# Chapter 31
# Other CEQA/NEPA Required Sections

This chapter provides an overview of other CEQA and NEPA considerations based on the technical analyses presented in Chapters 5–30. This chapter addresses significant irreversible and irretrievable changes, and short-term uses versus long-term productivity, selection of the environmentally superior alternative under CEQA, significant and unavoidable impacts, and potential impacts of project commitments and mitigation measures presented in Chapters 5-30 and measures to reduce those impacts. Appendix 31A, *BDCP Later CM Activity Environmental Checklist*, contains a checklist to simplify and organize the process of reviewing later Conservation Measure activities under the BDCP EIR/EIS to determine the extent to which subsequent environmental review must be undertaken before the later activities may be approved.

The detailed analysis of the effects the BDCP would have on the environment is provided in Chapters 5–30.

## 31.1 Irreversible and Irretrievable Commitments of Resources/Significant Irreversible Environmental Changes

State CEQA Guidelines (14 California Code of Regulations [CCR] 15126.2[c]) and CEQ's NEPA Implementing Procedures (40 CFR 1502.16) require analysis of significant irreversible and irretrievable commitments of resources that would be caused by the proposed project. CEQA requires evaluation of irretrievable commitments of resources to ensure that their use is justified. NEPA requires an explanation of which environmental impacts are irreversible or would result in an irretrievable commitment of resources.

This section fulfills the requirement to address irreversible and irretrievable commitments of resources. Irreversible impacts are those that cause, through direct or indirect effects, use or consumption of resources in such a way that they cannot be restored or returned to their original condition despite mitigation, or that commit future generations to similar uses. An irretrievable impact or commitment of resources occurs when a resource is removed or consumed. These types of impacts are evaluated to ensure that consumption is justified.

All the BDCP alternatives would involve a commitment of a range of natural, physical, and fiscal resources.

- Nonrenewable resources such as gasoline and diesel oil would be used to power construction equipment and vehicles.
- Wood products, a resource which renews slowly, would be used during construction.
- Aggregate would be needed to produce concrete for conveyance facilities and other proposed BDCP facilities.
- Fossil fuels would also be used to produce cement, aggregate, steel, and petroleum-based products, and other construction materials.

- Nonrenewable energy resources would be necessary to operate barges, trucks, pumps, and equipment used for operations and routine maintenance.
- Additional electrical power from a renewable resource would be dedicated to lighting and operations.
- Energy resources would be required to power the pumps at the intakes and to transport water through the Delta.
- Land that would be physically altered by construction of the intakes, forebays, and conveyance facilities would be committed to the new use for the foreseeable future, representing a permanent commitment of the land and decreasing the amount of open land available for other uses. Depending on the alternatives, between 3,500 and 20,000 acres of land variously designated as agricultural, residential, commercial/industrial, public, and recreational/open space would be permanently altered. Access to the acquired lands would be limited to authorized personnel, and public access—including access to informal recreational sites along the Sacramento River at the intake locations—would be restricted.
- Up to 83,659 acres of land would be restored, and up to 40 linear miles of channel margin habitat would be enhanced. These amounts could be less, depending on the alternative selected. Because restoration actions have not been designed and precise locations have not been identified, it is not possible to specifically quantify the areal extent of specific land uses that would be changed through these actions. Furthermore, some of these restored land uses may not represent an irreversible commitment, since it is conceivable that, following the proposed permit term for the BDCP, agricultural lands converted to grassland communities could, in the future, be converted back into agricultural uses.
- Any construction would require a substantial one-time expenditure of funds for the costs of construction, compensation for land purchases and right-of-way/acquisition. The BDCP would also require funding for operation and periodic maintenance in perpetuity, as well as CM2–22 activities such as restoration and enhancement, generally committing future generations to these expenditures.
- An increased commitment of public maintenance services (e.g., increased road maintenance due to increases in construction traffic, new electrical utility services, and for operation and maintenance of conveyance facilities, as well as CM2–22 activities such as restoration and enhancement) would also be required.

The decision by the Lead Agencies to commit these resources is based on the concept that residents in the immediate area, region, and state would benefit from the implementation of the BDCP. These benefits would consist of improved water supply reliability and water quality for water users in the SWP/CVP Export Service Areas and habitat conservation and restoration in target areas throughout the Delta; these and other benefits are expected to outweigh the commitment of these resources.

# 31.2 Relationship between Short-Term Uses of the Environment and Maintenance and Enhancement of Long-Term Productivity

The Council on Environmental Quality (CEQ's) NEPA Implementing Procedures (40 CFR 1502.16) require that an EIS discuss issues related to the environment. The short-term effects on and uses of the environment in the vicinity of the BDCP alternatives are related to long-term effects and the maintenance and enhancement of long-term productivity. *Short term* refers to the total duration of construction: the multi-year construction period for the water conveyance facilities in Conservation Measure (CM) 1 and the initial habitat preservation or stressor management actions called for in CM2–CM22. *Long term* refers to an indefinite period beyond the initial construction of the conservation measures and includes longer term preservation and stressor management actions contained in CM2–CM22, as well as ongoing operation and maintenance of the conveyance facilities.

The specific impacts of the BDCP alternatives vary in type, intensity, and duration according to the activities occurring at any given time. Implementation of the BDCP would require tradeoffs between long-term productivity and short-term uses of the environment.

Implementation of the BDCP would result in attainment of short-term and long-term water supply reliability, as well as habitat preservation and stressor management objectives, at the expense of some long-term social, aesthetic, agricultural, biological, noise, and land use impacts.

- Examples of short-term losses are listed below.
    - Economic losses associated with changes in agricultural production.
    - Construction impacts such as noise, traffic delays, or detours.
    - Recreational impacts such as access inconveniences to marinas during construction.
    - Air quality impacts, such as exceedances of air district emission thresholds.
- Short-term benefits would include increased jobs and revenue generated by construction.
- Examples of long-term losses are listed below.
    - Permanent loss of plant and wildlife resources.
    - Loss of agricultural land and open space.
    - Visual impacts and changes to community character.
    - Use of construction materials and energy.
    - Displacement of residences and businesses.
    - Potential Loss of cultural resources.
- There would be three primary long-term gains.
    - Improvement to water supply reliability.
    - Protection, restoration, and enhancement of the Delta ecosystem.
    - Potential for improved recreational opportunities.

The No Action Alternative is the future condition at 2060 that would occur if none of the action alternatives were approved and if no change from current management direction or the level of management intensity of existing programs by federal, state, and local agencies occurred. The No Action Alternative assumptions includes projects and programs that received approvals and permits in 2009 to remain consistent with existing management direction. Some of these programs and policies would restore sensitive habitat, but could also potentially cause some of the losses listed above. It would, however, do nothing to resolve increasing concerns over water supply reliability for the SWP/CVP Export Service Areas or the increasing loss of sensitive habitat in the Delta.

As discussed in earlier chapters, the No Action Alternative would result in losses such as:

- Increased demand on SWP and CVP water supplies upstream and downstream of the Delta.
- Permanent loss of plant and wildlife resources, such as loss of fish due to entrainment in the South Delta pumps.
- Permanent conversion of farmland to nonagricultural uses.
- Economic losses associated with changes in agricultural production.
- Temporary recreational impacts such as access boating access and passage during construction, and permanent decrease in fishing opportunities for anticipated projects.

# 31.3 CEQA Environmentally Superior Alternative

Section 15126.6(e) of the State CEQA Guidelines sets forth the circumstances in which CEQA lead agencies must identify the "environmentally superior alternative" prior to making a decision on a project.

> (2) If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

The CEQA Guidelines assume that, for many proposed projects, the No Project Alternative will be environmentally superior to alternatives that involve carrying out a proposed project in some form. This assumption presumably reflects the fact that, in many instances, the choice of doing nothing (e.g., leaving land undeveloped rather than developing it) will result in fewer environmental impacts than choices involving taking actions of some kind. Under section 15126.6(e), lead agencies in such circumstances are required, as quoted above, to "identify an environmentally superior alternative among the other alternatives." Here, for the reasons explained below, the environmentally superior alternative for the BDCP is not the No Project Alternative.

Determination of an environmentally superior alternative from among the BDCP action alternatives would be very difficult to make. Each of the action alternatives involves different sets of environmental tradeoffs affecting vast portions of the State of California (not only the Plan Area, but also upstream areas and export areas). Unlike many other environmental laws, CEQA does not treat any category of environmental effect as being more important than any other category. Thus, the process for reaching an overall determination under CEQA as to the environmental superiority of a particular alternative action requires the balancing of different sets of environmental benefits and impacts against each other. There is no clear direction under CEQA for how to engage in such balancing to identify an environmentally superior action alternative in a draft EIR.

In light of these challenges, DWR, acting as CEQA lead agency, has not identified an environmentally superior alternative from among the action alternatives. Instead, the following discussion describes

what DWR regards as the environmental pros and cons among the various action alternatives analyzed in this EIR/EIS, by synthesizing the analysis of environmental impacts in Chapters 5 through 30. Such analysis is intended to contribute to informed public participation and informed decision-making.

As noted above, the BDCP No Project Alternative (described in this document as the No Action Alternative) is not the environmentally superior alternative, as compared to the action alternatives. Because the proposed project is a proposed Habitat Conservation Plan/Natural Community Conservation Plan, each of the action alternatives would involve substantial amounts of environmental restoration and protection compared with what would occur under a No Project scenario. The proposed project would create a comprehensive managed approach for restoring Delta habitat and implementing numerous stressor reduction measures that likely would not occur under No Project conditions. Furthermore, under the action alternatives, joint CVP–SWP operations under CM1 are intended to reduce the severity of long-standing adverse environmental consequences associated with the sole reliance on diversions from the south Delta, such as reverse flows in Old and Middle River and fish losses from entrainment. Under action alternatives with new diversion capacity in the north Delta, overall fish loss from the joint operation of the SWP and CVP would be minimized through reduced reliance on the south Delta pumps. These alternatives would reduce reliance on diversion from the south Delta by allowing water diversions from the Sacramento River through the use of state-of-the-art fish screens at new intake facilities in the north Delta. Alternatives with dual conveyance would provide operational flexibility that would minimize adverse impacts on covered aquatic species by, among other things, allowing operators to divert water at times and places–in either the north or the south–that protect those species at sensitive life stages. Alternatives with isolated conveyance would dispense altogether with diversions from the south Delta.

The No Project scenario would also leave the SWP/CVP system subject to potentially catastrophic consequences in the event of a major earthquake leading to levee breaks, inundation of Delta islands, and prolonged disruptions of exports that could require environmentally damaging emergency measures south of the Delta to provide water. Even in the absence of an event that catastrophically alters the hydrology of the Delta, climate change and anticipated sea level rise will gradually limit the operation of the SWP/CVP water pumps in the South Delta. Consequently, additional releases from upstream reservoirs would be necessary in order to provide the fresh water needed to meet current salinity standards. In addition to the continuing decline of the ecology of the Delta that would likely occur under a No Project scenario, another possible adverse result could be additional groundwater overdraft in export areas, particularly in the San Joaquin Valley, in response to decreasing exports. In addition, as described in Appendix 5B, *Responses to Reduced South of Delta Water Supplies*, water managers in urban export areas could respond to diminished deliveries by taking other actions, such as the construction of desalination plants, that would create their own negative environmental effects, including consumption of large amounts of greenhouse gas-generating fossil fuels, brine discharge, and potential entrainment of marine species.

As among the action alternatives, each one involves a different set of environmental benefits and impacts. For example, the number of north Delta intakes associated with particular alternatives typically reflects a balance between localized construction-related, visual, and footprint-related impacts in the Delta against the system-wide environmental benefits associated with reducing reliance on the south Delta pumps. For example, in choosing Alternative 4, with three intakes, as its proposed project, DWR was motivated in part by the fact that this alternative would involve fewer such localized in-Delta impacts than alternatives with five intakes (Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 6A, 6B, and 6C). Other alternatives with three intakes (Alternatives 7 and 8) would similarly

reduce localized, in-Delta impacts compared with alternatives with five intakes. For further details associated with particular intake locations, see Appendix 3F, *Intake Location Analysis*.

Alternative 3 would have two north Delta intakes, and Alternative 5 would have one. Therefore, some of the environmental impacts related to temporary and permanent habitat or agricultural land conversion would be less for these alternatives than for Alternatives 4, 7, and 8, which would include three new north Delta intakes, and for Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 6A, 6B, and 6C, which would include five north Delta intakes. Although the BDCP conservation strategy, with its large amounts of habitat restoration and preservation, would offset many of the environmental impacts associated with constructing north Delta facilities, this strategy would not mitigate to less than significant levels all of the impacts associated with in-Delta facility construction (e.g., significant visual impacts), as would occur under the No Project Alternative. As discussed earlier, alternatives with fewer intakes provide less flexibility in operations and may result in continued dependence on South Delta pumps and/or reduced water supplies that conflicts with the co-equal goals of ecosystem restoration and water supply reliability.

Despite their reduced footprints, Alternatives 3 and 5, compared with Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 4, 6A, 6B, 6C, 7, and 8, would have different adverse environmental impacts due to their greater dependence on south Delta exports. As with the No Project scenario, reverse flows and fish losses in the south Delta would continue under Alternatives 3 and 5, though to a lesser degree than at present. Such continuing losses would reduce the likelihood of Delta smelt recovery. In contrast, many of the alternatives with more north Delta intakes (e.g., Alternatives 4, 7, and 8) would likely be more successful in facilitating the recovery of that species.

Despite the past and ongoing environmental issues associated with south Delta exports, there are some advantages that would occur under alternatives with dual conveyance (1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 7, and 8), which would continue to use south Delta pumps under limited circumstances, as explained above. The availability of intakes in the north in addition to existing diversion facilities in the south would provide system operators the flexibility to divert from the north or south depending on which is better for covered species at different times of year and different hydrological conditions. Dual conveyance also allows flexibility in water diversions when regulatory restrictions limit the ability to pull water from either the north or south, thus enabling the goal of increasing water supply reliability. In contrast, alternatives with isolated conveyance (6A, 6B, and 6C) could cause greater water quality impacts because of reduced freshwater flows from the Sacramento River into the central and south Delta. Isolated conveyance would also fail to provide the same degree of operational flexibility to respond to changing conditions in the Delta as would exist for the dual conveyance options.

In general, alternatives that include pipelines/tunnels to convey water under the Delta (1A, 2A, 3, 4, 5, 7, and 8) would be environmentally superior to all alternatives that would use lined or unlined surface canals (Alternatives 1B, 1C, 2B, 2C, 6B, and 6C). The construction of large canals would lead to losses of habitat, agricultural resources, cultural resources, recreational opportunities, and other environmental resources far more extensive than would occur with facilities built underground. The canal alignment alternatives would also bisect existing floodplains, agricultural drainage systems, surface irrigation systems, and underground utilities. Although the construction of north Delta intakes, an intermediate forebay and tunnel facilities would certainly cause some of these kinds of impacts, the extent of the disturbed acreage would be only a fraction of what would occur with the construction of surface canals. Alternatives with a west-side canal alignment (1C, 2C, and 6C) would be more susceptible to earthquake damage and would be more difficult to construct compared to

the east side canals (1B, 2B, and 6B) due to geologic conditions, such as earthquakes and expansion. The western alignment would be built on soils that are more subject to expansion, and would involve construction of a tunnel through soils with greater expected earthquake ground motions than those found in the eastern alignment.

Additionally, alternatives with tunnels would also be less susceptible than alternatives with canals would be to liquefaction, seepage, settlement, and damage due to seismic events, wave run-up, and erosion during a flood event. Alternatives involving an unlined canal as their primary conveyance mechanism (potentially 1B, 1C, 2B, 2C, 6B, and 6C) would have the potential for greater groundwater and water quality impacts than alternatives with either lined canals or tunnels. For instance, in some areas where groundwater is *higher* than the water elevations in a canal would be, groundwater could seep into the canal, possibly causing reductions in groundwater levels that could result in inoperable wells in the immediate area. Further, in some areas where groundwater is *lower* than the water elevations in a canal would be, water from the canal could seep into the surrounding groundwater, thereby causing groundwater levels to rise in the root zone. Alternatives with unlined canals could also adversely affect export water quality during conveyance because impaired groundwater at elevations above the canal bottom could seep into the canals from adjacent land uses, including agricultural operations, causing water quality problems due to dissolved constituents from fertilizer and pesticide applications. Alternatives involving lined canals or tunnels would limit or avoid these adverse water quality and groundwater level effects. However, alternatives with lined canals would require enormous amounts of concrete, the mixing and pouring of which would create large amounts of greenhouse gas emissions. Furthermore, alternatives that include lined canals require more intensive localized construction activities than would be necessary for unlined canals.

Alternative 9, a "through-Delta" proposal that would provide an isolated corridor for fish passage through the San Joaquin River system in lieu of new north Delta intakes, presents a unique set of environmental issues. This Alternative combines various in-Delta improvements as compared to the No Project Alternative. It is well accepted that the current conveyance through the Delta via South Delta pumping plants alone will not improve the ecological system nor water supply reliability long-term. While Alternative 9 would reduce the existing effects of reverse flows towards the existing south Delta intakes during outgoing or ebb tide, the alternative would continue to use sensitive natural channels to transport water. In doing so, Alternative 9 would require increased construction in riparian areas along the banks of the Mokelumne and San Joaquin Rivers compared with the other action alternatives that would require construction primarily along the Sacramento River, which is already heavily riprapped. Dredging within the waterways during initial construction under Alternative 9 could also result in additional water quality degradation. Further, Alternative 9 would result in increased visual and recreation impacts in certain areas compared to other alternatives due to the construction of 14 operable barriers, necessary for fish and water quality protection purposes, that would substantially change the visual character of the Mokelumne and San Joaquin Rivers and would adversely affect recreational boating opportunities. Alternative 9 could also increase adverse water quality impacts on drinking water users in the western Delta, compared with alternatives with north Delta intakes.

Three alternatives – 4, 7, and 8 – would include dual tunnels and three intakes. Alternatives 7 and 8 would require greater outflows at certain times that would benefit delta smelt and longfin smelt but would create other environmental problems. Among these alternatives, DWR chose Alternative 4 as the proposed project in part because its proposed operations are intended to optimize spring and fall Delta flow conditions for delta smelt and longfin smelt without creating adverse environmental

impacts further upstream (i.e., in upstream reservoirs and the rivers that flow out of them) and in export areas. These problems could include the following: reduced Shasta Reservoir cold water pool necessary to maintain downstream cold water temperatures for winter run salmon; adverse temperature effects on salmon and steelhead in the Lower American River; impacts on reservoir-related recreation; reduced clean hydropower generation, including at peak demand periods when fossil fuel consumption is typically at its maximum; greater risk of impacts associated with drought conditions where carryover storage is reduced in order to maximize outflows; increased reliance on groundwater by Sacramento Valley agricultural interests, as well as land subsidence that might result; and reduced availability for exports to south-of-Delta wildlife refuges and for human and other purposes.

Notably, operations under Alternative 4 would be subject to a requirement intended to ensure adequate Delta outflows, in that the alternative includes a "decision tree" mechanism that would ensure the minimization of adverse environmental effects of water exports in response to changing conditions and evolving scientific information. This decision tree process contemplates a range of four possible operational scenarios (with varying amounts of outflow as specified in Chapter 3, *Description of Alternatives*), with a commitment to identify spring and fall outflow criteria from the specified alternatives for each parameter needed to meet the biological goals and objectives.

Although Alternatives 7 and 8 do not include operations based on the decision tree concept, these two alternatives would include greater levels of guaranteed spring and fall Delta outflows, which have demonstrated strong correlations with increased abundances of Delta and longfin smelt. However, meeting these increased outflows could require releases from upstream reservoirs and rivers, making these alternatives less likely to avoid both the upstream environmental problems described above and the potential for reduced water availability for uses south of the Delta. Thus, although Alternatives 7 and 8 could be more beneficial than Alternative 4 to delta smelt and longfin smelt, Alternative 4 could be more beneficial for coldwater-dependent salmonids. Alternative 4 is also likely to have fewer impacts than Alternatives 7 and 8 with respect to other categories of environmental impacts. For example, Alternatives 7 and 8 would be more likely to result in reduced water supplies and, as noted earlier, reduced water supplies would result in other adverse environmental impacts south of the Delta (see Appendix 5B, *Responses to Reduced South of Delta Water Supplies*). Overall, Alternative 4 would provide operational flexibility for conserving all covered species, including delta smelt and longfin smelt as well as salmonids, and contributing to their recovery.

## 31.4 Summary of Significant and Unavoidable Adverse Impacts

Pursuant to Section 15126.2(b) of the State CEQA Guidelines, an EIR is required to identify the unavoidable significant environmental impacts of a project. An EIR shall:

> Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their direct effect, should be described.

See Table 31-1 for a summary of such impacts under Alternative 4.

1 **Table 31-1. Summary of Significant and Unavoidable Adverse Impacts**

| Alternative 4 Potential Impact | Impact Conclusions Before Mitigation | Proposed Mitigation | Impact Conclusion After Mitigation | |
|---|---|---|---|---|
| | CEQA | | CEQA | NEPA |
| GW-1: During construction, deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, or reduce the production capacity of preexisting nearby wells | S | GW-1: Maintain water supplies in areas affected by construction dewatering | SU | A |
| GW-5: During operations of new facilities, interfere with agricultural drainage in the Delta | S | GW-5: Agricultural lands seepage minimization | SU | A |
| GW-6: Deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, reduce the production capacity of pre-existing nearby wells, or interfere with agricultural drainage as a result of implementing CM2–CM22 | S | GW-5: Agricultural lands seepage minimization | SU | A |
| GW-7: Degrade groundwater quality as a result of implementing CM2–CM22 | S | GW-7: Provide an alternate source of water | SU | A |
| GW-8: During operations, deplete groundwater supplies or interfere with groundwater recharge, alter groundwater levels, or reduce the production capacity of pre-existing nearby wells | S | No feasible mitigation to address this impact | SU | A |
| GW-9: Degrade groundwater quality | S | No feasible mitigation to address this impact | SU | A |
| WQ-5: Effects on bromide concentrations resulting from facilities operations and maintenance (CM1) | S | WQ-5: Avoid, minimize, or offset, as feasible, adverse water quality conditions | SU | A |
| WQ-7: Effects on chloride concentrations resulting from facilities operations and maintenance (CM1) | S | WQ-7: Following initial operations of CM1, conduct additional evaluation and modeling of chloride levels to determine feasibility of mitigation to reduce chloride levels<br>WQ-7a: Conduct additional evaluation and modeling of increased chloride levels following initial operations of CM1.<br>WQ-7b: Consult with Delta water purveyors to identify means to avoid, minimize, or offset for reduced seasonal availability of water that meets applicable water quality objectives<br>WQ-7c: Consult with CDFW/USFWS, and Suisun Marsh stakeholders, to identify potential actions to avoid or minimize chloride level increases in the Marsh. | SU | A |
| WQ-11: Effects on electrical conductivity concentrations resulting from facilities operations and maintenance (CM1) | S | WQ-11: Avoid, minimize, or offset, as feasible, reduced water quality conditions<br>WQ-11a: Conduct additional evaluation and modeling of increased EC levels following initial operations of CM1.<br>WQ-11b: Consult with CDFW/USFWS, and Suisun Marsh stakeholders, to identify potential actions to avoid or minimize EC level increases in the Marsh. | SU | A |
| WQ-14: Effects on mercury concentrations resulting from implementation of CM2–CM22 | S | No available mitigation to address this impact | SU | A |
| WQ-18: Effects on organic carbon concentrations resulting from implementation of CM2–CM22 | S | WQ-18: Design wetland and riparian habitat features to minimize effects on municipal intakes | SU | A |
| WQ-22: Effects on pesticide concentrations resulting from implementation of CM2–CM22 | S | WQ-22: Implement principals of integrated pest management | SU | A |
| SOILS-2: Loss of topsoil from excavation, overcovering, and inundation as a result of constructing the proposed water conveyance facilities | S | SOILS-2a: Minimize extent of excavation and soil disturbance<br>SOILS-2b: Salvage, stockpile, and replace topsoil and prepare a topsoil storage and handling plan | SU | A |
| SOILS-7: Loss of topsoil from excavation, overcovering, and inundation as a result of implementing the proposed conservation measures CM2–CM11 | S | SOILS-2a: Minimize extent of excavation and soil disturbance<br>SOILS-2b: Salvage, stockpile, and replace topsoil and prepare a topsoil storage and handling plan | SU | A |

| Alternative 4 Potential Impact | Impact Conclusions Before Mitigation | Proposed Mitigation | Impact Conclusion After Mitigation | |
|---|---|---|---|---|
| | CEQA | | CEQA | NEPA |
| LU-3: Create physical structures adjacent to and through a portion of an existing community as a result of constructing the proposed water conveyance facility (CM1) | S | TRANS-1a: Implement site-specific construction traffic management plan<br>TRANS-1b: Limit hours or amount of construction activity on congested roadway segments | SU | A |
| AG-1: Temporary conversion, short-term conversion, and permanent conversion of Important Farmland or of farmland under Williamson Act contracts or in Farmland Security Zones as a result of constructing the proposed water conveyance facility. | S | AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones<br>AG-1a: Promote agricultural productivity of Important Farmland to the extent feasible<br>AG-1b: Minimize impacts on land subject to Williamson Act contracts or in Farmland Security Zones<br>AG-1c: Consideration of an Optional Agricultural Land Stewardship Approach or Conventional Mitigation Approach | SU | A |
| AG-2: Other effects on agriculture as a result of constructing and operating the proposed water conveyance facility | S | AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones<br>GW-1: Maintain water supplies in areas affected by construction dewatering<br>GW-6: Agricultural lands seepage minimization<br>WQ-11: Avoid, minimize, or offset, as feasible, reduced water quality conditions | SU | A |
| AG-3: Temporary conversion, short-term conversion, and permanent conversion of Important Farmland or of land subject to Williamson Act contracts or in Farmland Security Zone as a result of implementing the proposed Conservation Measures 2-11, 13, 15, 16, 20, and 21 | S | AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones | SU | A |
| AG-4: Other effects on agriculture as a result of implementing the proposed Conservation Measures 2-11, 13, 15, 16, 20, and 21 | S | AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to maintain agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones<br>GW-6: Agricultural lands seepage minimization | SU | A |
| REC-2: Result in long-term reduction of recreation opportunities and experiences as a result of constructing the proposed water conveyance facilities | S | REC-2: Provide alternative bank fishing access sites<br>BIO-75: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds<br>AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible<br>AES-1b: Install visual barriers between construction work areas and sensitive receptors<br>AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan<br>AES-1d: Restore barge unloading facility sites once decommissioned<br>AES-1e: Apply aesthetic design treatments to all structures to the extent feasible<br>AES-1f: Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities<br>AES-1g: Implement best management practices to implement project landscaping plan<br>AES-4a: Limit construction to daylight hours within 0.25 mile of residents<br>AES-4b: Minimize fugitive light from portable sources used for construction<br>AES-4c: Install visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences<br>TRANS-1a: Implement site-specific construction traffic management plan<br>TRANS-1b: Limit hours or amount of construction activity on congested roadway segments<br>TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments<br>NOI-1a: Employ noise-reducing construction practices during construction<br>NOI-1b: Prior to construction, initiate a complaint/response tracking program | SU<br>LTS (for impacts related to construction of the intakes) | A<br>NA (for impacts related to construction of the intakes) |
| REC-3: Result in long-term reduction of recreational navigation opportunities as a result of constructing the proposed water conveyance facilities | S | TRANS-1a: Implement site-specific construction traffic management plan | SU | A |

| Alternative 4 Potential Impact | Impact Conclusions Before Mitigation | Proposed Mitigation | Impact Conclusion After Mitigation | |
|---|---|---|---|---|
| | CEQA | | CEQA | NEPA |
| AES-1: Substantial alteration in existing visual quality or character during construction of conveyance facilities | S | AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible<br>AES-1b: Install visual barriers between construction work areas and sensitive receptors<br>AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan<br>AES-1d: Restore barge unloading facility sites once decommissioned<br>AES-1e: Apply aesthetic design treatments to all structures to the extent feasible<br>AES-1f: Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities<br>AES-1g: Implement best management practices to implement project landscaping plan | SU | A |
| AES-2: Permanent effects on a scenic vista from presence of conveyance facilities. | S | AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible<br>AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan<br>AES-1e: Apply aesthetic design treatments to all structures to the extent feasible | SU | A |
| AES-3: Permanent damage to scenic resources along a state scenic highway from construction of conveyance facilities | S | AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible<br>AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan<br>AES-1e: Apply aesthetic design treatments to all structures to the extent feasible | SU | A |
| AES-4: Creation of a new source of light or glare that would adversely affect views in the area as a result of construction and operation of conveyance facilities. | S | AES-4a: Limit construction to daylight hours within 0.25 mile of residents<br>AES-4b: Minimize fugitive light from portable sources used for construction<br>AES-4c: Install visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences | SU | A |
| AES-6: Substantial alteration in existing visual quality or character during construction of CM2–CM22. | S | AES-1a: Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible<br>AES-1b: Install visual barriers between construction work areas and sensitive receptors<br>AES-1c: Develop and implement a spoil/borrow and reusable tunnel material area management plan<br>AES-1d: Restore barge unloading facility sites once decommissioned<br>AES-1e: Apply aesthetic design treatments to all structures to the extent feasible<br>AES-1f: Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities<br>AES-1g: Implement best management practices to implement project landscaping plan<br>AES-4a: Limit construction to daylight hours within 0.25 mile of residents<br>AES-4b: Minimize fugitive light from portable sources used for construction<br>AES-4c: Install visual barriers along access routes, where necessary, to prevent light spill from truck headlights toward residences<br>AES-6a: Underground new or relocated utility lines where feasible<br>AES-6b: Develop and implement an afterhours low-intensity and lights off policy<br>AES-6c: Implement a comprehensive visual resources management plan for the Delta and study area | SU | A |
| CUL-1: Effects on identified archaeological sites resulting from construction of conveyance facilities | S | CUL-1: Prepare a data recovery plan and perform data recovery excavations on the affected portion of the deposits of identified and significant archaeological sites | SU | A |
| CUL-2: Effects on archaeological sites to be identified through future inventory efforts | S | CUL-2: Conduct inventory, evaluation, and treatment of archaeological resources | SU | A |
| CUL-3: Effects on archaeological sites that may not be identified through inventory efforts | S | CUL-3: Implement an archaeological resources discovery plan, perform training of construction workers, and conduct construction monitoring | SU | A |
| CUL-4: Effects on buried human remains damaged during construction | S | CUL-4: Follow state and federal law governing human remains if such resources are discovered during construction | SU | A |

| Alternative 4 Potential Impact | Impact Conclusions Before Mitigation | Proposed Mitigation | Impact Conclusion After Mitigation | |
|---|---|---|---|---|
| | CEQA | | CEQA | NEPA |
| CUL-5: Direct and indirect effects on eligible and potentially eligible historic architectural/built environment-resources resulting from construction activities | S | CUL-5: Consult with relevant parties, prepare and implement a built environment treatment plan | SU | A |
| CUL-6: Direct and indirect effects on unidentified and unevaluated historic architectural/built environment resources resulting from construction activities | S | CUL-6: Conduct a survey of inaccessible properties to assess eligibility, determine if these properties will be adversely impacted by the project, and develop treatment to resolve or mitigate adverse impacts | SU | A |
| CUL-7: Effects of other conservation measures on cultural resources | S | CUL-7: Conduct cultural resource studies and adopt cultural resource mitigation measures for cultural resource impacts associated with implementation of conservation measures 2–22 | SU | A |
| TRANS-1: Increased construction vehicle trips resulting in unacceptable LOS conditions | S | TRANS-1a: Implement site-specific construction traffic management plan<br>TRANS-1b: Limit hours or amount of construction activity on congested roadway segments<br>TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments | SU[1] | A[1] |
| TRANS-2: Increased construction vehicle trips exacerbating unacceptable pavement conditions | S | TRANS-2a: Prohibit construction activity on physically deficient roadway segments<br>TRANS-2b: Limit construction activity on physically deficient roadway segments<br>TRANS-2c: Improve physical condition of affected roadway segments as stipulated in mitigation agreements or encroachment permits | SU[2] | A[2] |
| TRANS-3: Increase in safety hazards, including interference with emergency routes during construction | S | TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments | SU[3] | A[3] |
| TRANS-6: Disruption of transit service during construction. | S | TRANS-1a: Implement site-specific construction traffic management plan<br>TRANS-1b: Limit hours or amount of construction activity on congested roadway segments<br>TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments | SU | A |
| TRANS-10: Increased traffic volumes during implementation of CM2–CM22. | S | TRANS-1a: Implement site-specific construction traffic management plan<br>TRANS-1b: Limit hours or amount of construction activity on congested roadway segments<br>TRANS-1c: Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments | SU[4] | A[4] |
| UT-6: Effects on regional or local utilities as a result of constructing the proposed water conveyance facilities. | S | UT-6a: Verify locations of utility infrastructure<br>UT-6b: Relocate utility infrastructure in a way that avoids or minimizes any effect on operational reliability<br>UT-6c: Relocate utility infrastructure in a way that avoids or minimizes any effect on worker and public health and safety | SU[5] | A[5] |

[1] Although TRANS-1a through TRANS-1c would reduce the severity of this impact/effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact/effect is made, a significant impact (CEQA), or an adverse effect (NEPA), in the form of unacceptable LOS would occur. Therefore, this impact/effect would be significant and unavoidable and adverse, respectively. If, however, all improvements required to avoid significant impacts and adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant and effects would not be adverse.

[2] Although TRANS-1a through TRANS-1c would reduce the severity of this impact/effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact/effect is made, a significant impact (CEQA), or an adverse effect (NEPA), in the form of unacceptable pavement conditions would occur. Therefore, this impact/effect would be significant and unavoidable and adverse, respectively. If, however, all improvements required to avoid significant impacts and adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant and effects would not be adverse.

[3] Mitigation Measure TRANS-1c will reduce the severity of this impact, the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact. If an improvement identified in the mitigation agreement(s) is not fully funded and constructed before the project's contribution to the impact/effect is made, a significant impact (CEQA), or an adverse effect (NEPA) in the form of increased safety hazards would occur. Accordingly, this effect would be significant and unavoidable and adverse, respectively. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant and effects would not be adverse.

[4] Although TRANS-1a through TRANS-1c would reduce the severity of this impact/effect, the BDCP proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact/effect is made, a significant impact (CEQA), or an adverse effect (NEPA), in the form of unacceptable roadway segment LOS would occur. Therefore, this impact/effect would be significant and unavoidable and adverse, respectively. If, however, all improvements required to avoid significant impacts and adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant and effects would not be adverse.

[5] If coordination with all appropriate utility providers and local agencies to integrate with other construction projects and minimize disturbance to communities were successful under Mitigation Measure UT-6b, the impact would be less than significant (CEQA) and there would be no adverse effect (NEPA).

| Alternative 4 Potential Impact | Impact Conclusions Before Mitigation | Proposed Mitigation | Impact Conclusion After Mitigation | |
|---|---|---|---|---|
| | CEQA | | CEQA | NEPA |
| UT-8: Effects on public services and utilities as a result of implementing the proposed CM2–CM11 | S | UT-6a: Verify locations of utility infrastructure<br>UT-6b: Relocate utility infrastructure in a way that avoids or minimizes any effect on operational reliability<br>UT-6c: Relocate utility infrastructure in a way that avoids or minimizes any effect on worker and public health and safety | SU | NA |
| AQ-13: Exposure of Sensitive Receptors to Health Threats in Excess of BAAQMD's Health-Risk Assessment Thresholds | S (cancer risk) | AQ-13: Relocate Sensitive Receptors to Avoid Excess Cancer Risk from Exposure to Diesel Particulate Matter | SU (cancer risk)[6] | A (cancer risk) |
| AQ-17: Generation of cumulative greenhouse gas emissions from increased CVP pumping as a result of implementation of CM1 | S | No feasible mitigation to address this impact | SU | A |
| AQ-18: Generation of criteria pollutants from implementation of CM2–CM11 | S | AQ-18: Develop an Air Quality Mitigation Plan (AQMP) to ensure air district regulations and recommended mitigation are incorporated into future conservation measures and associated project activities. | SU | A |
| AQ-19: Generation of cumulative greenhouse gas emissions from implementation of CM2–CM11 | S | AQ-18: Develop an Air Quality Mitigation Plan (AQMP) to ensure air district regulations and recommended mitigation are incorporated into future conservation measures and associated project activities.<br>AQ-19 Prepare a land use sequestration analysis to quantify and mitigate (as needed) GHG flux associated with conservation measures and associated project activities | SU | A |
| NOI-1: Exposure of noise-sensitive land uses to noise from construction of water conveyance facilities | S | NOI-1a: Employ noise-reducing construction practices during construction,<br>NOI-1b: Prior to construction, initiate a complaint/response tracking program | SU | A |
| NOI-2: Exposure of sensitive receptors to vibration or groundborne noise from construction of water conveyance facilities | S | NOI-2: Employ vibration-reducing construction practices during construction of water conveyance facilities | SU | A |
| NOI-4: Exposure of noise-sensitive land uses to noise from implementation of proposed Conservation Measures 2-10 | S | NOI-1a: Employ noise-reducing construction practices during construction<br>NOI-1b: Prior to construction, initiate a complaint/response tracking program | SU | A |
| HAZ-8: Increased risk of bird – aircraft strikes during implementation of conservation components that create or improve wildlife habitat | S | HAZ-8: Consult with individual airports and USFWS, and relevant regulatory agencies | SU | A |
| PH-2: Exceedances of water quality criteria for constituents of concern such that there is an adverse effect on public health as a result of operation of the water conveyance facilities. | S | WQ-5: Avoid, minimize, or offset, as feasible, adverse water quality conditions | SU[7] | A[7] |
| MIN-5: Loss of availability of locally important natural gas wells as a result of implementing Conservation Measures 2-22 | S | MIN-5: Design Conservation Measures 4, 5, and 10 to avoid displacement of active natural gas wells to the extent feasible | SU | A |
| MIN–6: Loss of availability of extraction potential from natural gas fields as a result of implementing Conservation Measures 2-22 | S | MIN-6: Design Conservation Measures 4, 5, and 10 to maintain drilling access to natural gas fields to the extent feasible | SU | A |
| PALEO-1: Destruction of unique or significant paleontological resources as a result of construction of water conveyance facilities. | S | PALEO-1a: Prepare a monitoring and mitigation plan for paleontological resources<br>PALEO-1b: Review 90% design submittal and develop specific language identifying how the mitigation measures will be implemented along the alignment<br>PALEO-1c: Educate construction personnel in recognizing fossil material<br>PALEO-1d: Collect and preserve substantial potentially unique or significant fossil remains when encountered | SU | A |

[6] The BDCP proponents cannot ensure that the affected landowner will accept DWR's offer for relocation assistance. If the landowner chooses not to accept DWR's offer of relocation assistance, a significant impact in the form of exposure to excess cancer risk would occur at the receptor location adjacent to Byron Highway. Therefore, this impact would be significant and unavoidable. If, however, the landowner accepts DWR's offer of relocation assistance, the impact would be less than significant.

[7] This impact/effect would be less than significant/not adverse if all financial contributions, technical contributions, or partnerships required to avoid significant impacts prove feasible and any necessary agreements are completed before the project's contribution to the effect.

# 31.5 Environmental and Other Commitments and Mitigation Measures with the Potential for Environmental Effects under CEQA and NEPA

Section 15126.4(a)(1)(D) of the CEQA Guidelines provides that, "[i]f a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed." This directive is consistent with the general principle under NEPA that federal agencies should identify reasonably foreseeable impacts of proposed major federal actions. This section is intended to satisfy these mandates.

In this EIR/EIS, for each impact considered significant under CEQA or adverse under NEPA, mitigation measures have been designed that would reduce the severity of the impact. Further, as part of the planning and environmental assessment process, the BDCP proponents will incorporate environmental commitments and best management practices (BMPs) into the BDCP alternatives to avoid or minimize potential significant impacts and adverse effects. However, some of these environmental commitments and mitigation measures could have the potential themselves to result in significant impacts and adverse effects. In general, these commitments and mitigation measures require construction activities and/or ground disturbance. The following sections provide an impact analysis of those commitments and mitigation measures.

## 31.5.1 Environmental and Other Commitments

The environmental and other commitments with potential for significant environmental effects under CEQA or adverse effects under NEPA are discussed below. These commitments are described in Appendix 3B, *Environmental Commitments*.

### 31.5.1.1 Perform Geotechnical Studies

Detailed geotechnical studies will be performed at the locations of the water conveyance alignment and facility locations and at material borrow areas. The exact locations of borings and other test locations have not yet been determined, but the spacing of the borings and test locations likely will average about 1,000 feet along proposed canal and tunnel alignments and approximately 100 to 200 feet at intakes, pumping plants, forebays, siphons, and other hydraulic structures.

Certain activities that would be carried out as part of the geotechnical studies could cause environmental effects through ground disturbance, generation of noise, release of hazardous materials, and interaction with groundwater, as discussed below.

#### Ground Disturbances

Ground disturbances would result from the following activities: drilling and sampling of soil borings; cone penetration testing; performing aquifer/pumping tests and slug tests; excavating test pits; and installing groundwater monitoring wells. These localized ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. For example, the use of drilling rigs for soil boring near the proposed intake sites could result

in the short-term disturbance or loss of tidal perennial aquatic and valley/foothill riparian natural communities. Installing groundwater monitoring wells for liquefaction evaluation and dewatering requirements, for example, could result in more long-term ground disturbances in these natural communities. Disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures (AMMs) including AMM1, *Worker Awareness Training*; AMM2, *Construction Best Management Practices and Monitoring*; AMM10, *Restoration of Temporarily Affected Natural Communities*; and AMM11, *Covered Plant Species*. AMM1 includes procedures to educate construction personnel on the types of sensitive resources in the project area, including sensitive timing windows for covered species, applicable environmental rules and regulations, and specific training on the measures required to avoid and minimize effects on natural communities and covered species. AMM2 includes standard practices and measures that would be implemented prior, during, and post-construction to avoid or minimize effects of ground disturbing activities on sensitive resources like natural communities. Implementation of AMM10 would result in the restoration and monitoring of natural communities in the Plan Area that are temporarily affected by covered activities, and preconstruction botanical surveys undertaken and protective measures would be taken to protect plant species, as necessary.

**Noise**

The geotechnical studies would require drilling for soil borings and installation of groundwater monitoring wells. Drilling would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., Swainson's hawk, riparian brush rabbit, and California red-legged frog) to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs. For example, as described above, implementation of AMM2 would help avoid/minimize effects of construction activities on sensitive resources (e.g., species and habitat). Preconstruction surveys, and protective measures for areas where species' presence is known, such as avoidance of construction activity during certain times of year, and establishing buffer distances would be implemented under species-specific AMMs, such as AMM13, *California Tiger Salamander*, and AMM18, *Swainson's Hawk and White Tailed Kite*, (see Chapter 3, *Description of Alternatives*, for detail) and would help minimize noise effects on covered species. In addition, implementation of Mitigation Measures NOI-1a, *Employ Noise-Reducing Construction Practices during Construction* and NOI-1b, *Prior to Construction, Initiate a Complaint/Response Tracking Program*, and a noise abatement plan (see Chapter 23, *Noise* and Appendix 3B, *Environmental Commitments* for detail) would reduce noise impacts on sensitive receptors and noise-sensitive land uses.

**Hazardous Materials**

Many of the activities to be carried out as part of the geotechnical studies, such as excavation of test pits, cone penetration, installation of groundwater monitoring wells, and drilling/sampling for soil bores would require the use of vehicles and or heavy equipment (e.g., drilling rigs). The use, and/or onsite maintenance of this equipment could result in inadvertent spills or leaks of hazardous chemicals including gas, engine oil, solvents, and lubricants, which could adversely affect the environment not contained or if released in large enough quantities to pose a hazard to workers or the general public. However, under normal use, the inadvertent release of these types of chemicals would likely only have the potential to result in minor, temporary hazards to workers immediately adjacent to these releases. Because these chemicals would be used in small quantities and

inadvertent releases would be localized, and because environmental commitment measures implemented as part of the Hazardous Material Management Plans (HMMPs), Spill Prevention, Containment, and Countermeasure Plans (SPCCPs), and Stormwater Pollution Prevention Plans (SWPPPs) (described in Appendix 3B, *Environmental Commitments*), would minimize the potential for accidental releases of hazardous materials, and would help contain and remediate hazardous spills should they occur, it is unlikely that the general public or the environment would be adversely affected.

#### Groundwater Quality

The installation of groundwater monitoring wells could result in effects on groundwater quality in those areas where the wells are placed. Installation of groundwater monitoring wells requires that a well casing, typically a steel or plastic pipe, is installed in the borehole to prevent collapse. Generally, the space between the casing and the sides of the hole provides a channel for surface water, and contaminants to reach the groundwater. To prevent this, the space is filled with grout. The grout and well casing prevent contaminants from seeping into the well. If the well casing is not properly installed (e.g., doesn't extend to the water table level) or is damaged, there is potential for groundwater quality effects. BMPs would be implemented prior to and during well installation to ensure that well casings are intact before, during and after installation, and to ensure that the casings extend to the level of the water table. Further, standard BMPs would be in place would require that groundwater quality be monitored by BDCP proponents prior to installation of these wells to establish baseline groundwater quality conditions. Should monitoring well installation result in unacceptable degradation of groundwater quality, as determined by comparing post-implementation groundwater quality to relevant regulatory standards and with consideration of previously established beneficial uses, it may be necessary to determine if nearby wells used for potable water were affected. If the local potable water supply is affected, Mitigation Measure GW-7: Provide an Alternate Source of Water, would be implemented to supply a source of potable water (see Chapter 7, *Groundwater*, for detail).

***NEPA Effects:*** In summary, activities required as part of implementing the geotechnical studies would potentially adversely affect the environment through noise, hazardous materials, groundwater quality, and ground disturbance. As previously described, ground disturbance and hazardous material effects would be reduced by implementing AMMs (e.g., AMM3, AMM5, and AMM32), and related environmental commitments (i.e., HMMP, SPCCP, and SWPPPs), respectively, and thus would not likely be adverse. Similarly, the potential for groundwater quality to be adversely affected by well installation would be minimized by implementing BMPs. Noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, a noise abatement plan, as well Mitigation Measures NOI-1a and NOI-1b. Accordingly, these effects would not be adverse.

***CEQA Conclusion:*** Activities implemented as part of geotechnical studies would have the potential to result in significant environmental impacts due to the inadvertent release of hazardous materials, impacts to groundwater quality, ground disturbance, and noise. The impacts would be minimized and reduced to a less-than-significant level with the implementation of general and species-specific AMMs, environmental commitments, and Mitigation Measures NOI-1a and NOI-1b.

### 31.5.1.2 Transmission Line Pole Placement

The alignment of proposed transmission lines will be designed to avoid sensitive terrestrial and aquatic habitats when siting poles and towers to the maximum extent feasible. The alignment will

also be designed to avoid agricultural lands where feasible. Where this is not feasible, there would be certain activities that would be carried out as part of this environmental commitment that could cause environmental effects. Specifically, grading and reconstructing features such as irrigation and drainage facilities would potentially result in generation of noise and emissions as well as altered drainage patterns, as discussed below.

**Noise**

Grading and construction activities required to reconstruct existing irrigation and drainage facilities where the transmission line alignment cannot avoid agricultural lands would require the use of heavy equipment such as graders, excavators, and dozers would have the potential to expose sensitive receptors, noise-sensitive land uses, and covered to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, environmental commitments, and Mitigation Measures NOI-1a and NOI-1b, as described previously in Section 31.5.1.1.

**Air Quality**

Construction equipment exhaust, employee vehicle exhaust, and dust from grading, clearing, and excavation activities required to reconstruct irrigation and drainage facilities would temporarily generate emissions of ozone precursors (ROG and $NO_X$), CO, PM10, PM2.5, and $SO_2$. Pollutant emissions are highly dependent on the total amount of disturbed area, the duration of construction, and the intensity of construction activity. In addition, the number and types of heavy-duty equipment significantly affect emissions generated by vehicle exhaust. Should these emissions exceed the applicable air district thresholds or federal de minimis thresholds this would be considered an adverse effect on air quality. Because the transmission line alignment will be designed to avoid agricultural lands where feasible, it is reasonable to assume that the number of irrigation and drainage facilities requiring reconstruction would be small, the intensity of this type of construction activity would be low, and the duration of construction would be short-term for any individual site requiring this work. In addition, as environmental commitments the BDCP proponents will develop and implement a construction equipment exhaust reduction plan to reduce criteria air pollutants and GHG emissions from construction equipment, and will implement fugitive dust control measures to reduce construction-related fugitive dust. These environmental commitments and related AMM (AMM35) and Mitigation Measure AQ-18: Develop an Air Quality Mitigation Plan (AQMP) to Ensure Air District Regulations and Recommended Mitigation are Incorporated into Future Conservation Measures and Associated Project Activities, would reduce the severity of any potential air quality effects. Mitigation Measure AQ-15: Develop and Implement a GHG Mitigation Program to Reduce Construction Related GHG Emissions to Net Zero (0), would help reduce GHG emissions. Further, as applicable according to the air district(s) in which effects may occur, the following mitigation measures would be implemented to mitigate and offset construction-generated criteria pollutant emissions (See Chapter 22, *Air Quality and Greenhouse Gases*): Mitigation Measures AQ-2a, AQ-2b, AQ-3a, AQ-3b, AQ-4a and AQ-4b.

**Altered Drainage Patterns**

Grading and construction activities required to reconstruct existing irrigation and drainage facilities would alter existing drainage patterns and could result in local (onsite) ponding, erosion and siltation, and changes in runoff flow rates and velocities. AMM3 and AMM4, as well as environmental commitment measures implemented by the BDCP proponents as part of erosion and sediment

control plans and SWPPPs would avoid or minimize erosion and siltation effects. In addition, the implementation of Mitigation Measure SW-4: Implement Measures to Reduce Runoff and Sedimentation, would require that BDCP proponents implement measures to prevent an increase in runoff volume and rate from land-side construction areas and to prevent an increase in sedimentation in the runoff from the construction area.

***NEPA Effects:*** In summary, grading and reconstructing features such as irrigation and drainage facilities as part of this environmental commitment could potentially result in adverse noise and air quality effects, as well as potentially adverse effects due to alteration of drainage patterns. However, adverse effects would be avoided by implementing environmental commitments, AMMs, and Mitigation Measure SW-4; NOI-1a and NOI-1b; AQ-15, AQ-18, and the applicable district-specific air quality mitigation measures described above.

***CEQA Conclusion:*** Grading and reconstructing irrigation and drainage facilities, where placement of transmission line poles cannot avoid agricultural lands, could result in significant environmental impacts related to noise and alteration of drainage patterns, as well as significant impacts on air quality. Implementation of environmental commitments (e.g., erosion and sediment control plans; SWPPPs; fugitive dust control measures; a construction equipment exhaust reduction plan; a noise abatement plan; AMMs 3, 4 and 35; Mitigation Measure SW-4; and Mitigation Measures NOI-1a and NOI-1b) would ensure that these environmental impacts are less than significant.

### 31.5.1.3 Prepare and Implement Mosquito Management Plans

If mosquitoes are present during construction of the intakes or once the sedimentation basins, solids lagoons, and intermediate forebay become operational, the BDCP proponents will use mosquito control techniques as applicable. Where feasible, biological and physical controls will be used to control mosquitos. These measures include using mosquito fish and increasing water circulation. In addition, an integrated pest management plan will be developed and BMPs used. Use of larvicides and adulticides to control mosquito populations may also be necessary.

***NEPA Effects:*** Use of larvicides and adulticides to control mosquito populations may be necessary as part of implementing this environmental commitment. If so, the effects of these chemicals would need to be evaluated and a monitoring program established to evaluate effects, if any, that application would have on macroinvertebrates and associated covered fish and wildlife species. Because it cannot be known in advance whether the application of larvicides or adulticides would be necessary, which chemicals would be used, their level of toxicity, or where they would be applied, this action would be considered adverse. Mosquito larvicide and adulticide applications are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act. Application of these pesticides over or near surface water will require coverage under the National Pollutant Discharge Elimination System (NDPES). BDCP proponents would adhere to requirements under this permit to ensure that water quality impacts, and thus impacts to fish and macroinvertebrates are avoided. In addition, should the use of chemical pesticides be necessary, evaluation and monitoring of these chemicals would avoid or minimize effects on avian and terrestrial wildlife as well.

***CEQA Conclusion***: Consultation, BMPs, and Mosquito Management Plans related to reducing mosquito populations would be primarily biological or physical actions, and would have a less-than-significant impact. However, the use of larvicides or adulticides, if needed to control mosquito populations, could affect macroinvertebrates and associated covered fish and wildlife species, which would be considered a significant impact should it occur. However, because evaluating and

monitoring the effects of these chemicals on species would avoid or minimize environmental impacts, and because BDCP proponents would be require to adhere to requirements under the required NPDES permit if larvicides and adulticides are to be applied, this impact would be less than significant.

### 31.5.1.4 Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM), and Dredged Material

In the course of constructing project features, substantial quantities of material may be removed from their existing locations based on their properties or the need for excavation of particular features. These materials will require handling, storage, and disposal, as well as chemical characterization, prior to any reuse. It is anticipated that one or more of the disposal and reuse methods could be implemented on any individual spoil, reusable tunnel material (RTM), or dredged material site. Depending on which combination of these approaches is selected, implementation of material reuse plans could create environmental impacts related to ground disturbance, noise, release of hazardous materials, traffic, air quality, water quality, and Important Farmland or farmland with habitat value for covered species.

#### Ground Disturbance

Implementing this environmental commitment inherently involves ground disturbance, such as excavation of temporary and long-term storage areas, deposition of topsoil or materials removed from construction sites, and construction of protective berms and erosion protection measures at long-term storage sites. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. Vegetative material from work site clearing spread over the topsoil after earthwork is completed could disturb natural communities on the receiving site. Performance standards under this environmental commitment would ensure that vegetative material would be spread over topsoil only where such material does not contain seeds of undesirable nonnative species. In addition, to the extent practicable, material would not be temporarily stored in wetlands and surface waters, vernal pool, alkali seasonal wetland, grasslands, or riparian areas. If it is necessary to temporarily store materials in any of the habitat types listed above, the appropriate covered species AMMs would be followed for that habitat type, such as AMM20 for sandhill crane. Disturbances of natural communities would be further minimized by implementing additional AMMs including AMM1, AMM 2, AMM10, and AMM11 *(described in BDCP Section 31.5.1.1)*.

#### Noise

Earthwork and grading activities to restore sites to preconstruction conditions and to apply the materials consistent with their reuse could create noise effects. However, this environmental commitment stipulates that temporary storage sites would be located farther than 100 ft. from residential or commercial buildings. Other noise effects and measures to avoid or minimize them would be the same as those described under 31.5.1.1, *Perform Geotechnical Studies*, and 31.5.1.2, *Transmission Line Pole Placement.* Also see Chapter 23, *Noise*, for detail.

#### Hazardous Materials

Hazardous materials excavated during construction will be segregated from other construction spoils and properly handled in accordance with applicable federal, state, and local regulations.

Riverine or in-Delta sediment dredging and dredge material disposal activities may involve potential contaminant discharges not addressed through typical NPDES or SWRCB General Permit processes.

BMPs will be implemented during handling and disposal of any potentially hazardous dredged material as part of this environmental commitment to avoid release of this material. These measures include, among others, that the Implementation Office would ensure the preparation and implementation of a pre-dredge sampling and analysis plan (SAP) to be developed and submitted by the contractors as part of the water plan required per standard DWR contract specifications Section 01570. Prior to initiating any dredging activity, the SAP will evaluate the presence of contaminants that may impact water quality from a variety of discharge routes. Dredging will be conducted within the allowable in-water "work windows" established by USFWS, NMFS, and CDFW, and in a manner that will not cause turbidity in the receiving water, as measured in surface waters 300 feet down-current from the construction site, to exceed the Basin Plan objectives beyond an approved averaging period by the Central Valley Regional Water Quality Control Board and CDFW. Silt curtains will be employed to control turbidity, if necessary.

These BMPs as well as and environmental commitment measures described in Section 31.5.1.1, implemented as part of the HMMPs, SPCCPs, and SWPPPs, (described in Appendix 3B, *Environmental Commitments*), would minimize the potential for accidental releases of potentially hazardous materials contained in excavated and/or dredged material, and would help contain and remediate hazardous spills should they occur. Accordingly, it is unlikely that the general public or the environment would be adversely affected.

**Traffic**

Many of these activities involved in this environmental commitment would require trucks or barges to gather and haul materials from one section of the Plan Area to another. For instance, reuse of material in the implementation of tidal habitat associated with CM4, *Tidal Natural Communities Restoration*, could require material to be transported to locations in the West Delta ROA (including Sherman and Twitchell Islands) or the Cosumnes/Mokelumne ROA (including Glannvale Tract and McCormack-Williamson Tract), among other areas. Locations for reuse in support of levee stability could include areas protected by nonproject levees or where levee problems have been reported in the past, including Staten Island, Bouldin Island, Empire Tract, Webb Tract, Bacon Island, or other places in the Delta. While reuse locations near to the spoil or RTM areas would be preferred, such activity would require use of local roadways, which could lead to short-term effects on traffic. This environmental commitment would minimize traffic impacts by selecting storage sites within 10 miles of the construction feature. In addition, Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan, would be available to reduce adverse effects (see Chapter 19, *Transportation*).

**Air Quality**

Similar to restoration and enhancement actions of CMs 2–11, grading, excavating, and placing fill material to implement this environmental commitment could generate criteria pollutant and GHG exhaust emissions from grading equipment (e.g., grader, bulldozer) and haul trucks, and fugitive dust from excavation activities (Chapter 22, *Air Quality and Greenhouse Gases*). Earthwork and grading activities to restore sites to preconstruction conditions and to apply the materials consistent with their reuse could also create effects on air quality. This could result in adverse effects if activities are inconsistent with applicable GHG reduction plans, do not contribute to a lower carbon future, or generate excessive emissions, relative to other projects throughout the state. Site selection

criteria under this environmental commitment, such as locations within 10 miles of construction feature would minimize truck travel to help address air quality effects. Other Implementing a construction equipment exhaust reduction plan (an environmental commitment) would also help reduce adverse effects. Mitigation Measures AQ-15, AQ-18 and AQ-19 (Prepare a Land Use Sequestration Analysis to Quantify and Mitigate [as Needed] GHG Flux Associated with Conservation Measures and Associated Project Activities) would be available to reduce effects, but may not be sufficient to avoid an adverse effect.

**Water Quality**

Excavation activities and Dredged Material Disposal (DMD) sites could discharge contaminants to surface waters. This environmental commitment contains measures to protect water quality, such as conducting dredging within the allowable in-water "work windows" established by USFWS, NMFS, and CDFW; designing DMD sites to contain all of the dredged material and all systems and equipment associated with necessary return flows from the DMD site to the receiving water will be operated to maximize treatment of return water and optimize the quality of the discharge. Temporary storage sites will be constructed using appropriate BMPs (such as erosion and sediment control measures for examples) to prevent discharges of contaminated stormwater to surface waters or groundwater. Upland disposal of dredged material at least 150 feet from surface water bodies will help ensure that the material will not be in contact with surface water prior to its draining, characterization, and potential treatment. Features of the long-term material storage areas will include berms and erosion protection measures to contain storm runoff as necessary and provisions to allow for truck traffic during construction. The development and implementation of erosion and sediment control plans, as part of the environmental commitments, and compliance with NPDES and Central Valley Regional Water Quality Control Board permit requirements would reduce effects on water quality. BMPs, environmental commitments, compliance with applicable permits, and mitigation measures such as SOILS-2b (which includes a topsoil storage and handling plan) and would ensure that effects on water quality are not adverse.

**Important Farmland**

Locations for reuse in support of levee stability could include areas protected by nonproject levees or where levee problems have been reported in the past, including Staten Island, Bouldin Island, Empire Tract, Webb Tract, Bacon Island, or other places in the Delta. If materials are applied for the purposes of flood protection, flood response, habitat restoration or subsidence reversal, it is possible that existing topsoil could be overcovered and that Important Farmland or farmland with habitat value for one or more covered species could be disturbed or temporarily or converted from active agricultural uses. Additionally, materials placed near levees could affect drainage and/or irrigation infrastructure. However, mitigation measures such as AG-1, which includes preparation of an Agricultural Lands Stewardship Plan, would be available to address adverse effects associated with implementation of this commitment.

If material is used for habitat restoration that would have otherwise been implemented as part of the BDCP, reuse of materials could offset the need for fill materials from other sources. Such effects would be described in further detail by individual site-specific environmental review for habitat restoration activities under BDCP.

***NEPA Effects:*** In summary, activities associated with disposal and reuse of spoils, RTM, and dredged materials could potentially adversely affect the environment through ground disturbance, noise, hazardous materials, traffic, air quality, water quality, Important Farmland or farmland with habitat

value for covered species. Depending on the selected reuse strategies, implementation of spoils, RTM, and dredged material reuse plans could also result in beneficial effects associated with flood protection and response, habitat creation, and depth to groundwater in areas where the ground level is raised. Implementing AMMs such as AMM10, *Restoration of Temporarily Affected Natural Communities*; other general and species-specific AMMs; a range of environmental commitments (e.g., HMMP, SPCCP, and SWPPPs); resource-specific mitigation measures (e.g., AG-1, SOILS-2b, NOI-1a, and NOI-1b; TRANS-1a); and compliance with permits, would reduce or avoid adverse effects. Accordingly, it is anticipated that implementing this environmental commitment would, not result in these adverse effects. However, although measures to reduce effects on air quality and greenhouse gas emissions and Mitigation Measures AQ-15, AQ-18 and AQ-19 would be implemented, effects on air quality may remain adverse.

Furthermore, depending on the selected reuse strategies, implementation of spoils, RTM, and dredged material reuse plans could result in beneficial effects associated with flood protection and response, habitat creation, and depth to groundwater in areas where the ground level is raised.

***CEQA Conclusion:*** Activities associated with disposal and reuse of spoils, RTM, and dredged materials could potentially have significant impacts related to ground disturbance, noise, hazardous materials, traffic, air quality, water quality, and Important Farmland or farmland with habitat value for covered species. Implementing BMPs, AMMs, other environmental commitments, and mitigation measures described above would reduce most impacts to a less-than-significant level. BMPs, AMMs, other environmental commitments, and Mitigation Measures AQ-15, AQ-18 and AQ-19 would be implemented to reduce impacts on air quality and greenhouse gas emissions, but they may not reduce impacts to a less-than-significant level (see Chapter 22, *Air Quality*). Consequently, the impact on air quality could be significant and unavoidable. Implementing this environmental commitment could also have beneficial impacts, such as flood protection and response, habitat creation, and depth to groundwater in areas where the ground level is raised.

### 31.5.1.5 Partner with Delta Municipal, Industrial, and Agricultural Water Purveyors in Developing Methods to Reduce Potential Water Quality Effects

The BDCP proponents would assist in-Delta municipal, industrial, and agricultural water purveyors that will be subject to significant water quality effects from operation of CM1, and effects on dissolved organic carbon due to implementation of CM2-22.

Construction activities carried out under this environmental commitment could cause environmental effects related to ground disturbance, instream construction activities, and generation of noise and emissions, as described below.

#### Ground Disturbance

Construction activities related to the following concepts, which affected purveyors would consider to address adverse water quality effect, would result in ground disturbances that could adversely affect natural communities in the Plan Area.

- Developing water supply connections to SWP facilities or BDCP intertie (municipal uses) to provide an alternative water supply during poor Delta water quality periods.

- Expanding the existing North Bay Aqueduct intake capacity to facilitate increased diversion efficiency and quantity during favorable water quality periods.
- Implementing the North Bay Aqueduct Alternative Intake Project to establish an alternative surface water intake on the Sacramento River upstream of the Sacramento Regional Wastewater Treatment Plant discharge.

Ground disturbance effects would be similar to those described in Section 31.5.1.1 but would occur at different locations. Provisions to avoid, reduce and minimize these effects on the environment would also be similar. Examples of these provisions include AMM1, AMM 2, AMM10 and AMM11 (described in Section 31.5.1.1).

#### Instream Construction

Instream construction activities could result in turbidity, accidental spills of hazardous materials, disturbance of contaminated sediment, and underwater noise. These activities could create effects on fish and aquatic resources. Adverse effects on covered fish species would be minimized and reduced by limiting the duration of in-water construction activities and by implementing the following environmental commitments: conduct environmental training; and develop and implement site-specific SWPPPs; HMMPs; an erosion and sediment control plan; a SPCCP; and a fish rescue and salvage plan. Related AMMs would also be implemented to reduce these effects (e.g., AMM3, AMM4, AMM5, AMM8, and AMM32 [see Chapter 3, *Description of Alternatives*, for detail]).

#### Noise

Construction-related noise effects on noise-sensitive land uses, sensitive receptors, and covered species would be similar to those described in Section 31.5.1.1 but would occur at different locations. Provisions to avoid, reduce and minimize these effects on the environment would also be similar. Examples of these provisions include AMM1, AMM 2, AMM10, and AMM11 (described in Section 31.5.1.1); Mitigation Measures NOI-1a and NOI-1b; and implementation of a noise abatement plan.

#### Air Quality

Effects on air quality would be similar to those described in Section 31.5.1.2, although the number and types of heavy-duty equipment, locations, and construction duration, amount of disturbed area would differ. Should these emissions exceed the applicable air district thresholds or federal de minimis thresholds this would be considered an adverse effect on air quality. As part of certain environmental commitments, the BDCP proponents will develop and implement a construction equipment exhaust reduction plan to reduce criteria air pollutants and GHG emissions from construction equipment, and will implement fugitive dust control measures to reduce construction-related fugitive dust. These environmental commitments and related AMM (AMM35) would reduce the severity of any potential air quality effects. In addition, implementation of Mitigation Measures AQ-15, AQ-18 and AQ-19 would further help reduce air quality and GHG effects on the environment.

***NEPA Effects***: In summary, construction activities that could be implemented as part of this environmental commitment could cause environmental effects related to ground disturbance, instream construction activities, and generation of noise and emissions. Implementing the AMMs, environmental commitments described above, as well as Mitigation Measures AQ-15, AQ-18 and AQ-19, and NOI-1a and NOI-1b, would reduce the severity of these types of effects. However, because it is not known which of the aforementioned concept options described above would be implemented,

and because each would vary in the severity and location of effects relative to the other, these effects are considered adverse.

***CEQA Conclusion:*** Construction activities implemented as part of this environmental commitment could result in significant environmental impacts related to ground disturbance, instream construction activities, and generation of noise and emissions. Implementation of the AMMs, environmental commitments described above, as well as Mitigation Measures AQ-15, AQ-18 and AQ-19, and NOI-1a and NOI-1b, would reduce the severity of these impacts. However, because it is not known which of the aforementioned concept options described above would be implemented, and because each would vary in the severity and location of effects relative to the other, this impact is considered significant and unavoidable.

### 31.5.1.6 Enhance Recreation Access in the Vicinity of the Proposed Intakes

DWR would enhance the visual character of the area by creating new wildlife viewing sites, enhance interest in the construction site by constructing viewing areas and displaying information about the project, and help ensure the elements of CM1 would not conflict with the elements proposed in DPR's Recreation Proposal for the Sacramento–San Joaquin Delta and Suisun Marsh to enhance bicycle and foot access to the Delta. This would include constructing elements of the American Discovery Trail and the potential conversion of the abandoned Southern Pacific Railroad rail line that formerly connected Sacramento to Walnut Grove.

Construction activities carried out under this environmental commitment could cause environmental effects related to ground disturbance, instream construction activities, and generation of noise and emissions.

#### Ground Disturbance

Construction activities related to constructing viewing sites and converting the abandoned Southern Pacific Railroad rail line would result in ground disturbances that could adversely affect terrestrial biological resources or natural communities in the Plan Area. It is assumed that impacts related to the potential conversion of the abandoned Southern Pacific Railroad rail line would addressed under its own CEQA/NEPA environmental document, and these impacts are not specifically addressed further here.

Ground disturbance effects would be similar to those described in Section 31.5.1.1 but would occur over small areas at multiple different locations. Provisions to avoid, reduce, and minimize these effects on the environment would also be similar. Examples of these provisions include AMM1, AMM2, AMM10, and AMM11, *Covered Plant Species*. With applicable AMMs, other environmental commitments (i.e., HMMP, SPCCP, and SWPPs), and mitigation measures described in Chapter 12, *Terrestrial Biological Resources* (e.g. Mitigation Measure BIO-55: *Conduct preconstruction surveys for noncovered special-status reptiles and implement applicable CM22 measures*; Mitigation Measure BIO-75a*: Conduct preconstruction nesting bird surveys and avoid disturbance of nesting birds*); and other species-specific measures to avoid and minimize impacts, potential effects would not be adverse.

#### Instream Construction

Instream construction activities, if required, could result in turbidity, accidental spills of hazardous materials, disturbance of contaminated sediment, and underwater noise. These activities could cause effects on fish and aquatic resources. Risk of fish stranding, loss of spawning, rearing or

migration habitat, and predation are likely to be negligible because of the small areas affected and short duration of construction. Adverse effects on covered fish species would be minimized and reduced by limiting the duration of in-water construction activities and by implementing environmental commitments such as conducting environmental training, and SWPPPs; HMMPs; an erosion and sediment control plan; a SPCCP; and a fish rescue and salvage plan. Relevant AMMs would also be implemented to reduce these effects (e.g., AMM3, AMM4, AMM5, AMM8, and AMM32 [see Chapter 3, *Description of Alternatives*, for detail]).

#### Noise

Noise effects on sensitive receptors and land uses, fish, and wildlife would be similar to those described in Section 31.5.1.1 and 31.5.1.2. As those sections describe, all applicable AMMs, environmental commitments, and mitigation measures would be implemented to avoid, reduce, or minimize potential adverse effects related to noise. Furthermore, construction at any particular site would be short-term.

#### Air Quality

Construction of wildlife viewing sites and trail enhancements could involve the use of earthmoving equipment and vehicles for transporting materials and workers. Moving earth could create fugitive dust. However, due to the location, and nature of construction, the intensity of this type of construction activity would be low, and the duration of construction would be short-term for any individual site requiring this work. In addition, the BDCP proponents will implement environmental commitments develop and implement a construction equipment exhaust reduction plan to reduce criteria air pollutants and GHG emissions from construction equipment, and will implement fugitive dust control measures to reduce construction-related fugitive dust. These environmental commitments and related AMM35 and Mitigation Measures AQ-18 and AQ-15 would help reduce GHG emissions. Further, the following mitigation measures would be implemented, as applicable according to the air district(s) in which effects may occur: Mitigation Measures AQ-2a, AQ-2b, AQ-3a, AQ-3b, AQ-4a, and AQ-4b (see Section 31.5.1.2, as well as Chapter 22, *Air Quality and Greenhouse Gas Emissions* for details.)

***NEPA Effects***: In summary, construction activities carried out under this environmental commitment could cause environmental effects related to ground disturbance, instream construction activities, and generation of noise and emissions. However, because of the small areas affected, short duration of construction, and implementation of AMMs, environmental commitments and mitigation measures discussed above, the effects would be not adverse.

***CEQA Conclusion:*** Construction activities carried out under this environmental commitment could cause significant environmental impacts related to ground disturbance, instream construction activities, and generation of noise and emissions. Because of the small areas affected, short duration of construction, and implementation of AMMs, environmental commitments and mitigation measures, impacts would be less than significant.

## 31.5.2 Mitigation Measures

The mitigation measures with potential for significant environmental effects under CEQA or adverse effects under NEPA are discussed below. These mitigation measures are described in the associated resource chapter.

### 31.5.2.1 Mitigation Measure SOILS-2b: Salvage, Stockpile, and Replace Topsoil and Prepare a Topsoil Storage and Handling Plan

Under this mitigation measure, up to 3 feet of the topsoil will be salvaged from construction work areas, stockpiled, and then applied over the surface of spoil and reusable tunnel material storage sites and borrowed areas.

Activities associated with this mitigation measure could cause environmental effects through ground disturbances, noise, air quality pollutants and emissions, traffic, and alteration of drainage patterns, as discussed below.

#### Ground Disturbances

Ground disturbances would result from activities such as excavating topsoil, transporting topsoil, and applying and grading topsoil. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing applicable AMMs.

#### Noise

Increased noise would result from the operation of excavation equipment, both at the excavation site and the application site, and from haul trucks. Excavation equipment and haul trucks would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., Swainson's hawk, riparian brush rabbit, and California red-legged frog) to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutant emissions would result from the operation of excavation equipment, both at the excavation site and the application site, and haul trucks. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as related AMMs and environmental commitments, as described in Section 31.5.1.2, would be available to address criteria pollutant and GHG emissions.

#### Traffic

Increased traffic volumes would result from haul truck trips. As described in Impact TRANS-1 in Chapter 19, *Transportation*, Mitigation Measures TRANS-1a, TRANS-1b and TRANS-1c would be available to reduce the severity of this effect, if all improvements required to avoid significant impacts are feasible and all necessary agreements are completed.

#### Drainage

Alteration of drainage patterns would result from the placement of topsoil. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff.

Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measure SOILS-2b would potentially adversely affect the environment through ground disturbances, generation of emissions, traffic, and alteration of drainage patterns. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Increased traffic volume effects would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be adverse. Drainage effects from the placement of topsoil would be reduced by implementing mitigation measures. Overall, effects of Mitigation Measure SOILS-2b would not be adverse.

***CEQA Conclusion:*** Activities required as part of implementing Mitigation Measure SOILS-2b would potentially significantly impact the environment through ground disturbances, generation of noise and emissions, traffic, and alteration of drainage patterns. As previously described, ground disturbance impacts would be reduced by implementing AMMs, and thus would be less than significant. Similarly, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Increased traffic volume impacts would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be significant. Alteration of drainage patterns from the placement of topsoil would be reduced by implementing mitigation measures. Overall, this impact would be less than significant.

#### 31.5.2.2 Mitigation Measure BIO-91: Compensate for Loss of High-Value Western Burrowing Owl Habitat

Under this mitigation measure, loss of high-value burrowing owl habitat will be compensated with high-value grassland or high-value cultivated crop types for the species in the near-term at a ratio of 2:1. ***NEPA Effects:*** Implementation of this mitigation measure could result in the conversion of Important Farmland to grassland, resulting in adverse effects. Further evaluation of these effects would depend on additional information relating to the location of the lands being converted. Implementation of Mitigation Measure AG-1, *Develop an Agricultural Lands Stewardship Plan (ALSP) to Preserve Agricultural Productivity and Mitigate for Loss of Important Farmland and Land Subject to Williamson Act Contracts or in Farmland Security Zones*, would reduce the severity of this effect. The BDCP proponents shall develop ALSPs prior to the commencement of any construction activities or other physical activities that would involve adverse effects on Important Farmland or land subject to Williamson Act contracts or in Farmland Security Zones. A draft ALSP shall be included with any publicly circulated environmental document for the proposed conservation measure or project activity in order to obtain public input. Further, BDCP proponents would, where available and feasible, choose lower grade farm land rather than convert Important Farmland for western burrowing owl habitat.

***CEQA Conclusion:*** Under this mitigation measure, Important Farmland could be converted to grassland. Further evaluation of these impacts would depend on additional information relating to the location of the lands being converted. Implementation of Mitigation Measure AG-1, *Develop an Agricultural Lands Stewardship Plan (ALSP) to Preserve Agricultural Productivity and Mitigate for Loss of Important Farmland and Land Subject to Williamson Act Contracts or in Farmland Security Zones*, would further address potential impacts. BDCP proponents shall develop ALSPs prior to the commencement of any construction activities or other physical activities that would involve significant impacts on Important Farmland or land subject to Williamson Act contracts or in Farmland Security Zones. A draft ALSP shall be included with any publicly circulated environmental document for the proposed conservation measure or project activity in order to obtain public input. Further, BDCP proponents would, where available and feasible, choose lower-quality farmland rather than convert Important Farmland for western burrowing owl habitat. However, depending on the feasibility of applying Mitigation Measure AG-1, the availability of lower-quality farmland for conversion, and the areal extent of Important Farmland required, it is possible that impacts would be significant and unavoidable.

### 31.5.2.3 Mitigation Measure BIO-130: Compensate for Loss of Nesting Habitat for Grasshopper Sparrow

Under this mitigation measure, impacts on grassland habitat will be compensated for at a ratio of 1:1 for restoration or 2:1 for protection of grassland in the near-term timeframe. Impacts to irrigated pasture will be compensated for at a ratio of 2:1 for protection of grassland or irrigated pasture in the near-term timeframe.

***NEPA Effects****:* Implementation of this mitigation measure could result in the conversion of Important Farmland to grassland, resulting in adverse effects. Further evaluation of these impacts would depend on additional information relating to the location of the lands being converted. Implementation of Mitigation Measures AG-1 and AMMs would reduce the severity of this effect, as described above in Section 31.5.2.2. Further, BDCP proponents would, where available and feasible, choose lower grade farmland rather than convert Important Farmland for grasshopper sparrow habitat.

***CEQA Conclusion:*** Under this mitigation measure, Important Farmland could be converted to grassland. Further evaluation of these impacts would depend on additional information relating to the location of the lands being converted. Implementation of Mitigation Measure AG-1, as described above in Section 31.5.2.2. would reduce the severity of this effect. Further, BDCP proponents would, where available and feasible, choose lower-quality farmland rather than convert Important Farmland for grasshopper sparrow habitat. However, depending on the feasibility of applying Mitigation Measure AG-1, the availability of lower-quality farmland for conversion, and the areal extent of Important Farmland required, it is possible that impacts would be significant and unavoidable.

### 31.5.2.4 Mitigation Measure BIO-138: Compensate for Loss of High-Value Loggerhead Shrike Habitat

Under this mitigation measure, impacts on loggerhead shrike high-value grassland habitat must be compensated at a ratio of either 1:1 for restoration or 2:1 for protection. In addition, of the 14,600 acres of cultivated lands protected in the near-term, sufficient acres must be managed in irrigated

pasture or grain and hay crops, such that the total acres of high-value cultivated lands impacted in the near-term are compensated at a ratio of 2:1 for protection of equal-value habitat.

***NEPA Effects****:* Implementation of this mitigation measure could result in the conversion of Important Farmland to grassland. Further evaluation of these impacts would depend on additional information relating to the location of the lands being converted. Implementation of Mitigation Measures AG-1 and AMMs would reduce the severity of this effect, as described above in Section 31.5.2.2. Further, BDCP proponents would, where available feasible, choose lower-quality farmland rather than convert Important Farmland for loggerhead shrike habitat.

***CEQA Conclusion:*** This mitigation measure could convert Important Farmland to grassland. Further evaluation of these impacts would depend on additional information relating to the location of the lands being converted. Implementation of Mitigation Measure AG-1, as described above in Section 31.5.2.2, would reduce the severity of this effect. Further, BDCP proponents would, where available and feasible, choose lower-quality farmland rather than convert Important Farmland for loggerhead shrike habitat. However, depending on the feasibility of applying Mitigation Measure AG-1, the availability of lower-quality farmland for conversion, and the areal extent of Important Farmland required, it is possible that impacts would be significant and unavoidable.

### 31.5.2.5 Mitigation Measure BIO-179a: Conduct Food Studies and Monitoring for Wintering Waterfowl in Suisun Marsh

Under this mitigation measure, poorly managed wetlands (considered low biomass and food quality) will be identified and managed to improve food quality and biomass. Based on food studies and monitoring of these wetlands, it will be determined if the minimum commitment of 5,000 acres is sufficient to meet the goal of 1:1 compensation for loss of wintering waterfowl habitat with the protection and management of managed wetlands in perpetuity. If monitoring demonstrates that additional acreage is needed to meet this goal, additional acreage of protection or creation of managed wetlands and management will be required.

Activities associated with this mitigation measure could cause environmental effects through conversion of Important Farmland, generation of noise and emissions, and alterations in drainage patterns, as discussed below.

#### Agricultural Land

Environmental effects would result from the conversion of agricultural land to managed seasonal wetlands, which would occur if monitoring demonstrates that additional acreage of managed wetlands is needed. Further evaluation of these effects would depend on additional information relating to the location of the lands being converted. Implementation of Mitigation Measures AG-1 and AMMs would reduce the severity of this effect, as described above in Section 31.5.2.2. Further, BDCP proponents would, where available and feasible, choose lower-quality farmland or farmland with lower habitat values, rather than convert Important Farmland or farmland of higher habitat value for wintering waterfowl habitat.

#### Noise

The creation or construction of new wetlands would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., Swainson's hawk, riparian brush rabbit, and California red-legged frog) to excessive noise as a result of

operating excavation, and potentially other types of construction equipment. However, noise-related would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of construction equipment. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measures AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments described in Section 31.5.1.2, would be available to address criteria pollutant and GHG emissions.

#### Drainage

Alteration of drainage patterns would result from grading and constructing embankments and berms, which could result in local (onsite) ponding, erosion and siltation, and changes in runoff flow rates and velocities. As described in Section 31.5.1.2, implementation of AMM3 and AMM4, as well as environmental commitment measures implemented by the BDCP proponents as part of erosion and sediment control plans and SWPPPs would avoid or minimize erosion and siltation effects. In addition, the implementation of Mitigation Measure SW-4 would require that BDCP proponents implement measures to prevent an increase in runoff volume and rate from land-side construction areas and to prevent an increase in sedimentation in the runoff from the construction area.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measure BIO-179a may cause adverse environmental effects through conversion of agricultural land, noise, air quality, and drainage. As previously described, agricultural land conversion effects may be adverse but AMMs and mitigation measures are available to address these effects. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Drainage effects from grading and constructing embankments and berms would be reduced by implementing mitigation measures.

***CEQA Conclusion:*** Activities required as part of implementing Mitigation Measure BIO-179a would potentially significantly impact the environment through ground disturbances, noise, air quality, and alteration of drainage patterns. Noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Drainage effects from grading and constructing embankments and berms would be reduced by implementing mitigation measures. Overall, these impacts would be less than significant. As previously described, impacts from the conversion of agricultural land to wetlands would be reduced by implementing AMMs and mitigation measures. However, depending on the feasibility of applying Mitigation Measure AG-1, the availability of lower-quality farmland for conversion, and the areal extent of land required, it is possible that impacts relating to agricultural land conversion would be significant and unavoidable.

### 31.5.2.6 Mitigation Measure BIO-179b: Conduct Food Studies and Monitoring to Demonstrate Food Quality of Palustrine Tidal Wetlands in the Yolo and Delta Basins

Under this mitigation measure, food studies and monitoring will be conducted to demonstrate the food quality of palustrine tidal habitats in these basins. If studies show that the assumption of no effect as a result of replacement of managed seasonal wetland with palustrine tidal habitats was inaccurate, and the food quality goal of 1:1 compensation for wintering waterfowl habitat is not met, additional acreage of protection or creation of managed wetland and management will be required.

Activities associated with this mitigation measure would cause environmental effects through conversion of agricultural land, noise, air quality pollutants and emissions, and drainage, as discussed below.

#### Agricultural Land

Environmental effects would result from the conversion of agricultural land to managed seasonal wetlands if monitoring demonstrates that additional acreage is needed. Further evaluation of these effects would depend on additional information relating to the location of the lands being converted. Implementation of AMM 2, *Construction Best Management Practices and Monitoring*, and Mitigation Measures AG-1, *Develop an Agricultural Lands Stewardship Plan (ALSP) to Preserve Agricultural Productivity and Mitigate for Loss of Important Farmland and Land Subject to Williamson Act Contracts or in Farmland Security Zones*, will further reduce potential effects. AMM2 includes standard practices and measures that would be implemented prior, during, and post-construction to avoid or minimize effects of ground disturbing activities on sensitive resources like natural communities. Mitigation Measure AG-1 requires BDCP proponents to develop Agricultural Lands Stewardship Plans (ALSPs) prior to the commencement of any construction activities or other physical activities that would involve adverse effects on Important Farmland or land subject to Williamson Act contracts or in Farmland Security Zones. A draft ALSP shall be included with any publicly circulated environmental document for the proposed conservation measure or project activity in order to obtain public input. Additionally, BDCP proponents would, where available and feasible, choose lower-quality farmland or farmland with lower habitat values rather than convert Important Farmland or land of higher habitat value for wintering waterfowl habitat.

#### Noise

Monitoring wetlands and constructing new wetlands, if needed, would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., Swainson's hawk, riparian brush rabbit, and California red-legged frog) to excessive noise as a result of operating excavation equipment. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of excavation equipment. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs

and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutants and GHG emissions.

**Drainage**

Alteration of drainage patterns would result from grading and constructing embankments and berms. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff. Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measure BIO-179b may cause adverse environmental effects through conversion of agricultural land, noise, air quality, and alteration of drainage patterns. As previously described, agricultural land conversion effects may be adverse but AMMs and mitigation measures are available to address these effects. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Drainage effects from grading and constructing embankments and berms would be reduced by implementing mitigation measures.

***CEQA Conclusion:*** Activities required as part of implementing Mitigation Measure BIO-179b would potentially significantly impact the environment through ground disturbances, noise, air quality, and alteration of drainage patterns. Noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Drainage effects from grading and constructing embankments and berms would be reduced by implementing mitigation measures. Overall, these impacts would be less than significant. As previously described, impacts from the conversion of agricultural land to wetlands would be reduced by implementing AMMs and mitigation measures. However, depending on the feasibility of applying Mitigation Measure AG-1, the availability of lower-quality farmland for conversion, and the areal extent of land required, it is possible that impacts relating to agricultural land conversion would be significant and unavoidable.

### 31.5.2.7 Mitigation Measure AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to Preserve Agricultural Productivity and Mitigate for Loss of Important Farmland and Land Subject to Williamson Act Contracts or in Farmland Security Zones

Under this mitigation measure, the BDCP proponents will develop Agricultural Lands Stewardship Plans (ALSPs), as described in Chapter 14, *Agricultural Resources*.

Activities associated with this mitigation measure, such as removing and stockpiling topsoil and replacing topsoil after project completion; making topsoil available to less productive agricultural lands, and relocating or replacing wells, pipelines and other infrastructure, would cause environmental effects through ground disturbance, noise, air quality pollutants and emissions, traffic volumes, and drainage, as discussed below.

**Ground Disturbances**

Ground disturbances would result from activities such as excavating topsoil, transporting topsoil, and applying and grading topsoil; making topsoil available to less productive agricultural lands; and relocating or replacing wells, pipelines, power lines, drainage systems, and other infrastructure. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures.

**Noise**

Increased noise would result from the operation of excavation equipment and haul trucks related to topsoil, both at the excavation site and the application site, as well as from construction equipment required to relocate or replace wells, pipelines, power lines, drainage systems, and other infrastructure. Excavation equipment and haul trucks would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., Swainson's hawk, riparian brush rabbit, and California red-legged frog) to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

**Air Quality**

Increased GHGs and criteria pollutants would result from the operation of excavation equipment, both at the excavation site and the application site, and haul trucks. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

**Traffic**

Increased traffic volumes would result from haul truck trips. As described in Impact TRANS-1 in Chapter 19, *Transportation*, Mitigation Measures TRANS-1a, TRANS-1b and TRANS-1c would be available to reduce the severity of this effect, if all improvements required to avoid significant impacts are feasible and all necessary agreements are completed.

**Drainage**

Alteration of drainage patterns would result from the placement of topsoil. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff. Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

***NEPA Effects***: In summary, activities required as part of implementing Mitigation Measure AG-1 would potentially adversely affect the environment through ground disturbances, noise, air quality, traffic, and drainage. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. However, because the precise locations of wells and other infrastructure that may need to be

replaced have not yet been identified and because it is not known whether these mitigation measures will be able to reduce construction noise to levels below applicable thresholds at all locations, noise may result in adverse effects. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Increased traffic volume effects would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be adverse. Drainage effects from the placement of topsoil would be reduced by implementing mitigation measures. Overall, effects of Mitigation Measure AG-1 would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measure AG-1 would potentially significantly affect the environment through ground disturbances, noise, air quality, traffic, and drainage. As previously described, ground disturbance impacts would be reduced by implementing AMMs, and thus would not likely be significant. Similarly, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. However, because the precise locations of wells and other infrastructure that may need to be replaced have not yet been identified and because it is not known whether these mitigation measures will be able to reduce construction noise to levels below applicable thresholds at all locations, noise may result in significant impacts. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Increased traffic volume impacts would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be significant. Drainage impacts from the placement of topsoil would be reduced by implementing mitigation measures. Overall, impacts of Mitigation Measure AG-1 would be less than significant.

#### 31.5.2.8 Mitigation Measure GW-5: Agricultural Lands Seepage Minimization

Under this mitigation measure, areas potentially subject to seepage caused by implementation of habitat restoration and enhancement actions or operation of water conveyance facilities will be evaluated on a site-specific basis by BDCP proponents prior to the commencement of construction activities to identify baseline groundwater conditions. In areas where operation of water conveyance facilities or habitat restoration is determined to result in seepage impacts on adjacent parcels, potentially feasible additional mitigation measures will be developed in consultation with affected landowners.

This mitigation measure would cause environmental effects through noise, air quality pollutants and emissions, and drainage, as discussed below.

**Noise**

Installing or improving subsurface agricultural drainage, as well as pumping, would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., Swainson's hawk, riparian brush rabbit, and California red-legged frog) to excessive noise as a result of operating excavation equipment. However, general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1, would be available to address noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species.

**Air Quality**

Increased GHGs and criteria pollutants would result from the operation of equipment used to install or improve subsurface agricultural drainage, as well as pumping. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

**Drainage**

Alteration of drainage patterns would result from installing drainage and pumping. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff. Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measure GW-5 may cause adverse environmental effects related to noise, air quality, and drainage. As previously described, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Drainage effects from installing drainage and pumping would be reduced by implementing mitigation measures. However, because the precise locations of seepage impacts that would require drainage and pumping have not yet been identified and because it is not known whether these mitigation measures will be able to reduce construction noise to levels below applicable thresholds at all locations, these activities may result in adverse effects.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measures GW-5 would cause environmental impacts through noise, air quality, and drainage. As previously described, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Drainage impacts from installing drainage and pumping would be reduced by implementing mitigation measures. However, because the precise locations of seepage impacts that would require drainage and pumping have not yet been identified and because it is not known whether these mitigation measures will be able to reduce construction noise to levels below applicable thresholds at all locations, these activities may result in impacts that are significant and unavoidable.

### 31.5.2.9 Mitigation Measure GW-7: Provide an Alternate Source of Water

For areas that will be on or adjacent to implemented restoration components, groundwater quality will be monitored by BDCP proponents prior to implementation to establish baseline groundwater quality conditions. Unacceptable degradation of groundwater quality will be determined by comparing post-implementation groundwater quality to relevant regulatory standards and with consideration of previously established beneficial uses. For wells affected by degradation in groundwater quality, water of a quality comparable to pre-project conditions would be provided. Options for replacing the water supply could include drilling an additional well or a deeper well to

an aquifer zone with water quality comparable to or better than preconstruction conditions or replacement of potable water supply.

Activities associated with this mitigation measure, such as monitoring groundwater quality and drilling additional or deeper wells would cause environmental effects through ground disturbance, noise, air quality pollutants and emissions, and traffic volumes, as discussed below.

#### Ground Disturbances

Ground disturbances would potentially result from drilling additional or deeper wells. Construction activities are anticipated to be localized and would not result in change in land uses. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures.

#### Noise

The well drilling activities would potentially result in short-term noise impacts for several days. Depending on the location, excavation equipment would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., Swainson's hawk, riparian brush rabbit, and California red-legged frog) to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of drilling equipment. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

#### Traffic

Increased traffic volumes would result from construction and drilling equipment. As described in Impact TRANS-1 in Chapter 19, *Transportation*, Mitigation Measures TRANS-1a, TRANS-1b and TRANS-1c would be available to reduce the severity of this effect, if all improvements required to avoid significant impacts are feasible and all necessary agreements are completed.

***NEPA Effects***: In summary, activities required as part of implementing Mitigation Measure GW-7 would potentially adversely affect the environment through ground disturbances, noise, air quality, and traffic. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Increased traffic volume effects would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be adverse. Overall, effects of Mitigation Measure GW-7 would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measure GW-7 would potentially significantly affect the environment through ground disturbances, noise, air quality, and traffic. As previously described, ground disturbance impacts would be reduced by implementing AMMs, and thus would not likely be significant. Similarly, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Increased traffic volume impacts would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be significant. Overall, impacts of Mitigation Measure GW-7 would be less than significant.

### 31.5.2.10 Mitigation Measure REC-2: Provide Alternative Bank Fishing Access Sites

Under this mitigation measure, to compensate for the loss of informal fishing access sites during construction, the BDCP proponents will enhance nearby formal fishing access sites. As part of design of the intakes, the BDCP proponents will ensure that public access to the Sacramento River, including fishing access, will be incorporated into the design of the intakes. The access sites will be placed a reasonable distance from the intake to ensure the safety of recreationists and to compensate for the loss that would occur as a result of constructing the intakes.

Activities associated with this mitigation measure, such as improving public access to the Sacramento River, constructing improvements such as bathrooms, parking lots, and boat ramps, and modifying levees would cause environmental effects through noise, air quality pollutants and emissions, drainage, sedimentation, and disruption of recreation access, as discussed below.

#### Noise

Improving access to the Sacramento River, constructing improvements of facilities, and modifying levees would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas), and covered species (e.g., terrestrial and aquatic) to noise as a result of operating construction equipment. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of equipment used for construction of recreational improvements. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

#### Drainage

Alteration of drainage patterns would result from grading and construction. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff.

Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

**Sedimentation**

Grading and construction near the shoreline could cause environmental effects to fish related to sedimentation, turbidity, and disturbance of contaminated sediment. Adverse effects on fish from increases in turbidity during in- or near-water construction and maintenance activities would be minimized through adherence to applicable federal, state, and local regulations; project-specific designs; BMPs; AMMs, and environmental commitments. AMM1 *Worker Awareness Training* would educate construction personnel on the types of sensitive resources in the project area, the applicable environmental rules and regulations, and the measures required to avoid and minimize effects on these resources. AMM2 *Construction Best Management Practices and Monitoring* would develop practices and measures to be implemented to avoid or minimize effects of construction activities on sensitive resources (e.g., species, habitat), and monitoring protocols for verifying the protection provided by the implemented measures. AMM4 *Erosion and Sediment Control Plan* would develop a plan as part of the National Pollutant Discharge Elimination System permitting process for ground-disturbing projects, to control short-term and long-term erosion and sedimentation effects of a project and to restore soils and vegetation in areas affected by construction activities. AMM8 *Fish Rescue and Salvage Plan* would prepare and implement a plan to avoid or minimize the stranding of fish during construction activities, particularly the potential entrapment of fish during cofferdam construction. The plan identifies the appropriate procedures for excluding fish from the construction zones and procedures for removing and handling fish should they become trapped. Environmental commitments would develop and implement erosion and sediment control plans, control fugitive dust, and dispose of and reuse spoils and dredged material. These commitments and plans are intended to avoid, prevent or minimize turbidity (e.g., implementation of site-specific erosion and sediment control plans).

**Access**

Construction of improvements and facilities could cause temporary effects by disrupting recreation access. This mitigation measure would provide adequate signage directing anglers to formal fishing sites while bank access is limited due to construction. Overall this mitigation measure would provide benefits to recreation by expanding recreation areas. Additionally, environmental commitments and Mitigation Measure TRANS-1a would reduce these effects. DWR would provide and publicize alternative modes of access to affected recreation areas as an environmental commitment. Mitigation Measure TRANS-1a would involve preparation of site-specific construction traffic management plans that would address potential public access routes and provide construction information notification to local residents and recreation areas/businesses.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measures REC-2 would cause environmental effects through noise, air quality, drainage, and sedimentation. As previously described, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Drainage effects from grading and construction would be reduced by implementing AMMs and mitigation measures. Sedimentation effects would be reduced by implementing mitigation measures, AMMs, and environmental effects. Overall, effects of Mitigation Measure REC-2 would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measures REC-2 would cause environmental impacts through noise, air quality, drainage, and sedimentation. As previously described, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Drainage impacts from grading and construction would be reduced by implementing AMMs and mitigation measures. Sedimentation impacts would be reduced by implementing mitigation measures, AMMs, and environmental commitments. Overall, impacts of Mitigation Measure REC-2 would be less than significant.

### 31.5.2.11 Mitigation Measure REC-6: Provide a Temporary Alternative Boat Launch to Ensure Access to San Luis Reservoir

Under this mitigation measure, DWR and Reclamation will work with DPR to establish a boat ramp extension at or near the Basalt boat launch or other alternative boat ramp site at San Luis Reservoir to maintain reservoir access in years when access becomes unavailable.

Constructing a boat launch under this mitigation measure could cause environmental effects through ground disturbance, noise, air quality pollutants and emissions, sedimentation, disruption of recreation access.

#### Ground Disturbances

Ground disturbances would result from construction activities. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures.

#### Noise

Constructing the boat launch would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas), and covered species (e.g., terrestrial and aquatic) to excessive noise as a result of operating construction equipment. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of equipment used for construction of recreational improvements. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

#### Sedimentation

Construction near the shoreline could cause environmental effects to fish related to sedimentation, turbidity, and disturbance of contaminated sediment. Adverse effects on fish from increases in

turbidity during in- or near-water construction and maintenance activities would be minimized through adherence to applicable federal, state, and local regulations; project-specific designs; BMPs; AMMs, and environmental commitments, as described in Section 31.5.2.10. These commitments and plans are intended to avoid, prevent or minimize turbidity (e.g., implementation of site-specific erosion and sediment control plans).

**Access**

Construction of improvements and facilities could cause temporary effects by disrupting recreation access. This mitigation measure would provide adequate signage directing anglers to formal fishing sites while bank access is limited due to construction. Overall this mitigation measure would provide benefits to recreation by ensuring continued access to existing recreational facilities. Additionally, environmental commitments and mitigation measures would reduce these effects, as described in Section 31.5.2.10.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measures REC-6 would cause environmental effects through noise, air quality, sedimentation, and disruption of recreation access. As previously described, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Sedimentation effects would be reduced by implementing mitigation measures, AMMs, and environmental effects. Disruptions to recreation access would be minimized by mitigation measures and environmental commitments. Overall, effects of Mitigation Measure REC-6 would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measures REC-6 would cause environmental impacts through noise, air quality, sedimentation, and disruption of recreation access. As previously described, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Sedimentation impacts would be reduced by implementing mitigation measures, AMMs, and environmental commitments. Disruptions to recreation access would be minimized by mitigation measures and environmental commitments. Overall, impacts of Mitigation Measure REC-6 would be less than significant.

### 31.5.2.12 Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New Transmission Lines and Underground Transmission Lines Where Feasible

Under this mitigation measure, BDCP proponents will make site-specific design decisions to locate new transmission lines and access routes to minimize effects on vegetation where feasible. Various measures, such as siting new transmission lines in existing transmission corridors and avoiding clearing large swaths of vegetation, will be taken to minimize aesthetic effects. Undergrounding transmission lines will not be used where implementation would constitute an adverse effect on sensitive habitats or sensitive species that would outweigh the reduction of visual effects.

Trenching for underground placement of transmission lines under this mitigation measure could cause environmental effects through noise, air quality pollutants and emissions, drainage alterations, and damage to cultural and paleontological resources.

#### Noise

Trenching for the underground placement of transmission lines would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas), and covered species (e.g., terrestrial and aquatic) to excessive noise as a result of operating construction equipment. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of equipment used for trenching for the underground placement of transmission lines. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

#### Drainage

Alteration of drainage patterns would result from trenching for the underground placement of transmission lines. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff. Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation

#### Cultural Resources

Effects on cultural resources could result from trenching for the underground placement of transmission lines. This effect could be adverse because construction damage may impair the integrity of resources determined to be historical resources and thus reduce their ability to convey their significance. Mitigation Measure CUL-1: *Prepare a Data Recovery Plan and Perform Data Recovery Excavations on the Affected Portion of the Deposits of Identified and Significant Archaeological Sites* would be available to address this affect, but would not guarantee that all of the scientifically important material would be retrieved because feasible archaeological excavation only typically retrieves a sample of the deposit, and portions of the site with important information may remain after treatment.

#### Paleontological Resources

Effects on paleontological resources could result from trenching for the underground placement of transmission lines. The ground-disturbing activities that occur in geologic units sensitive for paleontological resources have the potential to damage or destroy those resources. Direct or indirect destruction of significant paleontological resources, as described in Chapter 27, *Paleontological Resources*, would represent an adverse effect because conveyance facility construction could directly or indirectly destroy unknown paleontological resources in geologic units known to be sensitive for these resources. However, any transmission lines constructed

underground under this mitigation measure would be anticipated to be installed at a relatively shallow depth, and would be unlikely to affect paleontological resources. The shallow excavation and grading in surficial Holocene deposits that would likely take place for the construction of underground transmission lines could be addressed through implementation of Mitigation Measures PALEO-1b and 1d. Mitigation Measure PALEO-1a: *Prepare a Monitoring and Mitigation Plan for Paleontological Resources* would require BDCP proponents to retain a qualified paleontologist or geologist (as defined by the SVP Standard Procedures [Society of Vertebrate Paleontology 2010]) to develop a comprehensive Paleontological Resources Monitoring and Mitigation Plan (PRMMP) for the BDCP prior to construction, to help avoid directly or indirectly destroying a unique or significant paleontological resource. Mitigation Measure PALEO-1b: *Review 90% Design Submittal and Develop Specific Language Identifying How the Mitigation Measures Will Be Implemented along the Alignment* would require BDCP proponents to have a qualified individual review the 90% design submittal to finalize the identification of construction activities involving geologic units considered highly sensitive for paleontological resources.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measures AES-1a would have the potential to cause environmental effects through noise, air quality, drainage, and effects on cultural and paleontological resources. As previously described, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Drainage effects would be reduced by implementing AMMs and mitigation measures. Effects on cultural and paleontological resources would be minimized with implementation of mitigation measures. Overall, effects of Mitigation Measure AES-1a would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measures AES-1a would cause environmental impacts through noise, air quality, drainage, and effects on cultural and paleontological resources. As previously described, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Drainage impacts from trenching would be reduced by implementing AMMs and mitigation measures. Effects on cultural resources would be minimized with implementation of Mitigation Measure CUL-1, however, this would not guarantee that all of the scientifically important material would be retrieved because feasible archaeological excavation only typically retrieves a sample of the deposit, and portions of the site with important information may remain after treatment. Therefore, with respect to cultural resources, implementation of this measure has the potential to result in a significant and unavoidable impact.

### 31.5.2.13 Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel Material Area Management Plan

The BDCP proponents will develop and implement a spoil/borrow and RTM area management plan consistent with the environmental commitment to reduce the extent of negative visual alteration of existing visual quality or character of spoil, and especially borrow, sites from construction through remediation of terrain, revegetation, and other practices as described below. This mitigation

measure will complement and is related to activities described under Mitigation Measure SOILS-2b, Chapter 10, *Soils*. The purpose of this measure is to prevent flattened, highly regular, or engineered slopes, with the exception to grading if the intended use of the site is agriculture.

***NEPA Effects:*** The activities associated with this mitigation measure that could cause environmental effects and the effects that would result would be the same as those described in Section 31.5.2.1 for Mitigation Measure SOILS-2b: *Salvage, Stockpile, and Replace Topsoil and Prepare a Topsoil Storage and Handling Plan.*

In summary, activities required as part of implementing Mitigation Measure AES-1c would potentially adversely affect the environment through ground disturbances, noise, air quality, traffic, and drainage. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Increased traffic volume effects would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be adverse. Drainage effects from the placement of topsoil would be reduced by implementing mitigation measures. Overall, the effect would not be adverse.

***CEQA Conclusion:*** Activities required as part of implementing Mitigation Measure AES-1c would potentially significantly impact the environment through ground disturbances, noise, air quality, traffic, and drainage. As previously described, ground disturbance impacts would be reduced by implementing AMMs, and thus would be less than significant. Similarly, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Increased traffic volume impacts would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be significant. Drainage effects from the placement of topsoil would be reduced by implementing mitigation measures. Overall, the impact would be less than significant.

### 31.5.2.14 Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned

Under this mitigation measure, the BDCP proponents will restore barge unloading facility sites to preconstruction conditions once the facilities are decommissioned and removed to minimize the impact on visual quality and character at these sites.

Activities associated with this mitigation measure, such as grading facility sites and replacing plantings, could cause environmental effects through noise, air quality pollutants and emissions, drainage alterations, and sedimentation.

#### Noise

Operating excavating equipment would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., terrestrial

and aquatic species) to excessive noise as a result of operating excavation equipment. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from operating excavating equipment. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

#### Drainage

Alteration of drainage patterns would result from grading and planting. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff. Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

#### Sedimentation

Excavation near the shoreline could cause environmental effects to fish related to sedimentation, turbidity, and disturbance of contaminated sediment. Adverse effects on fish from increases in turbidity during in- or near-water construction and maintenance activities would be minimized through adherence to applicable federal, state, and local regulations; project-specific designs; BMPs; AMMs, and environmental commitments, as described in Section 31.5.2.10. These commitments and plans are intended to avoid, prevent or minimize turbidity (e.g., implementation of site-specific erosion and sediment control plans).

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measures AES-1d would cause environmental effects through noise, air quality, drainage, and sedimentation. As previously described, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Drainage effects would be reduced by implementing mitigation measures. Sedimentation effects would be reduced by implementing mitigation measures, AMMs, and environmental effects. Overall, effects of Mitigation Measure AES-1d would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measures AES-1d would cause environmental impacts through noise, air quality, drainage, and sedimentation. As previously described, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Drainage impacts from grading and planting would be reduced by implementing mitigation measures. Sedimentation impacts would be reduced by implementing mitigation measures, AMMs, and environmental commitments. Overall, impacts of Mitigation Measure AES-1d would be less than significant.

### 31.5.2.15 Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the Extent Feasible

Under this mitigation measure, the BDCP proponents will use aesthetic design treatments to minimize the impact on existing visual quality and character in the study area associated with the introduction of water conveyance structures.

Activities associated with this mitigation measure, such as painting structures and implementing aesthetic design features at concrete or shotcrete structures, could cause environmental effects through release of hazardous materials or accidental spills.

#### Release of Hazardous Materials

***NEPA Effects:*** Painting structures and implementing aesthetic design features at concrete or shotcrete structures would require the use of vehicles and or heavy equipment. The use, and/or onsite maintenance of this equipment could result in inadvertent spills or leaks of hazardous chemicals, such as paints or solvents, as described in Section 31.5.1.1. Because these chemicals would be used in small quantities and inadvertent releases would be localized, and because environmental commitment measures implemented as part of the Hazardous Material Management Plans (HMMPs), Spill Prevention, Containment, and Countermeasure Plans (SPCCPs), and Stormwater Pollution Prevention Plans (SWPPPs) (described in Appendix 3B, *Environmental Commitments*), would minimize the potential for accidental releases of hazardous materials, and would help contain and remediate hazardous spills should they occur, it is unlikely that the general public or the environment would be adversely affected. Related AMMs would also be implemented to reduce and minimize these effects, as described in Section 31.5.1.1. Therefore, this effect would not be adverse.

***CEQA Conclusion:*** Activities implemented as part of Mitigation Measure AES-1e would have the potential to result in significant environmental impacts due to the inadvertent release of hazardous materials. The impacts would be minimized and reduced to a less-than-significant level with the implementation of general and species-specific AMMs, environmental commitments, and Mitigation Measures NOI-1a and NOI-1b.

### 31.5.2.16 Mitigation Measure AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities

Under this mitigation measure, the BDCP proponents will locate concrete batch plants and fuel stations away from sensitive visual resources (i.e., state scenic highways) and receptors to minimize the impact on visual quality. In addition, these sites will be restored after construction to minimize the long-term impact on localized visual character.

Activities associated with this mitigation measure, including building concrete batch plants, fuel stations, and associated structures and storage piles in locations other than those that were previously analyzed, storing concrete batch plants and fuel station sites to preconstruction conditions, restoring all disturbed terrain, and installing replacement plantings could cause environmental effects through ground disturbance, noise, altered drainage patterns, and conversion of agricultural land.

**Ground Disturbances**

Ground disturbances would result from activities such as construction and restoration. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures. This mitigation measure may also convert agricultural land for other uses, such as locations of concrete batch plants or fuel stations, as a result of relocating facilities away from sensitive visual resources. Further evaluation of these impacts would depend on additional information relating to the location of the lands being converted. Implementation of Mitigation Measures AG-1 and AMMs would reduce these effects, as described above in Section 31.5.2.2. Additionally, BDCP proponents would, where available and feasible, choose lower-quality farmland rather than convert Important Farmland for these purposes.

**Noise**

Increased noise would result from the operation of construction equipment, which would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), nesting raptors and covered species (e.g., plant species) to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

**Drainage**

Alteration of drainage patterns would result from grading and planting. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff. Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measures AES-1f would have the potential to cause adverse environmental effects through ground disturbance, noise, drainage alterations, and conversion of agricultural land. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but they would be further evaluated and identified in subsequent project-level environmental analysis. Mitigation measures would be available to reduce these effects, but may not be sufficient to reduce emissions below AQMD thresholds. Drainage effects would be reduced by implementing mitigation measures. AMMs and mitigation measures would be available to address potential adverse effects related to the conversion of agricultural land.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measure AES-1f would have the potential to cause environmental impacts through ground disturbance, noise, drainage alterations, and conversion of agricultural land. As previously described, ground disturbance impacts would be reduced by implementing AMMs, and thus would not likely be significant. Similarly, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures,

and environmental commitments. Drainage impacts would be reduced by implementing mitigation measures. There may be increases in air quality impacts and, while mitigation measures would be available to reduce these impacts, they may not be sufficient to reduce emissions below AQMD thresholds. In addition, depending on the feasibility of applying Mitigation Measure AG-1, the availability of lower-quality farmland for conversion, and the areal extent of land required, it is possible that impacts relating to agricultural land conversion, in addition to those on air quality, would be significant and unavoidable.

### 31.5.2.17 Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project Landscaping Plan

Under this mitigation measure, the BDCP proponents will apply additional landscape treatments and use best management practices as part of implementing the project landscaping.

Activities associated with this mitigation measure, such as constructing landscape berms and installing landscape irrigation systems, could cause environmental effects through noise, air quality pollutants and emissions, drainage alterations, and sedimentation.

#### Noise

Grading and landscaping would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas), and covered species (e.g., terrestrial and aquatic) to excessive noise as a result of operating construction equipment. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1. Therefore, this effect is not anticipated to be adverse.

#### Air Quality

Increased GHGs and criteria pollutants would result from grading and landscaping. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

#### Drainage

Alteration of drainage patterns would result from grading and planting, and as a result of improperly installed or malfunctioning irrigation systems. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff. Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

#### Sedimentation

Excavation near the shoreline could cause environmental effects to fish related to sedimentation, turbidity, and disturbance of contaminated sediment. Adverse effects on fish from increases in turbidity during in- or near-water construction and maintenance activities would be minimized through adherence to applicable federal, state, and local regulations; project-specific designs; BMPs;

AMMs, and environmental commitments, as described in Section 31.5.2.10. These commitments and plans are intended to avoid, prevent or minimize turbidity (e.g., implementation of site-specific erosion and sediment control plans).

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measures AES-1g would cause environmental effects through noise, air quality, drainage, and sedimentation. As previously described, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Drainage effects would be reduced by implementing mitigation measures. Sedimentation effects would be reduced by implementing mitigation measures, AMMs, and environmental effects. Overall, impacts of Mitigation Measure AES-1g would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measures AES-1g would cause environmental impacts through noise, air quality, drainage, and sedimentation. As previously described, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Drainage impacts from grading and planting, or improperly installed or malfunctioning irrigation systems, would be reduced by implementing mitigation measures. Sedimentation impacts would be reduced by implementing mitigation measures, AMMs, and environmental commitments. Overall, impacts of Mitigation Measure AES-1g would be less than significant.

### 31.5.2.18 Mitigation Measure AES-4c: Install Visual Barriers along Access Routes, Where Necessary, to Prevent Light Spill from Truck Headlights toward Residences

Under this mitigation measure, BDCP proponents will evaluate construction routes and identify portions of access routes where the use of visual barriers would minimize the introduction of new light and glare from construction truck headlights and the impact on nearby residents.

Installing 5-foot-high or greater temporary or semi-permanent structures, such as chain link fencing or concrete barriers, under this mitigation measure could cause environmental effects through ground disturbance and drainage alterations.

#### Ground Disturbances

Ground disturbances would result from installing structures. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures.

#### Drainage

Alteration of drainage patterns would result from installing temporary or semi-permanent structures. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or

amount of surface runoff. Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measure AES-4c would have the potential to cause environmental effects through ground disturbance and drainage alterations. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Drainage effects would be reduced by implementing mitigation measures. Therefore, impacts of this mitigation measure would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measure AES-4c would have the potential to cause environmental impacts through ground disturbance and drainage alterations. As previously described, ground disturbance impacts would be reduced by implementing AMMs, and thus would not likely be significant. Drainage impacts would be reduced by implementing mitigation measures. Therefore, impacts of this mitigation measure would be less than significant.

### 31.5.2.19 Mitigation Measure AES-6a: Underground New or Relocated Utility Lines Where Feasible

Under this mitigation measure, BDCP proponents will underground new or relocated utility lines, where feasible, to reduce or improve adverse visual effects associated with the visual intrusion of such features in the landscape. New or relocated utility lines will not be underground where undergrounding would constitute an adverse effect on sensitive habitats or sensitive species or require the removal of healthy native trees that would fall under the definition of a native heritage tree.

***NEPA Effects:*** The activities for this mitigation measure that could cause environmental effects would be the same as those described under Section 31.5.2.12 for 31.5.2.12 for Mitigation Measure AES-1a: *Locate New Transmission Lines and Access Routes to Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New Transmission Lines and Underground Transmission Lines Where Feasible.*

In summary, activities required as part of implementing Mitigation Measures AES-6a would have the potential to cause environmental effects through noise, air quality, drainage, and damage to cultural and paleontological resources. As previously described, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects. Drainage effects would be reduced by implementing AMMs and mitigation measures. Effects on cultural and paleontological resources would be minimized with implementation of mitigation measures. Overall, effects of Mitigation Measure AES-6a would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measures AES-6a would cause environmental impacts through noise, air quality, drainage, and damage to cultural and paleontological resources. As previously described, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Drainage

impacts from trenching would be reduced by implementing AMMs and mitigation measures. Effects on cultural and paleontological resources would be minimized with implementation of mitigation measures. Overall, impacts of Mitigation Measure AES-6a would be less than significant.

### 31.5.2.20 Mitigation Measure CUL-6: Conduct a Survey of Inaccessible Properties to Assess Eligibility, Determine if These Properties Will Be Adversely Impacted by the Project, and Develop Treatment to Resolve or Mitigate Adverse Impacts

Under this mitigation measure, the BDCP proponents will ensure that an inventory and evaluation report is completed within all areas where effects on built resources may occur, including areas where a built resources inventory has not been.

Under this mitigation measure, the BDCP proponents will ensure that an inventory and evaluation report is completed within all areas where effects on built resources may occur, including areas where a built resources inventory has not been.

Activities associated with this mitigation measure, such as implementing stabilization design to ensure fragile built resources are not damaged by construction, moving built resources – either temporarily or permanently, and redesigning relevant facilities to minimize the scale or extent of damage, could cause environmental effects through ground disturbance, noise, air quality pollutants, and traffic disruptions.

#### Ground Disturbances

Ground disturbances would result from implementing stabilization design, moving built resources, or redesigning facilities. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures.

#### Noise

Stabilizing, moving, or redesigning facilities or built resources would result in temporary noise impacts. Depending on the location, excavation equipment would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., plant species) to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of excavation equipment, both at the excavation site and the application site, and haul trucks. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

**Traffic**

Traffic may disrupted as a result of stabilizing, moving, or redesigning facilities or built resources. As described in Impact TRANS-1 in Chapter 19, Transportation, Mitigation Measures TRANS-1a, TRANS-1b and TRANS-1c would be available to reduce the severity of this effect, if all improvements required to avoid significant impacts are feasible and all necessary agreements are completed.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measure CUL-6 would potentially adversely affect the environment through ground disturbances, noise, air quality pollutants, and traffic disruptions. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Increased air quality effects may be adverse, but would be further evaluated and identified in subsequent project-level environmental analysis. Mitigation measures would be available to reduce these effects, but may not be sufficient to reduce emissions below AQMD thresholds. Therefore, air quality effects may remain adverse. Effects from traffic disruptions would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be adverse. Overall, effects of Mitigation Measure CUL-6 would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measure CUL-6 would potentially significantly affect the environment through ground disturbances, noise, air quality pollutants, and traffic disruptions. As previously described, ground disturbance impacts would be reduced by implementing AMMs, and thus would not likely be significant. Similarly, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Increased air quality impacts may be significant, but would be further evaluated and identified in subsequent project-level environmental analysis. Mitigation measures would be available to reduce these impacts, but may not be sufficient to reduce emissions below AQMD thresholds. Therefore, air quality impacts may remain significant. Impacts related to traffic disruptions would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be significant. Overall, impacts of Mitigation Measure CUL-6 would be less than significant.

### 31.5.2.21 Mitigation Measure TRANS-2c: Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits

Under this mitigation measure, it may be necessary to improve deficient roadways or make other necessary infrastructure improvements before construction to make them suitable for use during construction. Repairs may occur before or after construction and may include overlays, other surface treatments, or roadway reconstruction. The BDCP proponents will require the contractor(s) to conduct the pre-construction pavement analysis and conduct all improvements in compliance with applicable standards of affected agencies, as stipulated in the mitigation agreements or encroachment permits.

Activities associated with this mitigation measure, such as grading along roadways, installing overlays or other surface treatment, and reconstructing roadways, could cause environmental

effects through ground disturbance, noise, air quality pollutants and emissions, and traffic disruptions.

#### Ground Disturbances

Ground disturbances would result from activities such as grading and reconstruction. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures.

#### Noise

Increased noise would result from road grading and reconstruction, which would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and natural communities, such as nesting raptors, to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of excavation equipment, both at the excavation site and the application site, and haul trucks. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

#### Traffic

Traffic may disrupted as a result of lane and road closures caused by road work. As described in Impact TRANS-1 in Chapter 19, *Transportation*, Mitigation Measures TRANS-1a, TRANS-1b and TRANS-1c would be available to reduce the severity of this effect, if all improvements required to avoid significant impacts are feasible and all necessary agreements are completed.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measure TRANS-2c would potentially adversely affect the environment through ground disturbances, noise, air quality pollutants and emissions, and traffic disruptions. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and sensitive and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Increased air quality effects may be adverse, but would be further evaluated and identified in subsequent project-level environmental analysis. Mitigation measures would be available to reduce these effects, but may not be sufficient to reduce emissions below AQMD thresholds. Therefore, air quality effects may remain adverse. Effects from traffic disruptions would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be adverse. Overall, effects of Mitigation Measure TRANS-2c would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measure TRANS-2c would potentially significantly affect the environment through ground disturbances, noise, air quality pollutants and emissions, and traffic disruptions. As previously described, ground

disturbance impacts would be reduced by implementing AMMs, and thus would not likely be significant. Similarly, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Increased air quality impacts may be significant, but would be further evaluated and identified in subsequent project-level environmental analysis. Mitigation measures would be available to reduce these impacts, but may not be sufficient to reduce emissions below AQMD thresholds. Therefore, air quality impacts may remain significant. Impacts related to traffic disruptions would be reduced by implementing mitigation measures, as well as other project improvements and agreements, and thus would not likely be significant. Overall, impacts of Mitigation Measure TRANS-2c would be less than significant.

### 31.5.2.22 Mitigation Measure UT-6b: Relocate Utility Infrastructure in a Way That Avoids or Minimizes Any Effect on Operational Reliability

Under this mitigation measure, in places where utility lines would be relocated, existing corridors will be utilized to the greatest extent possible, in the following order of priority: (1) existing utility corridors; (2) highway and railroad corridors; (3) recreation trails, with limitations; and (4) new corridors.

Relocating utility lines in recreation trails or new corridors under this mitigation measure could cause environmental effects through ground disturbance, noise, and air quality pollutants and emissions.

#### Ground Disturbances

Ground disturbances would result from relocating utility infrastructure. These ground-disturbing activities, depending on their location, could adversely affect natural communities. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures.

#### Noise

Relocating utility lines would result in temporary noise impacts. Depending on the location, excavation equipment would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., plant species) to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of excavation equipment, both at the excavation site and the application site, and haul trucks. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, AQ-15 and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measure UT-6b would potentially adversely affect the environment through ground disturbances, noise, and air

quality pollutants and emissions. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Increased air quality effects may be adverse, but would be further evaluated and identified in subsequent project-level environmental analysis. Mitigation measures would be available to reduce these effects, but may not be sufficient to reduce emissions below AQMD thresholds. Therefore, air quality effects may remain adverse. Overall, effects of Mitigation Measure UT-6b would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measure UT-6b would potentially significantly affect the environment through ground disturbances, noise, and air quality pollutants and emissions. As previously described, ground disturbance impacts would be reduced by implementing AMMs, and thus would not likely be significant. Similarly, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Increased air quality impacts may be significant, but would be further evaluated and identified in subsequent project-level environmental analysis. Mitigation measures would be available to reduce these impacts, but may not be sufficient to reduce emissions below AQMD thresholds. Therefore, air quality impacts may remain significant. Overall, impacts of Mitigation Measure UT-6b would be less than significant.

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

Under this mitigation measure, the BDCP proponents will protect, support, or remove underground utilities as necessary to safeguard employees. The BDCP proponents will notify local fire departments if a gas utility is damaged causing a leak or suspected leak, or if damage to a utility results in a threat to public safety.

Activities associated with this mitigation measure, such as removing transmission lines and underground utilities, and installing relocated transmission lines and underground utilities could cause environmental effects through ground disturbance, noise, air quality pollutants and emissions, altered drainage patterns, damage to cultural and paleontological resources, and utility disruption.

#### Ground Disturbances

Ground disturbances would result from activities such as removing transmission lines and underground utilities, and installing relocated transmission lines and underground utilities. These ground-disturbing activities, depending on their location, could adversely affect natural communities both in the short- and long-term. As described in Section 31.5.1.1, disturbances of natural communities would be minimized by implementing Avoidance and Minimization Measures.

#### Noise

Increased noise would result from removing and relocating transmission lines and underground utilities, which would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered and sensitive species (e.g., endangered plant species

and nesting raptors) to excessive noise. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of excavation equipment, both at the excavation site and the application site, and haul trucks. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, as well as AQ-18, as described in Section 31.5.1.2 would be available to address criteria pollutant emissions. Mitigation Measure AQ-15 would be available to address GHG emissions and reduce them to net zero. Additionally, AMMs and environmental commitments, as described in Section 31.5.1.2, would further reduce effects.

#### Drainage

Alteration of drainage patterns would result from trenching. As described in Section 31.5.1.2, implementation of this mitigation measure would have the potential to substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff. Implementation of mitigation measures and AMMs would reduce the effects of runoff and sedimentation.

#### Cultural Resources

Effects on cultural resources could result from trenching for the underground placement of transmission lines and underground utilities. As described in Section 31.5.2.12, the exact location of these resources cannot be disclosed because such disclosure might lead to damage of the sites. This impact would be adverse because construction damage may impair the integrity of these resources and thus reduce their ability to convey their significance. Mitigation Measure CUL-1 would reduce this impact, but would not guarantee that all of the scientifically important material would be retrieved because feasible archaeological excavation only typically retrieves a sample of the deposit, and portions of the site with important information may remain after treatment.

#### Paleontological Resources

Effects on paleontological resources could result from trenching for the underground placement of transmission lines and underground utilities. As described in Section 31.5.2.12, the ground-disturbing activities that occur in geologic units sensitive for paleontological resources have the potential to cause adverse effects by damaging or destroying those resources. However, any transmission lines constructed underground under this mitigation measure would be anticipated to be installed at a relatively shallow depth, and would be unlikely to affect paleontological resources. The shallow excavation and grading in surficial Holocene deposits that would likely take place for the construction of underground transmission lines could be addressed through implementation of Mitigation Measures PALEO-1b and 1d, as described in Section 31.5.2.12.

#### Utilities

Relocating transmission lines or underground utilities may result in a temporary disruption of power. Effects would be more likely to occur if utilities were not carefully surveyed prior to construction, including contact with local utility service providers. Implementation of pre-

construction surveys, and then utility avoidance or relocation if necessary, would minimize any potential disruption. An environmental commitment related to Transmission Line Design and Alignment Guidelines will ensure that the location and design of proposed transmission lines will be conducted in accordance with electric and magnetic field (EMF) guidance adopted by the California Public Utilities Commission. Mitigation Measures UT-6a, UT-6b, and UT-6c would reduce the severity of this effect by requiring relocation or modification of existing utility systems, in a manner that does not affect current operational reliability to existing and projected users; coordination of utility relocation and modification with utility providers and local agencies to integrate potential other construction projects and minimize disturbance to the communities; and verification of utility locations through field surveys and services such as Underground Service Alert. Mitigation Measure UT-6a: *Verify Locations of Utility Infrastructure* will require the BDCP proponents to confirm utility/infrastructure locations before construction through consultation with utility service providers, preconstruction field surveys, and services such as Underground Service Alert. Mitigation Measure UT-6b: *Relocate Utility Infrastructure in a Way That Avoids or Minimizes Any Effect on Operational Reliability* will require existing corridors to be utilized in places where utility lines would be relocated, to the greatest extent possible, in the following order of priority: (1) existing utility corridors; (2) highway and railroad corridors; (3) recreation trails, with limitations; and (4) new corridors. Mitigation Measure UT-6c: *Relocate Utility Infrastructure in a Way That Avoids or Minimizes Any Effect on Worker and Public Health and Safety* will require BDCP proponents to protect, support, or remove underground utilities as necessary to safeguard employees while any excavation is open.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measure UT-6c would potentially significantly affect the environment through ground disturbances, noise, air quality pollutants and emissions, altered drainage patterns, damage to cultural and paleontological resources, and utility disruption. As previously described, ground disturbance effects would be reduced by implementing AMMs, and thus would not likely be adverse. Similarly, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Effects from increased air quality pollutants and emissions would be further evaluated and identified in subsequent project-level environmental analysis. Mitigation measures would be available to reduce these effects, but may not be sufficient to reduce emissions below AQMD thresholds. Therefore, air quality effects may remain adverse. Drainage effects would be reduced by implementing mitigation measures. Effects on cultural and paleontological resources would be minimized with implementation of mitigation measures. Disruption of power and utilities would be minimized with implementation of environmental commitments and mitigation measures. Overall, effects of Mitigation Measure UT-6c would not be adverse.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measure UT-6c would potentially significantly affect the environment through ground disturbances, noise, air quality pollutants and emissions, altered drainage patterns, damage to cultural and paleontological resources, and utility disruption. As previously described, ground disturbance impacts would be reduced by implementing AMMs, and thus would not likely be significant. Similarly, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. Drainage impacts would be reduced by implementing mitigation measures. Effects on

cultural and paleontological resources would be minimized with implementation of mitigation measures. Impacts related to disruption of power and utilities would be minimized with implementation of environmental commitments and mitigation measures. Overall, impacts of Mitigation Measure UT-6c would be less than significant.

### 31.5.2.24 Mitigation Measure AQ-15: Develop and Implement a GHG Mitigation Program to Reduce Construction Related GHG Emissions to Net Zero (0)

Under this mitigation measure, BDCP proponents will develop a GHG Mitigation Program that will consist of feasible options that, taken together, will reduce construction-related GHG emissions to net zero (0).

Expanding the number of subsidence reversal and/or carbon sequestration projects currently being undertaken by DWR on Sherman and Twitchell Islands (Strategy 13) under this mitigation measure could cause environmental effects through land modifications, noise, and air quality pollutants.

Effects related to these activities include:

- Land modifications as a result of experimental designs for sequestration and wildlife benefits.
- Increased noise and criteria pollutants (air) as a result of operation of construction equipment.

#### Noise

Expanding the number of subsidence reversal and/or carbon sequestration projects currently being undertaken by DWR on Sherman and Twitchell Islands would have the potential to expose sensitive receptors (e.g., residences, outdoor parks, schools, and agriculture areas), noise-sensitive land uses (e.g., recreational areas, places of worship, libraries, and hospitals), and covered species (e.g., terrestrial and aquatic species) to excessive noise as a result of equipment used for sequestration and subsidence reversal. However, noise-related impacts on sensitive receptors, noise-sensitive land uses, and covered species would be minimized and reduced through implementation of general and species-specific AMMs, mitigation measures, and environmental commitments, as described in Section 31.5.1.1.

#### Air Quality

Increased GHGs and criteria pollutants would result from the operation of excavation equipment, both at the excavation site and the application site, and haul trucks. These effects are expected to be further evaluated and identified in subsequent project-level environmental analysis. Mitigation Measure AQ-2 through AQ-4, and AQ-18, as well as AMMs and environmental commitments, as described in Section 31.5.1.2 would be available to address criteria pollutant and GHG emissions.

#### Agricultural Land

Expansion of subsidence reversal and/or carbon sequestration projects on Sherman and Twitchell Islands may require conversion of agricultural land to other land uses, such as production of tules. Implementation of Mitigation Measures AG-1 and AMMs would reduce the severity of this effect, as described above in Section 31.5.2.2. Further, BDCP proponents would, where available and feasible, choose lower-quality farmland or farmland with lower habitat values, rather than convert Important Farmland or farmland of higher habitat value for subsidence reversal and/or carbon sequestration.

***NEPA Effects:*** In summary, activities required as part of implementing Mitigation Measures AQ-15 may cause adverse environmental effects through noise, air quality pollutants and emissions, and conversion of agricultural land. As previously described, noise effects on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Similarly, mitigation measures and AMMs would be available to address adverse effects related to the conversion of agricultural land. There may be increases in air quality effects but mitigation measures and environmental commitments would be available to address these effects.

***CEQA Conclusion:*** In summary, activities required as part of implementing Mitigation Measures AQ-15 would cause environmental impacts through noise, air quality pollutants and emissions, and land modifications. As previously described, noise impacts on sensitive receptors, noise-sensitive land uses, and covered species would be reduced by implementing general and species-specific AMMs, mitigation measures, and environmental commitments. Air quality impacts resulting from activities associated with implementation of this mitigation measure would be reduced by applying mitigation measures and environmental commitments. However, depending on the feasibility of applying Mitigation Measure AG-1, the availability of lower-quality farmland for conversion, and the areal extent of land required, it is possible that impacts relating to agricultural land conversion would be significant and unavoidable.

## 31.5.3 Mitigation Measures That Require Payment of Fees

Although not specifically required by CEQA, this section provides a list of mitigation measures that require the payment of fees. The CEQA Guidelines clearly recognize the use of fee payment as mitigation for a project's otherwise "cumulatively considerable" incremental contribution to significant cumulative impacts. If a project is required to fund its fair share of a mitigation measure designed to alleviate the cumulative impact, a project's contribution to that impact is considered less than cumulatively considerable. (CEQA Guidelines, § 15130, subd. (a)(3); Save Our Peninsula Committee v. Monterey County Bd. of Supervisors (2001) 87 Cal.App.4th 99, 140.) Where an agency has an existing program by which mitigation measures such as traffic improvements can be funded on a fair-share basis through the collection of fees, an EIR's discussion of traffic mitigation is adequate if it explains how the fee program will address the impact. (Save Our Peninsula Committee, 87 Cal.App.4th at p. 141.)

In general, therefore, an EIR need not specifically analyze the impacts of the proposed improvements identified in a mitigation measure where the mitigation measure requires only that the project applicant pay a traffic impact fee in an amount that constitutes the project's fair share contribution to the construction of improvements necessitated in part by the project impacts. In such instances, the identified improvements are not a "part" of the project (in "whole" or otherwise), but represent a separate, independent project that will someday benefit the project. CEQA does not require a lead agency, in preparing an EIR for a discrete development project, "to consider a mitigation measure which itself may constitute a project at least as complex, ambitious, and costly as project itself."

(Concerned Citizens of South Central Los Angeles v. Los Angeles Unified School District (2nd Dist. 1994) 24 Cal.App.4th 826, 842.) Where a project is only conditioned on the payment of the traffic impact fee, and not on the construction of the improvement itself, an EIR is not required to analyze the impacts of the proposed improvements.

The mitigation measures that require the payment of fees are listed below.

- Fund Efforts to Carry out the Recreation Recommendations Adopted in the Delta Plan
- Fund the California Department of Boating and Waterways' Programs for Aquatic Weed Control
- Enhance Recreation Access in the Vicinity of the Proposed Intakes (includes funding elements of the American Discovery Trail)
- Mitigation Measure AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to Preserve Agricultural Productivity and Mitigate for Loss of Important Farmland and Land Subject to Williamson Act Contracts or in Farmland Security Zone (Funding for subsidies needed for viable Optional Agricultural Land Stewardship Approach).
- Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments.
- Mitigation Measure AQ-15: Develop and Implement a GHG Mitigation Program to Reduce Construction Related GHG Emissions to Net Zero (0) (includes funding for Renewable Energy Purchase Agreement, Purchase Carbon Offsets, Development of Biomass Waste Digestion and Conversion Facilities, and Agriculture Waste Conversion Development).