 27 **Regulatory Agencies**

28 The FAA requires commercial service airports to maintain a safe operation, including
29 conducting hazard assessments for wildlife attractants within 5 miles of an airport. The hazard
30 assessment is submitted to FAA, which determines if the airport needs to develop a Wildlife
31 Hazard Management Plan (15 CFR 139). The airport's Wildlife Hazard Management Plan
32 contains measures to reduce wildlife hazards, including habitat modification (e.g., vegetation
33 management, filling in of wetlands), wildlife control measures (e.g., harassment, trapping and
34 removing), and use of a radar-based alert system.

35 BDCP proponents will consult with the individual airports and USFWS during the project-level
36 environmental assessments for individual restoration activities, when site-specific locations and
37 design plans are finalized. At that time, appropriate management plans, strategies, and protocols
38 would be developed to reduce, minimize and/or avoid wildlife hazards on air safety. Site-
39 specific avoidance, minimization, and mitigation measures will be developed during future
40 environmental review once information on the design, location, and implementation of CM3–
41 CM11 is sufficient to permit a project-level analysis.

42 This mitigation measure will ensure that the potential for increased bird–aircraft strikes as a
43 result of implementing CM2–CM11 in the vicinity of airports is minimized to the greatest extent
44 possible.

24.3.3.3 Alternative 1B—Dual Conveyance with East Alignment and Intakes 1–5 (15,000 cfs; Operational Scenario A)

Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the Release of Hazardous Materials or by Other Means during Construction of the Water Conveyance Facilities

NEPA Effects: Hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction of the water conveyance facilities for Alternative 1B would be similar to those described under Alternative 1A. However, there would be differences in potential locations of effects related to the eastern alignment of this alternative. Because canals would be the primary means of water conveyance (although shorter tunnels would be constructed at river and slough crossings), construction may present a greater potential for surface effects related to hazards and hazardous materials than the Alternative 1A tunnel conveyance. Further, there would be no intermediate forebay constructed under Alternative 1B.

As described in Chapter 3, *Description of Alternatives*, six locations would be designated as temporary fueling stations during construction of Alternative 1B. Each fueling station would occupy 2 acres and each would be located adjacent to a concrete batch plant. Fueling station locations are shown in Figure 24-7 and in Figure M3-2 in the Mapbook Volume. Six fueling stations would be established in currently rural areas with two at the intakes on the northern end of the conveyance alignment—one would be located less than 0.5 miles northwest of Intake 2, just east of SR 160 across the Sacramento River from Clarksburg, and the other would be located between Intakes 4 and 5, southeast of SR 160. Three other fueling stations would be located along the length of the canal alignment (one approximately 2 miles northeast of Locke, one on northeastern King Island, and one approximately 1 mile southwest of Holt) and one fueling station would be located less than one mile southeast of Clifton Court Forebay, near the intersection of the Byron Highway and Mountain House Road on the southern end of the conveyance. For a map of all permanent facilities associated with this conveyance alignment, see Figure M3-2 in the Mapbook Volume. Bulk fuel would be stored at fueling stations and potentially pose the risk of vehicle fueling spills and leakage from above-ground storage tanks at fueling stations.

Potential hazards associated with natural gas accumulation in tunnels, existing contaminants in soil, sediment or groundwater, hazardous constituents present in RTM, infrastructure containing hazardous materials, and the disruption of existing hazardous materials transport routes would be similar to those described under Alternative 1A. However, the locations and extent of these hazards would be different than under Alternative 1A. For example, RTM would consist of materials excavated from the tunnel bores and inverted siphons where the canal alignment intersects river and slough crossings. The tunnel bores for Alternative 1B would be 1,400–5,022 feet long and advanced at a depth of approximately 160 feet bgs at these locations. There would be approximately 23.5 million cubic yards less RTM under this alternative than under Alternative 1A. In addition, there are 9 overhead power/electrical transmission lines and three natural gas pipelines (Table 24-3), five petroleum product lines (Figure 24-3), 57 inactive and four active oil or gas wells (Figure 24-5) within the proposed Alternative 1B water conveyance facilities construction footprint. There are also a number of locations where residential, agricultural and commercial structures lie within the Alternative 1B water conveyance facilities footprint. Approximately 409 permanent structures would be removed or relocated within the water conveyance facility footprint under this alternative. This includes approximately 109 residential buildings. Other structures affected would consist primarily of storage or agricultural support facilities (257), 22 recreational facilities, and 21 other

1 structures (e.g., power/utility structures, bridges, and other types of infrastructure). One fire station
2 in the community of Hood would also be affected. These structures may contain hazardous materials
3 (e.g., agricultural or other hazardous chemicals, asbestos, lead paint) that would require proper
4 handling and disposal, if demolition is necessary. As described for Impact HAZ-1 under Alternative
5 1A, Mitigation Measure HAZ-1b would be implemented by DWR to ensure that there are no adverse
6 effects related to structure demolition due to hazardous materials.

7 Risks associated with the transportation of hazardous materials via trucks, trains, and ships would
8 be similar to those described under Alternative 1A but would occur in different areas. Two
9 designated hazardous materials transportation routes, Highways 4 and 12, cross the Alternative 1B
10 construction footprint (Figure 24-2 and in Table 24-4). It is not anticipated that traffic on these
11 highways will need to be rerouted. Routes anticipated to be affected during construction of the
12 water conveyance facilities are described in Chapter 19, *Transportation*. As described in Chapter 19,
13 *Transportation*, under Mitigation Measure TRANS-1a, a site-specific construction traffic
14 management plan, taking into account land (including rail) and marine hazardous materials
15 transportation, would be prepared and implemented prior to initiation of water conveyance
16 facilities construction. Mitigation Measure TRANS-1a includes stipulations to avoid or reduce
17 potential circulation effects, such as such as providing signage, barricades, and flag people around
18 construction work zones; notifying the public, including schools and emergency service providers of
19 construction activities that could affect transportation; providing alternate access routes, if
20 necessary, to maintain continual circulation in and around construction zones; and requiring direct
21 haulers to pull over in the event of an emergency. This mitigation measure would reduce the
22 potential for effects on hazardous materials transportation routes in the study area. The Alternative
23 1B water conveyance facilities alignment would cross one railroad right-of-way (ROW) at the BNSF
24 Railway/Amtrak line in San Joaquin County near Holt. Maintaining freight and passenger service on
25 the BNSF railroad line with canal construction would be achieved by way of a siphon to be
26 constructed under the railroad. Construction of the siphon may temporarily affect BNSF/Amtrak
27 railroad operations. Two segments of a UPRR line would intersect with bridge facilities constructed
28 east of the intake facilities, and other construction work areas would be immediately adjacent to an
29 out-of-service UPRR Tracy Subdivision branch line, near the California Aqueduct at the southern end
30 of the water conveyance facilities. If the out-of-service UPRR line were reopened prior to
31 construction, the continuity of rail traffic, and thus the potential for hazards associated w/upset of
32 hazardous materials transportation on this line, could be managed through implementation of
33 Mitigation Measure TRANS-1a. Mitigation Measure TRANS-1a would include stipulations to
34 coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or
35 buses) that could be used to provide freight and/or passenger service during any longer term
36 railroad closures and daily construction time windows during which construction would be
37 restricted or rail operations would need to be suspended for any activity within railroad rights of
38 way. This would minimize the potential risk of release of hazardous materials being transported via
39 these rails. Under this alternative barge traffic would occur primarily in the San Joaquin River.
40 Increased barge traffic related to delivery of materials to the project site is not anticipated to cause
41 impediments to the passage of other vessels. Although some in-water work would be necessary for
42 intake construction along the Sacramento River, the river would remain open to boat traffic at all
43 times during construction, and the width of the river near the intakes (approximately 500–700 feet)
44 would allow for passage of the types of boats typically observed on the Sacramento River. However,
45 barges supporting water conveyance facilities construction may also transport hazardous materials
46 such as fuels and lubricants or other chemicals. The potential exists for accidental release of
47 hazardous materials from BDCP-related barges. To avoid effects on the environment related to this

1 issue, BMPs implemented as part of a Barge Operations Plan (for detail see Appendix 3B,
2 *Environmental Commitments*), as discussed under Impact HAZ-1 for Alternative 1A would avoid
3 and/or minimize this potential adverse effect.

4 In summary, during construction of the water conveyance facilities, the potential would exist for
5 direct effects on construction personnel, the public and/or the environment associated with a
6 variety of potentially hazardous conditions because of the intensity of construction activities at the
7 north Delta intakes, Byron Tract Forebay, conveyance features (e.g., siphons, canals, tunnels), and
8 the hazardous materials that would be used in these areas. Many of these activities would occur in
9 close proximity to the town of Hood, and would involve multiple years of use of hazardous
10 construction materials. Additionally, large-scale construction activities involving the use of
11 hazardous materials would be located in and near water bodies. Potential hazards include the
12 routine transport, use or disposal of hazardous materials; natural gas accumulation in water
13 conveyance tunnels; the inadvertent release of existing contaminants in soil and groundwater, or
14 hazardous materials in existing infrastructure to be removed; disturbance of electrical transmission
15 lines; and hazardous constituents present in RTM. Additionally, there is the potential for the
16 construction of the water conveyance facilities to indirectly result in the release of hazardous
17 materials through the disruption of existing road, rail, or river hazardous materials transport routes
18 because construction would occur in the vicinity of three hazardous material transport routes, three
19 railroad corridors, and waterways with barge traffic and would require construction traffic that
20 could disrupt these routes. These potential effects are considered adverse because they would
21 potentially result in direct exposure of the public (including construction personnel), and surface
22 water and groundwater to physical and/or chemical hazards as discussed.

23 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
24 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials
25 is suspected or has been verified. Additionally, environmental commitments would be implemented,
26 including, SWPPPs, SPCCPs, HMMPs, and SAPs; a Barge Operations Plan; and chemical
27 characterization of RTM and decant liquid prior to reuse (e.g., RTM in levee reinforcement) or
28 discharge, which together would help reduce these potential hazards associated with water
29 conveyance facilities construction. Finally, the implementation of Mitigation Measures HAZ-1a and
30 HAZ-1b; UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a
31 (described in Chapter 19, *Transportation*) would further reduce the potential severity of this impact,
32 as described for Impact HAZ-1 for Alternative 1A. As such, construction of the water conveyance
33 facilities would not create a substantial hazard to the public or the environment through the routine
34 transport, use, or disposal of hazardous materials or the upset/accidental release of these materials.
35 Therefore, this effect would not be adverse.

36 **CEQA Conclusion:** During construction of the water conveyance facilities, the potential would exist
37 for direct significant impacts on construction personnel, the public and/or the environment
38 associated with a variety of hazardous physical or chemical conditions. Such conditions may arise as
39 a result of the intensity and duration of construction activities at the north Delta intakes, Byron
40 Tract Forebay, conveyance pipelines, and tunnels, and because of the hazardous materials that
41 would be used in these areas during construction. Potential hazards include the routine use of
42 hazardous materials (as defined by Title 22 of the California Code of Regulations, Division 4.5);
43 natural gas accumulation in water conveyance tunnels; the inadvertent release of existing
44 contaminants in soil, sediment and groundwater, or hazardous materials in existing infrastructure
45 to be removed; disturbance of electrical transmission lines; and potentially hazardous constituents
46 present in RTM. Many of these physical and chemical hazards would occur in close proximity to the

1 town of Hood during construction of the north Delta intakes. Additionally, the potential would exist
 2 for the construction of the water conveyance facilities to indirectly result in the release of hazardous
 3 materials through the disruption of existing road, rail, or river hazardous materials transport routes
 4 because construction would occur in the vicinity of three hazardous material transport routes, three
 5 railroad corridors, and waterways with barge traffic, and would require construction traffic that
 6 could disrupt these routes. For these reasons, this is considered a significant impact. However, with
 7 the implementation of the previously described environmental commitments and Mitigation
 8 Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and*
 9 *Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*), construction of the water
 10 conveyance facilities would not create a substantial hazard to the public or the environment through
 11 the routine transport, use, or disposal of hazardous materials or the upset/accidental release of
 12 these materials. The severity of this impact would be reduced with the implementation of these
 13 environmental commitments and mitigation measures by identifying and describing potential
 14 sources of hazardous materials so that releases can be avoided and materials can be properly
 15 handled; detailing practices to monitor pollutants and control erosion so that appropriate measures
 16 are taken; implementing onsite features to minimize the potential for hazardous materials to be
 17 released to the environment or surface waters; minimizing risk associated with the relocation of
 18 utility infrastructure; and coordinating the transport of hazardous materials to reduce the risk of
 19 spills. Accordingly, this impact would be less than significant.

20 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 21 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 22 **Construction Footprint, and Remediate and/or Contain Contamination**

23 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 24 1A.

25 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 26 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 27 **Dispose of Them in Accordance with Applicable Regulations**

28 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 29 1A.

30 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

31 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 32 Chapter 20, *Public Services and Utilities*.

33 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 34 **Minimizes Any Effect on Worker and Public Health and Safety**

35 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 36 Chapter 20, *Public Services and Utilities*.

37 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 38 **Plan**

39 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 40 1A in Chapter 19, *Transportation*.

1 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
2 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
3 **Facilities**

4 **NEPA Effects:** There are no schools or hospitals within 0.25 mile of Alternative 1B. However,
5 Buckley Cove Park and Nelson Park, both in Stockton, are within 0.25 mile of the construction
6 footprint of Alternative 1B. Buckley Cove Park is west of a proposed borrow and/or spoils area
7 across the Stockton Deep Water Ship Channel, and Nelson Park is just north of a proposed
8 temporary 69 kV transmission line. Because large construction equipment, such as dump trucks,
9 excavators, back hoes, and potentially cranes (for the installation of the transmission line) could be
10 operated in these areas, there could be the potential for oil leakage from these vehicles. However, if
11 this were to occur, it would be localized and minimal. Furthermore, environmental commitment
12 measures (Appendix 3B, *Environmental Commitments*) implemented as part of the HMMPs, SPCCPs,
13 and SWPPPs, including positioning all stationary equipment over drip pans, and immediately
14 cleaning up spills and leaks and disposing of properly, will ensure that equipment leaks are
15 contained and remediated. Further, although Buckley Cove Park and Nelson Park are within 0.25
16 mile of the a borrow/spoils area and a proposed transmission line, respectively, the parks are not in
17 close enough proximity to the associated construction areas to be affected by potential hazards such
18 as minor leaks or spills of hazardous materials as may occur with the construction activities.
19 Therefore, people at these parks would not be at risk or adversely affected by exposure to hazardous
20 materials, substances, or waste during construction of the water conveyance facilities. As such, there
21 would be no adverse effect on sensitive receptors. Potential air quality effects on sensitive receptors
22 are discussed in Chapter 22, *Air Quality and Greenhouse Gases*, and potential EMF effects on sensitive
23 receptors are discussed in Chapter 25, *Public Health*.

24 **CEQA Conclusion:** Buckley Cove and Nelson Parks in Stockton are within 0.25 mile of the
25 construction footprint of Alternative 1B. Buckley Cove Park is west of a proposed borrow and/or
26 spoils area across the Stockton Deep Water Ship Channel, and Nelson Park is just north of a
27 proposed temporary 69 kV transmission line. Heavy construction equipment, such as dump trucks,
28 diggers, back hoes, and potentially cranes, would be operating in these areas during construction,
29 and there would be the potential for these vehicles to leak oil. However, if this were to occur, the
30 leaks would be localized and minimal. Furthermore, environmental commitment measures
31 (Appendix 3B, *Environmental Commitments*) implemented as part of the HMMPs, SPCCPs, and
32 SWPPPs, including positioning all stationary equipment over drip pans, and immediately cleaning
33 up spills and leaks and disposing of properly, will ensure that equipment leaks are contained and
34 remediated. In addition, although Buckley Cove and Nelson Parks are within 0.25 mile of a proposed
35 borrow/spoils area and a proposed temporary 69 kV transmission line, respectively, these parks are
36 not in close enough proximity to these construction areas to be affected by potential hazards such as
37 minor leaks or spills of hazardous materials as may occur with the construction activities. Therefore,
38 people at these parks would not be at risk or affected by exposure to hazardous materials,
39 substances, or waste during construction of the water conveyance facilities, and as such, this impact
40 is less than significant. No mitigation is required. Potential air quality effects on sensitive receptors
41 are discussed in Chapter 22, *Air Quality and Greenhouse Gases*, and potential EMF effects on sensitive
42 receptors are discussed in Chapter 25, *Public Health*.

1 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
2 **Create a Significant Hazard to the Public or the Environment**

3 **NEPA Effects:** Effects related to SOC's would be similar to those described under Alternative 1A.
4 Figure 24-4 shows the location of SOC's and "Cortese List" sites with respect to the Alternative 1B
5 construction footprint, and sites in and within 0.5 mile of the construction footprint are identified in
6 Table 24-5. For those hazardous materials sites identified within the 0.5-mile radius but which are
7 not within the construction footprint, there would be no potential for the construction of the water
8 conveyance facilities to disturb those sites such that there would be a re-release of hazardous
9 materials that would create a hazard for the public or environment.

10 The Kinder Morgan Energy pipeline access station, an SOC in Stockton, is within the construction
11 footprint of a proposed temporary 69 kV transmission line for this alternative. Similarly, the Sarale
12 Farms site (a "Cortese List" site) is located within the construction footprint of a proposed
13 temporary 69 kV transmission line at the southern end of the water conveyance facilities alignment,
14 approximately 1.5 miles east of Clifton Court Forebay (Figure 24-4 and Figure M3-2 in the Mapbook
15 Volume). A 10,000-gallon petroleum UST was removed from the Sarale Farms site in 1992; soil and
16 groundwater contain petroleum products in excess of cleanup standards. The San Joaquin County
17 Environmental Health Department issued a letter in December 2008 requiring continued
18 monitoring of groundwater and additional assessment of groundwater for petroleum.

19 Construction activities on or in close proximity to the Sarale Farms site could result in the re-release
20 of petroleum products, either airborne soil during excavation activities, or by encountering
21 contaminated groundwater during dewatering activities or deep excavation. Because construction
22 of the temporary transmission line would not entail deep excavation or require dewatering
23 activities, no conflict with existing hazards at this site are anticipated. However, if dewatering
24 and/or deep excavation were required in this area contaminated groundwater could be drawn up
25 and/or contaminated soils may be disturbed, respectively. Improper disposal of contaminated
26 excavated soils or groundwater would have the potential to adversely affect the environment. To
27 avoid this potential adverse effect, Mitigation Measure HAZ-1a would be implemented to ensure that
28 any known or suspected soil and/or groundwater contamination is not re-released. Further, design
29 of the transmission line, including pole placement, would avoid the Kinder Morgan Energy and
30 Sarale Farms sites to the extent practicable to ensure there were no adverse hazardous effects
31 associated with construction on or in close proximity to these sites.

32 For those hazardous materials sites identified within the 0.5-mile radius but which are not within
33 the construction footprint, there would be no potential for the construction of the water conveyance
34 facilities to disturb those sites such that there would be a re-release of hazardous materials that
35 would create a hazard for the public or environment. Therefore, this effect would not be adverse.
36 The potential for encountering unknown hazardous materials sites during the course of
37 construction is discussed under Impact HAZ-1, above.

38 **CEQA Conclusion:** The re-release of hazardous materials during construction (dewatering and/or
39 deep excavation) at the Sarale Farms site or the Kinder Morgan Energy pipeline access station site
40 within the construction footprints for proposed temporary 69 kV transmission lines could result in a
41 significant impact if contaminated groundwater and/or soils were rereleased. However, a significant
42 impact on the environment would be avoided with implementation of Mitigation Measure HAZ-1a,
43 which would identify and describe potential sources of hazardous materials so that releases can be
44 avoided and materials can be properly handled. Further, project design would minimize, to the

1 extent feasible, the need to traverse areas where the presence of hazardous materials is suspected
 2 or has been verified, or where interference with existing infrastructure might result in hazards. As a
 3 result, there would be a less than significant impact on the public and/or environment because
 4 construction of the water conveyance facilities near the Kinder Morgan Energy pipeline access
 5 station site and the Sarale Farms site would not result in hazardous materials releases from these
 6 sites. The potential for encountering other unknown hazardous materials sites during the course of
 7 construction is discussed under Impact HAZ-1, above.

8 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 9 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 10 **Construction Footprint, and Remediate and/or Contain Contamination**

11 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 12 1A. Implementation of this mitigation measure will result in the avoidance, successful
 13 remediation or containment of all known or suspected contaminated areas, as applicable, within
 14 the construction footprint, which would prevent the release of hazardous materials from these
 15 areas into the environment.

16 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
 17 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
 18 **Study Area during Construction of the Water Conveyance Facilities**

19 **NEPA Effects:** Development around an airport, particularly in the approach and departure paths, can
 20 create obstructions in the airspace traversed by an approaching or departing aircraft. Additionally,
 21 certain land uses have the potential to create hazards to aircraft such as a distracting glare, smoke,
 22 steam, or invisible heat plumes. Safety impacts from aircraft accidents near airports are typically
 23 avoided by specifying the types of land uses allowed, and thereby limiting the number of people who
 24 would be exposed to the risk of an accident, and avoiding land uses that could create hazards to air
 25 traffic. Airspace protection primarily involves limitations on the height of objects on the ground near
 26 airports.

27 As shown in Figure 24-9, the Borges-Clarksburg Airport, Byron Airport, and Lost Isle Seaplane Base
 28 are within 2 miles of the Alternative 1B water conveyance facilities. The Borges-Clarksburg Airport
 29 is a private, special-use airport less than 0.5 mile northeast of the construction footprint for Intake 1.
 30 The Lost Isle Seaplane Base, on Spud Island, is within 2 miles of the proposed permanent 69 kV
 31 transmission line. Byron Airport is within 2 miles of the construction footprints for the following
 32 proposed water conveyance features: Byron Tract forebay; a borrow and/or spoils area south of
 33 Clifton Court Forebay; a temporary 12 kV transmission line; and a permanent 230 kV transmission
 34 line. The Lost Isle Seaplane Base and Byron Airport are public use airports and are subject to FAA
 35 regulations regarding construction within 10,000 feet. Additionally, construction of a state building
 36 or enclosure within 2 miles of any airport is subject to review of Caltrans' Division of Aeronautics for
 37 safety and noise effects. With the exception of the proposed transmission lines, construction of these
 38 features or work in these areas would not require the use of high-profile construction equipment.
 39 Because construction of the proposed transmission lines would potentially require high-profile
 40 equipment (e.g., cranes), and because construction of the 230 kV transmission line would require
 41 the use of helicopters during the stringing phase, the safety of air traffic arriving or departing from
 42 either of these airports could be compromised during construction of the proposed transmission
 43 lines.

1 In the event final locations for any state building or enclosure are within 2 miles of any airport,
 2 Caltrans' Division of Aeronautics would require written notification and a review would be
 3 performed; DWR would comply with Caltrans' recommendations (e.g., marking and/or lighting of
 4 temporary or permanent structures exceeding an overall height of 200 feet above ground level)
 5 based on this review to ensure there are no adverse effects on air safety. Further, depending on the
 6 location and height of any high-profile construction equipment or structures (e.g., proposed
 7 transmission lines and towers) relative to the Lost Isle Seaplane Base and Byron Airport, because
 8 they are public air facilities, the BDCP may be subject to an OE/AAA to be performed by the FAA (14
 9 CFR Part 77), as discussed under Impact HAZ-4 for Alternative 1A. Compliance with the results of
 10 the OE/AAA would also reduce the risk of adverse effects on air safety. As such, there would be no
 11 adverse effects on air safety.

12 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
 13 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
 14 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
 15 example, and potentially pile drivers, such as would be used during the construction of the intakes,
 16 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
 17 is operated too close to runways. Two public airports (Lost Isle Seaplane Base and Byron Airport)
 18 and one private airport (Borges-Clarksburg Airport) are located within 2 miles of the construction
 19 footprint of Alternative 1B. DWR would coordinate with Caltrans' Division of Aeronautics prior to
 20 initiating construction and comply with its recommendations based on its investigation(s), as well
 21 comply with the recommendations of the OE/AAA (for Byron Airport and the Lost Isle Seaplane
 22 Base), impacts on air safety would be less than significant. These recommendations, which could
 23 include limitations necessary to minimize potential problems such as the use of temporary
 24 construction equipment, supplemental notice requirements, and marking and lighting high-profile
 25 structures, would reduce the potential for impacts on air safety. Accordingly, this impact would be
 26 less than significant. No mitigation is required.

27 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
 28 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
 29 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
 30 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

31 **NEPA Effects:** Hazards related to wildland fires would be similar to those described under
 32 Alternative 1A. The northernmost and southernmost extent of this conveyance alignment, where
 33 fueling stations and the Byron Tract Forebay would be constructed, would be adjacent to zones of
 34 moderate fire hazard severity (Figure 24-10).

35 As described under Impact HAZ-5 for Alternative 1A and in Appendix 3B, *Environmental*
 36 *Commitments*, fire prevention and control measures would be implemented, as part of a FPCP,
 37 during construction, and operation and maintenance of the water conveyance facilities in full
 38 compliance with Cal-OSHA standards for fire safety and prevention. Because development and
 39 implementation of measures under the FPCP would help ensure that people or structures would not
 40 be subject to a substantial risk of loss, injury or death involving wildland fires, and because the
 41 proposed water conveyance facilities would not be located in a High or Very High Fire Hazard
 42 Severity Zone, this effect would not be adverse.

43 **CEQA Conclusion:** People or structures would not be subject to a substantial risk of loss, injury or
 44 death involving wildland fires during construction or operation and maintenance of the water

1 conveyance facilities because the BDCP would comply with Cal-OSHA fire prevention and safety
2 standards; DWR would implement standard fire safety and prevention measures, as part of a FPCP;
3 and because the water conveyance facilities would not be located in a High or Very High Fire Hazard
4 Severity Zone. Therefore, this impact would be less than significant. No mitigation is required.

5 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
6 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
7 **Water Conveyance Facilities**

8 *NEPA Effects:* Potential hazards related to the long-term operation and maintenance of the water
9 conveyance facilities would be similar to those described for Alternative 1A, particularly with
10 respect to intakes and intake pumping plants. This alternative may require the transport, storage,
11 and use of chemicals or hazardous waste materials including fuel, oils, grease, solvents, and paints.
12 Solids collected at the solids lagoons, and dredged sediment from around the intakes may contain
13 hazardous constituents (e.g., persistent pesticides, mercury, PCBs).

14 Under Alternative 1B, differences in potential hazards relative to Alternative 1A could generally
15 result from variations in operational and maintenance activities with respect to canals, culvert
16 siphons, and control structures along this water conveyance facilities alignment. However, the
17 potential for hazards associated with operation and maintenance of tunnel segments and those
18 relating to the intermediate forebay would be decreased because only short tunnel segments under
19 existing channels would be operated and maintained and because this alternative would not include
20 an intermediate forebay.

21 As noted above (Impact HAZ-4 for this alternative), the Borges-Clarksburg Airport, Byron Airport
22 and Lost Isle Seaplane Base are within 2 miles of the Alternative 1B water conveyance facilities.
23 With the exception of the proposed power transmission lines and towers, water conveyance
24 facilities are not anticipated to require the use of high-profile equipment during operations and
25 maintenance. Depending on the location and height (i.e., 200 feet or taller) of any equipment
26 necessary for transmission line maintenance, the Lost Isle Seaplane Base and Byron Airport, because
27 they are public air facilities, would be subject to an OE/AAA to be performed by the FAA. Compliance
28 with the results of the OE/AAA, as well as any applicable FAA regulations regarding potential
29 obstructions to air navigation (14 CFR Part 77) would reduce the risk of adverse effects on air
30 safety. Additionally, DWR would coordinate with Caltrans' Division of Aeronautics prior to any
31 maintenance activities requiring high-profile maintenance equipment and comply with any air
32 safety recommendations Caltrans may have to ensure that there is no conflict with or adverse effect
33 on air traffic. Compliance with the results of the OE/AAA would reduce the risk for adverse effects
34 on air traffic safety by implementing recommendations which could include limitations necessary to
35 minimize potential problems, supplemental notice requirements, and marking and lighting high-
36 profile structures. Thus, there would be no adverse effects on air safety.

37 Potential releases of hazardous materials, if released in substantial quantities, associated with
38 operations and maintenance of the water conveyance facilities under this alternative could result in
39 an adverse effect on workers, the public (including sensitive receptors within 0.25 mile of the
40 construction footprint), and the environment. As indicated under Impact HAZ-2 for this alternative,
41 Buckley Cove and Nelson Parks in Stockton are within 0.25 mile of a proposed borrow/spoils area
42 and a proposed temporary 69 kV transmission line, respectively. Because the proposed 69 kV
43 transmission line is temporary, it would be removed following completion of the water conveyance
44 facilities, and therefore no maintenance activities would occur in this area. No maintenance

1 activities would take place in the borrow/spoils area, per se; however, should the spoils be used at
2 some later time, heavy construction equipment such as dump trucks and excavators would be
3 needed to move the spoils. Consequently there could be the potential for oil leakage from these
4 vehicles. However, if this were to occur, it would be localized and minimal. Furthermore,
5 environmental commitment measures (Appendix 3B, *Environmental Commitments*) implemented as
6 part of the HMMPs, SPCCPs, and SWPPPs, including positioning all stationary equipment over drip
7 pans, and immediately cleaning up spills and leaks and disposing of properly, will ensure that
8 equipment leaks are contained and remediated. Other water conveyance features such as the
9 intakes. There would be a risk of accidental spills of hazardous materials (e.g., fuels, solvents, paints,
10 pesticides and herbicides) during facility operations and maintenance, such as painting the intake
11 and intermediate pumping plants, maintaining pumps at the intake and intermediate pumping
12 plants, and applying pesticides and herbicides to the landscaped areas at the pumping plants.
13 However, the quantities of hazardous materials likely to be used during these types of routine
14 operations and maintenance activities are likely to be small, and, were they to be released
15 inadvertently, they would be localized. Such spills could result in minor, temporary potential
16 hazards to workers immediately adjacent to these releases; however, environmental commitment
17 measures implemented as part of the HMMPs, SPCCPs, and SWPPPs, including equipping facility
18 buildings with spill containment and cleanup kits; ensuring that hazardous materials containment
19 containers are clearly labeled with identity, handling and safety instructions, and emergency
20 contact; and requiring that personnel be trained in emergency response and spill containment
21 techniques, would minimize the potential for the accidental release of hazardous materials and
22 would help contain and remediate hazardous spills should they occur. Therefore, operation and
23 maintenance workers, the public (including sensitive receptors within 0.25 miles of the construction
24 footprint), and the environment would not be at risk or adversely affected by hazardous materials
25 due to the proximity of the park to the water conveyance facilities.

26 Sediment and solids removal from the sedimentation basins and solids lagoons, respectively, and
27 removal of accumulated sediment at the face of the intakes is expected to be an ongoing process
28 during operation of the water conveyance facilities. The annual volume of solids under this
29 alternative is anticipated to be 486,000 cubic feet (dry solids basis). Sediment and dewatered solids
30 may contain hazardous constituents such as persistent pesticides and mercury that could pose a
31 hazard to the environment if improperly disposed of. Implementation of Mitigation Measure HAZ-6
32 would require the sampling and characterization of dewatered solids prior to reuse or disposal in
33 order to evaluate disposal/reuse options to avoid adverse effects on soil, groundwater or surface
34 water. To ensure that potentially contaminated sediment from maintenance dredging activities at
35 the intakes would not adversely affect soil, groundwater or surface water, a SAP would be
36 implemented prior to any dredging activities, as described under Impact HAZ-1 for this alternative.
37 All sediment would be characterized chemically prior to reuse to ensure that reuse of this material
38 would not result in a hazard to the public or the environment. Accordingly, there would be no
39 adverse effect.

40 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
41 operation and maintenance of the water conveyance facilities and the potential interference with air
42 safety through the use of high-profile equipment for maintenance of proposed transmission lines
43 could have impacts on the public and environment. However, implementation of the BMPs and other
44 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
45 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
46 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and

1 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
 2 profile equipment within 2 miles of an airport, which would include implementation of
 3 recommendations to provide supplemental notice and/or equip high-profile structures with
 4 marking and lighting, would ensure that operation and maintenance of the water conveyance
 5 facilities would not create a substantial hazard to the public, environment or air traffic safety.
 6 Therefore, this impact would be less than significant.

7 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
 8 **and/or Disposal**

9 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
 10 1A.

11 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
 12 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
 13 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

14 *NEPA Effects:* The potential for construction, operation, and maintenance activities associated with
 15 the implementation of conservation measures (CM2-CM11, CM13, CM 14, CM16, and CM18) to
 16 create hazards to workers, the public, and the environment would be similar to the potential effects
 17 described under Alternative 1A. Potential variation from Alternative 1A would be anticipated to be
 18 minor but could result from the selection of different areas for restoration activities based on the
 19 location of the physical water conveyance features associated with each alternative.

20 Hazardous materials associated with the operation of construction equipment could be released into
 21 the environment in the course of the materials' routine transport, use, or disposal. Releases could
 22 also occur as a result of accidental circumstances. Similarly, construction activities could encounter
 23 known or unknown hazardous materials sites located on or in the vicinity of construction sites,
 24 creating the potential for hazardous materials disturbance and release. Other activities, including
 25 the intentional demolition of existing structures (e.g., buildings) and reuse of spoil, dredged material
 26 and/or RTM would also present the potential to generate hazards or release hazardous materials.
 27 However, prior to the reuse of spoils, dredged material or RTM, these materials would undergo
 28 chemical characterization, as described in Appendix 3B, *Environmental Commitments*, to ensure that
 29 they are not creating a hazard to the public and environment.

30 Further, other potential hazards that could result from implementing conservation measures
 31 include the possible release of hazardous substances in proximity to sensitive receptors; the
 32 accidental release of hazardous substances during operation and maintenance (e.g., herbicides for
 33 nonnative vegetation control); the release, in the short-term, of pesticides from former agricultural
 34 lands as a result of wetland and floodplain restoration; the potential for safety hazards related to
 35 construction in the vicinity of an airport; damage or disruption of existing infrastructure such that
 36 hazardous conditions were created; and the potential for wildfire hazards in the vicinity of
 37 construction sites. These potential effects, were they to occur, would be adverse. However, as
 38 discussed for Impact HAZ-7 under Alternative 1A, with implementation of Mitigation Measures HAZ-
 39 1a, HAZ-1b; UT-6a, UT-6c, TRANS-1a, and environmental commitments (discussed previously for
 40 Impacts HAZ-1 through HAZ-6, and in detail in Appendix 3B, *Environmental Commitments*), the
 41 potential for adverse effects would be reduced. Additionally, the proposed conservation measures
 42 would be designed to avoid sensitive receptors and would minimize, to the extent feasible, the need

1 to acquire or traverse areas where the presence of hazardous materials is suspected or has been
2 verified. Consequently, this effect would not be adverse.

3 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
4 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

5 **CEQA Conclusion:** The potential for impacts related to the release of, and exposure of workers and
6 the public to, hazardous substances or conditions during construction, operation, and maintenance
7 of CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
8 implementation would involve extensive use of heavy equipment during construction, and/or the
9 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
10 for nonnative vegetation control). Hazardous materials could be inadvertently released, exposing
11 construction workers or the public to hazards. Construction of restoration projects on or near
12 existing agricultural and industrial land and/or SOCs may result in a conflict or exposure to known
13 hazardous materials, and the use of high-profile equipment (i.e., 200 feet or higher) in close
14 proximity to airport runways could result in safety hazards to air traffic. However, in addition to
15 implementation of SWPPPs, HMMPs, SPCCPs, SAPs and fire safety and prevention BMPs as part of a
16 FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be implemented, all
17 of which would ensure that there would be no substantial hazards to the public or the environment
18 due to implementation of the conservation measures. As such, this impact would be less than
19 significant.

20 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
21 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
22 **Construction Footprint, and Remediate and/or Contain Contamination**

23 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
24 1A.

25 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
26 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
27 **Dispose of Them in Accordance with Applicable Regulations**

28 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
29 1A.

30 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

31 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
32 Chapter 20, *Public Services and Utilities*.

33 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
34 **Minimizes Any Effect on Worker and Public Health and Safety**

35 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
36 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
2 **Plan**

3 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
4 1A in Chapter 19, *Transportation*.

5 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
6 **Conservation Measures That Create or Improve Wildlife Habitat**

7 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
8 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
9 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
10 from Alternative 1A would be anticipated to be minor but could result from the selection of different
11 areas for restoration activities based on the location of the physical water conveyance features
12 associated with each alternative. Such variation may result greater or less opportunity for bird-
13 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
14 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
15 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
16 Airport; Sacramento International Airport, and Byron Airport.

17 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
18 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
19 would reduce the severity of this effect through the development and implementation of measures
20 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
21 adverse.

22 **CEQA Conclusion:** Implementation of CM2–11, because they would create or improve wildlife
23 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
24 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
25 significant impacts on public safety. The following airports, because they are in relatively close
26 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
27 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
28 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
29 through the ultimate development and implementation of measures to reduce, minimize and/or
30 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
31 significant and unavoidable.

32 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
33 **Regulatory Agencies**

34 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
35 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
36 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
37 extent possible.

24.3.3.4 Alternative 1C—Dual Conveyance with West Alignment and Intakes W1–W5 (15,000 cfs; Operational Scenario A)

Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the Release of Hazardous Materials or by Other Means during Construction of the Proposed Water Conveyance Facilities

NEPA Effects: For the duration of construction of the water conveyance facilities, potential hazards associated with the routine use of hazardous materials; natural gas accumulation in tunnels; existing contaminants in soil, groundwater, or sediment; hazardous constituents present in RTM; infrastructure containing hazardous materials; and the routine transport of hazardous materials would be similar to those described under Alternative 1A. Variation in the structures built for water conveyance under this alternative, however, could result in differences in the location, extent, and type of potential hazards occurring through the release of hazardous materials. Potential differences are described below.

As under Alternative 1A, this alternative would also build five temporary fueling stations and an on-site maintenance facility; however, their locations would differ from those built under Alternative 1A and are shown in Figure 24-7 and Figure M3-3 in the Mapbook Volume. Fueling stations would be established in currently rural areas along the conveyance alignment. The northernmost fueling station would be located approximately 0.5 mile northwest of downtown Courtland; one would be located between intakes 3 and 4, less than 1 mile southwest of the town of Hood; the third and fourth fueling stations would be on Ryer Island, and at the southwest corner of Webb Tract, respectively; and fifth and southernmost fueling station would be on the southwest side of Clifton Court forebay.

Materials such as oils, lubricants, paints, and sealants would be stored on-site and used in construction equipment and activities; spills and releases of these materials could occur in temporary work areas identified for the construction of water conveyance facilities (Figure M3-3 in the Mapbook Volume). While the potential for release would be similar to that described under Alternative 1A, the geographic extent of possible hazards would be different. Other variations could arise from the relatively shorter length of conveyance pipeline that would be constructed under this alternative.

The shorter length and different location of tunnel construction under this alternative would lead to a potential for hazards associated with tunnels that would vary in extent and location from those described under Alternative 1A. Natural gas accumulation in tunnels would also potentially result from construction of Alternative 1C; however, as discussed for Impact HAZ-1 under Alternative 1A, because gas wells are typically at a depth of 3000 feet or greater, it is unlikely that a natural gas field will be encountered during tunnel construction because the tunnel would only be approximately 150 to 160 feet underground.

Potential hazards related to RTM constituents would also result from construction of this alternative. Again, while the nature of effects stemming from tunnel construction would be similar to those described for Alternative 1A, the extent and location of these effects would vary. Approximately 13 million cubic yards of RTM are expected to be generated during construction of the Alternative 1C water conveyance facilities, compared with about 25 million cubic yards for Alternative 1A. As described above under Impact HAZ-1 for Alternative 1A, if the tunnels receive a “gassy or extra hazardous” classification, specialized MSHA-approved tunneling equipment would

1 be required, as would compliance with other Cal-OSHA requirements in accordance with The Tunnel
2 Safety Orders set forth in the California Code of Regulations (Title 8, Division 1, Chapter 4,
3 Subchapter 20, Article 8, "Tunnel Classifications" [see Section 24.2.2.13) to provide safe work
4 conditions during tunneling. Adherence to these regulations would reduce hazards posed by
5 accumulation of natural gas in tunnels. Additionally, only non-toxic, biodegradable soil conditioners
6 would be used during tunneling to ensure that the RTM and associated decant liquid do not pose a
7 hazard to terrestrial and aquatic organisms. Additionally, RTM would undergo chemical
8 characterization prior to reuse. RTM and decant liquid would also undergo chemical
9 characterization prior to discharge to meet NPDES and RWQCB requirements. Should constituents
10 in RTM or decant liquid exceed discharge limits, these tunneling byproducts would be treated to
11 comply with discharge permit requirements.

12 As under Alternative 1A, construction of the water conveyance facilities for Alternative 1C would
13 potentially conflict with existing contaminants in soil, sediment and/or groundwater. Oil and gas
14 processing facilities that exist near the construction footprint are shown in Figure 24-1. To the
15 extent that excavation, dewatering, and other activities are associated with the construction of
16 canals and culvert siphons, the extent of these potential hazards would be substantially greater
17 under this alternative than with Alternative 1A, which would have only one relatively short canal
18 segment and no culvert siphons). To the extent feasible, design of this alternative would minimize
19 the need to acquire or traverse areas where the presence of hazardous materials is suspected or has
20 been verified.

21 Infrastructure and structures in the study area containing hazardous materials cross the Alternative
22 1C conveyance alignment and construction footprint (Figures 24-3, 24-5, and 24-6). There are 9
23 overhead power/electrical transmission lines (two with multiple crossings [Figure 24-6]), five
24 natural gas pipelines (Figure 24-3), and 47 inactive and nine active oil or natural gas wells (Figure
25 24-5) within the proposed Alternative 1C water conveyance facilities construction footprint. Table
26 24-3 provides the number and types of regional electrical transmission and pipelines crossing this
27 water conveyance facilities alignment.

28 Additionally, approximately 726 permanent structures would be removed or relocated within the
29 water conveyance facility footprint under this alternative. This includes approximately 194
30 residential buildings. Other structures affected would consist primarily of storage or agricultural
31 support facilities; however, several industrial and recreational structures would also be affected. As
32 described under Alternative 1A, these structures may contain hazardous materials that would
33 require proper handling and disposal, if demolition is necessary. Disturbance of this infrastructure
34 during construction of the water conveyance facilities could result in hazards similar to those
35 described under Alternative 1A. As described for Impact HAZ-1 under Alternative 1A, Mitigation
36 Measure HAZ-1b would be implemented by DWR to ensure that there are no adverse effects related
37 to structure demolition due to hazardous materials. As described previously, Mitigation Measure
38 HAZ-1b would require that DWR coordinate with existing property owners to identify existing
39 potentially hazardous infrastructure and infrastructure containing potentially hazardous materials,
40 and that DWR perform pre-demolition surveys in order to identify and characterize hazardous
41 materials to ensure the safe and appropriate handling and disposal of these materials. Risks
42 associated with the transportation of hazardous materials via trucks, trains, and ships would be
43 similar to those described under Alternative 1A but would occur in different areas. Three designated
44 hazardous materials transportation routes, Byron Highway, and State Highways 4 and 12, cross the
45 construction footprint of this alternative (Figure 24-2 and in Table 24-4). Routes anticipated to be
46 affected during construction of the water conveyance facilities are listed in Chapter 19,

1 *Transportation.* Under Mitigation Measure TRANS-1a, a site-specific construction traffic
2 management plan, taking into account hazardous materials transportation, would be prepared and
3 implemented prior to initiation of water conveyance facilities construction. As discussed under
4 Impact HAZ-1 for Alternative 1A, BMPs implemented as part of this plan would reduce the potential
5 for effects on hazardous materials transportation routes in the study area. The Alternative 1C water
6 conveyance facilities alignment would cross four railroad ROWs, 2 active and 1 abandoned UPRR
7 lines, and a BNSF line (Table 24-4). A culvert siphon is proposed to carry the canal under the BNSF
8 line between Sunset Road and Orwood Road. Because this crossing is in a construction work area,
9 train operations along the BNSF Railway/Amtrak San Joaquin Line could be affected. Construction of
10 this alternative would cross other rail lines, including an out-of-service UPRR line. If the abandoned
11 UPRR were reopened prior to construction, the continuity of rail traffic, and thus the potential for
12 hazards associated w/upset of hazardous materials transportation on this line, could be managed
13 through implementation of Mitigation Measure TRANS-1a. Mitigation Measure TRANS-1a would
14 include stipulations to coordinate with rail providers to develop alternative interim transportation
15 modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during
16 any longer term railroad closures and daily construction time windows during which construction
17 would be restricted or rail operations would need to be suspended for any activity within railroad
18 rights of way. This would minimize the potential risk of release of hazardous materials being
19 transported via subject rails. Construction of Alternative 1C would not substantially increase the
20 volume of barge movement within the study area such that existing marine traffic would be
21 disrupted and potentially increase the risk for hazards related to such disruption. However, barges
22 supporting water conveyance facilities construction may also transport hazardous materials such as
23 fuels and lubricants or other chemicals. The potential exists for accidental release of hazardous
24 materials from BDCP-related barges. To avoid effects on the environment related to this issue, BMPs
25 implemented as part of a Barge Operations Plan (for detail see Appendix 3B, *Environmental*
26 *Commitments*), as discussed under Impact HAZ-1 for Alternative 1A would avoid and/or minimize
27 this potential adverse effect. In summary, during construction of the water conveyance facilities, the
28 potential would exist for direct effects on construction personnel, the public and/or the
29 environment associated with a variety of potentially hazardous conditions because of the intensity
30 of construction activities at the north Delta intakes, Byron Tract forebay, conveyance features (e.g.,
31 siphons, canals, tunnels), and the hazardous materials that would be used in these areas. Many of
32 these activities would occur in close proximity to the town of Hood, and would involve multiple
33 years of use of hazardous construction materials. Additionally, large-scale construction activities
34 involving the use of hazardous materials would be located in and near water bodies. Potential
35 hazards include the routine transport, use or disposal of hazardous materials; natural gas
36 accumulation in water conveyance tunnels; the inadvertent release of existing contaminants in soil
37 and groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
38 electrical transmission lines; and hazardous constituents present in RTM. Additionally, there is the
39 potential for the construction of the water conveyance facilities to indirectly result in the release of
40 hazardous materials through the disruption of existing road, rail, or river hazardous materials
41 transport routes because construction would occur in the vicinity of three hazardous material
42 transport routes, three railroad corridors, and waterways with barge traffic and would require
43 construction traffic that could disrupt these routes. These potential effects are considered adverse
44 because they would potentially result in direct exposure of the public (including construction
45 personnel), and surface water and groundwater to physical and/or chemical hazards as discussed.

46 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
47 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials

1 is suspected or has been verified. Additionally, environmental commitments would be implemented,
2 including, SWPPPs, SPCCPs, HMMPs, and SAPs; chemical characterization of RTM prior to reuse (e.g.,
3 RTM in levee reinforcement) or discharge; and a Barge Operation Plan, which together would
4 reduce these potential hazards associated with construction of the water conveyance facilities.
5 Finally, the implementation of Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c
6 (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in Chapter 19,
7 *Transportation*) would further reduce the potential severity of this impact. As such, construction of
8 the water conveyance facilities would not create a substantial hazard to the public or the
9 environment through the routine transport, use, or disposal of hazardous materials or the
10 upset/accidental release of these materials. Therefore, this effect would not be adverse.

11 **CEQA Conclusion:** During construction of the water conveyance facilities under Alternative 1C, the
12 potential would exist for direct significant impacts on construction personnel, the public and/or the
13 environment associated with a variety of hazardous physical or chemical conditions. Such
14 conditions may arise as a result of the intensity and duration of construction activities at the north
15 Delta intakes, Byron Tract Forebay, conveyance pipelines and tunnels, and because of the hazardous
16 materials that would be used in these areas during construction. Potential hazards include the
17 routine use of hazardous materials (as defined by Title 22 of the California Code of Regulations,
18 Division 4.5); natural gas accumulation in water conveyance tunnels; the inadvertent release of
19 existing contaminants in soil and groundwater, or hazardous materials in existing infrastructure to
20 be removed; disturbance of electrical transmission lines; and hazardous constituents present in
21 RTM. Many of these physical and chemical hazards would occur in close proximity to the town of
22 Hood during construction of the north Delta intakes. Additionally, the potential would exist for the
23 construction of the water conveyance facilities to indirectly result in the release of hazardous
24 materials through the disruption of existing road, rail, or river hazardous materials transport routes
25 because construction would occur in the vicinity of three designated hazardous material transport
26 routes, three active railroad corridors, and waterways with barge traffic and would require
27 construction traffic that could disrupt these routes. For these reasons, this is considered a significant
28 impact. However, with the implementation of the previously described environmental commitments
29 and Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public*
30 *Services and Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*), construction of the
31 water conveyance facilities would not create a substantial hazard to the public or the environment
32 through the routine transport, use, or disposal of hazardous materials or the upset/accidental
33 release of these materials. The severity of this impact would be reduced with the implementation of
34 these environmental commitments and mitigation measures by identifying and describing potential
35 sources of hazardous materials so that releases can be avoided and materials can be properly
36 handled; detailing practices to monitor pollutants and control erosion so that appropriate measures
37 are taken; implementing onsite features to minimize the potential for hazardous materials to be
38 released to the environment or surface waters; minimizing risk associated with the relocation of
39 utility infrastructure; and coordinating the transport of hazardous materials to reduce the risk of
40 spills. As such, this impact would be less than significant.

41 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
42 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
43 **Construction Footprint, and Remediate and/or Contain Contamination**

44 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
45 1A.

1 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 2 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 3 **Dispose of Them in Accordance with Applicable Regulations**

4 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 5 1A.

6 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

7 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 8 Chapter 20, *Public Services and Utilities*.

9 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 10 **Minimizes Any Effect on Worker and Public Health and Safety**

11 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 12 Chapter 20, *Public Services and Utilities*.

13 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 14 **Plan**

15 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 16 1A in Chapter 19, *Transportation*.

17 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
 18 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
 19 **Facilities**

20 **NEPA Effects:** There are no hospitals located within 0.25 mile of Alternative 1C. However, as shown
 21 in Figure 24-8, Lakewood Drive, Sycamore Drive, and Summer Lake Community Parks in Oakley, and
 22 Mokelumne High (Continuation) School in Courtland would be within 0.25 mile of the construction
 23 footprint for Alternative 1C. Sycamore Drive Park would be near a tunnel work area southwest of
 24 Summer Lake. The tunnel work area is required to support construction operations. Temporary
 25 offices, parking, tunnel segment storage, fan line storage, a maintenance shop, potable water
 26 treatment, and potentially other requirements. Because equipment would be maintained during
 27 construction in this area, which would potentially require the use of hazardous materials (e.g., fuels,
 28 grease, oil and solvents), and because heavy equipment would be operated in this area, there would
 29 be the potential for inadvertent leaks or spills of hazardous materials. Lakewood Drive and Summer
 30 Lake Community Parks are located within 0.25 mile of the construction footprint of a proposed
 31 temporary 12 kV transmission line west of Summer Lake, and Mokelumne High (Continuation)
 32 School would be near a proposed temporary 69 kV transmission line construction footprint.
 33 Construction of these temporary transmission lines would require the use of heavy equipment, such
 34 as dozers, cranes, and off-road work trucks, which would require the routine use of hazardous
 35 materials (e.g., fuels, solvents, oil and grease). Consequently, there would be the risk of accidental
 36 spills or equipment leaks of these types of hazardous materials, as discussed under Impact HAZ-1
 37 under Alternative 1A. The most significant hazard risk from any power line is the danger of
 38 electrical contact between an object on the ground and an energized conductor. The closest park is
 39 approximately 0.2 mile from the construction footprint for the transmission line, and Mokelumne
 40 High (Continuation) School is across the Sacramento River from the proposed transmission line

1 construction area, therefore there would be no risk to these sensitive receptors with regard to
2 transmission line construction.

3 Although there would be a risk of accidental spills of hazardous materials (e.g., fuels, solvents,
4 paints) during the construction of the proposed temporary transmission lines, and generally where
5 heavy construction equipment is operated, the quantities of hazardous materials likely to be used
6 during construction activities are likely to be small. Were hazardous materials to be released
7 inadvertently, spills or equipment leaks would be localized and minimal, and thus there would be no
8 risk to anyone not in immediate proximity to these releases spills. Further, as discussed under
9 Impact HAZ-1 for Alternative 1A, BMPs to minimize the potential for the accidental release of
10 hazardous materials and to contain and remediate hazardous spills, as part of the SWPPPs, SPCCPs,
11 and HMMPs, would be implemented, as described in Section 24.3.3.2 under “Routine Use of
12 Hazardous Materials” for Alternative 1A, and as set forth in Appendix 3B, *Environmental*
13 *Commitments*. Therefore, these sensitive receptors would not be exposed to hazardous materials,
14 substances, or waste during construction of the water conveyance facilities. As such, there would be
15 no adverse effect. Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air*
16 *Quality and Greenhouse Gases*.

17 **CEQA Conclusion:** Lakewood Drive, Sycamore Drive, and Summer Lake Community Parks in Oakley,
18 and Mokelumne High (Continuation) School in Courtland, are within 0.25 mile of the construction
19 footprint of Alternative 1C. Lakewood Drive and Summer Lake Community Parks and Mokelumne
20 High (Continuation) School are near the construction footprint of proposed temporary 12 kV
21 transmission lines. Construction of these lines would require the routine use of hazardous materials
22 (e.g., fuels, solvents, oil and grease) because heavy machinery such as cranes, off-road work trucks,
23 and dozers would be required. Consequently, there would be the risk of accidental spills and
24 equipment leaks of these types of hazardous materials, as discussed under Impact HAZ-1 under
25 Alternative 1A during construction. Sycamore Drive Park would be near a tunnel work area
26 southwest of Summer Lake, as well as the proposed 12 kV transmission line. The tunnel work area is
27 required to support construction operations. Temporary offices, parking, tunnel segment storage,
28 fan line storage, a maintenance shop, potable water treatment, and potentially other requirements.
29 Because equipment would be maintained in this area during construction, which would potentially
30 require the use of hazardous materials (e.g., fuels, grease, oil and solvents), and because heavy
31 equipment would be operated in this area, there would be the potential for inadvertent leaks or
32 spills of hazardous materials. However, the potential to expose people at the parks or school to
33 hazardous materials, substances or waste during construction of the water conveyance facilities due
34 to these potential inadvertent releases would be negligible because spills and leaks would likely be
35 small and localized. Further, BMPs to minimize the potential for the accidental release of hazardous
36 materials and to contain and remediate hazardous spills, as part of the SWPPPs, SPCCPs, and
37 HMMPs, would be implemented, as described in Section 24.3.3.2 under “Routine Use of Hazardous
38 Materials” for Alternative 1A, and as set forth in Appendix 3B, *Environmental Commitments*.
39 Therefore, these sensitive receptors would not be exposed to hazardous materials, substances, or
40 waste during construction of the water conveyance facilities, and as such, this impact would be less
41 than significant. No mitigation is required. Potential air quality effects on sensitive receptors are
42 discussed in Chapter 22, *Air Quality and Greenhouse Gases*.

1 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
 2 **Create a Significant Hazard to the Public or the Environment**

3 **NEPA Effects:** There are no “Cortese List” sites within the construction footprint of the Alternative
 4 1C water conveyance facilities. For those hazardous materials sites identified within the 0.5-mile
 5 radius (Table 24-5 and Figure 24-4), but which are not within the construction footprint, there
 6 would be no potential for the construction of the water conveyance facilities to disturb those sites
 7 such that there would be a re-release of hazardous materials that would create a hazard for the
 8 public or environment. However, as indicated in Table 24-5, Mill Site A, the site of a former large
 9 agricultural mill, would be located in a potential borrow and/or spoils area within the construction
 10 footprint of this alternative (Figure 24-4). This site was identified as a SOC in the 2009 ISA.
 11 However, there is no regulatory listing for this site, and no known hazardous materials occur at this
 12 site within the Alternative 1C construction footprint (Figure 24-4). Consequently, the potential for to
 13 conflict with hazards associated with this site is assumed to be minimal, and there would be no
 14 hazard to the public or environment as a result of hazardous materials release from this site during
 15 construction of the water conveyance facilities. Therefore, this effect would not be adverse. The
 16 potential for encountering unknown hazardous materials sites during the course of construction is
 17 discussed under Impact HAZ-1.

18 **CEQA Conclusion:** Mill Site A, the site of a former large agricultural mill, would be located in a
 19 potential borrow and/or spoils area within the construction footprint of this alternative. There is no
 20 regulatory listing for this site, and no known hazardous materials occur at this site within the
 21 Alternative 1C construction footprint. Therefore, the potential risk to release hazardous materials
 22 from this site during construction of the water conveyance facilities is negligible, and there would be
 23 no related significant hazard to the public or the environment. Therefore, this impact would be less
 24 than significant. No mitigation is required.

25 The potential for encountering unknown hazardous materials sites during the course of
 26 construction is discussed under Impact HAZ-1.

27 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
 28 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
 29 **Study Area during Construction of the Water Conveyance Facilities**

30 **NEPA Effects:** Development around an airport, particularly in the approach and departure paths, can
 31 create obstructions in the airspace traversed by an approaching or departing aircraft. Additionally,
 32 certain land uses have the potential to create hazards to aircraft such as a distracting glare, smoke,
 33 steam, or invisible heat plumes. Safety impacts from aircraft accidents near airports are typically
 34 avoided by specifying the types of land uses allowed, and thereby limiting the number of people who
 35 would be exposed to the risk of an accident, and avoiding land uses that could create hazards to air
 36 traffic. Airspace protection primarily involves limitations on the height of objects on the ground near
 37 airports.

38 The nature of safety hazards related to air traffic would be similar to those described under
 39 Alternative 1A. However, under Alternative 1C, the water conveyance facilities would be within 2
 40 miles of Delta Air Park, Funny Farm Airport, and Borges-Clarksburg Airport (all private air
 41 facilities), and Byron Airport, a public air facility (Figure 24-9). Delta Air Park, in Knightsen, is within
 42 two miles of a proposed RTM area; a proposed tunnel and tunnel work area; the main construction
 43 shaft for the tunnel; the proposed canal; a potential borrow and/or spoils area; and two proposed
 44 temporary transmission lines (12 kV and 69 kV). Similarly, Funny Farm Airport, in Brentwood, is

1 within 2 miles of several proposed water conveyance features and work areas—a borrow and/or
2 spoils area; a proposed bridge and bridge work area; a railroad work area; a siphon work area; a
3 proposed canal; a proposed siphon; and a proposed temporary 12 kV transmission line. The Borges-
4 Clarksburg Airport is less than 1 mile from the proposed Intake 1, and proposed permanent 69 kV
5 and temporary 12 kV transmission lines. Finally, Bryon Airport is within 2 miles of the construction
6 footprints or areas of the following proposed water conveyance facilities features: fueling station;
7 concrete batch plant; borrow and/or spoils area; bridge and bridge work area; siphon and siphon
8 work area; Byron Tract Forebay; railroad work area; control structure and control structure work
9 area; and a 12 kV temporary transmission line.

10 With the exception of the proposed transmission lines, bridge and bridge work area, intake and
11 intake work area, construction of these features or work in these areas would not require the use of
12 high-profile construction equipment. Because construction of the proposed transmission lines
13 would potentially require high-profile equipment (e.g., cranes), the safety of air traffic arriving or
14 departing from these airports could be compromised during construction of these features or work
15 in these areas if it involves the movement of high-profile construction equipment.

16 Depending on the location and height of any high-profile construction equipment or structures
17 relative to the Byron Airport, because it is a public air facility the BDCP may be subject to an OE/AAA
18 to be performed by the FAA, as discussed under Impact HAZ-4 for Alternative 1A. Compliance with
19 the results of the OE/AAA (14 CFR Part 77), would reduce the risk of adverse effects on air traffic
20 safety due to water conveyance facility construction activities in the vicinity of this airport. The
21 Caltrans' Division of Aeronautics would be informed in writing, as discussed under Impact HAZ-4 for
22 Alternative 1A, and DWR would comply with Caltrans' recommendations regarding BMPs to avoid
23 any adverse effects on air safety. Consequently, there would be no adverse effect on air safety during
24 construction of the water conveyance facilities.

25 **CEQA Conclusion:** The Delta Air Park, Funny Farm Airport, and Borges-Clarksburg Airport, all
26 private airstrips, and Byron Airport, a public air facility, would be within 2 miles of the construction
27 footprint of several proposed water conveyance facilities features, as well as associated work areas
28 for Alternative 1C. The use of helicopters for stringing the proposed 230 kV transmission lines and
29 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
30 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
31 example, and potentially pile drivers, such as would be used during the construction of the intakes,
32 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
33 is operated too close to runways. DWR would coordinate with Caltrans' Division of Aeronautics
34 prior to initiating construction and comply with its recommendations based their review, as well
35 comply with the recommendations of the OE/AAA (for Byron Airport). These recommendations,
36 which could include limitations necessary to minimize potential problems, such as the use of
37 temporary construction equipment, supplemental notice requirements, and marking and lighting
38 high-profile structures, would reduce the potential for impacts on air safety. Accordingly, this impact
39 would be less than significant. No mitigation is required.

1 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
 2 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
 3 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
 4 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

5 **NEPA Effects:** Potential hazards related to wildland fire would be similar to those described under
 6 Impact HAZ-5 for Alternative 1A, but would carry the potential to affect different areas. As shown in
 7 Figure 24-10, no portion of Alternative 1C is located in or near an area designated as a High or Very
 8 High Fire Hazard Severity Zone. The northernmost and southernmost portions of Alternative 1C,
 9 where fueling stations and the Byron Tract Forebay, respectively, would be located are near
 10 Moderate Fire Hazard Severity Zones (Figure 24-10).

11 As described under Impact HAZ-5 for Alternative 1A and in Appendix 3B, *Environmental*
 12 *Commitments*, fire prevention and control measures would be implemented, as part of a FPCP,
 13 during construction, and operation and maintenance of the water conveyance facilities in full
 14 compliance with Cal-OSHA standards for fire safety and prevention. Because development and
 15 implementation of measures under the FPCP would help ensure that people or structures would not
 16 be subject to a substantial risk of loss, injury or death involving wildland fires and because the
 17 proposed water conveyance facilities would not be located in a High or Very High Fire Hazard
 18 Severity Zone, this effect would not be adverse.

19 **CEQA Conclusion:** Construction of Alternative 1C would involve the use of ignitable materials,
 20 including fuels and solvents, which would be used for the operation and maintenance of
 21 construction vehicles and other equipment. People or structures would not be subject to a
 22 substantial risk of loss, injury or death involving wildland fires during construction or operation and
 23 maintenance of the water conveyance facilities because the BDCP would comply with Cal-OSHA fire
 24 prevention and safety standards; DWR would implement standard fire prevention, safety and
 25 control measures, as part of a FPCP; and because the water conveyance facilities would not be
 26 located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would be less than
 27 significant. No mitigation is required.

28 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
 29 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
 30 **Water Conveyance Facilities**

31 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
 32 conveyance facilities would be similar to those described for Alternative 1A, particularly with
 33 respect to intakes and intake pumping plants. This alternative may require the transport, storage,
 34 and use of chemicals or hazardous waste materials, including fuel, oils, grease, solvents, and paints.
 35 Solids collected at solids lagoons and sediment dredged during intake maintenance may contain
 36 hazardous constituents (e.g., persistent pesticides, mercury, PCBs). The annual volume of solids is
 37 anticipated to be approximately 486,000 cubic feet (dry solids) under Alternative 1C. Differences in
 38 potential hazards relative to Alternative 1A could generally result from variations in operational and
 39 maintenance activities with respect to canals, culvert siphons, and control structures along this
 40 alignment. However, this alternative would also avoid potential hazards associated with operation
 41 and maintenance of longer tunnel segments and those relating to the intermediate forebay.

42 As previously discussed under Impact HAZ-2, Lakewood Drive Park, Sycamore Drive Park, Summer
 43 Lake Park, and Mokelumne High (Continuation) School would be within 0.25 mile of the
 44 construction footprint for Alternative 1C. Should hazardous materials be inadvertently released in

1 substantial quantities during routine operations and maintenance at the constructed facilities due to
2 improper handling, there would be a potential risk to the public (including sensitive receptors).
3 However, because the types of potentially hazardous materials used during routine operation and
4 maintenance activities would be used in relatively small quantities, and because BMPs, as would be
5 implemented in the SWPPPs, SPCCPs, and HMMPs (as detailed in Appendix 3B), would be in place to
6 help prevent the inadvertent release of these materials and to contain and remediate spills should
7 they occur, the risk to sensitive receptors within 0.25 mile of the construction footprint would be
8 negligible. In addition, under Mitigation Measure HAZ-6, solids from the solids lagoons, which could
9 contain hazardous constituents such as persistent pesticides and mercury, would be sampled and
10 characterized to evaluate disposal options, and disposed of accordingly at an appropriate, licensed
11 facility. To ensure that potentially contaminated sediment from maintenance dredging activities at
12 the intakes would not adversely affect soil, groundwater or surface water, a SAP would be
13 implemented prior to any dredging activities, as described under Impact HAZ-1 for this alternative.
14 All sediment would be characterized chemically prior to reuse to ensure that reuse of this material
15 would not result in a hazard to the public or the environment. Therefore, no adverse effects on
16 sensitive receptors as a result of hazards or hazardous materials are anticipated.

17 The locations of public airports and private airstrips with respect to the west alignment are
18 provided in Figure 24-9. Delta Air Park, Byron Airport, and the Borges-Clarksburg Airport would be
19 within 2 miles of the Alternative 1C construction footprint. With the exception of power
20 transmission lines supplying power to pumps, surge towers, and other equipment used for
21 operation and maintenance of the BDCP, water conveyance facilities operations and maintenance
22 are not anticipated to require high-profile equipment (i.e., equipment with a vertical reach of 200
23 feet or more), the use of which near an airport runway could result in an adverse effect to aircraft.
24 DWR would adhere to all applicable FAA regulations (14 CFR Part 77) and would coordinate with
25 Caltrans' Division of Aeronautics prior to any maintenance activities requiring high-profile
26 maintenance equipment and comply with any air safety recommendations Caltrans may have to
27 ensure that there is no conflict with or adverse effect on air traffic. Compliance with these
28 recommendations, which could include limitations necessary to minimize potential problems, such
29 as the use of temporary construction equipment, supplemental notice requirements, and marking
30 and lighting high-profile structures would reduce the potential for impacts on air safety.

31 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
32 operation and maintenance of the water conveyance facilities and the potential interference with air
33 safety through the use of high-profile equipment for maintenance of proposed transmission lines
34 could have impacts on the public and environment. However, implementation of the BMPs and other
35 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
36 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
37 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
38 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
39 profile equipment within 2 miles of an airport, which would include implementation of
40 recommendations to provide supplemental notice and/or equip high-profile structures with
41 marking and lighting, would ensure that operation and maintenance of the water conveyance
42 facilities would not create a substantial hazard to the public, environment or air traffic safety.
43 Therefore, this impact would be less than significant.

1 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
 2 **and/or Disposal**

3 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
 4 1A.

5 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
 6 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
 7 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

8 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
 9 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
 10 create hazards to workers, the public, and the environment would be similar to those described
 11 under Alternative 1A. Potential variation from Alternative 1A would be anticipated to be minor but
 12 could result from the selection of different areas for restoration activities based on the location of
 13 the physical water conveyance features associated with each alternative.

14 Hazardous materials associated with the operation of construction equipment (e.g., fuels, lubricants)
 15 could be inadvertently released into the environment in the course of the materials' routine
 16 transport, use, or disposal. Similarly, construction activities could encounter known or unknown
 17 hazardous materials sites located on or in the vicinity of construction sites, creating the potential for
 18 hazardous materials disturbance and release. Other activities, including the intentional demolition
 19 of existing structures (e.g., buildings) and reuse of spoil, dredged material and/or RTM, would also
 20 present the potential to generate hazards or release hazardous materials. However, prior to the
 21 reuse of spoils, dredged material or RTM, these materials would undergo chemical characterization,
 22 as described in Appendix 3B, *Environmental Commitments*, to ensure that they are not creating a
 23 hazard to the public and environment.

24 Further, other potential hazards that could result from implementing conservation measures
 25 include the possible release of hazardous substances in proximity to sensitive receptors; damage or
 26 disruption of existing infrastructure such that hazardous conditions were created; the accidental
 27 release of hazardous substances during operation and maintenance and/or transport (e.g.,
 28 herbicides for nonnative vegetation control); the release, in the short-term, of pesticides from
 29 former agricultural lands as a result of wetland and floodplain restoration; the potential for safety
 30 hazards related to construction in the vicinity of an airport; and the potential for wildfire hazards in
 31 the vicinity of construction sites.

32 These potential effects, were they to occur, would be adverse. However, as discussed under Impact
 33 HAZ-7 for Alternative 1A, with implementation of Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-
 34 6c, TRANS-1a, and environmental commitments (discussed previously for Impacts HAZ-1 through
 35 HAZ-6, and in detail in Appendix 3B, *Environmental Commitments*), the potential for adverse effects
 36 would be reduced. Additionally, the proposed conservation measures would be designed to avoid
 37 sensitive receptors and would minimize, to the extent feasible, the need to acquire or traverse areas
 38 where the presence of hazardous materials is suspected or has been verified. Consequently, this
 39 effect would not be adverse.

40 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
 41 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

1 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 2 public to hazardous substances or conditions during construction, operation, and maintenance of
 3 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 4 implementation would involve extensive use of heavy equipment during construction, and/or the
 5 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 6 for nonnative vegetation control). Hazardous materials could be inadvertently released, exposing
 7 construction workers or the public to hazards. Construction of restoration projects on or near
 8 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 9 materials, and the use of high-profile equipment in close proximity to airport runways could result
 10 in hazards to air traffic. However in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 11 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 12 implemented, all of which would ensure that these potential impacts are less than significant.

13 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 14 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 15 **Construction Footprint, and Remediate and/or Contain Contamination**

16 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 17 1A.

18 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 19 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 20 **Dispose of Them in Accordance with Applicable Regulations**

21 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 22 1A.

23 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

24 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 25 Chapter 20, *Public Services and Utilities*.

26 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 27 **Minimizes Any Effect on Worker and Public Health and Safety**

28 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 29 Chapter 20, *Public Services and Utilities*.

30 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 31 **Plan**

32 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 33 1A in Chapter 19, *Transportation*.

34 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
 35 **Conservation Measures That Create or Improve Wildlife Habitat**

36 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
 37 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
 38 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
 39 from Alternative 1A would be anticipated to be minor but could result from the selection of different

1 areas for restoration activities based on the location of the physical water conveyance features
 2 associated with each alternative. Such variation may result greater or less opportunity for bird-
 3 aircraft strikes depending on the location's proximity to airport flight zones. The following airports,
 4 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
 5 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
 6 Airport; Sacramento International Airport, and Byron Airport.

7 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
 8 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
 9 would reduce the severity of this effect through the development and implementation of measures
 10 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
 11 adverse.

12 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
 13 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
 14 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
 15 significant impacts on public safety. The following airports, because they are in relatively close
 16 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
 17 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
 18 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
 19 through the ultimate development and implementation of measures to reduce, minimize and/or
 20 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
 21 significant and unavoidable.

22 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 23 **Regulatory Agencies**

24 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 25 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 26 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 27 extent possible.

28 **24.3.3.5 Alternative 2A—Dual Conveyance with Pipeline/Tunnel and Five**
 29 **Intakes (15,000 cfs; Operational Scenario B)**

30 **Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the**
 31 **Release of Hazardous Materials or by Other Means during Construction of the Water**
 32 **Conveyance Facilities**

33 **NEPA Effects:** Hazards to the public or the environment through the routine transport, use, or
 34 disposal of hazardous materials during construction of the water conveyance facilities for Alternative
 35 2A would be similar to those described under Alternative 1A. However, under Alternative 2A,
 36 Intakes 6 and 7 could be constructed instead of Intakes 4 and 5, as would an operable barrier at the
 37 head of Old River. Despite the potentially different locations for selected intakes and the
 38 construction of an operable barrier, it is anticipated that effects associated with the transport and
 39 use of fuels for this alternative would be similar to those described for Alternative 1A. Construction
 40 of an operable barrier at the head of Old River would create a marginally higher potential for
 41 hazards. Construction of this barrier would add an additional location where hazardous materials
 42 could potentially be released during storage, use, or transport. Additionally, land-based and in-water

1 construction activities, including dredging, associated with this barrier could potentially encounter
2 and release contaminated soil, groundwater, or sediment.

3 Further, similar to Alternative 1A, tunnel construction activities would carry the potential to
4 encounter gases that could enter the tunnels and accumulate to flammable or explosive
5 concentrations. Hazardous constituents associated with RTM are not anticipated; however, the
6 possibility exists for RTM and decanted water to pose a hazard to the construction workers, the
7 public, or the environment. Additionally, stored bulk quantities of hazardous materials that have
8 been released to soils and groundwater could be rereleased during construction, also posing a
9 potential hazard. Water conveyance facilities construction would also require in-channel dredging
10 (e.g., for construction of the operable barrier at the head of Old River), which would result in the
11 resuspension of potentially contaminated sediments. Existing infrastructure, including oil and gas
12 wells, also have the potential to release hazardous materials, as would the transport of hazardous
13 materials during construction. If intakes 4 and 5 are selected for this alternative, approximately 204
14 permanent structures would be removed or relocated within the Alternative 2A water conveyance
15 facility footprint. This includes approximately 59 residential buildings. Other structures affected
16 would consist primarily of storage or agricultural support facilities (120), as well as 15 recreational
17 facilities (e.g., pools and docks), and 10 other types of structures (e.g., power/utility structures,
18 bridges, and other types of infrastructure). As described under Alternative 1A, these structures may
19 contain hazardous materials that would require proper handling and disposal, if demolition is
20 necessary. Under this alternative, selection of Intakes 6 and 7 instead of Intakes 4 and 5 would be
21 anticipated to disrupt approximately 18 additional structures, including approximately 70
22 residential structures, 15 recreational structures (e.g., pools and docks), as well as 124
23 storage/support buildings. As described for Impact HAZ-1 under Alternative 1A, Mitigation Measure
24 HAZ-1b would be implemented by DWR to ensure that there are no adverse effects related to
25 structure demolition due to hazardous materials.

26 As described for Alternative 1A under Impact HAZ-1, in general, the transportation of hazardous
27 materials via trucks, trains and ships poses potential risks associated with the accidental release of
28 these materials to the environment. Rerouting vehicular traffic carrying hazardous materials during
29 construction of the water conveyance facilities could increase the risk of accidental release due to
30 inferior road quality or lack of driver familiarity with the modified routes. Hazardous materials
31 transportation routes are presented in Figure 24-2 and in Table 24-4. Routes anticipated to be
32 affected during construction of the water conveyance facilities are described in Chapter 19,
33 *Transportation*. It is not anticipated that traffic on any of these highways will need to be rerouted.
34 Under Mitigation Measure TRANS-1a, a site-specific construction traffic management plan, taking
35 into account hazardous materials transportation, would be prepared and implemented prior to
36 initiation of construction of water conveyance facilities (as described under Impact HAZ-1 for
37 Alternative 1A), and would be expected to reduce potential circulation effects and avoiding
38 rerouting of traffic as practicable. The plan would reduce the potential for effects on hazardous
39 materials transportation routes in the study area. Barges supporting water conveyance facilities
40 construction may also transport hazardous materials such as fuels and lubricants or other
41 chemicals. The potential exists for accidental release of hazardous materials from BDCP-related
42 barges. To avoid effects on the environment related to this issue, BMPs would be implemented as
43 part of a Barge Operations Plan (as discussed under Impact HAZ-1 for Alternative 1A and in
44 Appendix 3B, *Environmental Commitments*) that would reduce the potential for accidental releases
45 of hazardous materials during transport and transfer. Finally, under this alternative, the water
46 conveyance would cross under the existing BNSF/Amtrak San Joaquin line between Bacon Island

1 and Woodward Island; however, the effect of this crossing would likely be minimal because the
2 proposed conveyance would traverse the railroad in a deep bore tunnel (see Chapter 19 for
3 discussion). Further, the UPRR runs proximate to the construction area of the proposed Byron
4 Forebay; however, construction is unlikely to disrupt rail service because much of this line has not
5 been in service recently. Any potential effects on rail traffic during construction would be reduced
6 with implementation of Mitigation Measure TRANS-1a, which would include stipulations to
7 coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or
8 buses) that could be used to provide freight and/or passenger service during any longer term
9 railroad closures and daily construction time windows during which construction would be
10 restricted or rail operations would need to be suspended for any activity within railroad rights of
11 way. This would minimize the potential risk of release of hazardous materials being transported via
12 these rails.

13 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
14 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials
15 is suspected or has been verified. Further, environmental commitments would be implemented,
16 including SWPPPs, SPCCPs, SAPs, and HMMPs; a Barge Operations Plan; and chemical
17 characterization of RTM prior to reuse (e.g., RTM in levee reinforcement) or discharge. Together,
18 these commitments would reduce these potential hazards associated with water conveyance
19 facilities construction. Additionally, the implementation of Mitigation Measures HAZ-1a and HAZ-1b,
20 UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in
21 Chapter 19, *Transportation*) would further reduce the potential severity of this impact. As such,
22 construction of the water conveyance facilities would not create a substantial hazard to the public or
23 the environment through the routine transport, use, or disposal of hazardous materials or the
24 upset/accidental release of these materials. Therefore, this impact would not be adverse.

25 **CEQA Conclusion:** Similar to Alternative 1A, construction of the water conveyance facilities under
26 Alternative 2A presents the potential for a direct significant impact on construction personnel, the
27 public and/or the environment associated with a variety of physical and chemical hazardous
28 conditions because of the intensity of construction activities at the north Delta intakes, forebays and
29 conveyance pipelines and tunnels and the hazardous materials that would be needed in these areas
30 during construction. Potential hazards include the routine use of hazardous materials (as defined by
31 Title 22 of the California Code of Regulations, Division 4.5); natural gas accumulation in water
32 conveyance tunnels; the inadvertent release of existing contaminants in soil, sediment, and
33 groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
34 electrical transmission lines; and hazardous constituents present in RTM. Many of these physical
35 and chemical hazardous conditions would occur in close proximity to the towns of Hood and
36 Courtland during construction of the north Delta intakes and the intermediate forebay. Potential
37 differences between this alternative and Alternative 1A would result from hazards associated with
38 site-specific contaminants or hazardous materials present in the soil, river sediment, or
39 infrastructure that would be disturbed with construction of Intakes 6 and 7, if these locations were
40 chosen instead of Intakes 4 and 5, and the operable barrier at the head of Old River. Additionally, the
41 potential would exist for the construction of the water conveyance facilities to indirectly result in
42 the release of hazardous materials through the disruption of existing road, rail, or river hazardous
43 materials transport routes because construction would occur in the vicinity of three hazardous
44 material transport routes, three railroad corridors, and waterways with barge traffic and would
45 require construction traffic that could disrupt these routes. For these reasons, this is considered a
46 significant impact. However, with the implementation of the previously described environmental

1 commitments (e.g., SWPPPs, HMMPs, SPCCPs, SAPs, and a Barge Operations Plan) and Mitigation
 2 Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and*
 3 *Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*), construction of the water
 4 conveyance facilities would not create a substantial hazard to the public or the environment through
 5 the routine transport, use, or disposal of hazardous materials or the upset/accidental release of
 6 these materials. As such, these impacts would be less than significant.

7 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 8 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 9 **Construction Footprint, and Remediate and/or Contain Contamination**

10 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 11 1A.

12 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 13 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 14 **Dispose of Them in Accordance with Applicable Regulations**

15 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 16 1A.

17 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

18 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 19 Chapter 20, *Public Services and Utilities*.

20 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 21 **Minimizes Any Effect on Worker and Public Health and Safety**

22 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 23 Chapter 20, *Public Services and Utilities*.

24 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 25 **Plan**

26 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 27 1A in Chapter 19, *Transportation*.

28 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
 29 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
 30 **Facilities**

31 **NEPA Effects:** An adverse effect may occur if a construction work site is located within 0.25 mile of
 32 an existing or proposed school, or other sensitive receptor, and releases hazardous materials that
 33 pose a health hazard. However, no schools, parks or hospitals are located within 0.25 mile of
 34 Alternative 2A. However, under this alternative, an operable barrier would be constructed at the
 35 head of Old River near the Mossdale Village area of Lathrop, adjacent to land designated for public
 36 use and which could include future schools or parks. If a school or park were built prior to the
 37 completion of construction of the operable barrier, sensitive receptors would be in close proximity
 38 to BDCP construction activities, creating the potential for an adverse effect. However, because there
 39 is currently no school or park within 0.25 mile of the operable barrier site, and because no school or

1 park is currently proposed within 0.25 mile of that site, there would be no adverse effect on
2 sensitive receptors at this site.

3 Therefore, no sensitive receptors would be exposed to hazardous materials, substances, or waste
4 during construction of the water conveyance facilities under Alternative 2A. As such, there would be
5 no effect. Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality*
6 *and Greenhouse Gases*.

7 **CEQA Conclusion:** There are no schools, parks or hospitals located within 0.25 mile of the
8 Alternative 2A water conveyance facilities alignment. Where the construction of a school or park is
9 to be completed near the Mossdale Village area of Lathrop prior to the completion of construction of
10 the operable barrier, sensitive receptors would be in close proximity to construction activities under
11 this alternative, creating a potential significant impact. However, because no school or park is
12 currently proposed within 0.25 mile of the proposed operable barrier site, there would be no
13 impact. Therefore, for this alternative there would be no impact due to exposure of sensitive
14 receptors to hazardous materials, substances or waste during construction of the water conveyance
15 facilities. No mitigation is required. Potential air quality effects on sensitive receptors are discussed
16 in Chapter 22, *Air Quality and Greenhouse Gases*.

17 Where the construction of a school or park is to be completed prior to the completion of
18 construction of the operable barrier, sensitive receptors would be in close proximity to construction
19 activities under this alternative, creating a potential significant impact. However, because no school
20 or park is currently proposed within 0.25 mile of the proposed operable barrier site, there would be
21 no impact.

22 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,** 23 **Create a Significant Hazard to the Public or the Environment**

24 **NEPA Effects:** Effects related to sites on the “Cortese List” and SOCs would be similar to those
25 described under Alternative 1A. Potential differences under this alternative would arise from any
26 hazardous materials sites encountered in the construction of Intakes 6 and 7, if these locations were
27 chosen, as well as the potential construction of an operable barrier at the head of Old River;
28 however, there are no known hazardous materials sites in the construction footprint for those
29 intakes nor in the footprint for the pipelines to those intakes.

30 There are no “Cortese List” sites or known SOCs within the construction footprint of Alternative 2A
31 (Table 24-5 and Figure 24-4), and therefore there would be no conflict pertaining to a known
32 hazardous materials site during construction of the water conveyance facilities and thus, no related
33 hazard to the public or the environment. For those hazardous materials sites identified within the
34 0.5-mile radius, but which are not within the construction footprint (Table 24-5), there would be no
35 potential for the construction of the water conveyance facilities to disturb those sites such that there
36 would be a re-release of hazardous materials that would create a hazard for the public or
37 environment. Therefore, there would be no effect. The potential for encountering unknown
38 hazardous materials sites during the course of construction is discussed under Impact HAZ-1.

39 **CEQA Conclusion:** Because there are no known SOCs within the construction footprint of the water
40 conveyance facility under this alternative, there would be no conflict with known hazardous
41 materials sites during construction of the water conveyance facilities, and therefore, no related
42 hazard to the public or the environment. As such, there would be no impact. No mitigation is

1 required. The potential for encountering unknown hazardous materials sites during the course of
2 construction is discussed under Impact HAZ-1.

3 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
4 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
5 **Study Area during Construction of the Water Conveyance Facilities**

6 *NEPA Effects:* Development around an airport, particularly in the approach and departure paths, can
7 create obstructions in the airspace traversed by an approaching or departing aircraft. Additionally,
8 certain land uses have the potential to create hazards to aircraft such as a distracting glare, smoke,
9 steam, or invisible heat plumes. Safety impacts from aircraft accidents near airports are typically
10 avoided by specifying the types of land uses allowed, and thereby limiting the number of people who
11 would be exposed to the risk of an accident, and avoiding land uses that could create hazards to air
12 traffic. Airspace protection primarily involves limitations on the height of objects on the ground near
13 airports.

14 Safety hazards to aircraft posed by high-profile (200 feet or taller) construction equipment such, as
15 tall cranes and pile drivers, or structures (e.g., proposed transmission lines and towers) would be
16 similar as those described under Alternative 1A. Potential differences would result from different
17 locations for equipment if Intakes 6 and 7 were constructed, as well as the potential for additional
18 equipment necessary for the construction of an operable barrier. The Borges-Clarksburg, Walnut
19 Grove, and Spezia Airports (all private air facilities), and the Byron Airport (a public air facility) are
20 located within 2 miles of the construction footprint of this alternative.

21 DWR would adhere to all applicable FAA regulations prior to and during construction of water
22 conveyance facilities, including complying with the recommendations of an OE/AAA (14 CFR Part
23 77) for Byron Airport. Additionally, as previously discussed, construction of a state building or
24 enclosure within 2 miles of any airport is subject to review by Caltrans' Division of Aeronautics prior
25 to initiating construction to help ensure that adverse effects on air safety are avoided. DWR would
26 adhere to Caltrans' recommendations based on its review in order to avoid any adverse effects on
27 air safety. Therefore, there would be no adverse effects on air traffic safety related to construction of
28 the water conveyance facilities under this alternative.

29 *CEQA Conclusion:* The use of helicopters for stringing the proposed 230 kV transmission lines and
30 of high-profile construction equipment, such as cranes, for installation of pipelines, and potentially
31 pile drivers, such as would be used during the construction of the intakes, have the potential to
32 result in safety hazards to aircraft during takeoff and landing if the equipment is operated too close
33 to runways. Three private airports (Borges-Clarksburg, Spezia, and Walnut Grove Airports) and one
34 public airport (Byron Airport) are located within 2 miles of the construction footprint of Alternative
35 2A. DWR would coordinate with Caltrans' Division of Aeronautics prior to initiating construction
36 and comply with its recommendations based on site investigation(s), as well as comply with the
37 recommendations of the OE/AAA (for Byron Airport). Compliance with these recommendations,
38 which could include limitations necessary to minimize potential problems, such as the use of
39 temporary construction equipment, supplemental notice requirements, and marking and lighting
40 high-profile structures would reduce the potential for impacts on air safety. Accordingly, this impact
41 would be less than significant. No mitigation is required.

42 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
43 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**

1 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
 2 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

3 **NEPA Effects:** Hazards related to wildland fires would be similar to those described under
 4 Alternative 1A. The northernmost and southernmost extent of this conveyance alignment would be
 5 adjacent to areas designated Moderate Fire Hazard Severity Zones.

6 As described under Alternative 1A and in Appendix 3B, *Environmental Commitments*, precautions
 7 would be taken to prevent wildland fires during construction, and operation and maintenance of the
 8 water conveyance facilities in full compliance with Cal-OSHA standards for fire safety and
 9 prevention. Additionally, DWR would develop and implement a FPCP in coordination with federal,
 10 state, and local agencies. Implementation of these would help ensure that people or structures
 11 would not be subject to a significant risk of loss, injury or death involving wildland fires.
 12 Consequently, this effect would not be adverse.

13 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
 14 death involving wildland fires during construction or operation and maintenance of the proposed
 15 water conveyance facilities because the BDCP would comply with Cal-OSHA fire prevention and
 16 safety standards; implement standard fire safety and prevention measures, as part of a FPCP
 17 (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities would not
 18 be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would be less
 19 than significant. No mitigation is required.

20 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
 21 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
 22 **Water Conveyance Facilities**

23 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
 24 conveyance facilities would be similar to those described for Alternative 1A. Under this alternative,
 25 however, Intakes 6 and 7 may be selected instead of Intakes 4 and 5, presenting potential variation
 26 in the location of possible hazards. Additionally, operation and maintenance activities associated
 27 with an operable barrier could expand the potential for hazards. This alternative may require the
 28 transport, storage, and use of chemicals or hazardous waste materials, including fuel, oils, grease,
 29 solvents, and paints. Solids collected at solids lagoons and sediment dredged during periodic
 30 maintenance dredging at the operable barrier at the head of Old River and at intakes may contain
 31 potentially hazardous constituents (e.g., persistent pesticides, mercury, PCBs). To ensure that
 32 potentially contaminated sediment from maintenance dredging activities at the intakes would not
 33 adversely affect soil, groundwater or surface water, a SAP would be implemented prior to any
 34 dredging activities, as described under Impact HAZ-1 for this alternative. All sediment would be
 35 characterized chemically prior to reuse to ensure that reuse of this material would not result in a
 36 hazard to the public or the environment.

37 The Borges-Clarksburg, Walnut Grove, and Spezia Airports (private air facilities), and the Byron
 38 Airport (a public air facility) are located within 2 miles of the Alternative 2A construction footprint
 39 (Figure 24-9 and Table 24-6). With the exception of power transmission lines supplying power to
 40 pumps, surge towers, and other equipment used for water conveyance facilities operation and
 41 maintenance, water conveyance facilities operations and maintenance are not anticipated to require
 42 high-profile equipment, the use of which near an airport runway could result in an adverse effect on
 43 aircraft. DWR would adhere to all applicable FAA regulations (14 CFR Part 77) and would
 44 coordinate with Caltrans' Division of Aeronautics prior to any maintenance activities requiring high-

1 profile maintenance equipment. DWR would comply with any recommendation Caltrans may have
 2 to ensure that there is no conflict with or adverse effect on air traffic. Compliance with these
 3 recommendations, which could include limitations necessary to minimize potential problems, such
 4 as the use of temporary construction equipment, supplemental notice requirements, and marking
 5 and lighting high-profile structures would reduce the potential for impacts on air safety.

6 There are no sensitive receptors (i.e., schools, hospitals and parks) located within 0.25 mile of
 7 Alternative 2A.

8 Because the types of potentially hazardous materials used during routine operation and
 9 maintenance activities would be used in relatively small quantities, and because BMPs, as would be
 10 implemented in the SWPPPs, SPCCPs, and HMMPs (as detailed in Appendix 3B), would be in place to
 11 help prevent the inadvertent release of these materials and to contain and remediate spills should
 12 they occur, the risk to the public and environment would be negligible. Further, under Mitigation
 13 Measure HAZ-6, solids from the solids lagoons would be sampled and characterized to evaluate
 14 disposal options, and disposed of accordingly at an appropriate, licensed facility. These measures
 15 would ensure that this effect is not adverse.

16 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
 17 operation and maintenance of the water conveyance facilities and the potential interference with air
 18 safety through the use of high-profile equipment for maintenance of proposed transmission lines
 19 could have impacts on the public and environment. However, implementation of the BMPs and other
 20 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
 21 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
 22 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
 23 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
 24 profile equipment within 2 miles of an airport, which would include implementation of
 25 recommendations to provide supplemental notice and/or equip high-profile structures with
 26 marking and lighting, would ensure that operation and maintenance of the water conveyance
 27 facilities would not create a substantial hazard to the public, environment or air traffic safety.
 28 Therefore, this impact would be less than significant.

29 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
 30 **and/or Disposal**

31 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
 32 1A.

33 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
 34 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
 35 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

36 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
 37 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
 38 create hazards to workers, the public, and the environment would be similar to those described
 39 under Alternative 1A. Hazardous materials associated with the operation of construction equipment
 40 could be inadvertently released into the environment in the course of the materials' routine
 41 transport, use, or disposal. Releases could also occur as a result of accidental circumstances during
 42 operation and maintenance activities, such as the application of herbicides to control nonnative
 43 vegetation. Similarly, construction activities could encounter known or unknown hazardous

1 materials sites located on or in the vicinity of construction sites, creating the potential for their
 2 disturbance and release. Other activities, including the intentional demolition of existing structures
 3 (e.g., buildings) and reuse of spoil, dredged material and/or RTM, would also present the potential
 4 to generate hazards or release hazardous materials. However, prior to the reuse of spoils, dredged
 5 material or RTM, these materials would undergo chemical characterization, as described in
 6 Appendix 3B, *Environmental Commitments*, to ensure that they are not creating a hazard to the
 7 public and environment. Further, other potential hazards that could result from implementing
 8 conservation measures include the possible release of hazardous substances in proximity to
 9 sensitive receptors; the release, in the short-term, of pesticides from former agricultural lands as a
 10 result of wetland and floodplain restoration; the potential for safety hazards related to construction
 11 in the vicinity of an airport; damage or disruption of existing infrastructure such that hazardous
 12 conditions were created; and the potential for wildfire hazards in the vicinity of construction sites.

13 These potential effects, were they to occur, would be adverse. However, as discussed under Impact
 14 HAZ-7 for Alternative 1A, with implementation of Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-
 15 6c, and TRANS-1a, and environmental commitments (discussed previously for Impacts HAZ-1
 16 through HAZ-6, and in detail in Appendix 3B, *Environmental Commitments*), the potential for adverse
 17 effects would be reduced. Additionally, the proposed conservation measures would be designed to
 18 avoid sensitive receptors and would minimize, to the extent feasible, the need to acquire or traverse
 19 areas where the presence of hazardous materials is suspected or has been verified. Therefore, this
 20 effect would not be adverse.

21 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 22 public to hazardous substances or conditions during construction, operation, and maintenance of
 23 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 24 implementation would involve extensive use of heavy equipment during construction, and/or the
 25 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 26 for nonnative vegetation control). These chemicals could be inadvertently released and could expose
 27 construction workers or the public to hazards. Construction of restoration projects on or near
 28 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 29 materials, and the use of high-profile equipment in close proximity to airport runways could result
 30 in hazards to air traffic. However in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 31 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 32 implemented, all of which would ensure that these potential impacts are less than significant.

33 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 34 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 35 **Construction Footprint, and Remediate and/or Contain Contamination**

36 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 37 1A.

38 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 39 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 40 **Dispose of Them in Accordance with Applicable Regulations**

41 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 42 1A.

1 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

2 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
3 Chapter 20, *Public Services and Utilities*.

4 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
5 **Minimizes Any Effect on Worker and Public Health and Safety**

6 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
7 Chapter 20, *Public Services and Utilities*.

8 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
9 **Plan**

10 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
11 1A in Chapter 19, *Transportation*.

12 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
13 **Conservation Measures That Create or Improve Wildlife Habitat**

14 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
15 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
16 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
17 from Alternative 1A would be anticipated to be minor but could result from the selection of different
18 areas for restoration activities based on the location of the physical water conveyance features
19 associated with each alternative. Such variation may result greater or less opportunity for bird-
20 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
21 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
22 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
23 Airport; Sacramento International Airport, and Byron Airport.

24 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
25 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
26 would reduce the severity of this effect through the development and implementation of measures
27 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
28 adverse.

29 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
30 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
31 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
32 significant impacts on public safety. The following airports, because they are in relatively close
33 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
34 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
35 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
36 through the ultimate development and implementation of measures to reduce, minimize and/or
37 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
38 significant and unavoidable.

1 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 2 **Regulatory Agencies**

3 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 4 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 5 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 6 extent possible.

7 **24.3.3.6 Alternative 2B—Dual Conveyance with East Alignment and Five**
 8 **Intakes (15,000 cfs; Operational Scenario B)**

9 **Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the**
 10 **Release of Hazardous Materials or by Other Means during Construction of the Water**
 11 **Conveyance Facilities**

12 **NEPA Effects:** Hazards to the public or the environment through the routine transport, use, or
 13 disposal of hazardous materials during construction of the water conveyance facilities for Alternative
 14 2B would be similar to those described under Alternative 1B. However, under Alternative 2B,
 15 Intakes 6 and 7 could be constructed instead of Intakes 4 and 5, as would an operable barrier at the
 16 head of Old River. Although, despite the potentially different locations for selected intakes and the
 17 construction of an operable barrier, it is anticipated that effects associated with the transport and
 18 use of fuels for this alternative would be similar to those described for Alternative 1B. Construction
 19 of an operable barrier at the head of Old River would create a marginally higher potential for
 20 hazards. Construction of this barrier would add an additional location where hazardous materials
 21 could potentially be released during storage, use, or transport. Additionally, land-based and in-water
 22 construction activities, including dredging, associated with this barrier could potentially encounter
 23 and release contaminated soil, groundwater, or sediment.

24 As described in Chapter 3, *Description of Alternatives*, during construction of Alternative 2B six
 25 locations would be designated as temporary fueling stations. Each fueling station would occupy two
 26 acres and each would be located adjacent to a concrete batch plant. Fueling station locations are
 27 shown in Figure 24-7. Fueling stations would be established in currently rural areas with two at the
 28 intakes on the northern end of the conveyance alignment, three along the length of the canal
 29 alignment and one fueling station would be near the pumping facilities on the southern end. Bulk
 30 fuel would be stored at fueling stations and potentially pose the risk of vehicle fueling spills and
 31 leakage from above-ground storage tanks at fueling stations.

32 Potential hazards associated with natural gas accumulation in tunnels, existing contaminants in soil,
 33 river sediment or groundwater, hazardous constituents present in RTM, infrastructure containing
 34 hazardous materials, and the disruption of existing hazardous materials transport routes would be
 35 similar to those described under Alternative 1B. However, the locations and extent of these hazards
 36 would be different than Alternative 1B due to the potentially different intake locations and the
 37 construction of an operable barrier at the head of Old River. Under this alternative, there are 9
 38 overhead power/electrical transmission lines and three natural gas pipelines and five petroleum
 39 product pipelines (Table 24-3), 57 inactive and four active oil or gas wells within the proposed
 40 Alternative 2B water conveyance construction footprint (California Department of Water Resources
 41 2010b:13-1). Further, water conveyance facilities construction under this alternative would also
 42 require in-channel dredging (e.g., for construction of the operable barrier at the head of Old River),
 43 which would result in the resuspension of potentially contaminated sediments.

1 If intakes 4 and 5 were constructed, approximately 409 structures would be removed or relocated
2 under Alternative 2B. This would include approximately 109 residential structures; 22 recreational
3 structures; 257 storage and agricultural support structures; and 21 other types of structures (e.g.,
4 power/utility structures, bridges, and other types of infrastructure). If Intakes 6 and 7 were
5 constructed instead of Intakes 4 and 5, approximately 22 additional structures would be disrupted
6 including approximately 121 residential structures; 23 recreational structures; 262 storage/support
7 structures; and 25 other types of structures. These structures may contain hazardous materials that
8 would require proper handling and disposal, if demolition is necessary. As described for Impact
9 HAZ-1 under Alternative 1A, Mitigation Measure HAZ-1b would be implemented by DWR to ensure
10 that there are no adverse effects related to structure demolition due to hazardous materials.

11 Risks associated with the transportation of hazardous materials via truck, trains, and ships would be
12 similar to those described under Alternative 1A but would occur in different areas. Hazardous
13 materials transportation routes that would be used under this alternative are presented in Figure
14 24-2 and in Table 24-4. Routes anticipated to be affected during construction of the water
15 conveyance facilities are listed in Chapter 19, *Transportation*. Under Mitigation Measure TRANS-1a,
16 a site-specific construction traffic management plan, taking into account hazardous materials
17 transportation, would be prepared and implemented prior to initiation of water conveyance
18 facilities construction. This mitigation measure would reduce the potential for effects on hazardous
19 materials transportation routes in the study area. Barges supporting water conveyance facilities
20 construction may also transport hazardous materials such as fuels and lubricants or other
21 chemicals. The potential exists for accidental release of hazardous materials from BDCP-related
22 barges. To avoid effects on the environment related to this issue, BMPs would be implemented as
23 part of a Barge Operations Plan (as discussed under Impact HAZ-1 for Alternative 1A and in
24 Appendix 3B, *Environmental Commitments*) that would reduce the potential for accidental releases
25 of hazardous materials during transport and transfer. Further, the Alternative 2B water conveyance
26 facilities alignment would cross one railroad ROW at the BNSF railroad in San Joaquin County near
27 Holt. A culvert siphon would be built at this rail crossing, reducing potential hazards associated with
28 rail transportation. Two segments of a UPRR line would intersect with bridge facilities constructed
29 east of the intake facilities and other construction work areas would be immediately adjacent to an
30 out-of-service UPRR Tracy Subdivision branch line near the California Aqueduct at the southern end
31 of the water conveyance facilities. Because these crossings are in construction work areas, train
32 operations along the BNSF Railway/Amtrak San Joaquin Line could be affected. Additional conflicts
33 could arise if the out-of-service UPRR line were reopened. Mitigation Measure TRANS-1a would
34 include stipulations to coordinate with rail providers to develop alternative interim transportation
35 modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during
36 any longer term railroad closures and daily construction time windows during which construction
37 would be restricted or rail operations would need to be suspended for any activity within railroad
38 rights of way. This would minimize the potential risk of release of hazardous materials being
39 transported via these rails.

40 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
41 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials
42 is suspected or has been verified. Further, environmental commitments would be implemented,
43 including SWPPPs, SPCCPs, SAPs, and HMMPs; a Barge Operations Plan; and chemical
44 characterization of RTM prior to reuse (e.g., RTM in levee reinforcement) or discharge. Together, the
45 environmental commitments would reduce these potential hazards associated with water
46 conveyance facilities construction. Additionally, the implementation of Mitigation Measures HAZ-1a

1 and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a
 2 (described in Chapter 19, *Transportation*) would further reduce the potential severity of this impact.
 3 As such, construction of the water conveyance facilities would not create a substantial hazard to the
 4 public or the environment through the routine transport, use, or disposal of hazardous materials or
 5 the upset/accidental release of these materials. Therefore, this effect would not be adverse.

6 **CEQA Conclusion:** During construction of the water conveyance facilities, the potential would exist
 7 for direct significant impacts on construction personnel, the public and/or the environment
 8 associated with the routine use of hazardous materials; natural gas accumulation in water
 9 conveyance tunnels; the inadvertent release of existing contaminants in soil, sediment, and
 10 groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
 11 electrical transmission lines; and potentially hazardous constituents present in RTM. Additionally,
 12 the potential would exist for the construction of the water conveyance facilities to indirectly result
 13 in the release of hazardous materials through the disruption of existing road, rail, or river hazardous
 14 materials transport routes, which, were this to occur, would be considered a significant impact.
 15 Potential differences between this alternative and Alternative 1B would result from hazards
 16 associated with site-specific contaminants or hazardous materials present in the soil, river
 17 sediment, or infrastructure that would be disturbed with construction of Intakes 6 and 7, if these
 18 locations were chosen instead of Intakes 4 and 5, and the operable barrier at the head of Old River.
 19 However, with the implementation of the previously described environmental commitments (for
 20 Impact HAZ-1 under Alternative 1A) and Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c
 21 (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in Chapter 19,
 22 *Transportation*), construction of the water conveyance facilities would not create a substantial
 23 hazard to the public or the environment through the routine transport, use, or disposal of hazardous
 24 materials or the upset/accidental release of these materials. As such, these impacts would be less
 25 than significant.

26 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 27 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 28 **Construction Footprint, and Remediate and/or Contain Contamination**

29 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 30 1A.

31 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 32 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 33 **Dispose of Them in Accordance with Applicable Regulations**

34 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 35 1A.

36 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

37 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 38 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 2 **Minimizes Any Effect on Worker and Public Health and Safety**

3 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 4 Chapter 20, *Public Services and Utilities*.

5 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 6 **Plan**

7 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 8 1A in Chapter 19, *Transportation*.

9 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
 10 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
 11 **Facilities**

12 **NEPA Effects:** There are no schools or hospitals within 0.25 mile of Alternative 2B. However,
 13 Buckley Cove Park and Nelson Park, both in Stockton, are within 0.25 mile of the construction
 14 footprint of Alternative 2B. Buckley Cove Park is located west of a proposed borrow and/or spoils
 15 area across the Stockton Deep Water Ship Channel, and Nelson Park is just north of a proposed
 16 temporary 69 kV transmission line (Figure 24-8). Because large construction equipment, such as
 17 dump trucks, diggers, back hoes, and potentially cranes (for the installation of the temporary
 18 transmission line) could be operating in these areas, there could be the potential for oil leakage from
 19 these vehicles. However, if this were to occur, it would be localized and minimal. Furthermore,
 20 environmental commitment measures (Appendix 3B, *Environmental Commitments*) implemented as
 21 part of the HMMPs, SPCCPs, and SWPPPs, including positioning all stationary equipment over drip
 22 pans, and immediately cleaning up spills and leaks and disposing of properly, will ensure that
 23 equipment leaks are contained and remediated. Therefore, people at these parks would not be at
 24 risk or adversely affected by exposure to hazardous materials, substances, or waste during
 25 construction of the water conveyance facilities.

26 In addition, under this alternative, an operable barrier would be constructed at the head of Old River
 27 near the Mossdale Village area of Lathrop, adjacent to land designated for public use and which
 28 could include future schools or parks. If a school or park were built prior to the completion of
 29 construction of the operable barrier, sensitive receptors would be in close proximity to BDCP
 30 construction activities, creating the potential for an adverse effect. However, no school or park is
 31 currently proposed within 0.25 mile of the proposed operable barrier site; therefore, there would be
 32 no adverse effect.

33 Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and*
 34 *Greenhouse Gases*, and potential EMF effects on sensitive receptors are discussed in Chapter 25,
 35 *Public Health*.

36 **CEQA Conclusion:** Buckley Cove and Nelson Parks in Stockton are within 0.25 mile of the
 37 construction footprint of Alternative 2B. Buckley Cove Park is west of a proposed borrow and/or
 38 spoils area across the Stockton Deep Water Ship Channel, and Nelson Park is just north of a
 39 proposed temporary 69 kV transmission line. Large construction equipment, such as dump trucks,
 40 diggers, back hoes, and potentially cranes would be operating in these areas during construction and
 41 there would be the potential for these vehicles to leak oil. However, if this were to occur, the leaks
 42 would be localized and minimal. Furthermore, environmental commitment measures (Appendix 3B,

1 *Environmental Commitments*) implemented as part of the HMMPs, SPCCPs, and SWPPPs, including
 2 positioning all stationary equipment over drip pans, and immediately cleaning up spills and leaks
 3 and disposing of properly, will ensure that equipment leaks are contained and remediated.
 4 Therefore, people at these parks would not be at risk or affected. If the construction of a school or
 5 park were completed on land designated for public use near the Mossdale Village area of Lathrop
 6 prior to the completion of construction of the operable barrier, sensitive receptors would be in close
 7 proximity to BDCP construction activities, creating a potential significant impact. However, no
 8 school or park is currently proposed within 0.25 mile of the proposed operable barrier site,
 9 therefore there would be no impact. Because people at Buckley Cove and Nelson Parks would not be
 10 exposed to hazardous materials, substances, or waste during construction of the water conveyance
 11 facilities, this impact would be less than significant. Potential air quality effects on sensitive
 12 receptors are discussed in Chapter 22, *Air Quality and Greenhouse Gases*, and potential EMF effects
 13 on sensitive receptors are discussed in Chapter 25, *Public Health*.

14 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
 15 **Create a Significant Hazard to the Public or the Environment**

16 **NEPA Effects:** Effects related to sites on the Cortese List and SOCs would be the same as those
 17 described under Alternative 1B. The Sarale Farms site (a "Cortese List" site) and Kinder Morgan
 18 Energy pipeline access station site are located within the construction footprints for proposed
 19 temporary 69kV transmission lines (Table 24-5 and Figure 24-4). At the Sarale Farms site a 10,000-
 20 gallon petroleum UST was removed in 1992. Soil and groundwater contain petroleum products in
 21 excess of cleanup standards. The San Joaquin County Environmental Health Department issued a
 22 letter in December 2008 requiring continued monitoring of groundwater and additional assessment
 23 of groundwater for petroleum.

24 Because construction of the temporary transmission line would not entail deep excavation or
 25 require dewatering activities, no conflict with existing hazards at this site are anticipated. However,
 26 if dewatering and/or deep excavation were required in this area contaminated groundwater could
 27 be drawn up and/or contaminated soils may be disturbed, respectively. Improper disposal of
 28 contaminated excavated soils or groundwater would have the potential to adversely affect the
 29 environment. To avoid this potential adverse effect, Mitigation Measure HAZ-1a would be
 30 implemented to ensure that any known or suspected soil and/or groundwater contamination is not
 31 re-released. Further, design of the transmission line, including pole placement, would avoid the
 32 Kinder Morgan Energy and Sarale Farms site to the extent practicable to ensure there were no
 33 adverse hazardous effects associated with construction on or in close proximity to these sites.

34 For those hazardous materials sites identified within the 0.5-mile radius but which are not within
 35 the construction footprint, there would be no potential for the construction of the water conveyance
 36 facilities to disturb those sites such that there would be a re-release of hazardous materials that
 37 would create a hazard for the public or environment. Therefore, this effect would not be adverse.
 38 The potential for encountering unknown hazardous materials sites during the course of
 39 construction is discussed under Impact HAZ-1, above.

40 **CEQA Conclusion:** The re-release of hazardous materials during construction activities (dewatering
 41 and/or deep excavation) at the Sarale Farms site or the Kinder Morgan Energy pipeline access
 42 station site within the construction footprints for proposed temporary 69 kV transmission lines
 43 could result in a significant impact if contaminated groundwater and/or soils were rereleased.
 44 However, a significant impact on the environment would be avoided with implementation of

1 Mitigation Measure HAZ-1a. Further, project design would minimize, to the extent feasible, the need
 2 traverse areas where the presence of hazardous materials is suspected or has been verified, or
 3 where interference with existing infrastructure might result in hazards. As a result, there would be a
 4 less than significant impact on the public and/or environment because construction of the water
 5 conveyance facilities near the Kinder Morgan Energy pipeline access station site and the Sarale
 6 Farms site would not result in hazardous materials releases from these sites. The potential for
 7 encountering other unknown hazardous materials sites during the course of construction is
 8 discussed under Impact HAZ-1, above.

9 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 10 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 11 **Construction Footprint, and Remediate and/or Contain Contamination**

12 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 13 1A.

14 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
 15 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
 16 **Study Area during Construction of the Water Conveyance Facilities**

17 **NEPA Effects:** Development around an airport, particularly in the approach and departure paths, can
 18 create obstructions in the airspace traversed by an approaching or departing aircraft. Additionally,
 19 certain land uses have the potential to create hazards to aircraft such as a distracting glare, smoke,
 20 steam, or invisible heat plumes. Safety impacts from aircraft accidents near airports are typically
 21 avoided by specifying the types of land uses allowed, and thereby limiting the number of people who
 22 would be exposed to the risk of an accident, and avoiding land uses that could create hazards to air
 23 traffic. Airspace protection primarily involves limitations on the height of objects on the ground near
 24 airports.

25 Effects under this alternative with regard to creating safety hazards to air traffic as a result of
 26 constructing the water conveyance facilities would be the same as under Alternative 1B. As shown
 27 in Figure 24-9, the Borges-Clarksburg Airport, Byron Airport, and Lost Isle Seaplane Base are within
 28 2 miles of the Alternative 2B water conveyance facilities. The Borges-Clarksburg Airport is a private,
 29 special use airport with a land use plan. The Lost Isle Seaplane Base and Byron Airport are public
 30 use airports and are subject to FAA regulations regarding construction within 10,000 feet.
 31 Construction of a state building or enclosure within 2 miles of any airport is subject to review of
 32 Caltrans' Division of Aeronautics for safety and noise effects. In the event final locations for any state
 33 building or enclosure within 2 miles of any airport, Caltrans' Division of Aeronautics would require
 34 written notification and a review would be performed. Caltrans would provide recommendations,
 35 based on this review, to ensure that there were no impacts related to the construction of the water
 36 conveyance facilities on air safety. DWR would comply with these recommendations to avoid
 37 adverse effects. Additionally, depending on the location and height of any high-profile construction
 38 equipment, the Lost Isle Seaplane Base and Byron Airport, because they are public air facilities, may
 39 be subject to an OE/AAA to be performed by the FAA. BDCP compliance with the results of the
 40 OE/AAA would reduce the risk of adverse effects to air traffic safety in the vicinity of these airports.
 41 Therefore, there would be no adverse effect on air safety.

42 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
 43 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of

1 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
 2 example, and potentially pile drivers, such as would be used during the construction of the intakes,
 3 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
 4 is operated too close to runways. Two public airports (Lost Isle Seaplane Base and Byron Airport)
 5 and one private airport (Borges-Clarksburg Airport) are located within 2 miles of the construction
 6 footprint of Alternative 2B. DWR would coordinate with Caltrans' Division of Aeronautics prior to
 7 initiating construction and would comply with its recommendations based on its investigation(s), as
 8 well comply with the recommendations of the OE/AAA (for Byron Airport and the Lost Isle Seaplane
 9 Base). Compliance with these recommendations, which could include limitations necessary to
 10 minimize potential problems, such as the use of temporary construction equipment, supplemental
 11 notice requirements, and marking and lighting high-profile structures would reduce the potential
 12 for impacts on air safety. Accordingly, this impact would be less than significant. No mitigation is
 13 required.

14 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
 15 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
 16 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
 17 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

18 **NEPA Effects:** Hazards related to wildland fires would be similar to those described under
 19 Alternative 1B. The northernmost and southernmost extent of this conveyance alignment would be
 20 adjacent to zones of moderate fire hazard severity (Figure 24-10).

21 As described under Alternative 1A and in Appendix 3B, *Environmental Commitments*, precautions
 22 would be taken to prevent wildland fires during construction, and operation and maintenance of the
 23 water conveyance facilities in full compliance with Cal-OSHA standards for fire safety and
 24 prevention. Additionally, DWR would develop and implement a FPCP in coordination with federal,
 25 state, and local agencies. Implementation of these would help ensure that people or structures
 26 would not be subject to a significant risk of loss, injury or death involving wildland fires. Therefore,
 27 this effect would not be adverse.

28 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
 29 death involving wildland fires during construction or operation and maintenance of the water
 30 conveyance facilities under Alternative 2B because the BDCP would comply with Cal-OSHA fire
 31 prevention and safety standards; implement standard fire safety and prevention measures, as part
 32 of a FPCP (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities
 33 would not be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would
 34 be less than significant. No mitigation is required.

35 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
 36 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
 37 **Water Conveyance Facilities**

38 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
 39 conveyance facilities would be similar to those described for Alternative 1B, particularly with
 40 respect to intakes and intake pumping plants. This alternative may require the transport, storage,
 41 and use of chemicals or hazardous waste materials including fuel, oils, grease, solvents, and paints.
 42 Solids collected at the solids lagoons, and sediment dredged during periodic maintenance dredging
 43 at the intakes and operable barrier at the head of Old River, may contain hazardous constituents

1 (e.g., persistent pesticides, mercury, PCBs). To ensure that potentially contaminated sediment from
2 maintenance dredging activities at the intakes would not adversely affect soil, groundwater or
3 surface water, a SAP would be implemented prior to any dredging activities, as described under
4 Impact HAZ-1 for this alternative. All sediment would be characterized chemically prior to reuse to
5 ensure that reuse of this material would not result in a hazard to the public or the environment.

6 Differences from Alternative 1B could result from potential hazards related to operational and
7 maintenance activities associated with the operable barrier at the head of Old River. For example,
8 sediment removal activities associated with barrier maintenance could encounter and release
9 contaminated sediments. This facility would require the use of oils and other hazardous materials.

10 As noted above, the Borges-Clarksburg Airport, Byron Airport, and Lost Isle Seaplane Base are
11 within 2 miles of the Alternative 2B water conveyance facilities. With the exception of the proposed
12 power transmission lines and towers, water conveyance facilities are not anticipated to require the
13 use of high-profile equipment during operations and maintenance. Depending on the location and
14 height of any equipment necessary for transmission line maintenance, the Lost Isle Seaplane Base
15 and Byron Airport, because they are public air facilities, would be subject to an OE/AAA to be
16 performed by the FAA. DWR would comply with recommendations based on the results of an
17 OE/AAA (14 CFR 77). Additionally, DWR would coordinate with Caltrans' Division of Aeronautics
18 prior to any maintenance activities requiring high-profile maintenance equipment and comply with
19 any recommendation Caltrans may have regarding air safety. Compliance with these
20 recommendations, which could include limitations necessary to minimize potential problems, such
21 as the use of temporary construction equipment, supplemental notice requirements, and marking
22 and lighting high-profile structures would reduce the potential for impacts on air safety. Therefore,
23 no adverse effects on air safety are anticipated due to operation and maintenance of the water
24 conveyance facilities.

25 Potential releases of hazardous materials associated with operation and maintenance of the water
26 conveyance facilities under this alternative could result in an adverse effect on workers, the public
27 (including sensitive receptors within 0.25 mile of the construction footprint), and the environment.
28 As indicated above under Impact HAZ-2 for this alternative, Buckley Cove and Nelson Parks are
29 within 0.25 mile of a proposed borrow/spoils area and a proposed temporary 69 kV transmission
30 line, respectively. Because the proposed 69 kV transmission line is temporary, it would be removed
31 following completion of the water conveyance facilities, and therefore no maintenance activities
32 would occur in this area. No maintenance activities would take place in the borrow/spoils area, per
33 se; however, should the spoils be used at some later time, heavy construction equipment such as
34 dump trucks and excavators would be needed to move the spoils. Consequently, there could be the
35 potential for oil leakage from these vehicles. Although there would be a risk of accidental spills of
36 hazardous materials (e.g., fuels, solvents, paints) during facility operation and maintenance, the
37 quantities of hazardous materials likely to be used during routine operations and maintenance are
38 likely to be small, and were they to be released inadvertently, they would be localized. Further,
39 BMPs to minimize the potential for the accidental release of hazardous materials and to contain and
40 remediate hazardous spills, as part of the SWPPPs, SPCCPs, and HMMPs, would be implemented as
41 set forth in Appendix 3B, *Environmental Commitments*. Therefore, it is unlikely that park visitors
42 would be at risk or adversely affected.

43 In addition, under Mitigation Measure HAZ-6, solids from the solids lagoons, which could contain
44 hazardous constituents such as persistent pesticides and mercury, would be sampled and
45 characterized to evaluate disposal options, and disposed of accordingly at an appropriate, licensed

1 facility in order to avoid adverse effects on the environment from potential contamination.
2 Accordingly, there would be no adverse effect.

3 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
4 operation and maintenance of the water conveyance facilities and the potential interference with air
5 safety through the use of high-profile equipment for maintenance of proposed transmission lines
6 could have impacts on the public and environment. However, implementation of the BMPs and other
7 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
8 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
9 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
10 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
11 profile equipment within 2 miles of an airport, which would include implementation of
12 recommendations to provide supplemental notice and/or equip high-profile structures with
13 marking and lighting, would ensure that operation and maintenance of the water conveyance
14 facilities would not create a substantial hazard to the public, environment or air traffic safety.
15 Therefore, this impact would be less than significant.

16 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
17 **and/or Disposal**

18 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
19 1A.

20 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
21 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
22 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

23 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
24 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
25 create hazards to workers, the public, and the environment under Alternative 2B would be similar to
26 those described under Alternative 1A. Potential variation from Alternative 1A would be anticipated
27 to be minor but could result from the selection of different areas for restoration activities based on
28 the location of the physical water conveyance features associated with each alternative.

29 Hazardous materials associated with the operation of construction equipment could be released into
30 the environment in the course of the materials' routine transport, use, or disposal. Releases could
31 also occur as a result of accidental circumstances. Similarly, construction activities could encounter
32 known or unknown hazardous materials sites located on or in the vicinity of construction sites,
33 creating the potential for hazardous materials disturbance and release. Other activities, including
34 the intentional demolition of existing structures (e.g., buildings) and reuse of spoil, dredged material
35 and/or RTM, would also present the potential to generate hazards or release hazardous materials.
36 However, prior to the reuse of spoils, dredged material or RTM, these materials would undergo
37 chemical characterization, as described in Appendix 3B, *Environmental Commitments*, to ensure that
38 they are not creating a hazard to the public and environment.

39 Further, other potential hazards that could result from implementing conservation measures
40 include the possible release of hazardous substances in proximity to sensitive receptors; the
41 accidental release of hazardous substances during operation and maintenance and/or transport
42 (e.g., herbicides for nonnative vegetation control); the release, in the short-term, of pesticides from
43 former agricultural lands as a result of wetland and floodplain restoration; damage or disruption of

1 existing infrastructure such that hazardous conditions were created; the potential for safety hazards
 2 related to construction in the vicinity of an airport; and the potential for wildfire hazards in the
 3 vicinity of construction sites. These potential effects would be adverse. However, as discussed for
 4 Impact HAZ-7 under Alternative 1A, with implementation of Mitigation Measures HAZ-1a, HAZ-1b,
 5 UT-6a, UT-6c, TRANS-1a, and environmental commitments (discussed previously for Impacts HAZ-1
 6 through HAZ-6, and in detail in Appendix 3B, *Environmental Commitments*), the potential for adverse
 7 effects would be reduced. Additionally, the proposed conservation measures would be designed to
 8 avoid sensitive receptors and would minimize, to the extent feasible, the need to acquire or traverse
 9 areas where the presence of hazardous materials is suspected or has been verified. Consequently,
 10 this effect would not be adverse.

11 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
 12 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

13 **CEQA Conclusion:** The potential for impacts related to the release of, and exposure of workers and
 14 the public to, hazardous substances or conditions during construction, operation, and maintenance
 15 of CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 16 implementation would involve extensive use of heavy equipment during construction, and/or the
 17 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 18 for nonnative vegetation control). Hazardous materials could be inadvertently released, exposing
 19 construction workers or the public to hazards. Construction of restoration projects on or near
 20 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 21 materials, and the use of high-profile equipment in close proximity to airport runways could result
 22 in hazards to air traffic. However in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 23 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 24 implemented, all of which would ensure that these potential impacts are less than significant.

25 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 26 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 27 **Construction Footprint, and Remediate and/or Contain Contamination**

28 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 29 1A.

30 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 31 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 32 **Dispose of Them in Accordance with Applicable Regulations**

33 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 34 1A.

35 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

36 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 37 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 2 **Minimizes Any Effect on Worker and Public Health and Safety**

3 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 4 Chapter 20, *Public Services and Utilities*.

5 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 6 **Plan**

7 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 8 1A in Chapter 19, *Transportation*.

9 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
 10 **Conservation Measures That Create or Improve Wildlife Habitat**

11 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
 12 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
 13 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
 14 from Alternative 1A would be anticipated to be minor but could result from the selection of different
 15 areas for restoration activities based on the location of the physical water conveyance features
 16 associated with each alternative. Such variation may result greater or less opportunity for bird-
 17 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
 18 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
 19 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
 20 Airport; Sacramento International Airport, and Byron Airport.

21 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
 22 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
 23 would reduce the severity of this effect through the development and implementation of measures
 24 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
 25 adverse.

26 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
 27 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
 28 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
 29 significant impacts on public safety. The following airports, because they are in relatively close
 30 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
 31 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
 32 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
 33 through the ultimate development and implementation of measures to reduce, minimize and/or
 34 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
 35 significant and unavoidable.

36 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 37 **Regulatory Agencies**

38 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 39 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 40 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 41 extent possible.

24.3.3.7 Alternative 2C—Dual Conveyance with West Alignment and Intakes W1–W5 (15,000 cfs; Operational Scenario B)

Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the Release of Hazardous Materials or by Other Means during Construction of the Water Conveyance Facilities

NEPA Effects: For the duration of construction of the water conveyance facilities, potential hazards associated with the routine use of hazardous materials; natural gas accumulation in tunnels; existing contaminants in soil, groundwater, or sediment; hazardous constituents present in RTM; infrastructure containing hazardous materials; and the routine transport of hazardous materials would be similar to those described under Alternative 1C. However, construction of an operable barrier at the head of Old River would create a marginally higher potential for hazards. Construction of this barrier would add an additional location where hazardous materials could potentially be released during storage, use, or transport. Additionally, land-based and in-water construction activities—including dredging—associated with this barrier could potentially encounter and release contaminated soil, groundwater, or sediment. Conflicts with existing infrastructure containing hazardous materials or unknown sites of hazardous materials also pose potential risks. The number of existing structures requiring demolition or relocation under this alternative would be the same as under Alternative 1C. As described for Impact HAZ-1 under Alternative 1A, Mitigation Measure HAZ-1b would be implemented by the BDCP proponents to ensure that there are no adverse effects related to structure demolition due to hazardous materials.

Construction of the water conveyance facilities would create the potential for direct adverse effects on construction personnel, the public and/or the environment associated with the routine use of hazardous materials; natural gas accumulation in water conveyance tunnels; the inadvertent release of existing contaminants in soil, groundwater, and sediment, or hazardous materials in existing infrastructure to be removed; disturbance of electrical transmission lines; and hazardous constituents present in RTM. Additionally, there is the potential for the construction of the water conveyance facilities to indirectly result in the release of hazardous materials through the disruption of existing road, rail, and/or river hazardous materials transport routes, which, were this to occur, would be considered an adverse effect.

As noted in the discussion of Impact HAZ-1 under Alternative 1A project design will minimize, to the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials is suspected or has been verified. Further, environmental commitments would be implemented, including SWPPPs, SPCCPs, SAPs, and HMMPs; a Barge Operations Plan; and chemical characterization of RTM prior to reuse (e.g., RTM in levee reinforcement) or discharge. Together, the environmental commitments would reduce these potential hazards associated with water conveyance facilities construction. Additionally, the implementation of Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*) would further reduce the potential severity of this impact. As such, construction of the water conveyance facilities would not create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the upset/accidental release of these materials. Thus, this effect would not be adverse.

CEQA Conclusion: During construction of the water conveyance facilities, the potential would exist for direct significant impacts on construction personnel, the public and/or the environment associated with the routine use of hazardous materials; natural gas accumulation in water

1 conveyance tunnels; the inadvertent release of existing contaminants in soil, sediment, and
 2 groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
 3 electrical transmission lines; and hazardous constituents present in RTM. Additionally, the potential
 4 would exist for the construction of the water conveyance facilities to indirectly result in the release
 5 of hazardous materials through the disruption of existing road, rail, or river hazardous materials
 6 transport routes, which, were this to occur, would be considered a significant impact. However, with
 7 the implementation of the previously described environmental commitments and Mitigation
 8 Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and*
 9 *Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*), construction of the water
 10 conveyance facilities would not create a substantial hazard to the public or the environment through
 11 the routine transport, use, or disposal of hazardous materials or the upset/accidental release of
 12 these materials. As such, these impacts would be less than significant.

13 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 14 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 15 **Construction Footprint, and Remediate and/or Contain Contamination**

16 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 17 1A.

18 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 19 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 20 **Dispose of Them in Accordance with Applicable Regulations**

21 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 22 1A.

23 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

24 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 25 Chapter 20, *Public Services and Utilities*.

26 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 27 **Minimizes Any Effect on Worker and Public Health and Safety**

28 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 29 Chapter 20, *Public Services and Utilities*.

30 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 31 **Plan**

32 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 33 1A in Chapter 19, *Transportation*.

34 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
 35 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
 36 **Facilities**

37 **NEPA Effects:** Potential effects related to the handling of hazardous materials as part of construction
 38 of the water conveyance facilities would be similar to those described under Impact HAZ-2 for
 39 Alternative 1C. There are no hospitals located within 0.25 mile of Alternative 2C. However, as shown

1 in Figure 24-8, Lakewood Drive, Sycamore Drive, and Summer Lake Community Parks in Oakley, and
2 Mokelumne High (Continuation) School in Courtland would be within 0.25 mile of the construction
3 footprint for this alternative. Sycamore Drive Park would be near a tunnel work area, and Lakewood
4 Drive and Summer Lake Community Parks, and Mokelumne High (Continuation) School would be
5 near a proposed temporary 69 kV transmission line construction footprint. In addition, under this
6 alternative, an operable barrier would be constructed at the head of Old River near the Mossdale
7 Village area of Lathrop, adjacent to land designated for public use and which could include future
8 schools or parks. If a school or park were built prior to the completion of construction of the
9 operable barrier, sensitive receptors would be in close proximity to BDCP construction activities,
10 creating the potential for an adverse effect. However, no school or park is currently proposed within
11 0.25 mile of the proposed operable barrier site.

12 Although there would be a risk of accidental spills and leaks of hazardous materials (e.g., fuels, oil,
13 solvents, paints) during facility construction, the quantities of hazardous materials likely to be used
14 during construction activities are likely to be small. Were hazardous materials to be released
15 inadvertently, spills would be localized. Further, BMPs to minimize the potential for the accidental
16 release of hazardous materials and to contain and remediate hazardous spills, as part of the
17 SWPPPs, SPCCPs, and HMMPs, would be implemented, as set forth in Appendix 3B, *Environmental*
18 *Commitments*. Therefore, it is unlikely that these sensitive receptors would be at risk or adversely
19 affected by exposure to hazardous materials, substances, or waste during construction of the water
20 conveyance facilities. Potential air quality effects on sensitive receptors are discussed in Chapter 22,
21 *Air Quality and Greenhouse Gases*.

22 **CEQA Conclusion:** Lakewood Drive, Sycamore Drive, and Summer Lake Community Parks in Oakley,
23 and Mokelumne High (Continuation) School in Courtland are within 0.25 mile of the construction
24 footprint of Alternative 2C. Additionally, under this alternative, an operable barrier would be
25 constructed at the head of Old River near the Mossdale Village area of Lathrop, adjacent to land
26 designated for public use and which could include future schools or parks. If a school or park were
27 built prior to the completion of construction of the operable barrier, sensitive receptors would be in
28 close proximity to BDCP construction activities, creating the potential for an impact on those types
29 of sensitive receptors. However, no school or park is currently proposed within 0.25 mile of the
30 proposed operable barrier site.

31 During construction of the water conveyance facilities, there would be a risk of accidental spills of
32 hazardous materials. However, the potential for significant impacts on people at these parks due to
33 these potential inadvertent releases would be negligible because spills would likely be small and
34 localized. Further, BMPs to minimize the potential for the accidental release of hazardous materials
35 and to contain and remediate hazardous spills, as part of the SWPPPs, SPCCPs, and HMMPs, would
36 be implemented, as set forth in Appendix 3B, *Environmental Commitments*. Therefore, these
37 sensitive receptors would not be at risk or adversely affected by exposure to hazardous materials,
38 substances, or waste during construction of the water conveyance facilities. As such, this impact
39 would be less than significant.

40 Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and*
41 *Greenhouse Gases*.

1 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
 2 **Create a Significant Hazard to the Public or the Environment**

3 **NEPA Effects:** There are no Cortese List sites within the construction footprint of the Alternative 2C
 4 water conveyance facilities. However, as indicated in Table 24-5 and Figure 24-4, Mill Site A, the site
 5 of a former large agricultural mill, would be located in a potential borrow and/or spoils areas within
 6 the construction footprint of this alternative. This site was identified as a SOC in the 2009 ISA.
 7 However, there is no regulatory listing for this site, and no known hazardous materials occur at this
 8 site. Consequently, the potential to conflict with hazardous materials at this site is assumed to be
 9 minimal, and as such, there will be no hazard to the public or the environment due to construction of
 10 the water conveyance facilities. Therefore, this effect would not be adverse.

11 For those hazardous materials sites identified within the 0.5-mile radius but which are not within
 12 the construction footprint, there would be no potential for construction of the water conveyance
 13 facilities to disturb those sites such that there would be a re-release of hazardous materials that
 14 would create a hazard for the public or environment. The potential for encountering unknown
 15 hazardous materials sites during the course of construction is discussed under Impact HAZ-1.

16 **CEQA Conclusion:** Mill Site A, the site of a former large agricultural mill, would be located in a
 17 potential borrow and/or spoils area within the construction footprint of this alternative. There is no
 18 regulatory listing for this site, and no known hazardous materials occur at this site. Therefore, the
 19 potential risk to conflict with hazardous materials at this site is negligible, and there would be no
 20 hazard to the public or the environment. Therefore, this impact is less than significant. No mitigation
 21 is required. The potential for encountering unknown hazardous materials sites during the course of
 22 construction is discussed under Impact HAZ-1 for Alternative 1A.

23 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
 24 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
 25 **Study Area during Construction of the Water Conveyance Facilities**

26 **NEPA Effects:** Development around an airport, particularly in the approach and departure paths, can
 27 create obstructions in the airspace traversed by an approaching or departing aircraft. Additionally,
 28 certain land uses have the potential to create hazards to aircraft such as a distracting glare, smoke,
 29 steam, or invisible heat plumes. Safety impacts from aircraft accidents near airports are typically
 30 avoided by specifying the types of land uses allowed, and thereby limiting the number of people who
 31 would be exposed to the risk of an accident, and avoiding land uses that could create hazards to air
 32 traffic. Airspace protection primarily involves limitations on the height of objects on the ground near
 33 airports.

34 Safety hazards related to air traffic would be the same as those described for Alternative 1C. Under
 35 Alternative 2C, the water conveyance facilities would be within 2 miles of the Delta Air Park, Funny
 36 Farm Airport, and Borges-Clarksburg Airport, all private facilities, and Byron Airport (a public air
 37 facility), as shown in Figure 24-9. The use of helicopters for stringing the proposed 230 kV
 38 transmission lines and of high-profile construction equipment (200 feet or taller), such as cranes, for
 39 installation of pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet
 40 piles, for example, and potentially pile drivers, such as would be used during the construction of the
 41 intakes, have the potential to result in safety hazards to aircraft during takeoff and landing if the
 42 equipment is operated too close to runways. Depending on the location and height of any high-
 43 profile construction equipment or structures relative to the Byron Airport, because it is a public air
 44 facility, the BDCP may be subject to an OE/AAA to be performed by the FAA, as discussed under

1 Impact HAZ-4 for Alternative 1A. Compliance with the results of the OE/AAA (14 CFR Part 77),
2 would reduce the risk of adverse effects on air traffic safety due to water conveyance facility
3 construction activities in the vicinity of this airport. In addition, the Caltrans' Division of Aeronautics
4 would be informed in writing, as discussed under Impact HAZ-4 for Alternative 1A, and BDCP
5 proponents would comply with Caltrans' recommendations to avoid any adverse effects on air
6 safety. Consequently, there would be no adverse effect on air safety during construction of the water
7 conveyance facilities.

8 **CEQA Conclusion:** The Delta Air Park, Funny Farm Airport, and Borges-Clarksburg Airport, all
9 private airstrips, and Byron Airport, a public air facility, would be within 2 miles of the construction
10 footprint of several proposed water conveyance facilities features, as well as associated work areas
11 for Alternative 2C. The use of helicopters for stringing the proposed 230 kV transmission lines and
12 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
13 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
14 example, and potentially pile drivers, such as would be used during the construction of the intakes,
15 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
16 is operated too close to runways. BDCP proponents would coordinate with Caltrans' Division of
17 Aeronautics prior to initiating construction and comply with its recommendations based their
18 review, as well comply with the recommendations of the OE/AAA (for Byron Airport). Compliance
19 with these recommendations, which could include limitations necessary to minimize potential
20 problems, such as the use of temporary construction equipment, supplemental notice requirements,
21 and marking and lighting high-profile structures would reduce the potential for impacts on air
22 safety. Accordingly, the impacts on air safety would be less than significant. No mitigation is
23 required.

24 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
25 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
26 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
27 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

28 **NEPA Effects:** Potential hazards related to wildland fire would be similar to those described under
29 Alternative 1C, but would carry the potential to affect an additional area with construction of an
30 operable barrier at the Head of Old River. As shown in Figure 24-10, no portion of Alternative 2C is
31 located in or near an area designated as a High or Very High Fire Hazard Severity Zone. The
32 northernmost and southernmost portions of Alternative 2C would be located are near Moderate Fire
33 Hazard Severity Zones.

34 As described in Appendix 3B, *Environmental Commitments*, precautions would be taken to prevent
35 wildland fires during construction, and operation and maintenance of the water conveyance
36 facilities. Specifically, in an effort to reduce the potential for fire hazards, the BDCP proponents
37 and/or the contractors would develop and implement an FPCP in coordination with federal, state,
38 and local agencies. Development and implementation of the FPCP would help ensure that people or
39 structures would not be subject to a significant risk of loss, injury or death involving wildland fires.
40 Therefore, this effect would not be adverse.

41 **CEQA Conclusion:** Construction of Alternative 2C would involve the use of ignitable materials
42 including, but not limited to, fuels and solvents, which would be used for the operation and
43 maintenance of construction vehicles and other equipment. Additionally, the potential exists for
44 subsurface infrastructure transporting flammable materials to be disrupted during construction.

1 However, because no portion of Alternative 2C would be located near an area zoned as a High or
2 Very High Fire Hazard Severity Zone and because standard fire safety and prevention measures, as
3 part of a FPCP (Appendix 3B, *Environmental Commitments*); would be implemented, this impact
4 would be less than significant. No mitigation is required.

5 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
6 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
7 **Water Conveyance Facilities**

8 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
9 conveyance facilities would be similar to those described for Alternative 1C. This alternative may
10 require the transport, storage, and use of chemicals or hazardous waste materials including fuel,
11 oils, grease, solvents, and paints. Solids collected at the solids lagoons, and sediment dredged during
12 periodic maintenance dredging at the intakes and operable barrier at the head of Old River, may
13 contain hazardous constituents (e.g., persistent pesticides, mercury, PCBs). Differences from
14 Alternative 1C could result from potential hazards associated with operational and maintenance
15 activities associated with the operable barrier at the Head of Old River. For example, sediment
16 removal activities associated with gate maintenance could encounter and release contaminated
17 sediments. To ensure that potentially contaminated sediment from maintenance dredging activities
18 at the intakes would not adversely affect soil, groundwater or surface water, a SAP would be
19 implemented prior to any dredging activities, as described under Impact HAZ-1 for this alternative.
20 All sediment would be characterized chemically prior to reuse to ensure that reuse of this material
21 would not result in a hazard to the public or the environment. This facility would require the use of
22 oils and other hazardous materials.

23 As previously discussed under Impact HAZ-2, Lakewood Drive Park, Sycamore Drive Park, Summer
24 Lake Park, and Mokelumne High (Continuation) School would be within 0.25 mile of the
25 construction footprint for Alternative 2C. Should hazardous materials be inadvertently released in
26 substantially quantities during routine operations and maintenance at the constructed facilities due
27 to improper handling, there would be a potential risk to the public (including sensitive receptors).
28 However, because the types of potentially hazardous materials used during routine operation and
29 maintenance activities would be used in relatively small quantities, and because BMPs, as would be
30 implemented in the SWPPPs, the SPCCPs, and the HMMPs (as detailed in Appendix 3B), would be in
31 place to help prevent the inadvertent release of these materials and to contain and remediate spills
32 should they occur, the risk to sensitive receptors within 0.25 mile of the construction footprint
33 would be negligible. In addition, under Mitigation Measure HAZ-6, solids from the solids lagoons,
34 which could contain hazardous constituents such as persistent pesticides and mercury, would be
35 sampled and characterized to evaluate disposal options, and disposed of accordingly at an
36 appropriate, licensed facility. Therefore, no adverse effects on sensitive receptors as a result of
37 hazards or hazardous materials are anticipated.

38 Delta Air Park, Funny Farm, Byron Airport, and the Borges-Clarksburg Airport would be within 2
39 miles of the Alternative 2C construction footprint. With the exception of power transmission lines
40 supplying power to pumps, surge towers, and other equipment used for operation and maintenance,
41 water conveyance facilities operations and maintenance are not anticipated to require high-profile
42 equipment, the use of which near an airport could result in an adverse effect to aircraft. BDCP
43 proponents would adhere to all applicable FAA regulations (14 CFR 77), and would coordinate with
44 Caltrans' Division of Aeronautics prior to any maintenance activities requiring high-profile
45 maintenance equipment and comply with any recommendation Caltrans may have to ensure that

1 there is no conflict with or adverse effect on air traffic. Compliance with these recommendations,
2 which could include limitations necessary to minimize potential problems, such as the use of
3 temporary construction equipment, supplemental notice requirements, and marking and lighting
4 high-profile structures would reduce the potential for impacts on air safety.

5 Implementation of the environmental commitments and Mitigation Measure HAZ-6 would ensure
6 that operation and maintenance of the water conveyance facilities under Alternative 2C would not
7 create substantial hazards to the public or the environment through the release of hazardous
8 materials or by other means during operation and maintenance of the water conveyance facilities.
9 Accordingly, there would be no adverse effect.

10 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
11 operation and maintenance of the water conveyance facilities and the potential interference with air
12 safety through the use of high-profile equipment for maintenance of proposed transmission lines
13 could have impacts on the public and environment. However, implementation of the BMPs and other
14 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
15 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
16 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
17 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
18 profile equipment within 2 miles of an airport, which would include implementation of
19 recommendations to provide supplemental notice and/or equip high-profile structures with
20 marking and lighting, would ensure that operation and maintenance of the water conveyance
21 facilities would not create a substantial hazard to the public, environment or air traffic safety.
22 Therefore, this impact would be less than significant.

23 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
24 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
25 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

26 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
27 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
28 create hazards to workers, the public, and the environment would be similar to those described
29 under Alternative 1A. Potential variation from Alternative 1A would be anticipated to be minor but
30 could result from the selection of different areas for restoration activities based on the location of
31 the physical water conveyance features associated with each alternative.

32 Hazardous materials associated with the operation of construction equipment could be released into
33 the environment in the course of the materials' routine transport, use, or disposal. Releases could
34 also occur as a result of accidental circumstances. Similarly, construction activities could encounter
35 known or unknown hazardous materials sites located on or in the vicinity of construction sites,
36 creating the potential for hazardous materials disturbance and release. Other activities, including
37 the intentional demolition of existing structures (e.g., buildings) and reuse of spoil, dredged material
38 and/or RTM, would also present the potential to generate hazards or release hazardous materials.
39 However, prior to the reuse of spoils, dredged material or RTM, these materials would undergo
40 chemical characterization, as described in Appendix 3B, *Environmental Commitments*, to ensure that
41 they are not creating a hazard to the public and environment.

42 Further, other potential hazards that could result from implementing conservation measures
43 include the possible release of hazardous substances in proximity to sensitive receptors; damage or
44 disruption of existing infrastructure such that hazardous conditions were created; the accidental

1 release of hazardous substances during operation and maintenance and/or transport (e.g.,
 2 herbicides for nonnative vegetation control); the release, in the short-term, of pesticides from
 3 former agricultural lands as a result of wetland and floodplain restoration; the potential for safety
 4 hazards related to construction in the vicinity of an airport; and the potential for wildfire hazards in
 5 the vicinity of construction sites.

6 The potential for these effects is considered adverse because implementation of conservation
 7 measures would involve extensive activities that could unintentionally result in the release of
 8 hazardous substances or that could expose construction workers or members of the public to
 9 hazards. However, with implementation of Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c,
 10 TRANS-1a, and environmental commitments (discussed previously for Impacts HAZ-1 through HAZ-
 11 6, and in detail in Appendix 3B, *Environmental Commitments*), the potential for adverse effects
 12 would be reduced. Additionally, the proposed conservation measures would be designed to avoid
 13 sensitive receptors and would minimize, to the extent feasible, the need to acquire or traverse areas
 14 where the presence of hazardous materials is suspected or has been verified. Thus, this effect would
 15 not be adverse.

16 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 17 public to hazardous substances or conditions during construction, operation, and maintenance of
 18 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 19 implementation would involve extensive use of heavy equipment during construction, and/or the
 20 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 21 for nonnative vegetation control). Hazardous materials could be inadvertently released, exposing
 22 construction workers or the public to hazards. Construction of restoration projects on or near
 23 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 24 materials, and the use of high-profile equipment in close proximity to airport runways could result
 25 in hazards to air traffic. However in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 26 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 27 implemented, all of which would ensure that these potential impacts are less than significant.

28 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 29 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 30 **Construction Footprint, and Remediate and/or Contain Contamination**

31 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 32 1A.

33 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 34 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 35 **Dispose of Them in Accordance with Applicable Regulations**

36 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 37 1A.

38 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

39 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 40 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 2 **Minimizes Any Effect on Worker and Public Health and Safety**

3 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 4 Chapter 20, *Public Services and Utilities*.

5 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 6 **Plan**

7 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 8 1A in Chapter 19, *Transportation*.

9 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
 10 **Conservation Measures That Create or Improve Wildlife Habitat**

11 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
 12 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
 13 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
 14 from Alternative 1A would be anticipated to be minor but could result from the selection of different
 15 areas for restoration activities based on the location of the physical water conveyance features
 16 associated with each alternative. Such variation may result greater or less opportunity for bird-
 17 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
 18 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
 19 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
 20 Airport; Sacramento International Airport, and Byron Airport.

21 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
 22 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
 23 would reduce the severity of this effect through the development and implementation of measures
 24 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
 25 adverse.

26 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
 27 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
 28 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
 29 significant impacts on public safety. The following airports, because they are in relatively close
 30 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
 31 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
 32 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
 33 through the ultimate development and implementation of measures to reduce, minimize and/or
 34 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
 35 significant and unavoidable.

36 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 37 **Regulatory Agencies**

38 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 39 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 40 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 41 extent possible.

24.3.3.8 Alternative 3—Dual Conveyance with Pipeline/Tunnel and Intakes 1 and 2 (6,000 cfs; Operational Scenario A)

Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the Release of Hazardous Materials or by Other Means during Construction of the Water Conveyance Facilities

NEPA Effects: Hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction of the water conveyance facilities for Alternative 3 would be similar to those described under Alternative 1A. Under this alternative, however, only Intakes 1 and 2 would be constructed. Thus, it is anticipated that effects associated with the transport and use of fuels for this alternative would be similar, but less severe, than those described for Alternative 1A.

Potential hazards associated with natural gas accumulation in tunnels, existing contaminants in soil, sediment or groundwater, hazardous constituents present in RTM, infrastructure containing hazardous materials, and routine transportation of hazardous materials would be similar to those described under Alternative 1A. Because only Intakes 1 and 2 would be built under this alternative, however, implementation would avoid any site-specific contaminants or hazardous materials associated with the construction of Intakes 3, 4, and 5.

As with Alternative 1A, tunnel construction activities would carry the potential to encounter gases that could enter the tunnels and accumulate to flammable or explosive concentrations. Hazardous constituents associated with RTM are not anticipated; however, the possibility exists for RTM and decanted water to pose a hazard to the construction workers, the public, or the environment. Additionally, stored bulk quantities of hazardous materials that have been released to soils and groundwater could be rereleased during construction, also posing a potential hazard. Water conveyance facilities construction, specifically construction of the intakes, would entail sediment-disturbing activities (e.g., cofferdam installation). Existing infrastructure, including oil and gas wells, also have the potential to release hazardous materials, as would the transport of hazardous materials during facility construction. This alternative would be anticipated to disrupt approximately 144 permanent structures including an estimated 3 residential structures; 7 recreational structures; 90 agricultural storage and support structures and 10 other types of structures (e.g., bridge and other types of infrastructure). These structures may contain hazardous materials that would require proper handling and disposal, if demolition is necessary. As described for Impact HAZ-1 under Alternative 1A, Mitigation Measure HAZ-1b would be implemented by the BDCP proponents to ensure that there are no adverse effects from hazardous materials related to structure demolition.

Further, as described for Alternative 1A under Impact HAZ-1, in general, the transportation of hazardous materials via trucks, trains and ships poses potential risks associated with the accidental release of these materials to the environment. Rerouting vehicular traffic carrying hazardous materials during construction of the water conveyance facilities could increase the risk of accidental release due to inferior road quality or lack of driver familiarity with the modified routes. Hazardous materials transportation routes are presented in Figure 24-2 and in Table 24-4. Routes anticipated to be affected during construction of the water conveyance facilities are described in Chapter 19, *Transportation*. Barges supporting water conveyance facilities construction may also transport hazardous materials such as fuels and lubricants or other chemicals. The potential exists for accidental release of hazardous materials from BDCP-related barges. To avoid effects on the

1 environment related to this issue, BMPs would be implemented as part of a Barge Operations Plan
2 (as discussed under Impact HAZ-1 for Alternative 1A and in Appendix 3B, *Environmental*
3 *Commitments*) that would reduce the potential for accidental releases of hazardous materials during
4 transport and transfer. Finally, under this alternative, the proposed conveyance crosses under the
5 existing BNSF/Amtrak San Joaquin line between Bacon Island and Woodward Island; however, the
6 effect of this crossing would likely be minimal because the proposed conveyance would traverse the
7 railroad in a deep bore tunnel (See Chapter 19 for discussion). Further, the UPRR runs proximate to
8 the construction area of the proposed Byron Forebay; however, construction is unlikely to disrupt
9 rail service because much of this line has not been in service recently. Mitigation measures would be
10 in place to ensure that there are no adverse effects on road, rail, or water transportation, and thus
11 the potential for the construction of the water conveyance facilities to pose risks related to the
12 transportation of hazardous materials would be minimal. As described in Chapter 19,
13 *Transportation*, under Mitigation Measure TRANS-1a, a site-specific construction traffic
14 management plan, taking into account hazardous materials transportation, would be prepared and
15 implemented prior to initiation of construction of water conveyance. Barges supporting water
16 conveyance facilities construction may also transport hazardous materials such as fuels and
17 lubricants or other chemicals. The potential exists for accidental release of hazardous materials
18 from BDCP-related barges. To avoid effects on the environment related to this issue, BMPs would be
19 implemented as part of a Barge Operations Plan (as discussed under Impact HAZ-1 for Alternative
20 1A and in Appendix 3B, *Environmental Commitments*) that would reduce the potential for accidental
21 releases of hazardous materials during transport and transfer. Finally, any potential effects on rail
22 traffic and any hazardous materials transport therein during construction would be reduced with
23 implementation of Mitigation Measure TRANS-1a, which would include stipulations to coordinate
24 with rail providers to develop alternative interim transportation modes (e.g., trucks or buses) that
25 could be used to provide freight and/or passenger service during any longer term railroad closures
26 and daily construction time windows during which construction would be restricted or rail
27 operations would need to be suspended for any activity within railroad rights of way. This would
28 minimize the potential risk of release of hazardous materials being transported via these rails.

29 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
30 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials
31 is suspected or has been verified. Further, environmental commitments would be implemented,
32 including SWPPPs, SPCCPs, SAPs, and HMMPs; a Barge Operations Plan; and chemical
33 characterization of RTM prior to reuse (e.g., RTM in levee reinforcement) or discharge. Together, the
34 environmental commitments would reduce these potential hazards associated with water
35 conveyance facilities construction. Additionally, the implementation of Mitigation Measures HAZ-1a
36 and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a
37 (described in Chapter 19, *Transportation*) would further reduce the potential severity of this impact.
38 As such, construction of the water conveyance facilities would not create a substantial hazard to the
39 public or the environment through the routine transport, use, or disposal of hazardous materials or
40 the upset/accidental release of these materials. Thus, this effect would not be adverse.

41 **CEQA Conclusion:** Similar to Alternative 1A, construction of the water conveyance facilities under
42 Alternative 3 presents the potential for a direct significant impact on construction personnel, the
43 public and/or the environment associated with a variety of physical and chemical hazardous
44 conditions because of the intensity of construction activities at the north Delta intakes, forebays and
45 conveyance pipelines and tunnels and the hazardous materials that would be needed in these areas
46 during construction. Potential hazards include the routine use of hazardous materials (as defined by

1 Title 22 of the California Code of Regulations, Division 4.5); natural gas accumulation in water
 2 conveyance tunnels; the inadvertent release of existing contaminants in soil, sediment, and
 3 groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
 4 electrical transmission lines; and hazardous constituents present in RTM. Under this alternative,
 5 however, only Intakes 1 and 2 would be constructed. Thus, it is anticipated that effects associated
 6 with the transport and use of fuels for this alternative would be similar, but less severe, than those
 7 described for Alternative 1A. Many of these physical and chemical hazardous conditions would
 8 occur in close proximity to the towns of Hood and Courtland during construction of the north Delta
 9 intakes and the intermediate forebay. Additionally, the potential would exist for the construction of
 10 the water conveyance facilities to indirectly result in the release of hazardous materials through the
 11 disruption of existing road, rail, or river hazardous materials transport routes because construction
 12 would occur in the vicinity of three hazardous material transport routes, three railroad corridors,
 13 and waterways with barge traffic and would require construction traffic that could disrupt these
 14 routes. For these reasons, this is considered a significant impact. However, with the implementation
 15 of the previously described environmental commitments (e.g., SWPPPs, HMMPs, SPCCPs, and a
 16 Barge Operations Plan) and Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described
 17 in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*),
 18 construction of the water conveyance facilities would not create a substantial hazard to the public or
 19 the environment through the routine transport, use, or disposal of hazardous materials or the
 20 upset/accidental release of these materials. As such, these impacts would be less than significant.

21 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 22 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 23 **Construction Footprint, and Remediate and/or Contain Contamination**

24 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 25 1A.

26 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 27 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 28 **Dispose of Them in Accordance with Applicable Regulations**

29 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 30 1A.

31 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

32 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 33 Chapter 20, *Public Services and Utilities*.

34 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 35 **Minimizes Any Effect on Worker and Public Health and Safety**

36 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 37 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
2 **Plan**

3 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
4 1A in Chapter 19, *Transportation*.

5 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
6 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
7 **Facilities**

8 **NEPA Effects:** An adverse effect may occur if a construction work site is located within 0.25 mile of
9 an existing or proposed school, or other sensitive receptor, and releases hazardous materials that
10 pose a health hazard. However, no schools, parks or hospitals are located within 0.25 mile of
11 Alternative 3. Therefore, no sensitive receptors would be exposed to hazardous materials,
12 substances, or waste during construction of the water conveyance facilities under Alternative 3. As
13 such, there would be no effect. Potential air quality effects on sensitive receptors are discussed in
14 Chapter 22, *Air Quality and Greenhouse Gases*.

15 **CEQA Conclusion:** There are no schools, parks or hospitals located within 0.25 mile of the
16 Alternative 3 water conveyance facilities alignment, therefore, there would be no impact due to
17 exposure of sensitive receptors to hazardous materials, substances or waste during construction of
18 the water conveyance facilities. Accordingly, there would be no impact. No mitigation is required.
19 Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and*
20 *Greenhouse Gases*.

21 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
22 **Create a Significant Hazard to the Public or the Environment**

23 **NEPA Effects:** There are no "Cortese List" sites or known SOCs within the construction footprint of
24 Alternative 3 (Table 24-5 and Figure 24-4), and therefore there would be no conflict pertaining to a
25 known hazardous materials site during construction of the water conveyance facilities, and thus, no
26 related hazard to the public or the environment. For those hazardous materials sites identified
27 within the 0.5-mile radius but which are not within the construction footprint, there would be no
28 potential for construction of the water conveyance facilities to disturb those sites such that there
29 would be a re-release of hazardous materials that would create a hazard for the public or
30 environment. As such, there would be no effect. The potential for encountering unknown hazardous
31 materials sites during the course of construction is discussed under Impact HAZ-1.

32 **CEQA Conclusion:** Because there are no known SOCs within the construction footprint of the water
33 conveyance facility under this alternative, there would be no conflict with known hazardous
34 materials sites during construction of the water conveyance facilities, and therefore, no related
35 hazard to the public or the environment. As such, there would be no impact. No mitigation is
36 required. The potential for encountering unknown hazardous materials sites during the course of
37 construction is discussed under Impact HAZ-1.

1 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
2 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
3 **Study Area during Construction of the Water Conveyance Facilities**

4 **NEPA Effects:** Safety hazards to aircraft posed by high-profile construction equipment, such as
5 cranes and pile drivers, or structures (e.g., proposed transmission lines and towers), would be the
6 same as those described under Alternative 1A. Because the Borges-Clarksburg, Spezia and Walnut
7 Grove Airports (private air facilities) and the Byron Airport (a public air facility) would be located
8 within 2 miles of project features within the construction footprint that may require not only the use
9 of high-profile (200 feet or taller) construction equipment but also the use of helicopters (stringing
10 of a proposed permanent 230 kV transmission line), there could be potential effects on air safety.

11 However, as required, BDCP proponents would inform Caltrans' Division of Aeronautics in writing
12 prior to construction and would adhere to any recommendations resulting from Caltrans' site
13 investigations, which would ensure that there are no adverse effects on air safety. Further, the BDCP
14 proponents would comply with the recommendations of the OE/AAA (for Byron Airport) (14 CFR
15 77), as described under Impact HAZ-4 under Alternative 1A. These actions would ensure that there
16 are no adverse effects on air safety.

17 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
18 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
19 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
20 example, and potentially pile drivers, such as would be used during the construction of the intakes,
21 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
22 is operated too close to runways. Three private airports (Borges-Clarksburg, Spezia, and Walnut
23 Grove Airports) and one public airport (Byron Airport) are located within 2 miles of the
24 construction footprint of Alternative 3. BDCP proponents would coordinate with Caltrans' Division
25 of Aeronautics prior to initiating construction and comply with its recommendations based on its
26 investigation(s), as well comply with the recommendations of the OE/AAA (for Byron Airport).
27 Compliance with these recommendations, which could include limitations necessary to minimize
28 potential problems, such as the use of temporary construction equipment, supplemental notice
29 requirements, and marking and lighting high-profile structures would reduce the potential for
30 impacts on air safety. Accordingly, impacts on air safety would be less than significant. No mitigation
31 is required.

32 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
33 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
34 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
35 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

36 **NEPA Effects:** Hazards related to wildland fires would be similar to those described under
37 Alternative 1A. The northernmost and southernmost extent of this conveyance alignment would be
38 adjacent to zones of moderate fire hazard severity.

39 As described under Alternative 1A and in Appendix 3B, *Environmental Commitments*, precautions
40 would be taken to prevent wildland fires during construction, and operation and maintenance of the
41 water conveyance facilities in full compliance with Cal-OSHA standards for fire safety and
42 prevention. Additionally, the BDCP proponents would implement fire prevention, control and safety
43 measures as part of a FPCP) in coordination with federal, state, and local agencies. Implementation

1 of these would help ensure that people or structures would not be subject to a significant risk of
2 loss, injury or death involving wildland fires. Therefore, this effect would not be adverse.

3 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
4 death involving wildland fires during construction or operation and maintenance of the water
5 conveyance facilities because the alternative would comply with Cal-OSHA fire prevention and
6 safety standards; BDCP proponents would implement standard fire safety and prevention measures,
7 as part of a FPCP (Appendix 3B, *Environmental Commitments*); and because the water conveyance
8 facilities would not be located in a High or Very High Fire Hazard Severity Zone. Therefore, this
9 impact would be less than significant. No mitigation is required.

10 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
11 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
12 **Water Conveyance Facilities**

13 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
14 conveyance facilities would be similar to those described for Alternative 1A. Under this alternative,
15 however, the potential for hazards associated with intake pumping plants and sediment basins
16 would be less widespread, as only two intake facilities would be operated and maintained.
17 Nonetheless, this alternative may require the transport, storage, and use of chemicals or hazardous
18 waste materials including fuel, oils, grease, solvents, and paints. Solids collected at the solids
19 lagoons, and sediment dredged during periodic maintenance dredging at the intakes and operable
20 barrier at the head of Old River, may contain hazardous constituents (e.g., persistent pesticides,
21 mercury, PCBs). To ensure that potentially contaminated sediment from maintenance dredging
22 activities at the intakes would not adversely affect soil, groundwater or surface water, a SAP would
23 be implemented prior to any dredging activities, as described under Impact HAZ-1 for this
24 alternative. All sediment would be characterized chemically prior to reuse to ensure that reuse of
25 this material would not result in a hazard to the public or the environment.

26 Three private airports (The Borges-Clarksburg, Walnut Grove, and Spezia Airports) and one public
27 airport (Byron Airport) would be within 2 miles of the Alternative 3 construction footprint (Figure
28 24-9 and Table 24-6). With the exception of power transmission lines and towers supplying power
29 to pumps, surge towers, and other equipment used for water conveyance facilities operation and
30 maintenance, water conveyance operations and maintenance are not anticipated to require high-
31 profile equipment, the use of which near an airport runway could result in an adverse effect on
32 aircraft. BDCP proponents would (14 CFR 77), including comply with the recommendations of the
33 OE/AAA (14 CFR 77) for Byron Airport, and would coordinate with Caltrans' Division of Aeronautics
34 prior to any maintenance activities requiring high-profile maintenance equipment to ensure that
35 there is no conflict with or adverse effect on air traffic. Compliance with these recommendations,
36 which could include limitations necessary to minimize potential problems, such as the use of
37 temporary construction equipment, supplemental notice requirements, and marking and lighting
38 high-profile structures would reduce the potential for impacts on air safety.

39 Potential releases of hazardous materials could result in an adverse effect on workers, the public
40 (including sensitive receptors within 0.25 mile of the water conveyance facilities), and the
41 environment. There are no sensitive receptors (i.e., schools, hospitals and parks) located within 0.25
42 mile of Alternative 3.

43 Because the types of potentially hazardous materials used during routine operation and
44 maintenance activities would be used in relatively small quantities, and because BMPs, as would be

1 implemented in the SWPPPs, HMMPs, and SPCCPs (as described in Appendix 3B and under Impact
2 HAZ-1 for Alternative 1A), would be in place to help prevent the inadvertent release of these
3 materials and to contain and remediate spills should they occur, the risk to the public and
4 environment would be negligible. Further, under Mitigation Measure HAZ-6, dredged sediment and
5 solids from the solids lagoons would be sampled and characterized to evaluate disposal options, and
6 disposed of accordingly at an appropriate, licensed facility. These measures would ensure that this
7 effect is not adverse.

8 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
9 operation and maintenance of the water conveyance facilities and the potential interference with air
10 safety through the use of high-profile equipment for maintenance of proposed transmission lines
11 could have impacts on the public and environment. However, implementation of the BMPs and other
12 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
13 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
14 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
15 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
16 profile equipment within 2 miles of an airport, which would include implementation of
17 recommendations to provide supplemental notice and/or equip high-profile structures with
18 marking and lighting, would ensure that operation and maintenance of the water conveyance
19 facilities would not create a substantial hazard to the public, environment or air traffic safety.
20 Therefore, this impact would be less than significant.

21 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
22 **and/or Disposal**

23 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
24 1A.

25 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
26 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
27 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

28 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
29 the implementation of conservation measures (CM2-CM11, CM13, CM 14, CM16, and CM18) to
30 create hazards to workers, the public, and the environment would be similar to those described
31 under Alternative 1A. Hazardous materials associated with the operation of construction equipment
32 could be released into the environment in the course of the materials' routine transport, use, or
33 disposal. Releases could also occur as a result of accidental circumstances. Similarly, construction
34 activities could encounter known or unknown hazardous materials sites located on or in the vicinity
35 of construction sites, creating the potential for their disturbance and release. Other activities,
36 including the intentional demolition of existing structures (e.g., buildings) and reuse of spoil,
37 dredged material and/or RTM, would also present the potential to generate hazards or release
38 hazardous materials. However, prior to the reuse of spoils, dredged material or RTM, these
39 materials would undergo chemical characterization, as described in Appendix 3B, *Environmental*
40 *Commitments*, to ensure that they are not creating a hazard to the public and environment.

41 Further, other potential hazards that could result from implementing conservation measures
42 include the possible release of hazardous substances in proximity to sensitive receptors; the
43 accidental release of hazardous substances during operation and maintenance (e.g., herbicides for

1 nonnative vegetation control); damage or disruption of existing infrastructure such that hazardous
 2 conditions were created; the release, in the short-term, of pesticides from former agricultural lands
 3 as a result of wetland and floodplain restoration; the potential for safety hazards related to
 4 construction in the vicinity of an airport; and the potential for wildfire hazards in the vicinity of
 5 construction sites.

6 These potential effects, were they to occur, would be adverse. However, with implementation of
 7 Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a, and environmental
 8 commitments (discussed previously for Impacts HAZ-1 through HAZ-6, and in detail in Appendix 3B,
 9 *Environmental Commitments*), the potential for adverse effects would be reduced. Additionally, the
 10 proposed conservation measures would be designed to avoid sensitive receptors and would
 11 minimize, to the extent feasible, the need to acquire or traverse areas where the presence of
 12 hazardous materials is suspected or has been verified. Thus, this effect would not be adverse.

13 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
 14 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

15 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 16 public to hazardous substances or conditions during construction, operation, and maintenance of
 17 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 18 implementation would involve extensive use of heavy equipment during construction, and/or the
 19 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 20 for nonnative vegetation control). These chemicals could be inadvertently released, exposing
 21 construction workers or the public to hazards. Construction of restoration projects on or near
 22 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 23 materials, and the use of high-profile equipment in close proximity to airport runways could result
 24 in hazards to air traffic. However in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 25 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 26 implemented, all of which would ensure that these potential impacts are less than significant.

27 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 28 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 29 **Construction Footprint, and Remediate and/or Contain Contamination**

30 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 31 1A.

32 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 33 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 34 **Dispose of Them in Accordance with Applicable Regulations**

35 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 36 1A.

37 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

38 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 39 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 2 **Minimizes Any Effect on Worker and Public Health and Safety**

3 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 4 Chapter 20, *Public Services and Utilities*.

5 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 6 **Plan**

7 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 8 1A in Chapter 19, *Transportation*.

9 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
 10 **Conservation Measures That Create or Improve Wildlife Habitat**

11 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
 12 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
 13 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
 14 from Alternative 1A would be anticipated to be minor but could result from the selection of different
 15 areas for restoration activities based on the location of the physical water conveyance features
 16 associated with each alternative. Such variation may result greater or less opportunity for bird-
 17 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
 18 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
 19 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
 20 Airport; Sacramento International Airport, and Byron Airport.

21 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
 22 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
 23 would reduce the severity of this effect through the development and implementation of measures
 24 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
 25 adverse.

26 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
 27 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
 28 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
 29 significant impacts on public safety. The following airports, because they are in relatively close
 30 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
 31 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
 32 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
 33 through the ultimate development and implementation of measures to reduce, minimize and/or
 34 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
 35 significant and unavoidable.

36 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 37 **Regulatory Agencies**

38 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 39 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 40 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 41 extent possible.

24.3.3.9 Alternative 4—Dual Conveyance with Modified Pipeline/Tunnel and Intakes 2, 3, and 5 (9,000 cfs; Operational Scenario H)

Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the Release of Hazardous Materials or by Other Means during Construction of the Water Conveyance Facilities

NEPA Effects:

Routine Use of Hazardous Materials

As described in Chapter 3, *Description of Alternatives*, during construction of Alternative 4, four locations would be designated as fueling stations. Each fueling station would occupy 2 acres and would be located adjacent to a concrete batch plant; both the fueling station and the batch plant would be temporary and would only be in place for the duration of construction. Fueling station locations are shown in Figure 24-7 and in Figure M3-4 in the Mapbook Volume. Two fueling stations would be established in currently rural areas on the northern end of the Alternative 4 water conveyance alignment. One would be located within the intake work area for Intake 2, just east of SR 160 across the Sacramento River from Clarksburg, and the other would be located within the intake work area for Intake 5, approximately 2 miles northeast of Courtland. In addition, two fueling stations would be located within RTM areas; one would be located east of I-5 approximately 4 miles east of Vorden, and the other would be located on Byron Tract, between Byron Highway and Italian Slough. It is anticipated that equipment and vehicles would be maintained in the field and at on-site maintenance facilities. Bulk fuel would be stored at fueling stations and would potentially pose the risk of vehicle fueling spills and leakage from above-ground storage tanks at fueling stations.

In addition to fuel use and bulk fuel storage, oils, lubricants, and other hazardous materials would be stored onsite and used in equipment, such as compressors, generators, pile drivers, cranes, forklifts, excavators, pumps, or soil compactors throughout the study area during construction. Spills and releases could occur during transfer and use of these materials in the field and over water or adjacent to waterways. Hazardous materials, including paints, solvents, and sealants, would be used in construction of water conveyance facilities features (e.g., intakes, pumping plants, conveyance piping). Fueling and transfer of oils, lubricants and other materials would be performed on work barges and watercraft used for building temporary and permanent in-river facilities, such as intake structures and potentially the operable barrier at the head of Old River, and could be spilled or otherwise released to the environment and result in a hazard.

Construction equipment maintenance is expected to be performed in the field and in central maintenance facilities operated by contractors during construction of the water conveyance facilities. While equipment could be maintained at any work area identified for this alternative, the highest risk of hazards related to equipment maintenance would be anticipated to occur at those sites where the duration and intensity of construction activities would be greatest, including intake and intake pumping plant sites along the east bank of the Sacramento River, at the intermediate forebay on Glannvale Tract, and at Clifton Court Forebay. Construction equipment maintenance activities would also be expected to be performed at work areas related to main tunnel construction shaft sites on Byron Tract; southern Bouldin Island; northern Staten Island; Glannvale Tract at the intermediate forebay site; and on Bacon Island. For a map of all permanent facilities and temporary work areas associated with this alternative, see Figure M3-4 in the Mapbook Volume. Equipment maintenance activities at these facilities would likely include rebuilding pumps or motors,

1 maintaining equipment hydraulic systems, minor engine repairs and routine lubrication, and
 2 replacing worn parts. Spills and other accidental releases of degreasers, fuels, oils or lubricants
 3 could result in minor, temporary hazards to workers immediately adjacent to these releases.
 4 However, because these chemicals would be used in small quantities by trained personnel, and
 5 because BMPs to minimize the potential for these types of accidents and to contain and remediate
 6 hazardous spills, should they occur, would be implemented, as set forth in Appendix 3B,
 7 *Environmental Commitments*, it is unlikely that the general public or the environment would be
 8 adversely affected.

9 As described in Appendix 3B, *Environmental Commitments*, SWPPPs, HMMPs, and SPCCPs would be
 10 developed and implemented by the BDCP proponents as part of the construction process for
 11 Alternative 4.

12 The SPCCPs would minimize effects from spills of oil, oil-containing products, or other hazardous
 13 chemicals during construction and operation of the project. The plan would be comprehensive in
 14 that it would address actions used to prevent spills and specify actions that will be taken should any
 15 spills occur, including emergency notification procedures. BMPs to be implemented as part of the
 16 SPCCPs include, but would not be limited to the following.

- 17 • Personnel will be trained in emergency response and spill containment techniques, and will also
 18 be made aware of the pollution control laws, rules, and regulations applicable to their work.
- 19 • When transferring oil or other hazardous materials from trucks to storage containers, absorbent
 20 pads, pillows, socks, booms or other spill containment material will be placed under the transfer
 21 area.
- 22 • Absorbent pads, pillows, socks, booms, and other spill containment materials will be maintained
 23 at the hazardous materials storage sites for use in the event of spills.
- 24 • Contaminated absorbent pads, pillows, socks, booms, and other spill containment materials will
 25 be placed in leak-proof sealed containers until transport to an appropriate disposal facility.
- 26 • In the event of a spill, personnel will identify and secure the source of the discharge and contain
 27 the discharge with sorbents, sandbags, or other material from spill kits. In addition, regulatory
 28 authorities (e.g., National Response Center will be contacted if the spill threatens navigable
 29 waters of the United States or adjoining shorelines, as well as other response personnel).
- 30 • Equipment used in direct contact with water would be inspected daily to prevent the release of
 31 oil.
- 32 • Oil-absorbent booms would be used when equipment is used in or immediately adjacent to
 33 waters.
- 34 • All reserve fuel supplies would be stored only within the confines of a designated staging area.
- 35 • Fuel transfers would take place a minimum distance from exclusion/drainage areas and
 36 streams, and absorbent pads would be placed under the fuel transfer operation.
- 37 • Equipment would be refueled only in designated areas.
- 38 • Staging areas would be designed to contain contaminants such as oil, grease, and fuel products
 39 so that they do not drain toward receiving waters or storm drain inlets.
- 40 • All stationary equipment would be positioned over drip pans.

1 The SWPPP objectives would be to: (1) identify pollutant sources associated with construction
 2 activities and operations that could affect the quality of stormwater; and (2) identify, construct, and
 3 implement stormwater pollution prevention measures to reduce pollutants in stormwater
 4 discharges during and after construction. It is anticipated that multiple SWPPPs will be prepared for
 5 the overall BDCP project construction, with a given SWPPP prepared to cover a particular water
 6 conveyance component (e.g., intermediate forebay) or groups of components (e.g., intakes).
 7 Generally, the SWPPP would include the provisions listed below.

- 8 • A description of potential stormwater pollutants from erosion.
- 9 • A description of the management of dredged sediments and hazardous materials present on site
 10 during construction (including vehicle and equipment fuels).
- 11 • Details of how the sediment and erosion control practices would comply with state and federal
 12 water quality regulations.
- 13 • A visual monitoring program and a chemical monitoring program for "non-visible" pollutants if
 14 the BMPs are breached.

15 BMPs in the SWPPPs would include but not be limited to the following measures.

- 16 • Capture sediment via sedimentation and stormwater detention features.
- 17 • Implement concrete and truck washout facilities and appropriately sized storage, treatment, and
 18 disposal practices. Clean or replace sanitation facilities (as necessary) and inspect regularly for
 19 leaks/spills.
- 20 • Cover waste disposal containers during rain events and at the end of every day.
- 21 • Store chemicals in watertight containers.
- 22 • Reclaim or land-apply construction site dewatering discharges to the extent practicable, or use
 23 for other construction purposes (e.g., dust control).
- 24 • Implement appropriate treatment and disposal of construction site dewatering from
 25 excavations to prevent discharges to surface waters.
- 26 • Equipment and materials for cleanup of spills shall be available on site.
- 27 • Spills and leaks shall be cleaned up immediately and disposed of properly.
- 28 • Ensure that there are trained spill response personnel available.

29 The HMMPs would provide detailed information on the types of hazardous materials used or stored
 30 at all sites associated with the water conveyance facilities (e.g., intake pumping plants, maintenance
 31 facilities); phone numbers of city, county, state, and federal agencies; primary, secondary, and final
 32 cleanup procedures; emergency-response procedures in case of a spill; and other applicable
 33 information. The HMMPs would include measures to minimize the possible environmental impacts
 34 associated with spills or releases of hazardous materials (e.g., solvents, paints) during routine
 35 construction and operations and maintenance activities. These measures would include but not be
 36 limited to those listed here (see Appendix 3B, *Environmental Commitments* for additional detail).

- 37 • Fuel, oil, and other petroleum products will be stored only at designated sites.
- 38 • Hazardous materials containment containers will be clearly labeled with the material's identity,
 39 handling and safety instructions, and emergency contact.

- 1 • Storage and transfer of hazardous materials will not be allowed within 100 feet of streams or
2 sites known to contain sensitive biological resources except with the permission of Department
3 of Fish and Wildlife.
- 4 • The accumulation and temporary storage of hazardous wastes will not exceed 90 days.
- 5 • Soils contaminated by spills or cleaning wastes will be contained and removed to an approved
6 disposal site.
- 7 • Hazardous waste generated at work sites, such as contaminated soil, will be segregated from
8 other construction spoils and properly handled, hauled, and disposed of at an approved disposal
9 facility by a licensed hazardous waste hauler in accordance with regulations. BDCP proponents
10 will obtain permits required for such disposal.
- 11 • Emergency spill containment and cleanup kits will be located at the facility site. The contents of
12 the kit will be appropriate to the type and quantities of chemical or goods stored at the facility.

13 Development and implementation of these plans would reduce the potential risk of a release of
14 stored fuels, oils, lubricants or other hazardous materials used during construction and construction
15 equipment operation and maintenance, and would ensure that spills are contained and remediated
16 promptly and completely.

17 **Natural Gas Accumulation in Water Conveyance Tunnels**

18 Under Alternative 4, deep water conveyance tunnels would be constructed. Tunnel 1a, a 29-foot
19 (inside diameter [ID]) single-bore tunnel, would run south from a pipeline adjacent to Intake
20 Pumping Plant 2 to a pipeline adjacent to Intake Pumping Plant 3. From Intake Pumping Plant 3, the
21 tunnel would run southwest under the town of Hood to the intermediate forebay on Glannvale
22 Tract. Tunnel 1b, a 20-foot (ID) single-bore tunnel would run southeast from Intake Pumping Plant 5
23 to the intermediate forebay. Tunnel 2, a 40-foot (ID) dual-bore tunnel, would run south from the
24 intermediate forebay to a culvert siphon, west of Eucalyptus Island on Byron Tract, that leads to the
25 proposed expanded Clifton Court Forebay, For a map of the proposed tunnel alignment, see Figure
26 M3-4 in the Mapbook Volume.

27 During construction, there would be the potential to encounter gases that could enter and
28 accumulate to flammable or explosive concentrations in tunnel bores or other excavations. These
29 gases could include methane generated by peat and organic soils or other natural gases, which could
30 seep from deep natural gas reservoirs either through improperly sealed boreholes or natural
31 conduits such as faults and fractures. The thickness of peat and organic soils increases to the west
32 across the Delta, and more than 5,000 oil and gas wells are located throughout the Delta. There are
33 no active and 11 inactive oil or gas wells present within the construction footprint of the proposed
34 Alternative 4 water conveyance alignment; oil and gas wells along the water conveyance facilities
35 alignments are shown in Figure 24-5. Gas fields in the United States are typically located at depths
36 greater than 3,000 feet (U.S. Energy Information Administration 2012). Because the tunnels would
37 be approximately 150 to 160 feet below ground, it is unlikely that a gas field would be encountered
38 during tunneling. However, an evaluation of how these gas fields could affect the constructability of
39 the tunnels would be prepared during the geotechnical investigations performed in the design phase
40 of the water conveyance facilities. For water conveyance facilities construction under Alternative 4,
41 the water conveyance tunnels may receive a Cal-OSHA classification of “gassy or extrahazardous”
42 due to the presence of natural gas wells along the alignment. If the tunnels receive a “gassy or
43 extrahazardous” classification, specialized tunneling equipment, which would need to be approved

1 by the MSHA, would be required, as would gas detection equipment on the tunnel boring machines,
2 an automatic shutoff of the equipment if gas were detected, and fireproof construction equipment.
3 In addition, the contractor would be required to follow gas monitoring and fire prevention
4 requirements mandated by Cal-OHSA based on the tunnel gas classification in accordance with The
5 Tunnel Safety Orders set forth in the California Code of Regulations (Title 8, Division 1, Chapter 4,
6 Subchapter 20, Article 8, "Tunnel Classifications" [see Section 24.2.2.13]. The tunnel ventilation
7 system would include steel ducts capable of reversing the direction of air in order to help control
8 potential fires in the tunnel. Tunnels would be ventilated according to Cal-OSHA requirements. Cal-
9 OSHA requires providing at least 200 fpm of fresh air per person working underground.
10 Additionally, a minimum air velocity of 60 fpm is required to dilute any contaminated gas present
11 within the tunnel. Further, ventilation hardware would comply with Cal-OSHA requirements. The
12 hardware would include steel ducts and be capable of reversing the direction of air flow (for fire
13 control within the tunnel). Adherence to these regulations would reduce the potential for hazards
14 from the accumulation of natural gas in tunnels.

15 **Existing Contaminants in Soil, Groundwater, or Sediment**

16 There may be contaminated areas within the study area that have not been previously identified
17 because of inadequate or missing data, or poor record keeping. During construction of Alternative 4,
18 contaminated soils, sediments and groundwater may be encountered where historical releases have
19 occurred, such as at former storage and distribution facility locations.

20 The lateral and vertical extent of any historical soil-, sediment-, or water-based contamination
21 within or near the construction footprint is unknown. Although soil contamination, where it exists,
22 is likely to be highly localized, groundwater contamination could have migrated substantial
23 distances and therefore be more widespread than soil contamination. Locations of known oil and
24 gas processing facilities (Figure 24-1) are considered a separate category of SOC due to the potential
25 for spills and leaks at these locations. The lateral and vertical extent of any existing contamination
26 that may be present at these sites is unknown. The number of SOCs may change during right-of-way
27 evaluation, land acquisition, and preconstruction site-clearance investigations or during
28 construction. Additional SOCs may be identified during these activities, and currently identified
29 SOCs may be determined innocuous after site-specific field investigation and testing.

30 It is likely that contaminated sediments (e.g., persistent pesticide- and mercury-contaminated
31 sediments) will be resuspended during sediment-disturbing activities related to in-river
32 construction (e.g., cofferdam construction at intake sites, operable barrier) and dredging of Clifton
33 Court Forebay for the proposed expansion. Because only Intakes 2, 3, and 5 would be built under
34 this alternative, implementation would avoid any site-specific contaminants or hazardous materials
35 associated with the construction of Intakes 1 and 4. Additionally, water conveyance facilities
36 construction would require in-channel dredging (e.g., for construction of the operable barrier at the
37 head of Old River), which would result in the temporary resuspension of potentially contaminated
38 sediments. Additionally, stored bulk quantities of hazardous materials that have been released to
39 soils and groundwater could be rereleased during construction, also posing a potential hazard.

40 Concentrations of potential contaminants in Clifton Court Forebay sediment and in the sediment
41 where in-river construction activities would be taking place are not known; therefore, the associated
42 risk cannot be identified. In general, sediment-bound pesticide concentrations in rivers and
43 estuaries vary by season (with rain and the seasonal variation in pesticide applications) and are
44 episodic; pesticide concentrations in sediment are generally higher during rainy season at the onset

1 of winter rains (Bergamaschi et al. 2007). One study suggests that the mercury concentration in
2 suspended sediment at Freeport, just upstream of the intake locations, is less than 10 ng/l, below
3 the recommended criterion of 50 ng/l (Domagalski 2001). Also, mobilization of potentially
4 contaminated sediments would be directly related to levels of turbidity and suspended sediments
5 resulting from construction activities. Although resulting turbidity has not been modeled, it is
6 anticipated to be low given the permit requirements for controls stipulating that dredging activities
7 be conducted and monitored such that turbidity not increase in receiving waters, measured 300 feet
8 downstream; or that silt curtains be used to control turbidity and reduce the associated mobilization
9 of potentially contaminated sediments.

10 Mobilization of potentially contaminated sediments is unlikely to be a hazard concern for
11 construction workers because it is not expected that workers would be in direct contact with
12 sediment. Similarly, resuspension of potentially contaminated sediment is unlikely to pose a hazard
13 to the general public or the environment because it would be confined to a relatively small area
14 during construction and would be temporary (e.g., occurring during in-river work and potentially
15 for a few hours following cessation of in-river construction activities). Further, as described in
16 Appendix 3B, *Environmental Commitments*, for any BDCP dredging activity, the BDCP proponents
17 would prepare and implement a pre-dredge sampling and analysis plan (SAP), which would be
18 developed and submitted by the contractors required per standard DWR contract specifications
19 Section 01570. As part of the SAP, prior to any dredging activities, sediment would be evaluated for
20 contaminants that may impact water quality from the following discharge routes from the following
21 discharge routes.

- 22 • In-stream discharges during dredging.
- 23 • Direct exposure to contaminants in the material through ingestion, inhalation or dermal
24 exposure.
- 25 • Effluent (return flow) discharge from an upland disposal site.
- 26 • Leachate from upland dredge material disposal that may affect groundwater or surface water.

27 Additionally, BMPs, including those listed below, would be implemented during in-river
28 construction activities to ensure that disturbed sediment was contained, thus reducing the risk of
29 sediment dispersal away from the immediate area (see Appendix 3B, *Environmental Commitments*).

- 30 • Conduct dredging activities in a manner that will not cause turbidity increases in the receiving
31 water, as measured in surface waters 300 feet down-current from the project, to exceed the
32 Basin Plan objectives beyond an averaging period approved by the RWQCB and Department of
33 Fish and Wildlife.
- 34 • If turbid conditions generated during dredging exceed the agreed-upon implementation
35 requirements for compliance with the Basin Plan objectives, silt curtains will be utilized to
36 control turbidity.
- 37 • Conduct in-river construction activities during low-flow periods to the extent practicable.

38 To the extent feasible, action alternative design would minimize the need to acquire or traverse
39 areas where the presence of hazardous materials is suspected or has been verified. In addition,
40 under Mitigation Measure HAZ-1a, remediation and/or containment prior to discharge or disposal
41 of contaminated soil and groundwater, as identified in preconstruction surveys, would be performed
42 prior to construction of the proposed water conveyance facilities at known contaminated sites or in
43 areas where contamination is suspected.

1 **Constituents in Reusable Tunnel Material**

2 RTM would consist of materials excavated from the tunnel bore, which would be advanced at a
3 depth of approximately 100 feet bgs and 160 feet bgs under Delta water channels. As described in
4 Section 24.2.1.3, soil conditioners would be added during tunneling activities to facilitate the
5 process, and RTM would be transported from the tunnel through the launching shaft to the surface
6 and then by conveyor belt to RTM areas. At the RTM areas, decant liquids from the RTM would be
7 leached, collected and evaporated. RTM areas would be located just south of Scribner Road adjacent
8 to Intake 2; just south of Lambert Road in Elk Grove, approximately 1.5 miles west of I-5; just north
9 of Dierrsen Road in Elk Grove; west of the proposed intermediate forebay adjacent to the
10 Sacramento River; east of the proposed intermediate forebay both north and south of Twin Cities
11 Road; on the northern and southern end of Staten Island; on southwestern Bouldin Island; and
12 northwest of Clifton Court Forebay on Byron Tract. For a map of proposed RTM areas, see Figure
13 M3-4 in the Mapbook Volume.

14 As described in Chapter 9, *Geology and Seismicity*, the geologic materials encountered during
15 tunneling are expected to comprise alluvial sediments consisting of a mixture of clay, silt, sand,
16 gravel and minor amounts of organic matter, all deposited prior to the arrival of settlers to
17 California and subsequent mining, agricultural and urban land uses that have produced potential
18 contaminants of concern, as discussed above.

19 It is anticipated that all tunnel boring additives would be non-toxic and biodegradable. Regardless,
20 before the RTM could be re-used or returned to the environment, it would be managed and at a
21 minimum go through a drying/water-solids separation process and a possible physical or chemical
22 treatment. Depending on the composition of the RTM and type of conditioning agents used, there
23 would be many options for management of the RTM. Management could be done in several ways,
24 including chemical flocculation, settlement/sedimentation, handling at a treatment plant, chemical
25 conditioning or controlled storage. The method of controlled storage (described in Appendix 3C,
26 *Details of Water Conveyance Facilities Components*), similar to landfill storage, would be the method
27 with the broadest impacts because a designated area large enough to store the RTM may be
28 required permanently. If controlled storage is necessary, the RTM would be deposited within
29 designated RTM storage areas. To ensure that the RTM is contained within the designated area, a
30 retaining dike would be built around the perimeter of the RTM area. RTM ponds would aid in RTM
31 management and facilitate the dewatering. Several of the ponds would be designated as leachate
32 ponds. The leachate would be pumped from the drainage system to the leachate ponds for possible
33 additional treatment. To ensure that underlying groundwater is not contaminated, the invert of the
34 RTM pond would be a minimum of 5 feet above the seasonal high groundwater table, and an
35 impervious liner would be placed on the invert of the RTM pond and along the interior slopes of the
36 berms to prevent any contact between the RTM and the groundwater, as described in Appendix 3B,
37 *Environmental Commitments*. Further, as part of the project, RTM would be tested in accordance
38 with the methods outlined in EPA publication SW-846, as required by state and federal regulations
39 prior to reuse (e.g., RTM in levee reinforcement) or disposal. RTM decant liquid would also require
40 testing prior to discharge to meet NPDES or Construction General Permit (Order 2010-0014-DWQ)
41 requirements. Should constituents in RTM or associated decant liquid exceed discharge limits, these
42 tunneling byproducts would be treated to comply with permit requirements. At a minimum, a final
43 clean soil cover would be placed over the dewatered RTM in order to isolate any contaminants in the
44 RTM and then seeded. Decant liquids from RTM may require additional chemical or physical
45 treatment, such as flocculent addition to precipitate suspended sediment, prior to discharging to
46 surface water.

1 As part of a Material Reuse Plan, prior to construction, draining, and chemical characterization of
2 RTM, the BDCP proponents would identify sites for reusing this material to the greatest extent
3 feasible, in connection with BDCP construction activities, habitat restoration activities, as well as for
4 potential beneficial uses associated with flood protection and management of groundwater levels
5 within the Plan Area. The BCP proponent will undertake a thorough investigation to identify sites
6 for the appropriate reuse of RTM, and will consult relevant parties, such as landowners, reclamation
7 districts, flood protection agencies, state agencies with jurisdiction in the Delta, and counties, in
8 developing site-specific material reuse plans, as described in Appendix 3B, *Environmental*
9 *Commitments*. Following removal of RTM from the temporary RTM areas, stockpiled topsoil would
10 be reapplied, and disturbed areas would be returned, to the extent feasible, to preconstruction
11 conditions. In some instances it may be infeasible to transport and reuse RTM due to factors such as
12 distance and cost, and/or any environmental effects associated with transport (e.g., unacceptable
13 levels of diesel emissions). In such instances, RTM sites would be evaluated for the potential to
14 reapply topsoil over the RTM and to continue or recommence agricultural activities. If, in
15 consultation with landowners and any other interested parties, BDCP proponents determine that
16 continued use of the land for agricultural or habitat purposes would be infeasible, the potential for
17 other productive uses of the land would be examined, as described in Appendix 3B. Under
18 Alternative 4, the dual-bore tunnel conveyance between the intermediate forebay and a culvert
19 siphon leading to the expanded Clifton Court Forebay would be larger than under other
20 pipeline/tunnel alternatives. Each bore would have an internal diameter of 40 feet and an external
21 diameter of 44 feet, and the distance between the two bores would increase. Consequently, the
22 amount of RTM would be greater than the other pipeline/tunnel alternatives. There would be
23 approximately 27 million cubic yards of RTM generated during construction of Alternative 4.
24 Although additional footprints for RTM are not anticipated, the larger amount of RTM produced
25 relative to the other pipeline/tunnel alternatives could correspondingly increase the hazards
26 associated with disturbing and handling it. RTM management practices and environmental
27 commitments would minimize the potential hazards from RTM.

28 **Electrical Transmission Lines**

29 There are nine overhead power/electrical transmission lines along the proposed Alternative 4 water
30 conveyance facilities alignment (Table 24-3 and Figure 24-6). Disturbance of this infrastructure
31 during construction activities that employ high-profile equipment, such as cranes, could result in
32 safety hazards for construction workers in the immediate vicinity of an energized line. The most
33 significant risk of injury from any power line is the danger of electrical contact between an object on
34 the ground and an energized conductor. Generally, there is less risk of contact with higher voltage
35 lines as opposed to low-voltage lines because of the height of the conductors. When work is
36 performed near transmission lines, electrical contact can occur even if direct physical contact is not
37 made, because electricity can arc across an air gap. The BDCP proponents would be required to
38 comply with Title 8 CCR, Section 2300 (“Low Voltage Electrical Safety Orders”) and Section 2700
39 (“High Voltage Electrical Safety Orders”) so that worker and public safety is ensured during work on
40 or in immediate proximity to low- and high-voltage transmission lines. Other hazards associated
41 with electrical transmission lines include potential health risks exposure to EMFs. These potential
42 effects are described and assessed in Chapter 25, *Public Health*.

43 Alternative 4 will include the construction of a “split” transmission line system that would connect
44 to the existing grid in two different locations. The northern point of interconnection would be
45 located north of Lambert Road and west of Highway 99. From here, a 230 kV transmission line

1 would run west along Lambert Road, where one segment would run south to the intermediate
2 forebay and then on to tunnel shaft locations on Staten Island, and one segment would run north to
3 connect to a substation, where 69 kV lines would connect to the intake pumping plants. At the
4 southern end of the alignment for Alternative 4, the point of interconnection may be located in one
5 of two possible locations: southeast of Brentwood or adjacent to the Jones pumping plant. A 230 kV
6 transmission line would run from one of these locations to a tunnel shaft northwest of Clifton Court
7 Forebay, and would continue north, following tunnel shaft locations to Bouldin Island, where a 34.5
8 kV line would continue to the southern end of Staten Island. Because the power required during
9 operation of the water conveyance facilities would be much less than that required during
10 construction, and because it would largely be limited to the intake pumping plants and intermediate
11 forebay, the “split” system would enable all of the power lines extending from the southern point of
12 interconnection to be temporary, limited to the construction schedule for the relevant tunnel
13 reaches and features associated with Clifton Court Forebay. Additionally, those segments extending
14 south of the intermediate forebay on McCormack-Williamson Tract and Staten Island would also be
15 removed following construction of associated tunnel facilities. Erecting the power poles would not
16 involve extensive excavation or material transport; and each pole would occupy a small footprint.
17 Accordingly, the transmission lines (temporary and permanent) would not create an adverse effect
18 related to the release of hazardous materials.

19 **Infrastructure Containing Hazardous Materials**

20 Infrastructure in the study area containing hazardous materials (e.g., natural gas pipelines) could
21 pose hazards to the environment and the public if disturbed by construction activities. As described
22 in Section 24.1.2, pipelines carrying fluids with hazardous characteristics (e.g., petroleum products)
23 cross the Alternative 4 conveyance alignment and construction footprint (Figure 24-3). The number
24 of regional pipeline crossings within the construction disturbance footprint of the all conveyance
25 alternatives is provided in Table 24-3. Natural gas pipelines cross the conveyance alignment near
26 Intake 2, on Staten Island between a safe haven area and a RTM area, and near a main tunnel
27 construction shaft on Bacon Island. Other product pipelines cross the alignment on the northern
28 part of Woodward Island and along the southwestern side of the proposed Clifton Court Forebay
29 expansion and nearby RTM area. Further, hazardous materials storage vessels, such as tanks or
30 other bulk containers used for processing, storage and distribution of fuels, pesticides or other
31 hazardous materials may be present in the Alternative 4 water conveyance facilities construction
32 footprint. Active and inactive oil wells are present throughout the Delta and their locations are
33 shown in Figure 24-5.

34 In addition, certain residential, agricultural and commercial structures within the Alternative 4
35 water conveyance facilities footprint would need to be removed. Under Alternative 4, approximately
36 81 existing structures are within the construction footprint, including an estimated 19 residential
37 structures. Other existing structures within the construction footprint would consist primarily of
38 storage or agricultural support facilities (45); recreational structures (8); and other types of
39 structures (e.g., power/utility structures, bridges, and other types of infrastructure). These
40 structures may contain hazardous materials such as asbestos or lead-based paint, stored liquid
41 paints and solvents, and household or industrial-strength maintenance chemicals and cleaners.
42 Asbestos-containing material is regulated both as a hazardous air pollutant under the Clean Air Act
43 (Chapter 22, *Air Quality and Greenhouse Gases*) and as a potential worker safety hazard by Cal-OSHA
44 (see Section 24.2.2.13). Were these types of hazardous materials to be encountered during structure
45 demolition, the potential for their release and the consequent adverse effects on the public,

1 construction workers, and the environment would exist. To prevent adverse effects, BDCP
2 proponents would implement Mitigation Measure HAZ-1b, which would require that BDCP
3 proponents coordinate with property owners to identify existing potentially hazardous
4 infrastructure and infrastructure containing potentially hazardous materials, and that BDCP
5 proponents perform pre-demolition surveys to identify and characterize hazardous materials to
6 ensure the safe and appropriate handling and disposal of these materials.

7 There are six natural gas pipelines, four petroleum product pipelines, 11 known inactive and no
8 active oil or gas wells within the construction footprint for the proposed Alternative 4 water
9 conveyance alignment (Table 24-3, and Figures 24-3 and 24-5). In addition to the regional pipelines
10 in the study area, there are networks of minor oil and gas gathering pipelines, which connect
11 individual oil or gas wells to small storage and preliminary processing facilities operated by the
12 different oil and gas companies working in the study area. Disturbance of this infrastructure during
13 construction of the water conveyance facilities could result in hazards to the environment as well as
14 physical and chemical hazards to the construction workers or the nearby public due to fires,
15 explosions, and release of natural gas or petroleum products. The potential for disturbing oil and gas
16 fields during excavation or tunneling activities is minimal because these fields are typically located
17 at depths greater than 3,000 feet (U.S. Energy Information Administration 2012). Effects would be
18 more likely to occur if utilities were not carefully surveyed prior to construction, including contact
19 with local utility service providers. California Government Code Sections 4216–4216.9 require that
20 anyone planning to excavate contact the appropriate regional notification center at least two
21 working days (but not more than 14 calendar days) before beginning to excavate. Implementation of
22 pre-construction surveys, and then utility avoidance or relocation if necessary, would minimize any
23 potential disruption and hazardous effects due to disruption. Mitigation Measures UT-6a: Verify
24 locations of utility infrastructure, and UT-6c: Relocate utility infrastructure in a way that avoids or
25 minimizes any effect on worker and public health and safety (described in Chapter 20, *Public*
26 *Services and Utilities*) address these effects.

27 **Routine Transport of Hazardous Materials via Trucks, Trains, and Ships**

28 Generally, the transportation of hazardous materials via trucks, trains and ships poses potential
29 risks associated with the accidental release of these materials to the environment. Alternative 4
30 would require a heavy volume of materials to be hauled to the construction work areas, increasing
31 the amount of trucks using the transportation system in the study area. Rerouting vehicular traffic
32 carrying hazardous materials during construction of the water conveyance facilities could increase
33 the risk of accidental release due to inferior road quality or lack of driver familiarity with the
34 modified routes. This includes the risk of release of hazardous products or wastes being transported
35 routinely or specifically for construction of the water conveyance facilities, and the corresponding
36 risk of release of fuels (gasoline and diesel) from vehicular accidents. Hazardous materials
37 transportation routes are presented in Figure 24-2 and in Table 24-4. Three designated hazardous
38 materials transportation routes cross the Alternative 4 alignment—State Highways 4, 12, and Byron
39 Highway (Figure 24-2 and in Table 24-4). It is anticipated that traffic on Byron Highway would need
40 to be temporarily rerouted during construction of the siphon at the southwest end of the proposed
41 expanded Clifton Court Forebay. Other routes anticipated to be affected during construction of the
42 water conveyance facilities under this alternative are described in Chapter 19, *Transportation*. As
43 described in Chapter 19, under Mitigation Measure TRANS-1a, a site-specific construction traffic
44 management plan, taking into account land (including rail) and marine hazardous materials
45 transportation, would be prepared and implemented prior to initiating water conveyance facilities

1 construction. Mitigation Measure TRANS-1a includes stipulations to avoid or reduce potential
2 circulation effects, such as such as providing signage, barricades, and flag people around
3 construction work zones; notifying the public, including schools and emergency service providers of
4 construction activities that could affect transportation; providing alternate access routes, if
5 necessary, to maintain continual circulation in and around construction zones; and requiring direct
6 haulers to pull over in the event of an emergency. As described in Chapter 19, *Transportation*,
7 shipping routes to ports in West Sacramento and Stockton are unlikely to be affected by barge traffic
8 transporting equipment and materials for water conveyance facilities construction. However, barges
9 supporting water conveyance facilities construction may also transport hazardous materials such as
10 fuels, lubricants, or other chemicals. The potential exists for accidental release of hazardous
11 materials from BDCP-related barges. To avoid effects on the environment related to this issue, BMPs
12 implemented as part of a Barge Operations Plan (for detail see Appendix 3B, *Environmental*
13 *Commitments*), including the following, would avoid and/or minimize this potential adverse effect:

- 14 • All tugboats operating at the intake construction sites and the barge landings will keep an oil
15 spill containment kit and spill prevention and response plan on-board.
- 16 • In the event of a fuel spill, report immediately to the California Department of Fish and Wildlife
17 Office of Spills Prevention and Response: 800-852-7550 or 800-OILS-911 (800-645-7911).
- 18 • When transporting loose materials (e.g., sand, aggregate), barges will use deck walls or other
19 features to prevent loose materials from blowing or washing off of the deck.

20 Finally, under this alternative, the proposed conveyance crosses under the existing BNSF/Amtrak
21 San Joaquin line between Bacon Island and Woodward Island. Maintaining freight and passenger
22 service on the BNSF line is included in the project design, and the effect of this crossing would be
23 minimal to nonexistent because the proposed conveyance would traverse the railroad in a deep
24 bore tunnel (see Chapter 19, *Transportation*, for discussion). The UPRR Tracy Subdivision (branch
25 line) runs parallel to Byron Highway, between the highway and the proposed expanded Clifton
26 Court Forebay. The proposed conveyance includes a siphon that would cross the railroad at the
27 southwest corner of Clifton Court Forebay. However, construction is unlikely to disrupt rail service
28 because much of this line has not been in service recently. Moreover, if the line were to come back in
29 service, a temporary stretch of track would be installed to take trains around the siphon
30 construction site. The temporary track would be removed once siphon construction was completed.
31 Any potential effects on rail traffic during construction would be reduced with implementation of
32 Mitigation Measure TRANS-1a, which would include stipulations to coordinate with rail providers to
33 develop alternative interim transportation modes (e.g., trucks or buses) that could be used to
34 provide freight and/or passenger service during any longer term railroad closures, and daily
35 construction time windows during which construction would be restricted or rail operations would
36 need to be suspended for any activity within railroad rights of way. This would minimize the
37 potential risk of release of hazardous materials being transported via these railways (see Chapter
38 19, *Transportation*, for a description).

39 In summary, during construction of the water conveyance facilities, the potential would exist for
40 direct effects on construction personnel, the public and/or the environment associated with a
41 variety of potentially hazardous conditions because of the intensity of construction activities at the
42 north Delta intakes, forebays, conveyance pipelines, and tunnels, and the hazardous materials that
43 would be used in these areas. Many of these physical and chemical hazardous conditions would
44 occur in close proximity to the towns of Hood and Courtland during construction of the north Delta
45 intakes. This is particularly true for the town of Hood because a permanent 69 kV transmission line

1 would be constructed in Hood, a 111-acre temporary intake work area would be potentially be
2 located immediately south of the town, and the town is located between Intakes 3 and 5. It is
3 expected that the temporary intake work area **would likely be used for offices, equipment staging,**
4 **delivery, parking, and it is not anticipated that heavy-duty construction activities would occur there.**
5 Additionally, large-scale construction activities involving the use of hazardous materials would be
6 located in and near water bodies. Potential hazards include the routine transport, use or disposal of
7 hazardous materials; natural gas accumulation in water conveyance tunnels; the inadvertent release
8 of existing contaminants in soil and groundwater, or hazardous materials in existing infrastructure
9 to be removed; disturbance of electrical transmission lines; and hazardous constituents present in
10 RTM. Additionally, there is the potential for the construction of the water conveyance facilities to
11 indirectly result in the release of hazardous materials through the disruption of existing road, rail, or
12 river hazardous materials transport routes because construction would occur in the vicinity of three
13 hazardous material transport routes, three railroad corridors, and waterways with barge traffic and
14 would require construction traffic that could disrupt these routes. These potential effects are
15 considered adverse because they would potentially result in direct exposure of the public (including
16 construction personnel), and surface water and groundwater to physical and/or chemical hazards
17 as discussed. Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20,
18 *Public Services and Utilities*) and TRANS-1a (described in Chapter 19, *Transportation*), combined
19 with the previously described environmental commitments are available to address these effects. As
20 such, construction of the water conveyance facilities would not create a substantial hazard to the
21 public or the environment through the routine transport, use, or disposal of hazardous materials or
22 the upset/accidental release of these materials. Accordingly, this would not be an adverse effect.

23 **CEQA Conclusion:** During construction of the water conveyance facilities, the potential would exist
24 for direct impacts on construction personnel, the public and/or the environment associated with a
25 variety of hazardous physical or chemical conditions. Such conditions may arise as a result of the
26 intensity and duration of construction activities at the north Delta intakes, forebays and conveyance
27 pipelines and tunnels, and the hazardous materials that would be needed in these areas during
28 construction. Potential hazards include the routine use of hazardous materials (as defined by Title
29 22 of the California Code of Regulations, Division 4.5); natural gas accumulation in water
30 conveyance tunnels; the inadvertent release of existing contaminants in soil, sediment, and
31 groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
32 electrical transmission lines; and hazardous constituents present in RTM. Many of these physical
33 and chemical hazardous conditions would occur in close proximity to the towns of Hood and
34 Courtland during construction of the north Delta intakes. This is particularly true for the town of
35 Hood because a permanent 69 kV transmission line would be constructed in Hood, the town is
36 located between Intakes 3 and 5, and a 111-acre temporary intake work area would potentially be
37 located immediately south of the town. Additionally, the potential would exist for the construction of
38 the water conveyance facilities to indirectly result in the release of hazardous materials through the
39 disruption of existing road, rail, or river hazardous materials transport routes because construction
40 would occur in the vicinity of three hazardous material transport routes, three railroad corridors,
41 and waterways with barge traffic and would require construction traffic that could disrupt these
42 routes. For these reasons, this is considered a significant impact. However, with the implementation
43 of the previously described environmental commitments (e.g., SWPPPs, HMMPs, SPCCPs, SAPs, and a
44 Barge Operations Plan) and Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described
45 in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*),
46 construction of the water conveyance facilities would not create a substantial hazard to the public or
47 the environment through the routine transport, use, or disposal of hazardous materials or the

1 upset/accidental release of these materials. The severity of this impact would be reduced with the
2 implementation of these environmental commitments and mitigation measures by identifying and
3 describing potential sources of hazardous materials so that releases can be avoided and materials
4 can be properly handled; detailing practices to monitor pollutants and control erosion so that
5 appropriate measures are taken; implementing onsite features to minimize the potential for
6 hazardous materials to be released to the environment or surface waters; minimizing risk
7 associated with the relocation of utility infrastructure; and coordinating the transport of hazardous
8 materials to reduce the risk of spills. As such, these impacts would be less than significant.

9 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
10 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
11 **Construction Footprint, and Remediate and/or Contain Contamination**

12 BDCP proponents will identify potential areas of hazardous materials and remediate and/or
13 contain contamination in order to reduce the likelihood of hazardous materials being released
14 into the environment. The BDCP proponents will perform preconstruction hazardous waste
15 investigations at properties to be acquired for construction associated with the BDCP. Areas to
16 be excavated as part of construction of (e.g., for water conveyance facilities, shaft locations,
17 concrete batch plants, intake locations, RTM storage areas, staging areas, forebays, borrow and
18 spoil sites, barge unloading, restoration activities, and other appurtenant facilities) where
19 historical contamination has been identified (e.g., SOCs) or where contamination is suspected
20 (e.g., as evidenced by soil discoloration, odors, differences in soil properties, abandoned USTs)
21 will undergo soil and/or groundwater testing at a certified laboratory. Where concentrations of
22 hazardous constituents, such as fuel, solvents or pesticides in soil or groundwater exceed
23 applicable federal or state thresholds contaminated areas will be avoided or remediated and
24 contained in compliance with applicable state and federal laws and regulations. Groundwater
25 removed with the dewatering system would be treated, as necessary, and discharged to surface
26 waters under an NPDES permit (see Chapter 8, *Water Quality*).

27 Implementation of this mitigation measure will result in the avoidance, successful remediation
28 or containment of all known or suspected contaminated areas, as applicable, within the
29 construction footprint, which would prevent the release of hazardous materials from these
30 areas into the environment.

31 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
32 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
33 **Dispose of Them in Accordance with Applicable Regulations**

34 BDCP proponents will perform surveys and characterize and dispose of hazardous materials in
35 order to reduce the likelihood that hazardous materials are released into the environment.
36 Where demolition of existing structures is necessary, measures will be implemented to ensure
37 hazards are avoided or minimized and that the release of hazardous materials, such as residual
38 fuel in underground fuel storage tanks, or lead-based paint or asbestos-containing materials in
39 buildings, is avoided. These measures will include the following practices.

- 40 • Perform pre-demolition surveys to identify all potentially hazardous materials, including
41 asbestos-containing material and lead-based paint.

- 1 • Coordinate with owners of property to be acquired by BDCP proponents to help identify
2 potentially hazardous infrastructure and/or infrastructure containing potentially hazardous
3 materials.
- 4 • Characterize and separate hazardous materials from structures before demolition and
5 ensure that such materials are disposed of at an approved disposal site according to
6 applicable regulations.
- 7 • Remove underground fuel storage tanks and contents to a licensed disposal site where the
8 tanks will be scraped and the contents disposed of in accordance with applicable
9 regulations.
- 10 • Disposal of materials containing PCBs will comply with all applicable regulations, codes, and
11 ordinances. Disposal of large quantities of PCB waste will occur at incinerators approved for
12 burning of PCB-containing waste.
- 13 • Implement proper handling and disposal procedures for potentially hazardous materials,
14 such as solvents and household or industrial-strength maintenance chemicals and cleaners
15 in buildings to be demolished.
- 16 • As applicable, a Cal-OSHA-certified asbestos and lead-based paint contractor will prepare a
17 site-specific asbestos and/or lead hazard control plan with recommendations for the
18 containment of asbestos and/or lead-based paint materials during demolition activities, for
19 appropriate disposal methods and locations, and for protective clothing and gear for
20 abatement personnel. Site-specific asbestos abatement work would meet the requirements
21 of both the federal Clean Air Act and Cal-OSHA (CCR Title 8, Subchapter 4, Article 4, Section
22 1529). If asbestos-containing materials are found, contractors licensed to conduct asbestos
23 abatement work will be retained and will direct the abatement. In addition, the applicable
24 Air Quality Management District(s) will be notified 10 days prior to initiation of demolition
25 activities of asbestos-containing materials.
- 26 • Containers suspected of, or confirmed as, containing lead-based paint will be separated
27 from other building materials during the demolition process. Separated paint will be
28 classified as a hazardous waste if the lead content exceeds 1,000 parts per million and
29 will be disposed of in accordance with applicable regulations.
- 30 • Sewer lines will be plugged with concrete to prevent soil and/or groundwater
31 contamination, and the end of the lines will be flagged above ground for future location and
32 identification.
- 33 • Gas lines will be plugged or capped and the end of the lines will be flagged above ground for
34 future location and identification.
- 35 • The use of explosives for demolition will not be allowed.
- 36 • Hazardous waste, including contaminated soil, generated at demolition sites will be handled,
37 hailed, and disposed of at an appropriately licensed disposal facility under appropriate
38 manifest by a licensed hazardous waste hauler.
- 39 • Implementation of this measure will ensure that hazardous materials present in or
40 associated with structures being demolished will not be released into the environment.

1 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

2 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
3 Chapter 20, *Public Services and Utilities*.

4 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
5 **Minimizes Any Effect on Worker and Public Health and Safety**

6 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
7 Chapter 20, *Public Services and Utilities*.

8 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
9 **Plan**

10 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
11 1A in Chapter 19, *Transportation*.

12 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
13 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
14 **Facilities**

15 **NEPA Effects:** An adverse effect may occur if a construction work site is located within 0.25 mile of
16 an existing or proposed school, or other sensitive receptor, and releases hazardous materials that
17 pose a health hazard. There are no hospitals or parks located within 0.25 mile of Alternative 4.
18 However, as shown in Figure 24-8, Excelsior Middle School in Byron would be within 0.25 mile of
19 the construction footprint for Alternative 4. The school would be near a proposed temporary 230 kV
20 transmission line running to the southeast and northwest. Construction of the transmission line
21 would require the use of heavy equipment, such as dozers, cranes, and off-road work trucks, which
22 would require the routine use of hazardous materials (e.g., fuels, solvents, oil and grease).
23 Consequently, there would be the risk of accidental spills or equipment leaks of these types of
24 hazardous materials, as discussed under Impact HAZ-1.

25 Although there would be a risk of accidental spills of hazardous materials (e.g., fuels, solvents,
26 paints) during the construction of the proposed temporary transmission line, and generally where
27 heavy construction equipment is operated, the quantities of hazardous materials likely to be used
28 during construction activities are likely to be small. Were hazardous materials to be released
29 inadvertently, spills or equipment leaks would be localized and minimal, and thus there would be no
30 risk to anyone not in immediate proximity to these releases spills. Further, as discussed under
31 Impact HAZ-1, BMPs to minimize the potential for the accidental release of hazardous materials and
32 to contain and remediate hazardous spills, as part of the SWPPPs, SPCCPs, and HMMPs, would be
33 implemented, as set forth in Appendix 3B, *Environmental Commitments*. Therefore, the students and
34 staff at Excelsior Middle School would not be exposed to hazardous materials, substances, or waste
35 during construction of the water conveyance facilities. As such, there would be no adverse effect.
36 Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and*
37 *Greenhouse Gases*.

38 In addition, under this alternative, an operable barrier would be constructed at the head of Old River
39 near the Mossdale Village area of Lathrop, adjacent to land designated for public use and which
40 could include future schools or parks. If a school or park were built prior to the completion of
41 construction of the operable barrier, sensitive receptors would be in close proximity to BDCP

1 construction activities, creating the potential for an adverse effect. However, because there is
 2 currently no school or park within 0.25 mile of the operable barrier site, and because no school or
 3 park is currently proposed within 0.25 mile of that site, there would be no adverse effect on
 4 sensitive receptors at this site.

5 **CEQA Conclusion:** There are no parks or hospitals located within 0.25 mile of the Alternative 4
 6 water conveyance facilities alignment. However, Excelsior Middle School is located within 0.25 mile
 7 of the proposed construction footprint of a proposed temporary 230 kV transmission line.
 8 Additionally, under this alternative, an operable barrier would be constructed at the head of Old
 9 River near the Mossdale Village area of Lathrop, adjacent to land designated for public use and
 10 which could include future schools or parks. If a school or park were built prior to the completion of
 11 construction of the operable barrier, sensitive receptors would be in close proximity to BDCP
 12 construction activities, creating the potential for an impact on those types of sensitive receptors.
 13 However, no school or park is currently proposed within 0.25 mile of the proposed operable barrier
 14 site.

15 Construction of the 230 kV temporary transmission line would require the routine use of hazardous
 16 materials (e.g., fuels, solvents, oil and grease) because heavy machinery such as cranes, off-road
 17 work trucks, and dozers would be required. Consequently, there would be the risk of accidental
 18 spills and equipment leaks of these types of hazardous materials during construction of the
 19 transmission line. However, the quantities of hazardous materials likely to be used during
 20 construction activities are likely to be small. Were hazardous materials to be released inadvertently,
 21 spills or equipment leaks would be localized and minimal, and thus there would be no risk to anyone
 22 not in immediate proximity to these releases. Further, BMPs to minimize the potential for the
 23 accidental release of hazardous materials and to contain and remediate hazardous spills, as part of
 24 the SWPPPs, SPCCPs, and HMMPs, would be implemented. Therefore, staff and students at Excelsior
 25 Middle School would not be at risk or adversely affected by exposure to hazardous materials,
 26 substances, or waste during construction of the water conveyance facilities. As such, this impact
 27 would be less than significant. No mitigation is required.

28 Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and*
 29 *Greenhouse Gases*.

30 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,** 31 **Create a Significant Hazard to the Public or the Environment**

32 **NEPA Effects:** As described in Section 24.1, the storage and use of bulk quantities of hazardous
 33 materials, such as pesticides, fuels, and solvents, is common throughout the study area. The
 34 locations of known or suspected SOCs that may have contaminated soils and/or groundwater were
 35 identified in the study area during the ISA and are presented in Figure 24-4. SOCs within 0.5 mile of
 36 the construction footprint, as well as those within the construction footprint, for this alternative are
 37 identified in Table 24-5. The number of SOCs may change during right-of-way evaluation, land
 38 acquisition and preconstruction site-clearance investigations or during construction. Additional
 39 SOCs may be identified during these activities, and currently identified SOCs may be determined
 40 innocuous after site-specific field investigation and testing.

41 California Government Code 65962.5 directs DTSC to compile a list, known as the "Cortese List," of
 42 hazardous materials sites. These sites consist of leaking underground storage tanks, solid waste
 43 facilities, landfills and sites with potential or confirmed hazardous substance releases. Although this
 44 list is no longer updated by the state, it nonetheless provides valuable information to developers to

1 prevent the re-release of hazardous materials resulting from excavation or disturbance of hazardous
 2 materials by preventing unanticipated disturbance of these sites. “Cortese List” sites make up a
 3 subset of the mapped SOCs.

4 There are no “Cortese List” sites or known SOCs within the construction footprint of Alternative 4
 5 (Table 24-5 and Figure 24-4). As such, there would be no conflict pertaining to a known hazardous
 6 materials site during construction, including for either the north-south or east-west transmission
 7 line option, for this alternative of the water conveyance facilities, and thus, no related hazard to the
 8 public or the environment. For those hazardous materials sites identified within the 0.5-mile radius
 9 but which are not within the construction footprint, there would be no potential for construction of
 10 the water conveyance facilities to disturb those sites such that there would be a re-release of
 11 hazardous materials that would create a hazard for the public or environment. As such, there would
 12 be no effect. The potential for encountering unknown hazardous materials sites during the course of
 13 construction is discussed under Impact HAZ-1.

14 **CEQA Conclusion:** Because there are no known SOCs within the construction footprint of the water
 15 conveyance facility for Alternative 4 there would be no conflict with known hazardous materials
 16 sites during construction of the water conveyance facilities, and therefore, no related hazard to the
 17 public or the environment. Accordingly, there would be no impact. No mitigation is required. The
 18 potential for encountering unknown hazardous materials sites during the course of construction is
 19 discussed under Impact HAZ-1.

20 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
 21 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
 22 **Study Area during Construction of the Water Conveyance Facilities**

23 **NEPA Effects:** Development around an airport, particularly in the approach and departure paths, can
 24 create obstructions in the airspace traversed by an approaching or departing aircraft. Additionally,
 25 certain land uses have the potential to create hazards to aircraft such as a distracting glare, smoke,
 26 steam, or invisible heat plumes. Safety impacts from aircraft accidents near airports are typically
 27 avoided by specifying the types of land uses allowed, and thereby limiting the number of people who
 28 would be exposed to the risk of an accident, and avoiding land uses that could create hazards to air
 29 traffic. Airspace protection primarily involves limitations on the height of objects on the ground near
 30 airports.

31 High-profile construction equipment, such as tall cranes for installation of pipelines, placement of
 32 concrete fill in intake piles, and removal of cofferdam sheet piles, for example, and pile drivers, such
 33 as would be used during the construction of the intakes, have the potential to result in safety
 34 hazards to aircraft during takeoff and landing if the equipment is operated too close to runways. It is
 35 not yet known what the maximum height of the high-profile construction equipment that would be
 36 used would be. Tower cranes, for example, may be required, and a typical tower crane can have a
 37 total height greater than 200 feet—a height that could be considered an obstruction or hazard to
 38 navigable air space if located near an airport. Similarly, tall structures, such as the surge tower at the
 39 pumping plant for Intake 2, could also pose a risk to air safety.

40 As shown in Figure 24-9 and Table 24-6, three private airports (Borges-Clarksburg Airport, Spezia
 41 Airport, and Flying B Ranch Airport) and two public airports (Byron Airport and Franklin Field
 42 Airport) are located within 2 miles of the water conveyance facilities for Alternative 4. The Borges-
 43 Clarksburg Airport, located 2 miles northeast of the town of Clarksburg, is within 2 miles of several
 44 proposed water conveyance facilities features—a fueling station; a RTM area; a concrete batch

1 plant; a borrow and/or spoils area; a temporary work area; and permanent and temporary access
2 roads. Spezia Airport, on Tyler Island, is within 2 miles of a proposed temporary 230 kV
3 transmission line Flying B Ranch Airport, in Elk Grove, is within 2 miles of a permanent 230 kV
4 transmission line. Byron Airport, less than 1.5 miles west of Clifton Court Forebay, is within 2 miles
5 of a proposed RTM area; a proposed permanent access road, as well as a temporary access road; a
6 proposed 230 kV temporary transmission line; temporary work areas; and a siphon and a canal
7 related to the proposed expansion of Clifton Court Forebay. Franklin Field Airport, approximately 4
8 miles southeast of Franklin, is less than 1 mile from the proposed permanent 230 kV transmission
9 line. With the exception of the proposed transmission lines, construction of these features or work
10 in these areas would not require the use of high-profile construction equipment. Because
11 construction of the proposed transmission lines would potentially require high-profile equipment
12 (e.g., cranes), and because construction of the 230 kV transmission lines would require the use of
13 helicopters during the stringing phase, the safety of air traffic arriving or departing from either of
14 these airports could be compromised during construction of the proposed transmission lines.

15 To help ensure protection of airspace, under 14 CFR Part 77, the FAA requires project proponents to
16 inform them about proposed construction or alteration of objects within 20,000 feet of a public-use
17 or military runway and having a height exceeding a 100:1 imaginary surface (1 foot upward per 100
18 feet horizontally) beginning at the nearest point of the runway for runways greater than 3,200 feet
19 in length. For shorter public-use or military runways, the notification surface has a 50:1 slope and
20 extends 10,000 feet from the runway. Exceptions to this notification requirement are made for “any
21 object that would be shielded by existing structures of a permanent and substantial character or by
22 natural terrain or topographic features of equal or greater height, and would be located in the
23 congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the
24 structure so shielded would not adversely affect safety in air navigation.” Notice must be provided
25 for temporary objects such as construction cranes and any object more than 200 feet in height above
26 ground level or above the established airport elevation. Notification of the FAA enables them to
27 evaluate the effect of the proposed object on air navigation through an aeronautical study (OE/AAA).
28 The OE/AAA will indicate whether the project would have a “substantial adverse effect” on air
29 safety. If it is determined that the proposed structure or structures exceeds obstruction standards or
30 will have an adverse effect on navigable airspace, the project proponent is given the opportunity to
31 amend the project proposal to avoid the impact; adjustments to aviation requirements that would
32 accommodate the project are investigated as well. The State Aeronautics Act (Public Utilities Code,
33 Section 21001 et seq.) authorizes Caltrans and local governments to protect navigable airspace and
34 prohibits the construction of any structure or permitting any natural growth of a height which
35 would constitute a hazard to air navigation unless Caltrans first issues a permit (Public Utilities
36 Code, Section 21659). The permit is not required if the FAA has determined that the structure or
37 growth does not constitute a hazard to air navigation or would not create an unsafe condition for air
38 navigation. Caltrans requires notification, in writing, for proposed construction of any state building
39 or enclosure within 2 miles of any airport before an agency acquires title to the property for the
40 building or enclosure or for an addition to an existing site (Public Utilities Code, Section 21655).
41 Caltrans would respond with a written investigation report of the proposed site and provide
42 recommendations, as necessary, to reduce potential hazards to air navigation. DWR would adhere to
43 these recommendations (e.g., recommendations for the marking and/or lighting of temporary or
44 permanent structures exceeding an overall height of 200 feet above ground level), which would
45 reduce the potential for adverse effects on air safety, as would compliance with the
46 recommendations of the OE/AAA. Accordingly, this would not be an adverse effect.

1 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
 2 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
 3 pipelines, and potentially pile drivers, such as would be used during the construction of the intakes,
 4 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
 5 is operated too close to runways. Three private airports (Borges-Clarksburg Airport, Spezia Airport,
 6 and Flying B Ranch Airport) and two public airports (Byron Airport and Franklin Field Airport) are
 7 located within 2 miles of the construction footprint of several features of the water conveyance
 8 facilities for Alternative 4, including temporary and permanent transmission lines. DWR would
 9 coordinate with Caltrans' Division of Aeronautics prior to initiating construction and comply with its
 10 recommendations based on its investigations and compliance with the recommendations of the
 11 OE/AAA (for Byron and Franklin Field Airports). These recommendations, which could include
 12 limitations necessary to minimize potential problems such as the use of temporary construction
 13 equipment, supplemental notice requirements, and marking and lighting high-profile structures,
 14 would reduce potential impacts on air safety. Accordingly, this impact would be less than significant.
 15 No mitigation is required.

16 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
 17 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
 18 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
 19 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

20 **NEPA Effects:** As shown in Figure 24-10, no portion of Alternative 4 is located in or near an area
 21 designated as a High or Very High Fire Hazard Severity Zone. The northernmost and southernmost
 22 portions of Alternative 4, where intake facilities and fueling stations, and the expanded Clifton Court
 23 Forebay, respectively, would be located, are near Moderate Fire Hazard Severity Zones (Figure 24-
 24 10), as is the site of the operable barrier at the head of Old River. Construction, operation, and
 25 maintenance of the water conveyance facilities would involve the use of equipment and ignitable
 26 materials, and would involve activities that could potentially start fires. For example, as discussed in
 27 Chapter 3, *Description of Alternatives*, facility maintenance would consist of activities such as
 28 painting, cleaning, repairs, and other routine tasks. Some of these activities would involve the use of
 29 flammable chemicals, such as fuels and solvents, which could be inadvertently ignited by sparks
 30 from equipment/machinery if proper safety measures were not employed. Further, during
 31 construction, fires could be caused by a variety of factors, including vehicle exhaust, welding
 32 activities, parking on dry grass, and accidental ignition of fuel. However, as previously discussed, the
 33 study area mainly consists of agricultural lands with pockets of rural residential land uses that are
 34 not adjacent to wildlands, as well as residential areas that are intermixed with wildlands. The
 35 potential for construction or operation and maintenance activities to generate hazards associated
 36 with wildland fires would be minimal. Further, as described in Appendix 3B, *Environmental*
 37 *Commitments*, measures to prevent and control wildland fires would be implemented by DWR
 38 during construction, operation, and maintenance of the water conveyance facilities in full
 39 compliance with Cal-OSHA standards for fire safety and prevention. These measures would include,
 40 but not be limited to, the following.

- 41 ● Construction sites will have an adequate onsite supply of water and all-weather access for
 42 firefighting equipment and emergency vehicles.
- 43 ● A list of all major fire hazards, proper handling and storage procedures for hazardous materials,
 44 potential ignition sources and their control, and the type of fire protection equipment necessary
 45 to control each major hazard.

- 1 ● No fires will be allowed at work sites. Smoking will be allowed only in areas designated for
2 smoking, and these areas will be cleared of vegetation, or in enclosed vehicles. Cigarette butts
3 are to be disposed of in car ashtrays or other approved disposal containers and dumped daily in
4 a proper receptacle off the work site.
- 5 ● The contractor will be responsible for maintaining appropriate fire suppression equipment at
6 the work site including an all-wheel drive water truck or fire truck with a water tank of at least
7 3,000 gallon capacity. Fire extinguishers, shovels and other firefighting equipment will be
8 available at work sites and on construction equipment. Each vehicle on the ROW will be
9 equipped with a minimum 20 pound (or two 10 pound) fire extinguisher(s) and a minimum of 5
10 gallons of water in a fire fighting apparatus (e.g., bladder bag).
- 11 ● At the work site, a sealed fire toolbox will be located at a point accessible in the event of fire.
12 This fire toolbox will contain: one back-pack pump-type extinguisher filled with water, two axes,
13 two McLeod fire tools, and enough shovels so that each employee at the work site can be
14 equipped to fight fire.
- 15 ● Gasoline-powered construction equipment with catalytic converters will be equipped with
16 shielding or other acceptable fire prevention features. Internal combustion engines will be
17 equipped with spark arrestors.
- 18 ● Welding sites will include fire prevention provisions.
- 19 ● The contractor will maintain contact with local firefighting agencies throughout the fire season
20 for updates on fire conditions, and such fire conditions will be communicated to the contractor's
21 employees daily.
- 22 ● Vehicles will be restricted to the work site unless otherwise allowed for fire control procedures.
- 23 ● Depending on the characteristics of the construction site, the dimensions and use of the rooms,
24 the on-site equipment, the physical and chemical properties of the substances present and the
25 maximum potential number of workers present, an adequate number of appropriate basic fire-
26 fighting devices and, where required, automatic fire extinguishing systems shall be provided at
27 the site.
- 28 ● Basic fire-fighting devices and automatic fire extinguishing systems shall be regularly
29 maintained, checked and tested.
- 30 ● Basic fire-fighting devices shall be positioned in a visible place which is free from obstruction.
- 31 ● The location of fire-fighting equipment shall be indicated by fire safety signs. The signs shall be
32 sufficiently resistant and placed at appropriate points.
- 33 ● If substances which can cause combustion or substances the use of which may produce
34 explosive dust or gas are used or preserved on a construction site, special protective measures
35 (ventilation, prohibition on the use of open fire, etc.) shall be applied in order to prevent the risk
36 of fire and explosion.
- 37 ● Every person at work on a construction site shall, so far as is reasonably practicable, be
38 instructed in the correct use of any fire-fighting equipment which it may be necessary for him to
39 use.

40 These measures and potentially others will be guided by implementation of a FPCP in coordination
41 with federal, state, and local agencies, as part of the project as an environmental commitment
42 (Appendix 3B, *Environmental Commitments*). Because development and implementation of

1 measures under the FPCP would help ensure that people or structures would not be subject to a
2 substantial risk of loss, injury or death involving wildland fires and because the proposed water
3 conveyance facilities would not be located in a High or Very High Fire Hazard Severity Zone, this
4 effect would not be adverse.

5 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
6 death involving wildland fires during construction or operation and maintenance of the water
7 conveyance facilities because the alternative would comply with Cal-OSHA fire prevention and
8 safety standards; DWR would implement standard fire safety and prevention measures as part of an
9 FPCP (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities
10 would not be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would
11 be less than significant. No mitigation is required.

12 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
13 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
14 **Water Conveyance Facilities**

15 **NEPA Effects:** During long-term operation and maintenance of the water conveyance facilities, the
16 transport, storage, and use of chemicals or hazardous waste materials may be required. Hazardous
17 waste generated at facility sites will be handled, hauled, and disposed of at an appropriately licensed
18 disposal facility under appropriate manifest by a licensed hazardous waste hauler (see Appendix 3B,
19 *Environmental Commitments*). Maintenance requirements for several of the water conveyance
20 facilities features (e.g., tunnels) have not yet been finalized. However, the operation and
21 maintenance of certain alternative features, such as the intake pumping plants, would require the
22 use of hazardous materials, such as fuel, oils, grease, solvents, and paints. For example, planned
23 maintenance at pumping facilities would include checking oil levels, replacing oil in the pumps, and
24 greasing pump bearings. Additionally, routine facility maintenance would involve painting of
25 pumping plants and appurtenant structures, cleaning, repairs, and other routine tasks that ensure
26 the facilities are operated in accordance with design standards.

27 Under this alternative, in which only three intake facilities would be operated and maintained, the
28 potential for hazards associated with intake pumping plants and sediment basins would be less
29 widespread than under alternatives with five intake facilities. Furthermore, Alternative 4 does not
30 involve an intermediate pumping plant at the intermediate forebay; the relatively smaller, control
31 structure that would replace it would potentially have fewer or less intense hazards associated with
32 its operation and maintenance. However, the operation and maintenance of an operable barrier
33 under this alternative would expand the potential for hazards. Solids collected at the solids lagoons,
34 and sediment dredged during periodic maintenance dredging at the intakes and operable barrier at
35 the head of Old River may contain hazardous constituents (e.g., persistent pesticides, mercury,
36 PCBs). Sediment accumulation in both the northern and southern portion of the expanded Clifton
37 Court Forebay is expected to be minimal over the 50-year permit period. However, it is anticipated
38 that there may be some sediment accumulation at the inlet structure of the northern portion of
39 Clifton Court Forebay. Therefore, while overall sediment accumulation in this forebay is not
40 expected to be substantial, some dredging may be required at the inlet structure to maintain an even
41 flow path.

42 Facility equipment maintenance would be required for the intake pumping plants, sedimentation
43 basins and solids lagoons, the intermediate forebay, the control structure at the proposed expanded
44 Clifton Court Forebay and the operable barrier and boat lock at the head of Old River. Timing of

1 maintenance activities would be variable and would be dictated by the schedule and day-to-day
2 requirements of specific components being maintained. Maintenance activities at the intakes would
3 include debris and sediment removal, biofouling and corrosion prevention, and repairs following
4 physical impacts to the intake structures. Sediment and solids removal from the sedimentation
5 basins and solids lagoons, respectively, is expected to be an ongoing process during operation of the
6 water conveyance facilities. During operation of the water conveyance facilities, water would enter
7 sedimentation basins at three intakes along the east bank of the Sacramento River in the north Delta.
8 Settled sediment would then be pumped to solids lagoons where it would be dewatered and
9 removed for disposal off site; sediment pore water would be pumped back into the sedimentation
10 basins. The dewatered solids, like sediment dredged at the intakes, may contain pesticides from
11 agricultural and urban areas, metals or organic compounds from urban stormwater runoff, and
12 mercury from historic mining upstream of the Delta. The wide variety of pesticides that has been
13 applied, the numerous crops grown in the region, and the fact that predominant land use across the
14 Delta supports agriculture indicate that persistent pesticides that have been widely applied (e.g.,
15 organochlorines) and are likely to be found in the soils and potentially sediment throughout the
16 Delta. Because of their relatively low water solubility, persistent pesticides and compounds
17 generally accumulate in the environment in sediment and soil as well as in the fatty tissue of
18 terrestrial and aquatic animals and humans. Human exposure to organochlorine pesticides is
19 primarily through the diet. No comprehensive area-wide soil or sediment sampling program is
20 known to have been conducted to evaluate pesticide residues from agricultural use. Thus, it is not
21 known if persistent pesticide concentrations in dewatered solids from the solids lagoons, or in
22 dredged sediment from around the intakes, would exceed applicable federal or state standards. As
23 previously described, although the concentration of mercury in sediment throughout the study area
24 is not known, one study indicated that the mercury concentration in sediment (suspended) at
25 Freeport, just upstream of the intake locations, was less than 10 ng/l, below the recommended
26 criterion of 50 ng/l (Domagalski 2001).

27 Based on a worst-case scenario for alternatives with three intakes, considering the throughput of
28 the intakes at a maximum flow of 3,000 cfs, less than 100,000 dry pounds of solids per day would be
29 pumped to the solids lagoons. During periods of high sediment load in the Sacramento River, the
30 daily mass of solids would be expected to increase to up to approximately 152,000 dry pounds per
31 day. The annual volume of solids is anticipated to be less than 300,000 cubic feet (dry solids). An
32 anticipated 10,800 cubic yards of dry sediment/solids would be produced annually as a result of
33 maintenance of the solids lagoons with three intakes operating. Potentially contaminated solids
34 could pose a hazard to the environment if improperly disposed of. Implementation of Mitigation
35 Measure HAZ-6 would help ensure that there are no adverse effects on soil, groundwater or surface
36 water due to improperly disposed of solids from the solids lagoons. Dewatered solids may require
37 special management to meet discharge/disposal requirements. To ensure that potentially
38 contaminated sediment from maintenance dredging activities would not adversely affect soil,
39 groundwater or surface water, a SAP would be implemented prior to any dredging activities, as
40 described under Impact HAZ-1 for this alternative. All dredged sediment would be characterized
41 chemically prior to reuse to ensure that reuse of this material would not result in a hazard to the
42 public or the environment. To the extent practicable, scheduled routine and emergency maintenance
43 activities associated with equipment at the intakes would be conducted at a permanent maintenance
44 facility located at one of the three intakes sites; the precise location has not yet been determined.
45 Replacement of erosion protection on the levees and embankments would also occur periodically.

1 The operable barrier at the head of Old River would require control gate maintenance every 5 to 10
2 years; and annual maintenance of the motors, compressors, and control systems. The site would also
3 include a boat lock operator's building and a control building, which would both require periodic
4 routine maintenance. All these would involve potentially hazardous fluids, as described below.
5 Maintenance dredging around the gate to clear out sediment deposits could occur every 3 to 5 years,
6 and spoils would be dried in adjacent areas. Implementation of a SAP prior to any dredging activities
7 would help ensure that there are no adverse effects on soil, groundwater or surface water due to
8 improperly disposed of or reused sediment.

9 Some of the materials used in routine facility and equipment maintenance may include hydraulic oil
10 for lubricating machinery, fuel, batteries for vehicles and equipment, nitrogen, carbon dioxide or
11 clear agent fire suppression, paints, cleaning solvents and chemicals, and pesticides and herbicides
12 for grounds maintenance. Some of these materials, for example, bulk fuel and lubricants, would
13 likely be stored in the maintenance facilities. Vehicle fueling that occurs during operations and
14 maintenance activities and could pose the risk of fueling spills and leakage from bulk fuel storage
15 tanks. Accidental release of fuels, lubricants, solvents, grounds care chemicals (e.g., fertilizers,
16 pesticides and herbicides), and other hazardous materials could potentially have adverse effects if
17 not contained or if released in large enough quantities, as described under Impact HAZ-1 above.
18 However, under normal use, the inadvertent release of these types of chemicals would likely only
19 have the potential to result in minor, temporary hazards to workers immediately adjacent to these
20 releases. Because these chemicals would be used in small quantities and inadvertent releases would
21 be localized, and because, as discussed under Impact HAZ-1, environmental commitments
22 implemented as part of the HMMPs, SPCCPs, and SWPPPs, including equipping facility buildings with
23 spill containment and cleanup kits; ensuring that hazardous materials containment containers are
24 clearly labeled with identity, handling and safety instructions, and emergency contact; and requiring
25 that personnel be trained in emergency response and spill containment techniques, would minimize
26 the potential for the accidental release of hazardous materials and would help contain and
27 remediate hazardous spills should they occur, it is unlikely that the general public or the
28 environment would be adversely affected due to these types of activities.

29 Although Excelsior Middle School is within 0.25 mile of the construction footprint for Alternative 4,
30 no hazards would be expected to potentially affect school children or staff at this school as a result
31 of operations and maintenance of the water conveyance facility. The school is located within 0.25
32 miles of a proposed temporary 230 kV transmission line, which would only be necessary during
33 construction of the water conveyance facility; this feature would be removed once construction was
34 completed, and therefore no operation or maintenance of that feature would be required. There are
35 no hospitals or parks located within 0.25 mile of the construction footprint.

36 The locations of airports with respect to the pipeline/tunnel alignment are provided in Figure 24-9.
37 The Borges-Clarksburg, Flying B Ranch, and Spezia Airports (private air facilities), and Byron and
38 Franklin Field Airports (public air facilities) would be within 2 miles of this alternative's
39 construction footprint (Figure 24-9 and Table 24-6), as described under Impact HAZ-4 for this
40 alternative. With the exception of power transmission lines supplying power to pumps, surge
41 towers, and other equipment used for water conveyance facilities operation and maintenance, water
42 conveyance facilities operations and maintenance are not anticipated to require high-profile
43 equipment (i.e., equipment with a vertical reach of 200 feet or more), the use of which near an
44 airport runway could result in an adverse effect on aircraft. DWR would adhere to all applicable FAA
45 regulations (14 CFR 77) and coordinate and comply with Caltrans' Division of Aeronautics when
46 performing work with high-profile equipment within 2 miles of an airport to avoid adverse effects

1 on air safety. Compliance with these recommendations, which could include limitations necessary to
2 minimize potential problems, such as the use of temporary construction equipment, supplemental
3 notice requirements, and marking and lighting high-profile structures would reduce the potential
4 for impacts on air safety.

5 In summary, during routine operation and maintenance of the water conveyance facilities the
6 potential would exist for the accidental release of hazardous materials and other potentially
7 hazardous releases (e.g., contaminated solids and sediment), and for interference with air safety
8 should high-profile equipment be required for maintenance of the proposed transmission lines near
9 an airport. Accidental hazardous materials releases, such as chemicals directly associated with
10 routine maintenance (e.g., fuels, solvents, paints, oils), are likely to be small, localized, temporary
11 and periodic; therefore, they are unlikely to result in adverse effects on workers, the public, or the
12 environment. Further, BMPs and measures implemented as part of SWPPPs, SPCCPs, SAPs and
13 HMMPs would be developed and implemented as part of the BDCP, as described under Impact HAZ-
14 1, and in detail in Appendix 3B, which would reduce the potential for accidental spills to occur and
15 would result in containment and remediation of spills should they occur. In addition, under
16 Mitigation Measure HAZ-6, solids from the solids lagoons would be sampled and characterized to
17 evaluate disposal options, and disposed of accordingly at an appropriate, licensed facility. These
18 measures would ensure that this effect would not create a substantial hazard to the public or the
19 environment during operation and maintenance of the water conveyance facilities, and therefore
20 there would be no adverse effect.

21 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
22 operation and maintenance of the water conveyance facilities and the potential interference with air
23 safety through the use of high-profile equipment for maintenance of proposed transmission lines
24 could have impacts on the public and environment. However, implementation of the BMPs and other
25 activities required by SWPPPs, HMMPs, SAPs, SPCCPs, and Mitigation Measure HAZ-6, which would
26 ensure that potentially contaminated dewatered solids are not reintroduced to the environment and
27 are properly disposed of, as well as adherence to all applicable FAA regulations (14 CFR Part 77)
28 and coordination/compliance with Caltrans' Division of Aeronautics when performing work with
29 high-profile equipment within 2 miles of an airport, which would include implementation of
30 recommendations to provide supplemental notice and/or equip high-profile structures with
31 marking and lighting, would ensure that operation and maintenance of the water conveyance
32 facilities would not create a substantial hazard to the public, environment or air traffic safety.
33 Therefore, this impact would be less than significant.

34 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
35 **and/or Disposal**

36 BDCP proponents will ensure that dewatered solids from the solids lagoons are sampled and
37 tested/characterized at a certified laboratory prior to reuse and/or to evaluate disposal options.
38 All dewatered solids would be disposed of in accordance with applicable regulations.

39 Implementation of this measure will ensure that dewatered solids do not reintroduce hazardous
40 constituents to the environment if they are reused and that they are disposed of properly if they
41 do contain hazardous levels of contaminants such as persistent pesticides and mercury.

1 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
2 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
3 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

4 **NEPA Effects:** Construction, and operation and maintenance of the proposed conservation measures
5 (CM2–CM11, CM13, CM14, CM16, and CM18) as part of Alternative 4 could have effects related to
6 hazardous materials and potential hazards that are similar in nature to those discussed for
7 construction, and operation and maintenance of proposed water conveyance facilities. Although
8 similar in nature, the potential intensity of any effects would likely be substantially lower because
9 the nature of the activities associated with implementing the conservation measures would be
10 different (e.g., deep excavation for pipelines and tunnels would not be required), less heavy
11 construction equipment would be required, and the activities would be implemented in a shorter
12 time frame. Further, potential effects from implementation of the conservation measures would be
13 dispersed over a larger area and would generally involve substantially fewer construction and
14 operation effects associated with built facilities.

15 Implementing habitat restoration and enhancement projects in conservation zones that have
16 proposed restoration opportunity areas would require use of construction equipment necessary to
17 excavate restoration sites, and to construct or modify levees on and adjacent to Delta waterways.
18 Use and maintenance of this equipment is expected to result in the potential for hazards related to
19 the transport, use, and disposal of hazardous materials, such as fuels, oils, lubricants, paints and
20 other hazardous substances. Other activities, including the intentional demolition of existing
21 structures (e.g., buildings) and reuse of spoil, dredged material and/or RTM, would also present the
22 potential to generate hazards or release hazardous materials, or activities resulting in the damage or
23 disruption of existing infrastructure such that hazardous conditions were created.

24 Some of the proposed restoration activities that would occur under CM2 – CM11 could involve the
25 conversion of active or fallow agricultural lands to natural landscapes, such as vernal pools,
26 floodplains, grasslands, and wetlands. As described in Section 24.1.2.2, a wide variety of pesticides
27 has been used throughout the study area for decades, and may be present in agricultural lands (e.g.,
28 in the soil). As described in Chapter 8, *Water Quality*, in the short-term, tidal and non-tidal wetland
29 restoration, as well as seasonal floodplain restoration (i.e., CM4, CM5, and CM10) over former
30 agricultural lands may result in contamination of water in these restored areas with pesticide
31 residues contained in the soils or other organic matter. Present use pesticides typically degrade
32 fairly rapidly, and in such cases where pesticide containing soils are flooded, dissipation of those
33 pesticides would be expected to occur rapidly. Additionally, significant increases in organochlorine
34 and other persistent legacy pesticides are not expected in the water column because these lipophilic
35 chemicals strongly partition to sediments. Also, concentrations in the water column should be
36 relatively short-lived because these pesticides settle out of the water column via sediment
37 adsorption in low-velocity flow. Accordingly, restoration activities on former agricultural lands,
38 particularly tidal and non-tidal wetland restoration, and seasonal floodplain restoration, would not
39 create a substantial hazard to the public or environment through pesticide release.

40 In addition, certain operations and maintenance activities, such as controlling for terrestrial and
41 aquatic nonnative vegetation will require the use of potentially hazardous herbicides, for example.
42 These activities would occur in sensitive Delta waterways and upland areas or could occur in and
43 around areas potentially hazardous for construction workers and operations and maintenance
44 workers. Reasonably foreseeable upset and accident conditions related to these materials would
45 also create a potential hazard to the public or environment.

1 As discussed in Chapter 8, *Water Quality*, Chapter 11, *Fish and Aquatic Resources*, and Chapter 25,
2 *Public Health*, Alternative 1A habitat restoration actions (particularly CM2, *Yolo Bypass Fisheries*
3 *Enhancement*; CM4, *Tidal Natural Communities Restoration*; CM5, *Seasonally Inundated Floodplain*
4 *Restoration*; CM6, *Channel Margin Enhancement*; and CM7, *Riparian Natural Community Restoration*)
5 are likely to result in increased production, mobilization, and bioavailability of methylmercury in the
6 aquatic system due to biogeochemical processes. CM12, *Methylmercury Management* provides for
7 site-specific assessment of restoration areas, integration of design measures to minimize
8 methylmercury production, and site monitoring and reporting.

9 Additionally, construction of other conservation measures related to reducing ecosystem stressors
10 could result in the unintended release of hazardous materials as a result of constructing facilities
11 near Delta waterways. For example, under CM16 and CM18, non-physical fish barriers and fish
12 hatchery facilities, respectively, would be constructed and could result in effects associated with use
13 of materials during construction that could create hazardous conditions for construction workers
14 and affect sensitive habitat in Delta waterways or on agricultural land. Further, operations and
15 maintenance of CM14 would require the transport, storage and use of liquid oxygen for the existing
16 Stockton Deep Water Ship Channel aeration facility. BMPs already in place for the existing transport,
17 storage and use of liquid oxygen would continue. Thus, no adverse effects related to this aspect of
18 CM14 are anticipated.

19 The potential also exists for release of hazardous substances within 0.25 mile of a school or other
20 sensitive receptors (i.e., hospitals and parks) depending on the selected locations for implementing
21 the conservation measures. Potential effects would vary according to the equipment used in
22 construction and/or operation and maintenance of a specific conservation measures (i.e., whether
23 hazardous materials are necessary on site), the location and timing of the actions called for in the
24 conservation measure, and the air quality conditions at the time of implementation. Proposed
25 conservation measures would be designed to avoid sensitive receptors, and BMPs to minimize the
26 potential for the accidental release of hazardous materials and to contain and remediate hazardous
27 spills, as part of the SWPPPs, SPCCPs, and HMMPs, should they occur, would be implemented, as set
28 forth in Appendix 3B, *Environmental Commitments*, and therefore, it is unlikely that school children
29 and staff would be at risk or adversely affected.

30 Constructing conservation measures that could result in a physical change in the environment could
31 also create conflicts or encounters with known or unknown hazardous materials sites located on or
32 in the vicinity of conservation component construction sites. For example, implementing CM2–CM11
33 for habitat restoration and enhancement purposes could potentially result in effects associated with
34 agricultural and industrial-type hazardous materials at known sites that are listed on the “Cortese
35 List.” However, because locations within the eleven conservation zones (described in Chapter 3,
36 *Description of the Alternatives*) for implementing most of the conservation measures have not yet
37 been determined, it is not known if the conservation measures would be implemented on or near
38 “Cortese List” sites. Project design would minimize, to the extent feasible, the need to acquire or
39 traverse areas where the presence of hazardous materials is suspected or has been verified.
40 Implementation of conservation measures could also involve dredging Delta waterways and other
41 activities that could disturb contaminated sediments that hold mercury, pesticides, or other
42 constituents. Concentrations capable of posing hazards or exceeding regulatory thresholds could
43 present a hazard to the construction workers and any contaminated soil, sediment or groundwater
44 would require proper handling or treatment prior to discharge or disposal. Chapter 8, *Water Quality*,
45 provides further discussion of these potential contaminants.

1 Other potential hazards that could result from implementing conservation measures involve the
2 potential for safety hazards related to construction in the vicinity of a public or private airport, and
3 the potential for wildfire hazards in the vicinity of construction sites. As shown in Figure 24-9 and
4 Table 24-6, there are 11 airports within the study area. With the exception of the Lost Isle Seaplane
5 Base, Franklin Field Airport, and Byron Airport, these are private facilities. The Garibaldi Brothers
6 Airport is located within the Suisun Marsh ROA, just south of Fairfield. Additionally, the Delta Air
7 Park is proximate to the West Delta ROA east of Oakley. Because locations for some of the habitat
8 restoration and enhancement activities have not yet been determined, the potential exists for some
9 of these activities to occur at locations within 2 miles of a private or public airport. High-profile
10 construction equipment (i.e., 200 feet or taller), such as cranes, could result in potential safety
11 hazards to aircraft if operated in the vicinity of a runway; however, it is unlikely that this type of
12 equipment would be employed in the types of habitat restoration, enhancement and protection
13 activities that would be implemented as part of the conservation measures. As described for Impact
14 HAZ-4, effects on air safety due to BDCP implementation would be avoided because BDCP
15 proponents would adhere to all applicable FAA regulations (14 CFR Part 77) and would coordinate
16 with Caltrans' Division of Aeronautics prior to initiating maintenance activities requiring high-
17 profile equipment to assess whether a site investigation is necessary. If a site investigation is
18 performed, BDCP proponents would adhere to Caltrans' recommendations in order to avoid any
19 adverse effects on air safety. Finally, construction occurring within 10,000 feet of a public airport
20 may be subject to an OE/AAA to be performed by the FAA. Compliance with the results of the
21 OE/AAA would reduce the risk for adverse effects on air traffic safety. Potential safety hazards to air
22 traffic related to the potential for increased bird-aircraft strikes as a result of creating or enhancing
23 wildlife habitat are discussed under Impact HAZ-8.

24 The potential for conservation component implementation to result in or be subject to substantial
25 risk of wildfires is possible, but the risk is expected to be low because many of the activities would
26 be located in or near Delta waterways and adjacent to managed agricultural land. Additionally,
27 construction activities would be managed using standard construction practices to reduce the
28 potential for creating wildfires. Precautions would be taken to prevent wildland fires during
29 construction, and operation and maintenance of the conservation measures would be done in full
30 compliance with Cal-OSHA standards for fire safety and prevention. Additionally, in an effort to
31 reduce the potential for fire hazards, the BDCP proponents would develop and implement BMPs
32 (described under Impact HAZ-5 for this alternative and in Appendix 3B, Environmental
33 Commitments) under a FPCP, in coordination with federal, state, and local agencies, as part of the
34 environmental commitments.

35 The potential exists for CM2–CM11, CM13, CM14, CM16, and CM18 to result in effects related to the
36 release of or exposure to hazardous materials or other hazards. The potential for these kinds of
37 effects is considered adverse because implementation of these conservation measures would
38 involve extensive use of heavy equipment that could unintentionally result in the release of
39 hazardous substances or that could expose construction workers or members of the public to
40 hazards. Construction of restoration projects on or near existing agricultural and industrial land
41 may result in a conflict or exposure to known hazardous materials.

42 In summary, this alternative has incorporated environmental commitments (as described under
43 Impacts HAZ-1 through HAZ-6 for this alternative) and Mitigation Measures HAZ-1a, HAZ-1b, UT-6a,
44 UT-6c, and TRANS-1a are available to reduce these potential effects so that they are not adverse.

1 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 2 public to hazardous substances or conditions during construction, operation, and maintenance of
 3 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 4 implementation would involve extensive use of heavy equipment during construction, and/or the
 5 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 6 for nonnative vegetation control). These chemicals could be inadvertently released, exposing
 7 construction workers or the public to hazards. Construction of restoration projects on or near
 8 existing agricultural and industrial land and/or SOCs may result in a conflict or exposure to known
 9 hazardous materials, and the use of high-profile equipment (i.e., 200 feet or higher) in close
 10 proximity to airport runways could result in safety hazards to air traffic. However in addition to
 11 implementation of SWPPPs, HMMPs, SPCCPs, SAPs, and fire prevention and fire control BMPs as part
 12 of a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 13 implemented, all of which would ensure that there would be no substantial hazards to the public or
 14 the environment due to implementation of the conservation measures. As such, this impact would
 15 be less than significant.

16 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 17 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 18 **Construction Footprint, and Remediate and/or Contain Contamination**

19 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 20 4. Implementation of this mitigation measure will result in the avoidance, successful
 21 remediation or containment of all known or suspected contaminated areas, as applicable, within
 22 the construction footprint, which would prevent the release of hazardous materials from these
 23 areas into the environment.

24 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 25 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 26 **Dispose of Them in Accordance with Applicable Regulations**

27 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 28 4. Implementation of this measure will ensure that hazardous materials present in or associated
 29 with structures being demolished will not be released into the environment.

30 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

31 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 32 Chapter 20, *Public Services and Utilities*.

33 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 34 **Minimizes Any Effect on Worker and Public Health and Safety**

35 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 36 Chapter 20, *Public Services and Utilities*.

37 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 38 **Plan**

39 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 40 1A in Chapter 19, *Transportation*.

1 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
 2 **Conservation Measures That Create or Improve Wildlife Habitat**

3 **NEPA Effects:** Implementation of CM2–CM11, measures which would create or improve wildlife
 4 habitat and therefore, potentially attract waterfowl and other birds to areas in proximity to existing
 5 airport flight zones, could increase the opportunity for bird-aircraft strikes, which could result in
 6 impacts on public safety. The following airports, because they are in relatively close proximity
 7 (within 2 miles) to the ROAs and/or conservation zones could potentially be affected: Travis Air
 8 Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International Airport, and
 9 Byron Airport.

10 The FAA funds research and mitigation development, including a bird strike database managed by
 11 the Wildlife Services Program of the U.S. Department of Agriculture under terms of an interagency
 12 agreement. The database currently contains data from January 1990 through August 2008,
 13 recording over 100,000 wildlife strikes. Based on these data, most bird strikes occur during daylight
 14 hours between July and October when aircraft are approaching and landing. Most bird strikes (92%)
 15 occur at or below 3,000 feet altitude. Since 1990, 52 U.S. civil aircraft were either destroyed or
 16 damaged beyond repair due to wildlife strikes, accounting for 23 fatalities. The FAA discourages the
 17 improvement of wildlife habitat in proximity to public-use airports to lessen the risk of bird-aircraft
 18 strikes. If restoration actions are located within 5,000 feet of airports used by propeller-driven
 19 aircraft or within 10,000 feet of those used by jet-driven aircraft (known as the Critical Zone), the
 20 risk of bird-aircraft strikes would likely increase. The FAA recommends that these distances be
 21 maintained between the AOA and land uses deemed incompatible with safe airport operations (i.e.,
 22 hazardous wildlife attractants), including agriculture, water management facilities, and active
 23 wetlands. Public use airports within the study area are located in areas of mixed land uses. Some are
 24 located in proximity to urban uses, but all are located within five miles of substantial existing
 25 agricultural lands and wetlands. Thus, all of the public use airports in the study area are currently
 26 located in areas with existing wildlife hazards. The effect of increased bird-aircraft strikes during
 27 implementation of CM2–CM11 would be adverse because it could potentially result in an air and
 28 public safety hazard. Mitigation Measure HAZ-8 would reduce the severity of this effect through the
 29 development and implementation of measures to reduce, minimize and/or avoid wildlife hazards on
 30 air safety. However, this effect is would remain adverse.

31 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
 32 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
 33 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
 34 significant impacts on public safety. Airports that could be potentially affected would include Travis
 35 Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International Airport;
 36 and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact through the
 37 ultimate development of implementation of measures to reduce, minimize and/or avoid wildlife
 38 hazards on air safety, but not to a less-than-significant level. As such, the impact is significant and
 39 unavoidable.

40 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 41 **Regulatory Agencies**

42 The FAA requires commercial service airports to maintain a safe operation, including
 43 conducting hazard assessments for wildlife attractants within 5 miles of an airport. The hazard
 44 assessment is submitted to FAA, which determines if the airport needs to develop a Wildlife

1 Hazard Management Plan. (15 CFR 139). The airport's Wildlife Hazard Management Plan
 2 contains measures to reduce wildlife hazards, including habitat modification (e.g., vegetation
 3 management, filling in of wetlands), wildlife control measures (e.g., harassment, trapping and
 4 removing), and use of a radar-based alert system.

5 BDCP proponents will consult with the individual airports and USFWS during the project-level
 6 environmental assessments for individual restoration activities, when site-specific locations and
 7 design plans are finalized. At that time, appropriate management plans, strategies, and protocols
 8 would be developed to reduce, minimize and/or avoid wildlife hazards on air safety. Site-
 9 specific avoidance, minimization, and mitigation measures will be developed during future
 10 environmental review once information on the design, location, and implementation of CM3-
 11 CM11 is sufficient to permit a project-level analysis.

12 This mitigation measure will ensure that the potential for increased bird – aircraft strikes as a
 13 result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 14 extent possible.

15 **24.3.3.10 Alternative 5—Dual Conveyance with Pipeline/Tunnel and** 16 **Intake 1 (3,000 cfs; Operational Scenario C)**

17 **Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the** 18 **Release of Hazardous Materials or by Other Means during Construction of the Water** 19 **Conveyance Facilities**

20 *NEPA Effects:* Hazards to the public or the environment through the routine transport, use, or
 21 disposal of hazardous materials during construction of the water conveyance facilities for Alternative
 22 5 would be similar to those described under Alternative 1A. Under this alternative, however, only
 23 Intake 1 would be constructed. Thus, it is anticipated that effects associated with the transport and
 24 use of fuels for this alternative would be similar, but less severe, than those described for
 25 Alternative 1A.

26 Potential hazards associated with natural gas accumulation in tunnels, existing contaminants in soil,
 27 sediment or groundwater, hazardous constituents present in RTM, infrastructure containing
 28 hazardous materials, and routine transportation of hazardous materials would be similar to those
 29 described under Alternative 1A. Because only Intake 1 would be built under this alternative,
 30 however, implementation would avoid any site-specific contaminants or hazardous materials
 31 associated with the construction of Intakes 2, 3, 4, and 5.

32 As with Alternative 1A, tunnel construction activities would carry the potential to encounter gases
 33 that could enter the tunnels and accumulate to flammable or explosive concentrations. Hazardous
 34 constituents associated with RTM are not anticipated; however, the possibility exists for RTM and
 35 decanted water to pose a hazard to the construction workers, the public, or the environment.
 36 Additionally, stored bulk quantities of hazardous materials that have been released to soils and
 37 groundwater could be rereleased during construction, also posing a potential hazard. Water
 38 conveyance facilities construction may also require dredging contaminated sediments. Existing
 39 infrastructure, including oil and gas wells, also have the potential to release hazardous materials, as
 40 would the transport of hazardous materials during facility construction. Additionally, under
 41 Alternative 5, approximately 123 existing structures are within the construction footprint, including
 42 an estimated 29 residential structures. Other existing structures within the construction footprint

1 consist primarily of storage or agricultural support facilities (81); recreational structures (4); and
2 other types of structures (9). These structures may contain hazardous materials that would require
3 proper handling and disposal, if demolition is necessary. As described for Impact HAZ-1 under
4 Alternative 1A, Mitigation Measure HAZ-1b would be implemented by the DWR to ensure that there
5 are no adverse effects related to hazardous materials from structure demolition.

6 Further, as described for Alternative 1A under Impact HAZ-1, in general, the transportation of
7 hazardous materials via trucks, trains and ships poses potential risks associated with the accidental
8 release of these materials to the environment. Rerouting vehicular traffic carrying hazardous
9 materials during construction of the water conveyance facilities could increase the risk of accidental
10 release due to inferior road quality or lack of driver familiarity with the modified routes. Hazardous
11 materials transportation routes are presented in Figure 24-2 and in Table 24-4. Routes anticipated
12 to be affected during construction of the water conveyance facilities are described in Chapter 19,
13 *Transportation*. Barges supporting water conveyance facilities construction may also transport
14 hazardous materials such as fuels and lubricants or other chemicals. The potential exists for
15 accidental release of hazardous materials from BDCP-related barges. To avoid effects on the
16 environment related to this issue, BMPs would be implemented as part of a Barge Operations Plan
17 (as discussed under Impact HAZ-1 for Alternative 1A and in Appendix 3B, *Environmental*
18 *Commitments*) that would reduce the potential for accidental releases of hazardous materials during
19 transport and transfer. Finally, under this alternative, the proposed conveyance crosses under the
20 existing BNSF/Amtrak San Joaquin line between Bacon Island and Woodward Island; however, the
21 effect of this crossing would likely be minimal because the conveyance would traverse the railroad
22 in a deep bore tunnel (See Chapter 19 for discussion). Further, the UPRR runs proximate to the
23 construction area of the proposed Byron Tract Forebay; however, construction is unlikely to disrupt
24 rail service because much of this line has not been in service recently. Mitigation measures would be
25 in place to ensure that there are no adverse effects on road, rail, or water transportation, and, thus,
26 the potential for the construction of the water conveyance facilities to pose risks related to the
27 transportation of hazardous materials would be minimal. As described in Chapter 19,
28 *Transportation*, under Mitigation Measure TRANS-1a, a site-specific construction traffic
29 management plan, taking into account hazardous materials transportation, would be prepared and
30 implemented prior to initiation of construction of water conveyance facilities. Finally, any potential
31 effects on rail traffic and any hazardous materials transport therein during construction would be
32 reduced with implementation of Mitigation Measure TRANS-1a, which would include stipulations to
33 coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or
34 buses) that could be used to provide freight and/or passenger service during any longer term
35 railroad closures and daily construction time windows during which construction would be
36 restricted or rail operations would need to be suspended for any activity within railroad rights of
37 way. This would minimize the potential risk of release of hazardous materials being transported via
38 these rails. (see Chapter 19 for a descriptions).

39 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
40 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials
41 is suspected or has been verified. Further, environmental commitments would be implemented,
42 including SWPPPs, SPCCPs, SAPs, and HMMPs; a Barge Operations Plan; and chemical
43 characterization of RTM prior to reuse (e.g., RTM in levee reinforcement) or discharge. The
44 environmental commitments would reduce these potential hazards associated with water
45 conveyance facilities construction. Additionally, the implementation of Mitigation Measures HAZ-1a
46 and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a

1 (described in Chapter 19, *Transportation*) would further reduce the potential severity of this impact.
2 As such, construction of the water conveyance facilities would not create a substantial hazard to the
3 public or the environment through the routine transport, use, or disposal of hazardous materials or
4 the upset/accidental release of these materials. Thus, this effect would not be adverse.

5 **CEQA Conclusion:** Similar to Alternative 1A, construction of the water conveyance facilities under
6 Alternative 5 presents the potential for a direct significant impact on construction personnel, the
7 public and/or the environment associated with a variety of physical and chemical hazardous
8 conditions because of the intensity of construction activities at the north Delta intakes, forebays and
9 conveyance pipelines and tunnels and the hazardous materials that would be needed in these areas
10 during construction. Potential hazards include the routine use of hazardous materials (as defined by
11 Title 22 of the California Code of Regulations, Division 4.5); natural gas accumulation in water
12 conveyance tunnels; the inadvertent release of existing contaminants in soil, sediment and
13 groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
14 electrical transmission lines; and hazardous constituents present in RTM. Under this alternative,
15 however, only Intake 1 would be constructed. Thus, it is anticipated that effects associated with the
16 transport and use of fuels for this alternative would be similar, but less severe, than those described
17 for Alternative 1A.

18 Many of these physical and chemical hazardous conditions would occur in close proximity to the
19 town of Courtland during construction of the intermediate forebay. Additionally, the potential would
20 exist for the construction of the water conveyance facilities to indirectly result in the release of
21 hazardous materials through the disruption of existing road, rail, or river hazardous materials
22 transport routes because construction would occur in the vicinity of three hazardous material
23 transport routes, three railroad corridors, and waterways with barge traffic and would require
24 construction traffic that could disrupt these routes. For these reasons, this is considered a significant
25 impact. However, with the implementation of the previously described environmental commitments
26 (e.g., SWPPPs, HMMPs, SPCCPs, SAPs, and a Barge Operations Plan) and Mitigation Measures HAZ-1a
27 and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a
28 (described in Chapter 19, *Transportation*), construction of the water conveyance facilities would not
29 create a substantial hazard to the public or the environment through the routine transport, use, or
30 disposal of hazardous materials or the upset/accidental release of these materials. As such, these
31 impacts would be less than significant.

32 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
33 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
34 **Construction Footprint, and Remediate and/or Contain Contamination**

35 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
36 1A.

37 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
38 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
39 **Dispose of Them in Accordance with Applicable Regulations**

40 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
41 1A.

1 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

2 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
3 Chapter 20, *Public Services and Utilities*.

4 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
5 **Minimizes Any Effect on Worker and Public Health and Safety**

6 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
7 Chapter 20, *Public Services and Utilities*.

8 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
9 **Plan**

10 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
11 1A in Chapter 19, *Transportation*.

12 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
13 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
14 **Facilities**

15 **NEPA Effects:** An adverse effect may occur if a construction work site is located within 0.25 mile of
16 an existing or proposed school, or other sensitive receptor, and releases hazardous materials that
17 pose a health hazard. However, no schools, parks or hospitals are located within 0.25 mile of
18 Alternative 5. Therefore, no sensitive receptors would be exposed to hazardous materials,
19 substances, or waste during construction of the water conveyance facilities under Alternative 5. As
20 such, there would be no effect. Potential air quality effects on sensitive receptors are discussed in
21 Chapter 22, *Air Quality and Greenhouse Gases*.

22 **CEQA Conclusion:** There are no schools, parks or hospitals located within 0.25 mile of the
23 Alternative 5 water conveyance facilities alignment, therefore, there would be no impact due to
24 exposure of sensitive receptors to hazardous materials, substances or waste during construction of
25 the water conveyance facilities. Accordingly, there would be no impact. No mitigation is required.
26 Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and*
27 *Greenhouse Gases*.

28 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
29 **Create a Significant Hazard to the Public or the Environment**

30 **NEPA Effects:** There are no "Cortese List" sites or known SOCs within the construction footprint of
31 Alternative 5 (Table 24-5 and Figure 24-4), and therefore there would be no conflict pertaining to a
32 known hazardous materials site during construction of the water conveyance facilities, and thus, no
33 related hazard to the public or the environment. For those hazardous materials sites identified
34 within the 0.5-mile radius but which are not within the construction footprint, there would be no
35 potential for construction of the water conveyance facilities to disturb those sites such that there
36 would be a re-release of hazardous materials that would create a hazard for the public or
37 environment. As such, there would be no effect. The potential for encountering unknown hazardous
38 materials sites during the course of construction is discussed under Impact HAZ-1.

39 **CEQA Conclusion:** Because there are no known SOCs within the construction footprint of the water
40 conveyance facility under this alternative, there would be no conflict with known hazardous

1 materials sites during construction of the water conveyance facilities, and therefore, no related
2 hazard to the public or the environment. As such, there would be no impact. No mitigation is
3 required. The potential for encountering unknown hazardous materials sites during the course of
4 construction is discussed under Impact HAZ-1.

5 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
6 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
7 **Study Area during Construction of the Water Conveyance Facilities**

8 **NEPA Effects:** Safety hazards to aircraft posed by high-profile construction equipment, such as
9 cranes and pile drivers, or structures (e.g., proposed transmission lines and towers), would be the
10 same as those described under Alternative 1A. Because the Borges-Clarksburg, Spezia and Walnut
11 Grove Airports (private air facilities) and the Byron Airport (a public air facility) would be located
12 within 2 miles of project features within the construction footprint that may require not only the use
13 of high-profile (200 feet or taller) construction equipment but also the use of helicopters (stringing
14 of a proposed permanent 230 kV transmission line), there could be potential effects on air safety.

15 However, as required, DWR would inform Caltrans' Division of Aeronautics in writing prior to
16 construction and would adhere to any recommendations resulting from Caltrans' site investigations,
17 which would ensure that there are no adverse effects on air safety. Further, DWR would comply with
18 the recommendations of the OE/AAA (for Byron Airport) (14 CFR 77), as described under Impact
19 HAZ-4 under Alternative 1A. These actions would ensure that there are no adverse effects on air
20 safety.

21 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
22 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
23 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
24 example, and potentially pile drivers, such as would be used during the construction of the intakes,
25 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
26 is operated too close to runways. Three private airports (Borges-Clarksburg, Spezia, and Walnut
27 Grove Airports) and one public airport (Byron Airport) are located within 2 miles of the
28 construction footprint of Alternative 5. DWR would coordinate with Caltrans' Division of
29 Aeronautics prior to initiating construction and comply with its recommendations based on its
30 investigation(s), as well comply with the recommendations of the OE/AAA (for Byron Airport).
31 Compliance with these recommendations, which could include limitations necessary to minimize
32 potential problems, such as the use of temporary construction equipment, supplemental notice
33 requirements, and marking and lighting high-profile structures would reduce the potential for
34 impacts on air safety. Accordingly, impacts on air safety would be less than significant. No mitigation
35 is required.

36 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
37 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
38 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
39 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

40 **NEPA Effects:** Hazards related to wildland fires would be similar to those described under
41 Alternative 1A. The northernmost and southernmost extent of this conveyance alignment would be
42 adjacent to zones of moderate fire hazard severity.

1 As described under Alternative 1A and in Appendix 3B, *Environmental Commitments*, precautions
 2 would be taken to prevent wildland fires during construction, and operation and maintenance of the
 3 water conveyance facilities in full compliance with Cal-OSHA standards for fire safety and
 4 prevention. Additionally, DWR would develop and implement fire prevention, safety and control
 5 measures as part of a FPCP in coordination with federal, state, and local agencies. Implementation of
 6 these would help ensure that people or structures would not be subject to a significant risk of loss,
 7 injury or death involving wildland fires. Therefore, this impact would not be adverse.

8 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
 9 death involving wildland fires during construction or operation and maintenance of the water
 10 conveyance facilities because the alternative would comply with Cal-OSHA fire prevention and
 11 safety standards; DWR would implement standard fire safety and prevention measures, as part of a
 12 FPCP (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities
 13 would not be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would
 14 be less than significant. No mitigation is required.

15 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
 16 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
 17 **Water Conveyance Facilities**

18 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
 19 conveyance facilities would be similar to those described for Alternative 1A. Under this alternative,
 20 however, the potential for hazards associated with intake pumping plants and sediment basins
 21 would be less widespread, as only one intake facility would be operated and maintained.
 22 Nonetheless, this alternative may require the transport, storage, and use of chemicals or hazardous
 23 waste materials including fuel, oils, grease, solvents, and paints. Solids collected at solids lagoons
 24 and sediment dredged during intake maintenance may contain hazardous constituents (e.g.,
 25 persistent pesticides, mercury, PCBs). To ensure that potentially contaminated sediment from
 26 maintenance dredging activities at the intakes would not adversely affect soil, groundwater or
 27 surface water, a SAP would be implemented prior to any dredging activities, as described under
 28 Impact HAZ-1 for this alternative. All sediment would be characterized chemically prior to reuse to
 29 ensure that reuse of this material would not result in a hazard to the public or the environment.

30 The locations of airports with respect to the pipeline/tunnel alignment are provided in Figure 24-9.
 31 The Borges-Clarksburg, Walnut Grove, and Spezia Airports (all private air facilities) and the Byron
 32 Airport (a public air facility) would be located within 2 miles of the Alternative 5 construction
 33 footprint (Figure 24-9 and Table 24-6). With the exception of power transmission lines supplying
 34 power to pumps, surge towers, and other equipment used for water conveyance facilities operation
 35 and maintenance, water conveyance facilities operations and maintenance are not anticipated to
 36 require high-profile equipment, the use of which near an airport runway could result in an adverse
 37 effect on aircraft. DWR would adhere to all applicable FAA regulations (14 CFR 77) and coordinate
 38 with Caltrans' Division of Aeronautics prior to initiating maintenance activities requiring high-
 39 profile equipment to avoid adverse effects on air safety. Compliance with these recommendations,
 40 which could include limitations necessary to minimize potential problems, such as the use of
 41 temporary construction equipment, supplemental notice requirements, and marking and lighting
 42 high-profile structures would reduce the potential for impacts on air safety.

43 There are no sensitive receptors (i.e., schools, hospitals and parks) located within 0.25 mile of
 44 Alternative 5.

1 Because the types of potentially hazardous materials used during routine operation and
 2 maintenance activities would be used in relatively small quantities, and because BMPs, as would be
 3 implemented in the SWPPPs, SPCCPs, and HMMPs, would be in place to help prevent the inadvertent
 4 release of these materials and to contain and remediate spills should they occur, the risk to the
 5 public and environment would be negligible. Further, under Mitigation Measure HAZ-6, solids from
 6 the solids lagoons would be sampled and characterized to evaluate disposal options, and disposed of
 7 accordingly at an appropriate, licensed facility. These measures would ensure that this effect is not
 8 adverse.

9 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
 10 operation and maintenance of the water conveyance facilities and the potential interference with air
 11 safety through the use of high-profile equipment for maintenance of proposed transmission lines
 12 could have impacts on the public and environment. However, implementation of the BMPs and other
 13 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
 14 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
 15 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
 16 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
 17 profile equipment within 2 miles of an airport, which would include implementation of
 18 recommendations to provide supplemental notice and/or equip high-profile structures with
 19 marking and lighting, would ensure that operation and maintenance of the water conveyance
 20 facilities would not create a substantial hazard to the public, environment or air traffic safety.
 21 Therefore, this impact would be less than significant.

22 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse** 23 **and/or Disposal**

24 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
 25 1A.

26 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the** 27 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation** 28 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

29 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
 30 the implementation of conservation measures (CM2-CM11, CM13, CM 14, CM16, and CM18) to
 31 create hazards to workers, the public, and the environment would be similar to those described
 32 under Alternative 1A. Effects related to tidal habitat restoration, however, would be less widespread
 33 under this alternative, because the target area for restoration under this alternative is limited to
 34 approximately 25,000 acres. Hazardous materials associated with the operation of construction
 35 equipment could be released into the environment in the course of the materials' routine transport,
 36 use, or disposal. Releases could also occur as a result of accidental circumstances. Similarly,
 37 construction activities could encounter known or unknown hazardous materials sites located on or
 38 in the vicinity of construction sites, creating the potential for their disturbance and release. Other
 39 activities, including the intentional demolition of existing structures (e.g., buildings) and reuse of
 40 spoil, dredged material and/or RTM, would also present the potential to generate hazards or release
 41 hazardous materials. However, prior to the reuse of spoils, dredged material or RTM, these
 42 materials would undergo chemical characterization, as described in Appendix 3B, *Environmental*
 43 *Commitments*, to ensure that they are not creating a hazard to the public and environment.

1 Further, other potential hazards that could result from implementing conservation measures
 2 include the possible release of hazardous substances in proximity to sensitive receptors; damage or
 3 disruption of existing infrastructure such that hazardous conditions were created; the accidental
 4 release of hazardous substances during operation and maintenance (e.g., herbicides for nonnative
 5 vegetation control); the release, in the short-term, of pesticides from former agricultural lands as a
 6 result of wetland and floodplain restoration; the potential for safety hazards related to construction
 7 in the vicinity of an airport; and the potential for wildfire hazards in the vicinity of construction
 8 sites.

9 These potential effects, were they to occur, would be adverse. However, with implementation of
 10 Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, TRANS-1a, and environmental commitments
 11 (discussed previously for Impacts HAZ-1 through HAZ-6, and in detail in Appendix 3B,
 12 *Environmental Commitments*), the potential for adverse effects would be reduced. Additionally, the
 13 proposed conservation measures would be designed to avoid sensitive receptors and would
 14 minimize, to the extent feasible, the need to acquire or traverse areas where the presence of
 15 hazardous materials is suspected or has been verified. Thus, this effect would not be adverse.

16 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
 17 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

18 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 19 public to hazardous substances or conditions during construction, operation, and maintenance of
 20 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation measures
 21 implementation would involve extensive use of heavy equipment during construction, and/or the
 22 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 23 for nonnative vegetation control). These chemicals could be inadvertently released, exposing
 24 construction workers or the public to hazards. Construction of restoration projects on or near
 25 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 26 materials, and the use of high-profile equipment in close proximity to airport runways could result
 27 in hazards to air traffic. However, in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 28 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 29 implemented, all of which would ensure that these potential impacts are less than significant.

30 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 31 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 32 **Construction Footprint, and Remediate and/or Contain Contamination**

33 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 34 1A.

35 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 36 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 37 **Dispose of Them in Accordance with Applicable Regulations**

38 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 39 1A.

1 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

2 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
3 Chapter 20, *Public Services and Utilities*.

4 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
5 **Minimizes Any Effect on Worker and Public Health and Safety**

6 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
7 Chapter 20, *Public Services and Utilities*.

8 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
9 **Plan**

10 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
11 1A in Chapter 19, *Transportation*.

12 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
13 **Conservation Measures That Create or Improve Wildlife Habitat**

14 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
15 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
16 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
17 from Alternative 1A would be anticipated to be minor but could result from the selection of different
18 areas for restoration activities based on the location of the physical water conveyance features
19 associated with each alternative. Such variation may result greater or less opportunity for bird-
20 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
21 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
22 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
23 Airport; Sacramento International Airport, and Byron Airport.

24 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
25 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
26 would reduce the severity of this effect through the development and implementation of measures
27 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
28 adverse.

29 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
30 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
31 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
32 significant impacts on public safety. The following airports, because they are in relatively close
33 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
34 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
35 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
36 through the ultimate development and implementation of measures to reduce, minimize and/or
37 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
38 significant and unavoidable.

1 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 2 **Regulatory Agencies**

3 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 4 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 5 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 6 extent possible.

7 **24.3.3.11 Alternative 6A—Isolated Conveyance with Pipeline/Tunnel and**
 8 **Intakes 1-5 (15,000 cfs; Operational Scenario D)**

9 **Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the**
 10 **Release of Hazardous Materials or by Other Means during Construction of the Water**
 11 **Conveyance Facilities**

12 **NEPA Effects:** Potential hazards to the public or the environment through the routine transport, use,
 13 or disposal of hazardous materials during construction of the water conveyance facilities for
 14 Alternative 6A would be the same as those described under Alternative 1A. Similarly, potential
 15 hazards associated with natural gas accumulation in tunnels, existing contaminants in soil, sediment
 16 or groundwater, hazardous constituents present in RTM, infrastructure containing hazardous
 17 materials, and routine transportation of hazardous materials would also be the same as under
 18 Alternative 1A.

19 As with Alternative 1A, tunnel construction activities would carry the potential to encounter gases
 20 that could enter the tunnels and accumulate to flammable or explosive concentrations. Hazardous
 21 constituents associated with RTM are not anticipated; however, the possibility exists for RTM and
 22 decanted water to pose a hazard to the construction workers, the public, or the environment.
 23 Additionally, stored bulk quantities of hazardous materials that have been released to soils and
 24 groundwater could be rereleased during construction, also posing a potential hazard. Water
 25 conveyance facilities construction may also require dredging contaminated sediments. Existing
 26 infrastructure, including oil and gas wells, also have the potential to release hazardous materials, as
 27 would the transport of hazardous materials during facility construction. Additionally, Approximately
 28 204 permanent structures would be removed or relocated within the water conveyance facility
 29 footprint under this alternative. This includes approximately 59 residential buildings; 15
 30 recreational structures; 120 storage and agricultural support structures; and 10 other types of
 31 structures (e.g., power/utility structures, bridges, and other infrastructure). One fire station in the
 32 community of Hood would also be affected. Most of these structures occur within the physical
 33 footprints of the intake facilities and their associated conveyance pipelines. These structures may
 34 contain hazardous materials in the form of building materials containing asbestos or lead-based
 35 paint, stored liquid paints and solvents, and household or industrial-strength maintenance
 36 chemicals and cleaners. These materials would require proper handling and disposal. As described
 37 for Impact HAZ-1 under Alternative 1A, Mitigation Measure HAZ-1b would be implemented by DWR
 38 to ensure that there are no adverse effects related to hazardous materials from structure demolition.

39 Further, as described for Alternative 1A under Impact HAZ-1, in general, the transportation of
 40 hazardous materials via trucks, trains and ships poses potential risks associated with the accidental
 41 release of these materials to the environment. Rerouting vehicular traffic carrying hazardous
 42 materials during construction of the water conveyance facilities could increase the risk of accidental
 43 release due to inferior road quality or lack of driver familiarity with the modified routes. Hazardous

1 materials transportation routes are presented in Figure 24-2 and in Table 24-4. Routes anticipated
2 to be affected during construction of the water conveyance facilities are described in Chapter 19,
3 *Transportation*. Barges supporting water conveyance facilities construction may also transport
4 hazardous materials such as fuels and lubricants or other chemicals. The potential exists for
5 accidental release of hazardous materials from BDCP-related barges. To avoid effects on the
6 environment related to this issue, BMPs would be implemented as part of a Barge Operations Plan
7 (as discussed under Impact HAZ-1 for Alternative 1A and in Appendix 3B, *Environmental*
8 *Commitments*) that would reduce the potential for accidental releases of hazardous materials during
9 transport and transfer. Finally, under this alternative, the proposed conveyance crosses under the
10 existing BNSF/Amtrak San Joaquin line between Bacon Island and Woodward Island; however, the
11 effect of this crossing would likely be minimal because the proposed conveyance would traverse the
12 railroad in a deep bore tunnel (see Chapter 19 for discussion). Further, the UPRR runs proximate to
13 the construction area of the proposed Byron Forebay; however, construction is unlikely to disrupt
14 rail service because much of this line has not been in service recently.

15 As described under Impact HAZ-1 for Alternative 1A, mitigation measures would be in place to
16 ensure that there are no adverse effects on road, rail, or water transportation, and, thus, the
17 potential for the construction of the water conveyance facilities to pose risks related to the
18 transportation of hazardous materials would be minimal. As described in Chapter 19,
19 *Transportation*, under Mitigation Measure TRANS-1a, a site-specific construction traffic
20 management plan, taking into account hazardous materials transportation, would be prepared and
21 implemented prior to initiation of construction of water conveyance facilities. Any potential effects
22 on rail traffic and any hazardous materials transport therein during construction would be reduced
23 with implementation of Mitigation Measure TRANS-1a, which would include stipulations to
24 coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or
25 buses) that could be used to provide freight and/or passenger service during any longer term
26 railroad closures and daily construction time windows during which construction would be
27 restricted or rail operations would need to be suspended for any activity within railroad rights of
28 way. This would minimize the potential risk of release of hazardous materials being transported via
29 these rails. As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will
30 minimize, to the extent feasible, the need to acquire or traverse areas where the presence of
31 hazardous materials is suspected or has been verified. Further, environmental commitments would
32 be implemented, including SWPPPs, SPCCPs, SAPs, and HMMPs; a Barge Operations Plan; and
33 chemical characterization of RTM prior to reuse (e.g., RTM in levee reinforcement) or discharge. The
34 environmental commitments would reduce these potential hazards associated with water
35 conveyance facilities construction. Additionally, the implementation of Mitigation Measures HAZ-1a
36 and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a
37 (described in Chapter 19, *Transportation*) would further reduce the potential severity of this impact.
38 As such, construction of the water conveyance facilities would not create a substantial hazard to the
39 public or the environment through the routine transport, use, or disposal of hazardous materials or
40 the upset/accidental release of these materials. Thus, this effect would not be adverse.

41 **CEQA Conclusion:** During construction of the water conveyance facilities the potential would exist
42 for direct significant impacts on construction personnel, the public and/or the environment
43 associated with the routine use of hazardous materials; natural gas accumulation in water
44 conveyance tunnels; the inadvertent release of existing contaminants in soil, groundwater, and
45 sediment, or hazardous materials in existing infrastructure to be removed; disturbance of electrical
46 transmission lines; and hazardous constituents present in RTM. Additionally, there is the potential

1 for the construction of the proposed water conveyance facility to indirectly result in the release of
2 hazardous materials through the disruption of existing road, rail, and or river hazardous materials
3 transport routes, which, were this to occur, would be considered a significant impact. However, with
4 the implementation of the previously described environmental commitments and Mitigation
5 Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and*
6 *Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*), construction of the water
7 conveyance facilities would not create a substantial hazard to the public or the environment through
8 the routine transport, use, or disposal of hazardous materials or the upset/accidental release of
9 these materials. As such, these impacts would be less than significant.

10 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
11 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
12 **Construction Footprint, and Remediate and/or Contain Contamination**

13 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
14 1A.

15 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
16 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
17 **Dispose of Them in Accordance with Applicable Regulations**

18 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
19 1A.

20 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

21 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
22 Chapter 20, *Public Services and Utilities*.

23 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
24 **Minimizes Any Effect on Worker and Public Health and Safety**

25 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
26 Chapter 20, *Public Services and Utilities*.

27 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
28 **Plan**

29 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
30 1A in Chapter 19, *Transportation*.

31 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
32 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
33 **Facilities**

34 **NEPA Effects:** An adverse effect may occur if a construction work site is located within 0.25 mile of
35 an existing or proposed school, or other sensitive receptor, and releases hazardous materials that
36 pose a health hazard. However, no schools, parks or hospitals are located within 0.25 mile of
37 Alternative 6A. Therefore, no sensitive receptors would be exposed to hazardous materials,
38 substances, or waste during construction of the water conveyance facilities under Alternative 6A. As

1 such, there would be no effect. Potential air quality effects on sensitive receptors are discussed in
2 Chapter 22, *Air Quality and Greenhouse Gases*.

3 **CEQA Conclusion:** There are no schools, parks or hospitals located within 0.25 mile of the
4 Alternative 6A water conveyance facilities alignment, therefore, there would be no impact due to
5 exposure of sensitive receptors to hazardous materials, substances or waste during construction of
6 the water conveyance facilities. Accordingly, there would be no impact. No mitigation is required.
7 Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and*
8 *Greenhouse Gases*.

9 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
10 **Create a Significant Hazard to the Public or the Environment**

11 **NEPA Effects:** There are no “Cortese List” sites or known SOCs within the construction footprint of
12 Alternative 6A (Table 24-5 and Figure 24-4), and therefore there would be no conflict pertaining to
13 a known hazardous materials site during construction of the water conveyance facilities, and thus,
14 no related hazard to the public or the environment.). For those hazardous materials sites identified
15 within the 0.5-mile radius but which are not within the construction footprint, there would be no
16 potential for construction of the water conveyance facilities to disturb those sites such that there
17 would be a re-release of hazardous materials that would create a hazard for the public or
18 environment. Therefore, the potential for hazards associated with existing SOCs is assumed to be
19 minimal, and as such, there would be no effect. The potential for encountering unknown hazardous
20 materials sites during the course of construction is discussed under Impact HAZ-1.

21 **CEQA Conclusion:** Because there are no known SOCs within the construction footprint of the water
22 conveyance facility under this alternative, there would be no conflict with known hazardous
23 materials sites during construction of the water conveyance facilities, and therefore, no related
24 hazard to the public or the environment. As such, there would be no impact. The potential for
25 encountering unknown hazardous materials sites during the course of construction is discussed
26 under Impact HAZ-1.

27 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
28 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
29 **Study Area during Construction of the Water Conveyance Facilities**

30 **NEPA Effects:** Safety hazards to aircraft posed by high-profile construction equipment, such as
31 cranes and pile drivers, or structures (e.g., proposed transmission lines and towers), would be the
32 same as those described under Alternative 1A. Because the Borges-Clarksburg, Spezia and Walnut
33 Grove Airports (private air facilities) and the Byron Airport (a public air facility) would be located
34 within 2 miles of project features within the construction footprint that may require not only the use
35 of high-profile (200 feet or taller) construction equipment but also the use of helicopters (stringing
36 of a proposed permanent 230 kV transmission line), there could be potential effects on air safety.

37 However, as required, BDCP proponents would inform Caltrans’ Division of Aeronautics in writing
38 prior to construction and would adhere to any recommendations resulting from Caltrans’ site
39 investigations, which would ensure that there are no adverse effects on air safety. Further, the BDCP
40 proponents would comply with the recommendations of the OE/AAA (for Byron Airport) (14 CFR
41 77), as described under Impact HAZ-4 under Alternative 1A. These actions would ensure that there
42 are no adverse effects on air safety.

1 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
 2 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
 3 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
 4 example, and potentially pile drivers, such as would be used during the construction of the intakes,
 5 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
 6 is operated too close to runways. Three private airports (Borges-Clarksburg, Spezia, and Walnut
 7 Grove Airports) and one public airport (Byron Airport) are located within 2 miles of the
 8 construction footprint of Alternative 6A. DWR would coordinate with Caltrans' Division of
 9 Aeronautics prior to initiating construction and comply with its recommendations based on its
 10 investigation(s), as well comply with the recommendations of the OE/AAA (for Byron Airport).
 11 Compliance with these recommendations, which could include limitations necessary to minimize
 12 potential problems, such as the use of temporary construction equipment, supplemental notice
 13 requirements, and marking and lighting high-profile structures would reduce the potential for
 14 impacts on air safety. Accordingly, impacts on air safety would be less than significant. No mitigation
 15 is required.

16 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
 17 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
 18 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
 19 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

20 **NEPA Effects:** Hazards related to wildland fires would be similar to those described under
 21 Alternative 1A. The northernmost and southernmost extent of this conveyance alignment would be
 22 adjacent to zones of moderate fire hazard severity.

23 As described under Alternative 1A and in Appendix 3B, *Environmental Commitments*, precautions
 24 would be taken to prevent wildland fires during construction, and operation and maintenance of the
 25 water conveyance facilities in full compliance with Cal-OSHA standards for fire safety and
 26 prevention. Additionally, DWR would develop and implement fire safety, prevention and control
 27 BMPs as part of a FPCP in coordination with federal, state, and local agencies. Implementation of
 28 these would help ensure that people or structures would not be subject to a significant risk of loss,
 29 injury or death involving wildland fires. Therefore, this effect would not be adverse.

30 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
 31 death involving wildland fires during construction or operation and maintenance of the water
 32 conveyance facilities because the alternative would comply with Cal-OSHA fire prevention and
 33 safety standards; DWR would implement standard fire safety and prevention measures, as part of a
 34 FPCP (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities
 35 would not be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would
 36 be less than significant. No mitigation is required.

37 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
 38 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
 39 **Water Conveyance Facilities**

40 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
 41 conveyance facilities would be similar to those described for Alternative 1A. Under this alternative,
 42 however, the potential for hazards associated with intake pumping plants and sediment basins
 43 could be greater, based upon heavier and more frequent use of north Delta intakes under isolated

1 operational guidelines. This alternative may require the transport, storage, and use of chemicals or
2 hazardous waste materials including fuel, oils, grease, solvents, and paints. Solids collected at solids
3 lagoons and sediment dredged during intake maintenance may contain hazardous constituents (e.g.,
4 persistent pesticides, mercury, PCBs). To ensure that potentially contaminated sediment from
5 maintenance dredging activities at the intakes would not adversely affect soil, groundwater or
6 surface water, a SAP would be implemented prior to any dredging activities, as described under
7 Impact HAZ-1 for this alternative. All sediment would be characterized chemically prior to reuse to
8 ensure that reuse of this material would not result in a hazard to the public or the environment.

9 The locations of airports with respect to the pipeline/tunnel alignment are provided in Figure 24-9.
10 The Borges-Clarksburg, Walnut Grove, and Spezia Airports (all private facilities), and Byron Airport
11 (a public facility) would be located within 2 miles of the Alternative 6A construction footprint
12 (Figure 24-9 and Table 24-6). With the exception of power transmission lines supplying power to
13 pumps, surge towers, and other water conveyance facilities equipment, water conveyance facilities
14 operations and maintenance are not anticipated to require high-profile equipment, the use of which
15 near an airport runway could result in an adverse effect on aircraft. DWR would comply with
16 recommendations of an OE/AAA (for Byron Airport), and would coordinate with Caltrans' Division
17 of Aeronautics prior to initiating maintenance activities requiring high-profile equipment to avoid
18 adverse effects on air safety. Compliance with these recommendations, which could include
19 limitations necessary to minimize potential problems, such as the use of temporary construction
20 equipment, supplemental notice requirements, and marking and lighting high-profile structures
21 would reduce the potential for impacts on air safety.

22 Potential releases of hazardous materials could result in an adverse effect on workers, the public
23 (including sensitive receptors within 0.25 mile of the water conveyance facilities). There are no
24 sensitive receptors (i.e., schools, hospitals and parks) located within 0.25 mile of Alternative 6A.

25 Because the types of potentially hazardous materials used during routine operation and
26 maintenance activities would be used in relatively small quantities, and because BMPs, as would be
27 implemented in the SWPPPs, SPCCPs, and HMMPs, would be in place to help prevent the inadvertent
28 release of these materials and to contain and remediate spills should they occur, the risk to the
29 public and environment would be negligible. Further, under Mitigation Measure HAZ-6, solids from
30 the solids lagoons would be sampled and characterized to evaluate disposal options, and disposed of
31 accordingly at an appropriate, licensed facility. These measures would ensure that this effect is not
32 adverse.

33 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
34 operation and maintenance of the water conveyance facilities and the potential interference with air
35 safety through the use of high-profile equipment for maintenance of proposed transmission lines
36 could have impacts on the public and environment. However, implementation of the BMPs and other
37 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
38 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
39 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
40 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
41 profile equipment within 2 miles of an airport, which would include implementation of
42 recommendations to provide supplemental notice and/or equip high-profile structures with
43 marking and lighting, would ensure that operation and maintenance of the water conveyance
44 facilities would not create a substantial hazard to the public, environment or air traffic safety.
45 Therefore, this impact would be less than significant.

1 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
2 **and/or Disposal**

3 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
4 1A.

5 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
6 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
7 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

8 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
9 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
10 create hazards to workers, the public, and the environment would be similar to those described
11 under Alternative 1A. Hazardous materials associated with the operation of construction equipment
12 could be released into the environment in the course of the materials' routine transport, use, or
13 disposal. Releases could also occur as a result of accidental circumstances. Similarly, construction
14 activities could encounter known or unknown hazardous materials sites located on or in the vicinity
15 of construction sites, creating the potential for their disturbance and release. Other activities,
16 including the intentional demolition of existing structures and reuse of spoil, dredged material
17 and/or RTM, would also present the potential to generate hazards or release hazardous materials.
18 However, prior to the reuse of spoils, dredged material or RTM, these materials would undergo
19 chemical characterization, as described in Appendix 3B, *Environmental Commitments*, to ensure that
20 they are not creating a hazard to the public and environment.

21 Further, other potential hazards that could result from implementing conservation measures
22 include the possible release of hazardous substances in proximity to sensitive receptors; damage or
23 disruption of existing infrastructure such that hazardous conditions were created; the accidental
24 release of hazardous substances during operation and maintenance (e.g., herbicides for nonnative
25 vegetation control); the release, in the short-term, of pesticides from former agricultural lands as a
26 result of wetland and floodplain restoration; the potential for safety hazards related to construction
27 in the vicinity of an airport; and the potential for wildfire hazards in the vicinity of construction
28 sites.

29 These potential effects, were they to occur, would be adverse. However, with implementation of
30 Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, TRANS-1a, and environmental commitments
31 (discussed previously for Impacts HAZ-1 through HAZ-6 under Alternative 1A, and in detail in
32 Appendix 3B, *Environmental Commitments*), the potential for adverse effects would be reduced.
33 Additionally, the proposed conservation measures would be designed to avoid sensitive receptors
34 and would minimize, to the extent feasible, the need to acquire or traverse areas where the presence
35 of hazardous materials is suspected or has been verified. As such, this effect would not be adverse.

36 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
37 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

38 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
39 public to hazardous substances or conditions during construction, operation, and maintenance of
40 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
41 implementation would involve extensive use of heavy equipment during construction, and/or the
42 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
43 for nonnative vegetation control). These chemicals could be inadvertently released and could expose

1 construction workers or the public to hazards. Construction of restoration projects on or near
 2 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 3 materials, and the use of high-profile equipment in close proximity to airport runways could result
 4 in hazards to air traffic. However in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 5 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 6 implemented, all of which would ensure that these potential impacts are less than significant.

7 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 8 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 9 **Construction Footprint, and Remediate and/or Contain Contamination**

10 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 11 1A.

12 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 13 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 14 **Dispose of Them in Accordance with Applicable Regulations**

15 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 16 1A.

17 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

18 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 19 Chapter 20, *Public Services and Utilities*.

20 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 21 **Minimizes Any Effect on Worker and Public Health and Safety**

22 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 23 Chapter 20, *Public Services and Utilities*.

24 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 25 **Plan**

26 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 27 1A in Chapter 19, *Transportation*.

28 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
 29 **Conservation Measures That Create or Improve Wildlife Habitat**

30 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
 31 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
 32 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
 33 from Alternative 1A would be anticipated to be minor but could result from the selection of different
 34 areas for restoration activities based on the location of the physical water conveyance features
 35 associated with each alternative. Such variation may result greater or less opportunity for bird-
 36 aircraft strikes depending on the location's proximity to airport flight zones. The following airports,
 37 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
 38 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
 39 Airport; Sacramento International Airport, and Byron Airport.

1 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
 2 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
 3 would reduce the severity of this effect through the development and implementation of measures
 4 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
 5 adverse.

6 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
 7 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
 8 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
 9 significant impacts on public safety. The following airports, because they are in relatively close
 10 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
 11 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
 12 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
 13 through the ultimate development and implementation of measures to reduce, minimize and/or
 14 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
 15 significant and unavoidable.

16 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 17 **Regulatory Agencies**

18 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 19 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 20 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 21 extent possible.

22 **24.3.3.12 Alternative 6B—Isolated Conveyance with East Alignment and**
 23 **Intakes 1–5 (15,000 cfs; Operational Scenario D)**

24 **Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the**
 25 **Release of Hazardous Materials or by Other Means during Construction of the Water**
 26 **Conveyance Facilities**

27 **NEPA Effects:** Hazards to the public or the environment through the routine transport, use, or
 28 disposal of hazardous materials during construction of the water conveyance facilities for Alternative
 29 6B would be the same as those described under Alternative 1B.

30 As described in Chapter 3, *Description of Alternatives*, during construction of Alternative 1B six
 31 locations would be designated as temporary fueling stations. Each fueling station would occupy two
 32 acres and each would be located adjacent to a concrete batch plant. Fueling station locations are
 33 shown in Figure 24-7. Fueling stations would be established in currently rural areas with two at the
 34 intakes on the northern end of the conveyance alignment, three along the length of the canal
 35 alignment and one fueling station would be near the pumping facilities on the southern end. Bulk
 36 fuel would be stored at fueling stations and potentially pose the risk of vehicle fueling spills and
 37 leakage from above-ground storage tanks at fueling stations.

38 Potential hazards associated with natural gas accumulation in tunnels, existing contaminants in soil,
 39 river sediment or groundwater, hazardous constituents present in RTM, infrastructure containing
 40 hazardous materials, and the disruption of existing hazardous materials transport routes would be
 41 the same as those described under Alternative 1B. Like Alternative 1B, under this alternative, there
 42 are 9 overhead power/electrical transmission lines and three natural gas pipelines and five

1 petroleum product pipelines (Table 24-3), 57 inactive and four active oil or gas wells within the
2 proposed Alternative 6B water conveyance construction footprint (California Department of Water
3 Resources 2010b:13-1).

4 Existing structures that would need to be removed or relocated are the same as described for
5 Alternative 1B. These structures may contain hazardous materials that would require proper
6 handling and disposal, if demolition is necessary. As described for Impact HAZ-1 under Alternative
7 1A, Mitigation Measure HAZ-1b would be implemented by DWR to ensure that there are no adverse
8 effects related to hazardous materials from structure demolition. Risks associated with the
9 transportation of hazardous materials via truck, trains, and ships would be similar to those
10 described under Alternative 1A but would occur in different areas. Hazardous materials
11 transportation routes that would be used under this alternative are presented in Figure 24-2 and in
12 Table 24-4. Routes anticipated to be affected during construction of the water conveyance facilities
13 are listed in Chapter 19, *Transportation*. Under Mitigation Measure TRANS-1a, a site-specific
14 construction traffic management plan, taking into account hazardous materials transportation,
15 would be prepared and implemented prior to initiation of construction of water conveyance
16 facilities. This plan would reduce the potential for effects on hazardous materials transportation
17 routes in the study area. Barges supporting water conveyance facilities construction may also
18 transport hazardous materials such as fuels and lubricants or other chemicals. The potential exists
19 for accidental release of hazardous materials from BDCP-related barges. To avoid effects on the
20 environment related to this issue, BMPs would be implemented as part of a Barge Operations Plan
21 (as discussed under Impact HAZ-1 for Alternative 1A and in Appendix 3B, *Environmental*
22 *Commitments*) that would reduce the potential for accidental releases of hazardous materials during
23 transport and transfer. Further, the Alternative 6B water conveyance facilities alignment would
24 cross one railroad ROW at the BNSF railroad in San Joaquin County near Holt. A culvert siphon
25 would be built at this rail crossing, reducing potential hazards associated with rail transportation.
26 Two segments of a UPRR line would intersect with bridge facilities constructed east of the intake
27 facilities and other construction work areas would be immediately adjacent to an out-of-service
28 UPRR Tracy Subdivision branch line near the California Aqueduct at the southern end of the water
29 conveyance facilities. Because these crossings are in construction work areas, train operations along
30 the BNSF Railway/Amtrak San Joaquin Line could be affected. Additional conflicts could arise if the
31 out-of-service UPRR line were reopened. Mitigation Measure TRANS-1a would include stipulations
32 to coordinate with rail providers to develop alternative interim transportation modes (e.g., trucks or
33 buses) that could be used to provide freight and/or passenger service during any longer term
34 railroad closures and daily construction time windows during which construction would be
35 restricted or rail operations would need to be suspended for any activity within railroad rights of
36 way. This would minimize the potential risk of release of hazardous materials being transported via
37 these rails.

38 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
39 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials
40 is suspected or has been verified. Further, environmental commitments would be implemented,
41 including SWPPPs, SPCCPs, SAPs, and HMMPs; a Barge Operations Plan; and chemical
42 characterization of RTM prior to reuse (e.g., RTM in levee reinforcement) or discharge. Together, the
43 environmental commitments would reduce these potential hazards associated with water
44 conveyance facilities construction. Additionally, the implementation of Mitigation Measures HAZ-1a
45 and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a,
46 TRANS-5a, and TRANS-6 (described in Chapter 19, *Transportation*) would further reduce the

1 potential severity of this impact. As such, construction of the water conveyance facilities would not
 2 create a substantial hazard to the public or the environment through the routine transport, use, or
 3 disposal of hazardous materials or the upset/accidental release of these materials. Thus, this effect
 4 would not be adverse.

5 **CEQA Conclusion:** During construction of the water conveyance facilities, the potential would exist
 6 for direct significant impacts on construction personnel, the public and/or the environment
 7 associated with the routine use of hazardous materials; natural gas accumulation in water
 8 conveyance tunnels; the inadvertent release of existing contaminants in soil, sediment and
 9 groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
 10 electrical transmission lines; and potentially hazardous constituents present in RTM. Additionally,
 11 the potential would exist for the construction of the water conveyance facilities to indirectly result
 12 in the release of hazardous materials through the disruption of existing road, rail, or river hazardous
 13 materials transport routes, which, were this to occur, would be considered a significant impact.
 14 However, with the implementation of the previously described environmental commitments (for
 15 Impact HAZ-1 under Alternative 1A) and Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c
 16 (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in Chapter 19,
 17 *Transportation*), construction of the water conveyance facilities would not create a substantial
 18 hazard to the public or the environment through the routine transport, use, or disposal of hazardous
 19 materials or the upset/accidental release of these materials. Accordingly, these impacts would be
 20 less than significant.

21 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 22 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 23 **Construction Footprint, and Remediate and/or Contain Contamination**

24 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 25 1A.

26 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 27 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 28 **Dispose of Them in Accordance with Applicable Regulations**

29 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 30 1A.

31 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

32 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 33 Chapter 20, *Public Services and Utilities*.

34 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 35 **Minimizes Any Effect on Worker and Public Health and Safety**

36 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 37 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
2 **Plan**

3 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
4 1A in Chapter 19, *Transportation*.

5 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
6 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
7 **Facilities**

8 **NEPA Effects:** There are no schools or hospitals within 0.25 mile of Alternative 6B. However,
9 Buckley Cove and Nelson Parks, both in Stockton, are within 0.25 mile of the construction footprint
10 of this alternative. Buckley Cove Park is west of a proposed borrow and/or spoils area across the
11 Stockton Deep Water Ship Channel, and Nelson Park is just north of a proposed temporary 69 kV
12 transmission line. Potential effects related to the handling of hazardous materials as part of
13 construction of the water conveyance facilities would be similar to those described under Impact
14 HAZ-2 for Alternative 1A. Although there would be a risk of accidental spills of hazardous materials
15 (e.g., fuels, solvents, paints) during facility construction, the quantities of hazardous materials likely
16 to be used during construction activities are likely to be small, and were they to be released
17 inadvertently, spills would be localized. Further, BMPs to minimize the potential for the accidental
18 release of hazardous materials and to contain and remediate hazardous spills, as part of the
19 SWPPPs, SPCCPs, and HMMPs, would be implemented, as set forth in Appendix 3B, *Environmental*
20 *Commitments*. Therefore, it is unlikely people at these parks would be at risk or adversely affected
21 due to exposure of hazardous materials, substances, or waste during construction of the water
22 conveyance facilities. As such, this effect would not be adverse. Potential air quality effects on
23 sensitive receptors are discussed in Chapter 22, *Air Quality and Greenhouse Gases*, and potential EMF
24 effects on sensitive receptors are discussed in Chapter 25, *Public Health*.

25 **CEQA Conclusion:** There are no schools or hospitals within 0.25 mile of Alternative 6B. Buckley
26 Cove and Nelson Parks in Stockton are within 0.25 mile of the construction footprint of Alternative
27 6B. Buckley Cove Park is west of a proposed borrow and/or spoils area across the Stockton Deep
28 Water Ship Channel, and Nelson Park is located just north of a proposed temporary 69 kV
29 transmission line. During construction of the water conveyance facilities under this alternative,
30 there would be a risk of accidental spills of hazardous materials used during construction activities.
31 However, the potential for significant impacts on people at these parks due to these potential
32 inadvertent releases would be negligible because spills would likely be small and localized. Further,
33 BMPs to minimize the potential for the accidental release of hazardous materials and to contain and
34 remediate hazardous spills, as part of the SWPPPs, SPCCPs, and HMMPs, would be implemented, as
35 set forth in Appendix 3B, *Environmental Commitments*. Therefore, people at these parks would not
36 be at risk or affected by exposure to hazardous materials, substances, or waste during construction
37 of the water conveyance facilities, and as such, this impact would be less than significant. Potential
38 air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and Greenhouse*
39 *Gases*, and potential EMF effects on sensitive receptors are discussed in Chapter 25, *Public Health*.

40 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
41 **Create a Significant Hazard to the Public or the Environment**

42 **NEPA Effects:** Effects related to sites on the Cortese List and SOCs would be the same as those
43 described under Alternative 1B. The Sarale Farms site (a "Cortese List" site) and Kinder Morgan

1 Energy pipeline access station site are located within the construction footprints for proposed
 2 temporary 69 kV transmission lines (Table 24-5 and Figure 24-4). At the Sarale Farms site, a 10,000-
 3 gallon petroleum UST was removed in 1992. Soil and groundwater contain petroleum products in
 4 excess of cleanup standards.

5 Because construction of the temporary transmission line would not entail deep excavation or
 6 require dewatering activities, no conflict with existing hazards at this site are anticipated. However,
 7 if dewatering and/or deep excavation were required in this area contaminated groundwater could
 8 be drawn up and/or contaminated soils may be disturbed, respectively. Improper disposal of
 9 contaminated excavated soils or groundwater would have the potential to adversely affect the
 10 environment. To avoid this potential adverse effect, Mitigation Measure HAZ-1a would be
 11 implemented to ensure that any known or suspected soil and/or groundwater contamination is not
 12 re-released. Further, design of the transmission line, including pole placement, would avoid the
 13 Kinder Morgan Energy and Sarale Farms site to the extent practicable to ensure there were no
 14 adverse hazardous effects associated with construction on or in close proximity to these sites.

15 For those hazardous materials sites identified within the 0.5-mile radius of Alternative 6B but which
 16 are not within the construction footprint, there would be no potential for the construction of the
 17 water conveyance facilities to disturb those sites such that there would be a re-release of hazardous
 18 materials that would create a hazard for the public or environment. Therefore, there would be no
 19 adverse effect. The potential for encountering unknown hazardous materials sites during the course
 20 of construction is discussed under Impact HAZ-1, above.

21 **CEQA Conclusion:** The re-release of hazardous materials during construction activities (dewatering
 22 and/or deep excavation) at the Sarale Farms site or the Kinder Morgan Energy pipeline access
 23 station site within the construction footprints for proposed temporary 69 kV transmission lines
 24 could result in a significant impact. However, a significant impact on the environment would be
 25 avoided with implementation of Mitigation Measure HAZ-1a. Further, project design would
 26 minimize, to the extent feasible, the need traverse areas where the presence of hazardous materials
 27 is suspected or has been verified, or where interference with existing infrastructure might result in
 28 hazards. As a result, there would be a less than significant impact on the public and/or environment
 29 under Alternative 6B because construction of the water conveyance facilities near the Kinder
 30 Morgan Energy pipeline access station site and the Sarale Farms site would not result in hazardous
 31 materials releases from these sites. The potential for encountering other unknown hazardous
 32 materials sites during the course of construction is discussed under Impact HAZ-1, above.

33 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 34 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 35 **Construction Footprint, and Remediate and/or Contain Contamination**

36 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 37 1A.

38 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
 39 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
 40 **Study Area during Construction of the Water Conveyance Facilities**

41 **NEPA Effects:** Potential effects on air safety under this alternative would be the same as Alternative
 42 1B. The Borges-Clarksburg Airport, Byron Airport, and Lost Isle Seaplane Base are within 2 miles of
 43 the Alternative 6B water conveyance facilities (Figure 24-9). The Borges-Clarksburg Airport is a

1 private, special use airport with a land use plan. The Lost Isle Seaplane Base and Byron Airport are
 2 designated as a public use airports and are subject to FAA regulations (14 CFR 77) regarding
 3 construction within 10,000 feet. Construction of a state building or enclosure within 2 miles of any
 4 airport is subject to review of Caltrans' Division of Aeronautics for safety and noise effects. In the
 5 event final locations for any state building or enclosure would be within 2 miles of any airport,
 6 Caltrans' Division of Aeronautics would require written notification and a review would be
 7 performed. DWR would adhere to any recommendations resulting from this review. Additionally,
 8 depending on the location and height of any high-profile construction equipment, the Lost Isle
 9 Seaplane Base and Byron Airport, because they are public air facilities, may be subject to an OE/AAA
 10 (14 CFR 77) to be performed by the FAA. Compliance with the results of the OE/AAA would reduce
 11 the risk of adverse effects on air traffic in the vicinity of these public airports. Thus, there would be
 12 no adverse effects on air safety.

13 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
 14 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
 15 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
 16 example, and potentially pile drivers, such as would be used during the construction of the intakes,
 17 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
 18 is operated too close to runways. Two public airports (Lost Isle Seaplane Base and Byron Airport)
 19 and one private airport (Borges-Clarksburg Airport) are located within 2 miles of the construction
 20 footprint of Alternative 6B. DWR would coordinate with Caltrans' Division of Aeronautics prior to
 21 initiating construction and comply with its recommendations based on its investigation(s), as well
 22 comply with the recommendations of the OE/AAA (for Byron Airport and the Lost Isle Seaplane
 23 Base). Compliance with these recommendations, which could include limitations necessary to
 24 minimize potential problems, such as the use of temporary construction equipment, supplemental
 25 notice requirements, and marking and lighting high-profile structures would reduce the potential
 26 for impacts on air safety. Accordingly, impacts on air safety would be less than significant. No
 27 mitigation is required.

28 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
 29 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
 30 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
 31 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

32 **NEPA Effects:** Hazards related to wildland fires would be similar to those described under
 33 Alternative 1B. The northernmost and southernmost extent of this conveyance alignment would be
 34 adjacent to zones of moderate fire hazard severity (Figure 24-10).

35 As described under Alternative 1A and in Appendix 3B, *Environmental Commitments*, precautions
 36 would be taken to prevent wildland fires during construction, and operation and maintenance of the
 37 water conveyance facilities in full compliance with Cal-OSHA standards for fire safety and
 38 prevention. Additionally, DWR would develop and implement fire safety, prevention and control
 39 BMPs as part of a FPCP in coordination with federal, state, and local agencies. Implementation of
 40 these would help ensure that people or structures would not be subject to a significant risk of loss,
 41 injury or death involving wildland fires. Therefore, this effect would not be adverse.

42 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
 43 death involving wildland fires during construction or operation and maintenance of the water
 44 conveyance facilities because the alternative would comply with Cal-OSHA fire prevention and

1 safety standards; DWR would implement standard fire safety and prevention measures, as part of a
2 FPCP (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities
3 would not be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would
4 be less than significant. No mitigation is required.

5 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
6 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
7 **Water Conveyance Facilities**

8 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
9 conveyance facilities would be similar to those described for Alternative 1B. Under Alternative 6B,
10 however, the potential for hazards associated with intake pumping plants and sediment basins
11 could be greater, based upon heavier and more frequent use of north Delta intakes under isolated
12 operational guidelines. This alternative may require the transport, storage, and use of chemicals or
13 hazardous waste materials including fuel, oils, grease, solvents, and paints. Solids collected at solids
14 lagoons and sediment dredged during intake maintenance may contain hazardous constituents (e.g.,
15 persistent pesticides, mercury, PCBs). To ensure that potentially contaminated sediment from
16 maintenance dredging activities at the intakes would not adversely affect soil, groundwater or
17 surface water, a SAP would be implemented prior to any dredging activities, as described under
18 Impact HAZ-1 for this alternative. All sediment would be characterized chemically prior to reuse to
19 ensure that reuse of this material would not result in a hazard to the public or the environment.

20 As noted above, the Borges-Clarksburg Airport, Byron Airport, and Lost Isle Seaplane Base would be
21 within 2 miles of the Alternative 6B water conveyance facilities. With the exception of the proposed
22 power transmission lines and towers, water conveyance facilities are not anticipated to require the
23 use of high-profile equipment during operations and maintenance. Depending on the location and
24 height of equipment necessary for transmission line maintenance, the Lost Isle Seaplane Base and
25 Byron Airport, because they are public air facilities, would be subject to an OE/AAA (14 CFR 77) to
26 be performed by the FAA. (14 CFR 77) regarding potential obstructions to air navigation within 2
27 miles of an airport. Additionally, DWR would coordinate Caltrans' Division of Aeronautics prior to
28 any maintenance activities requiring high-profile maintenance equipment to ensure that there is no
29 safety conflict with air traffic. Compliance with these recommendations, which could include
30 limitations necessary to minimize potential problems, such as the use of temporary construction
31 equipment, supplemental notice requirements, and marking and lighting high-profile structures
32 would reduce the potential for impacts on air safety.

33 As described under Alternative 1B, potential releases of hazardous materials associated with
34 operation and maintenance of the water conveyance facilities under Alternative 6B could result in
35 an adverse effect on workers, the public (including sensitive receptors within 0.25 mile of the
36 construction footprint), and the environment. As indicated above under Impact HAZ-2 for this
37 alternative, Buckley Cove and Nelson Parks in Stockton are within 0.25 mile of a proposed
38 borrow/spoils area and a proposed temporary 69 kV transmission line, respectively. Because the
39 proposed 69 kV transmission line is temporary, it would be removed following completion of the
40 water conveyance facilities, and therefore no maintenance activities would occur in this area. No
41 maintenance activities would take place in the borrow/spoils area, per se; however, should the
42 spoils be used at some later time, heavy construction equipment such as dump trucks and
43 excavators would be needed to move the spoils. Consequently, there could be the potential for oil
44 leakage from these vehicles. Although there would be a risk of accidental spills of hazardous
45 materials (e.g., fuels, solvents, paints) during facility operation and maintenance, the quantities of

1 hazardous materials likely to be used during routine operations and maintenance are likely to be
 2 small. Were hazardous materials to be released inadvertently, they would be localized. Further,
 3 BMPs to minimize the potential for the accidental release of hazardous materials and to contain and
 4 remediate hazardous spills, as part of the SWPPPs, SPCCPs, and HMMPs, would be implemented, as
 5 set forth in Appendix 3B, *Environmental Commitments*. Therefore, it is unlikely that park visitors
 6 would be at risk or adversely affected.

7 In addition, under Mitigation Measure HAZ-6, solids from the solids lagoons, which could contain
 8 hazardous constituents such as persistent pesticides and mercury, would be sampled and
 9 characterized to evaluate disposal options, and disposed of accordingly at an appropriate, licensed
 10 facility in order to avoid adverse effects on the environment from potential contamination.

11 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
 12 operation and maintenance of the water conveyance facilities and the potential interference with air
 13 safety through the use of high-profile equipment for maintenance of proposed transmission lines
 14 could have impacts on the public and environment. However, implementation of the BMPs and other
 15 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
 16 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
 17 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
 18 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
 19 profile equipment within 2 miles of an airport, which would include implementation of
 20 recommendations to provide supplemental notice and/or equip high-profile structures with
 21 marking and lighting, would ensure that operation and maintenance of the water conveyance
 22 facilities would not create a substantial hazard to the public, environment or air traffic safety.
 23 Therefore, this impact would be less than significant.

24 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
 25 **and/or Disposal**

26 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
 27 1A.

28 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
 29 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
 30 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

31 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
 32 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
 33 create hazards to workers, the public, and the environment would be similar to those described
 34 under Alternative 1A. Potential variation from Alternative 1A would be anticipated to be minor but
 35 could result from the selection of different areas for restoration activities based on the location of
 36 the physical water conveyance features associated with each alternative.

37 Hazardous materials associated with the operation of construction equipment could be released into
 38 the environment in the course of the materials' routine transport, use, or disposal. Releases could
 39 also occur as a result of accidental circumstances. Similarly, construction activities could encounter
 40 known or unknown hazardous materials sites located on or in the vicinity of construction sites,
 41 creating the potential for their disturbance and release. Other activities, including the intentional
 42 demolition of existing structures (e.g., buildings) and reuse of spoil, dredged material and/or RTM,
 43 would also present the potential to generate hazards or release hazardous materials. However, prior

1 to the reuse of spoils, dredged material or RTM, these materials would undergo chemical
 2 characterization, as described in Appendix 3B, *Environmental Commitments*, to ensure that they are
 3 not creating a hazard to the public and environment.

4 Further, other potential hazards that could result from implementing conservation measures
 5 include the possible release of hazardous substances in proximity to sensitive receptors the
 6 accidental release of hazardous substances during operation and maintenance (e.g., herbicides for
 7 nonnative vegetation control); the release, in the short-term, of pesticides from former agricultural
 8 lands as a result of wetland and floodplain restoration; damage or disruption of existing
 9 infrastructure such that hazardous conditions were created the potential for safety hazards related
 10 to construction in the vicinity of an airport; and the potential for wildfire hazards in the vicinity of
 11 construction sites.

12 These potential effects, were they to occur, would be adverse. However, with implementation of
 13 Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, TRANS-1a, and environmental commitments
 14 (discussed previously for Impacts HAZ-1 through HAZ-6, and in detail in Appendix 3B,
 15 *Environmental Commitments*), the potential for adverse effects would be reduced. Additionally, the
 16 proposed conservation measures would be designed to avoid sensitive receptors and would
 17 minimize, to the extent feasible, the need to acquire or traverse areas where the presence of
 18 hazardous materials is suspected or has been verified. Thus, this effect would not be adverse.

19 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
 20 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

21 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 22 public to hazardous substances or conditions during construction, operation, and maintenance of
 23 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 24 implementation would involve extensive use of heavy equipment during construction, and/or the
 25 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 26 for nonnative vegetation control). These chemicals could be inadvertently released, exposing
 27 construction workers or the public to hazards. Construction of restoration projects on or near
 28 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 29 materials, and the use of high-profile equipment in close proximity to airport runways could result
 30 in hazards to air traffic. However in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 31 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 32 implemented, all of which would ensure that these potential impacts are less than significant.

33 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 34 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 35 **Construction Footprint, and Remediate and/or Contain Contamination**

36 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 37 1A.

38 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 39 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 40 **Dispose of Them in Accordance with Applicable Regulations**

41 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 42 1A.

1 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

2 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
3 Chapter 20, *Public Services and Utilities*.

4 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
5 **Minimizes Any Effect on Worker and Public Health and Safety**

6 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
7 Chapter 20, *Public Services and Utilities*.

8 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
9 **Plan**

10 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
11 1A in Chapter 19, *Transportation*.

12 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
13 **Conservation Measures That Create or Improve Wildlife Habitat**

14 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
15 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
16 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
17 from Alternative 1A would be anticipated to be minor but could result from the selection of different
18 areas for restoration activities based on the location of the physical water conveyance features
19 associated with each alternative. Such variation may result greater or less opportunity for bird-
20 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
21 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
22 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
23 Airport; Sacramento International Airport, and Byron Airport.

24 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
25 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
26 would reduce the severity of this effect through the development and implementation of measures
27 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
28 adverse.

29 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
30 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
31 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
32 significant impacts on public safety. The following airports, because they are in relatively close
33 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
34 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
35 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
36 through the ultimate development and implementation of measures to reduce, minimize and/or
37 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
38 significant and unavoidable.

1 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 2 **Regulatory Agencies**

3 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 4 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 5 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 6 extent possible.

7 **24.3.3.13 Alternative 6C—Isolated Conveyance with West Alignment and**
 8 **Intakes W1–W5 (15,000 cfs; Operational Scenario D)**

9 **Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the**
 10 **Release of Hazardous Materials or by Other Means during Construction of the Water**
 11 **Conveyance Facilities**

12 **NEPA Effects:** For the duration of construction of the water conveyance facilities, potential hazards
 13 associated with the routine use of hazardous materials; natural gas accumulation in tunnels; existing
 14 contaminants in soil, groundwater, or sediment; hazardous constituents present in RTM;
 15 infrastructure containing hazardous materials; and the routine transport of hazardous materials
 16 would be identical to those described under Alternative 1C.

17 Construction of the water conveyance facilities would create the potential for direct adverse effects
 18 on construction personnel, the public and/or the environment associated with the routine use of
 19 hazardous materials; natural gas accumulation in water conveyance tunnels; the inadvertent release
 20 of existing contaminants in soil, groundwater, and sediment, or hazardous materials in existing
 21 structures to be removed or relocated; disturbance of electrical transmission lines or other
 22 infrastructure; and hazardous constituents present in RTM. Additionally, there is the potential for
 23 the construction of the water conveyance facilities to indirectly result in the release of hazardous
 24 materials through the disruption of existing road, rail, and/or river hazardous materials transport
 25 routes, which, were this to occur, would be considered an adverse effect.

26 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
 27 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials
 28 is suspected or has been verified environmental commitments would be implemented, including,
 29 but not limited to SWPPPs, SPCCPs, SAPs, and HMMPs; a Barge Operations Plan; and chemical
 30 characterization of RTM prior to reuse (e.g., RTM in levee reinforcement) or discharge. Together, the
 31 environmental commitments would reduce these potential hazards associated with water
 32 conveyance facilities construction. Additionally, the implementation of Mitigation Measures HAZ-1a
 33 and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a
 34 (described in Chapter 19, *Transportation*) would further reduce the potential severity of this impact.
 35 As such, construction of the water conveyance facilities would not create a substantial hazard to the
 36 public or the environment through the routine transport, use, or disposal of hazardous materials or
 37 the upset/accidental release of these materials. Thus, this effect would not be adverse.

38 **CEQA Conclusion:** During construction of the water conveyance facilities, the potential would exist
 39 for direct significant impacts on construction personnel, the public, and the environment associated
 40 with the routine use of hazardous materials; natural gas accumulation in water conveyance tunnels;
 41 the inadvertent release of existing contaminants in soil, sediment and groundwater, or hazardous
 42 materials in existing infrastructure to be removed; disturbance of electrical transmission lines; and

1 hazardous constituents present in RTM. Additionally, the potential would exist for the construction
 2 of the water conveyance facilities to indirectly result in the release of hazardous materials through
 3 the disruption of existing road, rail, and or river hazardous materials transport routes, which, were
 4 this to occur, would be considered a significant impact. However, with the implementation of the
 5 previously described environmental commitments and Mitigation Measures HAZ-1a and HAZ-1b,
 6 UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in
 7 Chapter 19, *Transportation*), construction of the water conveyance facilities would not create a
 8 substantial hazard to the public or the environment through the routine transport, use, or disposal
 9 of hazardous materials or the upset/accidental release of these materials. As such, these impacts
 10 would be less than significant.

11 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 12 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 13 **Construction Footprint, and Remediate and/or Contain Contamination**

14 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 15 1A.

16 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 17 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 18 **Dispose of Them in Accordance with Applicable Regulations**

19 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 20 1A.

21 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

22 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 23 Chapter 20, *Public Services and Utilities*.

24 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 25 **Minimizes Any Effect on Worker and Public Health and Safety**

26 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 27 Chapter 20, *Public Services and Utilities*.

28 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 29 **Plan**

30 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 31 1A in Chapter 19, *Transportation*.

32 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
 33 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
 34 **Facilities**

35 **NEPA Effects:** Potential effects related to the handling of hazardous materials as part of construction
 36 of the water conveyance facilities would be similar to those described under Impact HAZ-2 for
 37 Alternative 1C. There are no hospitals located within 0.25 mile of Alternative 6C. However, as shown
 38 in Figure 24-8, Lakewood Drive, Sycamore Drive, and Summer Lake Community Parks in Oakley, and
 39 Mokelumne High (Continuation) School in Courtland would be within 0.25 mile of the construction

1 footprint for this alternative. Sycamore Drive Park would be near a tunnel work area, and Lakewood
 2 Drive and Summer Lake Community Parks, and Mokelumne High (Continuation) School would be
 3 near the proposed transmission line construction footprint.

4 Although there would be a risk of accidental spills of hazardous materials (e.g., fuels, solvents,
 5 paints) during facility construction, the quantities of hazardous materials likely to be used during
 6 construction activities are likely to be small. Were hazardous materials to be released inadvertently,
 7 spills would be localized. Further, BMPs to minimize the potential for the accidental release of
 8 hazardous materials and to contain and remediate hazardous spills, as part of the SWPPPs, SPCCPs,
 9 and HMMPs, would be implemented, as set forth in Appendix 3B, *Environmental Commitments*.
 10 Therefore, it is unlikely that these sensitive receptors would be at risk or adversely affected because
 11 they would not be exposed to hazardous materials, substances, or waste during construction of the
 12 water conveyance facilities. As such, there would be no adverse effect. Potential air quality effects on
 13 sensitive receptors are discussed in Chapter 22, *Air Quality and Greenhouse Gases*.

14 **CEQA Conclusion:** Lakewood Drive, Sycamore Drive, and Summer Lake Community Parks in Oakley,
 15 and Mokelumne High (Continuation) School in Courtland, are within 0.25 mile of the construction
 16 footprint of Alternative 6C. During construction of the water conveyance facilities under this
 17 alternative, there could be a risk of accidental spills of hazardous materials used during construction
 18 activities. However, the potential for significant impacts on people at these three parks and school
 19 due to these potential inadvertent releases would be negligible because spills would likely be small
 20 and localized. Further, BMPs to minimize the potential for the accidental release of hazardous
 21 materials and to contain and remediate hazardous spills, as part of the SWPPPs, SPCCPs, and
 22 HMMPs, would be implemented, as set forth in Appendix 3B, *Environmental Commitments*.
 23 Therefore, because these sensitive receptors would not be exposed to hazardous materials,
 24 substances, or waste during construction of the water conveyance facilities, this impact would be
 25 less than significant. No mitigation is required. Potential air quality effects on sensitive receptors are
 26 discussed in Chapter 22, *Air Quality and Greenhouse Gases*.

27 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
 28 **Create a Significant Hazard to the Public or the Environment**

29 **NEPA Effects:** Effects related to sites on the “Cortese List” would be the same as those described
 30 under Alternative 1C. There are no “Cortese List” sites within the construction footprint of the
 31 Alternative 6C water conveyance facilities. However, as indicated in Table 24-5, Mill Site A, the site
 32 of a former large agricultural mill, would be located in a proposed borrow and/or spoils area within
 33 the construction footprint of this alternative. This site was identified as a SOC in the 2009 ISA.
 34 However, there is no regulatory listing for this site, and no known hazardous materials occur at this
 35 site within the Alternative 6C construction footprint (Figure 24-4). Consequently, the potential to
 36 conflict with hazardous materials at this site is assumed to be minimal, and as such, there will be no
 37 significant hazard to the public or the environment due to construction of the water conveyance
 38 facilities. Therefore, this effect would not be adverse.

39 For those hazardous materials sites identified within the 0.5-mile radius but which are not within
 40 the construction footprint, there would be no potential for construction of the water conveyance
 41 facilities to disturb those sites such that there would be a re-release of hazardous materials that
 42 would create a hazard for the public or environment. The potential for encountering unknown
 43 hazardous materials sites during the course of construction is discussed under Impact HAZ-1.

1 **CEQA Conclusion:** Mill Site A, the site of a former large agricultural mill, would be located in a
2 potential borrow and/or spoils area within the construction footprint of this alternative. There is no
3 regulatory listing for this site, and no known hazardous materials occur at this site. Therefore, the
4 potential risk to conflict with hazardous materials at this site is negligible, and there would be no
5 significant hazard to the public or the environment, and, as such, this impact would be less than
6 significant. No mitigation is required. The potential for encountering unknown hazardous materials
7 sites during the course of construction is discussed under Impact HAZ-1.

8 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
9 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
10 **Study Area during Construction of the Water Conveyance Facilities**

11 **NEPA Effects:** Safety hazards related to air traffic would be the same as those described for
12 Alternative 1C. Under Alternative 6C, the water conveyance facilities would be within 2 miles of the
13 Delta Air Park, Funny Farm Airport, and Borges-Clarksburg Airport, all private facilities, and Byron
14 Airport (a public air facility), as shown in Figure 24-9. The use of helicopters for stringing the
15 proposed 230 kV transmission lines and of high-profile construction equipment (200 feet or taller),
16 such as cranes, for installation of pipelines, placement of concrete fill in intake piles, and removal of
17 cofferdam sheet piles, for example, and potentially pile drivers, such as would be used during the
18 construction of the intakes, have the potential to result in safety hazards to aircraft during takeoff
19 and landing if the equipment is operated too close to runways. Depending on the location and height
20 of any high-profile construction equipment or structures relative to the Byron Airport, because it is
21 a public air facility, the BDCP may be subject to an OE/AAA to be performed by the FAA, as discussed
22 under Impact HAZ-4 for Alternative 1A. Compliance with the results of the OE/AAA (14 CFR Part
23 77), would reduce the risk of adverse effects on air traffic safety due to water conveyance facility
24 construction activities in the vicinity of this airport. In addition, the Caltrans' Division of Aeronautics
25 would be informed in writing, as discussed under Impact HAZ-4 for Alternative 1A, and DWR would
26 comply with Caltrans' recommendations to avoid any adverse effects on air safety. Consequently,
27 there would be no adverse effect on air safety during construction of the water conveyance facilities.

28 **CEQA Conclusion:** The Delta Air Park, Funny Farm Airport, and Borges-Clarksburg Airport, all
29 private airstrips, and Byron Airport, a public air facility, would be within 2 miles of the construction
30 footprint of several proposed water conveyance facilities features, as well as associated work areas
31 for Alternative 6C. The use of helicopters for stringing the proposed 230 kV transmission lines and
32 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
33 pipelines, placement of concrete fill in intake piles, and removal of cofferdam sheet piles, for
34 example, and potentially pile drivers, such as would be used during the construction of the intakes,
35 have the potential to result in safety hazards to aircraft during takeoff and landing if the equipment
36 is operated too close to runways. DWR would coordinate with Caltrans' Division of Aeronautics
37 prior to initiating construction and comply with its recommendations based their review, as well
38 comply with the recommendations of the OE/AAA (for Byron Airport). Compliance with these
39 recommendations, which could include limitations necessary to minimize potential problems, such
40 as the use of temporary construction equipment, supplemental notice requirements, and marking
41 and lighting high-profile structures would reduce the potential for impacts on air safety.
42 Accordingly, the impacts on air safety would be less than significant. No mitigation is required.

43 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
44 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**

1 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
 2 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

3 **NEPA Effects:** Potential hazards related to wildland fire would be similar to those described under
 4 Alternative 1C. As shown in Figure 24-10, no portion of Alternative 6C is located in or near an area
 5 designated as a High or Very High Fire Hazard Severity Zone. The northernmost and southernmost
 6 portions of Alternative 6C would be located near Moderate Fire Hazard Severity Zones.

7 As described in Appendix 3B, *Environmental Commitments*, precautions would be taken to prevent
 8 wildland fires during construction, and operation and maintenance of the water conveyance
 9 facilities. Specifically, in an effort to reduce the potential for fire hazards, DWR and/or contractors
 10 would develop and implement fire safety, prevention and control measures as part of a FPCP in
 11 coordination with federal, state, and local agencies. Development and implementation of the FPCP
 12 would help ensure that people or structures would not be subject to a significant risk of loss, injury
 13 or death involving wildland fires. Therefore, this effect would not be adverse.

14 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
 15 death involving wildland fires during construction or operation and maintenance of the water
 16 conveyance facilities because the alternative would comply with Cal-OSHA fire prevention and
 17 safety standards; DWR would implement standard fire safety and prevention measures, as part of a
 18 FPCP (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities
 19 would not be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would
 20 be less than significant. No mitigation is required.

21 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
 22 **Release of Hazardous Materials or Other Means during Operation and Maintenance of the**
 23 **Water Conveyance Facilities**

24 Potential hazards related to the long-term operation and maintenance of the proposed water
 25 conveyance facilities would be similar to those described for Alternative 1C. Under this alternative,
 26 however, the potential for hazards associated with intake pumping plants and sediment basins
 27 could be greater, based upon heavier and more frequent use of north Delta intakes under isolated
 28 operational guidelines. This alternative may require the transport, storage, and use of chemicals or
 29 hazardous waste materials including fuel, oils, grease, solvents, and paints. Solids collected at solids
 30 lagoons and sediment dredged during intake maintenance may contain hazardous constituents (e.g.,
 31 persistent pesticides, mercury, PCBs).

32 Delta Air Park, Byron Airport, Funny Farm and Borges-Clarksburg Airport are within 2 miles of the
 33 Alternative 6C construction footprint, as described under Alternative 1C. With the exception of
 34 power transmission lines supplying power to pumps and other equipment used for operation and
 35 maintenance of the alternative, water conveyance operations and maintenance are not anticipated
 36 to require high-profile equipment, the use of which near an airport could result in an adverse effect
 37 to aircraft. DWR would adhere to all applicable FAA regulations (14 CFR 77) and would coordinate
 38 with Caltrans' Division of Aeronautics prior to any maintenance activities requiring high-profile
 39 maintenance equipment and comply with any recommendation Caltrans may have to ensure that
 40 there is no conflict with or adverse effect on air traffic.

41 As previously discussed under Impact HAZ-2, Lakewood Drive, Sycamore Drive, and Summer Lake
 42 Community Parks in Oakley, and Mokelumne High (Continuation) School in Courtland would be
 43 within 0.25 mile of the construction footprint for Alternative 6C. Should hazardous materials be

1 inadvertently released in substantially quantities during routine operations and maintenance at the
 2 constructed facilities due to improper handling, there would be a potential risk to the public
 3 (including sensitive receptors). However, because the types of potentially hazardous materials used
 4 during routine operation and maintenance activities would be used in relatively small quantities,
 5 and because BMPs, as would be implemented in the SWPPPs, SPCCPs, and HMMPs (as described in
 6 Appendix 3B), would be in place to help prevent the inadvertent release of these materials and to
 7 contain and remediate spills should they occur, the risk to sensitive receptors within 0.25 mile of the
 8 construction footprint for this alternative would be negligible. In addition, under Mitigation Measure
 9 HAZ-6, solids from the solids lagoons, which could contain hazardous constituents such as persistent
 10 pesticides and mercury, would be sampled and characterized to evaluate disposal options, and
 11 disposed of accordingly at an appropriate, licensed facility. As such, no adverse effects on sensitive
 12 receptors as a result of hazards or hazardous materials are anticipated.

13 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
 14 operation and maintenance of the water conveyance facilities and interference with air traffic safety
 15 would potentially be a significant impact on the public and environment. However, implementation
 16 of SWPPPs, SPCCPs, HMMPs, and Mitigation Measure HAZ-6, as well as adherence to all applicable
 17 FAA regulations and coordination/compliance with Caltrans' Division of Aeronautics when
 18 performing work with high-profile equipment within 2 miles of an airport, would ensure that this
 19 impact would be less than significant.

20 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
 21 **and/or Disposal**

22 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
 23 1A.

24 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
 25 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
 26 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

27 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
 28 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
 29 create hazards to workers, the public, and the environment would be similar to those described
 30 under Alternative 1A. Potential variation from Alternative 1A would be anticipated to be minor but
 31 could result from the selection of different areas for restoration activities based on the location of
 32 the physical water conveyance features associated with each alternative.

33 Hazardous materials associated with the operation of construction equipment could be released into
 34 the environment in the course of the materials' routine transport, use, or disposal. Releases could
 35 also occur as a result of accidental circumstances. Similarly, construction activities could encounter
 36 known or unknown hazardous materials sites located on or in the vicinity of construction sites,
 37 creating the potential for their disturbance and release. Other activities, including the intentional
 38 demolition of existing structures (e.g., buildings) and reuse of spoil, dredged material and/or RTM,
 39 would also present the potential to generate hazards or release hazardous materials.

40 Further, other potential hazards that could result from implementing conservation measures
 41 include the possible release of hazardous substances in proximity to sensitive receptors; damage or
 42 disruption of existing infrastructure such that hazardous conditions were created; the accidental
 43 release of hazardous substances during operation and maintenance (e.g., herbicides for nonnative

1 vegetation control); the release, in the short-term, of pesticides from former agricultural lands as a
 2 result of wetland and floodplain restoration; the potential for safety hazards related to construction
 3 in the vicinity of an airport; and the potential for wildfire hazards in the vicinity of construction
 4 sites.

5 The potential for these effects is considered adverse because implementation of conservation
 6 measures would involve extensive activities that could unintentionally result in the release of
 7 hazardous substances or that could expose construction workers or members of the public to
 8 hazards. However, with implementation of Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c,
 9 TRANS-1a, and environmental commitments (discussed previously for Impacts HAZ-1 through HAZ-
 10 6, and in detail in Appendix 3B, *Environmental Commitments*), the potential for adverse effects
 11 would be reduced. Additionally, the proposed conservation measures would be designed to avoid
 12 sensitive receptors and would minimize, to the extent feasible, the need to acquire or traverse areas
 13 where the presence of hazardous materials is suspected or has been verified. Thus, this effect would
 14 not be adverse.

15 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
 16 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

17 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 18 public to hazardous substances or conditions during construction, operation, and maintenance of
 19 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 20 implementation would involve extensive use of heavy equipment during construction, and/or the
 21 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 22 for nonnative vegetation control). These chemicals could be inadvertently released, exposing
 23 construction workers or the public to hazards. Construction of restoration projects on or near
 24 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 25 materials, and the use of high-profile equipment in close proximity to airport runways could result
 26 in hazards to air traffic. However in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 27 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 28 implemented, all of which would ensure that these potential impacts are less than significant.

29 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 30 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 31 **Construction Footprint, and Remediate and/or Contain Contamination**

32 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 33 1A.

34 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 35 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 36 **Dispose of Them in Accordance with Applicable Regulations**

37 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 38 1A.

39 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

40 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 41 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 2 **Minimizes Any Effect on Worker and Public Health and Safety**

3 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 4 Chapter 20, *Public Services and Utilities*.

5 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 6 **Plan**

7 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 8 1A in Chapter 19, *Transportation*.

9 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
 10 **Conservation Measures That Create or Improve Wildlife Habitat**

11 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
 12 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
 13 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
 14 from Alternative 1A would be anticipated to be minor but could result from the selection of different
 15 areas for restoration activities based on the location of the physical water conveyance features
 16 associated with each alternative. Such variation may result greater or less opportunity for bird-
 17 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
 18 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
 19 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
 20 Airport; Sacramento International Airport, and Byron Airport.

21 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
 22 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
 23 would reduce the severity of this effect through the development and implementation of measures
 24 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
 25 adverse.

26 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
 27 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
 28 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
 29 significant impacts on public safety. The following airports, because they are in relatively close
 30 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
 31 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
 32 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
 33 through the ultimate development and implementation of measures to reduce, minimize and/or
 34 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
 35 significant and unavoidable.

36 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 37 **Regulatory Agencies**

38 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 39 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 40 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 41 extent possible.

1 **24.3.3.14 Alternative 7—Dual Conveyance with Pipeline/Tunnel, Intakes 2,**
2 **3, and 5, and Enhanced Aquatic Conservation (9,000 cfs;**
3 **Operational Scenario E)**

4 **Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the**
5 **Release of Hazardous Materials or by Other Means during Construction of the Water**
6 **Conveyance Facilities**

7 *NEPA Effects:* Hazards to the public or the environment through the routine transport, use, or
8 disposal of hazardous materials during construction of the water conveyance facilities for Alternative
9 7 would be similar to those described under Alternative 1A. Under Alternative 7, however, only
10 Intakes 2, 3, and 5 would be constructed. Thus, it is anticipated that effects associated with the
11 transport and use of fuels for this alternative would be similar, but less severe, than those described
12 for Alternative 1A.

13 Potential hazards associated with natural gas accumulation in tunnels, existing contaminants in soil
14 sediment, or groundwater, hazardous constituents present in RTM, infrastructure containing
15 hazardous materials, and routine transportation of hazardous materials would be similar to those
16 described under Alternative 1A. Because only Intakes 2, 3, and 5 would be built under this
17 alternative, however, implementation would avoid any site-specific contaminants or hazardous
18 materials associated with the construction of Intakes 1 and 4.

19 As with Alternative 1A, tunnel construction activities would carry the potential to encounter gases
20 that could enter the tunnels and accumulate to flammable or explosive concentrations. Hazardous
21 constituents associated with RTM are not anticipated; however, the possibility exists for RTM and
22 decanted water to pose a hazard to the construction workers, the public, or the environment.
23 Additionally, stored bulk quantities of hazardous materials that have been released to soils and
24 groundwater could be rereleased during construction, also posing a potential hazard. Water
25 conveyance facilities construction may also require dredging contaminated sediments. Existing
26 infrastructure, including oil and gas wells, also have the potential to release hazardous materials, as
27 would the transport of hazardous materials during facility construction. Under Alternative 7,
28 approximately 143 existing structures would require relocation or removal because they fall within
29 the construction footprint. These include an estimated 38 residential structures; 8 recreational
30 structures; 88 storage and agricultural support structures; and 9 other types of structures (e.g.,
31 power/utility structures, bridges and other infrastructure). One fire station in the community of
32 Hood would also be affected under this alternative. These structures may contain hazardous
33 materials that would require proper handling and disposal, if demolition is necessary. As described
34 for Impact HAZ-1 under Alternative 1A, Mitigation Measure HAZ-1b would be implemented by DWR
35 to ensure that there are no adverse effects related to hazardous materials from structure demolition.

36 Further, as described for Alternative 1A under Impact HAZ-1, in general, the transportation of
37 hazardous materials via trucks, trains and ships poses potential risks associated with the accidental
38 release of these materials to the environment. Rerouting vehicular traffic carrying hazardous
39 materials during construction of the water conveyance facilities could increase the risk of accidental
40 release due to inferior road quality or lack of driver familiarity with the modified routes. Hazardous
41 materials transportation routes are presented in Figure 24-2 and in Table 24-4. Routes anticipated
42 to be affected during construction of the water conveyance facilities are described in Chapter 19,
43 *Transportation*. Barges supporting water conveyance facilities construction may also transport
44 hazardous materials such as fuels and lubricants or other chemicals. The potential exists for

1 accidental release of hazardous materials from BDCP-related barges. To avoid effects on the
2 environment related to this issue, BMPs would be implemented as part of a Barge Operations Plan
3 (as discussed under Impact HAZ-1 for Alternative 1A and in Appendix 3B, *Environmental*
4 *Commitments*) that would reduce the potential for accidental releases of hazardous materials during
5 transport and transfer. Finally, under this alternative, the proposed conveyance crosses under the
6 existing BNSF/Amtrak San Joaquin line between Bacon Island and Woodward Island; however, the
7 effect of this crossing would likely be minimal because the proposed conveyance would traverse the
8 railroad in a deep bore tunnel (See Chapter 19 for discussion). Further, the UPRR runs proximate to
9 the construction area of the proposed Byron Forebay; however, construction is unlikely to disrupt
10 rail service because much of this line has not been in service recently.

11 Mitigation measures would be in place to ensure that there are no adverse effects on road, rail, or
12 water transportation, and, thus, the potential for the construction of the water conveyance facilities
13 to pose risks related to the transportation of hazardous materials would be minimal. As described in
14 Chapter 19, *Transportation*, under Mitigation Measure TRANS-1a, a site-specific construction traffic
15 management plan, taking into account hazardous materials transportation, would be prepared and
16 implemented prior to initiation of water conveyance facilities construction. Mitigation Measure
17 TRANS-1a, would also include stipulations to coordinate with rail providers to develop alternative
18 interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or
19 passenger service during any longer term railroad closures and daily construction time windows
20 during which construction would be restricted or rail operations would need to be suspended for
21 any activity within railroad rights of way. This would minimize the potential risk of release of
22 hazardous materials being transported via these rails.

23 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
24 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials
25 is suspected or has been verified. Further, environmental commitments would be implemented,
26 including, but not limited to SWPPPs, SPCCPs, SAPs and HMMPs; a Barge Operations Plan; and
27 chemical characterization of RTM prior to reuse (e.g., RTM in levee reinforcement) or discharge. The
28 environmental commitments would reduce these potential hazards associated with water
29 conveyance facilities construction. Additionally, the implementation of Mitigation Measures HAZ-1a
30 and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a
31 (described in Chapter 19, *Transportation*) would further reduce the potential severity of this impact.
32 Therefore, construction of the water conveyance facilities would not create a substantial hazard to
33 the public or the environment through the routine transport, use, or disposal of hazardous materials
34 or the upset/accidental release of these materials. Thus, this effect would not be adverse.

35 **CEQA Conclusion:** Similar to Alternative 1A, construction of the water conveyance facilities under
36 Alternative 7 presents the potential for a direct significant impact on construction personnel, the
37 public and/or the environment associated with a variety of physical and chemical hazardous
38 conditions because of the intensity of construction activities at the north Delta intakes, forebays and
39 conveyance pipelines and tunnels and the hazardous materials that would be needed in these areas
40 during construction. Potential hazards include the routine use of hazardous materials (as defined by
41 Title 22 of the California Code of Regulations, Division 4.5); natural gas accumulation in water
42 conveyance tunnels; the inadvertent release of existing contaminants in soil, sediment and
43 groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
44 electrical transmission lines; and hazardous constituents present in RTM. Under this alternative,
45 however, only Intakes 2, 3 and 5 would be constructed. Thus, it is anticipated that effects associated
46 with the transport and use of fuels for this alternative would be similar, but less severe, than those

1 described for Alternative 1A. Many of these physical and chemical hazardous conditions would
2 occur in close proximity to the towns of Hood and Courtland during construction of the north Delta
3 intakes and the intermediate forebay. Additionally, the potential would exist for the construction of
4 the water conveyance facilities to indirectly result in the release of hazardous materials through the
5 disruption of existing road, rail, or river hazardous materials transport routes because construction
6 would occur in the vicinity of three hazardous material transport routes, three railroad corridors,
7 and waterways with barge traffic and would require construction traffic that could disrupt these
8 routes. For these reasons, this is considered a significant impact. However, with the implementation
9 of the previously described environmental commitments (e.g., SWPPPs, HMMPs, SPCCPs, SAPs, and a
10 Barge Operations Plan) and Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described
11 in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*),
12 construction of the water conveyance facilities would not create a substantial hazard to the public or
13 the environment through the routine transport, use, or disposal of hazardous materials or the
14 upset/accidental release of these materials. As such, these impacts would be less than significant.

15 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
16 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
17 **Construction Footprint, and Remediate and/or Contain Contamination**

18 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
19 1A.

20 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
21 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
22 **Dispose of Them in Accordance with Applicable Regulations**

23 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
24 1A.

25 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

26 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
27 Chapter 20, *Public Services and Utilities*.

28 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
29 **Minimizes Any Effect on Worker and Public Health and Safety**

30 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
31 Chapter 20, *Public Services and Utilities*.

32 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
33 **Plan**

34 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
35 1A in Chapter 19, *Transportation*.

1 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
 2 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
 3 **Facilities**

4 **NEPA Effects:** An adverse effect may occur if a construction work site is located within 0.25 mile of
 5 an existing or proposed school, or other sensitive receptor, and releases hazardous materials that
 6 pose a health hazard. However, no schools, parks or hospitals are located within 0.25 mile of
 7 Alternative 7. Therefore, no sensitive receptors would be exposed to hazardous materials,
 8 substances, or waste during construction of the water conveyance facilities under Alternative 7. As
 9 such, there would be no effect. Potential air quality effects on sensitive receptors are discussed in
 10 Chapter 22, *Air Quality and Greenhouse Gases*.

11 **CEQA Conclusion:** There are no schools, parks or hospitals located within 0.25 mile of the
 12 Alternative 7 water conveyance facilities alignment, therefore, there would be no impact due to
 13 exposure of sensitive receptors to hazardous materials, substances or waste during construction of
 14 the water conveyance facilities. Accordingly, there would be no impact. No mitigation is required.
 15 Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and*
 16 *Greenhouse Gases*.

17 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
 18 **Create a Significant Hazard to the Public or the Environment**

19 **NEPA Effects:** There are no "Cortese List" sites or known SOCs within the construction footprint of
 20 Alternative 7 (Table 24-5 and Figure 24-4), and therefore there would be no conflict pertaining to a
 21 known hazardous materials site during construction of the water conveyance facilities, and thus, no
 22 related hazard to the public or the environment. For those hazardous materials sites identified
 23 within the 0.5-mile radius but which are not within the construction footprint, there would be no
 24 potential for construction of the water conveyance facilities to disturb those sites such that there
 25 would be a re-release of hazardous materials that would create a hazard for the public or
 26 environment. As such, there would be no effect. The potential for encountering unknown hazardous
 27 materials sites during the course of construction is discussed under Impact HAZ-1.

28 **CEQA Conclusion:** Because there are no known SOCs within the construction footprint of the water
 29 conveyance facility under this alternative, there would be no conflict with known hazardous
 30 materials sites during construction of the water conveyance facilities, and therefore, no related
 31 hazard to the public or the environment. As such, there would be no impact. No mitigation is
 32 required. The potential for encountering unknown hazardous materials sites during the course of
 33 construction is discussed under Impact HAZ-1.

34 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
 35 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
 36 **Study Area during Construction of the Water Conveyance Facilities**

37 **NEPA Effects:** Safety hazards to aircraft posed by high-profile construction equipment, such as
 38 cranes and pile drivers, or structures (e.g., proposed transmission lines and towers), would be
 39 similar to those described under Alternative 1A. Because Intake would not be constructed under this
 40 alternative, these risks of construction of this intake (the potential use of tall cranes and pile drivers
 41 for installation of the Intake 1) would not exist. However, because the Borges-Clarksburg, Spezia,
 42 and Walnut Grove Airports (all private airstrips), and the Byron Airport (a public air facility), are
 43 located within 2 miles of project features within the construction footprint that may not only require

1 the use of high-profile (200 feet or taller) construction equipment, but also the use of helicopters
2 (stringing of a proposed permanent 230 kV transmission line), there would be potential for adverse
3 effects on air safety.

4 However, as required, DWR would notify Caltrans' Division of Aeronautics in writing prior to
5 construction of any state building or enclosure within 2 miles of these airports, as applicable, and
6 would comply with any Caltrans recommendations based on site investigation(s). Additionally, DWR
7 would comply with the recommendations of the OE/AAA (for Byron Airport) (14 CFR 77. These
8 actions would ensure that there are no adverse effects on air safety.

9 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
10 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
11 pipelines, for example, have the potential to result in safety hazards to aircraft during takeoff and
12 landing if the equipment is operated too close to runways. Three private airports (Borges-
13 Clarksburg, Spezia, and Walnut Grove Airports) and one public airport (Byron Airport) are located
14 within 2 miles of the construction footprint of Alternative 7. DWR would coordinate with Caltrans'
15 Division of Aeronautics prior to initiating construction and comply with its recommendations based
16 on its investigation(s), as well comply with the recommendations of the OE/AAA (for Byron
17 Airport). Compliance with these recommendations, which could include limitations necessary to
18 minimize potential problems, such as the use of temporary construction equipment, supplemental
19 notice requirements, and marking and lighting high-profile structures would reduce the potential
20 for impacts on air safety. Accordingly, impacts on air safety would be less than significant. No
21 mitigation is required.

22 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
23 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
24 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
25 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

26 **NEPA Effects:** Hazards related to wildland fires would be similar to those described under
27 Alternative 1A. The northernmost and southernmost extent of this conveyance alignment would be
28 adjacent to zones of moderate fire hazard severity.

29 As described under Alternative 1A and in Appendix 3B, *Environmental Commitments*, precautions
30 would be taken to prevent wildland fires during construction, and operation and maintenance of the
31 water conveyance facilities in full compliance with Cal-OSHA standards for fire safety and
32 prevention. Additionally, DWR would develop and implement fire prevention, safety and control
33 measures as part of a FPCP in coordination with federal, state, and local agencies. Implementation of
34 these would help ensure that people or structures would not be subject to a significant risk of loss,
35 injury or death involving wildland fires. Consequently, this effect would not be adverse.

36 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
37 death involving wildland fires during construction or operation and maintenance of the water
38 conveyance facilities because the alternative would comply with Cal-OSHA fire prevention and
39 safety standards; DWR would implement standard fire safety and prevention measures, as part of a
40 FPCP (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities
41 would not be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would
42 be less than significant. No mitigation is required.

1 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
2 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
3 **Water Conveyance Facilities**

4 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
5 conveyance facilities would be similar to those described for Alternative 1A. Under Alternative 7,
6 however, the potential for hazards associated with intake pumping plants and sediment basins
7 would be less widespread, because only three intake facilities would be operated and maintained.
8 Nonetheless, this alternative may require the transport, storage, and use of chemicals or hazardous
9 waste materials including fuel, oils, grease, solvents, and paints. Solids collected at solids lagoons
10 and sediment dredged during intake maintenance may contain hazardous constituents (e.g.,
11 persistent pesticides, mercury, PCBs). To ensure that potentially contaminated sediment from
12 maintenance dredging activities at the intakes would not adversely affect soil, groundwater or
13 surface water, a SAP would be implemented prior to any dredging activities, as described under
14 Impact HAZ-1 for this alternative. All sediment would be characterized chemically prior to reuse to
15 ensure that reuse of this material would not result in a hazard to the public or the environment.

16 The locations of airports with respect to the pipeline/tunnel alignment are provided in Figure 24-9.
17 The Borges-Clarksburg, Walnut Grove, and Spezia Airports (all private air facilities), and the Byron
18 Airport (a public air facility) are located within 2 miles of the Alternative 7 construction footprint
19 (Figure 24-9 and Table 24-6). With the exception of power transmission lines supplying power to
20 pumps, surge towers, and other equipment used for water conveyance facilities operation and
21 maintenance, water conveyance facilities operations and maintenance are not anticipated to require
22 high-profile equipment, the use of which near an airport runway could result in an adverse effect on
23 aircraft. DWR would adhere to all applicable FAA regulations (14 CFR 77) and coordinate with
24 Caltrans' Division of Aeronautics prior to initiating maintenance activities requiring high-profile
25 equipment to avoid adverse effects on air safety. Compliance with these recommendations, which
26 could include limitations necessary to minimize potential problems, such as the use of temporary
27 construction equipment, supplemental notice requirements, and marking and lighting high-profile
28 structures would reduce the potential for impacts on air safety.

29 Potential releases of hazardous materials could result in an adverse effect on workers, the public
30 (including sensitive receptors within 0.25 mile of the water conveyance facilities), and the
31 environment. As with Alternative 1A, there are no sensitive receptors (i.e., schools, hospitals and
32 parks) located within 0.25 mile of Alternative 7.

33 Because the types of potentially hazardous materials used during routine operation and
34 maintenance activities would be used in relatively small quantities, and because BMPs, as would be
35 implemented in the SWPPPs, SPCCPs, and HMMPs (as described in Appendix 3B), would be in place
36 to help prevent the inadvertent release of these materials and to contain and remediate spills should
37 they occur, the risk to the public and environment would be negligible. Further, under Mitigation
38 Measure HAZ-6, solids from the solids lagoons would be sampled and characterized to evaluate
39 disposal options, and disposed of accordingly at an appropriate, licensed facility. These measures
40 would ensure that this effect is not adverse.

41 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
42 operation and maintenance of the water conveyance facilities and the potential interference with air
43 safety through the use of high-profile equipment for maintenance of proposed transmission lines
44 could have impacts on the public and environment. However, implementation of the BMPs and other

1 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
 2 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
 3 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
 4 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
 5 profile equipment within 2 miles of an airport, which would include implementation of
 6 recommendations to provide supplemental notice and/or equip high-profile structures with
 7 marking and lighting, would ensure that operation and maintenance of the water conveyance
 8 facilities would not create a substantial hazard to the public, environment or air traffic safety.
 9 Therefore, this impact would be less than significant.

10 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
 11 **and/or Disposal**

12 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
 13 1A.

14 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
 15 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
 16 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

17 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
 18 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
 19 create hazards to workers, the public, and the environment would be similar to those described
 20 under Alternative 1A. Effects related to channel margin enhancement and seasonally-inundated
 21 floodplain restoration, however, would be more widespread under this alternative, because the
 22 targeted areas are larger under this alternative (approximately 40 miles and 20,000 acres,
 23 respectively, as compared with 20 miles and 10,000 acres under Alternative 1A). Hazardous
 24 materials associated with the operation of construction equipment could be released into the
 25 environment in the course of the materials' routine transport, use, or disposal. Releases could also
 26 occur as a result of accidental circumstances. Similarly, construction activities could encounter
 27 known or unknown hazardous materials sites located on or in the vicinity of construction sites,
 28 creating the potential for their disturbance and release. Other activities, including the intentional
 29 demolition of existing structures (e.g., buildings) and reuse of spoil, dredged material and/or RTM,
 30 would also present the potential to generate hazards or release hazardous materials. However, prior
 31 to the reuse of spoils, dredged material or RTM, these materials would undergo chemical
 32 characterization, as described in Appendix 3B, *Environmental Commitments*, to ensure that they are
 33 not creating a hazard to the public and environment.

34 Further, other potential hazards that could result from implementing conservation measures
 35 include the possible release of hazardous substances in proximity to sensitive receptors; damage or
 36 disruption of existing infrastructure such that hazardous conditions were created; the accidental
 37 release of hazardous substances during operation and maintenance (e.g., herbicides for nonnative
 38 vegetation control); the release, in the short-term, of pesticides from former agricultural lands as a
 39 result of wetland and floodplain restoration; the potential for safety hazards related to construction
 40 in the vicinity of an airport; and the potential for wildfire hazards in the vicinity of construction
 41 sites.

42 These potential effects, were they to occur, would be adverse. However, with implementation of
 43 Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, TRANS-1a, and environmental commitments

1 (discussed previously for Impacts HAZ-1 through HAZ-6, and in detail in Appendix 3B,
 2 *Environmental Commitments*), the potential for adverse effects would be reduced. Additionally, the
 3 proposed conservation measures would be designed to avoid sensitive receptors and would
 4 minimize, to the extent feasible, the need to acquire or traverse areas where the presence of
 5 hazardous materials is suspected or has been verified. Thus, this effect would not be adverse.

6 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
 7 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

8 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 9 public to hazardous substances or conditions during construction, operation, and maintenance of
 10 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 11 implementation would involve extensive use of heavy equipment during construction, and/or the
 12 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 13 for nonnative vegetation control). These chemicals could be inadvertently released, exposing
 14 construction workers or the public to hazards. Construction of restoration projects on or near
 15 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 16 materials, and the use of high-profile equipment in close proximity to airport runways could result
 17 in hazards to air traffic. However, in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 18 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 19 implemented, all of which would ensure that these potential impacts are less than significant.

20 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 21 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 22 **Construction Footprint, and Remediate and/or Contain Contamination**

23 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 24 1A.

25 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 26 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 27 **Dispose of Them in Accordance with Applicable Regulations**

28 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 29 1A.

30 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

31 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 32 Chapter 20, *Public Services and Utilities*.

33 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 34 **Minimizes Any Effect on Worker and Public Health and Safety**

35 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 36 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
2 **Plan**

3 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
4 1A in Chapter 19, *Transportation*.

5 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
6 **Conservation Measures That Create or Improve Wildlife Habitat**

7 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
8 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
9 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
10 from Alternative 1A would be anticipated to be minor but could result from the selection of different
11 areas for restoration activities based on the location of the physical water conveyance features
12 associated with each alternative. Such variation may result greater or less opportunity for bird-
13 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
14 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
15 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
16 Airport; Sacramento International Airport, and Byron Airport.

17 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
18 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
19 would reduce the severity of this effect through the development and implementation of measures
20 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
21 adverse.

22 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
23 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
24 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
25 significant impacts on public safety. The following airports, because they are in relatively close
26 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
27 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
28 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
29 through the ultimate development and implementation of measures to reduce, minimize and/or
30 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
31 significant and unavoidable.

32 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
33 **Regulatory Agencies**

34 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
35 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
36 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
37 extent possible.

1 **24.3.3.15 Alternative 8—Dual Conveyance with Pipeline/Tunnel, Intakes 2,**
 2 **3, and 5, and Increased Delta Outflow (9,000 cfs; Operational**
 3 **Scenario F)**

4 **Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the**
 5 **Release of Hazardous Materials or by Other Means during Construction of the Water**
 6 **Conveyance Facilities**

7 *NEPA Effects:* Hazards to the public or the environment through the routine transport, use, or
 8 disposal of hazardous materials during construction of the water conveyance facilities for Alternative
 9 8 would be similar to those described under Alternative 1A. Under this alternative, however, only
 10 Intakes 2, 3, and 5 would be constructed. Thus, it is anticipated that effects associated with the
 11 transport and use of fuels for this alternative would be similar, but less severe, than those described
 12 for Alternative 1A.

13 Potential hazards associated with natural gas accumulation in tunnels, existing contaminants in soil
 14 or groundwater, hazardous constituents present in RTM, infrastructure containing hazardous
 15 materials, and routine transportation of hazardous materials would be similar to those described
 16 under Alternative 1A. Because only Intakes 2, 3, and 5 would be built under this alternative,
 17 however, implementation would avoid any site-specific contaminants or hazardous materials
 18 associated with the construction of Intakes 1 and 4.

19 As with Alternative 1A, tunnel construction activities would carry the potential to encounter gases
 20 that could enter the tunnels and accumulate to flammable or explosive concentrations. Hazardous
 21 constituents associated with RTM are not anticipated; however, the possibility exists for RTM and
 22 decanted water to pose a hazard to the construction workers, the public, or the environment.
 23 Additionally, stored bulk quantities of hazardous materials that have been released to soils and
 24 groundwater could be rereleased during construction, also posing a potential hazard. Water
 25 conveyance facilities construction may also require dredging contaminated sediments. Existing
 26 infrastructure, including oil and gas wells, also have the potential to release hazardous materials, as
 27 would the transport of hazardous materials during facility construction. Existing structures that
 28 would require relocation or removal under Alternative 8 would be the same as under Alternative 7.
 29 These structures may contain hazardous materials that would require proper handling and disposal,
 30 if demolition is necessary. As described for Impact HAZ-1 under Alternative 1A, Mitigation Measure
 31 HAZ-1b would be implemented by DWR to ensure that there are no adverse effects related to
 32 structure demolition due to hazardous materials.

33 As described for Alternative 1A under Impact HAZ-1, in general, the transportation of hazardous
 34 materials via trucks, trains and ships poses potential risks associated with the accidental release of
 35 these materials to the environment. Rerouting vehicular traffic carrying hazardous materials during
 36 construction of the water conveyance facilities could increase the risk of accidental release due to
 37 inferior road quality or lack of driver familiarity with the modified routes. Hazardous materials
 38 transportation routes are presented in Figure 24-2 and in Table 24-4. Routes anticipated to be
 39 affected during construction of the water conveyance facilities are described in Chapter 19,
 40 *Transportation*. Barges supporting water conveyance facilities construction may also transport
 41 hazardous materials such as fuels and lubricants or other chemicals. The potential exists for
 42 accidental release of hazardous materials from BDCP-related barges. To avoid effects on the
 43 environment related to this issue, BMPs would be implemented as part of a Barge Operations Plan
 44 (as discussed under Impact HAZ-1 for Alternative 1A and in Appendix 3B, *Environmental*

1 *Commitments*) that would reduce the potential for accidental releases of hazardous materials during
2 transport and transfer. Finally, under this alternative, the proposed conveyance would cross under
3 the existing BNSF/Amtrak San Joaquin line between Bacon Island and Woodward Island; however,
4 the effect of this crossing would likely be minimal because the proposed conveyance would traverse
5 the railroad in a deep bore tunnel (see Chapter 19, *Transportation* for discussion). Further, the UPRR
6 runs proximate to the construction area of the proposed Byron Forebay; however, construction is
7 unlikely to disrupt rail service because much of this line has not been in service recently.

8 Mitigation measures would be in place to ensure that there are no adverse effects on road, rail, or
9 water transportation, and, thus, the potential for the construction of the water conveyance facilities
10 to pose risks related to the transportation of hazardous materials would be minimal. As described in
11 Chapter 19, *Transportation*, under Mitigation Measure TRANS-1a, a site-specific construction traffic
12 management plan, taking into account hazardous materials transportation, would be prepared and
13 implemented prior to initiation of water conveyance facilities construction. Mitigation Measure
14 TRANS-1a, would also include stipulations to coordinate with rail providers to develop alternative
15 interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or
16 passenger service during any longer term railroad closures and daily construction time windows
17 during which construction would be restricted or rail operations would need to be suspended for
18 any activity within railroad rights of way. This would minimize the potential risk of release of
19 hazardous materials being transported via these rails.

20 As noted in the discussion of Impact HAZ-1 under Alternative 1A, project design will minimize, to
21 the extent feasible, the need to acquire or traverse areas where the presence of hazardous materials
22 is suspected or has been verified. Environmental commitments would be implemented, including
23 SWPPPs, SPCCPs, SAPs, and HMMPs; a Barge Operations Plan; and chemical characterization of RTM
24 prior to reuse (e.g., RTM in levee reinforcement) or discharge. Together, the environmental
25 commitments would reduce these potential hazards associated with water conveyance facilities
26 construction. Additionally, the implementation of Mitigation Measures HAZ-1a and HAZ-1b, UT-6a
27 and UT-6c (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in
28 Chapter 19, *Transportation*) would further reduce the potential severity of this impact. As such,
29 construction of the water conveyance facilities would not create a substantial hazard to the public or
30 the environment through the routine transport, use, or disposal of hazardous materials or the
31 upset/accidental release of these materials. Thus, this effect would not be adverse.

32 **CEQA Conclusion:** Similar to Alternative 1A, construction of the water conveyance facilities under
33 Alternative 7 presents the potential for a direct significant impact on construction personnel, the
34 public and/or the environment associated with a variety of physical and chemical hazardous
35 conditions because of the intensity of construction activities at the north Delta intakes, forebays and
36 conveyance pipelines and tunnels and the hazardous materials that would be needed in these areas
37 during construction. Potential hazards include the routine use of hazardous materials (as defined by
38 Title 22 of the California Code of Regulations, Division 4.5); natural gas accumulation in water
39 conveyance tunnels; the inadvertent release of existing contaminants in soil, sediment and
40 groundwater, or hazardous materials in existing infrastructure to be removed; disturbance of
41 electrical transmission lines; and hazardous constituents present in RTM. Under this alternative,
42 however, only Intakes 2, 3 and 5 would be constructed. Thus, it is anticipated that effects associated
43 with the transport and use of fuels for this alternative would be similar, but less severe, than those
44 described for Alternative 1A. Many of these physical and chemical hazardous conditions would
45 occur in close proximity to the towns of Hood and Courtland during construction of the north Delta
46 intakes and the intermediate forebay. Additionally, the potential would exist for the construction of

1 the water conveyance facilities to indirectly result in the release of hazardous materials through the
 2 disruption of existing road, rail, or river hazardous materials transport routes because construction
 3 would occur in the vicinity of three hazardous material transport routes, three railroad corridors,
 4 and waterways with barge traffic and would require construction traffic that could disrupt these
 5 routes. For these reasons, this is considered a significant impact. However, with the implementation
 6 of the previously described environmental commitments (e.g., SWPPPs, HMMPs, SPCCPs, and a
 7 Barge Operations Plan) and Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described
 8 in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*),
 9 construction of the water conveyance facilities would not create a substantial hazard to the public or
 10 the environment through the routine transport, use, or disposal of hazardous materials or the
 11 upset/accidental release of these materials. As such, these impacts would be less than significant.

12 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 13 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 14 **Construction Footprint, and Remediate and/or Contain Contamination**

15 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 16 1A.

17 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 18 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 19 **Dispose of Them in Accordance with Applicable Regulations**

20 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 21 1A.

22 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

23 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 24 Chapter 20, *Public Services and Utilities*.

25 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 26 **Minimizes Any Effect on Worker and Public Health and Safety**

27 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 28 Chapter 20, *Public Services and Utilities*.

29 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 30 **Plan**

31 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 32 1A in Chapter 19, *Transportation*.

33 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
 34 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
 35 **Facilities**

36 **NEPA Effects:** An adverse effect may occur if a construction work site is located within 0.25 mile of
 37 an existing or proposed school, or other sensitive receptor, and releases hazardous materials that
 38 pose a health hazard. However, no schools, parks or hospitals are located within 0.25 mile of
 39 Alternative 8. Therefore, no sensitive receptors would be exposed to hazardous materials,

1 substances, or waste during construction of the water conveyance facilities under Alternative 8. As
 2 such, there would be no effect. Potential air quality effects on sensitive receptors are discussed in
 3 Chapter 22, *Air Quality and Greenhouse Gases*.

4 **CEQA Conclusion:** There are no schools, parks or hospitals located within 0.25 mile of the
 5 Alternative 8 water conveyance facilities alignment, therefore, there would be no impact due to
 6 exposure of sensitive receptors to hazardous materials, substances or waste during construction of
 7 the water conveyance facilities. Accordingly, there would be no impact. No mitigation is required.
 8 Potential air quality effects on sensitive receptors are discussed in Chapter 22, *Air Quality and*
 9 *Greenhouse Gases*.

10 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
 11 **Create a Significant Hazard to the Public or the Environment**

12 **NEPA Effects:** There are no "Cortese List" sites or known SOCs within the construction footprint of
 13 Alternative 8 (Table 24-5 and Figure 24-4), and therefore there would be no conflict pertaining to a
 14 known hazardous materials site during construction of the water conveyance facilities, and thus, no
 15 related hazard to the public or the environment. For those hazardous materials sites identified
 16 within the 0.5-mile radius but which are not within the construction footprint, there would be no
 17 potential for construction of the water conveyance facilities to disturb those sites such that there
 18 would be a re-release of hazardous materials that would create a hazard for the public or
 19 environment. As such, there would be no effect. The potential for encountering unknown hazardous
 20 materials sites during the course of construction is discussed under Impact HAZ-1.

21 **CEQA Conclusion:** Because there are no known SOCs within the construction footprint of the water
 22 conveyance facility under this alternative, there would be no conflict with known hazardous
 23 materials sites during construction of the water conveyance facilities, and therefore, no related
 24 hazard to the public or the environment. As such, there would be no impact. No mitigation is
 25 required. The potential for encountering unknown hazardous materials sites during the course of
 26 construction is discussed under Impact HAZ-1.

27 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
 28 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
 29 **Study Area during Construction of the Water Conveyance Facilities**

30 **NEPA Effects:** Safety hazards to aircraft posed by high-profile construction equipment, such as
 31 cranes and pile drivers, or structures (e.g., proposed transmission lines and towers), would be
 32 similar to those described under Alternative 1A. Because Intake 1 and 4 would not be constructed
 33 under this alternative, these risks of construction of these intakes (the potential use of tall cranes
 34 and pile drivers for installation of Intakes 1 and 4) would not exist. However, because the Borges-
 35 Clarksburg, Spezia, and Walnut Grove Airports (all private airstrips), and the Byron Airport (a public
 36 air facility), are located within 2 miles of project features within the construction footprint that may
 37 not only require the use of high-profile (200 feet or taller) construction equipment, but also the use
 38 of helicopters (stringing of a proposed permanent 230 kV transmission line), there would be
 39 potential for adverse effects on air safety.

40 However, as required, DWR would notify Caltrans' Division of Aeronautics in writing prior to
 41 construction of any state building or enclosure within 2 miles of these airports, as applicable, and
 42 would comply with any Caltrans recommendations based on site investigation(s). Additionally, DWR

1 would comply with the recommendations of the OE/AAA (for Byron Airport) (14 CFR 77. These
2 actions would ensure that there are no adverse effects on air safety.

3 **CEQA Conclusion:** The use of helicopters for stringing the proposed 230 kV transmission lines and
4 of high-profile construction equipment (200 feet or taller), such as cranes, for installation of
5 pipelines, for example, have the potential to result in safety hazards to aircraft during takeoff and
6 landing if the equipment is operated too close to runways. Three private airports (Borges-
7 Clarksburg, Spezia, and Walnut Grove Airports) and one public airport (Byron Airport) are located
8 within 2 miles of the construction footprint of Alternative 8. DWR would coordinate with Caltrans'
9 Division of Aeronautics prior to initiating construction and comply with its recommendations based
10 on its investigation(s), as well comply with the recommendations of the OE/AAA (for Byron
11 Airport). Compliance with these recommendations, which could include limitations necessary to
12 minimize potential problems, such as the use of temporary construction equipment, supplemental
13 notice requirements, and marking and lighting high-profile structures would reduce the potential
14 for impacts on air safety. Accordingly, impacts on air safety would be less than significant. No
15 mitigation is required.

16 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
17 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
18 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
19 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

20 **NEPA Effects:** Hazards related to wildland fires would be similar to those described under
21 Alternative 1A. The northernmost and southernmost extent of this conveyance alignment would be
22 adjacent to zones of moderate fire hazard severity.

23 As described under Alternative 1A and in Appendix 3B, *Environmental Commitments*, precautions
24 would be taken to prevent wildland fires during construction, and operation and maintenance of the
25 water conveyance facilities in full compliance with Cal-OSHA standards for fire safety and
26 prevention. Additionally, DWR would develop and implement fire prevention, safety and control
27 measures as part of a FPCP in coordination with federal, state, and local agencies. Implementation of
28 these would help ensure that people or structures would not be subject to a significant risk of loss,
29 injury or death involving wildland fires. Therefore, this effect would not be adverse.

30 **CEQA Conclusion:** People or structures would not be subject to a significant risk of loss, injury or
31 death involving wildland fires during construction or operation and maintenance of the water
32 conveyance facilities because the alternative would comply with Cal-OSHA fire prevention and
33 safety standards; DWR would implement standard fire safety and prevention measures, as part of a
34 FPCP (Appendix 3B, *Environmental Commitments*); and because the water conveyance facilities
35 would not be located in a High or Very High Fire Hazard Severity Zone. Therefore, this impact would
36 be less than significant. No mitigation is required.

37 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
38 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
39 **Water Conveyance Facilities**

40 **NEPA Effects:** Potential hazards related to the long-term operation and maintenance of the water
41 conveyance facilities would be similar to those described for Alternative 1A. Under this alternative,
42 however, the potential for hazards associated with intake pumping plants and sediment basins
43 would be less widespread, as only three intake facilities would be operated and maintained.

1 Nonetheless, this alternative may require the transport, storage, and use of chemicals or hazardous
2 waste materials including fuel, oils, grease, solvents, and paints. Solids collected at solids lagoons
3 and sediment dredged during intake maintenance may contain hazardous constituents (e.g.,
4 persistent pesticides, mercury, PCBs). To ensure that potentially contaminated sediment from
5 maintenance dredging activities at the intakes would not adversely affect soil, groundwater or
6 surface water, a SAP would be implemented prior to any dredging activities, as described under
7 Impact HAZ-1 for this alternative. All sediment would be characterized chemically prior to reuse to
8 ensure that reuse of this material would not result in a hazard to the public or the environment.

9 The locations of airports with respect to the pipeline/tunnel alignment are provided in Figure 24-9.
10 The Borges-Clarksburg, Walnut Grove, and Spezia Airports (all private facilities) and the Byron
11 Airport (a public facility) would be within 2 miles of the Alternative 8 construction footprint (Figure
12 24-9 and Table 24-6). With the exception of power transmission lines supplying power to pumps,
13 surge towers, and other equipment used for water conveyance facilities operation and maintenance,
14 water conveyance facilities operations and maintenance are not anticipated to require high-profile
15 equipment, the use of which near an airport runway could result in an adverse effect on aircraft.
16 DWR would adhere to all applicable FAA regulations (14 CFR 77) and coordinate with Caltrans'
17 Division of Aeronautics prior to initiating maintenance activities requiring high-profile equipment to
18 avoid adverse effects on air safety. Compliance with these recommendations, which could include
19 limitations necessary to minimize potential problems, such as the use of temporary construction
20 equipment, supplemental notice requirements, and marking and lighting high-profile structures
21 would reduce the potential for impacts on air safety.

22 Potential releases of hazardous materials could result in an adverse effect on workers, the public
23 (including sensitive receptors within 0.25 mile of the water conveyance facilities), and the
24 environment. As with Alternative 1A, there are no sensitive receptors (i.e., schools, hospitals and
25 parks) located within 0.25 mile of Alternative 8.

26 Because the types of potentially hazardous materials used during routine operation and
27 maintenance activities would be used in relatively small quantities, and because BMPs, as would be
28 implemented in the SWPPPs, SPCCPs, and HMMPs (detailed in Appendix 3B), would be in place to
29 help prevent the inadvertent release of these materials and to contain and remediate spills should
30 they occur, the risk to the public and environment would be negligible. Further, under Mitigation
31 Measure HAZ-6, solids from the solids lagoons would be sampled and characterized to evaluate
32 disposal options, and disposed of accordingly at an appropriate, licensed facility. These measures
33 would ensure that this effect is not adverse.

34 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
35 operation and maintenance of the water conveyance facilities and the potential interference with air
36 safety through the use of high-profile equipment for maintenance of proposed transmission lines
37 could have impacts on the public and environment. However, implementation of the BMPs and other
38 activities required by SWPPPs, HMMPs, SPCCPs, SAPs, and Mitigation Measure HAZ-6, which would
39 ensure that dewatered solids are not reintroduced to the environment and are properly disposed of,
40 as well as adherence to all applicable FAA regulations (14 CFR Part 77) and
41 coordination/compliance with Caltrans' Division of Aeronautics when performing work with high-
42 profile equipment within 2 miles of an airport, which would include implementation of
43 recommendations to provide supplemental notice and/or equip high-profile structures with
44 marking and lighting, would ensure that operation and maintenance of the water conveyance

1 facilities would not create a substantial hazard to the public, environment or air traffic safety.
2 Therefore, this impact would be less than significant.

3 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
4 **and/or Disposal**

5 Please refer to Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative
6 1A.

7 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
8 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
9 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

10 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
11 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
12 create hazards to workers, the public, and the environment would be similar to those described
13 under Alternative 1A but could differ based upon different target acreages chosen for habitat
14 restoration or enhancement. Hazardous materials associated with the operation of construction
15 equipment could be released into the environment in the course of the materials' routine transport,
16 use, or disposal. Releases could also occur as a result of accidental circumstances. Similarly,
17 construction activities could encounter known or unknown hazardous materials sites located on or
18 in the vicinity of construction sites, creating the potential for their disturbance and release. Other
19 activities, including the intentional demolition of existing structures (e.g., buildings) and reuse of
20 spoil, dredged material and/or RTM, would also present the potential to generate hazards or release
21 hazardous materials. However, prior to the reuse of spoils, dredged material or RTM, these
22 materials would undergo chemical characterization, as described in Appendix 3B, *Environmental*
23 *Commitments*, to ensure that they are not creating a hazard to the public and environment.

24 Further, other potential hazards that could result from implementing conservation measures
25 include the possible release of hazardous substances in proximity to sensitive receptors; damage or
26 disruption of existing infrastructure such that hazardous conditions were created; the accidental
27 release of hazardous substances during operation and maintenance (e.g., herbicides for nonnative
28 vegetation control); the release, in the short-term, of pesticides from former agricultural lands as a
29 result of wetland and floodplain restoration; the potential for safety hazards related to construction
30 in the vicinity of an airport; and the potential for wildfire hazards in the vicinity of construction
31 sites.

32 The potential for these effects is considered adverse because implementation of conservation
33 measures would involve extensive activities that could unintentionally result in the release of
34 hazardous substances or that could expose construction workers or members of the public to
35 hazards. However, with implementation of Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c,
36 TRANS-1a, and environmental commitments (discussed previously for Impacts HAZ-1 through HAZ-
37 6, and in detail in Appendix 3B, *Environmental Commitments*), the potential for adverse effects
38 would be reduced. Additionally, the proposed conservation measures would be designed to avoid
39 sensitive receptors and would minimize, to the extent feasible, the need to acquire or traverse areas
40 where the presence of hazardous materials is suspected or has been verified. Thus, this effect would
41 not be adverse.

42 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
43 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

1 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 2 public to hazardous substances or conditions during construction, operation, and maintenance of
 3 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 4 implementation would involve extensive use of heavy equipment during construction, and/or the
 5 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 6 for nonnative vegetation control). These chemicals could be inadvertently released, exposing
 7 construction workers or the public to hazards. Construction of restoration projects on or near
 8 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 9 materials, and the use of high-profile equipment in close proximity to airport runways could result
 10 in hazards to air traffic. However in addition to implementation of SWPPPs, HMMPs, SPCCPs, SAPs,
 11 and a FPCP, Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be
 12 implemented, all of which would ensure that these potential impacts are less than significant.

13 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 14 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 15 **Construction Footprint, and Remediate and/or Contain Contamination**

16 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 17 1A.

18 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 19 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 20 **Dispose of Them in Accordance with Applicable Regulations**

21 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 22 1A.

23 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

24 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 25 Chapter 20, *Public Services and Utilities*.

26 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 27 **Minimizes Any Effect on Worker and Public Health and Safety**

28 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 29 Chapter 20, *Public Services and Utilities*.

30 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 31 **Plan**

32 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 33 1A in Chapter 19, *Transportation*.

34 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
 35 **Conservation Measures That Create or Improve Wildlife Habitat**

36 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
 37 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
 38 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
 39 from Alternative 1A would be anticipated to be minor but could result from the selection of different

1 areas for restoration activities based on the location of the physical water conveyance features
 2 associated with each alternative. Such variation may result greater or less opportunity for bird-
 3 aircraft strikes depending on the location's proximity to airport flight zones. The following airports,
 4 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
 5 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
 6 Airport; Sacramento International Airport, and Byron Airport.

7 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
 8 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
 9 would reduce the severity of this effect through the development and implementation of measures
 10 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
 11 adverse.

12 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
 13 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
 14 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
 15 significant impacts on public safety. The following airports, because they are in relatively close
 16 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
 17 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
 18 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
 19 through the ultimate development and implementation of measures to reduce, minimize and/or
 20 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
 21 significant and unavoidable.

22 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 23 **Regulatory Agencies**

24 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 25 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 26 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 27 extent possible.

28 **24.3.3.16 Alternative 9—Through Delta/Separate Corridors (15,000 cfs;**
 29 **Operational Scenario G)**

30 **Impact HAZ-1: Create a Substantial Hazard to the Public or the Environment through the**
 31 **Release of Hazardous Materials or by Other Means during Construction of the Water**
 32 **Conveyance Facilities**

33 **NEPA Effects:** This impact describes and addresses, for the duration of construction of the water
 34 conveyance facilities, potential hazards associated with the routine use of hazardous materials;
 35 existing contaminants in soil, groundwater or sediment; hazardous constituents present in dredged
 36 sediments; infrastructure containing hazardous materials; and the routine transport of hazardous
 37 materials.

38 Under Alternative 9, three locations would be designated as temporary fueling stations, each
 39 occupying 2 acres and located adjacent to concrete batch plants. Potential hazards resulting from
 40 these facilities would be similar to those described under Alternative 1A but would be reduced in
 41 their intensity because three fueling stations would be used instead of five. Additionally, these
 42 potential hazards would occur in different locations. Fueling stations would be established in

1 currently rural areas with one just northwest of the town of Locke, one near the San Joaquin River
2 on the eastern side of Webb Tract near Potato Slough, and one on State Highway 4, approximately 3
3 miles northeast of Clifton Court Forebay. Fueling station locations are shown in Figure 24-7 and in
4 Figure M3-5 in the Mapbook Volume.

5 In addition to fuel use and bulk fuel storage, construction activities and maintenance of construction
6 equipment for the water conveyance facilities under this alternative would include storage and use
7 of similar hazardous materials—with associated potential for spills and releases—as described
8 under Alternative 1A. To the extent that activities would require different materials and different
9 amounts of materials for construction of operable barriers and intakes structures under this
10 alternative, the intensity of this effect would be different. This alternative would, however, avoid
11 hazards associated with construction of three intake facilities, three pumping plants, pipelines, and
12 tunnels. However, in-river facility construction associated with operable barriers and intakes would
13 be more extensive and widespread under this alternative, which could result in a greater potential
14 for hazardous materials to be spilled or otherwise released to the environment, particularly to water
15 bodies. Construction equipment maintenance is expected to be performed in the field and in central
16 maintenance facilities operated by contractors during construction of this alternative. While
17 equipment could be maintained at any work area identified for this alternative, the highest risk of
18 hazards related to equipment maintenance activities would be anticipated to occur at those sites
19 where duration and intensity of construction activities would be greatest, including intake sites
20 (Delta Cross Channel and Georgiana Slough) and operable barrier sites (a detailed depiction of the
21 Through Delta/Separate Corridors alignment features is provided in Figure M3-5 in the Mapbook
22 Volume).

23 The potential hazards resulting from construction activities near known (see Impact HAZ-3 for this
24 alternative below) or unknown SOCs would be similar to those described under Alternative 1A.
25 Additionally, contaminated soil, groundwater, or sediments may be encountered during dredging
26 and other in-river construction activities. Approximately 11.9 million cubic yards of dredged
27 sediment spoils are expected to be generated in the southern portion of the study area, and
28 additional sediment would be generated during construction of intakes, operable barriers, and other
29 in-channel infrastructure (California Department of Water Resources 2010b:16-5). Contaminated
30 sediments (e.g., persistent pesticide- and mercury-contaminated sediments) may be encountered
31 during in-river construction (e.g., cofferdam construction at fish screen sites). As indicated under
32 Impact HAZ-1 for Alternative 1A, concentrations of potential contaminants in the sediments where
33 in-river construction activities would be taking place are not known; therefore, the associated risk
34 cannot be identified. Generally, mobilization of potentially contaminated sediments would be
35 directly related to levels of turbidity and suspended sediments resulting from construction.
36 Although resulting turbidity has not been modeled, it is anticipated to be low given the permit
37 requirements for controls stipulating that dredging activities be conducted and monitored such that
38 turbidity not increase in receiving waters, measured 300 feet downstream or that silt curtains be
39 used to control turbidity and reduce the associated mobilization of potentially contaminated
40 sediments. Mobilization of potentially contaminated sediments are unlikely to be a hazard concern
41 for construction workers because it is not expected that workers would be in direct contact with
42 sediments during in-river construction activities. Similarly, contaminated sediments are unlikely to
43 pose a hazard to the general public or the environment because suspended sediment would be
44 confined to the areas of in-river disturbance via the incorporation of BMPs, such as the installation
45 of silt curtains and the performance of in-water work during low flow periods (see Appendix 3B,

1 *Environmental Commitments*), and because disturbance would be temporary (occurring during in-
2 river work and potentially for a few hours following cessation of in-river construction activities).

3 Infrastructure and structures in the study area containing hazardous materials cross the Alternative
4 9 water conveyance alignment and construction footprint (Figures 24-3 and 24-6). Five overhead
5 high-voltage electrical transmission lines, two petroleum product pipelines, and potentially local
6 power and gas lines cross the construction footprint for the proposed water conveyance facilities.
7 Table 24-3 provides the number and type of regional electrical transmission lines and pipelines
8 crossing each alternative alignment. Local power lines and residential gas distribution lines may be
9 present in the area. Construction of the proposed water conveyance facilities under Alternative 9
10 (particularly the canal and intake facilities) would also conflict with a substantial number of existing
11 structures throughout the alignment, but particularly on and near Hammer Island. Construction of
12 the water conveyance facility under this alternative would require the removal 255 structures, of
13 which 74 are residential and 93 are storage/support structures. This would be necessary for the
14 modification of channels and the construction of new levees south of Clifton Court Forebay. These
15 structures may contain hazardous materials that would require proper handling and disposal, if
16 demolition is necessary. Disturbance of this infrastructure during construction of the water
17 conveyance facilities could result in hazards similar to those described under Alternative 1A. As
18 described for Impact HAZ-1 under Alternative 1A, Mitigation Measure HAZ-1b would be
19 implemented by DWR to ensure that there are no adverse effects related to hazardous materials
20 from structure demolition.

21 Risks associated with the transportation of hazardous materials via truck, trains, and ships would be
22 similar to those described under Alternative 1A but would occur in different areas. State Highway 4,
23 a designated hazardous materials transportation route, crosses the alignment for Alternative 9 at
24 Middle River (Figure 24-2 and in Table 24-4). Rerouting vehicular traffic carrying hazardous
25 materials during construction of the water conveyance facilities could increase the risk of accidental
26 release due to inferior road quality or lack of driver familiarity with the modified routes. This
27 includes the risk of release of hazardous products or wastes being transported routinely or
28 specifically for construction of the water conveyance facilities, and the corresponding risk of release
29 of fuels (gasoline and diesel) from vehicular accidents. No rerouting of traffic on this highway is
30 anticipated. Other road routes anticipated to be affected during construction of the water
31 conveyance facilities are listed in Chapter 19, *Transportation*. As described in Chapter 19,
32 *Transportation*, under Mitigation Measure TRANS-1a, a site-specific construction traffic
33 management plan would be prepared and implemented prior to initiation of water conveyance
34 facilities construction. This plan would include stipulations and BMPs to avoid or reduce potential
35 circulation effects, such as such as providing signage, barricades, and flag people around
36 construction work zones; notifying the public, including schools and emergency service providers of
37 construction activities that could affect transportation; providing alternate access routes, if
38 necessary, to maintain continual circulation in and around construction zones; and requiring direct
39 haulers to pull over in the event of an emergency, which would help ensure that there are no
40 interferences with the safe transport of hazardous materials and no associated increases in safety
41 hazards. In-water construction of the operable barriers and barge unloading facilities could result in
42 impediments to marine traffic on the San Joaquin River, which could have the potential to introduce
43 hazards in the case of inadvertent collisions, and releases of hazardous materials (e.g., fuels) from
44 barges or other watercraft. However, as described under Impact HAZ-1 for Alternative 1A, BMPs
45 implemented as part of a Barge Operations Plan (for detail see Appendix 3B, *Environmental*
46 *Commitments*) would avoid and/or minimize this potential adverse effect. Train operations along

1 the BNSF Railway/Amtrak San Joaquin Line could be affected during construction of the proposed
2 operable barrier at the Middle River entrance of the Railroad Cut (between the Middle River and the
3 Old River) under this alternative. To avoid potential adverse effects on rail modes of transportation,
4 DWR would consult with railroad owners and would develop and implement rail construction
5 management plans, as necessary, through implementation of Mitigation Measure TRANS-6
6 (described in Chapter 19, *Transportation*). In summary, during construction of the water
7 conveyance facilities there is the potential for direct effects on construction personnel, the public
8 and the environment associated with the routine use of hazardous materials; the inadvertent release
9 of existing contaminants in soil and groundwater, or hazardous materials in existing infrastructure
10 to be removed; disturbance of electrical transmission lines; and potentially hazardous constituents
11 present in dredged sediments. Additionally, there is the potential for the construction of the water
12 conveyance facilities to indirectly result in the release of hazardous materials through the disruption
13 of existing road, rail, or river hazardous materials transport routes because construction would
14 occur in the vicinity of one designated hazardous materials transport route, one railroad corridor
15 and waterways with barge traffic, and would require construction traffic that could disrupt these
16 routes, which, were this to occur, would be considered an adverse effect.

17 However, as noted in the discussion of Impact HAZ-1 for Alternative 1A, project design will
18 minimize, to the extent feasible, the need to acquire or traverse areas where the presence of
19 hazardous materials is suspected or has been verified. Additionally, environmental commitments
20 would be implemented, including, but not limited to BMPs implemented as part of SWPPPs, SPCCPs,
21 SAPs and HMMPs, and a Barge Operations Plan. Together, the environmental commitments would
22 reduce these potential hazards associated with water conveyance facilities construction.
23 Additionally, the implementation of Mitigation Measures HAZ-1a and HAZ-1b; UT-6a and UT-6c
24 (described in Chapter 20, *Public Services and Utilities*), and TRANS-1a (described in Chapter 19,
25 *Transportation*) would further reduce the potential severity of this impact. As such, construction of
26 the water conveyance facilities would not create a substantial hazard to the public or the
27 environment through the routine transport, use, or disposal of hazardous materials or the
28 upset/accidental release of these materials. Thus, this effect would not be adverse.

29 **CEQA Conclusion:** During construction of the water conveyance facilities there is the potential for
30 direct significant impacts on construction personnel, the public and the environment associated
31 with a variety of hazardous physical or chemical conditions. Such conditions may arise as a result of
32 the intensity and duration of construction activities at the intakes, operable barriers, and channel
33 modification, and because of the hazardous materials that would be used in these areas during
34 construction. Potential hazards would include the routine use of hazardous materials (as defined by
35 Title 22 of the California Code of Regulations, Division 4.5); the inadvertent release of existing
36 contaminants in soil, sediment and groundwater, or hazardous materials in existing infrastructure
37 to be removed; disturbance of electrical transmission lines; and hazardous constituents present in
38 dredged sediments. Additionally, there is the potential for the construction of the water conveyance
39 facility to indirectly result in the release of hazardous materials through the disruption of existing
40 road, rail, or river hazardous materials transport routes because construction would occur in the
41 vicinity of one designated hazardous materials transport route, one railroad corridor and
42 waterways with barge traffic, and would require construction traffic that could disrupt these routes.
43 For these reasons, this is considered a significant impact. However, with the implementation of the
44 previously described environmental commitments for Impact HAZ-1 under Alternative 1A and of
45 Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, *Public Services
46 and Utilities*), and TRANS-1a (described in Chapter 19, *Transportation*), construction of the water

1 conveyance facilities would not create a substantial hazard to the public or the environment through
 2 the routine transport, use, or disposal of hazardous materials or the upset/accidental release of
 3 these materials. The severity of this impact would be reduced with the implementation of these
 4 environmental commitments and mitigation measures by identifying and describing potential
 5 sources of hazardous materials so that releases can be avoided and materials can be properly
 6 handled; detailing practices to monitor pollutants and control erosion so that appropriate measures
 7 are taken; implementing onsite features to minimize the potential for hazardous materials to be
 8 released to the environment or surface waters; minimizing risk associated with the relocation of
 9 utility infrastructure; and coordinating the transport of hazardous materials to reduce the risk of
 10 spills. Accordingly, these impacts would be reduced to a less-than-significant level.

11 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 12 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 13 **Construction Footprint, and Remediate and/or Contain Contamination**

14 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 15 1A.

16 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 17 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 18 **Dispose of Them in Accordance with Applicable Regulations**

19 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 20 1A.

21 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

22 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 23 Chapter 20, *Public Services and Utilities*.

24 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 25 **Minimizes Any Effect on Worker and Public Health and Safety**

26 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 27 Chapter 20, *Public Services and Utilities*.

28 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 29 **Plan**

30 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 31 1A in Chapter 19, *Transportation*.

32 **Impact HAZ-2: Expose Sensitive Receptors Located within 0.25 Mile of a Construction Site to**
 33 **Hazardous Materials, Substances, or Waste during Construction of the Water Conveyance**
 34 **Facilities**

35 **NEPA Effects:** The potential for hazardous materials or substances to affect sensitive receptors
 36 would be similar in nature to those described for Alternative 1A; however, implementation of this
 37 alternative would potentially affect parks, schools, or hospitals in different locations. While there are
 38 no parks or hospitals located within 0.25 mile of Alternative 9, Walnut Grove Elementary School in

1 Walnut Grove is within 0.25 mile of the construction footprint, near the proposed Georgiana Slough
2 and Delta Cross Channel screened intakes, as shown in Figure 24-8.

3 Construction of the intakes would require the use of heavy construction equipment, including
4 cranes, excavators, loaders, and off-road trucks, which would require the routine use of hazardous
5 materials such as fuels, solvents, and lubricants. Construction of the intakes and construction-
6 related activities, such as fueling, excavation, and site clearing, could potentially release hazardous
7 materials into the environment through equipment leaks and upset and accident conditions
8 involving accidental spills. However, the inadvertent release of the types and quantities of
9 hazardous materials that would be used during construction activities in this area would likely only
10 have the potential to result in minor, temporary hazards to workers immediately adjacent to these
11 releases. Because chemicals such as fuels and solvents that could be used in this area would be used
12 in small quantities, and any inadvertent release would be localized, and because BMPs to minimize
13 the potential for the accidental release of hazardous materials and to contain and remediate
14 hazardous spills, as part of the SWPPPs, SPCCPs, and HMMPs, would be implemented, as described
15 in Section 24.3.3.2 under "Routine Use of Hazardous Materials" for Alternative 1A, and as set forth in
16 Appendix 3B, *Environmental Commitments*, children and staff at Walnut Grove Elementary School
17 would not be exposed to hazardous materials, substances, or waste during construction of the water
18 conveyance facilities. Therefore, there would be no adverse effect. Potential air quality effects on
19 sensitive receptors are discussed in Chapter 22, *Air Quality and Greenhouse Gases*.

20 **CEQA Conclusion:** Walnut Grove Elementary School is within 0.25 mile of the construction footprint
21 for Alternative 9 near the sites of the proposed intakes at the Delta Cross Channel and Georgiana
22 Slough. Construction of the intakes and construction-related activities, such as fueling, excavation,
23 and site clearing, could potentially release hazardous materials into the environment through
24 equipment (e.g., dump trucks, diggers, cranes, and back hoes) equipment leaks and upset and
25 accident conditions involving accidental spills. However, the inadvertent release of the types and
26 quantities of hazardous materials that would be used during construction activities in this area
27 would likely only have the potential to result in minor, temporary hazards to workers immediately
28 adjacent to these releases. Risks would also be reduced because chemicals such as fuels and solvents
29 that could be used in this area would be used in small quantities, any inadvertent release would be
30 localized, and because BMPs would be implemented to minimize the potential for the accidental
31 release of hazardous materials and to contain and remediate hazardous spills, as part of the
32 SWPPPs, SPCCPs, and HMMPs (as discussed under Impact HAZ-1 for Alternative 1A and in Appendix
33 3B, *Environmental Commitments*). Further, the school is not in close enough proximity to these
34 proposed construction areas to be affected by potential hazards such as minor leaks or spills of
35 hazardous materials. Therefore, school children and staff at Walnut Grove Elementary School would
36 not be at risk or affected by exposure to hazardous materials, substances, or waste during
37 construction of the water conveyance facilities, and as such, this impact is less than significant. No
38 mitigation is required. Potential air quality effects on sensitive receptors are discussed in Chapter
39 22, *Air Quality and Greenhouse Gases*.

40 **Impact HAZ-3: Potential to Conflict with a Known Hazardous Materials Site and, as a Result,**
41 **Create a Significant Hazard to the Public or the Environment**

42 **NEPA Effects:** As shown in Table 24-5 and in Figure 24-4, four SOCs would be located within 0.5
43 mile of the construction footprint for Alternative 9. For those hazardous materials sites identified
44 within the 0.5-mile radius but which are not within the construction footprint, there would be no
45 potential for construction of the water conveyance facilities to disturb those sites such that there

1 would be a re-release of hazardous materials that would create a hazard for the public or
 2 environment. However, one of these sites is within the Delta Cross Channel intake construction
 3 footprint of Alternative 9. This is the site of the former Unocal Bulk Plant—a bulk storage and
 4 distribution facility for petroleum products (1922 to 1980) with 11 ASTs and underground
 5 pipelines. The latest monitoring report from third quarter 2008 indicates that groundwater at this
 6 site contains petroleum product concentrations exceeding cleanup standards. Because dewatering
 7 wells would likely be necessary during construction of the Delta Cross Channel intake, it is possible
 8 that the dewatering system would draw up contaminated groundwater associated with the Unocal
 9 Bulk Plant site. If contaminated groundwater was drawn up and released to the environment, this
 10 would be an adverse effect. As a result, it would be necessary to characterize the groundwater
 11 drawn through the dewatering system to determine disposal options to avoid any adverse effect on
 12 the environment via improper disposal of contaminated groundwater. Implementation of Mitigation
 13 Measure HAZ-1a, as described for Impact HAZ-1 under Alternative 1A, would avoid this adverse
 14 effect by requiring soil and groundwater testing at this site, and containment and/or remediation if
 15 contamination is present. Therefore, there would be no adverse effect. There are no “Cortese List”
 16 sites within the construction footprint of the Alternative 9 water conveyance facilities. The potential
 17 for encountering unknown hazardous materials sites during the course of construction is discussed
 18 under Impact HAZ-1.

19 **CEQA Conclusion:** The former Unocal Bulk Plant is within the construction footprint for the Delta
 20 Cross Channel intake under Alternative 9. Recent monitoring indicates that groundwater at Unocal
 21 Bulk Plant site contains concentrations of petroleum products exceeding cleanup standards.
 22 Because dewatering wells would likely be necessary during construction of the Delta Cross Channel
 23 intake, it is possible that the dewatering system would draw up contaminated groundwater
 24 associated with the Unocal Bulk Plant site. The potential for a significant hazard to the public or the
 25 environment as a result of the potential re-release of hazardous materials contained in groundwater
 26 during construction near this hazardous materials site would be less than significant with
 27 implementation of Mitigation Measure HAZ-1a, which would require soil and groundwater testing
 28 and containment and/or remediation if contamination is present; thus, improper disposal of
 29 contaminated groundwater or soil would be avoided and the public and environment would not be
 30 affected. The potential for construction activities to encounter unknown sites hosting hazardous
 31 materials is described under Impact HAZ-1.

32 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 33 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 34 **Construction Footprint, and Remediate and/or Contain Contamination**

35 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 36 1A. Implementation of this measure will result in the successful remediation or containment of
 37 all known or suspected contaminated areas, as applicable, within the construction footprint,
 38 which would prevent the release of hazardous materials from these areas into the environment.

39 **Impact HAZ-4: Result in a Safety Hazard Associated with an Airport or Private Airstrip within**
 40 **2 Miles of the Water Conveyance Facilities Footprint for People Residing or Working in the**
 41 **Study Area during Construction of the Water Conveyance Facilities**

42 **NEPA Effects:** As previously described, development around an airport, particularly in the approach
 43 and departure paths, can create obstructions in the airspace traversed by an approaching or
 44 departing aircraft. Additionally, certain land uses have the potential to create hazards to aircraft

1 such as a distracting glare, smoke, steam, or invisible heat plumes. Safety impacts from aircraft
2 accidents near airports are typically avoided by specifying the types of land uses allowed, and
3 thereby limiting the number of people who would be exposed to the risk of an accident, and avoiding
4 land uses that could create hazards to air traffic. Airspace protection primarily involves limitations
5 on the height of objects on the ground near airports.

6 The nature of safety hazards related to air travel would be similar to those described under
7 Alternative 1A. However, under Alternative 9, the water conveyance facilities would be within 2
8 miles of the Walnut Grove and Spezia Airports, southwest of Walnut Grove, as shown in Figure 24-9.
9 These airports are designated private airports. Walnut Grove Airport is within 2 miles of a proposed
10 borrow and/or spoils area near the intake proposed at Georgiana Slough. Spezia Airport is within 2
11 miles of several proposed features for the water conveyance facility under Alternative 9: intake and
12 intake work area at Georgiana Slough; borrow and/or spoils area; 12 kV transmission line; and a fish
13 screen work area. With the exception of the intake, potentially the intake work area, and the fish
14 screen (pile driving), construction of these features or work in these areas would not require the use
15 of high-profile (200 feet or taller) construction equipment. It is not yet known what the maximum
16 height of the high-profile construction equipment that would be used would be. Tower cranes, for
17 example, may be required, and a typical tower crane can have a total height greater than 200 feet—a
18 height that could be considered an obstruction or hazard to navigable air space if located near an
19 airport. However, because, as required, Caltrans' Division of Aeronautics would be informed in
20 writing by DWR of the construction of any state building or enclosure within 2 miles of these
21 airports, and because DWR would adhere to any recommendations resulting from Caltrans' review,
22 there would be no adverse effects on air safety.

23 **CEQA Conclusion:** High-profile construction equipment (200 feet or taller), such as tall cranes, for
24 installation of intakes, and pile drivers, such as would be used during the installation of the fish
25 screen at Georgiana Slough construction of the intakes, have the potential to result in safety hazards
26 to aircraft during takeoff and landing if the equipment is operated too close to runways. Two private
27 airports (Spezia and Walnut Grove Airports) are located within 2 miles of the construction footprint
28 of Alternative 9. DWR would coordinate with Caltrans' Division of Aeronautics prior to initiating
29 construction and comply with its recommendations based on their investigation(s). These
30 recommendations, which could include limitations necessary to minimize potential problems, such
31 as the use of temporary construction equipment, supplemental notice requirements, and marking
32 and lighting high-profile structures would reduce the potential for impacts on air safety.
33 Accordingly, this impact would be less than significant. No mitigation is required.

34 **Impact HAZ-5: Expose People or Structures to a Substantial Risk of Property Loss, Personal**
35 **Injury or Death Involving Wildland Fires, Including Where Wildlands Are adjacent to**
36 **Urbanized Areas or Where Residences Are Intermixed with Wildlands, as a Result of**
37 **Construction, and Operation and Maintenance of the Water Conveyance Facilities**

38 **NEPA Effects:** Under Alternative 9, potential hazards related to wildland fire would be similar to
39 those described under Impact HAZ-5 for Alternative 1A but would carry the potential to affect
40 different areas. As shown in Figure 24-10, no portion of Alternative 9 is located in or near an area
41 designated as a High or Very High Fire Hazard Severity Zone. Figure 24-10 indicates the
42 northernmost and southernmost portions of Alternative 9 would be near Moderate Fire Hazard
43 Severity Zones. The study area mainly consists of agricultural lands with pockets of rural residential
44 land uses that are not adjacent to wildlands, as well as residential areas that are intermixed with
45 wildlands.

1 As described under Impact HAZ-5 for Alternative 1A and in Appendix 3B, *Environmental*
2 *Commitments*, BMPs would be implemented, as part of a FPCP, to prevent and control wildland fires
3 during construction, and operation and maintenance of the water conveyance facilities in full
4 compliance with Cal-OSHA fire prevention and safety standards. Development and implementation
5 of the FPRP would help ensure that people or structures would not be subject to a significant risk of
6 loss, injury or death involving wildland fires. Therefore, this effect would not be adverse.

7 **CEQA Conclusion:** People or structures would not be subject to a substantial risk of loss, injury or
8 death involving wildland fires during construction or operation and maintenance of the water
9 conveyance facilities because the BDCP would comply with Cal-OSHA fire prevention and safety
10 standards; would implement standard fire safety, control and prevention measures, as part of a
11 FPCP; and because the water conveyance facilities would not be located in a High or Very High Fire
12 Hazard Severity Zone. Therefore, this impact would be less than significant. No mitigation is
13 required.

14 **Impact HAZ-6: Create a Substantial Hazard to the Public or the Environment through the**
15 **Release of Hazardous Materials or by Other Means during Operation and Maintenance of the**
16 **Water Conveyance Facilities**

17 **NEPA Effects:** During long-term operation and maintenance of the water conveyance facilities, the
18 transport, storage, and use of chemicals or hazardous waste materials may be required. In many
19 cases, potential hazards would occur in a similar manner to those described for Alternative 1A.
20 However, hazards would differ in intensity based upon the different structures and locations that
21 compose the water conveyance facilities under this alternative. Operation and maintenance of
22 several water conveyance facilities (e.g., intake screens, pumps, and operable gates) would require
23 the use of hazardous materials, such as fuel, oils, grease, solvents, and paints. For example, planned
24 maintenance at pumping facilities would include checking oil levels or replacing oil in the pumps
25 and greasing pump bearings. Additionally, routine facility maintenance would include painting of
26 pumping plants and appurtenant structures, cleaning, repairs, and other routine tasks that ensure
27 the facilities are operated in accordance with design standards. Replacement of erosion protection
28 on the levees and embankments would also occur periodically. The potential severity of hazards
29 arising from the collection of sediment in pumping plants is anticipated to be significantly smaller
30 than described under Alternative 1A because of the significantly smaller collective diversion
31 capacity of the plants that would be built for Alternative 9 (two plants, each diverting a maximum of
32 250 cfs, rather than five plants). However, dredging activities associated with maintenance of
33 intakes and operable barriers, could produce a considerable volume of potentially-contaminated
34 sediment. To ensure that potentially contaminated sediment from maintenance dredging activities
35 at the intakes would not adversely affect soil, groundwater or surface water, a SAP would be
36 implemented prior to any dredging activities, as described under Impact HAZ-1 for this alternative.
37 All sediment would be characterized chemically prior to reuse to ensure that reuse of this material
38 would not result in a hazard to the public or the environment.

39 As previously discussed, Walnut Grove Elementary School is within 0.25 mile of the construction
40 footprint for Alternative 9, between the two proposed intakes at the Delta Cross Channel and
41 Georgiana Slough. There are no other sensitive receptors (i.e., hospitals and parks) located within
42 0.25 mile of this alternative. As discussed under Impact HAZ-2, should hazardous materials be
43 inadvertently released during routine operations and maintenance at the constructed facilities due
44 to the improper handling of hazardous materials or from vehicles traveling to or from the facilities,
45 there would be a potential risk to school children and staff. However, because the types of

1 potentially hazardous materials used during routine operation and maintenance activities would be
 2 used in relatively small quantities and would be localized if they were inadvertently released, and
 3 because BMPs, as would be implemented in SWPPPs, SPCCPs, and HMMPs, (as detailed in Appendix
 4 3B and described under Impact HAZ-1 for Alternative 1A), would be in place to help prevent the
 5 inadvertent release of these materials and to contain and remediate spills, there would be minimal
 6 risk to school children and staff within 0.25 mile within the construction footprint.

7 The locations of airports with respect to Alternative 9 are provided in Figure 24-9. The Walnut
 8 Grove and Spezia Airports are within 2 miles of the Alternative 9 construction footprint (Figure 24-9
 9 and Table 24-6). With the exception of power transmission lines supplying power to pumps and
 10 other equipment used for conveyance facilities operation and maintenance, water conveyance
 11 facilities operations and maintenance are not anticipated to require high-profile equipment (i.e.,
 12 equipment with a vertical reach of 200 feet or more), the use of which near an airport could result in
 13 an adverse effect to aircraft. DWR would adhere to all applicable FAA regulations (14 CFR 77) and
 14 coordinate with Caltrans' Division of Aeronautics prior to initiating maintenance activities requiring
 15 high-profile equipment to avoid adverse effects on air safety. Compliance with these
 16 recommendations, which could include limitations necessary to minimize potential problems, such
 17 as the use of temporary construction equipment, supplemental notice requirements, and marking
 18 and lighting high-profile structures would reduce the potential for impacts on air safety.

19 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
 20 operation and maintenance of the water conveyance facilities and the potential interference with air
 21 safety through the use of high-profile equipment for maintenance of proposed transmission lines
 22 could have impacts on the public and environment. However, implementation of the BMPs and other
 23 activities required by SWPPPs, HMMPs, SPCCPs, and SAPs as well as adherence to all applicable FAA
 24 regulations (14 CFR Part 77) and coordination/compliance with Caltrans' Division of Aeronautics
 25 when performing work with high-profile equipment within 2 miles of an airport, which would
 26 include implementation of recommendations to provide supplemental notice and/or equip high-
 27 profile structures with marking and lighting, would ensure that operation and maintenance of the
 28 water conveyance facilities would not create a substantial hazard to the public, environment or air
 29 traffic safety. Therefore, this impact would be less than significant.

30 **Impact HAZ-7: Create a Substantial Hazard to the Public or the Environment through the**
 31 **Release of Hazardous Materials or by Other Means as a Result of Implementing Conservation**
 32 **Measures CM2-CM11, CM13, CM14, CM16 and CM18**

33 **NEPA Effects:** The potential for construction, operation, and maintenance activities associated with
 34 the implementation of conservation measures (CM2–CM11, CM13, CM 14, CM16, and CM18) to
 35 create hazards to workers, the public, and the environment would be similar to those described
 36 under Alternative 1A. Hazardous materials associated with the operation of construction equipment
 37 could be released into the environment in the course of the materials' routine transport, use, or
 38 disposal. Releases could also occur as a result of accidental circumstances. Similarly, construction
 39 activities could encounter known or unknown hazardous materials sites located on or in the vicinity
 40 of construction sites, creating the potential for their disturbance and release. Other activities,
 41 including the intentional demolition of existing structures (e.g., buildings) and reuse of spoil,
 42 dredged material and/or RTM, would also present the potential to generate hazards or release
 43 hazardous materials. However, prior to the reuse of spoils, dredged material or RTM, these
 44 materials would undergo chemical characterization, as described in Appendix 3B, *Environmental*
 45 *Commitments*, to ensure that they are not creating a hazard to the public and environment.

1 Further, other potential hazards that could result from implementing conservation measures
 2 include the possible release of hazardous substances in proximity to sensitive receptors; damage or
 3 disruption of existing infrastructure such that hazardous conditions were created; the accidental
 4 release of hazardous substances during operation and maintenance (e.g., herbicides for nonnative
 5 vegetation control); the release, in the short-term, of pesticides from former agricultural lands as a
 6 result of wetland and floodplain restoration; the potential for safety hazards related to construction
 7 in the vicinity of an airport; and the potential for wildfire hazards in the vicinity of construction
 8 sites.

9 The potential for these effects is considered adverse because implementation of conservation
 10 measures would involve extensive activities that could unintentionally result in the release of
 11 hazardous substances or that could expose construction workers or members of the public to
 12 hazards. However, with implementation of Mitigation Measures HAZ-1a, HAZ-1b, UT-6a, UT-6c,
 13 TRANS-1a, and environmental commitments (discussed previously for Impacts HAZ-1 through HAZ-
 14 6, and in detail in Appendix 3B, *Environmental Commitments*), the potential for adverse effects
 15 would be reduced. Additionally, the proposed conservation measures would be designed to avoid
 16 sensitive receptors and would minimize, to the extent feasible, the need to acquire or traverse areas
 17 where the presence of hazardous materials is suspected or has been verified. Therefore, this effect
 18 would not be adverse.

19 Potential safety hazards to air traffic related to the potential for increased bird-aircraft strikes as a
 20 result of creating or enhancing wildlife habitat are discussed under Impact HAZ-8.

21 **CEQA Conclusion:** The potential for impacts related to the release and exposure of workers and the
 22 public to hazardous substances or conditions during construction, operation, and maintenance of
 23 CM2–CM11, CM13, CM14, CM16, and CM18 could be significant. Conservation component
 24 implementation would involve extensive use of heavy equipment during construction, and/or the
 25 use and/or transport of hazardous chemicals during operations and maintenance (e.g., herbicides
 26 for nonnative vegetation control). These chemicals could be inadvertently released, exposing
 27 construction workers or the public to hazards. Construction of restoration projects on or near
 28 existing agricultural and industrial land may result in a conflict or exposure to known hazardous
 29 materials, and the use of high-profile equipment in close proximity to airport runways could result
 30 in hazards to air traffic. However, in addition to implementation of SWPPPs, SPCCPs, SAPs, HMMPs,
 31 and fire safety, prevention and control measures as part of a FPCP, Mitigation Measures HAZ-1a,
 32 HAZ-1b, UT-6a, UT-6c, and TRANS-1a would be implemented, all of which would ensure that these
 33 potential impacts are less than significant.

34 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 35 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 36 **Construction Footprint, and Remediate and/or Contain Contamination**

37 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 38 1A.

39 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 40 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 41 **Dispose of Them in Accordance with Applicable Regulations**

42 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 43 1A.

1 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

2 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
3 Chapter 20, *Public Services and Utilities*.

4 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
5 **Minimizes Any Effect on Worker and Public Health and Safety**

6 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
7 Chapter 20, *Public Services and Utilities*.

8 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
9 **Plan**

10 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
11 1A in Chapter 19, *Transportation*.

12 **Impact HAZ-8: Increased Risk of Bird–Aircraft Strikes during Implementation of**
13 **Conservation Measures That Create or Improve Wildlife Habitat**

14 **NEPA Effects:** The potential for implementation of conservation measures that create or improve
15 wildlife habitat (CM2–CM11) to create hazards air and public safety through increased bird-aircraft
16 strikes would be similar to the potential effects described under Alternative 1A. Potential variation
17 from Alternative 1A would be anticipated to be minor but could result from the selection of different
18 areas for restoration activities based on the location of the physical water conveyance features
19 associated with each alternative. Such variation may result greater or less opportunity for bird-
20 aircraft strikes depending on the location’s proximity to airport flight zones. The following airports,
21 because they are in relatively close proximity (within 2 miles) to the ROAs and/or conservation
22 zones could potentially be affected: Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm
23 Airport; Sacramento International Airport, and Byron Airport.

24 The effect of increased bird-aircraft strikes during implementation of CM2–CM11 would be adverse
25 because it could potentially result in an air and public safety hazard. Mitigation Measure HAZ-8
26 would reduce the severity of this effect through the development and implementation of measures
27 to reduce, minimize and/or avoid wildlife hazards on air safety. However, this effect is would remain
28 adverse.

29 **CEQA Conclusion:** Implementation of CM2–CM11, because they would create or improve wildlife
30 habitat, could potentially attract waterfowl and other birds to areas in proximity to existing airport
31 flight zones, and thereby result in an increase in bird-aircraft strikes, which could result in
32 significant impacts on public safety. The following airports, because they are in relatively close
33 proximity (within 2 miles) to the ROAs and/or conservation zones could potentially be affected:
34 Travis Air Force Base; Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International
35 Airport, and Byron Airport. Mitigation Measure HAZ-8 could reduce the severity of this impact
36 through the ultimate development and implementation of measures to reduce, minimize and/or
37 avoid wildlife hazards on air safety, but not to a less-than-significant level. As such, the impact is
38 significant and unavoidable.

1 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 2 **Regulatory Agencies**

3 Please refer to Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative
 4 1A. This mitigation measure will ensure that the potential for increased bird – aircraft strikes as
 5 a result of implementing CM2–CM11 in the vicinity of airports are minimized to the greatest
 6 extent possible.

7 **24.3.3.17 Cumulative Analysis**

8 **Methods for Cumulative Analysis**

9 This cumulative impact analysis considers past, present, and reasonably foreseeable future projects
 10 that could affect the same resources and, where relevant, occur within the same time frame as the
 11 BDCP alternatives. When the effects of the BDCP alternatives, as they relate to hazards and
 12 hazardous materials, are considered in connection with the potential effects of projects listed in
 13 Table 24-7, the effects could be cumulatively adverse. Projects in Table 24-7 are provided as
 14 examples of projects that could potentially result in adverse effects related to hazards and
 15 hazardous materials during construction and/or operation and maintenance. Additional projects
 16 considered in the cumulative analysis are provided in Table 3D-6 (*Appendix 3D, Defining Existing*
 17 *Conditions, the No Action/No Project, and Cumulative Impact Conditions*).

18 **Table 24-7. Effects related to Hazards and Hazardous Materials from the Plans, Policies, and Programs**
 19 **Considered for Cumulative Analysis**

Agency	Program/ Project	Status	Description of Program/Project	Effects related to Hazards and Hazardous Materials
Department of Water Resources	North Delta Flood Control and Ecosystem Restoration Project	Final EIR complete	Project implements flood control and ecosystem restoration benefits in the north Delta	Hazardous materials used during project construction could be inadvertently released. Ground- disturbing activities during project construction could disperse contaminated soil.
Freeport Regional Water Authority and Bureau of Reclamation	Freeport Regional Water Project	Project was completed late 2010	Project includes an intake/pumping plant near Freeport on the Sacramento River and a conveyance structure to transport water through Sacramento County to the Folsom South Canal	Construction workers and members of the public could be exposed to existing soil contamination during ground- disturbing activities such as excavation and grading. Because groundwater also could be contaminated in these areas, workers and residents could be exposed to contaminated groundwater during trench and tunnel dewatering. Potentially toxic substances such as fuels, oils, and lubricants would be used during project construction. Accidental releases of these substances could contaminate soils and degrade the quality of surface water and groundwater, resulting in a public safety hazard.

Agency	Program/ Project	Status	Description of Program/Project	Effects related to Hazards and Hazardous Materials
Bureau of Reclamation	Delta-Mendota Canal/ California Aqueduct Intertie	Completed in 2012	The purpose of the intertie is to better coordinate water delivery operations between the California Aqueduct (state) and the Delta-Mendota Canal (federal) and to provide better pumping capacity for the Jones Pumping Plant. New project facilities include a pipeline and pumping plant	Fuel, oils, grease, solvents and other petroleum-based products could have been accidentally released and contaminate soils and degrade surface water and groundwater quality. Accidental releases could have also pose risks to worker safety by exposing workers to hazardous materials. Additionally, work under the California-Oregon Transmission Project has the potential to induce currents and static charges. Construction activities could cause electric arcs that could electrocute workers and bystanders, cause fires, and ground out the circuit. This could lead to a temporary collapse of the electric grid in the western region. If this were to happen, death and injury could result both at the project site and throughout the area of power outage.
California Department of Fish and Wildlife, US Fish and Wildlife Service, Bureau of Reclamation, California Department of Water Resources, Suisun Resource Conservation District	Suisun Marsh Habitat Management, and Restoration Plan (SMP)	Final EIS/EIR 2011	The SMP is intended to balance the benefits of tidal wetland restoration with other habitat uses in the Marsh by evaluating alternatives that provide a politically acceptable change in Marsh-wide land uses, such as salt marsh harvest mouse habitat, managed wetlands, public use, and upland habitat.	Fuel and lubricant fluids associated with construction equipment could expose construction workers and the environment to hazardous materials if materials are improperly handled. Additionally, the project area has a history of agricultural use and may have areas of previously unknown contamination related to the use or storage of agricultural compounds. Project construction or maintenance activities thus could encounter unknown contamination.

1

2 This analysis first examines whether the combined effects of the BDCP alternatives and other
3 projects would be cumulatively significant. If so, the BDCP alternatives are analyzed to assess
4 whether the incremental contribution of a BDCP alternative would be cumulatively considerable in
5 and of itself. Individual impacts that may be less than significant in isolation may contribute to a
6 considerable impact in the context of other projects; on the other hand, the incremental contribution
7 of a BDCP alternative to a cumulatively considerable impact of multiple projects may not itself be
8 cumulatively considerable. Appendix 3D, *Defining Existing Conditions, the No Action/No Project, and*
9 *Cumulative Impact Conditions*, further explains criteria for cumulative impact analysis.

10 The potential for cumulatively considerable impacts related to hazards and hazardous materials in
11 the study area is described below for construction-related effects and effects related to operation

1 and maintenance for CM1 (water conveyance facilities), CM2–CM16, CM18, and CM19. As described
2 in Section 24.3, four proposed conservation measures related to reducing other stressors (listed
3 below and described in detail in Chapter 3, *Description of the Alternatives*), are not anticipated to
4 result in any meaningful effects associated with hazards and hazardous materials in the study area.
5 The actions implemented under these conservation measures do not entail physical activities that
6 are likely to release hazardous materials to the environment, nor would they be expected to result in
7 any direct or indirect, permanent or substantial impacts creating hazards to the public or
8 environment. As such, these measures will not be addressed further in this cumulative impact
9 analysis:

- 10 • Illegal Harvest Reduction (CM17)
- 11 • Recreational Users Invasive Species Program (CM20)
- 12 • Nonproject Diversion (CM21)
- 13 • Avoidance and Minimization Measures (CM22)

14 **No Action Alternative**

15 **NEPA Effects:** The cumulative effect of the No Action Alternative with regards to hazards and
16 hazardous materials under the No Action Alternative would result from any projects that are
17 planned or currently under way that entail construction and operation and maintenance activities.
18 These activities could result in the rerelease of existing contaminants (e.g., from past industrial and
19 agricultural practices) in soil and groundwater; the release of hazardous materials from disturbance
20 of regional fuel pipelines; the accidental release of hazardous materials directly related to
21 construction or operations/maintenance; increase the potential for wildland fire hazards; and/or
22 interfere with air traffic safety, which could potentially result in cumulative effects on the public and
23 environment.

24 Each project implemented under the No Action Alternative would require its own separate
25 environmental compliance process. Compliance with applicable laws pertaining to hazards and
26 hazardous materials, combined with the implementation of project-specific environmental
27 commitments and mitigation measures, would minimize the potential cumulative impacts of the No
28 Action Alternative related to hazards and hazardous materials. Therefore, there would be no
29 cumulative adverse effect under this alternative absent a catastrophic event related to climate
30 change or a seismic event.

31 The Delta and vicinity are within a highly active seismic area, with a generally high potential for
32 major future earthquake events along nearby and/or regional faults, and with the probability for
33 such events increasing over time. Based on the location, extent and non-engineered nature of many
34 existing levee structures in the Delta area, the potential for significant damage to, or failure of, these
35 structures during a major local seismic event is generally moderate to high. In the instance of a large
36 seismic event, levees constructed on liquefiable foundations are expected to experience large
37 deformations (in excess of 10 feet) under a moderate to large earthquake in the region. (See
38 Appendix 3E, *Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies* for more
39 detailed discussion) To reclaim land or rebuild levees after a catastrophic event due to climate
40 change or a seismic event would potentially create a substantial hazard to the public or the
41 environment through the release of hazardous materials or by other means during construction. In
42 the instance of levee failure causing flooding, inundation could result in the release of a range of
43 hazardous materials including, but not limited to, fuel, chemicals, fertilizers, and pesticides. A large

1 scale seismic event could also rupture gas and oil pipelines resulting in exposure to hazardous
 2 materials. Thus, there would be a potential for adverse effects to the environment and public in the
 3 case of a catastrophic event due to climate change or a seismic event. While similar risks would
 4 occur under implementation of the action alternatives, these risks may be reduced by BDCP-related
 5 levee improvements along with those projects identified in Table 24-7.

6 **CEQA Conclusion:** Implementation of programs, policies, and projects under the No Action
 7 Alternative in the study area would have the potential for cumulative significant impacts on the
 8 public or the environment related to hazards and/or hazardous materials (e.g., through the
 9 inadvertent release of fuels or lubricants during construction). However, these impacts would be
 10 smaller in scale and more confined in geographic scope relative to the BDCP action alternatives.
 11 Projects implemented under the No Action Alternative would require their own separate
 12 environmental compliance processes; would be required to adhere to applicable federal, state, and
 13 local regulations; and would incorporate applicable BMPs, environmental commitments, and/or
 14 mitigation intended to avoid, prevent, or minimize hazardous spills and construction-related
 15 hazards and/or mitigate for such occurrences, which would help ensure that these types of impacts
 16 are not cumulatively significant.

17 **Impact HAZ-9: Create Cumulative Hazards to the Public or the Environment through the**
 18 **Release of Hazardous Materials or by Other Means as a Result of Constructing the Water**
 19 **Conveyance Facilities**

20 **Alternatives 1A–9**

21 **NEPA Effects:** Construction of the water conveyance facilities under Alternatives 1A–9, in
 22 combination with other related past, present, and reasonably foreseeable probable future
 23 construction projects in the study area (as presented in Table 24-7 and Appendix 3D, *Defining*
 24 *Existing Conditions, the No Action/No Project Alternative, and Cumulative Impact Conditions*, Table
 25 3D-6), could contribute to potential public and environmental hazards. The potential construction-
 26 related effects of these BDCP alternatives pertain to the creation of hazards through the release of
 27 hazardous materials (e.g., inadvertent spills and disrupting existing contaminants in soils and
 28 existing structures) or by other means (e.g., natural gas accumulation in tunnels, disturbance of
 29 energized transmission lines, interference with air traffic safety). It is reasonable to assume that
 30 other projects would involve the risk of similar hazards, given that the majority of these types of
 31 hazards (e.g., spills, potential for interference with air traffic for construction near an airport) are
 32 not uncommon for construction projects. The combined effects of the BDCP with other projects
 33 related to the potential for creation of cumulative hazards would be cumulatively adverse. However,
 34 like BDCP, each project would require an evaluation of potential hazards associated with its
 35 implementation. Additionally, it is the responsibility of the projects' proponents to comply with
 36 applicable laws regarding hazardous materials and other hazards.

37 Due to the large geographic scale and extended time required to construct the water conveyance
 38 facilities, the BDCP would make a cumulatively considerable contribution to adverse effects.
 39 However, implementation of environmental commitments (e.g., SWPPPs, HMMPs, SPCCPs, SAPs, and
 40 others as described above and in Appendix 3B, *Environmental Commitments*) and Mitigation
 41 Measures HAZ-1a, HAZ-1b, HAZ-6, HAZ-8, UT-6a, UT-6c, and TRANS-1a would render the
 42 contribution of the BDCP to less than cumulatively considerable. Accordingly, compliance with
 43 applicable laws pertaining to hazards and hazardous materials, combined with the implementation

1 of project-specific environmental commitments and mitigation measures, would minimize
2 cumulative impacts of the BDCP and other projects related to hazards.

3 **CEQA Conclusion:** The potential construction-related effects of these BDCP alternatives pertain to
4 the creation of hazards through the release of hazardous materials (e.g., inadvertent spills,
5 disrupting existing contaminants in soils) or by other means (e.g., natural gas accumulation in
6 tunnels, disturbance of energized transmission lines, and interference with air traffic safety).
7 Construction of the water conveyance facilities in combination with related past, present, and
8 reasonably foreseeable probable future construction projects considered in this cumulative analysis
9 (as presented in Table 24-7 and Appendix 3D, *Defining Existing Conditions, the No Action/No Project*
10 *Alternative, and Cumulative Impact Conditions, Table 3D-6*) could result in a cumulatively significant
11 impact related to hazards and hazardous materials. The incremental hazards and hazardous
12 material impact contribution from any of the BDCP Alternatives 1A through 9 would be cumulatively
13 considerable, but with the implementation of Mitigation Measures HAZ-1a, HAZ-1b, HAZ-6 UT-6a,
14 UT-6c, TRANS-1a, and the applicable environmental commitments discussed previously and in
15 Appendix 3B, *Environmental Commitments*, cumulative impacts of the BDCP would be reduced to a
16 less-than-significant level.

17 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
18 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
19 **Construction Footprint, and Remediate and/or Contain Contamination**

20 Please see Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative 1A.

21 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
22 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
23 **Dispose of Them in Accordance with Applicable Regulations**

24 Please see Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative 1A.

25 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
26 **and/or Disposal**

27 Please see Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative 1A.

28 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

29 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
30 Chapter 20, *Public Services and Utilities*.

31 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
32 **Minimizes Any Effect on Worker and Public Health and Safety**

33 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
34 Chapter 20, *Public Services and Utilities*.

35 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
36 **Plan**

37 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
38 1A in Chapter 19, *Transportation*.

1 **Impact HAZ-10: Create Cumulative Hazards to the Public or the Environment through the**
2 **Release of Hazardous Materials or by Other Means as a Result of Operating and Maintaining**
3 **the Water Conveyance Facilities**

4 **Alternatives 1A–9**

5 **NEPA Effects:** Operation and maintenance of the water conveyance facilities under Alternatives 1A–
6 9, in combination with other related past, present, and reasonably foreseeable probable future
7 projects in the study area (as presented in Table 24-7 and Appendix 3D, *Defining Existing Conditions,*
8 *the No Action/No Project Alternative, and Cumulative Impact Conditions, Table 3D-6*), could
9 contribute to potential public and environmental hazards. As previously described, under all of the
10 action alternatives, the transport, storage, and use of chemicals or hazardous materials may be
11 required during long-term operation and maintenance of the water conveyance facilities.
12 Additionally, for Alternatives 1A–8, facility equipment maintenance would be required for the intake
13 pumping plants; sedimentation basins and solids lagoons; the intermediate forebay and pumping
14 plant; and operable barrier, Byron Tract Forebay, and the expanded Clifton Court Forebay where
15 present. For example, under alternatives with five intakes, maintenance of solids lagoons would
16 create an anticipated 18,000 cubic yards of dry sediment/solids annually, a potential source of
17 contaminants. Alternative 9 would require periodic dredging activities associated with maintenance
18 of pumping plants and operable barriers. Some of the materials used in routine maintenance for all
19 action alternatives may include hydraulic oil for lubricating machinery, fuel, batteries for vehicles
20 and equipment, nitrogen, carbon dioxide or clear agent fire suppression, paints, cleaning solvents
21 and chemicals, pesticides and herbicides for grounds maintenance. Some of these materials, bulk
22 fuel and lubricants for example, would likely be stored in the maintenance facilities. Accidental
23 release of hazardous materials during routine operation and maintenance of the water conveyance
24 facilities could contaminate soils, groundwater, or surface water and result in adverse effects on the
25 environment and public.

26 It is reasonable to assume that many other past, present, and reasonably foreseeable projects in the
27 study area (e.g., California Aquatic Invasive Species Draft Rapid Response Plan; the Davis-Woodland
28 Water Supply Project) would involve the risk of similar hazards, given that the majority of these
29 types of hazards (e.g., spills, periodic dredging) are not uncommon for operating and maintaining
30 water conveyance facilities.

31 The combined effects of the BDCP with other projects related to the potential for creation of
32 cumulative hazards during operation and maintenance would be cumulatively adverse. Due to the
33 large geographic scale of the water conveyance facilities, the BDCP would represent a cumulatively
34 considerable contribution to adverse effects. However, implementation of Mitigation Measure HAZ-6
35 and applicable environmental commitments (as described in Impact HAZ-6 under Alternative 1A,
36 and in Appendix 3B, *Environmental Commitments*), and adherence to all applicable laws, would
37 reduce the contribution of the BDCP to less than cumulatively considerable. Accordingly, compliance
38 with applicable laws pertaining to hazards and hazardous materials, combined with the
39 implementation of project-specific environmental commitments and mitigation measures, would
40 minimize the cumulative impacts of the BDCP and other projects related to hazards.

41 **CEQA Conclusion:** The accidental release of hazardous materials to the environment during
42 operation and maintenance of the water conveyance facilities under all action alternatives could
43 result in cumulative significant impacts on the public and the environment. The incremental
44 contribution to hazards and hazardous material impact from any of the BDCP Alternatives 1A

1 through 9 would be cumulatively considerable. However, these impacts would be reduced with the
 2 implementation of Mitigation Measure HAZ-6 and applicable environmental commitments (as
 3 described in Impact HAZ-6 under Alternative 1A, and in Appendix 3B, *Environmental Commitments*,
 4 respectively) and adherence to all applicable laws. Accordingly, cumulative impacts of the BDCP
 5 would be reduced to a less-than-significant level.

6 **Mitigation Measure HAZ-6: Test Dewatered Solids from Solids Lagoons Prior to Reuse**
 7 **and/or Disposal**

8 Please see Mitigation Measure HAZ-6 under Impact HAZ-6 in the discussion of Alternative 1A.

9 **Impact HAZ-11: Create a Cumulative Hazard to the Public or the Environment through the**
 10 **Release of Hazardous Materials or by Other Means as a Result of Implementing the**
 11 **Conservation Measures**

12 **Alternatives 1A–9**

13 **NEPA Effects:** Construction, operation and maintenance of the proposed conservation measures
 14 CM2–CM11, CM13, CM14, CM16, and CM18 as part of Alternatives 1A–9 could have effects related to
 15 hazardous materials (e.g., accidental release of fuels) and potential hazards similar to those
 16 discussed for construction, operation, and maintenance of proposed water conveyance facilities. As
 17 previously described, implementation of the conservation measures would involve extensive use of
 18 heavy equipment during construction, and/or the use of chemicals during operations and
 19 maintenance (e.g., herbicides for nonnative vegetation control), which could result in the
 20 unintentional release of hazardous substances and could expose construction workers or the public
 21 to hazards. There is also potential for implementation of conservation measures that create or
 22 improve wildlife habitat (CM2–CM11) to create hazards to air and public safety through increased
 23 bird-aircraft strikes. The following airports, because they are in relatively close proximity (within 2
 24 miles) to the ROAs and/or conservation zones could potentially be affected: Travis Air Force Base;
 25 Rio Vista Municipal Airport; Funny Farm Airport; Sacramento International Airport, and Byron
 26 Airport. Mitigation Measure HAZ-8 is available to reduce this impact, although it would remain
 27 significant and unavoidable. However, relative to the construction of the water conveyance facility,
 28 the potential effects of BDCP conservation measures would be dispersed over a larger geographic
 29 area and would generally involve substantially fewer construction and operation effects than those
 30 associated with built facilities.

31 It is reasonable to assume that other past, present and reasonably foreseeable future projects,
 32 including habitat restoration and enhancement projects (e.g., the Dutch Slough Tidal Marsh
 33 Restoration Project, and the San Joaquin River Restoration Project), as identified in Table 24-7 and
 34 Appendix 3D, *Defining Existing Conditions, the No Action/No Project Alternative, and Cumulative*
 35 *Impact Conditions*, Table 3D-6, would have similar, potentially hazardous effects. Combined effects
 36 of the BDCP and other projects would be cumulatively adverse. Due to the large geographic scale
 37 and range of hazard risks involved in BDCP conservation measures, its incremental contribution to
 38 adverse effects would be cumulatively considerable.

39 However, the proposed BDCP alternatives incorporate environmental commitments and Mitigation
 40 Measures HAZ-1a, HAZ-1b, HAZ-8, UT-6a, UT-6c, and TRANS-1a, as described under Impact HAZ-7
 41 for Alternative 1A and in Appendix 3B, *Environmental Commitments* that would reduce BDCP's
 42 incremental contribution to adverse cumulative effects in the study area. Similarly, it is reasonable
 43 to assume that BMPs like the ones described previously (e.g., SWPPPs, SPCCPs, SAPs, and HMMPs) to

1 minimize, avoid, and reduce effects related to hazards and hazardous materials would be
 2 incorporated into other projects within the study area, thereby further reducing the potential for
 3 cumulative effects related to hazards and hazardous materials in the study area.

4 **CEQA Conclusion:** The potential for cumulative impacts related to the release and exposure of
 5 workers and the public to hazardous substances or conditions during construction, operation, and
 6 maintenance of BDCP conservation measures is considered cumulatively significant.
 7 Implementation of the conservation measures would involve extensive use of heavy equipment
 8 and/or the use of chemicals during operations and maintenance (e.g., herbicides for nonnative
 9 vegetation control) that could unintentionally result in the release of hazardous substances or that
 10 could expose construction workers or members of the public to hazards. Expanded or improved
 11 wildlife habitat could increase the risk of bird-aircraft strikes, a hazard to air and public safety.
 12 However, the BDCP proponents have incorporated environmental commitments and would
 13 implement Mitigation Measures HAZ-1a, HAZ-1b, HAZ-8, UT-6a, UT-6c, and TRANS-1a, which would
 14 reduce the incremental contribution of the BDCP to cumulative hazard-related impacts in the study
 15 area to a less-than-significant level.

16 **Mitigation Measure HAZ-1a: Perform Preconstruction Surveys, Including Soil and**
 17 **Groundwater Testing, at Known or Suspected Contaminated Areas within the**
 18 **Construction Footprint, and Remediate and/or Contain Contamination**

19 Please refer to Mitigation Measure HAZ-1a under Impact HAZ-1 in the discussion of Alternative
 20 1A.

21 **Mitigation Measure HAZ-1b: Perform Pre-Demolition Surveys for Structures to Be**
 22 **Demolished within the Construction Footprint, Characterize Hazardous Materials and**
 23 **Dispose of Them in Accordance with Applicable Regulations**

24 Please refer to Mitigation Measure HAZ-1b under Impact HAZ-1 in the discussion of Alternative
 25 1A.

26 **Mitigation Measure HAZ-8: Consult with Individual Airports and USFWS, and Relevant**
 27 **Regulatory Agencies**

28 Please see Mitigation Measure HAZ-8 under Impact HAZ-8 in the discussion of Alternative 1A.

29 **Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure**

30 Please see Mitigation Measure UT-6a under Impact UT-6 in the discussion of Alternative 1A in
 31 Chapter 20, *Public Services and Utilities*.

32 **Mitigation Measure UT-6c: Relocate Utility Infrastructure in a Way That Avoids or**
 33 **Minimizes Any Effect on Worker and Public Health and Safety**

34 Please see Mitigation Measure UT-6c under Impact UT-6 in the discussion of Alternative 1A in
 35 Chapter 20, *Public Services and Utilities*.

1 **Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management**
 2 **Plan**

3 Please see Mitigation Measure TRANS-1a under Impact TRANS-1 in the discussion of Alternative
 4 1A in Chapter 19, *Transportation*.

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